

VOLUNTARY GREENHOUSE GAS REPORTING

WORKSHOP MATERIALS AND TRANSCRIPT FOR MEETING IN

San Francisco
December 9-10
Best Western Grosvenor Hotel

December 2002

**VOLUNTARY GREENHOUSE GAS REPORTING WORKSHOPS
SAN FRANCISCO WORKSHOP MATERIALS AND TRANSCRIPT**

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"EMISSIONS TRADING: HOW TO AVOID DOUBLE COUNTING" AND OTHER CLIMATE TRUST MATERIAL RELATING TO INDIRECT EMISSIONS AND DOUBLE COUNTING AVOIDANCE
MICHAEL BURNETT, THE CLIMATE TRUST, PORTLAND, OREGON
12. SUBMISSION TO THE RECORD:
"REQUEST FOR PROPOSALS FOR GREENHOUSE GAS OFFSETS"; "THIRD PARTY VERIFICATION REPORT OF SEATTLE CITY LIGHT GHG EMISSIONS"
NANCY GLASER, SEATTLE CITY LIGHT, SEATTLE, WASHINGTON
13. SUBMISSION TO THE RECORD:
" CONFLICT OF INTEREST BACKGROUND FOR STATE AND REGISTRY-APPROVED CERTIFIERS"; " CONFLICT OF INTEREST PROCESS AND REQUIREMENTS FOR STATE AND REGISTRY-APPROVED CERTIFIERS"
JEFF WILSON AND PIERRE DUVAIR, CALIFORNIA ENERGY COMMISSION,
SACRAMENTO, CA

1. WORKSHOP AGENDA

Voluntary Greenhouse Gas Reporting Workshops

VOLUNTARY GREENHOUSE GAS REPORTING WORKSHOPS

Workshop Agenda Chicago (5-6), San Francisco (9-10), Houston (12-13) December 2002

DAY 1

- 8:30-8:45** **Welcome and Opening Remarks**
- 8:45-9:00** **Workshop Objectives and Background.** President's charge; July 2002 recommendations; related Federal efforts; process for completion.
- 9:00-9:30** **Overview of Existing Voluntary Greenhouse Gas Reporting (1605b) Program**
- 9:30-10:00** **Agenda and Workshop Program**
- 10:00-12:00** **Session I. Emission Reporting: Improving Accuracy, Reliability, and Verifiability.** Plenary session. Discuss options to improve emissions reporting accuracy, reliability, and verifiability. Crosscutting issues: rigor v. practicality, relationship to other reporting programs and protocols, confidentiality, verifiability, comparability. Main topics for discussion:
- 1) Organizational and geographic boundaries
 - a. Entities and entity-wide reporting
 - b. Corporate boundaries
 - c. Institutional / Governmental boundaries
 - d. U.S. v. non-U.S. emissions
 - 2) Operational boundaries and related issues
 - a. Treatment of direct and indirect emissions
 - b. Gases and sources covered
 - c. Exceptions?
 - 3) Measurement and accounting methods
 - a. Initial reporting year(s)
 - b. Emissions measurement / estimation methods
 - c. Emission / conversion factors
- 12:00-1:00** **Lunch**

1:00-3:00 **Session IIa. Emission Reductions and Sequestration: Characterizing and Measuring.** Plenary session. Starting point: accurate, reliable, verifiable. Discuss options for defining and measuring credible reductions. Topics:

- 1) Characteristics of credible reductions
 - a. Purpose of identifying emission reductions
 - b. Who receives recognition or credit
 - c. Absolute changes or output adjusted
 - d. Other causation issues (e.g., weather, technology, voluntary programs / commitments, regulations)
 - e. Entity-wide, sub-entity or project-specifics
 - f. Avoided emissions

- 2) Calculation methods
 - a. Absolute emission reductions
 - b. Emissions intensity baselines
 - c. Projects
 - d. Base years
 - e. Multiyear reporting / averaging

3:00-5:00 **Session IIb. Emission Reductions and Sequestration.** Facilitated breakout sessions. Discuss topics from Session IIa. Four groups:

- 1) Electricity generation (including grid-connected renewable generation)
- 2) Industrial and other large sources,
- 3) Small distributed sources (residential / commercial buildings, transportation and end-use renewables), and
- 4) Agriculture and forestry sequestration (including ethanol production)

5:00 **Adjourn**

DAY 2

8:30-8:45 **Opening Comments and Agenda for Day 2**

8:45-10:30 **Session IIc. Emission Reductions: Reports from Breakout Sessions and Discussion.** Plenary session.

10:30-12:00 **Session III. Verifying Emissions and Reductions.** Plenary session. Options for verifying emissions and emission reduction reports. Topics:

- 1) Types and frequency of verification
- 2) Maintenance of records
- 3) Approving / certifying verifiers

12:00-1:00 **Lunch**

1:00-3:00 **Session IV. Managing the 1605(b) Registry.** Plenary session. Topics:

- 1) Certifying reports and reductions
- 2) Public v. confidential data
- 3) Prior year reports
- 4) Not penalizing under future climate policy / transferable credits

3:00-3:30 **Wrap up and Next Steps**

3:30 **Workshop Adjourns**

2. SAN FRANCISCO WORKSHOP PARTICIPANTS LIST

Voluntary Greenhouse Gas Reporting Workshops

**Voluntary Greenhouse Gas Reporting Workshops
San Francisco Workshop Participants
December 9-10, 2002**

FirstName	LastName	Title	Organization
Orestes	Anastasia	Environmental Attorney	SAIC
Margot	Anderson	Deputy Assistant Secretary	Department of Energy
Thomas	Baumann	Project Verification Officer	Technology Early Action Measures
Harold "Bud"	Beebe	Reg Affairs Coordinator	SMUD
Ryan	Bell	Technical Assistance Associate	Cities for Climate Protection
Robin	Bennett	Environmental Manager	The Boeing Company
Richard	Birdsey	Program Manager	USDA Forest Service
Dana	Bolles	Environmental Compliance Specialist	NASA Ames Research Center
Anne	Boucher	Chief, Baseline Protection Initiative	Natural Resources Canada
Doug	Brookman	Facilitator	Public Solutions
Mike	Burnett	Executive Director	The Climate Trust
David	Cain	Vice President	ESP
Robyn	Camp	Associate Technical Director	California Climate Action Registry
Al	Cobb	Sr. Advisor	Department of Energy
JP	Crametz	Director	Oncept
Cynthia	Cummis	Team Leader	US EPA
Chris	deVos	Energy Manger	Agilent Technologies
Pierre	duVair	Manager, Climate Change Program	California Energy Commission
Kevin	Fay	Executive Director	International Climate Change Partnership
Matthew	Fladeland	Research Scientist	NASA Ames Research Center
Mark	Friedrichs	Policy Analyst	Department of Energy
Laura	Gehlin	Climate Change Analyst	SAIC
Nancy	Glaser	Director, Strategic Planning, Environment & Safety	Seattle City Light
David	Gloski	Executive VP	ESP
Howard	Gollay	Manager, Environmental Policy	Southern California Edison
Jill	Gravender	Technical Director	California Climate Action Registry
Franklin	Guenther	Group Leader	NIST
Adrienne	Gvozdoch	Consultant	Navigant Consulting
Sue	Hall	Executive Director	Climate Neutral Network
Katherine	Hancock	Environmental Engineer	Tetra Tech
Gordon	Hester	EPRI	EPRI
Ann	Hewitt	Director, Marketing & Outreach	California Climate Action Registry
William	Hohenstein	Director	USDA Global Change Program Office
William	Irving	Manager, Greenhouse Gas Inventory Program	USEPA
John	Lipsey	Business Development Director	Tetra Tech, Inc.
Paul	McArdle	Program Manager	Energy Information Administration
Steve	McCoy-Thompson	Manager	Nexant, Inc.
Dena	Mossar	Vice Mayor	City of Palo Alto
Scott	Murtishaw	Senior Research Associate	Lawrence Berkeley National Laboratory
Susann	Nordrum	Senior Engineer	Chevron Texaco
Cindy	Parsons	Environmental Specialist	Los Angeles Department of Water and Power
Michelle	Passero	Director of Policy Initiatives	The Pacific Forest Trust
Jack	Pigott	Director, Renewable Affairs	Calpine Corporation
Robert	Prolman	Director, International Environmental Affairs	Weyerhaeuser Company
Robert	Robert	Head of ÉcoGESTe	Quebec Environment Ministry
Rob	Roth	Senior Market Analyst	Sacramento Municipal Utility District
Melissa	Royael	Senior Technical Assistance Associate	ICLEI
Arthur	Rypinski	Economist	Department of Energy
Greg	San Martin	Climate Protection Program Manager	Pacific Gas & Electric Company
Michael	Scholand	Senior Consultant	Navigant Consulting
Eran	Segev	Program Analyst	US Dept. of Transportation Volpe Center
Stephen	Seres	Climate Change Analyst	Canadas Baseline Protection Initiative
Lori	Sonnier	Environmental Management Specialist	Toyota Motor Sales, USA, Inc.
Nate	Spears	Staff Specialist	New United Motor Manufacturing
John	Staub	Economist	Department of Energy
David	Stein	Program Director - Environmental Services	URS Corporation
Jane	Turnbull	Principal	Peninsula Energy Partners
Brad	Upton	Senior Research Engineer	NCASI
Jeff	Wilson	Project Manager	California Energy Commission
Kristin	Zimmerman	Manager - Energy & Global Climate	General Motors

EIA 1605b Website www.eia.doe.gov/oiaf/1605/frntvrgg.html
DOE GHG Registry Website www.pi.energy.gov/enhancingGHGRegistry
DOE GHG Registry Email ghgregistry.comments@hq.doe.gov
USDA Workshops www.usda.gov/agency/oce/gcpcp/greenhousegasreporting.htm
Agriculture Workshop, Washington DC, January 14-15
Forestry Workshop, Washington DC, January 23

3. WORKSHOP OBJECTIVE AND BACKGROUND SLIDES

Voluntary Greenhouse Gas Reporting Workshops



Voluntary Greenhouse Gas Reporting Workshops

Washington, D.C. , November 18-19

Chicago, December 5-6

San Francisco, December 9-10

Houston, December 12-13

1



U.S. Policy Context

June 11, 2001:

- Committed U.S. to Work Within UN Framework
- Directed U.S. to develop flexible, science-based response to climate change
- Supported UNFCCC goal to stabilize GHG concentrations
- Established National Climate Change Technology Initiative
- Established Climate Change Research Initiative

February 14, 2002:

- Established U.S Goal to reduce GHG intensity by 18% by 2012
- ***Directed Improvements to the DOE GHG Voluntary Emissions Registry***
- Supported transferable credits
- Supported financial incentives
- Challenged businesses to take action

2



What We Were Directed to Do?

- Directed the Secretary of Energy, in consultation with the Secretary of Commerce, the Secretary of Agriculture, and the Administrator of the Environmental Protection Agency, **to propose improvements to the current voluntary emissions reduction registration program** under section 1605(b) of the 1992 Energy Policy Act within 120 days. These improvements will **enhance measurement accuracy, reliability, and verifiability**, working with and taking into account emerging domestic and international approaches.
- Directed the Secretary of Energy to recommend reforms to **ensure that businesses and individuals that register reductions are not penalized under a future climate policy, and to give transferable credits** to companies that can show real emissions reductions.
- Directed the Secretary of Agriculture, in consultation with the Environmental Protection Agency and the Department of Energy, to **develop accounting rules and guidelines for crediting sequestration projects**, taking into account emerging domestic and international approaches.

3



What is the Voluntary Greenhouse Gas Registry?

- Created by Energy Policy Act of 1992
- Managed by DOE's Energy Information Administration (EIA)
- Records results of voluntary measures to reduce, avoid, or sequester greenhouse gas emissions
- During 2000, a total of 222 U.S. companies and other organizations filed GHG reports
- Reporting guidelines are flexible, designed to encourage participation

4



Process– 2002 Actions

- Set Goal: January, 2004
- Interagency coordination process and web site
- Issued Federal Register Notice of Inquiry (May, 2002)
- 4-Agency letter to President with recommendations (July, 2002)
- Met with stakeholders; Hosting 4 public workshops

5



Process – 2003 Actions

- Accept post-workshop written comments (winter 02/03)
- DOE drafts revised guidelines (winter)
- Public comment period (late spring)
- Revise guidelines (summer/fall)
- Prepare and review new reporting forms (spring/summer/fall)
- Issue new guidelines

6



Workshop Topics – Focus is on *Technical Issues*

Topics are built on the President’s instructions, the NOI, the 4-Agency letter, and stakeholder interaction.

Topics address **HOW** to “substantially improve” the registry and “protect and provide transferable credits for emissions reductions”

- I. Emissions Reporting: Improving Accuracy, Reliability, and Verifiability
- II. Emissions Reductions: Characterizing and Measuring
- III. Verifying Emissions and Reductions
- IV. Managing the GHG Registry

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Crosscutting Themes

- Balancing rigor with practicality; stringency with flexibility.
- Balancing voluntary approach within a goal-focused program.
- Balancing confidentiality with verifiability to promote credibility.
- Building, where appropriate, on current 1605 (b) and other reporting programs.
- Comparability within and across sectors.

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Web Addresses & Points of Contact

<http://www.pi.energy.gov/enhancingGHGregistry>

ghgregistry.comments@hq.doe.gov

4. THE 1605(B) VOLUNTARY REPORTING OF
GREENHOUSE GASES PROGRAM
OVERVIEW SLIDES

Voluntary Greenhouse Gas Reporting Workshops

The Voluntary Reporting of Greenhouse Gases (1605b) Program



Paul F. McArdle, Ph.D.
Office of Integrated Analysis & Forecasting
Energy Information Administration

Department of Energy
Voluntary Reporting of Greenhouse Gases Workshops
Chicago, Illinois
December 5, 2002



Presentation Objectives



- Provide Program Background
- Highlight Reasons People Report
- Discuss Organization of Reporting Form & Form Review Process
- Give Program Results/Indicators
- Review Current 1605b Greenhouse Gas Accounting Methods



1605b Program Background



- Required by Section 1605(b) of the Energy Policy Act of 1992
- Chance to Establish Public Record of GHG Emissions; Reductions; & Commitments
- Broad Range of Actions Reportable
- Flexible Program to Encourage Participation
- Reports are Self-certified
- First Data Submitted in 1994



Benefits of Voluntary Reporting



- **Public Recognition** - Gain Public Recognition for Environmental Stewardship
- **Record of Achievement** - Establish a Public Record of Actions to Reduce Greenhouse Gases
- **GHG Estimation** - Gain Experience in Calculating Greenhouse Gas Emissions
- **GHG Technologies** - Gain Knowledge of Innovative Technologies to Reduce Greenhouse Gas Emissions
- **GHG Accounting Issues** - Gain Knowledge of Important Greenhouse Gas Accounting Issues
- **Others**



Voluntary Reporting Program Indicators, 1994-2000



Voluntary Reporting of Greenhouse Gases Program Reporting Indicators 1994-2000

Indicator	1994	1995	1996	1997	1998	1999	2000
Total Reporters	108	142	150	162	207	207	222
Projects Reported	634	960	1,040	1,288	1,549	1,721	1,882
Project-Level Reductions (Million Metric Tons Carbon Dioxide)	73	147	157	151	223	226	269



Reporting Forms



Form EIA-1605 (long form)

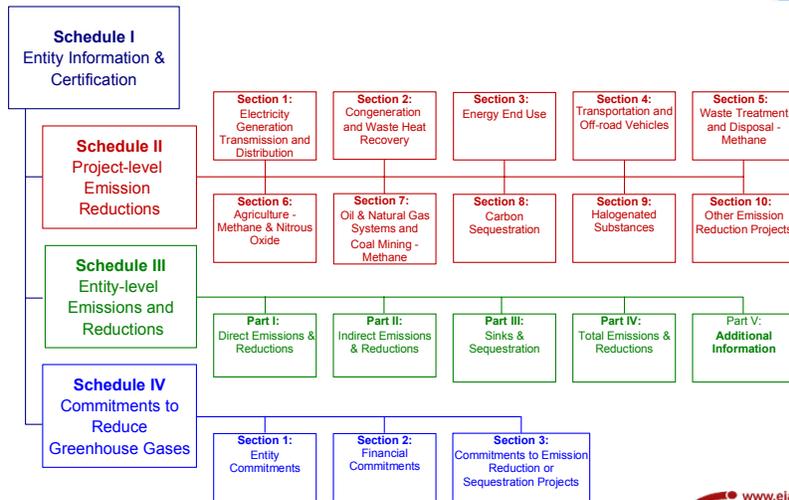
- Two categories of report: entity and project;
- Two categories of baselines: basic and modified reference cases;
- Two categories of emissions/reductions: direct and indirect;
- Ten categories of emission reduction projects;
- All greenhouse gases covered, annual emissions from 1987, annual reductions from 1991;
- Commitments to future reductions added to support voluntary programs.

Form EIA-1605EZ (short form)

- Provided to support reporters with simpler projects;
- Fewer data requirements:
 - Single Year Reporting Only
 - No International Activities
 - No History, No Commitments;
- Intended for smaller entities.



Organization of Form EIA-1605



Forms Review Process



- **Analyst Review** - Report is checked for internal consistency, accuracy of calculation, and comparability with other sources.
- **Electronic Edit Checks** - Reports are screened using the edit checks incorporated into the electronic software to check for errors and inconsistencies.
- **Methodological Edit Checks** - Manual review of the information to determine the accuracy and relevance of the estimation methodologies used in the report.
- **Reporter Follow-up** - If necessary, reporter is contacted to clarify/correct information or possible errors/miscalculations.





EIA Assistance to Reporters

- Communications Center:
Phone: 1-800-803-5182
E-mail: infoghg@eia.doe.gov
- www.eia.doe.gov/oiaf/1605/frntvrgg.html
- Multi-User, networkable electronic form, email transmission/filing of reports.
- Methodological and Computational Advice
- Forms Review
- Worksheets, Spreadsheets and Reporting Aids



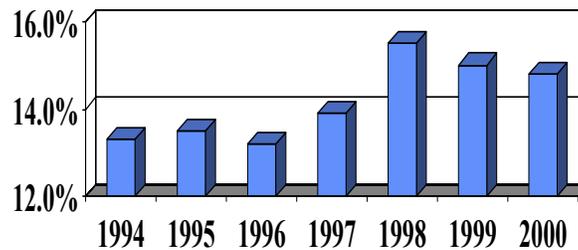
Voluntary Reporting Program Indicators, 1994-2000

Table 1. Reporting Indicators for the Voluntary Reporting of Greenhouse Gases Program, Data Years 1994-2000

Indicator	1994	1995	1996	1997	1998	1999	2000
Entities and Projects Reported							
Number of Entities Reporting	108	142	150	162	207	207	222
Number of Projects Reported	634	960	1040	1288	1549	1722	1882
Number of Entity-Level (Organization-Wide) Reports Received	40	51	56	60	76	83	100
Project-Level Reductions Reported (Million Metric Tons of Carbon Dioxide Equivalent)							
Direct	63	88	90	95	148	155	187
Modified Reference Case	59	76	75	88	127	126	153
Basic Reference Case	4	13	15	7	21	29	35
Indirect	5	52	53	38	43	57	61
Modified Reference Case	5	52	51	36	38	51	56
Basic Reference Case	0	1	3	2	5	6	5
Sequestration	1	1	9	10	12	10	9
Unspecified	4	6	6	9	19	13	12

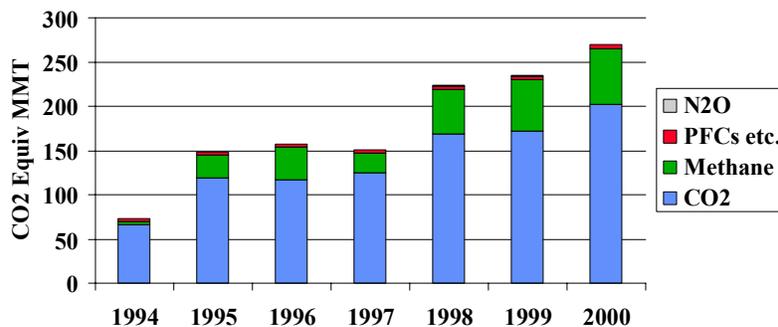


Reported Entity-level Emissions As a Percent of Total U.S. GHG Emissions



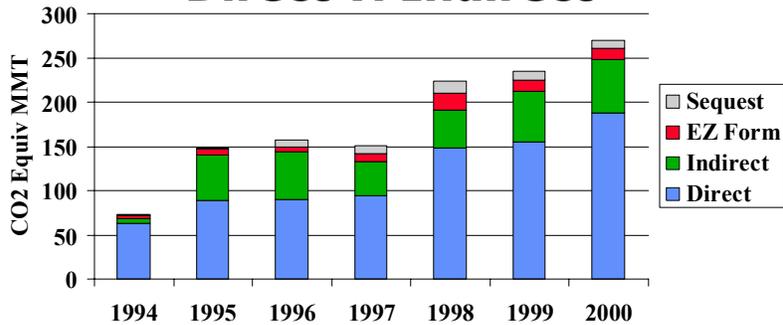
- Reported entity-level emissions have increased from 13.3% of total U.S. GHG emissions in 1994 to 14.8% in 2000, with a peak of 15.5% achieved in 1998.
- Reported project-level reductions have grown from 1.1% of total U.S. GHG emissions in 1994 to 3.9% in 2000.

Project-level Reported Reductions



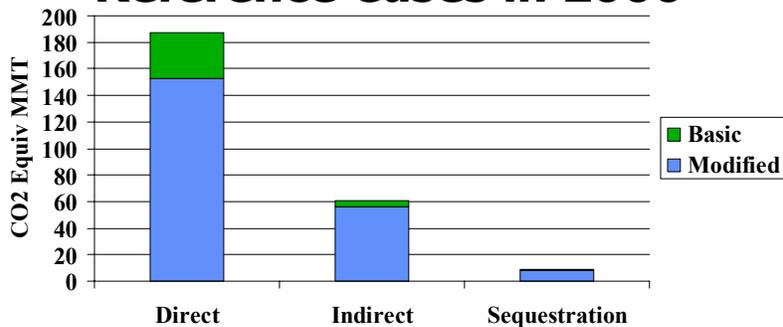
- Project-level reported reductions have more than tripled from 73 million metric tons (MMT) in 1994 to 270 MMT in 2000. Total reporters have increased from 108 in 1994 to 222 in 2000.

Project-level Reported Reductions Direct v. Indirect



- Direct emissions reductions represent the majority of reported reductions, ranging from 57 to 86 % of total reported reductions over the life of the Program. Indirect emission reductions have ranged from 7 to 34 % of total reported reductions.

Project-level Reported Reductions Reference Cases in 2000



- Modified reference cases were the predominant reference case used in 2000, varying from 81% for direct emissions, 92% for indirect emissions and 93% of sequestration reductions, which demonstrates reporters preference for a business-as-usual, rather than an historical, reference case.

5. PROJECTED WORKSHOP AGENDA

Voluntary Greenhouse Gas Reporting Workshops

Voluntary Greenhouse Gas Reporting Workshops

**Workshop Agenda
Chicago (5-6), San Francisco (9-10),
Houston (12-13)
December 2002
Projected Agenda**

Session I. Emissions Reporting

Emissions Reporting

- Cross-cutting issues:
 - Rigor versus practicality
 - Confidentiality
 - Verifiability
 - Relationship to other reporting programs and protocols
 - Comparability within and across sectors

Organizational and Geographic Boundaries

- Encouraging entity-wide reporting?
- What defines an entity?
- How to define corporate and institutional boundaries: equity share; operational control; governance?
- How much flexibility in defining boundaries?
- Reporting non-US emissions: whether and how?

Operational Boundaries and Related Issues: Direct vs. Indirect Emissions

- Should end users report electricity and steam purchases?
 - How to convert to emissions?
- Reporting other indirect emissions such as those associated with materials used; business travel; employee commuting; and use of manufactured products
 - How to estimate?

Operational Boundaries and Related Issues: Gases and Sources Covered

- Require / encourage reports on all six UNFCCC gases?
Others?

- How to treat or exempt:
 - Very small sources?
 - Difficult sources to measure?

Measurement and Accounting Methods

- Specifying an initial reporting year(s) (e.g., 2003 or after?
1987 or after?)

- Which emissions measurement or estimation methods
should be used:
 - Fossil fuel use or actual emissions?
 - Fuel and GWP conversion factors?
 - Methods for non-fossil gases?

Emission Reductions and Sequestration

Starting Point: Accurate, Reliable, Verifiable

- What are the characteristics of credible emission reductions?

- What methods should be used to produce credible estimates of such reductions?

Characteristics of Credible Reductions

- Why identify emission reductions?
 - Credits and trading?
 - Recognition under voluntary programs?
 - Future use?
 - Other?
- Who receives recognition or credit?
 - Electricity generators or users ?
 - Product manufacturers or end-users?
 - Outside corporate boundaries? Outside U.S.?
 - Project owners or investors?

Characteristics of Credible Reductions, continued

- Should reductions be absolute changes in emissions or adjusted for changes in output?
- Should other causes of reductions be considered, such as weather, technology, voluntary programs, regulations, new investment, improved management?
- Recognize only net entity-wide reductions or sub-entity or project-specific reductions?
- Recognize actions that displace or avoid emissions?

Calculation Methods

- Absolute emissions reductions:
 - Restricted to entity-wide?
 - Should adjustments be made (e.g., divestitures)?
 - Fixed or dynamic baselines?
- Emissions intensity baselines:
 - Intensity metrics (for electricity sector; manufacturing?)
 - Restricted to entity-wide?
 - What if no entity-wide metric exists?
 - Fixed and dynamic baselines?

Calculation Methods, continued

- Projects:
 - Types of qualifying projects:
 - Sequestration and emission avoidance
 - Efficiency improvements
 - Other
 - Fixed or dynamic baselines?
 - Minimizing leakage?
 - Calculating avoided emissions?

Other Issues

- Base years (starting when? averaged?)
- Multi-year reporting

Breakout Groups

- Electricity Generation including Grid-Connected Renewable Generation
(Stay in the plenary room)
- Industrial and other Large Sources
(Breakout room number 34)
- Small Distributed Sources: Residential/Commercial Buildings, Transportation, and End Use Renewables
(Breakout room number 33)
- Agricultural and Forestry
(Breakout room number 32)

Electricity Generation including Grid-Connected Renewable Generation

- Options for intensity baselines?
 - Applying intensity baselines for utilities and utility systems
 - Estimating displaced emissions
- Treatment of acquisitions / divestitures?
- Should causes of reductions, other than output, be considered, such as weather, technology, voluntary programs, regulations, new investment, improved management?
- Minimizing double-counting:
 - Green power sales / purchases?
 - DSM incentives / programs?

Industrial and Other Large Sources

- Options for Intensity Baselines:
 - Entity-wide physical measures of output, e.g., tons of cement?
 - Sub-entity measures of output, e.g., for business-lines, plants?
 - Economic measures of output?
 - Who chooses output measures?
- If no measures of output, then what?
- Treatment of non-carbon emissions? Are output measures needed?
- Protecting confidentiality

Small Distributed Sources: Residential / Commercial Buildings, Transportation, and End Use Renewables

- How to credit emission reductions by small users in residential, commercial and transportation sectors?
- Should manufacturers / builders qualify for credits? Others?
- Minimizing double-counting?
- Calculating emission reductions associated with efficient products?
- Should efficiency thresholds to qualify for credits? Existing or future standards? Energy Star levels? Other?

Agricultural and Forestry

- Treatment of agriculture and forestry within 1605(b)
 - Entity versus project-level reporting
 - Baselines

- Sequestration
 - Methods of calculating effects of sequestration projects
 - Permanence
 - Leakage

Verifying Emissions and Reductions

- Types and frequency of verification:
 - Periodic? All reports?
 - Process and methods?
 - Checking data
 - Physical inspections?
 - On-site or off-site?

- Maintenance of records

- Who should verify?

Managing the Registry of Emission Reports and Reductions

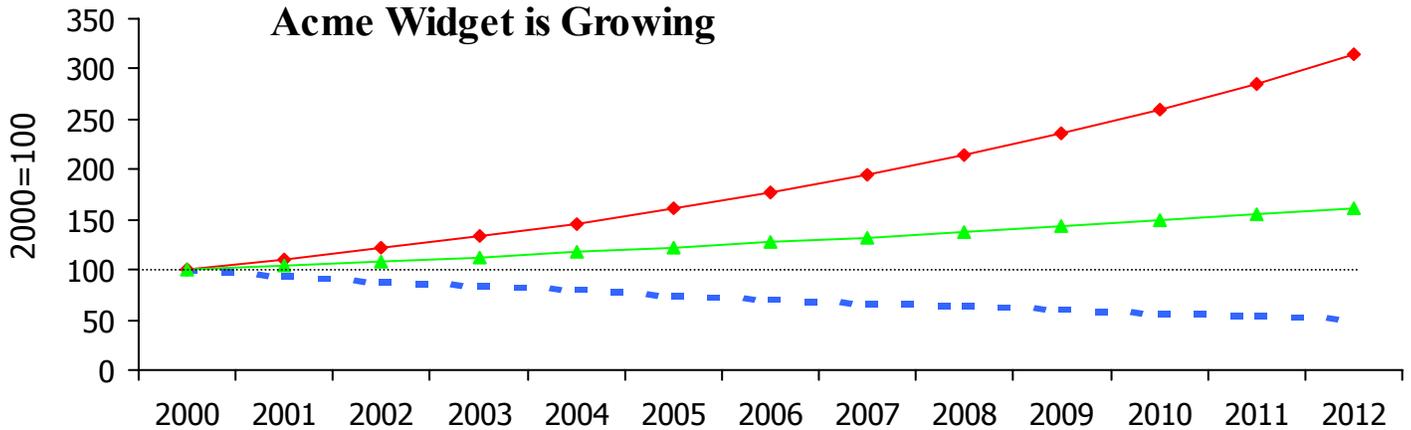
- Certifying Reports and Reductions:
 - Government review process?
 - Documentation of reductions? Of transfers?
 - DOE database of certified reductions?
- Public versus confidential data:
 - Should data submitted to DOE be made publicly available?
 - Can DOE effectively protect confidential data?
- Treatment of prior year reports?
- Not penalizing under future climate policy / transferable credits?

6. WIDGET SALES SHOWING EMISSIONS INTENSITY

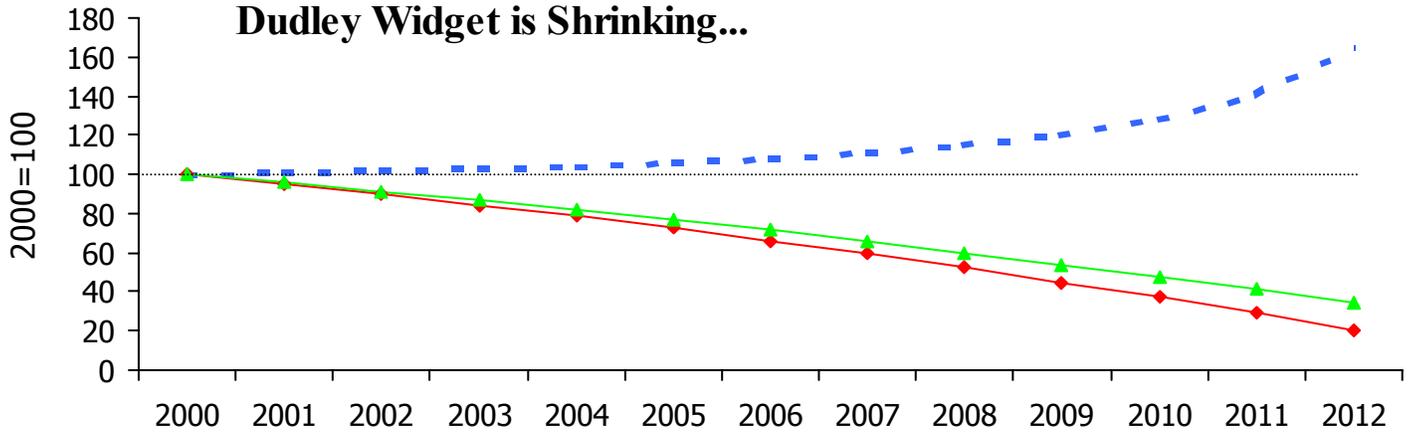
Voluntary Greenhouse Gas Reporting Workshops

America's Widget Industry

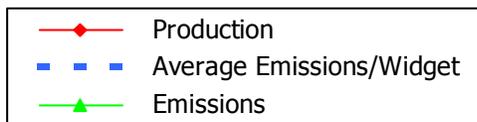
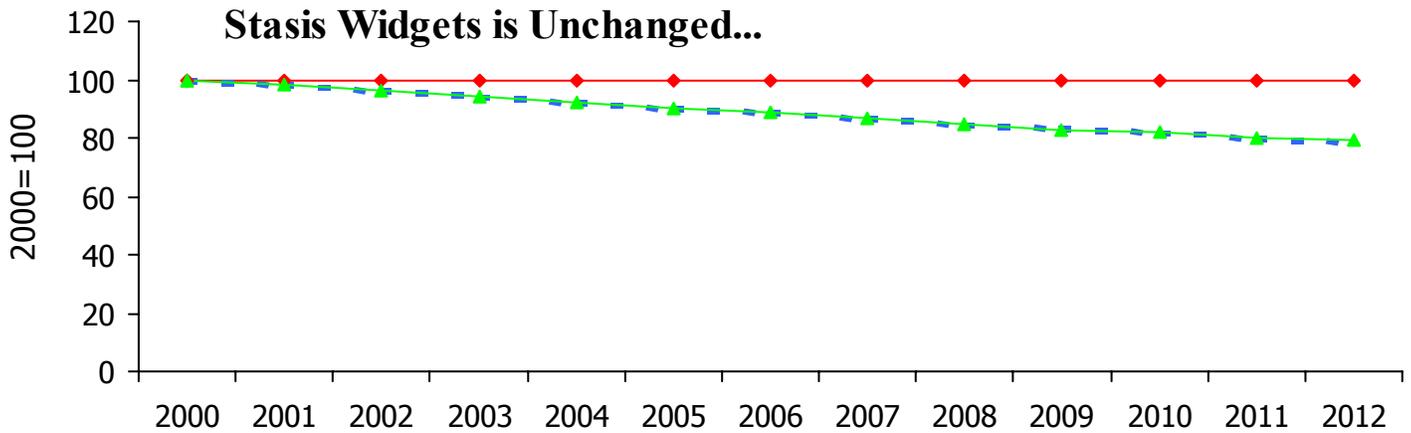
Acme Widget is Growing



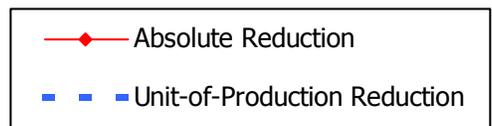
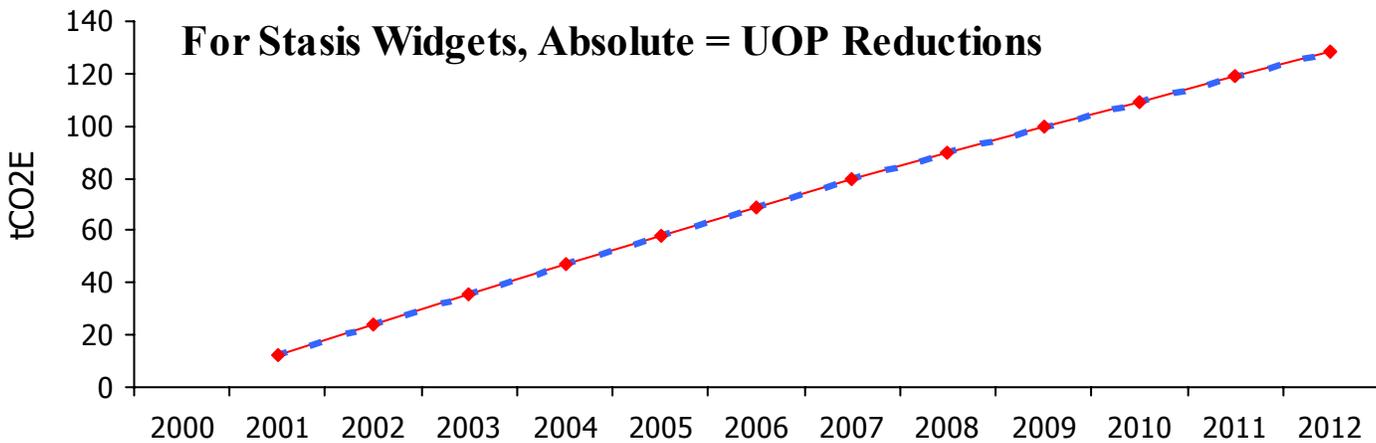
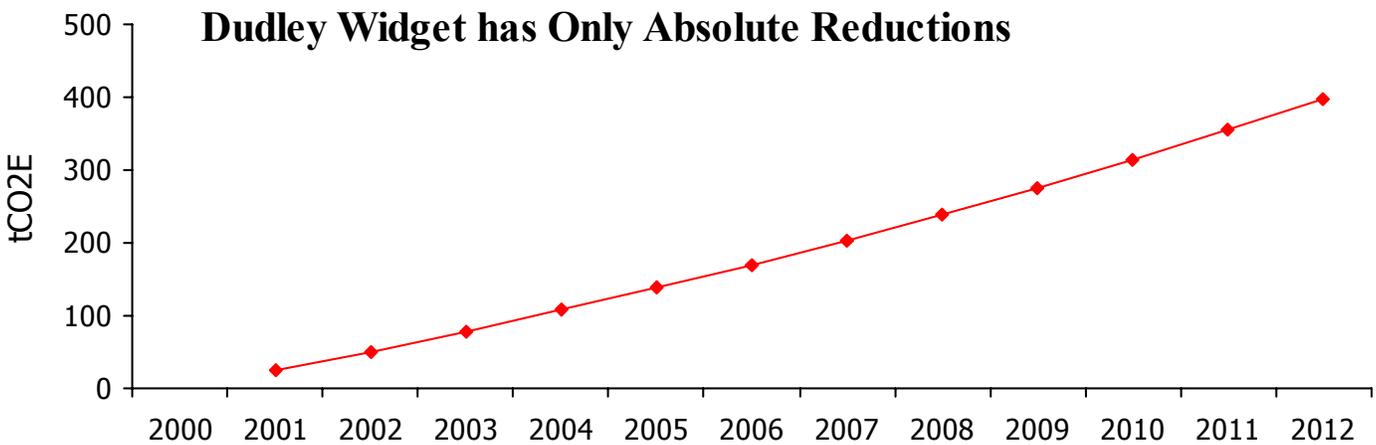
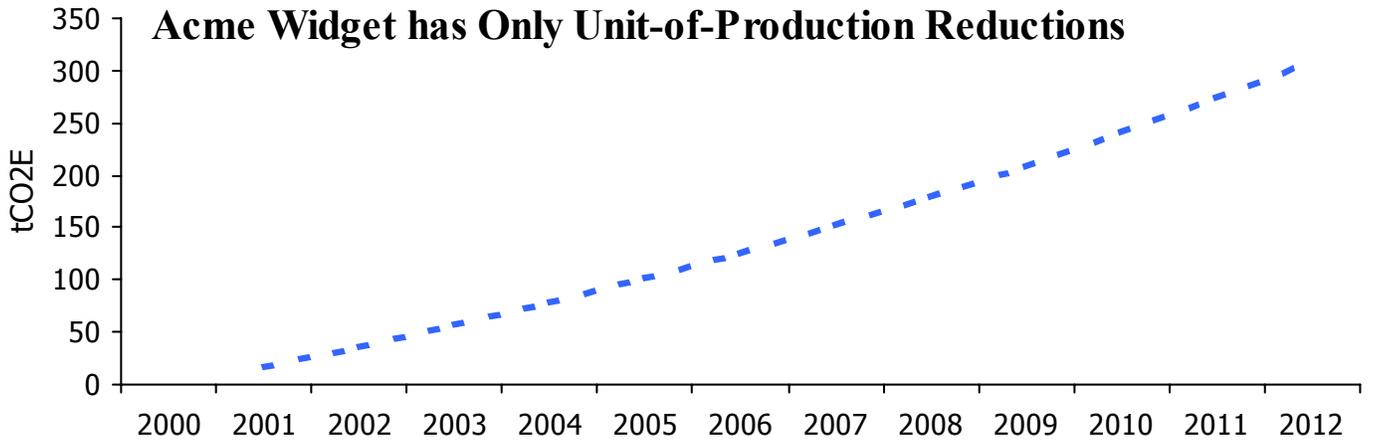
Dudley Widget is Shrinking...



Stasis Widgets is Unchanged...



Reductions Depend on the Baseline Chosen



7. SUPPLEMENTARY SLIDES USED TO INTRODUCE SESSIONS I-IV

Voluntary Greenhouse Gas Reporting Workshops

Why Are Organizational Boundaries Important?

- President's Initiative requires that the program be suitable for "transferable credits:" i.e. enhance comparability, credibility, verifiability.
- May imply more standardized organizational boundaries.
- What does a reporter report on? Emissions of a corporation or organization (entity); or consequences of an action (project)
- If the reporter is an entity, what are the limits of the entity? Parents? Subsidiaries? Fully-owned? Minority owned? Suppliers/contractors? Domestic vs. foreign?

Three Approaches to Reductions

- **Absolute Reductions** (aka Basic Reference Case) (corporate emissions decline over time)—usually entity based.
- **Causation or avoidance**—emissions are lower than they would have been in the absence of some action(s) (aka modified reference case)—most projects, also entities.
- **Intensity Reductions** (aka unit of production) (emissions per unit of output decline)—entity or project.
- Intensity reductions are a hybrid, in which a single form of causation (output) is introduced into the format of an absolute reduction. Other forms of causation might be introduced, at the cost of increasing ambiguity and complexity.

Current 1605b Accounting Methods - Organizational/Geographic Boundaries



- Entity (Corporations, Associations, Organizations) and Sub-entity Reporting (Corporate Subsidiaries, Joint Ventures, Etc.) Allowed
- A Reporter Must Be a Legal U.S. Person (e.g., A Company That Is Recognized by U.S. Law)
- Federal, State and Local Government Agencies May Report
- U.S. and Non-U.S. Activities Can Be Reported



Current 1605b Accounting Methods - Reporting Level



- **Entity-level Reporting** - Emissions and/or reductions of the entire entity.
- **Project-level Reporting** - Emission reductions caused by specific actions.
- **Some Combination**





Current 1605b Accounting Methods - Operational Boundaries

- Direct & Indirect Emissions/Reductions may be Reported
- **Direct Emissions:** Emissions from sources owned (wholly or in part) or leased by an entity.
- **Indirect Emissions:** Emissions from sources not owned or leased by an entity that occur, wholly or in part, as a result of its activities.



Current 1605b Accounting Methods - Operational Boundaries (cont.)

- Gases Covered include:
 - CO₂, methane, N₂O, HFCs, PFCs, & SF₆
 - Other Halogenated substances (e.g., HCFCs, CFCs)
 - Other Radiatively Enhancing Gases (CO, NO_x, NMVOC)
- Sources Covered
 - Wide variety of activities reportable
 - Ten Project Types
 - Each Project Type has a number of project codes



Current 1605b Accounting Methods - Emissions Measurement



- Reporting Years
 - Entity-level reporting
 - Emissions from 1987 onward
 - Reductions from 1990 onward
 - Project-level reporting
 - Emissions and Reductions from 1990 onward
- Default Emission Factors/Methods Provided
 - Alternative Factors/Methods Allowed if Justified
- Consistency with Guidelines



Current 1605b Accounting Methods Baselines



- **Basic or “Historical” Baseline.** The difference between emissions in 200X and emissions in an earlier baseline year or average of years.
 - Easy to measure and verify
 - Often not meaningful for projects or a single facility
 - Measures outcome, not cause
- **Modified or “Business-as-Usual” Baseline.** The difference between actual emissions and what emissions would have been in the absence of the action.
 - Difficult to verify reference case
 - Measures effects of a particular action
- **Unit of Production Baseline:**
 - Easier to construct for industries with homogenous output



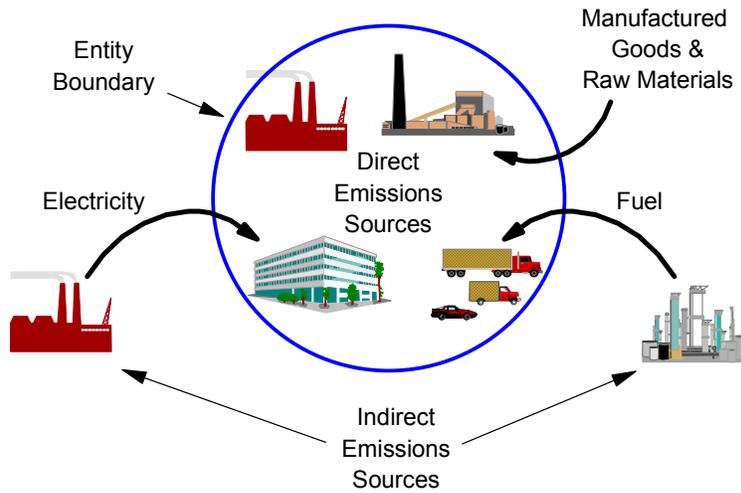
Current 1605b Accounting Methods - Verification



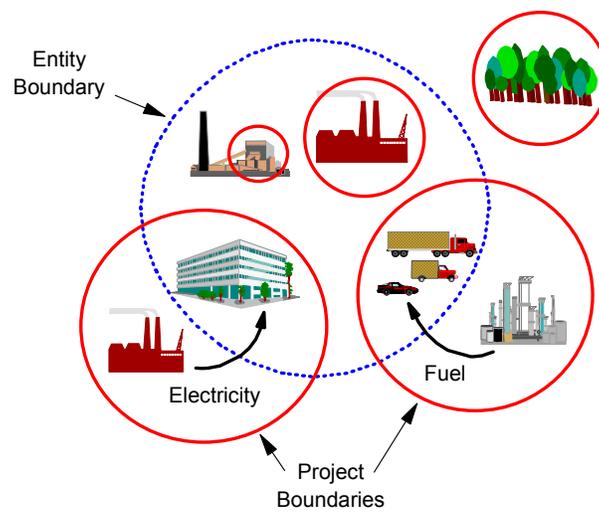
- Current Program requires self-certification by the reporting entity;



Direct and Indirect Emissions



Project-level Reporting



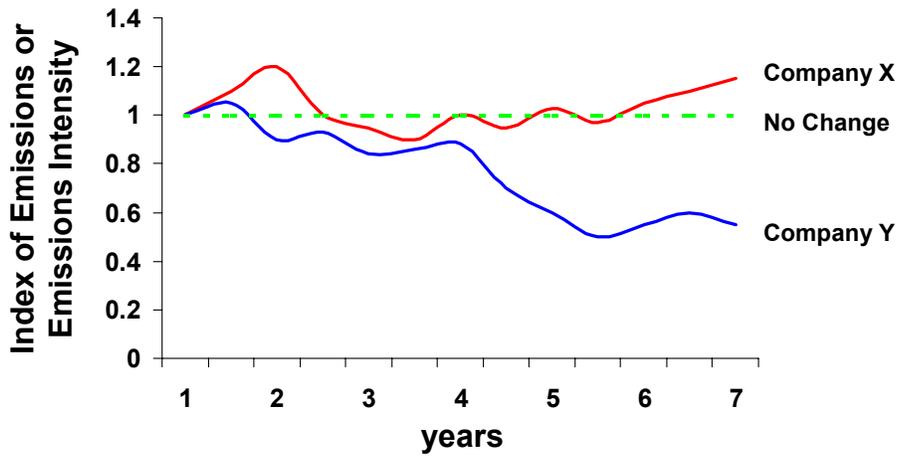
Emission Reductions

Possible Output Metrics

Utilities	kWh, gross output (\$), revenue (\$), mmbtu
Manufacturing	pounds of chemical products, tons of cement or steel, barrels of beer, numbers of widgets, gross square feet of office or retail space
Projects	kWh, acres of land, fixed assumptions (e.g., hours per day for lighting)

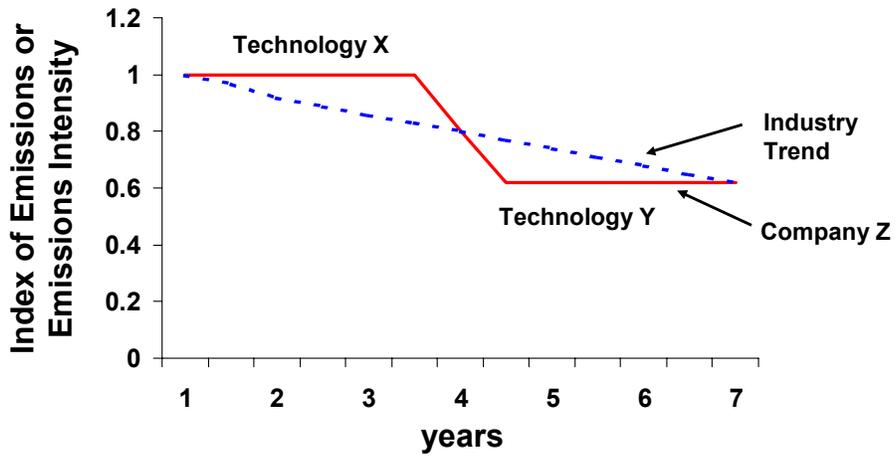
Emission Reductions

Annual Variability of Emissions or Emissions Intensity



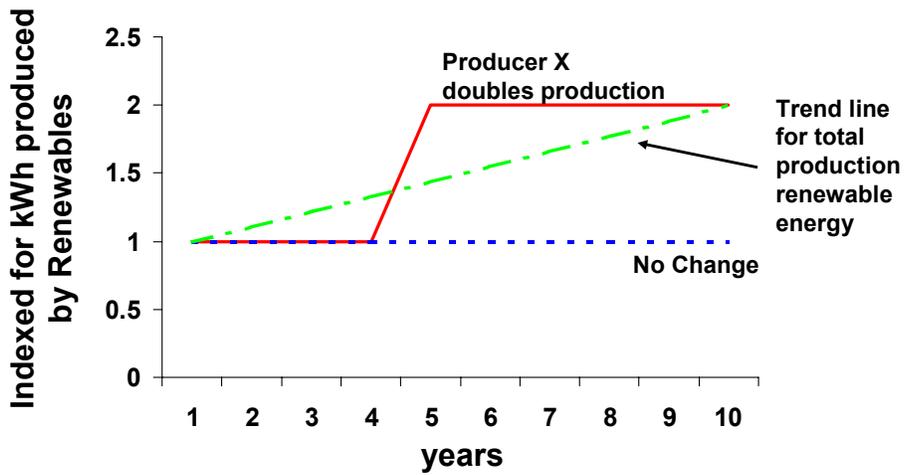
Emission Reductions

**Technology Y reduces intensity
Industry trend toward technology Y**



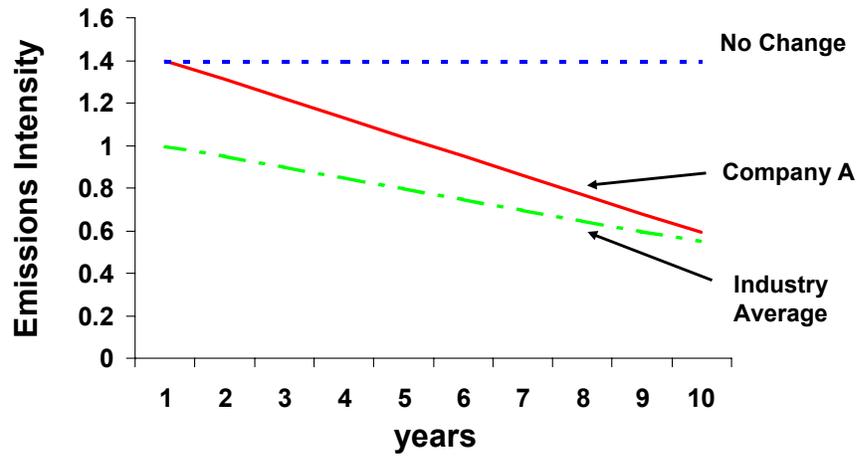
Emission Reductions

**Renewable Producer X doubles production
in year 4. Industry doubles over 10 years.**



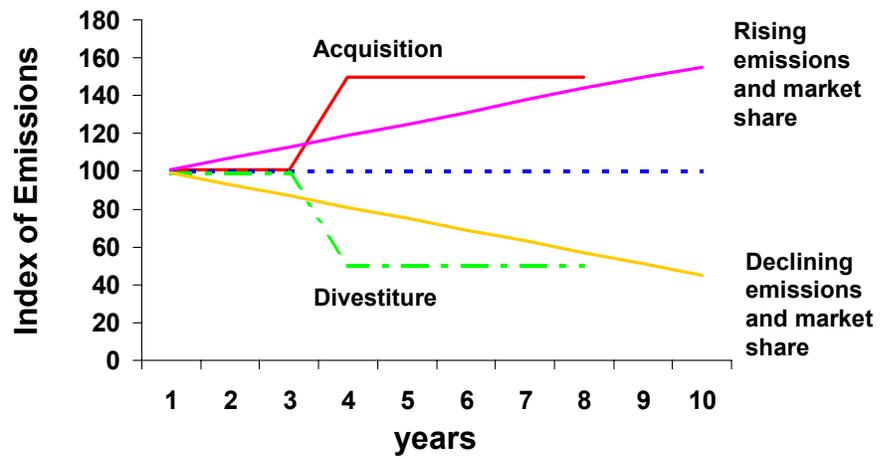
Emission Reductions

Company A Reduces Intensity to Industry Average



Emission Reductions

Acquisitions and Divestitures versus Shifts in Market Share



Session IV: Managing the Registry

- Discuss how revised guidelines and data can provide information necessary meet multiple needs (such as credits, “protection”).
- Discuss DOE role in managing reported data? Certify reports? Issue credits? Keep track of transfers?
- Discuss process for reviewing reductions already recorded.

8. TRANSCRIPT OF PROCEEDINGS FOR DAY 1

Voluntary Greenhouse Gas Reporting Workshops

P-R-O-C-E-E-D-I-N-G-S

1
2
3 (8:52 o'clock a.m.)
4

5 MS. ANDERSON: Thank you all for being here. I'm Margot Anderson. I'm the Deputy
6 Assistant Secretary at the Department of Energy's Office of Policy and International Affairs. And it is
7 our duty to pull together the revised 1605(b) guidelines. And we are working with many of our
8 colleagues from around the Department and around the federal government.

9 Before we get to my opening comments to set the stage for what we're doing, I thought it might be
10 helpful for us to go around the room and introduce ourselves. That way we can -- hopefully everybody will
11 have arrived by then. But if we can let everybody know who we are and where we come from, I think that
12 will be most helpful.

13 So let's start with this table with Dana. If you could please.

14 MS. BOLLES: Hi. My name is Dana Bolles. I work for NASA Ames Research Center. And
15 that's local, in Mountain View.

16 MS. ANDERSON: Thank you, Dana. If you could use the microphone, that might be helpful for
17 others who can't hear. You'll have to probably pull it out and pass it around.

18 MR. deVOS: I'm Chris deVos with Agilent Technologies.

19 MS. ANDERSON: Okay. Over here.

20 MS. GEHLIN: Laura Gehlin with SAIC.

21 MS. ANDERSON: Can you try again with the mic on? Great.

22 MS. GEHLIN: Is the mic on?

23 MS. ANDERSON: I think they're all hot, yes.

24 MS. GEHLIN: Laura Gehlin with SAIC.

25 MR. HOHENSTEIN: Hi. Bill Hohenstein with USDA. I head up the Global Change Program
26 Office.

27 MS. SONNIER: Lori Sonnier from Toyota Motor Sales.

28 MS. ANDERSON: Great.

29 MR. GLOSKI: I'm David Gloski with ESP.

30 MS. BENNETT: Robin Bennett with the Boeing Company.

31 MS. ANDERSON: Back there in the back.

32 MS. BOUCHER: Anne Boucher, Natural Resources Canada and the Baseline Protection
33 Initiative.

34 MR. SERES: Steve Seres, Baseline Protection Initiative.

35 MS. ROBERT: Roberte Robert, Quebec Ministry Environment.

36 MS. PARSONS: Cindy Parsons, L.A. Department of Water and Power.

37 MS. HANCOCK: I am Katherine Hancock with Tetra Tech.

38 MR. SPEARS: I'm Nate Spears of New United Motors, Fremont.

39 MR. STAUB: I'm John Staub, Department of Energy, Office of Policy.

40 MS. ANDERSON: The big table here.

41 MR. BURNETT: I'm Mike Burnett with the Climate Trust.

42 MS. ZIMMERMAN: Kristin Zimmerman, General Motors.

43 MS. CAMP: Robyn Camp, the California Registry.

44 MS. GRAVENDER: Jill Gravender, the California Registry.

45 MR. GUENTHER: Frank Guenther from the National Institute of Standards and Technology.

46 MS. ANDERSON: How about this front table.

47 MR. BEEBE: Bud Beebe with the Sacramento Municipal Utility District.

48 MR. UPTON: I'm Brad Upton with the National Council for Air and Stream Improvement, which
49 is an environmental research organization for the pulp and paper industry.

50 MR. FRIEDRICHS: I'm Mark Friedrichs with the Department of Energy.

1 FACILITATOR BROOKMAN: Doug Brookman, Public Solutions.

2 MR. McARDLE: Paul McArdle, Energy Information Administration.

3 MR. SCHOLAND: I'm Mike Scholand with Navigant Consulting.

4 MR. CAIN: David Cain with ESP.

5 MR. PROLMAN: Bob Prolman with Weyerhaeuser Company.

6 MR. IRVING: Bill Irving with the Environmental Protection Agency.

7 MS. CUMMIS: Cynthia Cummis, also with EPA.

8 MR. ANASTASIA: I'm Orestes Anasatasia with SAIC.

9 MR. ROTH: I'm Rob Roth with the Sacramento Municipal Utility District.

10 MR. BELL: Ryan Bell with the Cities for Climate Protection.

11 MS. ANDERSON: Great. You're all alone.

12 MR. HESTER: Gordon Hester with EPRI.

13 MR. RYPINSKI: I'm Arthur Rypinski with the Department of Energy's Office of Policy in
14 Washington.

15 MR. BAUMANN: Tom Baumann, Technology Early Action Measures, government, Canada.

16 MR. duVAIR: Pierre duVair at the California Energy Commission.

17 MS. ANDERSON: Great.

18 Sir, you on the side.

19 MR. [SPEAKER]: I'm with Doug.

20 MS. ANDERSON: Wonderful. We're all with Doug.

21 Anybody else not get an opportunity to introduce themselves? Yes.

22 MR. SEGEV: I'm Eran Segev with the DOT Volpe Center.

23 MS. ANDERSON: Wonderful. Nice to have you here.

24 I want to get started with a few opening comments. Doug will then and then we'll move to Paul
25 McArdle who will be talking a bit about what's currently in 1605(b). And then Doug Brookman, our
26 facilitator for the next two days, will talk about the groundrules and what we're going to cover and go over
27 the agenda a bit.

28 May I have the first slide, please?

29 What I would like to do is put into context the reason that we're here. And, as many of you know,
30 in June of 2001 the President committed the United States to several actions after he pulled out of the Kyoto
31 Protocol.

32 And there have been two major climate actions that have been taken since June of 2001. And the
33 first one that did occur in June was the initiation of two initiatives, one on science and one on technology.
34 And just last week in Washington, D.C. there was a huge conference dealing with climate change science
35 that was hosted by the Department of Commerce and attended and worked on with all of its sister agencies
36 that are involved in climate science.

37 It was attended, there were over 1500 people there. And you might have read about it in the *New*
38 *York Times*, but that was an effort to continue the President's desire to enhance the science of climate
39 change and to develop a more systematic way to deal with climate science at the federal level.

40 In June as well of 2001 the President established something called the National Climate Change
41 Technology Initiative, which we have the lead for at the Department of Energy. And that's dealing with
42 developing with the kinds of technologies to sequester and mitigate and avoid GHGs.

43 On February 14th of 2002, which is a bit more germane to what we're going to do here over the
44 next two days, is the announcement that the President wanted to achieve a greenhouse gas intensity-
45 reduction goal of 18 percent by 2012. So he set an overall national goal for where we need to be in the next
46 ten years in terms of GHG reductions.

47 He also directed improvements to the doe GHG Voluntary Emissions Reporting Program, and
48 that's really what we're going to be doing here today, is worrying over the specifics of the Directive that he
49 gave us in February of this year.

50 In addition to the improvements to the Voluntary Registry, the President has supported the

1 concept of transferable credits and providing protection against future climate policy to those that register
2 real reductions within the Voluntary Reporting Program. That's an important component of what the
3 President announced in 2002 of this -- in February of this year.

4 There were a host of other actions in that Directive, which is on the White House webpage. It's on
5 the doe webpage. We'll give you all the websites for this stuff if you're not familiar with these documents.
6 But in addition to the transferable credits and the improvements in the Registry, the President had a wide
7 range of financial incentives associated with tax incentives and research and new-technology development,
8 and also supported businesses to take action whether through the Climate Leaders Program or through doe's
9 Climate Partnership Program, through USDA's Partnership Programs. It was a challenge to businesses to
10 step forward and take actions to reduce GHGs and report them through the Registry.

11 Specifically the President directed a number of things. And, again, all of this is in the various
12 packets and information that we've put on the webpage, but what's crucial here is the step that I've
13 highlighted in red.

14 And the President wanted the Department of Energy working with Commerce and USDA and
15 EPA to propose improvements to the current Voluntary Emissions Program, to enhance measurement
16 accuracy, reliability, and verifiability. You're going to hear these words over and over and over again over
17 the next two days, because in essence this is what we're trying to get at: How do we approve the Registry to
18 meet this Directive.

19 Part II of the Directive is critical as well because he wanted us to recommend reforms to ensure
20 that businesses and individuals that register reductions are not penalized under a future climate policy and to
21 give transferable credits to companies that show real emissions reductions.

22 Another major component of what we need to do over the next two days: We need to be thinking
23 about what are these kinds, types of reductions; what do transferable credits mean; how would we manage
24 them; and how does that relate to not being penalized against future climate policy. So we'll be looking for
25 you to give us some guidance on those kinds of issues.

26 Thirdly, the President directed the Secretary of Agriculture to work with EPA and doe on
27 developing accounting rules and guidelines for crediting sequestration projects. And this effort is being led
28 by USDA. They're going to have a few workshops early next year, public meetings that are going to be
29 dealing with the difficulties of coming up with protocols and guidelines for measuring particularly
30 sequestration in the forests and on agricultural lands.

31 And Bill Hohenstein, who's with us today, can speak more about that. Feel free to cubby-hole him
32 later and talk to him about those workshops that are coming up.

33 While Paul McArdle from our own EIA will be talking in more detail about the current 1605(b)
34 Program, just to run through it quite quickly, it was created by the Energy Policy Act of 1992. It's managed
35 by doe's Energy Information Administration; it has been since 1994. People have been registering emissions
36 and emissions reductions since 1994.

37 It records the results of voluntary measures to reduce, avoid, or sequester GHG emissions. During
38 2000 a total of 222 U.S. companies and other organizations filed reports.

39 The reporting guidelines are flexible. They're designed to encourage participation. They weren't
40 designed to encourage -- to provide transferable credits. They were designed as a participatory program and
41 a way for companies to register the positive actions that they are taking.

42 We have received many questions about the relationship between the GHG Inventory and the
43 National Inventory. And Paul's going to talk a little bit about why those two are distinct, and they are not
44 the same things.

45 So what did when with the President gave us our charge in February of 2002? The first thing we
46 did was establish a goal: That we need to have the new guidelines in place by January of 2004. That means
47 for all the reporters, they will be reporting on 2003 data. We're always one year behind, but we need the
48 guidelines to be in place in early January of '04 so that reporters have the early months of '04 to file the
49 reports, get them into EIA who will compile them and put them out in their report late in the calendar year.

50 We also established an interagency coordination process and a website. I'm sure many of you are

1 familiar with the website. That's probably how you registered to come to this conference. We have lots of
2 information up there about what we're doing under 1605(b), what other agencies are doing on GHG
3 reporting, and related matters that you might find helpful.

4 In May of 2002 we issued a *Federal Registry* notice of inquiry to solicit comments from
5 companies and other interested individuals about what we should do to revise 1605(b). And we got over 60
6 sets of very substantive comments from a wide range of respondents. And you will find those on our
7 webpage if you care to peruse those. They're quite detailed and really very useful to the task at hand.

8 In July of 2002 there was an agency sent to the President with recommendations for moving
9 forward. That letter was signed by the Secretaries of Energy, Commerce, USDA, and the EPA
10 Administrator. And in that letter are ten key recommendations for how these cabinet-level officers thought
11 the Program should move forward. You're going to be hearing about those ten recommendations over and
12 over and over again. Where are they? They're on the webpage. And they're also repeated in our
13 background papers in the introductory component, what those recommendations are and how they feed into
14 the kind of work we're going to be doing.

15 We have been meeting with stakeholders for months. We have these four public meetings going
16 on, but we've also met individually with many stakeholder groups. We've heard from many people who call
17 us and want to meet with us or want to come by. We speak a lot at public fora to talk to folks about
18 1605(b). We think that will continue well into next year as we move forward on the 1605(b) revisions.

19 So what's going to happen in 2003 after Christmas and we're all done with our workshops? We
20 will be accepting post-workshop written comments throughout the winter months of '03.

21 And that means that if you go back home and feel that you weren't able to say what you needed to
22 say here, you wanted time to think about it a bit more, talk to your colleagues, go back home, if you want to
23 send us some written comments we'll give you the website to do that. It's the same website that people have
24 been using to send in the comments for the NOI. But do feel free to put your thoughts down on paper and
25 send them to us. We use that in our thinking process and our revision process.

26 During the winter months we're going to be spending quite a bit of effort revising the guidelines at
27 doe, based on the input that we get from these meetings, from the previous NOI, from subsequent written
28 comments. We will be revising the guidelines.

29 We will go into a public comment period probably in late spring. Whether that's a 30- or 45-day
30 public comment period, there will be an opportunity for you through a *Federal Registry* notice to respond to
31 us on the revisions.

32 It'll take us then several months to respond to you, who responded to us on the revisions, in order
33 to prepare final guidelines.

34 At the same time on a parallel track EIA has to revise all the reporting forms and all the directions
35 that need to go with the revised guidelines. They will start on that path right now, actually. So that work is
36 ongoing.

37 And that brings us then to issuing the new guidelines in very early of 2004, ready for the reporting
38 period of 2004.

39 We're here over the next two days to talk really specifically about how to substantially improve
40 the Registry and protect and provide transferable credits for emissions reductions. Those words are in
41 quotes because those are the President's words.

42 That's our work today. We're not here really to talk about a lot of the big policy issues associated
43 with climate change. We're here to talk about how to revise the Registry, to make it consistent with what
44 the President asked us to do.

45 So we've broken up our workshop into four general areas. We first want to talk about issues
46 associated with emissions reporting. That's the reporting of emissions. Not reductions, but the reporting of
47 emissions. What do we need to do for those firms and other institutions that want to report on emissions in
48 order to improve accuracy, reliability, and verifiability.

49 The second part of our workshop is really focusing on the emissions-reduction component, a key
50 component to this whole exercise. What are the characteristics of a reduction. How do you measure

1 reduction. What kind of techniques are needed for reductions. Given that it's reductions that we're worrying
2 about in terms of protection against future climate policy and transferable credits, we need to have a rather
3 lengthy discussion on how you characterize what's a reduction.

4 We then want to talk about verifying emissions and reductions. The President told us to make
5 sure they're verifiable. In the recommendations that were sent to the President, the four agencies
6 recommended independent verification. We want to talk about what does that mean. How often does that
7 happen. Who should do that. What are the confidentiality issues that are raised within that issue of
8 verification. So we want to have a lively discussion on that.

9 Finally, we need to talk about managing the Greenhouse Gas Registry. When the reductions and
10 the emissions are put into the Registry, what is the responsibility of the DOE and the EIA to keep track of
11 those. How do we manage transfers if there are transfers. What do we do that's different from what we're
12 doing now in terms of managing the kinds of data and information that are currently in the Greenhouse Gas
13 Registry.

14 You're going to hear a lot of cross-cutting themes over the next couple of days, and they are kind
15 of important to keep in mind as we balance the many different interests we have from stakeholders and other
16 groups about revising the Greenhouse Gas Inventory.

17 And these themes are as follows: We need to balance rigor with practicality, stringency with
18 flexibility. It's a voluntary program. If it doesn't meet the requirements of the folks that need to report and
19 want to report to the Program it will be worthless. So we need constantly to balance the rigor that we need
20 in a program that's associated with transferable credits and protection against future climate policy with
21 practicality. There's got to be a good reason and a relatively straightforward way to report. Otherwise folks
22 won't report to the Program.

23 We need to balance the voluntary approach within a goal-focused program. 1605(b) and the
24 Voluntary Registry is not the way that we're going to track whether we meet the 18-percent goal. That will
25 be done at the national level. But 1605(b) is a great instrument to demonstrate how companies are helping
26 the President meet that goal. So, again, voluntary program, but there's a goal associated with -- at the
27 national level of a GHG intensity reduction. How can 1605(b) help within that context.

28 We need to balance confidentiality with verifiability to promote credibility. A lot of people
29 criticize 1605(b) as not being as a credible reporting program as it could be. We need to balance those kinds
30 of criticisms with our need to ensure confidentiality for those that report. It may be that in a revised
31 program we would be asking for a different kind of dataset than we're currently asking for. Can we assure
32 confidentiality for reporters. It's an important component for many of our reporters so that they're not
33 revealing business information that they choose not to reveal to the marketplace.

34 We need to build where appropriate on current 1605(b) guidelines and other reporting programs,
35 and there's a bunch of them out there. There are private-sector efforts like the API Compendium. There's
36 certainly the work of the state-level registries. The California Registry comes to mind immediately. This is
37 an effort that many of you are very familiar with, and we want to make sure that we are building where
38 appropriate on the kinds of efforts that are already moving along.

39 The Canadians have done quite a bit of work on registry issues and on reporting, and we want to
40 have an opportunity to speak with them and hear what they've done in their area and the kind of problems
41 that they've dealt with.

42 So there are a number of different guidelines and efforts that have attempted to grapple with many
43 of the issues that we're going to grapple with. And we would be remiss if we didn't take that into
44 consideration and make sure we had a full understanding of how they were viewing a problem and so that
45 we could learn from that effort.

46 Finally we need to be thinking about comparability within and across sectors. This is something
47 that is critical to the revised 1605(b). Does it matter that we're able to compare reductions in power
48 generation versus reductions in sequestration and agriculture and forestry. Do we need to be able to have a
49 system that allows for that comparability of positive actions across sectors. And, if so, what does that mean
50 for the kinds of revisions that we're going to put forward.

1 So I think you'll be hearing about these themes as a subtext throughout the next two days.

2 These are two important websites. We have two more websites that we will give you when we
3 hand out the registration list at the end of our session. We have a USDA website that's helpful to get online
4 to know about what they're doing. And we have the -- I believe the other one's the EIA website.

5 This first website is just where you go to get information about what we're doing on 1605(b) at
6 doe. And the second one is where you sudden in comments. If you haven't sent in a first set, this is where
7 you can send in comments.

8 I'd like us to briefly reintroduce our federal partners that are here today because you may want to
9 touch base with them specifically about issues that you have. And I want you to know that they are here as
10 a resource for you.

11 So from EIA again we have Paul McArdle. From doe, Arthur Rypinski, Mark Friedrichs, John
12 Staub. From EPA Cynthia Cummins, Bill -- Cummins --

13 MS. CUMMIS: Cummis.

14 MS. ANDERSON: Cummis. I'm sorry, Cynthia.

15 Bill Irving. From NIST we have Frank Guenther. And USDA, we have Bill Hohenstein.

16 And then we have our folks from Navigant who are here making this all happen: Doug
17 Brookman, our facilitator; Michael Scholand; Adrienne Gvozdich, who's still I think out front registering
18 people. And it looks like we're filling up quite a bit.

19 I'm very much looking forward to this. This is our third one in three weeks. We go to Houston
20 after this. We're learning a tremendous amount. We've had a different audience at each one. I suspect this
21 will be a different audience and a somewhat different conversation. But we're getting a great deal out of
22 these workshops. And we hope that they're valuable to you.

23 I see a few faces who have been with us from the very beginning. We very much appreciate your
24 tolerance in now hearing me for the third time.

25 We want you to pace yourselves. We've got many months to go on this. And we're going to be
26 wanting to talk with you throughout 2003, so don't give it all up yet. We're going to have a lot of work cut
27 out for us over the next year.

28 So I'm going to turn it over to Paul McArdle who's going to briefly run through the current
29 1605(b) Program so you get an appreciation for what 1605(b) does and doesn't do and where there might be
30 opportunities to revise.

31 MR. McARDLE: I think you can hear me okay? Okay. You have to be creative when you work
32 on 1605(b). You run into all kinds of projects.

33 Anyway, Margot, thank you for introducing me.

34 I'm the Program Manager for the Voluntary Reporting of Greenhouse Gases Program, otherwise
35 known as that catchy name 1605(b).

36 I want to cover the first four bullets of this presentation. The fifth one we'll cover more as we get
37 into the session, but I want to provide you some background on the current Program, highlight some of the
38 reasons people report in a world where there's no transferable credits and people are just reporting, discuss
39 the organization of the reporting form and the form-review process, and also give you some summary results
40 or indicators of the degree of participation in the Program since we first started collecting data in 1994.

41 In terms of Program background, the Program was created by the Energy Policy Act of 1992
42 under Section 1605(b), hence the name that has stuck and people still recognize it. It has brand recognition,
43 so people recognize it everywhere I go.

44 First of all, it gives you a chance to establish a public record of GHG emissions reductions and
45 commitments. It allows the reporting of a broad range of actions. It's a flexibility program, certainly, to
46 encourage participation.

47 The reports are self-certified by the reporter. And, as I was saying, the first data was submitted in
48 1994.

49 Now what you ask yourself, what are the benefits of voluntarily reporting your GHG action in a
50 world where there are no credits, no money being exchanged. Well, there's a number of them. Public

1 recognize, first of all. You gain public recognition, environmental stewardship. That type of idea, where a
 2 lot of corporations are attracted to that type of recognition.

3 You have a record of achievement in terms of your actually chronicling what you're doing, putting
 4 it on paper, submitting it to EIA. And we put it in the database and keep it for as long as it has to be kept.

5 Two areas I think that people have benefitted from participation is GHG estimation techniques. I
 6 know when I first got started in this process it was kind of like a black box, but once you get into it you
 7 develop an expertise in the estimation techniques and you gain quite a bit of knowledge about GHG
 8 emissions and mitigation technologies. And that's the fourth bullet, where involvement in the Program, you
 9 kind of see what your peers are doing in terms of technologies to reduce GHG emissions. And it may give
 10 you ideas to take upon yourself to also reduce your own GHG emissions.

11 And, lastly but not least, it highlights the GHG accounting issues that are endemic to this type of
 12 process, particularly when you have a flexible program that isn't overly prescriptive, we run into all the
 13 usual suspects in terms of accounting issues, indirect versus direct, reporting levels, verification, ownership
 14 issues. All those come to the fore once you get involved in this.

15 Now here's just a very kind of overview table of the degree of participation in the Program since
 16 1994. As you can see, the total number of reporters has gone from 108 in '94 to 222 in 2000. It's more than
 17 a doubling. Our current count for 2001 should come in at 229. Projects reported have tripled, a little more
 18 than tripled I guess. It's gone from 634 to 1,882. And of course the projects multiply faster than the
 19 reporters because reporters may add projects, so they go up faster than the number of reporters.

20 Project-level reductions reported 73 million metric tons of carbon dioxide, equivalent in 1994.
 21 That's tripled as well. Going to 269 million metric tons of carbon dioxide. And if you do the summary of
 22 all those numbers, you can see that's in excess of one billion metric tons of carbon dioxide equivalent.

23 Don't mind me. I use the paper because it's easier to read. Those small letters over there.

24 We have two reporting forms. We have our long form which is the EIA 1605 form and we have
 25 our short form which is the EIA 1065EZ. Now I use this slide because it's illustrative of the flexibility in the
 26 Program. You can report two categories of a report. You can report at the entity level or at the project
 27 level. Two categories of baselines. Your basic or what's called your historical baseline, and your modified
 28 reference case which is a type of count or factual baseline. When you're comparing you compare what
 29 happens under your actions versus what would have happened had you not taken the action.

30 Two categories of emissions in reductions, both direct reductions or emissions which technically
 31 take place within your fence, so to speak. And indirect emissions reductions which occur because of your
 32 actions but outside your fence, so to speak.

33 There's ten categories of emission-reduction projects. All the greenhouse gases are covered, the
 34 six Kyoto gases. For an entity you can report annual emissions from 1987 onward.

35 Project-level reporting, you can report emissions in reductions for 1991 on.

36 The form also allows reporters to register commitments to reduce emissions in the future.

37 Now in terms of the 1605 short form, it's basically the equivalent of a 1040A form in tax
 38 reporting. It's two-page form. And it was designed for simple projects, small reporters. You can only
 39 report for that specific data. You can't report in the past using the EZ. You cannot report any international
 40 activities and you cannot record any commitments to reduce emissions in the future. And, again, it's
 41 intended for smaller entities.

42 Here's an organizational layout of the 1605 form. I think that's in the blue folder you got, so you
 43 can always refer to it. This is about a 47-, 48-page form. Of course no one uses it all because they only use
 44 those portions of the form that are appropriate to them, but again it illustrates in a very broad, flexible
 45 program, you have to cover a lot of bases. Hence the form has got a lot of pages, a lot of questions involved.

46 I can go over the layout. Schedule 1 is just your entity information. Schedule 2 allows you to
 47 report your project-level emissions and reductions. And you can see there's ten project types there. I won't
 48 name them out. You've got them in your blue folder, but again it illustrates some of the various project
 49 types that you can report under the Program.

50 Schedule 3 is entity-level reporting where you can actually report the emissions for your entire

1 entity. When we first started I believe we had 44 entity-level reporters. We're now up to a hundred entity-
2 level reporters.

3 And, lastly, under schedule 4 you can record commitments to reduce future greenhouse gases.

4 Now just briefly I want to cover what we do when we get the data in. And we do somewhat of a
5 desk audit of what's submitted to us. We don't go to people's firms. We don't go and verify what they've
6 done at their plants, et cetera. As I was saying, it's a self-certification process. So we have to conduct our
7 own desk audit through interactions with the company or the reporter, and it's basically a four-step process.

8 When the report comes in the analyst looks at the report and checks it for internal consistency, the
9 accuracy of the calculation methods, and comparability with some other sources of data that are in the
10 public arena, and also compatibility with the existing 1605(b) guidelines.

11 After that initial review we do an electronic edit check on the data that is submitted. Most of our
12 reporters report electronically to us, probably about 75 percent. And for those who don't we can enter the
13 data into the reporting software, then do the electronic-edit checks. The edit checks are designed to catch
14 inconsistencies in the numbers that are entered across the form.

15 After the edit check we do what's called our methodological-edit check where we manually review
16 the form and what the reporters have entered in the supplemental text that explains how they came up with
17 those numbers, and if those methods make sense.

18 So after we go through those three steps if we find anything that draws a flag we call the reporter,
19 get back in touch, we discuss that with them on where we went wrong, were are the numbers wrong, was
20 there a methodological-error here, was it done incorrectly.

21 And after that process, and it sometimes takes a number of phone calls and emails, et cetera, but
22 our reporters are very cooperative in that stage, and eventually once we come to agreement the data is
23 actually accepted into the database. And to that point we give it a P, we classify it as P, for "preliminary,"
24 and it's not totally accepted into the database.

25 How do people get in touch with us? We have a number of avenues and services we supply to our
26 reporters. We have a communication center. We've got an 800 number. It's staffed Monday through
27 Friday, 8:30 a.m. to 5:00 p.m. Eastern Time. We have a website which has all our reporting forms, our
28 Program background information, reporting tools, a lot of links to other sites that you could use in terms of
29 getting information on greenhouse gases.

30 We also supply our reporters the reporting software every year. We put it out on a CD. We mail
31 it to our past reporters. It can also be downloaded from our website. It's a multi-user, networkable,
32 electronic form. And what people do is after they do all their data and they go through the review process
33 with us, they email us what's called a GHG file electronically. And it can be incorporated right into our
34 Oracle database. We just plug it in and it's already a part of the data.

35 We also offer methodological and computational advice, again for the reporters who --
36 particularly if we find some sort of discrepancy on the form or sometimes people just approach us and say,
37 'Well, how do you calculate emissions in this area. What do you guys do.' And we offer that advice.

38 And of course I mentioned the forms review. And we also offer some worksheets and
39 spreadsheets. We have a recycling spreadsheet. We have an urban forestry and a sequestration worksheet
40 that we give to our reporters and some other tools that they can use to plug in their coordinates and their
41 numbers and come up with some estimates of either emissions or sequestration.

42 This chart's very busy, and I won't spend a lot of time on it except that I mentioned the first two
43 rows and I mentioned about the entity-level reporting. I said 44. I guess it's gone from 40 to a hundred over
44 the '94-to-2000 time period. But I think I use this slide sometimes to segregate out the emissions reductions
45 because people often said to us, 'Well, you can't compare direct and indirect. You can't compare historical
46 baseline emissions reduction versus a modified-reference baseline reduction.'

47 So I've broken them out here. It's illustrative of the fact that most of our emissions reductions are
48 direct reductions, probably about 75 percent. And by far in project-level reporting the preference is to use a
49 modified-reference case. But I don't cover the numbers here. If you want the numbers you can always come
50 to me and we can talk about them more.

1 And to round it out I just wanted to put program participation into some sort of perspective versus
2 national trends. Now this gives us reported entity-level emissions as a percentage of total U.S. GHG
3 emissions. As you can see, it's varied from 13.3 percent of total U.S. greenhouse gas emissions in '94 to
4 14.8 in 2000. It peaked in 1998 at 15.5 percent. The reason that's a fairly significant number, I think it's
5 significant, is we've got very large participation of the electric utility industry, so that brings up our total
6 relative to -- our total from the reported emissions to the total greenhouse gas emissions.

7 And also on the last bullet, I don't have a graphic on it, but project-level reductions have grown
8 from 1.1 percent of total U.S. greenhouse gas emissions in 1994 to 3.9 in 2000.

9 Okay. This is a slide on project-level reported reductions. And this is mainly used to illustrate
10 first a trend. We've gone from 73 million metric tons in '94 to 270 in 2000. The total reporters have
11 increased from 108 to 222, but I also use this slide because it segregates by gas. As you can see, the primary
12 emission-reduction gas is CO₂.

13 Methane has grown from a very small base to become a very significant portion of the reported
14 reductions, and that's mainly due to the fact that we've gotten a large amount of participation recently, over
15 the last few years, from the landfill methane operators who are capturing methane as it anaerobically
16 decomposes at landfills. They're capturing that CO₄ either to burn themselves or to sell to electric power
17 plants. And it's become a significant source of reductions for us.

18 Just let me flip this here. Okay. This slide is again named and put together to illustrate direct ever
19 indirect reductions.

20 Direct reductions, again people always bring up the issue of double reporting. But really direct
21 reductions are the primary report of reduction. It's varied from 57 percent to 86 percent over the years. I
22 think the current year, I don't have that percentage, but I think the percentage in 2000 was about 75 percent
23 of the reductions were direct emissions reductions.

24 And, last, this last slide I want to illustrate the reference-case issue, continually comes up in these
25 meetings. Historical baselines versus counter-factual baseline versus unit-of-production baselines or
26 intensity baselines.

27 Under the current Program we basically have two methods. We have the historical baseline or the
28 basic-reference case or the modified-reference case which is your counter-factual baseline. As you can see
29 here, again modified-reference case are clearly the method of choice in project-level reporting. Eighty-one
30 percent for direct, 92 percent for indirect and 93 percent of sequestration reductions. And it clearly
31 demonstrates a preference for a business-as-usual reference case, at least under the current reporting
32 guidelines.

33 And I think that's all I have. Yes. Those I'm going to cover at the session level.

34 FACILITATOR BROOKMAN: Good morning, everybody. I'm Doug Brookman. I'm eager to
35 get going so I'll be brief.

36 I'll be very brief. Nice to see you all this morning and thanks for coming out in the rain. We're
37 looking forward to a good day of discussion.

38 I personally have two objectives for this workshop and they are to have a detailed exchange of
39 views and to get through all of the content areas that are listed in the agenda.

40 How many of you had a chance to take a peak at the agenda? There's a lot there, and so I'm going
41 to be trying to go as fast and effectively as we can to address the issues and still provide an opportunity and
42 context to really have an exchange on those subject areas.

43 I want to do a brief poll at the outset. How many of you have experience with this Registry
44 Program kind of activity, significant experience working in this kind of detailed media?

45 (Participants raise their hands.)

46 FACILITATOR BROOKMAN: And how many of you are fairly new to this enterprise?

47 (Participants raise their hands.)

48 FACILITATOR BROOKMAN: So about half and half that way.

49 How many of you consider yourself kind of in between?

50 (Participants raise their hands.)

1 FACILITATOR BROOKMAN: Well, that's more than we had in the previous workshops.

2 And how many of you are current registrants to 1605(b)?

3 (Participants raise their hands.)

4 FACILITATOR BROOKMAN: So six or eight. Okay, that's good. Well, and I know, having
5 looked at the registration list, that we have many of you that are working on the California initiatives,
6 several of you from Canada. We hope as we're going along today that we can learn from your experiences
7 in a very practical way and you can give the Department of Energy your best advice on how to make
8 something as complicated as this and kind of pulling in different directions as practical as possible.

9 I think all of you received a copy of the agenda. It's in your blue packet. Could you take it out
10 and take a quick peek?

11 Essentially we have several kind of content blocks. And the format for the workshop will be the
12 Department will be putting slides that ask specific questions up on the board up here, up on the screen. And
13 the Department's going to very briefly queue up the slide by saying what's intended by it, what they hope to
14 get in the section that's about to follow.

15 EIA's going to follow very briefly saying here's what the standard is, what they're doing presently
16 in the 1605(b) Program, and then we're going to have an open discussion. So that's the format. We try to
17 create a lot of structure since we have a lot of content here.

18 So you can see we're going to start this morning with emissions reporting. And we'll take a break
19 mid-morning, say around about 10:30 or 10:45. We'll take a break for lunch around mid-day. We'll return
20 from lunch and talk about emissions reductions and sequestration. Mid-afternoon coffee break.

21 And we'll close out the day with four separate breakout sessions. And you can see them listed in
22 the agenda. The four sessions or topic areas are: Electricity generation, industrial and other large sources,
23 small distributed sources including renewables, and agricultural and forestry sequestration.

24 And I think many of you may have already registered for one of those four. If you haven't you've
25 got a chance to think about it between now and three o'clock, perhaps even lunch time, to figure out which
26 one would suit your interests best.

27 So that's the general plan. That's for today.

28 Tomorrow we'll start again. And actually we start tomorrow probably around about 8:30. We
29 started a little late today. And take up the issue of -- we'll have reporting back from the breakout sessions
30 today, and take up then the issues of verifying emissions and reductions. We'll have a lunch mid-day. And
31 we'll also be managing, dealing with the issues of managing the Registry itself.

32 The previous two workshops we ended a little early. It's quite possible we may do that in this
33 case, but we wanted to make certain that we provided enough time in the scheduled agenda to get through
34 all the content. And, as you can see, there's a lot to do.

35 How many of you took a peek at the white papers before you got here?

36 (Participants raise their hands.)

37 FACILITATOR BROOKMAN: So those of you that did, I think would recognize that a
38 significant amount of effort went in to preparing those and kind of trying to create a context for this
39 discussion. We're hoping they're useful for you.

40 Okay. And then, finally, I'd ask for your consideration and cooperation to make this workshop
41 successful. What have emerged as norms over the span of the years that I've been doing these workshops
42 are to ask that people simply speak one at a time. Please say your name for the record. This is a recorded
43 session. There will be a transcript of this meeting. And both an audio file and a paper transcript will be
44 posted on the website. Right?

45 So please say your name for the record. I'm going to be cuing you to -- I'll be recognizing you by
46 name to the extent I can. If you take your table tents and turn them so you think I can see them, that'll make
47 it easier for me.

48 I'm going to ask that you be concise. Please share the airtime with your colleagues. There's a lot
49 that wants to get said in this room; let's make certain that everybody gets a chance to do that. Also please
50 keep the focus here. Turn off your cell phones or put them on buzz. And someone can show me how to do

1 that with mine maybe.

2 (Laughter.)

3 FACILITATOR BROOKMAN: And if you happen to have a sidebar conversation with someone,
4 it's totally understandable, but just don't do it in here. Take it out of the room, okay? One could easily
5 understand you want to consult with your colleagues. Please don't do it. It's distracting for everybody.

6 I'm going to be cuing people to speak. I'll literally be recognizing this person, this person, this
7 person. I also wish to try and create an opportunity to follow-on comments and create an exchange. Please
8 make it possible for me to do that, okay? Help me. And if I drop you out of the queue, flag me down. Don't
9 let me get away with that, because I sure didn't intend to do it.

10 Especially follow-on comments, if you can keep them brief and focused, that'll make it a lot easier
11 on all of us, okay?

12 So that's all that I have to say at the outset. Questions or comments before we begin?

13 If you see issues -- well, let me ask you this question. As you reviewed the agenda, do any of you
14 have issues that you wanted to raise that you didn't think could be fit into what's here in the agenda? Any
15 additional things?

16 I don't see any.

17 If we come up with other key issues that you need to see addressed, you let me know or we'll raise
18 them in the course of the conversation, okay?

19 You look a little dazed, folks. Sit up. It is early, I guess.

20 So let's go with the first slide, Michael.

21 And who from the Department is going to queue up this?

22 These are the cross-cutting issues and they were referred to earlier by Margot. I'm not sure it's
23 necessary to spend much time on these. This is part of the challenge that the Department of Energy plus the
24 other federal partners have: Rigor versus practicality, the issues of confidentiality. We'll go into all of these
25 in considerable detail at some level. Verifiability, relationship to other reporting programs and protocols,
26 and comparability within and across sectors. All challenges for creating a registry that's accurate in
27 verifiability and verifiable and generally good.

28 Are you going to queue up the next slide?

29 MR. RYPINSKI: Yes.

30 FACILITATOR BROOKMAN: Okay.

31 MR. RYPINSKI: Michael, if you could do the Arthur's 1?

32 FACILITATOR BROOKMAN: This is Arthur Rypinski from the Department of Energy.

33 MR. RYPINSKI: Hi. I'm sorry. I'm Arthur Rypinski with the Department.

34 FACILITATOR BROOKMAN: I'm going to be cuing people for their names.

35 MR. RYPINSKI: No, that's not it. That's Arthur 2. Yes, that's it. Magic -- woops, no. Hang on.
36 You're right. You had it right the first time. Sorry.

37 Actually let's do -- I'm sorry I'm slipping. Okay, here we go. The first question we're going to
38 address in this context is organizational boundaries for emissions reporting.

39 The President's Initiative requires that the Program be suitable for transferable credits. And in
40 order to do that we think it would be desirable to enhance the comparability, credibility, and verifiability of
41 reporting. And that may require more standardization of organizational boundaries than has been the case in
42 the past.

43 And so the first sort of conceptual notion is: What is it that a reporter -- what kind of emissions
44 would a reporter be reporting on. And there's sort of two conceptualizations in the existing Program of what
45 a reporter reports on.

46 The first conceptualization is the emissions of a corporation or an organization. What's called in
47 1605(b)-speak entity reporting. And you can think of this as the offspring of emissions inventories from
48 environmental regulations sort of crossed with financial reporting. And it's sort of the offspring. And the
49 notion is that it's the emissions of a corporation over time.

50 An alternative conceptualization is the consequences, the emissions consequences of a particular

1 action. It's called in 1605(b)-speak a project. And the intellectual heritage of projects is cost-benefit
2 analysis and project analysis and environmental impact statements.

3 If we're talking about the reporter as an entity, that is something like a corporation or a public
4 body, then we need to ask what are the limits of that entity. What should those limits be. Do we worry
5 about does the body have parents. If it's a public body, is there some superior public body. If it's a company
6 does it have a parent company, possibly overseas. Does it have subsidiaries. Are the subsidiaries -- if the
7 subsidiaries are fully owned, that seems rather straightforward. But what happens if the subsidiaries are
8 partially owned. What happens if the subsidiary is at arm's length and the holding is tiny.

9 What about the actions of suppliers or contractors, when one company employs another. And,
10 lastly, what about domestic versus foreign activities. Should we distinguish between domestic and foreign
11 activities as we do, by the way, in the current Program. And given that we distinguish what sorts of things
12 do we -- under what circumstances should we consider emissions and emissions overseas.

13 Some of the specific questions we'll be asking is: Should we be encouraging entity-wide reporting
14 versus projects. We also are interested in how we would define an entity. As the previous remarks have
15 suggested, an entity might have various definitions. It certainly has various definitions under the current
16 Program.

17 We will be asking you how we would define corporate and institutional boundaries. And we
18 suggest some -- and we've heard some options in the literature in the activities of other programs.

19 We're interested in how much flexibility we ought to undertake in defining these boundaries. Do
20 the boundaries need to be highly standardized or can we afford to be flexible in those definitions.

21 And, lastly, how should we consider emissions outside the United States. Should we consider
22 them at all. And if we do consider them, what are the circumstances under which they should be considered
23 and how would we do that.

24 With that I'll go back to Doug.

25 FACILITATOR BROOKMAN: Thank you.

26 Paul McArdle's going to give you just one slide, real brief, on what's being done presently.

27 MR. McARDLE: Real quick, what we do now currently under the 1605(b) Program: We allow
28 entity-level reporting obviously, but what is an entity. Well, we have -- an entity can be a corporation,
29 associations, organizations.

30 And we also allow reporting at what's called the subentity level. That could be a corporate
31 subsidiary, a joint venture with another corporation.

32 I brought a reporting form just to read you some of the entity types we have in here. We have an
33 individual or family, and I'm looking at Arthur because he's the only one we have reporting at the individual
34 level now. We allow reporting by partnership, by corporation. And you can actually report at the
35 subsidiary level for your corporation.

36 Government level. Agencies may report. Federal, state, regional, and local.

37 Joint ventures may be reported as an entity and a project. Trade associations may report.
38 Reporting on behalf of their members, much like the utility consortium of the electric utilities and their
39 carbon-sequestration projects. We get a utility report on all the activities of those various members.

40 Or you could -- or an association could report on its own project. And, lastly, a limited liability
41 company. And we also have an other category.

42 Going further in, just real brief on the definition of an entity and who can report, a reporter must
43 be a legal U.S. person. That's right in the guidelines. And that basically reads as "A company that is
44 recognized by U.S. law."

45 We do have some foreign corporations, international corporations that report, but they basically
46 report on their U.S. operations.

47 As I mentioned, federal, state, and local government agencies may report.

48 And, lastly, on the geographic-boundaries issue, we did not preclude the reporting of international
49 activities, international projects to reduce emissions. However, we do ask the reporter when they file their
50 report to segregate those activities into a separate bin. We do not group them together in the data, so that we

1 can clearly demarcation domestic versus international.

2 FACILITATOR BROOKMAN: Okay. So I'd like to confine the conversation to emissions
3 reporting. Just emissions reporting, not reductions first.

4 And these first three bullets, entity-wide reporting, what defines entity, and how to define
5 corporate and institutional boundaries. Maybe we could just start by addressing those issues first.

6 Who would like to start? And your name for the record. Please, your name.

7 MR. BURNETT: I guess I'll break the ice. I'm Mike Burnett from the Climate Trust.

8 I guess the answer depends on what the goal is. If the goal is verifiable emission reduction, you
9 know credits, actual credits themselves, then it seems like entity wide is important to be able to get kind of
10 the integrity of the credit, the credibility of the credit.

11 And if you're kind of wanting to report just general project but not try to turn that into a
12 transferable credit, which essentially is kind of a commodity with governmental sanction, it seems like you
13 could do projects alone. Somehow the loop has to be closed between the entity and the project in the realm
14 of the credits.

15 FACILITATOR BROOKMAN: The loop needs to be closed between the project and the entity
16 for...?

17 MR. BURNETT: Well, for the certifiable credits, transferable credits.

18 FACILITATOR BROOKMAN: Right. So the Department has already said that the goal -- or the
19 President has directed the Department to make it possible for transferable credits.

20 MR. BURNETT: Correct.

21 FACILITATOR BROOKMAN: So they're going towards, they're saying, 'We want to encourage
22 entity-wide reporting,' and so that's an emphasis here.

23 Additional thoughts and comments on this subject?

24 Yes, please, your name.

25 MR. PROLMAN: Bob Prolman from Weyerhaeuser. Is this on?

26 FACILITATOR BROOKMAN: Yes, I think so.

27 MR. PROLMAN: A few thoughts. First I think it's important that as in the 1605 there be an
28 allowance for associations, so that you would have industrial-sector-wide opportunities to report. And that
29 would help I think alleviate some of the concerns around confidentiality, on a summed-up basis.

30 That would of course limit the utility of that for other purposes, but that's I think ought to be an
31 option.

32 In defining an entity, in looking at how to define institutional boundaries, one of the things I
33 would encourage is consideration of how the current framework of laws, responsibility, accountability,
34 liability function in the business world at least for the private security in terms of defining what you own,
35 what you control, what you're liable for. It's an asset-and-liability type of consideration.

36 If you go outside of that and require more than that you're going to cross some other boundaries
37 that would discourage involvement, which is not to say you can't allow for the reporting, say, for indirect
38 information. I'll stop there.

39 FACILITATOR BROOKMAN: Be specific if you can. It's going to help the Department if you
40 can be as specific as possible. Let me press you on this one, Bob. Would you rely on equity share,
41 operational control, other governance features? How would you actually deploy it?

42 MR. PROLMAN: I would strongly advocate that you allow the entity reporting, which is a legal
43 entity. It has to be a legally-defined entity, a corporate person or whatever. And then let the structure of the
44 business relationship, which is usual legal, control, or otherwise documented, registered by state and other
45 laws, dictate the liabilities in ownership and asset of reporting of the information.

46 If you do otherwise you're just creating another whole framework that doesn't exist right now, so
47 that would be a disincentive to engage this. Whereas the other already exists.

48 FACILITATOR BROOKMAN: And you think that's -- okay. So leave it to the company to use
49 its existing structure and form as the way it reports itself?

50 MR. PROLMAN: Yes. It's not an open variable. There are real-world constraints. If I'm going

1 to be a corporation and report something, what is my ability to report something other than just general
2 information, like an indirect emissions, an assumption based on an coefficient of something I don't own, I
3 don't control, I don't have any legal accountability, responsibility over.

4 FACILITATOR BROOKMAN: Right.

5 MR. PROLMAN: If you get into the issue of primary ownership and contract-out facilities, again
6 there can be options, which I would encourage in this kind of program, voluntary right now, to leave all the
7 options in there, but to ask for the voluntary -- excuse me -- the indirect information. But it would be very
8 difficult for a company to go beyond its contractual relationship, particularly with a vendor, a supplier of
9 services or other types of things to begin to mandate things outside of a contractual relationship.

10 Now that can be in the future perhaps incorporated as part of contractual relationships or
11 incentives. That's something in the world of safety that's being considered right now. What do you expect
12 of your suppliers of activities in terms of personal safety and training, and so forth.

13 But rather than create a different or separate approach, I would encourage the use of the existing
14 legal structure that already exists between all the parties. It's not arbitrary. It's well documented. And it
15 makes it more readily direct and able for someone to pull the information together.

16 FACILITATOR BROOKMAN: Okay. Let me hear other perspectives on this or supporting
17 perspectives on equity share, operational control, governance, other issues like that.

18 Yes. Your name, please.

19 MS. MOSSAR: My name is Dena Mossar. I'm the Vice Mayor of the City of Palo Alto. I'm also
20 a Director on the Bay Area Air Quality Management District Board and also a member of the National
21 League of Cities' Energy, Environment and Natural Resources Policy Committee, which is actually how I
22 knew about this workshop and why I'm here.

23 I'm intrigued and, interestingly, I think this is related, at least in my mind to the comments of the
24 prior speaker, the slide said that governments may report. And I don't know if any governments have
25 reported through your Program, so I have that question.

26 FACILITATOR BROOKMAN: Yes. We could answer that right now. Arthur Rypinski.

27 MR. RYPINSKI: Yes. Government bodies have reported, including in the past the City of Palo
28 Alto.

29 MS. MOSSAR: Okay, all right. And the reason I ask that is and the reason I think it's related to
30 the prior comments, if I just take a city, a city is a group of entities, if you will, that form a city. And cities
31 have businesses within them. Cities like to take pride in being responsible and like to report to their
32 citizenry that they're responsible. They might offer incentives of one type or another to businesses to ensure
33 reduction of greenhouse gases.

34 And so this issue of what's the boundary, I mean if a city reports I guess you could define it
35 specifically as only the things that your city operations do, but the city rather thinks of itself in that narrow
36 of a form. And so I would sort of like to underscore that, including the public sector you'd have to be very
37 thoughtful I think about what was included and how you would include it so that those public-sector entities
38 could get credit for their contribution even though they may not be directly responsible for the emissions.

39 FACILITATOR BROOKMAN: Yes. And I think you're kind of implicitly describing the
40 difference between kind of operational control and more kind of governance at large in what you just said.

41 MS. MOSSAR: Yes. Yes.

42 FACILITATOR BROOKMAN: Yes. So any specific thoughts you have? I heard you say a lot
43 there.

44 MS. MOSSAR: Yes, I did. I don't have any thoughts, I just know that it's a different hat. Agilent
45 Technology is in my community.

46 I'm sure Agilent would have its own set of thoughts about how --

47 FACILITATOR BROOKMAN: Agilent's here today, are they not?

48 MS. MOSSAR: I don't know.

49 FACILITATOR BROOKMAN: Yes. Okay.

50 MS. MOSSAR: I'm sure they have their own set of thoughts about how they would like to deal

1 with these issues, but --

2 FACILITATOR BROOKMAN: Well, in some respects this is -- I'm sorry -- in some respects this
3 is analogous to the association perspective that Robert was talking about.

4 MS. MOSSAR: That's exactly right.

5 FACILITATOR BROOKMAN: And one could imagine that an industry association could be the
6 aggregator or the collection point for many different companies that wanted to report and maintain
7 confidentiality. And the city could sponsor a program and bring all the large companies, industrial users,
8 whatever, into it in a way that they might choose to aggregate or may just want to support and feature as
9 something the city took on.

10 MS. MOSSAR: That's true. And then you have to ask yourself the question is it company wide,
11 because company wide it all won't be within your one city. So the boundaries are complex.

12 FACILITATOR BROOKMAN: This is Mark Friedrichs.

13 MR. FRIEDRICHS: I just wanted to say that this idea of having cities or perhaps states serve as
14 aggregators for projects to identify emissions reductions came up in the Chicago workshop. It's something
15 that I think we would like to talk about a little bit more, especially in the afternoon when we talk about
16 focusing on emission reductions and projects. But it's certainly an idea that we need to explore.

17 FACILITATOR BROOKMAN: Thank you.

18 Yes. Harold, who likes to be called "Bud," Beebe.

19 MR. BEEBE: Right. Bud Beebe from SMUD. Just a thought on public agencies and that sort of
20 thing. Currently we recognize the difference between nonprofits and for-profit companies. And it may be
21 that in the accounting rules for greenhouse gases we need to have separate categorizations for civic groups,
22 if you will, because they do have a different character.

23 FACILITATOR BROOKMAN: In what way and what does it benefit you to differentiate that
24 way?

25 MR. BEEBE: For profit and not for profit, if you will. I think there are aggregations of society
26 that do things for societal good and others do things for specific reasons like profit. So I think that you --
27 and for better or worse, actually societally we're already split along those same lines in many ways, so you
28 might be thinking about a different category of reporter that is a governance structure of its own.

29 FACILITATOR BROOKMAN: In my mind I'm asking myself how definitionally or boundary-
30 wise they would be different. If it's at the entity level, for example, a corporation would be defined at the
31 entity level as would a nonprofit organization be defined at the entity level. You know that is that
32 corporate-governance level, whether it was nonprofit or for profit. And both of those entities would be
33 reporting a character of tons in emissions, right? I mean that seemed it would be --

34 MR. BEEBE: Yes.

35 FACILITATOR BROOKMAN: Yes? So --

36 MR. BEEBE: Yes. And part of the problem here is also that it's volunteer.

37 FACILITATOR BROOKMAN: Uh-huh.

38 MR. BEEBE: Okay. And that gets me actually to my primary point, if I could, which is back on
39 entity-wide reporting and whether we should require entity-wide reporting.

40 There are natural groupings underneath umbrella organizations that I think fall out, that people
41 want to see those things together because they are collectively kept that way by the corporation itself. I
42 mean if you look at an annual report for a holding company, they have different corporations, right.

43 I would suggest as a specific suggestion that for within the voluntary regime that we currently find
44 ourselves, that you allow subgroups of a larger entity to report as an individual entity as long as the entities
45 to which -- entity or entities to which they do report, as a holding company or other corporate structure, is a
46 reporter of at least their directs.

47 FACILITATOR BROOKMAN: Uh-huh, got you.

48 MR. BEEBE: And so if the larger umbrella is a reporter of their directs, then it gets rid of the
49 perception that there's a shell game going on.

50 And I would put a little caveat on that that the umbrella organization should report all of its directs

1 over some de minimis value so that if it's just business as usual in a typical corporate umbrella structure, a
2 holding-company type structure, and it's clear that you're not hiding large quantities of greenhouse gas
3 emissions and you're on record for that, then it's okay for your subentity to be able to report its little, smaller
4 piece.

5 FACILITATOR BROOKMAN: So you've got the umbrella. You've got the subentities under the
6 umbrella. And then what about projects that are at that, below the subentity, should they give reports?

7 MR. BEEBE: I'm not very interested in projects, I think.

8 FACILITATOR BROOKMAN: Okay. Thank you.

9 I see Mike first and then I'll go to you next. Mike Burnett.

10 MR. BURNETT: It seems like the Registry has to have two separate parts to it. One would be a
11 transferable-credit system and one is more of a progress-reporting system. And for the cities, chances are
12 they're more interested in progress reporting than owning. They would own their own facility-type
13 emissions.

14 I doubt that Agilent would cede their emissions to the city under a report, but it's a very valid thing
15 for a city to say, 'We have a ten-percent reduction goal for the emissions occurring within our boundaries
16 and we want a credible place to kind of house the accounting of that, of our progress towards that goal.'

17 I think for the trade associations it may be -- I mean they're kind of maybe a hybrid. It may be that
18 a trade association wants to report progress or it may be that Weyerhaeuser and other forest-products
19 companies might actually want to kind of work a deal out with their trade association that allows the trade
20 association to actually kind of be the entry point into a transferable crediting system and then they work --
21 they've got some internal-allocation system out there if that is a transparent enough system that could be
22 done.

23 But I think the real point I'm trying to make is there's progress reporting and there's transferable-
24 credit system. And I think there just has to be two and you probably have a much more rigorous set of goals
25 for the transferable -- or rules for the transferable-credit system than for the progress-reporting system.

26 FACILITATOR BROOKMAN: I'd like to see if we can keep focused. As compelling as it is to
27 think about reductions, to keep thinking of our focus on reporting in this segment. I know you're trying to
28 differentiate this into kind of a larger scheme.

29 I'm going to let Arthur -- Pierre duVair follow on. Then I'm going to this lady right here. Please.
30 Pierre duVair.

31 MR. duVAIR: Yes, Pierre duVair with the California Energy Commission. I have a question
32 regarding transferable credits and I'm not sure everybody in the room has the same definition of what that is
33 or the same concept of what that is. And so I'm open. Maybe somebody from doe will take a shot at some
34 of the different ways or the shapes that a credit can take shape because it does affect your view on how
35 corporations report or organizations report depending on what the credit is against, what type of standard.
36 You need obviously to credit against something, like a reduction requirement. And so --

37 FACILITATOR BROOKMAN: This goes to Mike's statement earlier, it depends on what your
38 goal is essentially.

39 MR. duVAIR: Right. But again like we have mandatory-reporting systems for certain types of air
40 emissions, that has a lot of implications for how you'd report here if it's a credit against some type of
41 mandatory national CO₂ or GHG reduction.

42 FACILITATOR BROOKMAN: Right. And of course that big policy issue is yet to be
43 undertaken and certainly yet to be decided, right?

44 MR. duVAIR: Correct. But --

45 FACILITATOR BROOKMAN: So do you have a specific question?

46 MR. duVAIR: Yes. Are there different approaches to how credits might take shape and can we
47 have just a quick, sort of, discussion of what types of credit systems could come about?

48 MS. ANDERSON: This is Margot Anderson from doe. We're going to certainly get into great
49 depth on characterizing reductions with a view towards transferable credits in the afternoon session. But the
50 transferable credits are to be rewarded for real reductions that businesses and corporations take. There is no

1 national cap. There is nothing other than the national goal of an 18-percent reduction in GHG intensity by
2 2012.

3 So the reductions and the rewards for reductions in the form of protection against future climate
4 policy or transferable credits are outside of a system that might be like the SO₂ system or outside of what
5 some nations might do if they put on a national cap and then allocate allocations to corporations to meet that
6 cap.

7 So it is done as fully in a voluntary sense in absence of a cap, designed to reward real reductions
8 that occur at the corporate level, or at the project level depending on how we come out.

9 FACILITATOR BROOKMAN: Let's hold other questions in this way. I'd like to have us keep
10 focused on reporting to the extent it doesn't confuse us.

11 Your name first and then I'm going to you and then you. For the record.

12 MS. PASSERO: I'm Michelle Passero with the Pacific Forest Trust. And this does touch upon
13 emissions reductions, although I won't go there exactly. Speaking from --

14 FACILITATOR BROOKMAN: Thank you for being responsive.

15 MS. PASSERO: Speaking from the forestry perspective, entity-wide reporting I would say should
16 be encouraged because it does lend credibility to an emissions reduction and credit scheme, simply because
17 you are able to keep better track of the total emissions.

18 So if you have managed forest land and you are doing a project, you can at least make the
19 argument then you are making credible reductions when you're not -- you know, if you have the total
20 emissions reported, so you don't see that there is an increased emissions over here and simply you're trying
21 to claim reductions over another portion of your land. So you can keep a total track of that and actually
22 have accurate emissions-reductions reportings.

23 FACILITATOR BROOKMAN: Otherwise you might come in for the allegation of cherry-
24 picking.

25 MS. PASSERO: Exactly.

26 FACILITATOR BROOKMAN: Or something like that.

27 MS. PASSERO: Yes. Then that argues for entity-wide reporting, at least from the forestry
28 perspective.

29 FACILITATOR BROOKMAN: And could you imagine a way that the best project efforts would
30 somehow be acknowledged as well?

31 MS. PASSERO: I'm not sure what -- how you're saying --

32 FACILITATOR BROOKMAN: I was wondering if you see projects as having a place in this
33 reporting scheme or if it's restricted to entity?

34 MS. PASSERO: Well, I think that you could have a project -- if you're a forest-land owner and
35 you are down the road going to sell credits to another entity that's seeking to offset its emissions, you may
36 be have two accounting schemes where the offset is claimed by, if it's a power plant, they can claim that, but
37 you would also be able to trace it back to that forest-land owner who then can account for all the emissions
38 on that land and know that it's actually an emissions reduction.

39 FACILITATOR BROOKMAN: Okay. Thank you.

40 Howard. Your last name is?

41 MR. GOLLAY: Gollay. Howard Gollay.

42 FACILITATOR BROOKMAN: Before you get started, again we're wanting additional comments
43 on the viability of encouraging entity-wide reporting, what defines an entity, those first three bullets first.

44 MR. GOLLAY: I promise to keep to the subject.

45 FACILITATOR BROOKMAN: Howard.

46 MR. GOLLAY: I am with Southern California Edison. And I think since it's going to be a
47 voluntary program I would hope that we keep the maximum flexibility and, therefore, it's important that we
48 encourage all companies to participate to the extent that we can.

49 And by that I think you need to have -- entity-wide reporting should be both on a corporate center
50 or could be by subsidiaries.

1 And, thirdly, we should not dismiss projects by themselves because, that's right, companies that
2 just want to report projects by themselves, they are still doing their share to help reduce greenhouse gas
3 emissions. And projects by themselves also lend themselves nicely to trading. It's much easier to verify
4 emission reductions from specific projects. So I would encourage that we keep all three options in the mix.

5 FACILITATOR BROOKMAN: Would you create a bias or emphasis on the entity wide? That's
6 what I think I'm hearing in the room? Use the mic, please.

7 MR. GOLLAY: I would -- the way to do this you would encourage entity wide, but by no means
8 should you limit it to entity wide. And for companies, even ours, potentially we may not do it entity wide.

9 FACILITATOR BROOKMAN: This word "flexibility" has been used a lot in the previous two
10 workshops, which I think -- and we teased out that meaning in both of those workshops. And people that
11 have used that word have essentially said, you know, let us report any way we want to report. And that
12 creates I think a significant burden for the Department of Energy that's trying to create some consistency and
13 some comparability across these definitions as well.

14 You want to follow on, Howard?

15 MR. GOLLAY: Just one quick note a general basis and as a tie to this. What I'm really
16 concerned about is that we don't follow the -- we take advantage of not being Kyoto and use our American
17 initiative. And so, therefore, we don't want to fall into the pitfalls of Kyoto in keeping something that's
18 overly burdensome and this kind of thing. So it's just a general comment.

19 FACILITATOR BROOKMAN: I'm going to let Robert follow on briefly. Then I'm going to
20 Greg. Briefly.

21 MR. PROLMAN: Bob Prolman again, Weyerhaeuser. Just one thought. There is a very
22 legitimate tension between the issue of entity wide versus projects. And in this era of integrity around
23 accounting, you know I don't think anyone in this room needs any further explanation on what I mean by
24 that, but beyond even flexibility there's one other thought I would pose for consideration. And that is if the
25 goal is to make things happen over the next few years, and it is a voluntary program, the inclusion of project
26 reporting notwithstanding this integrity issue around the whole accounting entity is I think critical.

27 If you want to see large entities which work in the context of pilots. Businesses work in rolling
28 things out, test markets, pieces, investing at the margin, that if you preclude the ability to include projects
29 you will begin to take away the ability of large entities, multi-unit entities to say, 'Let's start with the first
30 step,' because you've made a very high hurdle for that first step. So --

31 FACILITATOR BROOKMAN: I think that's consistent with Howard's comment.

32 MR. PROLMAN: Very much so.

33 FACILITATOR BROOKMAN: About innovation and be able to work and capture that.

34 Greg, thanks for being patient.

35 MR. SAN MARTIN: Sure. I'm Greg San Martin. I'm with Pacific Gas & Electric Company in
36 San Francisco. Thanks for having the workshop in San Francisco.

37 FACILITATOR BROOKMAN: It's nice to be here.

38 MR. SAN MARTIN: I think projects are important from a learning perspective. I want to know
39 what PSEG and Seattle City Light are doing. And I want to know what other companies are doing. And I
40 think that's one purpose that has definitely been served by the doe Registry over the past ten years.

41 I would like to agree basically with PSEG's comments from June 5th. They define "entity." They
42 go on to say that they distinguish within the corporation different sectors of the corporation, energy
43 generation, energy services, electric transmission and distribution, natural gas --

44 FACILITATOR BROOKMAN: You're referring to written comments?

45 MR. SAN MARTIN: Yes.

46 FACILITATOR BROOKMAN: Okay.

47 MR. SAN MARTIN: So I think it's important to look at sectors because intensity can best be
48 reported I think on a sector basis and because there are international-reporting guidelines already out there
49 and under development that you already -- GRI guidelines, for example. That now they're out there.
50 They're looking at sector-specific reporting to allow for companies to compare with each other and compete

1 with each other and to learn from each other.

2 FACILITATOR BROOKMAN: Yes. And we're going to get into much greater discussion on
3 intensity as we go along here today.

4 Arthur Rypinski.

5 MR. RYPINSKI: Arthur Rypinski, doe. I'd like to follow up with Mr. Beebe on his concept of
6 entities and subentities and see if I can understand how that might work in a specific context.

7 Let's say just as a hypothetical question there was a city. We'll call it Sacramento. And
8 Sacramento has a municipal utility but it also has other city activities as well. They might have trash
9 collection. They might have water.

10 FACILITATOR BROOKMAN: Waste water treatment.

11 MR. RYPINSKI: Street maintenance. Anyway, in some context like this what should be the
12 reporting entity? Should it be the senior body or one of the junior bodies? How would that work in your
13 view?

14 MR. BEEBE: That is --

15 FACILITATOR BROOKMAN: This is Harold Beebe.

16 MR. BEEBE: Yes, this is Bud Beebe with SMUD.

17 It's a good thing to discuss here. And it turns out that SMUD escapes again because we happen to
18 be, and it just happens -- we are an independent district under the MUD Act, so it turns out.

19 But Cindy Parsons, who's back here cowering at this point, is exactly that problem. And she's not,
20 but the place that she works for is. And we can talk about that. That's right.

21 And could I ask the gentleman from PG&E, is that PGE Corp. or PG&E, the utility?

22 MR. SAN MARTIN: This is Greg San Martin. I'm with Pacific Gas & Electric Company, the
23 utility in California, subsidiary of PG&E Corporation.

24 MR. BEEBE: And I note that PGE Corp. has joined the California Climate Action Registry.

25 And the difference for people who are not in industry-speak is that one is a holding company that
26 does a number of things from, I suppose, real estate to power generation. And the other one is the sort of
27 local utility that you know and love and probably pay a bill to.

28 FACILITATOR BROOKMAN: So the corporate entity, PG&E Corp., the umbrella organization,
29 is doing entity-wide reporting; is that correct? Did I hear that right?

30 MR. SAN MARTIN: We do --

31 FACILITATOR BROOKMAN: For greenhouse -- or for California.

32 MR. BEEBE: For California I believe that's correct, but for 1605(b) I believe that's not correct.

33 MR. SAN MARTIN: This is Greg San Martin for Pacific Gas & Electric Company, the utility in
34 California.

35 FACILITATOR BROOKMAN: Thanks for clarifying.

36 MR. SAN MARTIN: And we collectively report under 1605(b) as a corporation. I'm familiar
37 with the utility operations due to state laws. I'm not very familiar at all with the way the other subsidiaries
38 report.

39 FACILITATOR BROOKMAN: So confirm for me before you go on, is the utility company that
40 you work for, that you're a representative of, does it report up to the umbrella corporate level or do you
41 report as an entity by yourself?

42 MR. SAN MARTIN: We report at a corporate level.

43 FACILITATOR BROOKMAN: Okay. Yes. Jill, do you want to jump in here? Yes, Jill
44 Gravender.

45 MS. GRAVENDER: Yes. Jill Gravender with the California Climate Action Registry. And I
46 just wanted to offer a couple points and share with everyone how the California Registry is considering
47 some of these issues.

48 First of all, I think one just point of clarification is are we talking about who is reporting in terms
49 of an entity or are we talking about entity-level reporting or project-level reporting?

50 FACILITATOR BROOKMAN: What do you think we should be talking about?

1 MS. GRAVENDER: Well, I think we should be talking about both.

2 FACILITATOR BROOKMAN: That's what I thought, too.

3 MS. GRAVENDER: But it's important to me that --

4 FACILITATOR BROOKMAN: Help us to distinguish, yes.

5 MS. GRAVENDER: And so from a California Registry perspective, we are requiring entity-level
6 reporting. And the way that we break down entities and subentities is that if there is a parent corporation as
7 well as subsidiaries, subsidiaries can report their entity-level emissions, all of their emissions to the
8 Registry. However, to prevent double counting, once a parent company chooses to report to the Registry,
9 then the subsidiaries would report to the parent company and so there would not be both subsidiary
10 reporting and parent-level reporting at the Registry.

11 Right now we are solely entity-level reporting. We are working on trying to develop how we can
12 account for individual projects within an entity. And I think here the importance is what is the overall goal
13 of both our Registry as well as the Department of Energy's Registry. Is the goal to record total U.S. gross-
14 emissions reductions or emissions and their subsequent reductions, or is it to record emission-reduction
15 projects and the progress within those? Because that's where it gets back to the organizational-boundary
16 issue.

17 If you're looking at recording -- or interested in reporting total U.S. emission trends and
18 reductions, then it makes most sense to report it at an entity level because you can get -- you will hinder the
19 integrity of the reporting if you're counting projects because certainly there can be project-level reductions
20 where the entire entity is increasing their gross emissions.

21 So I think that's an important distinction to make as well: Are you interested in overall U.S.
22 emissions or in this case world, global emissions? Or are you interested in looking at the emission-
23 reduction projects that are successful and that may in fact warrant trades and so forth.

24 FACILITATOR BROOKMAN: Okay.

25 MS. GRAVENDER: Just some distinctions.

26 FACILITATOR BROOKMAN: Thank you.

27 Yes, please. Robin, and then to you, Susann.

28 MS. BENNETT: Robin Bennett from the Boeing Company. As our discussion goes on about
29 entity reporting, the one concern that we haven't talked about is what happens with mergers, acquisitions,
30 and divestitures, --

31 FACILITATOR BROOKMAN: Yes.

32 MS. BENNETT: -- and the influence they may have on a baseline or a goal. And that adds a
33 whole several more layers of complexity in how we make adjustments and then capture those changes.

34 FACILITATOR BROOKMAN: We're going to get into that. Those possible revisions of
35 baselines and that level of complexity.

36 Susann Nordrum.

37 MS. NORDRUM: Susann Nordrum with Chevron Texaco. We completed our merger last year
38 so we didn't have to worry about that.

39 FACILITATOR BROOKMAN: You never know when they're going to do a start year. You
40 don't know the base year yet, yes.

41 MS. NORDRUM: I just wanted to add to the discussion about projects and entity-wide reporting,
42 that given there is certainly a lot of projects where you would need the entity-wide reporting in order to
43 make sure there's not the leakage happening, but certainly we could define categories of projects where
44 inherently it's not possible that there's any leakage involved. A lot of the Energy Star type of activities,
45 energy-efficiency activities within an industrial plant, you know they're right there within the boundaries.
46 There isn't going to be leakage.

47 FACILITATOR BROOKMAN: So effectively there may be certain categories of projects that are
48 almost prequalified or something like that?

49 MS. NORDRUM: Yes.

50 FACILITATOR BROOKMAN: Or definitionally you would know at the outset that that's the

1 way it is?

2 MS. NORDRUM: Right.

3 FACILITATOR BROOKMAN: I wonder if that's a lengthy list or that's a short list. Or how --
4 I'm always thinking about whenever I hear the comments and I think how workable is this from the
5 Department of Energy's perspective.

6 MS. NORDRUM: Right.

7 FACILITATOR BROOKMAN: So I'm looking to Mark Friedrichs, who picked up the
8 microphone.

9 MR. FRIEDRICHS: Mark Friedrichs. I was just going to pose a question which we're trying to
10 wrestle with and that is even if we go with some kind of project-level reporting and with any one of a
11 number of different methods of calculating emission reductions, is there still a value in having entity-wide
12 emissions reporting separate from the identification of emission reductions?

13 FACILITATOR BROOKMAN: Not embedded in but separate from?

14 MR. FRIEDRICHS: In addition to. Is there a value and, if so, how broad should we define entity
15 level?

16 FACILITATOR BROOKMAN: Yes. Let me get to her first and then I'm coming back to you,
17 Mike.

18 Is it Nancy?

19 MS. GLASER: Nancy, yes.

20 FACILITATOR BROOKMAN: Please, your name for the record.

21 MS. GLASER: I'm Nancy Glaser with Seattle City Light. There have been a number of
22 discussions about goals and what you're going to do as a function of your goal. And I wholeheartedly agree
23 with that. I guess I'd like to go further and say I'd like your goal to be a reduction overall in total of
24 greenhouse gas emissions. And if that's our goal I would almost like to see people maybe give a little bit
25 more input about what they want your goal to be as opposed to just say if your goal is one thing or another.

26 FACILITATOR BROOKMAN: The President set a goal.

27 MS. GLASER: That's right.

28 FACILITATOR BROOKMAN: Yes. And he's directed the people who work for him in the
29 federal government to do what they can to help work toward that goal. I just offer that, right.

30 MS. GLASER: I understand that. It seems to me that if many of us are trying to kind of both
31 participate in that and go beyond that in terms of total greenhouse gas reductions and if that's where we may
32 be going over time, I think that says a lot about how we might report there.

33 And to the extent we don't do entity-wide reporting, it seems like we do get into a lot of
34 difficulties with the leakage and the double counting and potentially people taking credit for reductions
35 when in fact they are increasing the total amount of greenhouse gases that we are seeing in the environment.

36 FACILITATOR BROOKMAN: Okay.

37 MS. GLASER: In terms of the municipality issue, Seattle City Light is a separate entity within
38 the City of Seattle. We do have a governing board, being our city council. But both the City of Seattle and
39 the broader Seattle City government have goals about being greenhouse gas neutral or having significant
40 reductions over time.

41 What we have done on Seattle's part and I think in what our broader city would do is really only
42 take credit for whether it's kind of projects or activities that we can show we have influenced, that wouldn't
43 have occurred without our participation. So in terms of talking about, say, the City of Palo Alto or other
44 entities, we don't feel like it's appropriate to take credit for something if it would have happened anyway. So
45 to the extent we through our actions can ensure that something will occur that wouldn't have otherwise
46 happened, we would want to take credit for that.

47 FACILITATOR BROOKMAN: So the standard there would be something like operational
48 control or the ability to -- something like that.

49 MS. GLASER: Or just additionality. I mean we don't need to necessarily operationally control
50 that, but if, for example, we contract for something which wouldn't have happened otherwise or we help

1 finance something that without our financing it wouldn't occur, we would really kind of see that we could
2 take credit for that.

3 FACILITATOR BROOKMAN: And Seattle City Light, you report as an entity by --

4 MS. GLASER: We do report as an entity, yes.

5 FACILITATOR BROOKMAN: And then does the City of Seattle also report as an entity?

6 MS. GLASER: The City of Seattle, I don't know if they have reported to you yet. We certainly
7 have created an inventory and we are in the process of creating an inventory for the whole city. We would
8 not separately report.

9 FACILITATOR BROOKMAN: Okay. Mike Bennett.

10 MR. BURNETT: It's Mike Burnett. And it seems like the question has to be asked -- or answered
11 within the context of each of the three purposes for which the Registry can be put. One is just progress
12 reporting. That's kind of for pats on the back. I think that's to -- and I think projects, entities, associations,
13 cities, everything can report into that.

14 Then you get into the two other purposes which have some governmental sanction to them, and
15 that's the baseline protection and transferable credits. And it's real clear that entity wide works very well
16 there. I think the question that has to be answered and made clear in the rules is to what extent are projects
17 eligible for baseline protection and transferable credits. And I think that's the real, kind of the difficult
18 question.

19 And you're balancing a lot of kind of providing early incentive for people to do such projects
20 versus maybe some accounting type problems that you might have. So I think it's important that we
21 discipline ourselves to kind of talk about this within each of those contexts because I think it's different
22 depending on the context.

23 FACILITATOR BROOKMAN: Is it Anne?

24 MS. BOUCHER: Yes.

25 FACILITATOR BROOKMAN: Anne is next.

26 MS. BOUCHER: Anne Boucher, Canada, Baseline Protection Initiative. In Canada the way that
27 we have addressed is that we have an organization to report at corporate level or at facility level. That said,
28 those who report at corporate level we encourage them to report their emission from their facility.

29 There is this because -- the reason we are not setting corporate or entity, it's because in fact it is
30 policy for which business protection that is needed that have to determine if the policy is applicable at the
31 facility level or at corporate level. And until the policy is fully designed, we cannot presume what would be
32 the policy, so we provide that flexibility.

33 But when it's time to look at why are we asking organization to report their emission, and there is
34 mainly two things. First, for any organization to be able to demonstrate that they have a reduction, they
35 should know what is their emission inventory. So the first thing is, okay, so let's let them report their
36 emission so that they know what is their emission inventory. But it's also because by knowing what is your
37 emission sources, you know what is the impact of your action on those emission sources.

38 When you look at what is the impact of an action, well, what you have to really make sure is that
39 all organization at corporate, at facility level, they all know what is the direct emission and their indirect
40 emission. The fact that you report at corporate level doesn't guarantee you that you address all the leakage
41 issue, because often the indirect emission is, for example, the use of electricity. And it's not because you
42 report at corporate level that you report the utility emission. So the way that we are looking at that -- and the
43 reporting requirements under business protection is more for the public awareness for now, because until
44 business protection is not required, the reporting requirement are not mandatory.

45 That said, when we look at really what kind of information an organization needs and a system
46 needs to be able to put in place to create system or a baseline-protection system and to be able to deliver
47 that, the best is that each facility know what is their direct emission and indirect emission. And then look if
48 you need to aggregate that a corporate level or sub level.

49 But the first issue is not so much what is the boundary, is: What do you need to be able to build
50 your system. What is the definition of the credits. And at what level would be the protection. And until

1 you don't know that, you should focus on how to quantify the reduction and what is a real reduction. And
2 you will see that the best way to look at that is really to look at the emission sources direct and indirect.
3 And if everybody knows what is the emission, their impact on the emission, well, you can then aggregate
4 that easily. But --

5 FACILITATOR BROOKMAN: Okay. Thank you. Thank you.

6 I saw Howard there. And before Howard goes -- so you said a lot there. And many things that are
7 relevant for reporting, one of which is while the policy issue is still being decided, to provide incentives and
8 also the kind of flexibility for bodies, facilities to both experiment and figure out how to do this, but also the
9 incentive to actually do it. I thought I heard you say that.

10 MS. BOUCHER: Well, yes, it's because for a facility it's quite -- well, quite easy. It's really
11 technical to set the emission inventory, --

12 FACILITATOR BROOKMAN: Yes.

13 MS. BOUCHER: -- but there is no just technical issue. You have to find a recognition factor in
14 all of that. If you don't have to deal with those, you know, corporate rules or all of that.

15 FACILITATOR BROOKMAN: And we're going to talk a lot more about issues like baseline
16 protection.

17 Howard.

18 MR. GOLLAY: Hi. This is Howard Gollay again with Southern California Edison. Now this
19 question I have may be inappropriate or not well timed, so I apologize in advance.

20 But my recollection is that the President's goal is a carbon-intensity-reduction goal of 18 percent
21 over some 10 or 15 years, or something. And the question I have is how does the Registry help support the
22 President's goal?

23 I mean if we're really trying to get into the President's carbon-intensity goal, how does the
24 reporting that we were setting it up here in terms of total emissions relate to the carbon-intensity goal of the
25 President? Or are we going to be able to add both into the Registry?

26 FACILITATOR BROOKMAN: Yes. And we're going to have significant more discussion on the
27 issue of intensity. I know it's hard to kind of segment these, in a way.

28 Do you want to start trying to address the issue? Phrase your question again simply, Howard. Do
29 it again.

30 MR. GOLLAY: Sure. It's a simple question, is: How does what we are discussing now, entity-
31 wide reporting in terms of total emissions, relate to the President's carbon-intensity goal? Or -- that's my
32 question.

33 MR. FRIEDRICHS: Yes. Our progress toward achieving the President's goal will be done
34 through our national inventory of greenhouse gas emissions, which is done by the Energy Information
35 Administration by using national data on greenhouse gas emissions gathered separately, not through this
36 Program, and information on our gross domestic product we can calculate year by year our progress towards
37 that goal.

38 The 1605(b) Program is a mechanism by which we can encourage individual companies and other
39 participants to contribute to the achievement of that goal, but it's not used as a way to track our national
40 progress.

41 Does that make sense?

42 MR. GOLLAY: Yes. But I guess my -- yes, and there's no "but" to that.

43 FACILITATOR BROOKMAN: That was Mark Friedrichs just speaking. Now Howard again.
44 Follow on, yes.

45 MR. GOLLAY: My point is that this by itself does not support the concept of reducing carbon
46 intensity per unit generated. And that's my -- I mean, in other words, you can increase it, total emissions,
47 and reduce intensity.

48 FACILITATOR BROOKMAN: Yes.

49 MR. GOLLAY: The President's concept was, as we all know, not to hurt the economy, to allow
50 for growth, but to do it in a respectful way of the environment by reducing carbon intensity.

1 And how does this Program help support that goal of trying to reduce carbon intensity?

2 FACILITATOR BROOKMAN: This is Mark Friedrichs.

3 MR. FRIEDRICHS: One of the issues that we will get into much more detail later is what role
4 can emissions intensity play in estimating the emissions reductions being achieved by individual entities.
5 Because if you use -- there are a variety of methods by which entities can calculate their own emissions
6 intensity and report their own emissions intensity. And it's certainly one of the ways in which emission
7 reductions might be reported under this Program. It's permitted in the Program now, but it's not emphasized.

8 So what we were trying to focus on here, again, is the emissions inventory, emissions reporting of
9 entities rather than the various methods used under the Program to calculate emissions reductions.

10 FACILITATOR BROOKMAN: Noting that it's hard to disentangle all of this, Paul McArdle
11 follow on. I want to ask everybody to refocus on the slide and particularly we've talked, I think, quite a bit
12 about these first three bullets.

13 We've also talked about flexibility and what it means within boundaries, so I want to see if there's
14 any additional comments on flexibility and particularly go to describing what we should do about nonU.S.
15 emissions, how that should be approached.

16 Paul McArdle.

17 MR. McARDLE: Yes. This is Paul McArdle from EIA. And I just wanted to follow up on
18 building from the database of 1605(b) reductions to some larger aggregate level of emission reductions that
19 you could estimate, say, for the entire economy.

20 Under the current structure of the -- we will call it a survey -- you really can't do that because, first
21 of all, it's a voluntary survey and it's a self-selected survey. So in EIA parlance you really don't have a
22 statistical frame.

23 In our other surveys we actually have segments of the economy and we have select reporters and
24 you have a statistical frame. And you can actually impute the aggregate number from a survey of a smaller
25 number, not necessarily all the firms in that sector, but a smaller portion. In this case we don't have that
26 because our frame differs every year and it's constantly changing, so we really can't impute up from the
27 reductions under 1605(b) to some national estimate of emissions-reductions actions taken.

28 FACILITATOR BROOKMAN: I want to see if we can get through this slide at least before we
29 take a break.

30 Briefly, Arthur Rypinski.

31 MR. RYPINSKI: Very briefly, just a tiny correction. The National Emissions Inventory is
32 prepared by the Environmental Protection Agency with the advice and assistance of our friends at EIA. And
33 my colleague, Bill Irving, actually manages that program for EPA and he's with us today.

34 FACILITATOR BROOKMAN: Thanks for that clarification. Thank you.

35 And, Bill, you speak up if you want to add in.

36 What about the issue of nonU.S. emissions? How should that be handled?

37 MR. RYPINSKI: By international companies.

38 FACILITATOR BROOKMAN: Bud Beebe and then I'm going to Bob next.

39 MR. BEEBE: I don't want to disappoint -- this is Bud Beebe. I don't want to disappoint you,
40 Doug, but going back to flexibility --

41 FACILITATOR BROOKMAN: You haven't done it yet. We'll see by the end of the day.

42 MR. BEEBE: Flexibility on defining boundaries, a set of flexibility mechanisms that we need to
43 talk about is whether you can by contractual or other means buy and sell or otherwise give emissions to
44 somebody else or to bring them to yourself. And what I'm specifically referring to is things like green tags
45 or other contractual documents that people would write up and they would have some sort of legal standing
46 that would will emissions or their reductions -- actually I think I'm on the side of would will the emissions or
47 lack thereof to an entity.

48 For instance, I may not have an equity interest in a windfarm in Manitoba, to make it international
49 for you, but the lawyers of the windfarm company and our lawyers could decide that the power production,
50 which comes in in the denominator of an industry metric, would belong to us.

1 FACILITATOR BROOKMAN: Um-hum.

2 MR. BEEBE: And I would like to have that flexibility have legal standing.

3 FACILITATOR BROOKMAN: So you'd like, based on the way it's defined legally among the
4 groups that have this legal arrangement, for them to be able to determine whether it's included as U.S. or
5 nonU.S.?

6 MR. BEEBE: Or even within the U.S.

7 FACILITATOR BROOKMAN: Within the U.S., okay.

8 Bob -- I especially wish to hear now from people that have a business interest beyond the United
9 States. Those perspectives would be very helpful.

10 Bob.

11 MR. PROLMAN: Bob Prolman, Weyerhaeuser again. And for those of you who aren't familiar
12 with the company, in a sentence we are in Kyoto-based countries, nonKyoto-based country, not-aligned
13 countries, developing countries. We've got them all, and I'm looking for solutions.

14 I would advocate two things. One, definitely allow for the inclusion of, I'll call them, offshore
15 types of projects. But, two, have them identified as such so that those who want to dissect or disaggregate
16 the data for national purposes, government purposes, or other purposes have the insight and understand how
17 the portfolio, if you will, is managed and how the achievements are being accomplished.

18 FACILITATOR BROOKMAN: Okay. Yes, Kristin Zimmerman.

19 MS. ZIMMERMAN: Kristin with GM. I'd like to support Bob and may be title the reporting,
20 entity reporting or corporate reporting for a lot of the multinationals as making sure that these guidelines are
21 flexible enough for these multinational corporations to calculate or get their arms around their footprint,
22 their greenhouse gas footprint. Okay.

23 FACILITATOR BROOKMAN: Yes.

24 MS. ZIMMERMAN: So that's --

25 FACILITATOR BROOKMAN: That's an evocative image. Say what you mean by "footprint."

26 MS. ZIMMERMAN: All activities. Emissions reductions. All activities of that entity, wherever
27 it might exist, but the corporate umbrella would capture everything that's going on.

28 And, granted, they may want to capture just for their own internal governance and just way of
29 operating their business because a lot of these elements have to do with energy reductions or cost savings.
30 There's a business case behind it, so there's a reason to track it.

31 FACILITATOR BROOKMAN: Um-hum.

32 MS. ZIMMERMAN: And the emissions piece or reductions piece could be done in a public
33 manner without any intention of transferring a credit, too. So back to what Mike was alluding to, pieces or
34 sectors of this reporting could be for the nonintention of a transfer or for the transfer of credits. It's two
35 different issues.

36 FACILITATOR BROOKMAN: Susann.

37 MS. NORDRUM: Susann Nordrum with Chevron Texaco. I spent last week in Costa Rica at a
38 meeting on the Clean Development Mechanisms underneath the Kyoto Protocol. And that is developing
39 into a bureaucracy on top of a bureaucracy on top of a mess.

40 So to the extent the United States --

41 FACILITATOR BROOKMAN: That's a helluva a baseline, right?

42 MS. NORDRUM: To the extent the United States could do something to help encourage
43 international companies and other countries to reduce emissions and somehow move that credit towards the
44 United States or be involved with that activity, I think it could be a really good opportunity. You can see
45 how it could go south really quickly. You could also see where there's a lot of ways it could be done better
46 and reflect the United States leading the world to a better place.

47 FACILITATOR BROOKMAN: And was your comment by being a mess about kind of the form
48 of it? I didn't quite --

49 MS. NORDRUM: Just the difficulty. The Clean Development Mechanism has an international
50 executive board that's trying to set up rules for how things are to be done. But then within each country, the

1 country has to decide how to work the Clean Development Mechanism in concert with their sustainable
2 development goals and make definitions. And you, again, get into the boundary issues, the leakage issues,
3 the additionality issues, and everybody's definition of sustainable development is different.

4 FACILITATOR BROOKMAN: Bud Beebe.

5 MR. BEEBE: Yes. This is true when you get into the international arena the way people define
6 operational control, entity, equity control and that sort of thing is very, very different.

7 But I think what we need to recognize in the United States is that we, first of all, we graduate a lot
8 of lawyers every year. And you know they're pervasive throughout society. And lawyers do really good
9 jobs of keeping track of things, who owns what, who's responsible for what, and that's a great -- sorry, okay
10 -- this is a great United States capability.

11 And let's recognize that the United States does have good control of what we own, who owns
12 what, and who's responsible for what. There's always gray areas, but we do a great job in the United States
13 of defining that.

14 And I think that we shouldn't try to solve the problems in chaotic Third World areas for our own
15 use internally. Rather, we should just recognize that we have strength in contractual and responsibility
16 assigning stuff and use that to define our own stuff. And maybe that's the way we help the rest of the world,
17 you know, either come around to our way of thinking or at least become a solid basis against which certain
18 things can be measured.

19 FACILITATOR BROOKMAN: Susann.

20 MS. NORDRUM: Thanks. That's an excellent point. I guess my thought is just that the
21 opportunities are huge in the rest of the world. I mean even though we're kind of looked down upon by the
22 rest of the world, the United States, we are incredibly inefficient. And we have done a lot of great things in
23 terms of reducing emissions.

24 Whereas when you go to Nigeria, Angola, Indonesia, I mean there's just really -- there's fruit
25 falling off the trees, it's so low hanging. So why not find a way to make that happen. And, like I said, do a
26 better job than the Kyoto group is doing at it. Seems like there's room.

27 FACILITATOR BROOKMAN: Okay. Thank you. Thank you.

28 A final comment or two and then we're going to move on. Yes, Howard.

29 MR. GOLLAY: Just a question, just another idea. I mean I think it supports some of the things
30 that have been said, but we should have some flexibility in that international reporting can be an option.

31 The one thing that seems to me that I'm thinking through this is that if you do a project, and you
32 know our company has projects all over the world as well, our mission, energy, if you do a project in
33 another country and you want to take credit for it's an energy-efficient project that's somewhere else, would
34 you want to take credit for it in this Registry?

35 I mean I'm wondering if there's a way to have that option open as well.

36 FACILITATOR BROOKMAN: Okay, okay. Final comments?

37 Queue up the next slide. I'm going to let you go to break here shortly, but I just want to have you
38 take a peak at this. And maybe we'll start on this and see how far we get.

39 Operational boundaries and related issues, direct versus indirect emissions. Who from the
40 Department is going to -- yes, John Staub -- queue up this slide for us.

41 MR. STAUB: We want to think about how operational boundaries are distinct from what we
42 were just talking about, which was organizational boundaries. And instead of thinking about where the
43 emissions occur within the corporate structure, what we're really thinking about is as someone operates their
44 factory or power plant, how does its operations affect the net greenhouse gas emissions.

45 This slide shows that direct emissions are generated within the operating facility or within the
46 operating entity. And some people would suggest that they should, if they're a reporter, they should or they
47 might want to also report the indirect emissions which occur outside of their entity or outside of their
48 facility and when those emissions might occur, because from inputs of electricity or fuel or manufactured
49 goods.

50 One example would be an office building that uses electricity. And while it doesn't generate

1 greenhouse gas emissions in the office when you turn the lights on, it is demanding electricity that might be
2 generated from fossil fuels in producing that electricity. And so that's kind of what we're trying to think
3 about here from an operational standpoint, is: How does a company, how do its operations affect emissions.

4 And then the second thing that we'd like to think about is which gases are we interested in having
5 reported underneath 1605(b)? Should they just be the six UN framework Convention on Climate Change
6 Gases, or should there be others that are allowed or encouraged?

7 And then, thirdly, are there emissions that are simply too small or too difficult to expend the effort
8 or to justify having people report? And that kind of gets into de minimis issues, is kind of the keyword that's
9 used for that.

10 FACILITATOR BROOKMAN: Thank you.

11 Let's focus on this first cluster of issues first. And, Paul, you want to say what's going on at EEI?
12 You've got an overhead?

13 MR. McARDLE: I have an overhead. EIA.

14 FACILITATOR BROOKMAN: EIA. Good heavens. EIA.

15 MR. McARDLE: I actually got my own mic.

16 Real quick. How does 1605(b) handle these issues in terms of operational boundaries? You've
17 probably heard this, but you'll hear it one more time. We cover -- we allow the reporting of direct and
18 indirect emissions and reductions.

19 For definitional purposes we define direct emissions as emissions from sources owned wholly or
20 in part or leased by an entity, whereas indirect emissions are defined as emissions from sources not owned
21 or leased by an entity that occur wholly or in part as a result of its activities. That's fairly general, fairly self-
22 explanatory except when you get into some -- there's sometime some complicated projects where it's not as
23 clearcut on what's indirect and what's direct, particularly when ownership gets mixed up into that mix.

24 And on the second issue that John just covered, gases that are covered under 1605(b), we cover all
25 the six Kyoto gases: CO₂, methane, N₂O, HFCs, PFCs, and SF₆. And also we allow the reporting of some
26 other halogenated substances: HCFCs, CFCs, et cetera. And there are some folks that report those gases.
27 We also allow the reporting of other radiatively-enhancing gases. These are CO, NO_x, and nonmethane
28 volatile organic compounds, because of their indirect impacts on climate.

29 And in terms of sources, again just to reiterate, a wide variety of sources in projects that are
30 reportable. Ten project types and within each project type we have a number of what we might call
31 subproject types with a number of different project codes.

32 FACILITATOR BROOKMAN: Thank you.

33 Okay. So I want to go back to this previous slide because I think this is illustrative in a useful
34 way. One could imagine that this power plant here, when it's generating electricity is consuming fuel and
35 creating emissions in a direct way. And then it sends electricity to an office building which is effectively
36 consuming the electricity, using the electricity.

37 And the question is about who and how -- in that respect it's indirect, in this case -- who and how
38 to handle that, right? Should end-users report electricity and steam purchases, and how to convert to
39 emissions?

40 Okay, so that's the question.

41 I promise you I'll give you a break if you just hang in there for another five minutes. Maybe ten.

42 MS. GLASER: Could I ask a clarifying question?

43 FACILITATOR BROOKMAN: Yes.

44 MS. GLASER: Nancy Glaser from Seattle City Light. In the other first slide, when we had the
45 two, the indirect emissions seemed to be a function of leasing as opposed to maybe the word "contracting."
46 And I guess I'm wondering are they really different and if they are different I'd like to understand what the
47 distinction is.

48 FACILITATOR BROOKMAN: Paul, can you respond to that?

49 MR. McARDLE: I'm sorry. Could you say that again? We spilled some water.

50 MS. GLASER: Yes. In your definition --

1 MR. McARDLE: We spilled some water here.

2 MS. GLASER: I'm sorry. In your definition of indirect emissions you talk about emissions from
3 sources not owned or leased as opposed to the direct emissions are owned or leased. How is leasing
4 different than contracting? Do you mean them to be different and, if so, why or are they conceptually
5 different?

6 MR. McARDLE: I don't know if we have a clearcut definition of "leased," but this issue comes
7 up a lot in the direct and indirect world. And it's come up not so much in these workshops, but you're
8 getting into control of the emission.

9 Now a leased activity, you don't own it, but you certainly have management control over it. Now
10 within the 1605(b) context, definitionally "leased" would fall under your control and, therefore, it would be
11 a direct to you. Now that's under the guidelines and under the definitions.

12 In terms of from a practical standpoint we've had people go both ways on that. Again, this is a
13 flexible participatory program at this point. And we've been flexible on people using leased emissions as
14 their own or, alternatively, those being an indirect to them. Because if they are leased under this definition,
15 under lease facility, they would be direct to the reporter. Alternatively, some people have been thinking the
16 other way, where if you lease a facility, they actually belong to the facility -- the leaser, I guess -- yes, the
17 leaser.

18 FACILITATOR BROOKMAN: Okay. Comments. Yes, Mike, go ahead. Start us off. Mike
19 Burnett.

20 MR. BURNETT: I guess kind of the big issue with reporting indirect emissions is the potential
21 for double counting, which causes a lot of people to perceive that if you run a cap-and-trade system you can
22 only do it on directs.

23 FACILITATOR BROOKMAN: But what about should end-users report electricity and steam
24 purchases?

25 MR. BURNETT: Well, yes.

26 FACILITATOR BROOKMAN: The answer is yes?

27 MR. BURNETT: Well, I mean I guess optionally they should report -- I guess what WRI calls the
28 Scope 2. I mean it seems like they probably should report that.

29 And then when you get into reductions, then you run into the problem of double counting, because
30 if GM has a factory and they make it more efficient, you know they're investing money. They have reduced
31 their kilowatt-hour consumption.

32 FACILITATOR BROOKMAN: Their consumption.

33 MR. BURNETT: Some power plant somewhere at the end of the wire reduces actually emissions.
34 And so if you say GM gets to count those and the power company gets to count those, you get double
35 counting.

36 FACILITATOR BROOKMAN: Okay.

37 MR. BURNETT: But there is a simple accounting approach that you could use that kind of parses
38 out those emissions reductions related to kilowatt-hour reductions by an end users and that we've kind of
39 figured out at Climate Trust, we have a one-page article that was in the recent journal *Environmental*
40 *Finance*, a recent issue, that you can kind of read about that.

41 FACILITATOR BROOKMAN: So you say it's a simple accounting convention --

42 MR. BURNETT: Yes.

43 FACILITATOR BROOKMAN: -- or an accounting use?

44 MR. BURNETT: Yes.

45 FACILITATOR BROOKMAN: Go right ahead. You, next. And then I'll come to you, okay.
46 Yes, your name for the record.

47 MR. BELL: Ryan Bell from the Cities for Climate Protection Campaign. And Mike sort of
48 summed up my comments there, but I think that you should definitely include the indirect emissions, just
49 considering that this is a voluntary system. You want to encourage people to take part in it.

50 And, as Mike said, there is a lot of -- I work with municipal governments, and there's a lot they do

1 through energy codes and stuff that they would like to get publicized and visual --

2 FACILITATOR BROOKMAN: Yes.

3 MR. BELL: -- recognition for. I think you would also want to, I mean either through this
4 accounting convention or just a check box in your reporting, 'Is this a direct, an indirect,' somehow segregate
5 that out so that when you start doing aggregate emissions and combining things, you can somehow keep
6 those separate and avoid that problem.

7 FACILITATOR BROOKMAN: So you think the issues of double counting, that can be
8 addressed kind of adequately if you're rigorous enough about it?

9 MR. BELL: Yes.

10 FACILITATOR BROOKMAN: Jane Turnbull.

11 MS. TURNBULL: Thank you. Jane Turnbull from Peninsula Energy Partners. I think this is an
12 interesting question because in effect your indirect emissions are the result of the demand created on the
13 demand side of the ledger.

14 On the other hand, the utility side of the ledger includes the parasitic production of power, but you
15 also need to look at the heat rate. So you think you need to take into account both what the demand that is
16 being created really looks like and the levels of conservation at that end, but also what the utility is doing in
17 terms of the heat rate. And so there is a direct link and trade-off for that.

18 FACILITATOR BROOKMAN: Okay. Thank you for that. Thank you.

19 Bud Beebe, follow on.

20 MR. BEEBE: Yes. My specific comment on that is that I believe that the accounting rules should
21 keep track of energy as energy and have no conversion or efficiency of the energy use taken into
22 consideration. Strictly the energy.

23 And if you get into other -- when you start dealing with both efficiency of use and so forth, it goes
24 on way too long. For instance, should we ding these people for having this light on and the light next to it?
25 I mean they've chosen to have both of those lights on, but you know having a counting rule for that is not
26 good.

27 So just looking at their electricity bill on the energy basis is, I think, the most efficient way of
28 taking care of the whole accounting issue. For cogeneration, again, it's just energy. If there's -- on an energy
29 basis an ERG or a Btu or a kilowatt hour of steam that is exported or imported, then that is the amount that
30 you can take out as an energy from the original combustion source, as energy. No conversion's needed
31 anywhere.

32 FACILITATOR BROOKMAN: Okay. Additional comments on this point? Howard.

33 MR. GOLLAY: I didn't think I had a comment, but I do. I think we should definitely include
34 indirect emissions. Because, for example, the demand-side management programs that occur, some entities
35 may not report them. And you want to be able to take credit for everything that we're doing as a company,
36 as a country, et cetera.

37 So the important thing is that if you want to focus on the area, as I think was said earlier, is to try
38 to stop in the double counting, and that's one area. And the other area, which is more detail, is who gets
39 credit for the reduction. So if someone wants to trade it, who actually gets the credit for that. But,
40 nevertheless, we should definitely include indirect emissions.

41 FACILITATOR BROOKMAN: Final comments on this segment? I'm going to suggest that we
42 take a break here right about now. We can return to this to see if there are additional comments, about how
43 to convert emissions and reporting of other indirect emissions, and then continue on with the rest of the stuff
44 that we hope to cover before lunch.

45 Let's take a break. It's almost eleven o'clock. Let's come back at 11:15. We'll start back up.

46 I've asked Mike Burnett, the paper that he referenced, we're going to submit that, put that in the
47 record of the meeting for those of you that wish to look at that, okay?

48 So thanks for a good start on the morning. We'll start back up at 11:15.

49 (Recess taken from 11:00 to 11:15 a.m.)

50 FACILITATOR BROOKMAN: A housekeeping item. We have coupons for lunch for the

1 restaurant here at the Best Western. Ten percent off -- is that what it is? Ten percent off lunch. And they
2 have enough room to accommodate us all. For those of you that like McDonalds, there's a McDonalds
3 across the street. However, it's raining. And there's an IHOP also nearby. We'll try to get lunch done in a
4 span of an hour today. So as we break for lunch we'll hand those out.

5 Okay. Let me ask you to refocus back up on the slide here and particularly on this second big
6 bullet: Reporting on indirect emissions such as those associated with materials used, business travel,
7 employee commuting, and use of manufactured products.

8 And the issue there is should that be part of entity-wide reporting? Should those uses, materials,
9 business travel, employee commuting, use of manufactured products, should that be a part of entity-wide
10 reporting? Should the entity itself take possession of reporting those?

11 Speak up. Cindy, you're first in the queue. Cindy Parsons.

12 MS. PARSONS: Cindy Parsons, L.A. Department of Water and power. And just the initial
13 reaction is, no, because it's already complicated enough. And the accounting --

14 FACILITATOR BROOKMAN: You're the actual reporter for L.A., are you not?

15 MS. PARSONS: Yes. I collect the data.

16 FACILITATOR BROOKMAN: So complication matters a lot to you.

17 MS. PARSONS: Yes.

18 FACILITATOR BROOKMAN: Yes.

19 MS. PARSONS: And just trying to report entity wide, which your actual direct emissions are,
20 trying to do indirect emissions would just be a nightmare. So...

21 FACILITATOR BROOKMAN: Okay. Yes, Bud.

22 MR. BEEBE: I believe that -- this is Bud from SMUD -- I believe that the entity that pays the fuel
23 bill is the entity that should absolutely have to report them. And if you wish to include them as a third tier
24 in the WRI protocol indirect, that's okay.

25 FACILITATOR BROOKMAN: Okay.

26 MR. BURNETT: Can I ask for a clarification?

27 FACILITATOR BROOKMAN: Mike, use the microphone. Mike Burnett.

28 MR. BURNETT: This is Mike using the mic. You say the entity that pays the fuel bill for a
29 power-generating plant, are you saying the gas that they consume or are you saying that an end-use facility
30 paying its electric bill? Which is the fuel bill?

31 MR. BEEBE: The fuel bill is that thing that creates the greenhouse gas. So for CO₂ it's the
32 hydrocarbon bill. For refrigerants it would be whoever's paying for the refrigerant.

33 MR. BURNETT: So for an industrial facility --

34 MR. BEEBE: Not the refrigerating, but the refrigerant.

35 MR. BURNETT: So for an industrial facility that burns fossil fuels directly, you'd clearly report
36 that. If they use electricity, you would not report that because the generator would report that?

37 MR. BEEBE: Actually I think that that is item 1. And I was trying to --

38 MR. BURNETT: Oh, to get -- okay.

39 MR. BEEBE: Yes, just to get down to the business-travel thing, in particular.

40 FACILITATOR BROOKMAN: Okay. Any other perspectives on these -- yes -- on these issues.
41 Chris deVos.

42 MR. deVOS: This is Chris from Agilent Technologies. And I would think that if our goal, our
43 ultimate goal is greenhouse gas reduction, then the in terms that have the ability to effect that reduction
44 should report those emissions.

45 Take business travel, for example, there's a real choice that companies can do whether to send
46 people on an airplane or do it electronically. So that's where the accountability should be.

47 FACILITATOR BROOKMAN: I see. Thank you.

48 Yes, Margot Anderson.

49 MS. ANDERSON: I have a follow-up on that. In Chicago we heard a lot of folks talking about
50 programs that they had implemented at their companies in order to encourage vanpooling, carpooling,

1 alternative travel, and in fact wanted to take credit for that because it could demonstrate that they were
2 taking actions in reducing GHGs.

3 I guess one of the questions that we have is how much flexibility then do you allow if some
4 companies want to report that and some others don't, does that now change the meaning of what entities
5 report. Is there a consistent format for what entities should report.

6 FACILITATOR BROOKMAN: Um-hum. Responses to Margot's -- Chris, you want to follow on
7 there? Or -- yes, why don't you, please. Your name.

8 MR. McCOY-THOMPSON: Steve McCoy-Thompson from Nexant. And I would agree with
9 that, that it is a burden to have such detailed reporting. But there are companies that may get credit by
10 reporting. And you should encourage them to do so on a voluntary basis.

11 FACILITATOR BROOKMAN: Um-hum. And there may be companies that as a matter of
12 corporate stewardship or whatever other reasons might wish to adopt company-wide policies or encourage
13 certain kinds of corporate behavior among its employees and the like.

14 MR. McCOY-THOMPSON: Yes, absolutely. And if you can provide a carrot for them to do
15 that, whether it's good publicity or what-have-you, then they will do it.

16 FACILITATOR BROOKMAN: Okay. Additional comments, particularly additional
17 perspectives on this point. Bob Prolman?

18 MR. PROLMAN: I find it fascinating that if it's a credit, we all want credit, and if it's new
19 emission we all want to give it away to somebody else and not be liable for it.

20 A couple of, three thoughts. One is we, and I say we here in the sense of the American Forest and
21 Products Association have pretty much committed ourselves at this point to alignment with the WRI
22 Protocol. So we are endorsing of the Stage 1, 2, and 3 types of information.

23 FACILITATOR BROOKMAN: Just say what they are, Stage 1, 2, and 3.

24 MR. PROLMAN: Stage 1, direct. Stage 2, indirect. And someone else will have to help me with
25 Stage 3.

26 FACILITATOR BROOKMAN: What's Stage 3?

27 MR. BURNETT: Stage 3 is that --

28 (Simultaneous talking.)

29 FACILITATOR BROOKMAN: Yes, business travel. Thanks a lot.

30 MR. BURNETT: Stage 2 is the top one.

31 FACILITATOR BROOKMAN: Okay.

32 MR. PROLMAN: The comment I make, though, is that for image purposes, corporate-reputation
33 purposes and all of that, I think is one of the key reasons why we like pulling all that information together,
34 because we're going to want to know and track our progress and if we're vanpooling and carpooling and not
35 flying as much, or whatever, we probably will tout that in this context.

36 That's nice information to have and it has value in that context. It's good to include for those
37 reasons and that way with some flexibility around how detailed you have to get. The Voluntary Program
38 would give us I think that discretion.

39 The other side of it, though, is that you have a mandate, and later on you'll be talking about the
40 integrity issue around reporting, credibility and so forth, and the trading, and there I would say that I really
41 advocate people consider separating out the informational pieces and how you use it for how you're being a
42 responsible corporate citizen, if you will, or community or public entity, and the whole trading-
43 accountability area in terms of, my advice is, follow the title and ownership of the liability or the asset, debit
44 or credit, and let the market and the other mechanics support letting that happen. And there are two
45 different kinds of things here and so it's --

46 FACILITATOR BROOKMAN: And we're going to go into considerable detail on this, as you've
47 referenced.

48 Bill. Bill Irving, EPA.

49 MR. IRVING: Yes, just a very quick comment. More of a technical comment in that monitoring
50 indirect emissions from electricity and steam is fairly straightforward, as would be emissions associated

1 with business travel.

2 But as you get further afield from the actual activity and you start looking at things like lifecycle
3 emissions and use of products it becomes practically much more difficult to estimate. And there are ways to
4 do it. I would just say that should this be included in the revised guidelines, it might -- not a lot of
5 companies might would be able to actually estimate these emissions accurately.

6 FACILITATOR BROOKMAN: Okay. Thank you.

7 Additional comments on this cluster? Margot Anderson.

8 MS. ANDERSON: I have one more follow-up.

9 FACILITATOR BROOKMAN: One more follow-up.

10 MS. ANDERSON: One more follow-up I think to Richard's point about flexibility, that I think it's
11 important to keep in mind as we talk about a lot of these issues. Flexibility within a reporting program, does
12 that mean that once the revised guidelines are in place that everybody needs to follow the rules of the
13 revised guidelines or does flexibility mean that you report only on some of the things you may want to
14 report on or can report on and not others?

15 We heard this theme a lot at the other workshops whereby people said keep it flexible, but then it
16 creates these difficulties that we had in the cross-cutting theme about comparability across different sectors
17 or different reporting elements. And if the flexibility is such that some companies want to report on
18 business travel and others don't, does that lend itself to easy comparability or is it the case where you have
19 revised guidelines that if you're going to be in the Program, that's a voluntary choice for sure, that once in
20 your the Program you need to follow all the guidelines that are within the Program. And that's just sort of
21 the tension that we have when thinking about what this might look like and what the word "flexibility"
22 means to a lot of folks.

23 So sometimes it's helpful to get clarification on where you'd like to see that flexibility. Clearly
24 there's a lot already because nobody is required to report it. It is a voluntary program. But then once you're
25 reporting, how flexibility does it need to be in order to make sure that you're still be practical and
26 encouraging positive actions.

27 And I don't think there's an answer to that other than it's just a recurring thing.

28 FACILITATOR BROOKMAN: Mike Burnett.

29 MR. BURNETT: Yes, this is Mike Burnett again. I guess I agree with Robert. I think that for
30 what I call progress reporting, that flexibility and kind of opting in for whatever you want to report is fine in
31 a voluntary system, but I think when you get out into the realm of baseline protection and credit
32 establishment and trading then I think you probably have to have a more clear and rigorously-followed set of
33 rules there.

34 FACILITATOR BROOKMAN: Okay. Other comments on this subject?

35 Yes, again. Go ahead. Mike Burnett.

36 MR. BURNETT: I guess a totally different one is on the manufactured products. I think in the
37 paper it talked about things such as appliances and automobiles and the issue of kind of who owns the -- you
38 know, if GM converts to hybrid vehicles and then to fuel cells, does the purchaser of that vehicle get those
39 credits or does GM get those credits? That's a real key issue that I think has to be worked through.

40 FACILITATOR BROOKMAN: Okay. Do you have a perspective on that?

41 MR. BURNETT: I tend to think that we need to be setting policies that encourage kind of the
42 most amount of mitigation to happen most easily. I tend to think that dealing with the manufacturer on a
43 wholesale basis might be a reasonable thing as a transition to new technology.

44 FACILITATOR BROOKMAN: Bud suggests that it should follow the fuel for automobiles, that
45 emissions and reductions both?

46 MR. BURNETT: And you're asking what my opinion on that is?

47 FACILITATOR BROOKMAN: Yes.

48 MR. BURNETT: Well, you could set the rules up either way and it's kind of like is it market pull,
49 is it the push from the manufactures. I tend to think that if you kind of dangle a pretty significant bait in
50 front of a manufacturing company in the term of credits, that it can be monetized, I think you may end up

1 kind of moving the marketplace --

2 FACILITATOR BROOKMAN: Further.

3 MR. BURNETT: -- faster than if you kind of allocate these out to individuals. And there's a
4 question as to how individuals participate in some kind of system. They may not really value it and so they
5 may not create that market.

6 FACILITATOR BROOKMAN: Final comments on this slide?

7 Let's go onto the next one. We already heard John Staub refer to the six UN gases. And the
8 Department's asking the question should it require, encourage reports of all, should there be others? And
9 how to treat or exempt very small sources, difficult sources. And he raised the issue of de minimis, which
10 has already been raised this morning.

11 So let's have comments on those. First, yes, Bud -- first -- Beebe.

12 MR. BEEBE: Going to the last, difficult sources to measure, a large quantity -- not in tons -- but a
13 large piece of the six UNFCCC gases is these fluorinated hydrocarbons, sulfur hexafluoride, and so forth.
14 One of the things that -- one of the characteristics of those is that they have very long lifetimes in the
15 atmosphere.

16 And I would suggest -- no, I'll ask that for accounting for these long-lifetime greenhouse gases that
17 in the year in which they are purchased is the year in which all of them are recorded, rather than trying to
18 parcel them out on some pro rated basis over time.

19 So if you buy the refrigerant that goes into a refrigerator --

20 FACILITATOR BROOKMAN: Irrespective of whether it's put in the refrigerator at that point or
21 not?

22 MR. BEEBE: No. It had -- well, if it goes into the product, --

23 FACILITATOR BROOKMAN: Right.

24 MR. BEEBE: -- the year in which it goes into the product is the year in which it is accounted for.
25 And all of it's accounted within that, and then you don't care what happens.

26 I would note, though, that that allows people later to have a reduction, because if you recovered it
27 and destroyed it then that would be a true reduction.

28 FACILITATOR BROOKMAN: Um-hum. You keep helping us to kind of queue towards as
29 much as simplicity as possible in these things.

30 MR. BEEBE: Thank you.

31 FACILITATOR BROOKMAN: And what about the first question about all six UN Convention
32 gases? Thank you.

33 Yes, please, Jane. Use the microphone.

34 MS. TURNBULL: My gut reaction is that when you're dealing with the more sophisticated gases
35 it's fine for companies like GM and Boeing and Chevron, who have sophisticated environmental engineers
36 to have some comprehension of what is meant there. But there are a lot of little folk out there for whom
37 those are really going to just go off the top of their heads.

38 So I think probably for simplicity purposes it would be good to simply use the CO₂ or carbon
39 standard and just tie everything to that.

40 FACILITATOR BROOKMAN: Thank you.

41 Bill Irving.

42 MR. IRVING: I think at this point without getting into too much details on how difficult it is to
43 track some of the synthetic gases that are covered under the unfccc, I should note that for those companies
44 that emit them in larger quantities, and these would be aluminum smelters or these would be semiconductor
45 manufacturers, they know that they're emitting them. And it's actually not difficult as you might think to
46 monitor them accurately.

47 I think quite a few companies have actually done this and reported it to 1605(b) in the past as well
48 as some of the voluntary programs at EPA.

49 FACILITATOR BROOKMAN: Jane, in a way your comment also relates to the concept of de
50 minimis. Some of these smaller actors it may be that for those nonCO₂ emissions that they might be small

1 enough that they would fall into a category like de minimis, or something like that. I'm looking -- do you
2 wish to follow on?

3 MS. TURNBULL: No, I agree.

4 FACILITATOR BROOKMAN: Okay, because we haven't addressed that.

5 Yes, Greg San Martin.

6 MR. SAN MARTIN: Greg San Martin. I guess for a voluntary program my answer would be no,
7 require reports. You would just be encouraging reports on all six gases.

8 We have SF₆ associated with the electrical grid and we know exactly how much we have and how
9 much we're reducing in terms of emissions.

10 So with a mandatory system, yes, I think that would -- it's not a burden to us. We're tracking it
11 now.

12 FACILITATOR BROOKMAN: Okay.

13 MR. SAN MARTIN: The refrigerants I think will take a little work, but that's something we
14 could do.

15 And how to treat exempt, very small sources, difficult sources to measure, well, obviously a
16 voluntary program is going to be voluntary. You can report those or not. Under a mandatory system I think
17 there is going to be a de minimis, but the de minimis is unclear at this point. I think it will vary by sector.

18 FACILITATOR BROOKMAN: I'm wondering if there's any general guidance on what the
19 threshold would be there? That sort of thing.

20 MR. SAN MARTIN: Well, under a mandatory system, in California I think the underlying goal is
21 to get 90 or 95 percent of the total inventory. I think NRDC's comments were -- well, I shouldn't attribute.
22 But I've seen two other goals, one at 75 percent and one at 90 percent. So in that -- I think there may be
23 others lower --

24 FACILITATOR BROOKMAN: The aggregated number. I'm thinking about the application to
25 these small entities.

26 MR. SAN MARTIN: You have to work back from the end goal in order for any of this to make a
27 lot of sense. So if you want to achieve 90 percent you have to figure out, if you're putting a program
28 together, what each mandatory-reporting entity is going to -- what you can allow to be exempted and work
29 within that discretion.

30 FACILITATOR BROOKMAN: Mr. Friedrichs, then to Jill.

31 MR. FRIEDRICHS: Yes, I just wanted to clarify. This is of course a voluntary program and there
32 is every intent for it to continue as a voluntary program.

33 In the development of our new guidelines we are considering whether or not certain parts of the
34 guidelines should be required for participation in the voluntary program. So there is that distinction that you
35 need to make. We may have requirements for participation in a voluntary program.

36 FACILITATOR BROOKMAN: How does that work for people, that general concept?

37 Jill, you're next.

38 MS. GRAVENDER: I was just going to --

39 FACILITATOR BROOKMAN: This is Jill Gravender.

40 MS. GRAVENDER: Jill Gravender from the California Climate Action Registry. I was going to
41 follow on to that and to Greg's comment as well and somewhat follow to Margot's, which is that in the
42 California Climate Action Registry what we've done is -- it is again a voluntary program. People can choose
43 to participate or not.

44 But once you choose to participate you are entering into at least achieving a minimum set of
45 standards or a minimum amount of reporting. Within that then in terms of the GHG inventories, Scope 3
46 emissions, we certainly encourage any other type of voluntary information about business commuting or
47 product end use that a company would like to just document and share with others as a way to promote their
48 sustainable efforts and whatnot. But there's a minimum guideline for what people will need to report to
49 participate in the program.

50 And in terms of the six gases the registry requires that all six be reported. However, we have sort

1 of a learning curve built into that as well wherein the first three years of participation in the Registry a
2 participant can report just CO₂. But then in the fourth year of reporting they would need to report all six
3 gases that are, in fact, material.

4 So that brings us to de minimis emissions, and we have set that boundary at five percent --

5 FACILITATOR BROOKMAN: At the entity level?

6 MS. GRAVENDER: Five percent of total entity emissions would then be de minimis. And that
7 can be a mix of either gases and/or sources to determine that.

8 So in the case of if someone has a gas that's very difficult to measure, that may very well be de
9 minimis based on their total entity-wide emissions.

10 FACILITATOR BROOKMAN: So if your CFCs are much less than five percent --

11 MS. GRAVENDER: Correct.

12 FACILITATOR BROOKMAN: -- of your total, then that would -- you would not -- they would
13 be considered de minimis?

14 MS. GRAVENDER: Right. Even though they may be required to be reported, if they fall under
15 that five-percent threshold, then you would not need to report them.

16 FACILITATOR BROOKMAN: Got you. Yes. Your guidelines specify the things that are
17 required to be reported.

18 MS. GRAVENDER: Correct.

19 FACILITATOR BROOKMAN: And then you've got this out if it's de minimis.

20 MS. GRAVENDER: Correct.

21 FACILITATOR BROOKMAN: Okay. Yes, Mike. Did you wish to -- David, go ahead.

22 MR. CAIN: This is a follow-up question, maybe a niche issue. On indirect emissions do you
23 expect to report on multiple gases as well?

24 For instance, if I'm consuming electric power and as a consequence of combustion process and the
25 release of methane, would you expect to provide that information on indirects and would energy consumers
26 be required to carry methane as one of the gases?

27 FACILITATOR BROOKMAN: Do you have a perspective on that?

28 MR. CAIN: Well, we're in the process of developing software so it's key to us. I noticed in the
29 California Registry, actually you do carry other gases in indirects. Am I correct, Jill?

30 MS. GRAVENDER: Um-hum. Um-hum.

31 MR. CAIN: So I just wanted to know whether the burden of that, which is probably de minimis
32 for most people on indirects would say, well, maybe that's just exempt and we're just talking about carbon
33 dioxide.

34 FACILITATOR BROOKMAN: Yes. Okay. Thoughts on that or responses on that?

35 Paul McArdle, EIA.

36 MR. McARDLE: Paul McArdle, EIA. Actually I just had a question back for Jill on the de
37 minimis. I know you have a percentage de minimis. Is there also an absolute de minimis?

38 MS. GRAVENDER: No. We --

39 FACILITATOR BROOKMAN: Yes. Thanks. Jill Gravender.

40 MS. GRAVENDER: Jill Gravender, at the California Registry. We toyed back and forth with
41 that, and Pierre duVair may want to comment on that from the Energy Commission. We talked about
42 having both an absolute and a percentage and/or one. We decided that the percentage was the way to go.

43 FACILITATOR BROOKMAN: Thank you.

44 Why did you decide that, Jill?

45 MR. GRAVENDER: Pierre, do you want to take that?

46 MR. duVAIR: It's easier to apply across multiple sizes of firms who participate.

47 FACILITATOR BROOKMAN: Yes. Did that get on the record?

48 Pierre, say it again for the -- Pierre duVair.

49 MR. duVAIR: Pierre duVair with the California Energy Commission. We just felt that we
50 wanted this Registry to be accessible to mom-and-pop grocery store or a large oil-and-gas company. So we

1 felt that just a single standard would be a lot easier to apply across all the types of participants.

2 FACILITATOR BROOKMAN: Arthur Rypinski, you want to follow on there, please?

3 MR. RYPINSKI: Yes. A clarifying question to Jill and Pierre. I'll try to stop the French accent.
4 Thank you. Once I get started.

5 How do you ascertain whether a source is de minimis in the absence of information about the
6 magnitude -- ah, I see. Thank you. Let the record show that Mr. DuVair held his finger -- wetted his finger
7 and held it up to the wind.

8 FACILITATOR BROOKMAN: We'll let him articulate it himself. We won't rely on the
9 symbology there. Go ahead.

10 (Laughter.)

11 MR. duVAIR: Basically we would expect participants to make their best attempts at estimating
12 what their de minimis sources are. So back of the envelope might not be the best characterization, but
13 they've got to make the effort to identify all these de minimis sources and what the potential magnitudes are.
14 And I think that we'll be able to develop across industries sort of expectations where we'll know what types
15 of sources are there and the magnitudes --

16 FACILITATOR BROOKMAN: Let Jill follow on again. Jill.

17 MS. GRAVENDER: I just wanted to add that we also have -- we also require third-party
18 certification. So certifiers will also verify that the de minimis emissions seem appropriate.

19 FACILITATOR BROOKMAN: I see, okay. Bud first and then I'm going to Mike next.

20 MR. BEEBE: Yes. Just so that there's not unanimity assumed, I believe that there should be a
21 tonnage value as well as a percentage-value limitation on the de minimis. And the de minimis value that
22 was being discussed in California, and if you confirm this, is 10,000 tons.

23 And the difficulty with a program when you're starting out is that 10,000 tons of stuff when
24 compared to the household or the smaller group that wants to get involved, and they're looking at, 'Oh, this
25 guy's getting rid of anything under 10,000 tons, 'Man, you know, that's a big hit for public arena,' but I think
26 that the concept is a solid one. And I think that there should be some mass-based de minimis value --

27 FACILITATOR BROOKMAN: Would you say what it would be, how much would it be?

28 MR. BEEBE: I was comfortable with the 10,000 tons, but that's within an industry within a
29 particular organization. And it's going to take a great deal more vetting throughout the different sectors.

30 FACILITATOR BROOKMAN: Okay. Mike Burnett. Then we're going to move onto the next
31 slide.

32 MR. BURNETT: Well, I'm jumping back to six gases. And it seems like for the progress
33 reporting, it's flexible. You should allow anybody to report whatever they want.

34 When you get in towards crediting, I think you probably could run the same type of system and
35 kind of pick and choose which you report. You have to kind of watch out there for fungibility between
36 some of the industrial gases and other ones that also have greenhouse gas implications.

37 FACILITATOR BROOKMAN: Okay. Thank you.

38 Kevin. Kevin Fay.

39 MR. FAY: Kevin Fay, International Climate Change Partnership. I just wanted to -- again, on the
40 six gases, the synthetic gases, most of the industries that work with those are comfortable with the reporting
41 regimes required under those. And we think that probably if you're deciding to participate in the Voluntary
42 Program, then they ought to be required.

43 I don't think -- the comment was made earlier about counting them as emitted as they were, I think
44 the phrase used was, purchased. But I don't think they are working on emission profiles actually based on
45 their actual use of the compounds. And I don't think that the manufacture or purchase of the synthetic gases
46 would be acceptable to those industries for counting of them as emissions.

47 FACILITATOR BROOKMAN: How are they doing that?

48 MR. FAY: They work it on the basis on emission profiles of the use of the compound and refill
49 rates of most of the major-used categories.

50 FACILITATOR BROOKMAN: Uh-huh. I see Bill Irving, EPA. Follow on.

1 MR. IRVING: Yes, just to echo that, the actual methods for doing what we would call actual
2 emissions as opposed to what you were suggesting as potential emissions are quite a bit better than they
3 were five or ten years ago. And internationally and nationally we actually follow the protocol of estimating
4 emissions in the year in which they occur rather than in which the gas is purchased.

5 FACILITATOR BROOKMAN: Okay. Thank you.

6 Final comments on this slide? Did I miss anybody? Bud, final comment.

7 MR. BEEBE: Before it gets away, there is a substantial number of additional gases or material
8 items that are being considered as actors in the greenhouse gas arena, specifically soot, carbon as carbon as
9 opposed to carbon as a constituent of another molecule. And that's already in the regulatory environment. I
10 can point specifically to what's going on at the California Air Resources Board. And their -- the regulations
11 that they're coming up with in response to the Pavley Bill.

12 So there's going to be other gases that are going to be discussed, but I think that at this time you
13 don't do anything until the science gets a whole cleaner and people decide what they want to do with those
14 other gases. So my vote: Stick with the six.

15 FACILITATOR BROOKMAN: Thank you.

16 Other perspectives on that? Paul McArdle, follow on.

17 MR. McARDLE: Paul McArdle, EIA. Just one follow-on. From the 1605(b) perspective we also
18 record an emission reduction in the year in which it occurs, much like what Bill was just saying about a
19 manufactured gas. Not when it's sold, but when the emission actually occurs.

20 FACILITATOR BROOKMAN: Thanks. Other perspectives on this subject?

21 No, Bill?

22 MR. HOHENSTEIN: Not on this subject.

23 FACILITATOR BROOKMAN: Go ahead then, go on with the next subject. Bill Hohenstein.

24 MR. HOHENSTEIN: Bill Hohenstein with USDA. Just before we leave the more general subject
25 of small sources, --

26 FACILITATOR BROOKMAN: Yes.

27 MR. HOHENSTEIN: -- most of the discussion has focused on whether entities would be required
28 to report and whether de minimises are appropriate. There's a corollary to that which would be should doe
29 prohibit sources below a certain size. And I don't believe we've heard many comments on that and before
30 we left this I just thought I'd open that up for comment.

31 FACILITATOR BROOKMAN: Um-hum. So say how that would work. Be a little more
32 specific.

33 MR. HOHENSTEIN: Well, for an agricultural example, if a farmer only sequesters a half a ton of
34 carbon per acre over 200 acres and doesn't come up to 10,000 tons of carbon per year, would they have the
35 option of reporting or would they not be large enough to report and should that be allowable or not.

36 FACILITATOR BROOKMAN: Okay. Perspectives on that? What's your opinion, Bill? USDA.

37 MR. HOHENSTEIN: My personal opinion that given the nature of the --

38 FACILITATOR BROOKMAN: You're not speaking on behalf of the USDA.

39 MR. HOHENSTEIN: Well, --

40 FACILITATOR BROOKMAN: Your personal opinion is?

41 MR. HOHENSTEIN: Is I think the objective of the system is to facilitate action and I think lots of
42 actions can occur at small scales. I think, again, a personal opinion is there can be benefits by aggregating
43 these small projects. There may be ways of setting up the system to facilitate that.

44 FACILITATOR BROOKMAN: Okay. Thank you.

45 Are there still comments on anything related to this slide? I'm going to push on.

46 Go ahead, Mike.

47 Who's going to queue up this slide for us?

48 Mark Friedrichs.

49 MR. FRIEDRICHS: This is Mark Friedrichs. Let's break this slide into two parts. The first bullet
50 we can talk about first. We're trying to find out whether there are views on whether doe should establish

1 requirements or provide encouragement or other guidelines related to the starting year of reporting.

2 Under the existing Program, Paul can describe this as well, 1987 to 1990 establishes the base
3 period. Our new guidelines won't be in place until 2004, which would be normally the time for reports on
4 2003 emissions. Should we allow reports on earlier years? How should we address that issue?

5 FACILITATOR BROOKMAN: Paul, you want to -- yes. Present practice at EIA from Paul
6 McArdle.

7 MR. McARDLE: I would just discuss this first bullet up here, Reporting Years. Under the
8 current Program we allow entity-level reporting emissions from 1987 onward. At the entity level reductions
9 can be reported from -- actually this is a typo. It should say "1991 and onward." '90 is part of the base
10 period.

11 And from the project-level reporting perspective emissions in reductions can be reported from
12 1991 onward. And again that's a typo.

13 In terms of this slide over here on what we might call a base year, under the current Program for
14 say under a basic reference case, we're using a historical baseline, you can choose a year to be your base
15 year, but you can also under the program use an average of years.

16 So, again, that deals with the flexibility of the program. One year or an average of years. Some
17 people like to choose an average because it smoothes out maybe an outlying year that might be an outlier for
18 whatever reason, say 1990 was a strange year. Maybe they'll take 1990 through '92 and get a better picture
19 of their firm's emissions in reductions.

20 So there I'll stop because I think we're -- Mark, we're going to take this bullet by bullet, right?

21 MR. McARDLE: Yes.

22 FACILITATOR BROOKMAN: We'll take the first half first. So comments on what a
23 perspective base year, that first bullet, and initial reporting year, 2003 or after, reaching back further than
24 that? Please.

25 MR. GOLLAY: Howard Gollay with Southern California Edison. Is it getting warm in here,
26 folks?

27 FACILITATOR BROOKMAN: Not much? I'll warm it up. Go ahead, Howard. Howard
28 brought his coat.

29 MR. GOLLAY: Anyway, poor blood circulation. Don't worry about it.

30 Anyway, to me for the sake of continuity with the existing Program and more, as importantly,
31 credit for early action, I mean we should allow the years to be earlier than 2003.

32 As we get into the latter part of the Program here and when the guidelines are eventually
33 developed in 2004, I assume we're going to talk more about how to make these emission reductions more
34 credible. And then people can try to demonstrate that for earlier years, but we've been trying to support for
35 years the idea of credit for early action. If you start in 2003 and 2004, we've lost that. So unless I'm missing
36 something, I --

37 FACILITATOR BROOKMAN: And to obtain credit that goes for early action, no matter what
38 the base year, to obtain that credit do you need to meet the standard that is created by the new guidelines?

39 I see Mike first. Go ahead, Mike.

40 MR. BURNETT: I would say, yes, you'd have to meet the rules of the Registry. The Registry
41 may have some less-rigorous rules for earlier years.

42 FACILITATOR BROOKMAN: Okay.

43 MR. BURNETT: That would have to be worked out.

44 FACILITATOR BROOKMAN: You could see a system that would accommodate differences
45 there.

46 Go ahead.

47 MR. GOLLAY: I think this is a personal perspective on this case but I think I would agree.

48 FACILITATOR BROOKMAN: That was Howard following on. You agree with that.

49 MR. GOLLAY: Yes.

50 FACILITATOR BROOKMAN: Okay.

1 MR. GOLLAY: But some things have been done earlier on.

2 FACILITATOR BROOKMAN: Yes.

3 MR. GOLLAY: They've taken place. We've done trades already with whatever protocols were in
4 existence at the time between the two companies.

5 FACILITATOR BROOKMAN: Other perspectives on base years?

6 Initial-reporting years? Yes, please, Bob Prolman.

7 MR. PROLMAN: I think it's critically important that there is a mechanism that allows for earlier
8 years. To avoid the cherry-picking issue, one can set up a formula for having the average or something.
9 And that also, by the way, helps address the other problem of you don't want to arbitrarily even in a single
10 year pick a high or low year. You want some sort of baseline that reflects -- that removes the independent
11 factors from economic considerations.

12 But there's also -- the point I want to make here, I guess, and I'm going to take my forestry-
13 industry hat off for a minute and go back to my days in the public-policy world and simply say that I've
14 historically watched for a lot of time now in this country, in particular, there's always been pressure to
15 encourage change in industry, in particular, to do something. And yet public policy and many of our
16 statutes since the late '60s have penalized those who would act earlier. So the signal has continued to be:
17 Don't act early. Reward recalcitrance. Wait until you have to.

18 And so there's an opportunity here from a public-policy context to send a very dramatic signal to
19 acknowledge those who invest early and give fuel to those who advocate from any quarter, it pays to be a
20 leader and act early.

21 Right now the public-policy message under any of the environmental statutes in this country I
22 think have been to undermine that. And so I think there's an opportunity to set a tremendous precedent here
23 of sort of fulfilling that commitment that's always been talked about.

24 FACILITATOR BROOKMAN: Okay. Thank you.

25 Yes, Margot Anderson.

26 MS. ANDERSON: Margot Anderson, doe. A follow-up to that in essence is do you get to pick
27 whatever year that you think is best for you. We heard a lot of talk in Chicago and D. C. that everybody
28 ought to pick the same starting year. Otherwise, while some people took early action and others that didn't,
29 are they going to be penalized for not taking the action. For those that have taken all the low-cost actions
30 that they can, they should be able to start from the earlier day that they started those low-cost actions. But
31 that does open up the situation where if every company or every entity that's reporting are all starting with a
32 different year, again what about the issues of comparability across entities or across sectors, does it matter.

33 Maybe it doesn't matter and it's okay if everybody wants to have the flexibility to pick the
34 particular year they want to start reporting. But it does some raise issues of comparability, and it would be
35 interesting to get your thoughts on whether there should be a one year chosen or an average chosen for
36 everybody and we all start there or, in fact, do your own thing.

37 FACILITATOR BROOKMAN: Yes, Greg San Martin.

38 MR. SAN MARTIN: Greg San Martin. I think that whichever year is chosen it should be chosen
39 by gas, not as a single year for all of the gases, but a year for each gas if that can be done. Then whereas
40 electric utilities really know exactly how much carbon they've emitted throughout the '90s, they may not
41 know the other gases until more recently. And so having a single base year, --

42 FACILITATOR BROOKMAN: They might understand one gas, but not others?

43 MR. SAN MARTIN: Yes.

44 FACILITATOR BROOKMAN: So you might need to accommodate that lack of knowledge by
45 staggering the years. The starting point, the entry point, the base, right?

46 MR. SAN MARTIN: So long as it doesn't result in double counting, and I don't think it will, yes.

47 FACILITATOR BROOKMAN: You don't think it will?

48 MR. SAN MARTIN: No.

49 FACILITATOR BROOKMAN: Okay. Yes, please, Robin.

50 MS. BENNETT: Robin Bennett from Boeing. Well, then that would seem to suggest that each

1 industry may want to report for a different year by gas.

2 FACILITATOR BROOKMAN: Starting to sound complicated, right?

3 MS. BENNETT: Yes.

4 FACILITATOR BROOKMAN: Okay. Other comments on this subject? Yes. Bud Beebe.

5 MR. BEEBE: Bud from SMUD. I think my own view is that isn't very important which year you
6 start. The important thing is that you start and that you're consistent thereafter.

7 FACILITATOR BROOKMAN: What about rewarding people that have been good actors, that
8 have registered?

9 MR. BEEBE: That's a statement before a policy. I mean it all depends on the public policy that
10 follows. Everybody would like to get credit for their early action, but until the policy that starts to ding
11 people is known, nobody knows whether your early action is right, wrong, or otherwise.

12 So the real important implication there, and this is what Mr. Prolman was trying to say, was in the
13 past with SO₂ and so forth, people who change their boilers, put bag houses on, whatever, scrubbers, those
14 people got no credit for those early actions, and they're pissed.

15 And in the electric-utility sector what we, who happen to be pretty clean on the greenhouse gas
16 side, are afraid of -- is the wrong word -- but what we don't like to see down there is that the coal interests
17 would be treated special in a way that would ding us.

18 Let's say, for instance, that 20 years from now somebody decides, 'Okay, all of the electric utilities
19 have to decrease their greenhouse gas by, what, ten percent.' Well, if you're sitting at 700 pounds of carbon
20 dioxide per kilowatt hour already, relative to the national average which is two to three times that, then you
21 are being penalized.

22 If, on the other hand, you said that you had to meet some standard like, say, a thousand pounds of
23 carbon dioxide -- and I know these are very arcane issues and I'm sorry, but I did want to get them on the
24 record. Let's say that you had to meet something like a thousand pounds of carbon dioxide per kilowatt
25 hour, then those of us that took early action or who happen to be in a protected area, that would be an
26 acceptable situation for us. But it's all in how the public policy comes out, not in what your base year is.

27 FACILITATOR BROOKMAN: Yes.

28 MR. BEEBE: I think the base year is we can argue forever and it doesn't do much good.

29 FACILITATOR BROOKMAN: I think in one of the earlier workshops if not both there was this
30 kind of recognition that a public policy will almost always create winners and losers, as a policy matter. But
31 we're trying focus in here as well on the kind of mechanics, the doability of this.

32 MR. BEEBE: And the one follow-on on that is --

33 FACILITATOR BROOKMAN: Bud Beebe.

34 MR. BEEBE: Yes. -- is that you do need to allow for some sort of averaging. I think that's
35 important, but whether you're allowed to throw out years is inflammable. I think that you have to have a
36 sufficient base to be able to demonstrate an outlier, otherwise you should be restricted to three or four years
37 max.

38 FACILITATOR BROOKMAN: Yes, please. Ann Hewitt.

39 MS. HEWITT: I'm Ann Hewitt with the California Climate Action Registry. I think one of the
40 things that we need to keep in mind as we look at this is we tend to see it as a problem of the past. So that
41 once we establish the baseline, we'll be fine, we'll be able to move forward. But that would assume that the
42 accounting standards are set in time and that they're not going to change. And I see current 1605(b)
43 accounting methods, and there will be future accounting methods as well. So what kind of system can we
44 put in place to accommodate the changes in our knowledge about how we account for greenhouse gas
45 emissions?

46 So that if you're an entity and you've reported for the last ten years, you're not having to go back
47 every single year to readjust your reports from previous years because some of the standards have changed
48 or some of the factors have changed. So that has to be built into it as well. I don't think I have an answer to
49 it, but I think it's something we need to keep in mind so that ten years from now we're not sitting in this
50 room saying, 'Well, what can we do about those 2004 emissions that were calculated this way, but now we

1 have a better way of doing.'

2 FACILITATOR BROOKMAN: Uh-huh. So perhaps at least as an exception going in that there's
3 going to have to be that ability inside that system.

4 Okay. Another layer of complexity.

5 Additional comments on this point?

6 Let's go to the second bullet, and we're going to queue that up. Mark Friedrichs.

7 MR. FRIEDRICHS: Yes. Actually the last point I think leads into this point. There are clearly a
8 lot of measurement estimation protocols, methods that are used in tracking actual greenhouse gas emissions.
9 There are a lot of different conversion factors that are used to convert electricity into emissions or different
10 gases into a single comparable greenhouse gas factor.

11 EIA has a number of rules that it now follows. Paul can describe some of those. We're trying to
12 get feedback on sort of two issues: Whether or not the rules that EIA is following now are the appropriate
13 ones and, second, how far the guidelines should go in defining the methods of measurement and estimation.

14 An example is the petroleum industry has a lot of very unique sources and gases that it has
15 developed its own protocol to measure. Should the doe review the API protocol and incorporate it into its
16 guidelines? Or should doe defer to individual industries to develop and utilize their own protocols?

17 FACILITATOR BROOKMAN: Thank you.

18 Paul, do you have additionally...

19 MR. McARDLE: Yes, I would. Paul McArdle from EIA.

20 FACILITATOR BROOKMAN: Are you on?

21 MR. McARDLE: No. Should be working now. Paul McArdle from EIA. I want to address this
22 slide on the right on our current Programs, our current emission-measurement methodology, and then go
23 onto this next slide over here.

24 First of all, we have default emission factors we supply to our reporters. We have emission
25 factors for fossil fuel combustion. The application of renewable technologies, we have some default
26 methodologies there. And we also supply our reporters with electricity emission factors by state. Those are
27 largely used by folks reporting purchased electricity, and they do not have a good feel for what the
28 emissions are from that purchased electricity.

29 We have it by state. As I said, it's a three-year rolling average that we compute every year.

30 We have carbon, CO₂, CH₄, and NTO emissions from power generation.

31 In some cases reporters like to use alternative methods that they feel better fit their production
32 facilities. And we do allow that, provided that they fit within the current guidelines and they're plausible
33 and they make sense.

34 Now moving onto these bullets over here, generally, in this first one, fossil fuel use or actual
35 emissions, largely, for the most part, people use our emission factors, the fossil fuel use. Emission factors is
36 a way of estimating, say, what CO₂ emissions are. I do not believe they generally measure themselves using
37 a SIMS, but there may be some utilities that do that. But certainly on the industrial side they use default
38 emission factors. And that largely delves from the work EIA did when the Program first started and our
39 belief that if the fuels measured properly, that it's an accurate measure of the CO₂ emissions.

40 On fuel and GWP-conversion factors, people report to us in the native gas. So they're not really
41 using a GWP when they report to us. Now up until two years ago we used the GWPs from the Second
42 Assessment Report.

43 Now when the Third Assessment Report came out 2001, we adjusted that. And now when we
44 report our reductions in our annual report, they have all been rerecked, so to speak, for those GWPs from the
45 Third Assessment Report. Of course that only affects the noncarbon emissions. Carbon doesn't change.

46 FACILITATOR BROOKMAN: So you've gone back and adjusted?

47 MR. McARDLE: We've adjusted what we report is our summary statistics. We have not adjusted
48 anybody's native gas emissions that came into us. If they reported 10,000 tons of CH₄ it's still 10,000 tons of
49 CH₄. And that's what's in their report and that's what's in the record. But when we go and compile our
50 summary report and say, 'This is how many reported reductions there are from 1997,' and we convert CH₄

1 over to CO₂E, we use the Third Assessment Reports. Now that's in contrast to some other agencies and
2 other groups that are still using the Second Assessment Report.

3 And, lastly, on methods for nonfossil gases. Where people report some of these more exotic
4 gases, we generally look first at the guidelines, if it fits within the guidelines. And, secondly, and we have
5 this case particularly on methane from landfills, where we generally default back to the work we do on our
6 National Inventory of Greenhouse Gases. Does it fit within our aggregate methodology for how, say, CH₄ is
7 formed anaerobically over time. Are people taking the emissions at the right time rather than frontloading it
8 and taking too many initially.

9 So for the other gases, we generally fall back on the methodologies used in the National
10 Inventory. Both our own methodologies and methodologies that EPA has developed for some of the other
11 gases.

12 FACILITATOR BROOKMAN: Thank you.

13 So what about this one? Yes, please, Susann.

14 MS. NORDRUM: Susann Nordrum with Chevron Texaco. I appreciate the mention of the API
15 Compendium. In addition to working at Chevron Texaco I'm also the chair of API's Greenhouse Gas
16 Emission Estimating Workgroup. So if anybody has further interests in the API Compendium of
17 Methodologies, you could talk to me. It's available online and it does have a fairly rigorous treatment of
18 combustion.

19 I think it's kind of important that the existing approach of allowing other methods as justified is
20 really useful because particularly in the petroleum industry, we know the most about our own emissions and
21 about our sources. And because we're an integrated company, going all the way from underground to the
22 gas station, you know there's not much interest in trying to move the emission one way or the other. If it's
23 within our scope we're going to try to estimate it as accurately as possible. So thanks.

24 FACILITATOR BROOKMAN: So did you want to be an advocate in this case? Because I wasn't
25 sure you were fully on the record there.

26 MS. NORDRUM: An advocate for allowing, yes. Allow additional methods.

27 FACILITATOR BROOKMAN: Thank you. I just wanted to be clear.

28 Yes, and we have other persons that are familiar with all their other industry-specific tools. Bob
29 Prolman.

30 MR. PROLMAN: The Forest and Product Paper Association has issued, and now I believe it's
31 public both through the National Council for Air and Stream Improvements' website and through the WRI
32 website, a set of calculations methodologies that use alternative methods. And so we are pretty much very
33 aggressively on record.

34 I think the critical factor there is that if one of the objectives is to make this a cost-effective type
35 of thing, to require anything -- to restrict, put it that way, to restrict it to simply having to do realtime
36 measurements would just basically destroy that. So I'm very much on record for alternatives.

37 FACILITATOR BROOKMAN: Thank you.

38 Yes, Brad Upton.

39 MR. UPTON: Brad Upton with NCASI. I have a follow-up to Bob's point. Bob's right. I was
40 involved with developing the greenhouse gas calculation tools for the forest-products industry. And these
41 were designed to be consistent with the World Resources Institute and World Business Council for
42 Sustainable Development Greenhouse Gas Protocol. And they do follow those, their recommendations for
43 estimating greenhouse gas emissions. And they are predominantly based on fuel-consumption data and
44 carbon content or emission-factor data.

45 And another point that I wanted to bring up that's a little bit different. It's kind of pulling two
46 things together. It's related to indirect emissions and how to estimate emissions associated from purchased
47 electrical power. A lot of facilities within the pulp-and-paper industry have arrangements with electrical-
48 generating companies that are not actually part of the reporting entity, they're not owned by the reporting
49 entity, but they have close contractual relationships. And they are typically based on cogeneration
50 combined heat and power.

1 So oftentimes specific emission factors for the power purchased from that generator should be
2 used rather than some of the default emission factors for purchased electricity. And so it's important to
3 realize that purchased electricity is not the same as other purchased electricity. It varies.

4 FACILITATOR BROOKMAN: And how does that get specified?

5 MR. UPTON: In the calculation tools that we've developed we provide means to actually
6 calculate emission factors associated with this type of --

7 FACILITATOR BROOKMAN: Different kinds of electricity use.

8 MR. UPTON: Based on information on what types and quantities of fuel used in the production
9 of the power, how much steam was produced while the power is being produced, and so how to allocate the
10 emissions between the energy output to the combined heat and power systems.

11 FACILITATOR BROOKMAN: So you can do the allocation based on how you've subdefined
12 these things?

13 MR. UPTON: It's technology based. In other words, you have to have an idea of where do the
14 efficiencies, for example, of producing heat energy versus producing electrical power energy in this
15 particular plant.

16 FACILITATOR BROOKMAN: The other standard -- well, I'm not sure it's the other standard.
17 The other thing we've heard also is that the legal definition of how these things get arrayed, that that should
18 be the determinant, essentially.

19 Yes, Bud Beebe.

20 MR. BEEBE: Bud from SMUD. I would reiterate my early comment that I think in terms of
21 cogeneration it should be done on strictly an energy basis, without regard to efficiencies. If you receive a
22 thousand Btus, then that gets worked back into the equation as a thousand Btus relative to the amount of fuel
23 that went into the facility that produced it. There's no efficiency assumed on your part or on the other part.

24 FACILITATOR BROOKMAN: Okay. Yes, follow-on and then I'll go -- yes.

25 MR. UPTON: I have a follow-on. This is again Brad Upton with NCASI. Especially when
26 you're looking at the among of energy being purchased and brought in from an outside entity, there's some
27 merit to what Bud is suggesting I think, but it's important to distinguish between, for example, heat energy
28 and electrical energy. Because even though they're both quantified maybe in the same units, there is a vast
29 difference in the amount of fuel energy that goes in to producing that usable energy and to quantify a Btu of
30 electricity in the same terms as a Btu of steam or heat energy could be misleading because in most cases it
31 would be a greater amount of CO₂ or fossil fuels required to produce the same amount of electrical energy
32 than would be for the steam energy, in general. Not always.

33 FACILITATOR BROOKMAN: Um-hum. Bud Beebe.

34 MR. BEEBE: I disagree with those who would want to disaggregate this by the efficiency of
35 producing electricity versus the assumed efficiency of using a Btu of heat as heat. Not only does it
36 complicate the issue, but I think that typically this has all been done -- in the past it was often done as an
37 adjunct to a commercial relationship between the electricity producer and the heat host. Those are valid
38 commercial arguments, but they don't have to do with the greenhouse gas. And I think that's where we need
39 to go back.

40 If you had produced -- if you're the heat host and you had used a Btu of energy. And to do that
41 you would have otherwise had to combust something, then I think you could deal with it just right strictly --
42 this is a more difficult thing. It really needs a whole separate technology-based set of workshops, because...

43 FACILITATOR BROOKMAN: There's a lot of variation. There's a lot of different technology
44 applications here. There's a lot of different possible permutations --

45 MR. BEEBE: Exactly.

46 FACILITATOR BROOKMAN: -- among all these things.

47 MR. BEEBE: And it can great complicate things and I think needlessly.

48 FACILITATOR BROOKMAN: Okay. Thank you.

49 Do you wish to follow on briefly?

50 This gentleman. Your name, please, for the record.

1 MR. MURTISHAW: Scott Murtishaw with Lawrence Berkeley National Lab. I was just going to
2 say about this issue, and actually I just want to point out to you, I have a few extra copies of this. This is the
3 report that Lawrence Berkeley Lab produced for the California Energy Commission on Accounting for
4 Carbon Emissions from the Use of Electricity.

5 FACILITATOR BROOKMAN: We want you to submit it for the record, okay?

6 MR. MURTISHAW: Okay.

7 FACILITATOR BROOKMAN: Thank you.

8 MR. MURTISHAW: I don't know about other states, but in California cogeneration provides a
9 significant share of the total electricity. We chose one allocation methodology and stuck with it, and we've
10 now followed the report of electricity from cogeneration. But you need to have some standard for that
11 because when you start talking about the carbon intensity of your power sector, the electricity that end-users
12 consume, if cogeneration is a large share of all the input going into that grid, you need to have some way of
13 allocating the fuel use in cogeneration to the electricity share and the heat share.

14 And I think that you need to come up with one standard methodology and apply it equally.
15 Otherwise there's no way to tell how much carbon is coming from the electricity use, because many
16 cogenerators share a significant share of their electricity into the grid.

17 FACILITATOR BROOKMAN: It's got to be simple enough that it can be kind of applied across
18 the board?

19 MR. MURTISHAW: Well, what we did is -- I can't remember the source offhand. It's in the
20 report. It was a Dutch report. They listed six different allocation methods, and we chose one that was really
21 simple. We said, 'Let's assume a relatively high rate of efficiency of converting Btus into the heat output
22 and it ought to be a fixed-conversion efficiency. And the fuel that's left over will be allocated to electricity.'

23 FACILITATOR BROOKMAN: Okay. Additional comments on this? Yes, Robert Prolman.

24 MR. PROLMAN: I just want to step back to an early comment I made that you had referenced.
25 And this conversion has fascinated me since some of the technical experts have tried to teach me about
26 combined heat and power, so you can say I'm more the policy person than the technical expert obviously.

27 But to me there really are two, again two different conversations going on. One is all about the
28 technical discussion about how do you calculate direct or indirect. How much energy -- well, let me back
29 up one half-step. How much fuel is being used to produce how much of two different types of energy.

30 FACILITATOR BROOKMAN: Right.

31 MR. PROLMAN: The second discussion is to what extent do either of those energy vectors, if
32 you will, or energy streams generate either a greenhouse gas savings or reduction someplace else.

33 FACILITATOR BROOKMAN: Right.

34 MR. PROLMAN: If it's fossil fuel fired energy there's no direct if the electricity stream goes out
35 or even if -- well, either one stream goes out, if it's replacing something, and that gets back to baseline, and
36 that's where I was making my comment about the whole thing about ownership of title to the carbon credit
37 or debit.

38 First you have to understand what it is physically that's happening, or in physics, and then second
39 who owns what and let the ownership sort out who gets the debit and credit.

40 FACILITATOR BROOKMAN: Yes. And that gets to the third point, this point about the
41 allocation among direct and indirect based on some simple, right, scheme, some methodology that allows
42 you to take the indirect and direct and parse or divide something there.

43 Go ahead. Say your name again.

44 MR. MURTISHAW: Scott Murtishaw, Lawrence Berkeley Lab. The method that we chose was,
45 like I said, it was to take a fixed-efficiency factors, because in general the conversion of natural gas, for
46 example, to heat for end use within a factory is pretty high because there's not any real conversion of the
47 energy to another form of energy. Once you start converting heat energy to mechanical energy to electrical
48 energy you start running into high losses. So we assumed a high rate of conversion for the heat energy and
49 whatever fuel was left over that wasn't accounted for by that conversion was allocated to the electricity
50 generation.

1 FACILITATOR BROOKMAN: Okay. Bud Beebe.

2 MR. BEEBE: Yes. I think that's wrong because while you're talking in one case about a
3 conversion question, in the case of the heat user, you're not talking about any efficiency whatsoever. They
4 could throw a hundred -- well, yes, they could throw a hundred percent of the heat away, do absolutely
5 nothing with it and yet you'd assumed that they had a hundred percent conversion efficiency. And I think
6 that that's wrong.

7 MR. MURTISHAW: No, no, no.

8 FACILITATOR BROOKMAN: Scott, go ahead.

9 MR. MURTISHAW: Because once you start -- if you want to start talking about giving credits to
10 people for energy savings at a facility level then you would have to talk -- and this is another report that
11 we're preparing to write for the California Energy Commission, which will be forthcoming in the next few
12 months -- you have to have a metric, you have to have a denominator.

13 So when this company, this facility that houses this cogeneration, they are going to use a certain
14 amount of energy to produce a certain amount of product. So that's an index. And if they can save heat
15 energy to produce the same amount of product, that's still a savings and it will encourage efficiency of
16 course.

17 FACILITATOR BROOKMAN: Okay.

18 MR. MURTISHAW: But you have to account for the carbon that you're saying is due to the end-
19 user's use of electricity buying the electricity from that cogeneration facility. You have to allocate that
20 somehow.

21 FACILITATOR BROOKMAN: I'm hearing this is a complicated subject.

22 MR. BEEBE: It is a complicated subject.

23 FACILITATOR BROOKMAN: Let me ask you about the final bullet on this page about methods
24 for nonfossil gases, what to do about -- what additional things we would say about that.

25 We've heard about fossil use in actual emissions. We've heard some about conversion factors.
26 What about methods for nonfossil gases, additional methods? Yes, Brad.

27 MR. UPTON: Brad Upton with NCASI. One issue that we've dealt with the pulp-and-paper
28 sector is methane from landfills. One thing that we've also found is that the parameters used for estimating
29 anaerobic decomposition rates for municipal solid waste or for materials that might be put in maybe
30 industry-specific landfills, like pulp-and-paper industries, these parameters have fairly high uncertainty
31 bounds associated with them. And so it's difficult to estimate with a high degree of certainty what the
32 quantities of methane released are.

33 FACILITATOR BROOKMAN: Um-hum. Other? Yes, David Cain.

34 MR. CAIN: One of the questions that comes is there are established methods for calculating
35 engineering uncertainty. And rather than specifying the methods one could focus on setting some standard
36 or at least encouraging people to report the level of uncertainty with all of the calculations.

37 FACILITATOR BROOKMAN: Yes.

38 MR. CAIN: And this would get away with trying to specify how you do it this way or that way
39 and really look at the end result in terms of the amount of engineering uncertainty that's involved and free up
40 people who calculate it pretty much any way they want.

41 FACILITATOR BROOKMAN: Interesting. Bud Beebe -- I would note we're talking about
42 estimation so far I think only, and not measurement in this case. Bud.

43 MR. BEEBE: That's right. Methods for nonfossil gases. Of course methane is a fossil gas. And
44 the importance to me is that methane has a long but understandable lifetime in the atmosphere, whereas the
45 other four types of greenhouse gases have very long lifetimes. And I will reiterate that, for the very-long-
46 lived greenhouse gases it's much simpler and easier and cheaper for everybody, including society, if you just
47 take the hit when it's produced or put into the final product. In other words, use it, don't try to apportion it
48 over years and years and years --

49 FACILITATOR BROOKMAN: Of service.

50 MR. BEEBE: -- of service.

1 FACILITATOR BROOKMAN: Uh-huh. Okay. Additional perspectives? We've heard the
2 counter point on that one, on that last point.

3 Other thoughts and comments on -- I'm looking to Mark Friedrichs, to Arthur Rypinski, also to
4 Paul McArdle. If you think there's anything else you think we should be trying to dig out of these points. It
5 seems like it's not all out yet. Paul McArdle.

6 MR. McARDLE: Yes. Paul McArdle from EIA. Actually I had a question for Bud.

7 So you're saying that if I had a landfill project and I'm going to reduce CH₄ from here to the next
8 30 years. So I'm going to take all those upfront or -- is that what you're saying? I'm not sure.

9 MR. BEEBE: No. I think that for -- there's a production question there, no.

10 FACILITATOR BROOKMAN: Other classes, right?

11 MR. BEEBE: Pardon?

12 FACILITATOR BROOKMAN: Production, product classes.

13 MR. BEEBE: Right, yes. So I'm thinking more of the refrigerants and maybe some other things,
14 SF₆. For those where they are extremely long lifetimes, you just take the hit right upfront. Right when you
15 purchased the thing or that kind of thing, rather than trying to apportion it out over years and years. When
16 you're talking about the production, though, of methane, that's something that happens in a time --

17 FACILITATOR BROOKMAN: And we've heard two things. We've heard that maybe you can
18 figure out what the engineering uncertainty would be. And I haven't heard yet anything about how it would
19 actually be measured, I don't think. Perhaps I missed it.

20 Did you want to follow on?

21 MR. BEEBE: Back just for -- Bud. To clarify. So you're mainly referring to HFCs, PFCs, SF₆,
22 that type of --

23 MR. McARDLE: Yes.

24 MR. BEEBE: The manufactured gases.

25 MR. McARDLE: Yes. Not methane.

26 MR. BEEBE: Okay.

27 FACILITATOR BROOKMAN: Mike Burnett.

28 MR. BURNETT: I guess I'd like Bud to clarify. So let's say we have someone who does an SF₆
29 reduction project, SF₆ has a 35,000-year lifetime, so they do a reduction project all in one year. And what
30 you're saying is you take the pound of SF₆ and multiply it times the 35,000 global warming potential and put
31 that all in one year? Is that -- I don't understand the math.

32 MR. BEEBE: The example I'm thinking is when I buy a pound of SF₆ to use in my electrical
33 switching gear, the year in which I purchased that is the year in which it becomes all on my greenhouse gas
34 a direct, okay?

35 MR. BURNETT: As opposed to if it all leaked out of the equipment over a ten-year period,
36 taking one-tenth every year?

37 MR. BEEBE: That's correct.

38 MR. BURNETT: Okay.

39 MR. BEEBE: Now if somebody else comes along and recovers some of my SF₆, they get to
40 reduce their greenhouse gases by that amount. That's a reduction some other place.

41 MR. BURNETT: But in either case, in your frontloading case versus the kind of trickle-out case,
42 you'd still be multiplying it times the full global warming potential?

43 MR. BEEBE: Yes.

44 MR. BURNETT: Whatever year it was deemed to be released.

45 MR. BEEBE: I'm not sure about that, no.

46 FACILITATOR BROOKMAN: Let's let Mark Friedrichs follow on here.

47 MR. FRIEDRICHS: Just that --

48 FACILITATOR BROOKMAN: Mr. Friedrichs.

49 MR. FRIEDRICHS: A simple point on the GWP. I believe EIA uses a 100-year GWP for all
50 gases. So if it had 35,000 years, we wouldn't use it.

1 MR. BURNETT: Well, but the GWP's 35,000.

2 FACILITATOR BROOKMAN: Paul, follow. Paul McArdle.

3 MR. McARDLE: Yes. I'm hearing a couple different things and it sounds like, and I get the
4 impression maybe erroneously, that somehow we are trying to capture all the climate radiative forcing that
5 goes from here until sometime in the future all in one block. And I think that's not what Bud's talking about.
6 I think he's talking about when it actually occurs, and he wants to capture it right away, but not --

7 FACILITATOR BROOKMAN: Let's let two people to follow on. Bill Hohenstein.

8 MR. McARDLE: Okay. But I had a train of thought.

9 FACILITATOR BROOKMAN: I'll come back to you. Bill Hohenstein, and then, Bill Irving, I'm
10 coming back to you. Go.

11 MR. HOHENSTEIN: Sure. Well, possibly someone from USDA can actually maybe shed some
12 light on this particular issue. I think what Bud is talking about is specifically products, --

13 FACILITATOR BROOKMAN: Right.

14 MR. HOHENSTEIN: -- not production processes that cause emissions of HFCs, because there
15 are direct emissions of HFCs from aluminum smelting and other processes that they I don't think Bud's point
16 is necessarily relevant to. His point is entirely about whether you're accounting for potential emissions or
17 actual emissions.

18 MR. BEEBE: Right.

19 MR. HOHENSTEIN: Okay. That aside, my point is actually a commercial.

20 (Laughter.)

21 MR. HOHENSTEIN: As Margot mentioned --

22 FACILITATOR BROOKMAN: Where's the mute button.

23 MR. HOHENSTEIN: This will be quick. In the opening of the session the USDA's been tasked
24 with developing the accounting rules and guidelines for both agriculture and forestry products. And if you
25 look at the existing 1605(b) guidelines, we're talking about Chapters 5 and 6. And these, in essence, are the
26 technical methods. There are a lot of complex questions both with how these methods might be structured
27 and then also the specific methodologies that are used, whether we rely on defaults or actual direct
28 measurement.

29 The commercial part of this is that we're having our own sets of stakeholder meetings in early
30 January. The agriculture meeting will be on the 14th and 15th, and the forest meeting will be on the 23rd of
31 January. There's now an announcement, a registration announcement available in the lobby for --

32 FACILITATOR BROOKMAN: Great. And is that going to be in Washington?

33 MR. HOHENSTEIN: They'll both be in the Washington area.

34 FACILITATOR BROOKMAN: Okay.

35 MR. HOHENSTEIN: For those of you that are interested in these issues or just gluttons for
36 punishment.

37 FACILITATOR BROOKMAN: Yes. And bicoastal and one's orientation.

38 Paul.

39 MR. McARDLE: Okay. I'm just going to touch on the nature of GWPs in general, just so there's
40 not too much confusion.

41 We use the 100-year GWP. And if you're familiar with the formula it's basically an enumerator to
42 calculate a GWP, it's basically the radiative forcing of that GWP when it's released, multiplied by some
43 decay rate because it decays in the atmosphere. And you integrate that over time. It's an integral. If
44 anybody's familiar with calculus. And that gives you one number over what would happen, what's the
45 radiative forcing from that gas over a hundred years.

46 And then the denominator, you do the same thing for the reference gas, which is CO₂. And hence
47 you have a multiplier of the greenhouse gas versus CO₂. And, again, it's a smoothing device. It's meant to
48 look -- to smooth the radiative impacts of that gas over a hundred years. It's basically -- it's kind of like an
49 integrated average.

50 FACILITATOR BROOKMAN: Okay. Other comments? Yes, please, Susann. And then -- yes.

1 MS. NORDRUM: Susann Nordrum with Chevron Texaco. I do have a concern with Bud's
2 suggestion about putting the entire purchase of any of the noncarbon greenhouse gases into the purchase
3 year because it really is going to bounce your inventory around a lot. And you could be making great
4 progress in all the other gases and then you have this bad year where you install new air conditioners or you
5 get a new propane-cooling system, or something like that.

6 We did a little study because we wanted to be careful about our inventory, and really most of the
7 emissions come during the manufacture of these products or, as was mentioned, in the manufacture of other
8 goods. So it seems quite artificial. I mean you can imagine a case where you buy a component with SF₆ and
9 it never does leak out or it's a hundred or a thousand years before there's any leakage off. So it seems like an
10 unnecessary penalty.

11 FACILITATOR BROOKMAN: Yes. I'm going to let Kristin follow on, then I'm coming to you,
12 Sue.

13 MS. ZIMMERMAN: Kristin, GM. Just to give a specific example what GM does for their
14 factory fell into the vehicles off the line, we put 134A, the refrigerant 134A. And we take the hit upfront, as
15 Bud was suggesting for that which we purchase, the amount that we purchase. Because we know it will
16 leak. And we could do a ten-year leakage with a five-year refill, but we've decided that we'll take the hit
17 upfront. So that's on the product side.

18 MS. NORDRUM: Yes. If it's routine, that's a different case --

19 MS. ZIMMERMAN: Right.

20 MS. NORDRUM: -- and in a car. But in a stationary air conditioner it's --

21 MS. ZIMMERMAN: So we suggest that this remain flexible enough for us to do it for specificity
22 on a product piece or the stationary piece.

23 FACILITATOR BROOKMAN: Yes, okay. So to enable -- what the accounting practices of the
24 individual companies, that you can reflect those.

25 Thanks. Sue Hall.

26 MS. HALL: Thanks. Sue Hall with the Climate Neutral Network. The Network has been
27 working with a number of companies to certify their products and services in the marketplace as achieving a
28 net zero impact on the Earth's climate. And when we were looking at product-based emissions, we take that
29 across the full lifecycle, so that would include essentially all of the greenhouse gases, CO₂ and nonCO₂
30 upfront in an accounting system.

31 What's interesting is we've pursued this with different kinds of products right the way throughout
32 that lifecycle chain, is that there are some very helpful databases out there. U.S. EPA, for example, with its
33 Waste Wise Program, the gentleman was mentioning how you account for methane emissions from
34 landfills, actually in one of their calculators, looking at the greenhouse gas reductions that are available from
35 different waste-management practices, they have really quite a detailed inventory that allows you to assess
36 the different kinds of methane emissions that arise from different kinds of products actually in the landfill
37 itself, because obviously the biodegradability there is from material to material.

38 So in the context of putting your Registry together I'd encourage you to look again
39 comprehensively through the lifecycle for products and, secondly, pay attention perhaps to where there are
40 databases available that already have really quite cogent calculations that have been based on the best
41 science that you could integrate and be consistent with. Because consistency I think is going to become
42 increasingly a watch word as we move into a lot of these discussions. The more redundancy that we create
43 just by not being consistent with existing systems is going to multiply the headaches, not reduce them.

44 FACILITATOR BROOKMAN: Thank you.

45 Howard.

46 MR. GOLLAY: Howard Gollay again. I agree with the comment from Chevron and the last
47 comment. I'm not following this whole conversation, but I can say one thing with respect to SF₆. If
48 something is permanently sealed it shouldn't count. I mean that's the concept. It's permanently sealed, it
49 doesn't leak.

50 And with respect to consistency, for example, we're members with the U.S. EPA in a partnership

1 agreement to manage our SF₆ emissions. And there should be consistency between what's recorded here and
2 the Program that's already in existence with the U.S. EPA. So that's all I'm saying, whatever the U.S. EPA is
3 doing right now we support, and it should be consistent with the doe effort with respect to SF₆ gas, for
4 example.

5 FACILITATOR BROOKMAN: That expands the term of the use of consistency that Sue used
6 and it's a theme that we heard several times in the previous workshops, about more than consistency, kind of
7 a sense of alignment or -- right -- consistency that way.

8 Okay. A final comment perhaps. We're going to be moving shortly. Bud.

9 MR. BEEBE: Just a comment. As you think through this --

10 FACILITATOR BROOKMAN: Bud Beebe.

11 MR. BEEBE: -- you might reflect on how you verify or certify your emissions from SF₆. It's very
12 much easier to just look at a single bill and count that one time rather than to revisit that same bill certified
13 10, 15, 25, -- what is it, 35,000 years?

14 FACILITATOR BROOKMAN: Okay. Let's take lunch. It is now 12:35. I'm going to give you a
15 full hour lunch. That ought to give everybody time to get back here. We'll start at 1:35.

16 Let me thank you for a really good start on the day. We've got a really, really good start on these.

17 I'm going to put these ten-percent-discount luncheon coupons out here on the coffee table.

18 McDonalds is across the street. IHOP is which way? Two blocks that a way.

19 Thanks for a good start. We'll start back up at 1:35.

20 (Luncheon recess taken from 12:35 to 1:51 p.m.)

21 FACILITATOR BROOKMAN: Let's start, even though we're still waiting for people to show up.
22 I had noticed that there were about ten people in line when I just went and took a peak.

23 Thanks for getting back here as quick as you could. We're going to have keep moving along this
24 afternoon.

25 We're moving into the subject next of Emissions Reductions and Sequestration. This is page 4 in
26 your packet of slides. You can see this starting point slide. The expectation that any reductions and
27 sequestration would be accurate, reliable, and verifiable. What are the characteristics of credible emission
28 reductions. What methods should be used to produce credible estimate of such reductions. Those are kind
29 of the overarching questions.

30 And I think we really can just move to the second slide because that's where we get into the more
31 specifics.

32 Are you going to queue this up, Arthur?

33 MR. RYPINSKI: I think so, yes.

34 FACILITATOR BROOKMAN: Arthur Rypinski on the microphone.

35 Just use the mic.

36 MR. RYPINSKI: Outstanding. Well, this afternoon we're going to talk about emission
37 reductions. Conceptually they are sort of three ways in which people have thought about defining a
38 reduction. To the noninitiated this sounds like sort of an incomprehensible bit of hair-splitting. After all, a
39 reduction is like less, right? Well, yes, but it's less than what?

40 So the simplest way of thinking about an emission reduction is what one might consider an
41 absolute reduction. In 1605(b)-speak that's called the basic reference case. And the notion is that you have
42 a corporation or a public body and that corporation's emissions are declining over time. They are less now
43 than they were before. And the reduction is therefore the difference between the emissions then and the
44 emissions now.

45 Absolute reductions are usually associated with the reports of corporations. They're usually entity
46 based. Absolute reductions are less commonly found in projects, though they do occur from time to time.

47 A second definition of a reduction is the notion of avoidance and the basis of it is really causation.
48 We say that emissions are lower than they would have been in the absence of some action or actions. In
49 1605(b)-speak, in the vocabulary we use, that's sometimes called a modified-reference case.

50 So the most common use of modified-reference cases or causation based is in projects, where the

1 reduction is defined as with and without the project. That is, what would emissions have been without the
2 project. What are emissions now that the project has been put in place. And the underlying notion is
3 causation.

4 The last alternative is what are sometimes called intensity reductions, also sometimes called unit
5 of production. And the notion here is that your emissions per unit of output decline.

6 Could you queue the widget slide? Acme widget. So here we have an example of a fine exemplar
7 of America's widget industry. And we notice that Acme widgets' production is rising. Its emissions are
8 rising more slowly and its average emissions per widget are declining. This is an example of an intensity
9 reduction.

10 Intensity reductions are sort of a hybrid which combines aspects of both an absolute reduction and
11 causation. In effect, it adjusts the reduction for a particular kind of causation, which is changes in output.

12 Yes, sir.

13 MR. FRIEDRICHS: I thought it might be helpful to suggest that there's also a slightly different
14 version of this Acme widget example and that is a company that reduces its intensity even more rapidly and
15 has some net reduction in total emissions. But there is a huge gap between its rising production and its
16 slightly-declining emissions.

17 FACILITATOR BROOKMAN: That was Mark Friedrichs. Back to Arthur Rypinski.

18 MR. RYPINSKI: One could adjust output for -- do we have Stasis widget somewhere? Stasis
19 widget is an example of an absolute reduction, where both -- and is an example of both, an absolute
20 reduction and an intensity reduction. Because Stasis widgets is producing a constant number of widgets
21 over time. Its emissions are declining and it's average emissions per widget are declining at the same rate.
22 So in this instance Stasis widget has both absolute and intensity declines.

23 Okay. And lastly we have Dudley widget.

24 MR. FRIEDRICHS: I'm sorry. This is Hotair widget. Dudley widget is Hotair widget.

25 MR. RYPINSKI: In the case of Dudley widget we have Dudley's output is declining and their
26 emissions are declining less rapidly than their output. And this actually is a characteristic of firms where
27 there is the emissions equivalent of operating leverage. And we see average emissions per widget rising. So
28 in this case we have an absolute reduction but not an intensity reduction.

29 Moving to the questions we're going to be asking you given this sort of notion of different types of
30 reductions, the first question is why do we need to identify emissions reductions. What are the purposes of
31 doing so.

32 And one might think in terms of for credits or for trading, for recognition, for possible future use,
33 for other uses that you might suggest.

34 And we're also concerned about who should receive the recognition or credit for reductions in an
35 environment where there is a supply chain or a sequence of producers. This of course is the reduction
36 equivalent of the question of indirect emissions from electricity, but there are other such similar -- there are
37 other reduction equivalents of some of the issues we discussed this morning.

38 So in the case of electricity, should electricity generators be responsible or electricity users in the
39 case of other products; should product manufacturers or end-users, particularly energy-consuming or
40 energy-efficient products. How do we deal with outside corporate boundaries, reductions outside the United
41 States. And also in the case of projects that are funded by one party and owned by another, how should we
42 deal with the recognition or credit in that case.

43 I guess that will get us started for a while.

44 FACILITATOR BROOKMAN: Thank you.

45 Paul McArdle, EIA.

46 MR. McARDLE: Yes, Paul McArdle, EIA. I don't have a specific slide that addresses this, but I
47 think if you recall earlier I discussed our desk audit review process in terms of saying what actually gets into
48 the database and classified as a reported reduction. Other than that let me see if there's anything else I can
49 add on these bullets here. I must be on the wrong page here.

50 FACILITATOR BROOKMAN: Page 4.

1 MR. McARDLE: Page 4. You're right.

2 Okay. I don't have much more to add than what Arthur's already said.

3 FACILITATOR BROOKMAN: Right. Thank you.

4 So let's take the first block first. It's getting warmer in here, yes? You can feel the heat coming
5 on.

6 Why identify emissions reductions? And particularly focus on the issues of credits and trading,
7 recognition under voluntary programs, future use, and other issues that you would raise.

8 Let's start with those. Who would like to get us started? Now that lunch has passed, ladies and
9 gentlemen.

10 I mean --

11 MR. BEEBE: What if there's not a need?

12 FACILITATOR BROOKMAN: Use the microphone. This is Bud Beebe. I mean it's kind of
13 interesting that the question is phrased "Why identify emissions reductions?"

14 Why is the question framed that way, Arthur Rypinski? Because there's a lot of people here I
15 think would be interested -- I mean there's a presidential agenda to reduce. Why is it framed that way?

16 MR. RYPINSKI: Well, our notion is that there is one purpose we know about and there may be
17 other purposes and those purposes may be in concert or in conflict. And there may be purposes we haven't
18 identified.

19 FACILITATOR BROOKMAN: Okay. So, Bud, you want to start us?

20 MR. BEEBE: First of all, let me confess that I have commentator's remorse. Earlier today I said
21 that I'm not interested in projects in reduction, and that's really not true. So --

22 FACILITATOR BROOKMAN: For the record, thank you for clarifying that. This will not be
23 brought up in any divorce proceedings either.

24 MR. BEEBE: Oh, good. That's good. My pre-registrant thing.

25 Hey, no, I think that one of the principal reasons that we want to be able to identify emission
26 reductions is for the educational value. There's a great deal that society needs to learn both about the
27 generation of greenhouse gases, what they are physically, and also who's responsible for them. And we can
28 only begin to do that if we start to talk about them. And the only way you can do that is with some fairly
29 concrete examples. So I look at these things as being educational in value.

30 FACILITATOR BROOKMAN: Thank you.

31 General comments before we talk about -- please.

32 MS. HALL: Thanks. Sue Hall with the Climate Neutral Network. I think there's a whole host of
33 potential motives for identifying emissions reductions or so-called project reductions.

34 Clearly, and I think it's important to distinguish where those project reductions take place with the
35 purposes, kind of next to the purposes that an entity might have. So, for example, if you're looking at -- let
36 me just clarify. I mean there is a real tension here between entity-wide reporting and project reporting, that I
37 know has come up in many of your meetings. And one of the questions that arises is how you can get a
38 cogent intersection between a system in 1605(b) that would be encouraging and supporting entity-wide
39 reporting and how project-based reporting might be structured within the Registry in a way that didn't
40 undermine the credibility of the entity-wide reporting.

41 FACILITATOR BROOKMAN: Right.

42 MS. HALL: So based upon some of the Climate Neutral Network's certifications, let me share
43 some of the lessons that we found interesting or maybe what I should frame is some of the debates that
44 we've had where some of these kind of complexities have come up.

45 First of all, if you are looking at projects that are taking place inside the boundaries of an
46 organization, at least for the Network's purposes those projects are undertaken primarily to reduce their
47 baseline, to reduce their overall emissions. And so if you're looking at a project like that then by and large
48 that would be redundant to the overall entity-wide reporting. There would potentially be double counting
49 there if you included both.

50 Now there are some categories, though, of projects that take place within an organization's

1 boundaries that are worth reporting separately, even if you're doing an entity-wide reporting.

2 One group would be projects that, like an energy-efficiency project, where it would have the
3 impact of reducing indirect emissions up or down your supply chain. And in that instance if you're tracking
4 those separately, then you make sure that the potential double counting with respect to the indirects up to the
5 utility suppliers in the energy chain can be modified appropriately through that supply chain.

6 Another reason why you'd want to potentially undertake a measurement of project-based
7 reductions inside of your operations is if you're planning on trading them. So when DuPont, for example,
8 donated offsets to help take the U.S. Olympic Games climate neutral, they would need a mechanism by
9 which the internal reductions that they donated to another entity, to the U.S. Olympics, they'd need a
10 mechanism to essentially allocate those to another entity, in this case the Olympics, and to have them add
11 back into their baseline.

12 So those are a couple of examples of where project reporting within an organization is actually I
13 think quite salient, and it's important that a registry would take account of those distinctly.

14 The other obvious motivation is if you're wanting to invest in greenhouse gas reductions outside
15 of your operations as an offset. There you've got a whole multiple set of objectives. You know you're
16 looking to trade essentially on the margin, just as you would in any other commodities market. So if you're
17 really looking seriously to support a private-sector tradable market, you've got to make sure that the system
18 that you're putting together has at least as much rigor as the financial market would require. Because
19 without that the market will evolve around 1605(b). It won't take place through 1605(b). The market will
20 find a way to design its own parameters that it needs in order to trade.

21 One of the other motivations that I think it would be very helpful for the Registry to incorporate is
22 for those companies that want to be able to differentiate themselves as companies, their brands or their
23 products. So another reason for investing essentially in projects outside of your operation in offsets is so
24 that you could market your products on a climate-neutral basis.

25 So there's a whole series of other motivations that can come in when you're looking at projects
26 outside of your operations.

27 FACILITATOR BROOKMAN: Thank you.

28 Yes, please, follow on.

29 MS. PASSERO: Michelle Passero with the Pacific Forest Trust. Again for the forestry
30 perspective, forests are not only a carbon reservoir but they're also a source of CO₂ emissions. They happen
31 to be the second globally. So I think there is a very good reason then to have emissions reductions coming
32 from forestry projects to help also not only curtail CO₂ emissions from other sectors but also from the
33 forestry sector as well.

34 FACILITATOR BROOKMAN: Thank you very much.

35 Other comments, broad comments, and then maybe moving more towards specifics. We have
36 relative to credits and trade, recognition under voluntary programs, future use, and we've already got a touch
37 of other in terms of motivations at least.

38 Yes, Mike Burnett.

39 MR. BURNETT: I guess when you're looking at reductions there's two fundamental ways you
40 can calculate a reduction. One would be on an entity basis and one would be on a project basis. I guess you
41 could run a cap-and-trade system which ultimately we may have in this country on either approach.

42 It seems like on an entity basis you're just basically running an entity corporate emissions bubble
43 type registry. And if you were to have some kind of caps or targets or things you had to meet, if you
44 exceeded your target or you were better than your target, you would have something to sell; and if you were
45 kind of below your target, you needed some tons, you'd have something to buy. So you could run a trading
46 system based on kind of entity-wide emissions or you could run a trading system based upon projects or you
47 could run one probably just both actually.

48 FACILITATOR BROOKMAN: Okay. Margot Anderson.

49 MS. ANDERSON: Margot Anderson, doe. It's kind of a clarifying question that is underneath
50 this first question. While we can identify lots of reasons why we might want to identify reductions and, as

1 Doug said, clearly the most basic we have in front of us right now is the President's Directive to come up
2 with recommendations that are consistent with transferable credits.

3 What I'm wondering and I think what a lot of us wonder back at doe is if there are other reasons
4 for identifying and measuring and counting up emissions reductions, can one voluntary program meet all of
5 those requirements and how do we design a program so that there's consistency between the many goals that
6 I've heard people talk about. And can we do that and still maintain a program that can have the credibility
7 that it's supposed to have in its revised mode.

8 And so the question is if we're going to be designing a program around transferable credits, which
9 we've been directed to do, is that also a program that can accommodate these progress tons or image tons. Is
10 it one that can accommodate recognition under voluntary programs. Is it a program that can be consistent
11 with whatever future climate policy we might have.

12 And if we wanted to be this flexible, does that give us or provide us with a lot of constraints that
13 are going to be very difficult to devise the revised program. So in a sense it's a multi-objective kind of
14 problem that we have, and one of our difficulties is going to be able to satisfy all of these different reasons
15 for reporting without contradicting ourselves.

16 FACILITATOR BROOKMAN: Yes. How can flexibility be accommodated without
17 undermining credibility. How can that be worked in a way that's workable.

18 Yes. Robert Prolman.

19 MR. PROLMAN: To that last question, one of the things that I've been monitoring is the
20 evolution of all the registries that are occurring. And looking at the issue of market mechanisms and the
21 trading elements, one of the desirable things that would be nice to have would be a, at least one national
22 registry as opposed to several states. Again, looking at a market mechanism, follow the market, use what
23 markets use for trading commodities. There can be more than one, but ideally at least we ought to have one
24 that can accommodate the nation.

25 The second thing is, though, that when we look at multiple uses of the database in terms of the
26 trading aspect, I would advise that the federal government's role be more akin to the SEC role: A place to
27 register the deal to make sure that the deal, the prospectus if you will, followed the rules for development if
28 it's to be a trade. So to deal with the integrity issue of a commodity being traded, but let the markets handle
29 the trade.

30 FACILITATOR BROOKMAN: And like SEC, kind of specify the kind of minimum parameters.

31 MR. PROLMAN: Minimum parameters disclosure would handle it, which gets to my last point
32 which is the concern about how do you accommodate several different things. You know the simple
33 solution is not always the best in this case; if you have one rigorous thing and everybody has to meet it,
34 which flies in the face of our desire for flexibility.

35 You might consider something that builds one level of detail for each of the things. Maybe there
36 is a class A, class B, and a class C registration, if you will. And if someone's doing a trade deal and the
37 market's going to dictate some very rigorous kinds of integrity things and verification. And you may register
38 that as, I'll call it a class C thing that gets registered in the registry.

39 So the A would be the simplest. B would be A plus and C would be A plus B plus. And that way
40 you don't have to different but, rather, growing levels of information. And it could all be managed in one
41 net information --

42 FACILITATOR BROOKMAN: Yes. Maybe additive. In previous workshops people referred to
43 the multi-tier. There could be a gold standard and a silver standard and a copper standard, that sort of thing.

44 MR. PROLMAN: And the reason I suggest this is fundamentally we have to for every one of
45 these things count some basic things that are going to be common to all of them. We've got to know what
46 emissions are. We've got to have some commonality and agreement around the set -- the single or the set of
47 options used for the counting. Whether we get into, I call it the, "LIFO-FIFO" in accounting. You might
48 have two different ways of doing the accounting, but have them identified. They have to be disclosed and
49 so forth. So the structure can be set up.

50 I guess I'm a big advocate of looking at the way the financial markets work, borrowing from those

1 systems. Don't create something new, and then do it in layers to accommodate the different needs and
2 purposes of the database.

3 FACILITATOR BROOKMAN: Yes. And the word I'd pull out that you used was "adding," that
4 they be progressive and additive so that you can go from one layer to a level with additional reporting
5 intensity -- or that's probably the wrong word to use. Reporting elements. -- reporting elements to kind of
6 move up the layers.

7 MR. PROLMAN: Exactly. I might want to go forward and do three pilots to figure out how to do
8 all this and how it all works and see what the values are. And then by, you know I'll just make the year four,
9 instead of doing a fourth pilot I'll go entity-wide globally. And I'm going to want to be able to just use all
10 that same information, add to the earlier registrations and move it up from the B to the C.

11 FACILITATOR BROOKMAN: Thank you.

12 Other comments about how this might work? And also referring to the specifics there, if there are
13 any additional comments on that.

14 Yes, Bud.

15 MR. BEEBE: Just the observation that it should be clear that sequestration as a subject is more
16 easily accountable as a reduction item than is something that's more akin to an increased deficiency.

17 FACILITATOR BROOKMAN: Okay.

18 MR. FRIEDRICHS: Why is that?

19 FACILITATOR BROOKMAN: Mark Friedrichs says, "Why is that?"

20 MR. BEEBE: A sequestration takes greenhouse gas out of the atmosphere or holds it in chemical
21 form from becoming an airborne, whereas an efficiency change, while the net effect is the same, has a
22 different physical characteristic.

23 FACILITATOR BROOKMAN: Okay.

24 MR. BEEBE: That separates them. It just makes them different. I didn't say that one was better
25 than --

26 FACILITATOR BROOKMAN: Not in effect. Right, just a different characterization.

27 Okay. What about this bottom block here, who receives recognition or credit, and particularly as
28 it applies to electricity generators or users. We had some of this discussion already. Product manufacturers
29 or end-users. Outside corporate boundaries, outside U.S., project owners or investors.

30 Comments on how that should work for these emissions reductions. Please, yes, David Cain.

31 MR. CAIN: Actually there was a slide up here originally about three different types of
32 reductions. And I go along with -- I think it's -- Mike Burnett, just a thought, but basically it's causative and
33 who caused it, who owns it.

34 FACILITATOR BROOKMAN: Who caused it, who propelled it, who initiated.

35 MR. CAIN: Yes, who did it. And I think the paper here that Mike suggests for indirects would
36 apply, but in effect if the electric utility improves their emissions factor, their net emissions factor, that's
37 something under their control. How the end-user improves their efficiency, which affects demand under
38 their control, there's a natural separation. And there's some things that could be extended, that those models
39 might untangle the mess.

40 FACILITATOR BROOKMAN: Um-hum. And at the previous workshop people talked about
41 investment. He who makes the investment should, right, --

42 MR. CAIN: Yes.

43 FACILITATOR BROOKMAN: -- as a natural extension of what you just said, I think.

44 Okay. Other comments on that issue specifically? Yes, please, I saw -- this gentleman first and
45 then to Sue.

46 MR. PIGOTT: Hi. Jack Pigott with Calpine. I think that the recognition or credit should really
47 go to either, depending upon what the contractual arrangement is.

48 A lot of utilities nowadays will either purchase or generate renewable power. End-use customers
49 can buy renewable power in some cases. They pay extra for it and they should get the credit.

50 FACILITATOR BROOKMAN: In my simple view of this, and I'm testing this because I don't

1 know whether it's workable, it would seem as though you could have a series of defaults or expectations that
 2 you would create and then you would also have things like contracts that are in place among those that seek
 3 to initiate those transactions. And the expectation would be you would be working within a series of
 4 defaults or expectations until contracts come in and specify at a greater level of clarity.

5 I see you're nodding your head up and down. Let's go to Sue. I think that's a yes. Okay.

6 MS. HALL: Yes, I think it would be really helpful if the Registry had that kind of system of
 7 defaults. But let's say that, for example, you're a school district or even a --

8 FACILITATOR BROOKMAN: You're a what?

9 MS. HALL: A school district.

10 FACILITATOR BROOKMAN: Yes.

11 MS. HALL: And that you want to upgrade your boilers and you feel that that could be a very
 12 credible carbon-offset project that you would like to be able to market. Or perhaps you've got an energy-
 13 efficiency-lighting retrofit that you want to be able to do.

14 Sometimes the defaults can be created in ways that assume that the aggregators, the utility
 15 essentially, has a large prerogative on those tons. You need to make sure that there's also a default so that if
 16 a school or a smaller entity that creatively would like to be able to develop and market those tons, being the
 17 investors with the capital, --

18 FACILITATOR BROOKMAN: Right.

19 MS. HALL: -- that there's a mechanism through the Registry through which they can
 20 automatically send a signal to their relevant aggregator, whether that's their utility or some other entity
 21 within your system. That project that they just developed was tons that are theirs, and their CO₂ goes back
 22 on the utility's footprint.

23 FACILITATOR BROOKMAN: Uh-huh.

24 MS. HALL: So you need to make sure that the bias isn't always in favor essentially of the large
 25 aggregators. Otherwise you're going lose liquidity in that carbon market. There are going to be entities that
 26 would like to be able to develop tons, often very, very cost-effectively.

27 Some of the sectors where some of the carbon-offset projects are particularly attractive are
 28 amongst the smaller entities, who have traditionally found it harder to upgrade their facilities and therefore
 29 have cheaper, more cost-effective projects to undertake.

30 FACILITATOR BROOKMAN: You said automatically. Is that easily done?

31 MS. HALL: Well, at the moment I think there's an ambiguity and that was mirrored in some of
 32 the comments I think that -- is it -- Bob was making with respect to sequestration versus energy-efficiency
 33 projects.

34 The question in that context is: Well, are you likely to be double counting those tons. The school
 35 may have invested in the energy-efficiency project, but did they get the contract sorted out with the utility to
 36 make sure that actually the utility gave them those tons to sell.

37 FACILITATOR BROOKMAN: Right.

38 MS. HALL: And so in this system, particularly since one of the indirects that's particularly kind
 39 of salient here is in the electricity-generation supply chain. That's one of the pieces you need to look at
 40 really carefully.

41 FACILITATOR BROOKMAN: One could easily imagine that if you weren't careful you as the
 42 school district or you as the business owner would make an investment that saves you a bunch of electricity
 43 and you wouldn't create the paper trail, the contract --

44 MS. HALL: Tell them. Right.

45 FACILITATOR BROOKMAN: -- back that gives you possession of those reductions.

46 MS. HALL: Right. And therefore it's very important that there be a mechanism through the
 47 Registry through which smaller entities are able to send that signal cost-effectively. Otherwise you're going
 48 to -- unwittingly we will create a system that has major disincentives for those smaller matters, which you
 49 know we're not dealing with this offered tradable permanent market here where 90 percent of your
 50 emissions come from 30, 40 sources. This is not stationary-based system. This is massively decentralized.

1 FACILITATOR BROOKMAN: Yes.

2 MS. HALL: So you have to get the incentives right for the smaller entities, too.

3 FACILITATOR BROOKMAN: And probably going more, I'm going to recognize Mark
4 Friedrichs for follow on, then I'll be forming the rest of the --

5 MR. FRIEDRICHS: Mark Friedrichs. I did have a follow-on question. That suggests that you
6 see the utilities as the sort of default aggregator, that they're holders of all of these emission reductions and
7 that they dispense them, or something.

8 MS. HALL: Not necessarily so. More that -- well, however you define the aggregators, one of
9 the things the Registry really could do very helpfully is provide an incredibly cost-effective way for those
10 who want to develop projects that are energy-efficiency based to be able to signal to the relevant aggregator,
11 whoever that might be. And it would be nice if the system helped clarify those supply chains, that indeed
12 they put in the money, they put in the capital, they sold the tons, and therefore they want to signal it
13 upstream somewhere.

14 FACILITATOR BROOKMAN: I believe it saw it in this order: Howard, Mike, Scott, and then
15 Jane. As briefly as possible.

16 MR. GOLLAY: Okay. Howard Gollay with Edison again. I think it has to do with three things.
17 One is the purpose of the Registry. And if the Registry goes beyond trying to get a national footprint of the
18 greenhouse gas emissions, which I believe it doesn't, and gets into credits and trading, then this is really a
19 question of ownership and, as the gentleman from Calpine said, negotiation.

20 I don't think there's any simple answer to this. I mean the question is who owns the credits, that
21 could very well be a part of negotiation.

22 FACILITATOR BROOKMAN: Yes.

23 MR. GOLLAY: Like, for example, where does the money come from. Who's actually running
24 the program and who's getting the benefit. So you may want to make some general guidelines on this in the
25 Registry. It may be helpful.

26 On the other hand, when my mind looks at this I'm thinking of one thing. I'm thinking about
27 ownership and maybe in negotiations one means of helping to find that. I mean you may have a contractual
28 arrangement saying that you do the demand-side management but we get the credit.

29 FACILITATOR BROOKMAN: Right. One could easily imagine all kinds of hybrids.

30 MR. GOLLAY: Right.

31 FACILITATOR BROOKMAN: 'I'll supply the capital. You maintain it. You watch it. You do
32 the -- we'll share it half and half. And then share the benefits, the credits half and half,' that sort of thing.

33 Mike Burnett and then I'm going to Scott.

34 MR. BURNETT: Yes. I'd like to second what Sue Hall has just said. And I guess to me one of
35 the key things is it's very important if we're going to try to envision a trading system to make it as -- well, to
36 not have it be contract intensive, if at all possible. So kind of one of the things about the double-counting
37 approach we put together is if you're the end-user, you don't have to sign a contract with your utility
38 supplier.

39 Now if you do your own investment, you just automatically are credited with those emissions
40 reductions. Now if your utility supplier comes to you and says, 'I want you to participate in my program. I
41 will fund your emissions reductions,' probably as a part of that program, they would require that you see
42 those tons back over them, and then there would be a contract. But you wouldn't have to go get a contract
43 with your utility just as a matter of course if you're doing it yourself. It's very important.

44 FACILITATOR BROOKMAN: There the case of electric generation is a complicated issue. I
45 also want us to comment on product manufacturers or end-users as well. That spectrum.

46 Scott, you're next in the queue, whether you wish to take that one on or not. Go ahead.

47 MR. MURTISHAW: Well, I just wanted to I guess then make the last comment on the electric-
48 generation sector.

49 FACILITATOR BROOKMAN: We can keep going on with this. I want full discussion on this.
50 Go ahead.

1 MR. MURTISHAW: Well, like the one-pager --

2 FACILITATOR BROOKMAN: Scott.

3 MR. MURTISHAW: Scott Murtishaw, Lawrence Berkeley Lab. The one-pager paper written on
4 how do you allocate these reductions between end-users and generators of electricity, after about a year of
5 studying this issue pretty intensively, in addition to the report I mentioned earlier we have a paper coming
6 out soon on multi-project baselines, more in the international context.

7 And I've pretty much come to the same conclusions. If you're an end-user and you reduce your
8 electricity use over some baseline, what you think your electricity use would have been, and you can show
9 that you've made investments to do that, you get credits based on your reduction. So you get the credits
10 based on the reduction absolute usage of electricity. Generators get credits based on reductions in intensity.

11 And if you follow that simple accounting procedure, then all of this complicated who paid what, contractual
12 this, contractual that becomes moot.

13 Did the generators who own all of the power plants reduce their intensity and did the end-users
14 reduce their consumption. That's all you need to know. And the method that was described in the paper is a
15 pretty dead-on, easy way of doing that.

16 And then just as a broader issue, I'm sorry if some of this might have been mentioned at the very
17 beginning, I was stuck in terrible traffic coming across the Bay Bridge, but all of this also really depends on
18 what the purposes of the program are. So to just kind of get back to the basics, if there's going to be a
19 demand for these credits I'm assuming that somewhere there has to be a cap-and-trade system. There has to
20 be somebody who absolutely needs these credits.

21 And if you have a cap-and-trade system the easiest way of doing that is to simply allocate sort of
22 the carbon certificates that go along with the fuel consumption at a fairly high point up the supply chain.

23 FACILITATOR BROOKMAN: Yes.

24 MR. MURTISHAW: Then you don't need to deal with, 'What am I doing relative to my
25 hypothetical baseline if I had done this, if I had invested in that; what if the financial markets had done that;
26 what if the economy turns sour.' It doesn't matter. In a cap-and-trade system you either -- you can't buy the
27 fuel unless there are carbon certificates associated with it. And you avoid all of this complicated accounting
28 and baseline --

29 FACILITATOR BROOKMAN: So you're taking it all the way downstream towards cap and
30 trade. I'm not sure we need to go quite that far yet.

31 MR. MURTISHAW: No, I'm just saying --

32 FACILITATOR BROOKMAN: But I follow the logic there.

33 MR. MURTISHAW: Right, I'm just saying so that avoids all of this. This all becomes moot.

34 FACILITATOR BROOKMAN: Okay.

35 MR. MURTISHAW: So at some point the reason that you have this in the international context is
36 because there's a cap-and-trade system among the Kyoto signatories and they need carbon credits from
37 somewhere outside the system. And that's when you need all of these to take into account these sorts of
38 issues.

39 FACILITATOR BROOKMAN: Were you next, Jane?

40 MS. TURNBULL: Yes, I think so.

41 FACILITATOR BROOKMAN: And then I'm going to go to Greg.

42 MS. TURNBULL: Jane Turnbull, Peninsula Energy Partners. I just wanted to note that I was
43 pleased that someone mentioned the renewable power as a corollary, because I think green tags to a large
44 extent have already been through this process. And there is a lot of flexibility that has evolved as
45 renewables have begun to develop the green-tagging process. It's negotiable in terms of how it's allocated,
46 but it is not negotiable in terms of the actual absolute amount. So I think it's very possible to retain
47 flexibility but also put it in a context that is verifiable and tradable.

48 FACILITATOR BROOKMAN: And that's worked in practice in your experience?

49 MS. TURNBULL: Yes.

50 FACILITATOR BROOKMAN: Uh-huh. That kind of negotiated framework with a certain kind

1 of set of parameters that remain there?

2 MS. TURNBULL: Right. But there could be a fair amount of variability.

3 FACILITATOR BROOKMAN: Uh-huh. Okay. Greg San Martin.

4 MR. SAN MARTIN: Greg San Martin. A question and a comment related to the comment we've
5 just heard about generators using intensity as a measuring stick.

6 I'm wondering if that's on the generating side or the delivery side. Generating companies that
7 generate all of their own electricity which they deliver can fairly easily measure pounds per megawatt hour.

8 FACILITATOR BROOKMAN: Intensity, yes.

9 MR. SAN MARTIN: On the generating side. But when it comes to the delivery side, it's identical
10 because they're doing it all. But for companies like mine, which have divested a fair amount of fossil, we
11 are now buying over half of our electrons and generating less than half. Therefore the delivery mix is
12 beginning to make more sense to us as a better way to measure and performance over the long term.

13 So I think we're looking at -- with regard to the comment, I'm not sure how intensity would work
14 unless it could measure both. The registries that are out there look at generating.

15 FACILITATOR BROOKMAN: Let me ask you to hold on the intensity question because we're
16 moving there next and shortly, hopefully in the next 15, 20 minutes, and see if we can deal with that at that
17 point.

18 Additional comments on this last block. What about product manufacturers or end-users? What
19 about that situation where you buy a really super-duper, efficient washing machine and dryer. And should
20 you as the buyer and end-user get any benefit or credits from those reductions or should the product
21 manufacturer? How should that work?

22 MR. BURNETT: Like a clothes-line manufacturer?

23 (Laughter.)

24 FACILITATOR BROOKMAN: I was thinking in this case about an appliance. An appliance
25 manufacturer.

26 MR. [SPEAKER]: Where would you draw that line?

27 FACILITATOR BROOKMAN: He was talking about the clothes line itself.

28 Jane, you want to comment?

29 MS. TURNBULL: I just think that the appliance manufacturer is going to -- if the appliance
30 manufacturer is going to retain the credits, then the appliance manufacturer has picked up an additional
31 value. And to maintain that additional value, the appliance manufacturer is going to have an incentive for
32 the purchaser to purchase. So there will be a rebate kind of system set up so that the purchaser of the system
33 is not likely to get the carbon credit, but is likely to get some kind of financial benefit out of it.

34 FACILITATOR BROOKMAN: Kristin Zimmerman.

35 MS. ZIMMERMAN: Yes. Kristin, GM. It might be that the manufacturer of the Energy Star
36 appliance, or something like that, may want to record the potential emissions that would come from that, the
37 performance rate. Where the user or the consumer would suggest the reduction, you know the savings they
38 no longer are required to purchase --

39 FACILITATOR BROOKMAN: Above the rating? No, you mean --

40 MS. ZIMMERMAN: No. That is associated with that rating.

41 FACILITATOR BROOKMAN: That is associated with that rating.

42 MS. ZIMMERMAN: Um-hum.

43 FACILITATOR BROOKMAN: Of course we're separating this from any emissions associated
44 with the production. We're talking about the life of use here, right.

45 Yes, please, Sue.

46 MS. HALL: This is Sue Hall from the Climate Neutral Network. I think the product supply chain
47 is fascinating because it's -- I mean I know "complex" is one of our favorite words -- but it really is very
48 complex. And for most companies, for many companies the vast majority of the greenhouse gas emissions
49 that their management decisions influence very often lie outside their direct operations, up and down that
50 supply chain.

1 FACILITATOR BROOKMAN: Whether they choose to do an appliance designwise --

2 MS. HALL: Right.

3 FACILITATOR BROOKMAN: -- that's half again as efficient --

4 MS. HALL: Exactly.

5 FACILITATOR BROOKMAN: -- for the lifecycle.

6 MS. HALL: And if you take something as ubiquitous as our cars and you look at the number of
7 entities involved in that chain there's a whole series of interdependent decisions that are made all the way
8 through. So it's not like you're saying a product manufacturer and it's end-user. It's not like it's simply
9 binary. There's a whole series of concatenated decisions that go all the way through a supply chain.

10 FACILITATOR BROOKMAN: Um-hum.

11 MS. HALL: And what's fascinating I think is that your overall profile of greenhouse gas
12 emissions result from a series of interdependent decisions that are made right away through that supply
13 chain.

14 So whatever system 1605(b) comes up with, to my mind it has to provide a degree of transparency
15 that creates incentives for all of those entities in that supply chain to collaborate and to together drive the
16 emissions profile down.

17 So you're going to need systems which at a minimum, as you were mentioning before, have an
18 ability to put those contracts in place. But remember that you've got a whole series of complex supply
19 chains with many different entities collaborating there.

20 This goes back to the question of how you register indirects and which indirects count. Now if
21 you've only got in your entity-wide reporting or in your reporting system an ability to enter electricity and
22 maybe the fuel that's used for your corporate fleets, you've just shut out a vast, I mean a whole series of
23 other indirect emissions that take place in your suppliers', in your customers' operations that your
24 management decisions significantly influence.

25 So how you work with the scope of indirects that you include, given the profile of the greenhouse
26 gas emissions in most supply chains, is actually really very, very important in this particular line item.

27 FACILITATOR BROOKMAN: I'm wondering if there's a model or another example of how this
28 is being done elsewhere. I did a lot of studying before I came here, but I didn't know the answer to that
29 question.

30 Yes, Robert Prolman.

31 MR. PROLMAN: I don't know that I've got a model, but something occurs to me. This perhaps is
32 one of those issues that we try to design a registry or a trading program to capture all this stuff, especially
33 since much of it's indirect, is the kind of thing that will kill the whole thing because it gets complex. But
34 that's not to say that it can't be managed.

35 FACILITATOR BROOKMAN: Sue's counterpoint, I believe, would be but there's a lot of
36 opportunity there.

37 MR. PROLMAN: Well, and that's the point I want to bring up, --

38 FACILITATOR BROOKMAN: Right?

39 MR. PROLMAN: -- which is that there's tremendous opportunity there. And the concern I have
40 is when we try to go through regulation to utilize the incentives of a marketplace, to bring about results, we
41 destroy the ability of the marketplace to function. The transaction costs and frictions are too high.

42 FACILITATOR BROOKMAN: Yes.

43 MR. PROLMAN: If we allow the model as was mentioned earlier by Sue or others where, and
44 someone else mentioned earlier, the emitter, the owner of the asset if you will is liable for that emission.

45 Now if GM wants to make a car that's more fuel efficient and deliver that to the marketplace at a
46 premium so they'll sell more, a smaller premium perhaps but still get compensated, let them work that out
47 with the fuel suppliers. And that's not necessarily what I'm advocating.

48 But as a simple model to express the point, I would argue not to try and make the Registry or the
49 government regulations the place where you design the marketplace models to let all these synergies and
50 interactions and opportunities to influence the supply chain and all those things happen, because they won't

1 happen if you try to regulate it.

2 FACILITATOR BROOKMAN: Sue, a follow-on briefly, and then to Scott briefly.

3 MS. HALL: Sue. Briefly. I think it actually ends up being quite simple. I think all you would
4 need in a registry system is an ability, provided there was appropriate verification and contracts in place, to
5 enable a supply chain and the entities within it to register exchanges of carbon value between them as
6 delineated in those contracts. And it ends up I think really being as simple as that.

7 And provide the Registry has that level in it then you can -- you've got those incentives. You have
8 the incentives in the Registry that are in place to be able to drive towards those systems efficiencies.

9 FACILITATOR BROOKMAN: Scott.

10 MR. MURTISHAW: Scott Murtishaw, Lawrence Berkeley Lab. This is getting back again to a
11 lot of the issues that we have run into doing studies for the EPA and for the Department of Energy at
12 Berkeley Lab about estimating baselines and trying to decide, well, what would have happened in the
13 hypothetical case in this counter-factual world that we never get to see.

14 And I would say --

15 FACILITATOR BROOKMAN: Let me know. We're going there shortly.

16 (Laughter.)

17 MR. MURTISHAW: Okay. This is a good argument why I think -- again, it comes down to the
18 partners. If it's a voluntary registry, let people claim whatever they want with as little or as much rigor as
19 they want. But when you start wanting to actually develop a system that can be used for giving credits, that
20 actually have some value, then you need more rigor.

21 In this particular case you get into these very complicated issues. And someone says, 'Well, we
22 manufactured this dryer that's more efficient than these other dryers,' but how much did they get used? Like
23 did some of them get sold to apartment buildings where they get used a lot or some of them sold to small
24 families where they don't get used very much.

25 FACILITATOR BROOKMAN: Yes.

26 MR. MURTISHAW: And so then it depends upon how much all of these different end-users are
27 using the product. I think that's just counter productive. There are better policy solutions to try to achieve
28 efficiencies from these smaller end-users. So you want to target this program towards the actors where it
29 can function relatively easily in a market where these savings are verifiable. That's my main point.

30 FACILITATOR BROOKMAN: Several people wish to comment. I saw Dana, Susann, and also
31 -- what?

32 MR. BELL: Ryan.

33 FACILITATOR BROOKMAN: Thank you. Ryan.

34 Dana, you wish to go first?

35 MS. BOLLES: I didn't have a comment.

36 FACILITATOR BROOKMAN: Oh, okay. Thank you. Your flag was up. Yes, Margot. Margot
37 Anderson.

38 MS. ANDERSON: To reiterate the purpose, because maybe you came in late, about the purpose.

39 FACILITATOR BROOKMAN: Is that on?

40 Okay. Say it. Reiterate about --

41 MS. ANDERSON: Reiterate the purpose of why we're all in this room together, and it came out
42 of the President's Directives, to revise 1605(b), to enhance reliability, accuracy, and verifiability; and to
43 provide the President with recommendations on giving transferable credits and protection against future
44 climate policy to those that register real reductions.

45 The President is not talking about a cap and trade. He's not talking about regulating carbon. He's
46 talking about a voluntary program that encourages action to be taken and assigning some kind of a value,
47 either through protecting against future climate policy or through transferable credits.

48 We don't know what's going to happen in the next Congress. There is certainly a bill that's put
49 forward on capping carbon. We don't know where any of this is going to go, but this president is not
50 supporting that. So we can talk about cap and trade theoretically, but that's not where this administration is

1 moving. And so I think it's important to keep in mind what we need to do that is consistent with what the
2 Directives are that we were given in order to change 1605(b).

3 And they may not conform with your ideal way of how this should work, but if we could work
4 within that system I think that helps us tremendously in figuring out what the next generation of 1605(b) is
5 going to be. As we wait for future climate policy to evolve, what can we do now that could be consistent
6 with whatever future Congress or whatever a future president is going to implement.

7 FACILITATOR BROOKMAN: Um-hum. Thank you.

8 Susann.

9 MS. NORDRUM: Susann Nordrum, Chevron Texaco. I just wanted to reiterate that I strongly
10 agree that it would be nearly impossible to write regulations to specify what a free market could do. And
11 you certainly don't want to make it more complicated than you need to.

12 I felt a lot more confident about it before Scott started talking about margins and rises, because it
13 seems to me that if GM wanted to develop a car and they wanted a fuel, you know we would have incentive
14 because we want to sell fuel. And even if it's not fossil based we're going to work on it and try to stay in the
15 market. So there's drivers at a lot of different levels.

16 FACILITATOR BROOKMAN: Ryan. Then Arthur Rypinski.

17 MR. BELL: Ryan Bell with the Cities for Climate Protection. I work primarily with the end-
18 users. And one thing that comes to my mind if we're talking about giving the manufacturer, the end-user the
19 credit is if we're talking about an inventory system where we're penalizing the end-user for the emissions
20 from the automobiles they buy and then we're talking about a reduction system that gives the manufacturer
21 the credit, we're going to more fuel-efficient automobiles, that removes a huge incentive from the end-user
22 to get involved in the system.

23 I think that it needs to be, as we said before, you know who finally makes the end decision, who's
24 purchasing the fuel, and sort of keep a parallel structure about who we're crediting for the emissions and
25 who we're crediting for the emissions reductions. If one of the auto manufacturers is going to get credit for
26 increasing the fuel efficiency of their automobiles, it seems to me they should also get penalized for all the
27 auto emissions in the nation as well, and that would be unworkable.

28 FACILITATOR BROOKMAN: Okay. Arthur Rypinski -- I'm about to ready to move to the next
29 slide, I believe. We've talked somewhat about project owners and investors.

30 Arthur, you want to...

31 MR. RYPINSKI: I have been listening diligently and I've heard the suggestion that different --
32 that parties with claims on particular reductions could transfer those claims contractually. I've heard that
33 they could be done by negotiation. I've heard that parties on one end of the supply chain can provide
34 incentives to parties in other places in the supply chain, either up or down.

35 And I'm wondering what you could do -- how those negotiations or contracting would work and
36 how those incentives would work in situations where none of the parties are actually sure they own the
37 reductions.

38 FACILITATOR BROOKMAN: So that, for example, if I went out and bought a super energy-
39 efficient washer and dryer, on my warranty statement or owner's manual it says, 'Oh, by the way, you can't
40 get any credit for the reductions in emissions through your use of this product.' I mean I as the
41 manufacturer, we as manufacturers we're claiming that.

42 MR. RYPINSKI: That would be in effect a contract tied to the purchase.

43 FACILITATOR BROOKMAN: Yes. So I'm just giving an example of the question you posed.
44 So let's hear other things as quickly as possible.

45 Robin.

46 MS. BENNETT: Robin Bennett from Boeing. We're talking a lot about the end-users as
47 consumers, but a lot of build products that go to other businesses that have their own obligations to fulfill
48 emissions reductions, or whatever.

49 FACILITATOR BROOKMAN: Right.

50 MS. BENNETT: And so they do have commitments they have to make. So I think you're adding

1 more complexity, too.

2 And going back to the supply chain, when you have thousands and thousands of suppliers how do
3 you manage reductions from those supply chains and yet be able to fulfill your own reporting requirements.

4 FACILITATOR BROOKMAN: Mark Friedrichs and then I'll return to Mike.

5 MR. FRIEDRICHS: Mark Friedrichs. A lot of the discussion I think has focused, at least
6 recently, on how to affect emissions by these small distributed sources, individual consumers, owners of
7 automobiles, owners of appliances, owners of buildings. And it's obviously a difficult issue.

8 I'll be facilitating the session later in the day for those who want to talk about this particular set of
9 issues in more detail.

10 FACILITATOR BROOKMAN: This is the second advertisement of this day.

11 Okay. Yes. Mike Burnett. We'll have four separate breakout sessions in about less than an hour
12 to go into these in more detail. Mike Burnett.

13 MR. BURNETT: This is Mike Burnett from the Climate Trust. I guess the separate issue is the
14 whole supply team versus the manufacturers of energy-conversion devices, like appliance manufacturers,
15 automobile manufacturers. And you can set up a system whereby the manufacturer gets credit for
16 increasing their fleet average efficiency and the end-user gets credit for kind of reduced usage, less vehicle
17 miles traveled.

18 Very similar and analogous to the double-counting paper that I distributed earlier. You know a
19 system could be set up like that, that would have integrity and be simple.

20 FACILITATOR BROOKMAN: Let's go to the next slide. You're there. I'm sorry. You did it
21 already.

22 Who wants to queue this up? Arthur, is it your -- Arthur's charge.

23 MR. RYPINSKI: Okay. If you'll recall, when we --

24 FACILITATOR BROOKMAN: We've touched on some of this, I would note. Yes.

25 MR. RYPINSKI: Yes. And we were talking earlier about kinds of reductions. And we suggested
26 that there are absolute reductions and there are modified reference case reductions based on causation. And
27 then we talked about intensity reductions as being a particular instance of incorporating a particular form of
28 causing, in this case output into an absolute reduction.

29 So we're interested in whether the reductions that we are dealing in ought to be absolute
30 reductions or should they be changed for output. And might it be desirable to make other kinds of
31 adjustments beyond adjustments for output, for example, or other causes of reduction, such as fluctuations
32 in weather, technology, participation in voluntary programs, or reductions caused by adherence to regulatory
33 mandates, or new investment, improve management.

34 One can sort of march down this chain of causation further and further. And one of the questions
35 is how far should we march. And should we recognize only reductions from entities or subentities or should
36 we also recognize project-specific reductions. And should we recognize actions that displace or avoid
37 emissions.

38 FACILITATOR BROOKMAN: Let's start with the first bullet. Should reductions be absolute.
39 changes in -- about the intensity question. We have heard in the two preceding workshops people saying
40 where it's possible to measure intensity, that sounds great. There may be places where it's going to be very
41 hard to measure intensity. And so I'm wondering if there is some simple guidance with respect to intensity
42 that people would offer? Or even complicated guidance, for that matter.

43 Yes, Mike Burnett.

44 MR. BURNETT: I guess in order to measure intensity you have to measure absolute changes.
45 Because intensity, you're adding to your emissions a denominator, which is widgets or dollars, or something.

46 FACILITATOR BROOKMAN: Um-hum. Scott.

47 MR. MURTISHAW: Scott Murtishaw, Lawrence Berkeley Lab. Well, I actually wrote a paper
48 for Energy Policy last year all about the energy intensity of the U.S. economy, so I refer people to that if
49 they would like to see a good overview of how we measure intensity in disaggregated ways and then
50 aggregate back up.

1 FACILITATOR BROOKMAN: Were you able to capture an intensity measure for most or, for
2 example, the industrial sectors?

3 MR. MURTISHAW: We measured intensity at 30 end-uses for the U.S. economy. So for six
4 heavy industries, for light industries as an aggregated group, for travel, for freight transportation separated
5 from travel, for residential buildings, and for commercial buildings.

6 FACILITATOR BROOKMAN: Okay.

7 MR. MURTISHAW: And for each of those we have different intensity indicators.

8 The Lawrence Berkeley Lab has also done a lot of work in our group specifically on industry
9 indicators of intensity, some of those going to very detailed disaggregated levels of measurement. So I
10 would recommend people refer to that and some of the papers on our website at edtd.lbl.gov.

11 FACILITATOR BROOKMAN: Maybe we can list that in the participant list at the end of the
12 day. Write it down on a piece of paper, will you?

13 MR. MURTISHAW: Sure.

14 FACILITATOR BROOKMAN: Okay.

15 MR. MURTISHAW: So as a general principle what we found is while in some of our papers we
16 actually used economic measures of intensity for manufacturing, meaning over value added. But in
17 principle it's actually much better to try to come up with physical indicators of output so that you want to
18 have your intensity indexes as energy use or carbon emissions over some level of physical output so that it's
19 more constant over time, because fluctuations in the values of products over time in real terms can skew
20 your results.

21 And there are ways of measuring intensities for commercial buildings, such as total electricity
22 and/or natural gas use per square meter or per degree day or per employee or per unit of output. There's
23 several different possibilities that can be explored. And I think that at least for the major end-uses, this can
24 be done reasonably accurately.

25 FACILITATOR BROOKMAN: So what about the rest of you, absolute changes or adjusted for
26 changes in output, i.e. intensity? Jane Turnbull.

27 MS. TURNBULL: My first reaction to this is I thought immediately of what's happened in
28 Eastern Europe and Russia during the economic downturn over the last decade --

29 FACILITATOR BROOKMAN: As their economies imploded, yes.

30 MS. TURNBULL: Right. And so now I'm wondering if we should be thinking in terms of project
31 specific or entity specific, because the same thing could happen within our country.

32 So I don't have an answer, but I think there's a corollary there that adds to the complexity of the
33 question.

34 FACILITATOR BROOKMAN: Okay. Thank you.

35 Additional comments on the question of absolute versus intensity-based measures?

36 And going from there to subentity, entity-wide, and project-specific reductions.

37 MR. BEEBE: Doug?

38 FACILITATOR BROOKMAN: I'm sorry. Yes, Bud.

39 MR. BEEBE: That's okay. This goes back to the question of intensity or output-based stuff.
40 Electricity, I think people understand that's a little bit different than some of these other commodities that
41 we've been talking about, and that's important. And I would --

42 FACILITATOR BROOKMAN: In what respect different? Easier measures.

43 MR. BEEBE: Other people rely upon these things as ways of measuring their own effect on
44 greenhouse gases. And maybe what we could do is we could begin to talk about those lines of commodities
45 that are energy carriers, and treat energy carriers perhaps separately from consumer products or some other
46 things that we, in our collective wisdom, decide we can begin to segment. But specifically electricity, we all
47 recognize as one of those energy-carrier items. Hydrogen is going to be one of those things. And there may
48 be other energy carriers.

49 How we treat natural gas I think is -- it's too late to decide whether that's an energy career or not,
50 but it potentially could be treated as that.

1 FACILITATOR BROOKMAN: Okay.

2 MR. BEEBE: Then let me say that the real value to having a relative change, a change relative to
3 some other parameter, is that people in institutions can begin to understand their own effectivity relative to
4 something else. Whereas in absolute terms it's very difficult, for instance. It's just a matter of how big I am
5 as a corporation or something.

6 FACILITATOR BROOKMAN: Yes. And of course intensity does protect you against the upside
7 of economic growth, that sort of thing.

8 Mike Burnett.

9 MR. BURNETT: Yes. One of the real interesting things about this is kind of hot air and growth.
10 And especially since it's a voluntary program, if you're in a growing industry and you say the only way you
11 can credit or get a transferable credit is for an absolute reduction, you kind of look at Acme widget as
12 growing up there and it's going to be very hard to make this attractive for participation by growing
13 companies. And of course they're the ones who are expanding, you know building new facilities and really
14 probably want to participate.

15 FACILITATOR BROOKMAN: Growing the economy.

16 MR. BURNETT: Yes. Then on the flipside you've got kind of the dying part of the industry is
17 the one who could easily book a bunch of credits and then maybe get a bunch of money for it. And then you
18 kind of go five or ten years out, who do you want to have politically on your side if you're trying to put in
19 place a cap-and-trade system, you want to have kind of like the -- you know, engender the participation of
20 the growing dynamic part of the economy or do you want to have kind of subsidized the old and dying part
21 of the economy and then have those be the guys who stand up in front of Congress and say, 'Well, this
22 climate-change mitigation stuff is just great.' That's kind of a funny political viewpoint on it, I guess.

23 FACILITATOR BROOKMAN: Thanks for that.

24 Other comments. What about the causes of the reductions being considered? That is,
25 characteristics of credible reductions is what we're referring to, other causes such as weather, technology,
26 voluntary programs, regulations, new investment, improved management. Should they be taken into effect?

27 One might consider some of them at least as adjuncts to a larger intensity measure or aspects of it.
28 Susann.

29 MS. NORDRUM: Thank you. Susann Nordrum, Chevron Texaco with the petroleum-industry
30 perspective. I guess going all the way back to the intensity side, when you think about gasoline, if you're
31 trying to make gasoline with lower sulfur, and especially diesel, the low-sulfur diesel is actually more
32 energy intensive to make it.

33 FACILITATOR BROOKMAN: Um-hum.

34 MS. NORDRUM: So to some extent you're saying we're trying to reduce our emissions and make
35 more product and have more energy to make it. At some point you can't do everything.

36 FACILITATOR BROOKMAN: Yes.

37 MS. NORDRUM: And then similarly in the upstream side you have an existing oil field. The
38 older it gets the harder it is to get the oil out of it. So, again, it's not something you just abandon, you know
39 for strategic reasons and you already know where the oil is. You might as well get it out.

40 FACILITATOR BROOKMAN: Yes. The good news is a sequestration opportunity, right?

41 MS. NORDRUM: There you go. We'll put the CO₂ in and enhance our recovery.

42 And then thirdly I just wanted to comment on the point about hydrogen being an energy carrier,
43 because we manufacture hydrogen in order to hydroprocess stocks that become lube oils. So we're really
44 using it as a raw material, I guess, more than an energy carrier. And understand it's --

45 MR. BEEBE: That's coproduction actually. We call cogeneration when it's electricity, but it's
46 coproduction.

47 FACILITATOR BROOKMAN: That's Bud.

48 Bud, let's let her finish.

49 MS. NORDRUM: Yes, that's a long point. So I think that's it for now. The rest of it I think is
50 less --

1 FACILITATOR BROOKMAN: Should reductions be considered based on -- let's talk about the
2 industry side. Based on technology, new investment, improved management.

3 MS. NORDRUM: I don't want to comment on that right now.

4 FACILITATOR BROOKMAN: Okay. I saw Bill Hohenstein and I'll reform the queue.

5 MR. HOHENSTEIN: Yes. Bill Hohenstein with the USDA. Just a small technical point on the
6 weather question. That not only affect is the reductions it also affects the baseline. So when you're looking
7 at things like weather it's not just --

8 FACILITATOR BROOKMAN: Right.

9 MR. HOHENSTEIN: It gets back to Art's point about what you're measuring it from.

10 FACILITATOR BROOKMAN: Okay. Thank you.

11 I saw somebody -- I saw Scott and then back to Mike. Go ahead.

12 MR. MURTISHAW: Scott Murtishaw, Lawrence Berkeley Lab. To get back to this issue of -- it
13 ties into intensities really. And energy efficiency in the sense of decreasing intensities for specific end-uses
14 and specific production processes happens autonomously. It happens as a part of technology improvement
15 and of capital turnover.

16 So there's always some improvement generally over time. So for each industry what we've -- the
17 approach that we've taken is to try to calculate these autonomous rates of energy-efficiency improvement.
18 And then you can look to industries that do better than that, companies that have increases even
19 substantially below what would be expected in the baseline case. So that would be one way of controlling
20 for those autonomous changes.

21 And, like I was saying for the residential and commercial building sectors, we measured the
22 energy use for space heating and cooling as a function of per square meter per degree day. So you control
23 for heating and cooling degree days and see what the real intensity to provide a certain level of comfort in
24 the building is.

25 FACILITATOR BROOKMAN: So going back to the baseline for some industry, you would
26 suggest that some industry average be in place and that the expectation be the industry would continue to be
27 on some kind of efficiency gain over time.

28 In order to claim credit, you as your individual company would have to do better than that
29 baseline?

30 MR. MURTISHAW: Sure.

31 FACILITATOR BROOKMAN: Yes, that's what you're suggesting.

32 Mark Friedrichs.

33 MR. FRIEDRICHS: Yes, just a follow-up question. Is that baseline just an extension of prior-
34 year efficiency declines, the trend in efficiency or increases, or intensity declines over time? Is that how
35 you develop those autonomous --

36 MR. MURTISHAW: There's a colleague of mine at the lab named Ernst Worrel. He's actually
37 Dutch. And a lot of his colleagues in Dutch universities and the Dutch government have studied this issue
38 pretty intensively. And they've developed a number of statistical methods for calculating these autonomous
39 rates of improvement over time looking at long-term trends and so on.

40 FACILITATOR BROOKMAN: And so Dudley widget would really be in deep do-do, to choose
41 *d* words, in that context because not only the production is declining and emissions are going up, there's no
42 way that Dudley would ever achieve any kind of reduction opportunity there.

43 Mike Burnett.

44 MR. BURNETT: This second bullet, I think the answer to this question depends on whether
45 you're looking at entity-wide emissions or project-based emissions. And especially as it regards regulations,
46 so in other words if a corporation is subject to regulations and they're doing their whole corporate bubble, I
47 mean their emissions went down. That's just a fact. That's what you're reporting. But if kind of regulations
48 change and you're doing project-based accounting the way it's done now, then all of a sudden it's not
49 additional because the regulation requires it.

50 FACILITATOR BROOKMAN: Yes, I was wondering about that. I wanted to ask specifically,

1 and I hope I'm not interrupting you. What if there is a regulation in place and the whole industry or a whole
2 series of industry now needs to adhere to a new standard, a new efficiency standard, a new whatever. And
3 the same burden is imposed on everybody and it's not voluntary anymore. So that be?

4 Sue, go ahead.

5 MS. HALL: Yes. I think both potential for entity, but certainly for project-based emissions. If
6 people offset projects to the Network and ask that they be certified, and essentially those reductions have
7 been required by regulations, they don't count because they're not additionally.

8 So I mean in that list that you --

9 FACILITATOR BROOKMAN: But what about if they're Energy Star, if they're a voluntary
10 program?

11 MS. HALL: Well, you're right. You've got quite different kind of causes there, categories of
12 causes in that list.

13 FACILITATOR BROOKMAN: Right.

14 MS. HALL: Something like --

15 FACILITATOR BROOKMAN: Purposefully.

16 MS. HALL: Purposefully. Something like weather is essentially outside of the control. That's in
17 God's, you know, lap. Right. Okay, so that's outside of the control of management.

18 FACILITATOR BROOKMAN: Yes.

19 MS. HALL: So baselines are adjusted in order to reflect kind of exogenous variables.

20 When you've got something like technology voluntary programs, new investment or improved
21 management, those are all management decisions. And therefore those all kind of would fall in my basket
22 of those decisions where projects can potentially be additionally, depending. And I'd like to come back to
23 your comment there about the discount rates, Scott's point.

24 Regulation is yet another essentially cause and one that I think is distinct and separate. If
25 something is required by law, then it shouldn't contribute to what's gone above and beyond your business as
26 usual.

27 So you've got one set of variables which you're adjusting a baseline for because your baseline got
28 adjusted by an external factor outside of your control.

29 FACILITATOR BROOKMAN: Right.

30 MS. HALL: Regulation in a sense is like that, but -- and therefore, again, you don't get credit for
31 it. The question is how you account for all those middle parameters.

32 FACILITATOR BROOKMAN: Right. And you raised the issue of additionality.

33 MS. HALL: Right.

34 FACILITATOR BROOKMAN: That is business-as-usual kind of case.

35 MS. HALL: Right.

36 FACILITATOR BROOKMAN: And if you adhere to that business-as-usual case, even if
37 business-as-usual in the aggregate is causing a reduction, then your viewpoint is: No additional pain, no
38 additional gain.

39 MS. HALL: No additional pain, no additional gain. And therefore you have to look very
40 carefully at ideally at industry-specific discount rates to those baselines, so that you are actually looking at
41 what is a prevailing practice and what is an industry's prevailing best practice so that you can make the
42 distinctions between those.

43 That's the whole point in some sense. What you're trying to ideally credit if you're looking for
44 credible carbon is the carbon that's gone on kind of -- certainly for projects -- is the carbon that has gone
45 above and beyond that business as usual.

46 FACILITATOR BROOKMAN: I would also offer as just a thought, perhaps a counter point, that
47 I think the Department also wishes to find a way to incentivize, you know, good action on the part of people
48 and create an opportunity for those as well.

49 I'm going to let Mark follow on and then I'm coming to you, Bob.

50 MR. FRIEDRICHS: Just a follow-on question there. Imagine a different kind of project. This is

1 a renewable-energy project, a windfarm. Electricity being generated by wind is increasing significantly
2 every year.

3 Should someone who builds a windfarm and starts generating electricity have that discounted or
4 because the wind industry in general is increasing over time, or is that not applicable?

5 MS. HALL: This is Sue again. We just went through a rather complex series of debates on this
6 when we were looking at Native Energies certification for renewable wind power.

7 I think what you're looking at there fundamentally is the difference between -- and this was a
8 project, this was an offset project -- you're looking at the difference between what that renewable power --
9 the difference between the CO₂ emissions for that renewable power versus what it displaces in the grid
10 overall. And needing to make adjustments through time for how the grid's emissions are likely to fluctuate.

11 In other words, as you start getting into -- I mean there are some very complex through-time
12 accounting questions that come up in this, which are pretty nontrivial. And that goes back really to the
13 question you had in your previous slide, you know where the series of discount rates that you apply for
14 through-time effects, for quality effects, and for additionality are all incredibly important when you're
15 defining how your baseline gets adjusted, and that's how credible your ultimate program will be.

16 FACILITATOR BROOKMAN: Bob Prolman.

17 MR. PROLMAN: Just a couple of observations I will throw into the puddle here to muddle the
18 waters.

19 If business as usual says that, 'If I increase my emissions I'm liable,' why shouldn't business as
20 usual that's doing the right thing be creditable, and acknowledge that?

21 FACILITATOR BROOKMAN: Well, one could imagine how an industry would, say the pulp-
22 and-paper industry, 'We're going to as an industry take on efficiency improvements and it's going to be one
23 of our banners. And we're going to take the whole industry down at a rate that surpasses everybody's
24 expectations and perhaps most of our other sister industries.' And that then becomes business as usual,
25 right? I mean it's conceivable, right?

26 And so then should that good effort not be rewarded under this scheme?

27 MR. PROLMAN: I'll take it a step further, but thank you. Because that's -- I mean who's to
28 decide whose business strategy is business as usual if a company is faced with a marginal investment --

29 FACILITATOR BROOKMAN: Right.

30 MR. PROLMAN: -- and it's part of their typical business as usual. And this is a very real day-to-
31 day kind of experience over 30 years in this country now, if there is a punishment, if you will, of the lack of
32 the upside here for certain things that will encourage doing nothing or holding off or waiting. So I guess I
33 would raise that to some extent if the framework is such that even -- well, by the way, on regulations, there
34 are environmental regulations, as some people know, in not just our industry that require the imposition of
35 emissions technologies that are huge additions, too. So should -- so you know here we have --

36 FACILITATOR BROOKMAN: That's the counter point use of additionality.

37 MR. PROLMAN: Exactly. So what I'm advocating is not that we should have one for the other,
38 but again whether it's project based or total emissions or even efficiency, again the tighter -- or the narrower
39 you make you this the more permutations you try to set up, design, include, and exclude, the more degrees
40 of freedom of choice you take away from the investor, the entity. And for a voluntary program I think that's
41 the last thing you want to do.

42 FACILITATOR BROOKMAN: Scott. A very brief follow-on from Scott, then I'm going to Bud.
43 Brief.

44 MR. MURTISHAW: Well, this actually gets back to the heart of the distinction. As long as we're
45 just talking about voluntary reporting, sure, then there's no reason to be that strict about it. But at some
46 point you have to propose an additionality criteria. You have to say that this happened where in the normal-
47 business-practice world it would not have happened, and so you need strict and narrow definitions of what
48 is --

49 FACILITATOR BROOKMAN: Why do you need that? It's still not clear to me why you need
50 that.

1 MR. MURTISHAW: For trading. If you want credits that are worth something, --

2 FACILITATOR BROOKMAN: Okay. You've followed the full stream out, okay.

3 MR. MURTISHAW: Yes.

4 FACILITATOR BROOKMAN: Bud, your next.

5 And then to Anne and then here, to Howard.

6 MR. BEEBE: Yes. I really like the comments that the woman next to Scott's physical left --

7 FACILITATOR BROOKMAN: Sue.

8 MR. BEEBE: Sue had said. And I thought she was pretty clear on that. It's the additionality
9 thing that I think gets carried into a broader context without people really having thought through all the
10 difficulties of it, where we often get into trouble.

11 But I am a proponent of -- it doesn't make any difference to me if it's business as usual, as long as
12 it's part of a roll-up into the direct emissions account.

13 FACILITATOR BROOKMAN: And --

14 MR. BEEBE: It's when you're selling credits where additionality becomes a factor in the
15 fungibility.

16 FACILITATOR BROOKMAN: And it's absolute, right? that is it's an absolute, part of an
17 absolute reduction.

18 MR. BEEBE: Yes. Right. And the other part is -- I had the senior moment. Damn.

19 FACILITATOR BROOKMAN: I'll come back to you.

20 (Laughter.)

21 FACILITATOR BROOKMAN: Anne Boucher. I'll return. Then Mike.

22 MS. BOUCHER: Anne Boucher, Baseline Protection Initiative. Under the Baseline Protection
23 Initiative what we recognize, it's --

24 FACILITATOR BROOKMAN: Anne?

25 MS. BOUCHER: Yes.

26 FACILITATOR BROOKMAN: Speak slowly, please.

27 MS. BOUCHER: Oh, sorry. What we recognize under the Baseline Protection Initiative is
28 reduction in emission intensity. And it should be also a reduction in direct emission only. That said, that
29 reduction should be net of emission increase.

30 The regulation, we have discussed about that. With industry we had a lot of discussion and at the
31 end we decided to highlight reduction that come from regulation. The reason is because there is some
32 regulation at our provincial level or it's at national level. And we decided that, well, it may be
33 discriminating for some organization if we start to make a distinction between those different regulations.
34 So we decided to make it legible.

35 On the credibility and the additionality criteria. Well, the additionality criteria, to some extent, is
36 an important criteria but very difficult to make it workable. And there is a way to make a reduction that is
37 really creditable. Make sure it's not a reduction that is due to something that the participant did nothing for.

38 For example, if you have a reduction in your output because of that, for example, make sure this
39 doesn't generate the credits. So there is a way to define what is a reduction to avoid some of the complexity.
40 That said, what Scott is proposing and the Lawrence Berkeley National Laboratory is proposing is to have
41 some kind of look at what the industry is doing is certainly good for new sources because new sources are
42 also doing a reduction.

43 A company can say, 'Oh, I have built a new facility and that facility is much more energy efficient
44 than what I would have built.' And how to demonstrate that there is a reduction there, this is a way to do
45 that for new source.

46 FACILITATOR BROOKMAN: Oh, so we further differentiate old sources and new sources
47 potentially --

48 MS. BOUCHER: Yes.

49 FACILITATOR BROOKMAN: -- in a growing economy.

50 MS. BOUCHER: Just one more comment.

1 FACILITATOR BROOKMAN: Yes. Then you're next.

2 MS. BOUCHER: This reduction in emission intensity, I think it's true that we have to recognize
3 that the electricity sector is particular. Because they have in their mandate they look at managing their
4 demand. It's probably the only sector that look at managing the demand. So for them they are investing
5 money to reduce their output.

6 So for that sector, well, you have to think about what to do. And under the BPI, for example, the
7 DSM reduction, kind of reduction, we are still unclear what we are going to do with that.

8 FACILITATOR BROOKMAN: Right.

9 MS. BOUCHER: We recognize that, yes, a utility can do reduction through a DSM program in
10 reducing their production, but how to make sure that that reduction in the output is not a result of as user but
11 is really a result of a utility investment in a DSM program.

12 FACILITATOR BROOKMAN: Let me let Mark Friedrichs follow on briefly, and then I'm going
13 to Mike. And then I'll return to Bud if he's remembered his point.

14 MR. FRIEDRICHS: Yes. With respect to the calculating emission reductions that are additional,
15 one of the criticisms that we have had under the existing 1605(b) Program is that we permit each of the
16 reporters to establish their own modified baseline from which a reduction is calculated. People other than
17 the reporter often questioned the motivations of the reporter in setting that baseline. Then the question
18 becomes: Well, if not the reporter then who should set that baseline and how do those baselines get set.
19 And if people could address that question. We see that as one of the most difficult ones.

20 FACILITATOR BROOKMAN: Yes, Mike Burnett.

21 MR. BURNETT: So if you fast forward to a cap-and-trade system, which potentially we might
22 have, --

23 FACILITATOR BROOKMAN: Let's not go there too fast.

24 MR. BURNETT: -- there are two kinds. There is one based upon corporate emissions bubbles.
25 And if you drive your bubble down, you get something to sell. If your bubble's getting bigger, you've got
26 something to buy. And you don't care about additionality in those instances. So additionality I think only
27 really applies in the world of projects and, you know, is this project something that would have happened
28 anyways. But if you're kind of doing a corporate bubble emissions trading, which can be done, then you
29 don't really care. You don't care if it's regulatory. It's just like how many tons are going out.

30 FACILITATOR BROOKMAN: I left Pierre out of the queue so I'm going to go back to Pierre. I
31 hope I haven't --

32 MR. duVAIR: No.

33 FACILITATOR BROOKMAN: Okay.

34 MR. duVAIR: Pierre duVair with the Energy Commission. I guess a lot of the discussion so far
35 has focused on what reduction should get credit, and a little bit different from which reductions are credible.

36 FACILITATOR BROOKMAN: Yes.

37 MR. duVAIR: And I guess in that regard some of the obvious things that we've heard about is the
38 transparency and the level of documentation.

39 FACILITATOR BROOKMAN: Yes.

40 MR. duVAIR: And the ability to independently verify. I think those are what are pretty critical
41 when it comes to reductions because we can't predict what's going to get credit or what somebody might
42 want to buy in terms of the attributes. But to the extent that any reduction is sufficiently documented, and
43 that's where cost comes in and monitoring and things like that for sequestration projects. Those are the
44 things that are going to bring credibility.

45 FACILITATOR BROOKMAN: Thanks for taking us back to that word "credible."
46 Howard Gollay.

47 MR. GOLLAY: There's so many comments and so I'm losing sight of what's been said.

48 FACILITATOR BROOKMAN: We're trying to go fast here.

49 MR. GOLLAY: First of all, the cap-and-trade stuff, I think we should assume we're not going to
50 have cap and trade. And the concept here is to do things on a voluntary basis so that we don't need to go to

1 a cap-and-trade method or any of the sort. So that's one point.

2 The second point is I think we're asking pretty much the wrong question. I think the concept
3 should be how to increase credible reductions. I like what you said about the market, letting the market
4 work at it in keeping the flexibility and keeping this simple.

5 And specifically on a second bullet that you have, --

6 FACILITATOR BROOKMAN: Let me differentiate here. Pardon me for interrupting.

7 MR. GOLLAY: Yes.

8 FACILITATOR BROOKMAN: The difference between credible and creditable, right, --

9 MR. GOLLAY: Right.

10 FACILITATOR BROOKMAN: -- is to say how to create and enhance credible reductions.

11 MR. GOLLAY: Right.

12 FACILITATOR BROOKMAN: That is, for real reductions.

13 MR. GOLLAY: That's what's most important.

14 FACILITATOR BROOKMAN: Okay.

15 MR. GOLLAY: Doug, you used the keyword about 20 minutes ago. You used the word
16 "incentive."

17 FACILITATOR BROOKMAN: Oh, my God.

18 MR. GOLLAY: You said "incentives." You earned your pay. And the concept is that the
19 incentives in technology, the incentives in participating in voluntary programs, the incentives in regulatory
20 incentives, the incentives in other new investment, that will help reduce -- will increase -- I'm sorry --
21 increase the credibility of emission reductions. And that's what we should be focusing on.

22 FACILITATOR BROOKMAN: Okay.

23 MR. GOLLAY: Then you could report it. And companies that take advantage of incentives
24 should be able to report them.

25 FACILITATOR BROOKMAN: Sue. I'd like to see if we can keep it brief.

26 MS. HALL: Yes, really briefly. To your question about the baselines and how you set those is
27 really, really important because otherwise you can get a lot of hot air coming into this.

28 FACILITATOR BROOKMAN: Yes.

29 MS. HALL: So as I've seen the Network's Advisory Board deliberate some of these same
30 questions, for project-based reductions, so these are projects that are not -- they're not internal-reduction
31 projects. This is an external offset. You know you're essentially looking at the difference between where a
32 technology is currently to where it's going to.

33 Now one of the reasons why you might not want to take your current technology as basically your
34 baseline is if there are -- is if that particular technology kind of comes out of the arc relative to the
35 technologies that are being used by peers in that sector. So you're right on the important question there.
36 And I think the more discussion and input you can get on that particular question, the more productive your
37 output's going to be.

38 FACILITATOR BROOKMAN: Okay. Thank you.

39 I think maybe we'll move to the next slide. I think we're there. And this raises the calculation-
40 methods issue. Arthur, are you cuing this one up? Mark is.

41 MR. FRIEDRICHS: I'm actually.

42 FACILITATOR BROOKMAN: And I know we touch on baselines and a host of issues here, so
43 stay tuned, folks. Does anybody want to just stand up? I'm going to keep working this for at least another,
44 say, ten minutes. You want to stand up and stretch, just two minutes in your spot. While Mark's getting
45 queued up here.

46 Okay. We started a half an hour late. We went to lunch a half an hour late; what does that tell
47 you? We're half an hour late. Let's go.

48 Okay. Mark Friedrichs.

49 MR. FRIEDRICHS: This actually is going to be an extension of what we've already been talking
50 about, so bear with me. We're going to be going over some of the ground that we have just covered.

1 We want to talk a little bit more specifically about the methods of calculating emission reduction
2 of the three types we've been talking about: Absolute emission reduction, intensity-based emission
3 reductions, and project-level emission reductions.

4 The first, absolute emission reductions. I think a lot of the people in the room have recognized
5 some of the difficulties of relying on simply total emissions and how they change over time for a particular
6 entity.

7 In other workshops and under certain protocols such changes are recognized as a basis for
8 identifying emission reductions. And sometimes there is a provision for adjusting those baselines to reflect
9 acquisitions or divestitures, but not usually organic growth or organic decline. There is a distinction made.

10 This graph was trying to show those kinds of adjustments. One of the questions that we came up
11 with are acquisitions and divestitures sufficiently different from organic growth or organic decline that they
12 really should be separately dealt with and under what circumstances.

13 FACILITATOR BROOKMAN: Thank you.

14 So you can see the questions there related to calculations methods. Should they be restricted.
15 Absolute emissions reductions, should they be restricted entity wide? I think we've already heard that there
16 would be some benefits to including projects, to incent projects, there may be opportunities, good
17 opportunities in projects. Should adjustments be made with acquisitions and divestitures. And should it be
18 a fixed or dynamic baselines. Comments on those. We've already addressed that somewhat, so we need not
19 be a hundred percent repetitive.

20 MR. FRIEDRICHS: Mark Friedrichs again. This first section I wanted people to focus on,
21 emission reductions based on the absolute -- changes in the absolute emissions of an entity. What should
22 we take into account if we recognize those types of emission reductions?

23 FACILITATOR BROOKMAN: In entities only.

24 MR. FRIEDRICHS: Entities only.

25 FACILITATOR BROOKMAN: What should be taken into account to show an absolute
26 reduction in entities.

27 MR. FRIEDRICHS: Right.

28 Going once, going twice. Gone. Let's move on.

29 FACILITATOR BROOKMAN: Okay. Sue, you want to comment on that? No. Okay.

30 Keep going, Mark. Mark Friedrichs.

31 MR. FRIEDRICHS: Onto emissions intensity.

32 FACILITATOR BROOKMAN: We did address it in part at least.

33 MR. FRIEDRICHS: Yes, we did.

34 One of the big difficulties in emissions intensity is exactly what that measure of output is. There
35 is a lot of talk in the electric-generating sector that the output measure is kilowatt hours, although we heard
36 in our Washington workshop that some electric utilities would like the flexibility to use other measures of
37 output as well.

38 The question is should we, doe, in our guidelines specify what kind of intensity measure should be
39 used in the electric-utility sector and, if so, what should it be.

40 In the manufacturing sector it turns out to be much more complicated. We've got only a few
41 industries that have a single good physical measure of output. And even those tend to vary from one
42 manufacturer to another. Many manufacturers have very substantially different physical products and so
43 they have no single output measure. They might be able to establish emissions intensity measures for
44 business lines. Should that be permitted and encouraged as a way of getting those manufacturers that have
45 multiple products to report emission reductions based on emissions intensity?

46 FACILITATOR BROOKMAN: Scott.

47 MR. MURTISHAW: Well, just as a general comment I would say that these -- well, one good
48 example, I'll go back to the Dutch. And anyone who's really interested in the details of how to work out
49 energy-efficiency indicators should really look to what the Dutch government did in their negotiations with
50 industry associations when they implemented their Longterm Voluntary Agreements Program, because they

1 really went into quite a lot of detail and they came up with very sophisticated methods.

2 They looked at not just things like what was your energy use per ton of steel but really what kinds
3 of steel. Was it cold-rolled, was it thin-pressed. I mean they really got into the details and they've done a
4 very good job of measuring exactly these kinds of metrics.

5 So for manufacturing, and this is a conclusion I also come to from the paper I mentioned earlier
6 that I wrote for Energy Policy last year, I think it's best to define those manufacturing industries that have at
7 least a relatively homogenous output, and then come up with energy-intensity indicators for those industries.
8 For the other ones, which are generally lighter industries with much more diverse product lines, it's really --
9 you have to ask yourself at a certain point with your diminishing returns, sort of rigor versus practicality, is
10 it worth it to really try to get into that level of detail with those industries? Probably not. And they probably
11 won't even have the data to give you for those process steps. Very few companies will track data at that
12 level.

13 So for energy-intensive industries, like steel, cement, a lot of this work has been done by LBL and
14 by the Dutch government.

15 For utilities I would argue that kilowatt hours is fine, and I don't see a need for any other type of
16 metric, --

17 FACILITATOR BROOKMAN: Thank you.

18 MR. MURTISHAW: -- in my opinion.

19 FACILITATOR BROOKMAN: Thanks for that practicality.

20 Robin.

21 MS. BENNETT: Robin Bennett from Boeing. I guess I'd just counter that. Many industries that
22 do not have a standard product are not light and small. In other words, there's the ship building, there's
23 aerospace, that our product is quite diverse, even with Boeing from facility to facility.

24 FACILITATOR BROOKMAN: Uh-huh.

25 MS. BENNETT: We've reported or we have done TRIs reporting based over revenue. I'm
26 wondering why revenue doesn't show up in manufacturing as it does in the utilities block.

27 FACILITATOR BROOKMAN: Scott wishes to respond.

28 MR. MURTISHAW: Well, first of all, to address the first point. If you just take the raw materials
29 industries, steel, cement, glass, aluminum, chemicals, refining, petroleum refining, those five or six
30 industries account for about 70 percent of all energy use in the United States. So those are concentrated
31 energy intensive.

32 FACILITATOR BROOKMAN: Mark Friedrichs.

33 MR. FRIEDRICHS: You must have misspoken. Seventy percent of the energy used?

34 MR. MURTISHAW: Excuse me. By the manufacturing sector.

35 FACILITATOR BROOKMAN: Processes, yes. Right.

36 MR. MURTISHAW: Sorry about that.

37 And then so to get to the second point about -- wait. Now I've lost my second point. Dollars,
38 revenue, of course.

39 FACILITATOR BROOKMAN: Yes.

40 MR. MURTISHAW: We've defaulted to that, particularly for the lighter industries because it's
41 just too hard to do otherwise. But in terms of the real value, when you control for inflation, when you talk
42 about real dollars, the value of some products increases or declines substantially over time. So what does
43 intensity mean? Because it wasn't a real measure of energy use per physical output. It was a measure of the
44 change of the value of the real -- in real dollars of the same product over time. So it's not a very useful
45 indicator over more than a few years.

46 FACILITATOR BROOKMAN: One would think if you're interested in doing this for the United
47 States as a whole you would reach a point of diminishing returns inside some -- yes -- Scott again.

48 MR. MURTISHAW: I'll just -- sorry. To give an example, what was the cost in real dollars of a
49 VCR in 1980 versus a VCR in 2002?

50 FACILITATOR BROOKMAN: Yes.

1 MR. MURTISHAW: It was maybe, what, five times more expensive. So that's just an example,
2 particularly for electronics and things like that, it's just not a very useful indicator in the long run.

3 FACILITATOR BROOKMAN: Additional comments on these intensity issues here? Either
4 from the measure side -- yes, please, Anne Boucher.

5 MS. BOUCHER: Just one comment. We find that for some type of industries it may be
6 preferable to not take the output but more an input. And it's for those where there is extraction and where
7 the energy is more useful, the extraction than from the final product or the -- so.

8 FACILITATOR BROOKMAN: Um-hum. Thank you. Thank you.

9 Did you have anything, Bud, that you wanted to --

10 MR. BEEBE: No.

11 FACILITATOR BROOKMAN: Mark Friedrichs.

12 MR. FRIEDRICHS: My only remaining question is for those industries that don't have a good
13 entity-wide measure and may not have any significant output measure, what should we do? Should we
14 leave them out of the Program, should we offer an alternative?

15 FACILITATOR BROOKMAN: Scott.

16 MR. MURTISHAW: Scott Murtishaw, Lawrence Berkeley Lab. I'm not sure. Are you referring
17 to more like service industries?

18 MR. FRIEDRICHS: No. Manufacturing that have no single useful measure of output.

19 FACILITATOR BROOKMAN: Or that have so much diversity, right?

20 MR. FRIEDRICHS: So much diversity.

21 FACILITATOR BROOKMAN: It's just really hard to --

22 MR. FRIEDRICHS: The 30 percent not covered.

23 FACILITATOR BROOKMAN: Right.

24 MR. MURTISHAW: Yes, it's hard. That's about all you can really say. You can default to
25 revenue in real dollars and ideally then you would need to have dynamic baselines that you would adjust
26 every few years because otherwise it will become meaningless. Over a short time period it's probably fine,
27 but in the long run it's not.

28 FACILITATOR BROOKMAN: Mike Burnett.

29 MR. BURNETT: Widgets change over time, too. Like maybe not for an ingot of aluminum, you
30 know is probably the same as it was 20 years ago, maybe it's a little purer or something, but cars change. So
31 if you did it per car, I mean look at how cars are so different than they were 20 years ago. And so none of
32 these are really simple. And what you're looking for is a reasonable approximation from which you can take
33 some differences over time and attribute them to some meaning in terms of greenhouse gas emissions
34 reductions and then also ultimately marketplace value.

35 FACILITATOR BROOKMAN: Okay. Kristin Zimmerman.

36 MS. ZIMMERMAN: Yes. Kristin, GM. Speaking on the car side of things, there's a --

37 FACILITATOR BROOKMAN: That was a set-up.

38 MS. ZIMMERMAN: Of course. As the manufacturing piece where we would choose to use
39 probably something like CO₂ generated per vehicle produced, but then there's the product side. And since
40 that's out of our control, since we don't control that which is purchased we would probably point to a metric
41 like the total amount of fuel used per year.

42 FACILITATOR BROOKMAN: Which would also accommodate the variation in use as well.

43 MS. ZIMMERMAN: Right. Then it would have no point back or touch back to the specific
44 technology, but it would really be a very accurate metric of CO₂ to track.

45 FACILITATOR BROOKMAN: Margot Anderson.

46 MS. ANDERSON: To get back to the question Mark raised earlier that I didn't really hear an
47 answer to, there are I think a lot of different options for intensity metrics. Who is going to come up with
48 these? Is this something that you want the Department of Energy to develop? Is this something that you
49 would prefer a trade association to develop? Does everybody just get to pick their own? Again, the
50 credibility problem, the consistency problem. But who should be in charge of trying to determine what

1 these metrics would be and allow some comparability across industries?

2 FACILITATOR BROOKMAN: I see Kristin first.

3 MS. ZIMMERMAN: Kristin, GM. I think the reporting company has to pretty much establish
4 what they think they can get their arms around and track in a very credible manner.

5 Comparability, is that really required to show progress toward a goal, an ultimate goal nationally
6 for reductions? Can you explain that for me?

7 MS. ANDERSON: Well, the comparability in my mind gets at being able to make sure that we're
8 treating different industries consistently. And if, in fact, we're looking at programs are -- or looking at to
9 provide recommendations to award transferable credits for real reductions, are we setting up a system
10 whereby there is relatively equitable treatment across different kinds of organizations, different kinds of
11 entities.

12 And if we have boutique accounting rules or boutique accounting guidelines, does that create any
13 discontinuities from being able to compare from agriculture to manufacturing to power generation? Does it
14 matter? It may not matter, but it's a question we toss out because we'd like some input on whether that's a
15 crucial part of this or not.

16 FACILITATOR BROOKMAN: So your logic would be that whatever the intensity measures are
17 among these different industries, they need at least to be credible enough so that those reductions
18 percentagewise, you'd have a sense of how the industries were comparable in that respect, yes? Okay.

19 Sue and then Scott.

20 MS. HALL: One of the things I found really helpful at the beginning of the Network's discussions
21 was to bear in mind that we were really embarked on a learning dialogue. And if we designed our process
22 to maximize the learning that came out of it, it was likely to improve over time and ultimately we'd end up
23 doing a better job than when we started.

24 And so whatever you decide on at this point, I encourage you to think really strongly about how
25 you design learning into this. Because what you use as your denominator here, you know let's say you
26 chose widgets, cars versus dollars, clearly in a flexible mechanism you're going to need to allow room for
27 people to make good choices. But what we'll probably learn over time is the choices that you make can also
28 kind of quite different results. And therefore could in terms of resulting intensity measures and therefore
29 there's going to be some kind of concerns that arise regarding quote-unquote manipulation.

30 Now that's almost inevitable, but if you design your process with learning in mind so that you've
31 got a system which is capable of kind of self-correcting and self-learning as it goes forward, then you've got
32 a hope of upgrading the credibility of a system as you move forward in time.

33 The other thing I'd add is that I would not -- I mean no one made a comment on absolute emissions
34 reductions, but it would be wonderful to have both. For example, several of the companies in the Network
35 have made commitments to achieve net zero greenhouse gas impacts for their entire operations, for their
36 entire entity.

37 So you're going to have participants potentially who actually do focus on their absolute emissions
38 and achieve a very clear net goal: Net zero. So because an intensity measure inherently is going to have
39 some complexity and therefore some controversy, you know you probably want to be able to incorporate an
40 alternative measurement structure at the same time, namely your absolute reductions so that you've not
41 banked entirely on one horse -- or not bet, rather, to mix my metaphors -- you've not bet entirely on one
42 horse that's going to be inherently controversial.

43 FACILITATOR BROOKMAN: Thank you.

44 Steve McCoy-Thompson, and then I'm coming back.

45 MR. McCOY-THOMPSON: Steve McCoy-Thompson of Nexant. And before joining the private
46 sector I worked on the government side, and so I understand that when you're developing and issuing
47 policies you're almost in a lose-lose situation because you issue the policy and it's -- even after a great
48 dialogue like this, it's not going to address all the answers. And then a year later you change the policy to
49 address those concerns. And then you are accused of changing horses in mid-stream, and so lose-lose.

50 So I would just echo Sue's point, that if you can roll this out on an itinerant fashion, maybe region

1 by region, or something, one sector at a time, then you could work out some of those issues before it
2 becomes a national -- even if it is voluntary.

3 FACILITATOR BROOKMAN: Susann, did you want to comment?

4 MS. NORDRUM: No.

5 FACILITATOR BROOKMAN: Okay. I saw -- yes. I guess Robin and then to Sue, and then I'll
6 go -- I mean Robin, Scott, and then --

7 MR. MURTISHAW: Just to go back, I think it was Margot's original question which was who
8 should define the metrics and how you define the intensity indicators. Again I really have to point to the
9 Dutch and what they did with their Longterm Voluntary Agreements as a model that I think should be
10 duplicated elsewhere, for example the United States.

11 There they took a very cooperative approach. And the government met with industry associations
12 and they developed their metrics cooperatively, but they were standardized then across that industry. And
13 that system seemed to work very well. And you could build into that system, I think what you were getting
14 at, iteration. 'We'll meet again in three years, you know, at the same place three years from now and we'll
15 discuss it again and see how it works.'

16 FACILITATOR BROOKMAN: And they were able to achieve intensity metrics for most of
17 those intensive uses?

18 MR. MURTISHAW: Even many of the lighter manufacturing industries. Because they worked
19 cooperatively they really learned their processes and they even developed indicators for some of the lighter
20 industries.

21 FACILITATOR BROOKMAN: Go ahead, Bud, follow on. Then I'm going to Michelle.

22 MR. BEEBE: Don't be afraid of multiple indices. I mean if you look at any annual report you'll
23 see things like price-earnings ratio, earnings per share, total shares, total number of employees, total
24 revenues. You see all kinds of metrics that are put out there because they're important.

25 Also within various industries you see, I'll say, funny ratios, you know things that don't apply
26 outside a fairly small industry.

27 From the educational side of things, if we can begin to approach as many different industries as
28 we can, I think it's incumbent upon the Department of Energy to do this, to have those industries begin to
29 define their own ratios, they should do that. Don't be afraid of it proliferating. It's okay to have hundreds
30 perhaps of ratios because they will be understood by those industries for which they're applicable. But the
31 educational value of requiring somebody to go through the process that develops that ratio is invaluable.

32 FACILITATOR BROOKMAN: Thank you.

33 Michelle. I'm going to push to the next slide. We're going to finish out this next slide in the span
34 of just about five minutes. Go ahead, Michelle.

35 MS. PASSERO: Michelle Passero of the Pacific Forest Trust. We've done two projects,
36 transactions so far where we've sold CO₂ emissions reductions from forest lands to other entities seeking to
37 offset their emissions.

38 The way we've measured our additionality is on a tons-per-acre basis. And then we've sold the
39 additional emission reductions, though, as so many tons of CO₂ emissions. And that seems to be fine for the
40 entities that are purchasing or seeking to offset. And then the tons per acre seems to be a pretty stable
41 measure, if you want to call it an intensity measure.

42 FACILITATOR BROOKMAN: Okay. Thank you.

43 I'd like to have you focus up on this. Does someone want to queue this up very, very briefly?
44 We're talking about projects here. This is the last slide, and then I will give you a break. I promise.

45 MR. FRIEDRICH: Sort of the same discussion, but this time not absolute, not intensity, but
46 projects. Some people see projects as the alternative for that 30 percent of the manufacturing sector that
47 might not have good output measures.

48 Obviously people have talked about projects as the approach for taking credit for reductions
49 outside the boundary of corporations. Agriculture and forestry, renewable projects that are independent and
50 not sources of large emissions themselves.

1 How should we go about setting the rules for baselines, either fixed or modified, for projects?

2 This graph just kind of shows you another kind of typical situation where you might have some
3 kind of efficiency technology, x, or end-use technology. And you're able to cut demand by moving to a
4 different technology, technology y. And that drop might be considered the reduction associated with a
5 project. But of course in the background, as we've discussed in this particular industry, there may be a
6 general movement from technology x to technology y over the next ten years. How do you take that into
7 account in calculating the reductions that you want to allow this particular project?

8 FACILITATOR BROOKMAN: So look at reductions from a project perspective. What about
9 fixed or dynamic baselines? How do you minimize leakage? How do you calculate avoided emissions?
10 What about base years in multi-year reporting?

11 Yes. And we're looking for the projects in this larger context, where I'm noting that the
12 Department is trying to figure out ways to do entity wide as well, right? So, Sue, start us off.

13 MS. HALL: Okay. I'll leap in where angels fear to tread. You know a very complicated topic,
14 but essentially the approach that the Network has used has been to use effectively dynamic baselines
15 through time and looking at reductions for these offset projects that compare to best-available technologies.

16 So if you had an energy-efficiency project you might compare that to -- or a fuel-efficiency
17 upgrade, you might compare it to combined cycle natural gas, for example, rather than oil. So one option is
18 to take best-available technology as your baseline.

19 You definitely, I think for offset projects, need to look at the emissions reductions that you
20 achieve through time, primarily because of the economics of this. And therefore you need to get into
21 address the questions of how you account for carbon through time. And there the discount factors
22 essentially to adjust the baselines that the Network has used has been based on the technology turnover
23 rates, which is essentially your industry trend line there. But there are a couple of other factors that we've
24 found we've needed to incorporate at times.

25 One is that the global-warming potentials assume through its hundred-year denomination that
26 there is essentially a one-percent forcing effect through time for greenhouse gas emissions. So we've
27 incorporated a one-percent discount rate for through-time effects to reflect the global-warming potential.

28 The other component that we found that projects tend to sometimes vary quite dramatically
29 around is the kind of quality of their design, where the degree of reliability and predictability, in fact here
30 achieving the emissions that they on paper might want to achieve, you can see varies quite enormously.

31 So again I'd encourage you to take very much a learning approach on this one. There are a large
32 number of different approaches. And how you establish those baselines and how you adjust them is your
33 core DNA.

34 FACILITATOR BROOKMAN: Other aspects of core DNA? Susann. Or at least get us to a few
35 of the -- I won't even go there. Go on, Susann.

36 MS. NORDRUM: I don't think I'm really looking for it. Susann Nordrum of Chevron Texaco.
37 This is starting to sound de ja vu, like the last discussion, that it was just because there was a new
38 technology and the industry trend is still going that way, you still want to incentivize people to get there.
39 And there's a lot of choices what to do with your capital. And if you're not even going to get credit for it
40 because it's too late, well, maybe we'll spend it somewhere else entirely. So --

41 FACILITATOR BROOKMAN: If there's even risk, that you may not get credit for it.

42 MS. NORDRUM: Right, right. And if it's supposed to be voluntary and we're looking at credible
43 as opposed to creditable, that may not be such a relevant diagram to look at.

44 FACILITATOR BROOKMAN: Mark Friedrichs.

45 MR. FRIEDRICHS: Two questions. One, in that kind of situation one of the possibilities is to
46 offer credit but to limit that credit over time. Is that one approach where you have a situation like this where
47 you are moving from one technology to another?

48 MS. NORDRUM: I guess there's a lot of factors that would make you move and a lot of factors
49 that would make you develop the technology. To the extent you get rewarded --

50 FACILITATOR BROOKMAN: This is Susann again. Yes.

1 MS. NORDRUM: -- you're going to do it. And to the extent it's limited, you're going to back off.

2 MR. FRIEDRICH: Mark Friedrichs again. We have heard in other workshops a concern that
3 too much reliance on projects allows for cherry-picking, self-selecting the winners and ignoring the losers.
4 There are different reactions to that. One recommendation was that we should have a kind of higher
5 threshold for projects for that reason and make it a little bit more difficult for projects to qualify.

6 Are there any other thoughts on that problem?

7 FACILITATOR BROOKMAN: Jane Turnbull.

8 MS. TURNBULL: I think to some extent this goes back to what Robert Prolman mentioned a
9 little while ago in terms of levels, good, better, and best. And you have values that become attributed to
10 them as you progress up the line. I think it can be done.

11 FACILITATOR BROOKMAN: But do you think -- do all of you, I'm paraphrasing Mark's last
12 question: Should projects to be credible? To have reductions that are credible, should they meet the same
13 standards as entity-wide reporting or should projects have a different -- since there might be selectivity bias?
14 These projects were done for a reason, after all. Should they meet a higher standard, definitionally or
15 qualification wise, to then be called credible and ultimately creditable? Right?

16 Did that follow, that logic? I think so. Mike and then to Robert.

17 MR. BURNETT: I don't know about a higher standard but a broader standard, because emissions
18 bubbles, you aren't looking at things like additionality and leakage, but for projects you are looking for
19 additionality and leakage. So I don't know if that's a higher standard. It seems like there's a broader set of
20 issues that you need to address in order to be able to allow a project to come in.

21 And then again I think there's two kinds of projects. Probably ones that are for reporting, 'We did
22 these good things,' versus crediting, which I think probably would involve a higher standard.

23 FACILITATOR BROOKMAN: And that's where the good, better, best kind of array kind of --
24 Steve McCoy-Thompson and then I'm going over to Robert.

25 MR. McCOY-THOMPSON: Yes. I'm not sure I would have a higher standard. You know
26 projects are the ways that industry kind of experiments. You know they're moving into different areas, and
27 so you want to encourage that.

28 FACILITATOR BROOKMAN: So if not a higher standard, does that mean not a more rigorous
29 standard too, but then if it comes to the point of creditability, does it get applied differently? The
30 creditability side of it.

31 MR. McCOY-THOMPSON: Perhaps as I'm sure other people can answer that question better
32 than I can, but I just think that you need to keep in mind that either you want to incentivize industries to try
33 these new areas.

34 FACILITATOR BROOKMAN: Right.

35 MR. McCOY-THOMPSON: And by having a higher threshold for making that leap, the people at
36 the board room are not going to approve the project, because you're constantly having to find ways to
37 financially incentivize the board to do these experiments.

38 FACILITATOR BROOKMAN: Bob Prolman and then to Scott.

39 MR. PROLMAN: Yes. Just one thought and I'll just preface this as more of a personal idea than
40 an industry one because I've never talked about it. But as long as we're outside of a cap-and-trade or an
41 absolute reality, and we're into either basically big projects or little projects is what we're talking about,
42 perhaps again in the context of gradations in terms of credibility, to have some general criteria for some
43 different classes of information and transparency that would have to be associated with a project, and then
44 you'd have to substitute here perhaps a coefficient of how much of what's claimed is going to be booked.

45 If this were a full market-based system with a cap and trade, and there were, as we talked this
46 morning, uncertainties associated with the level of measurement, the financial people that I've talked to in
47 terms of carbon trading and commodities, they have automatic and have for years and do now, have systems
48 and methodologies for discounting the value, if you will.

49 Well, if you could create a parallel structure to that and then let the transparency and
50 documentation again to set a general criteria be there for someone who wants to launch a project, and let it

1 work for a few years and evaluate it, and see what you get out of it and manage with the discount rate the
2 concern about overcounting or undercounting.

3 Absent taking on the dance we're doing around all the ambiguous things about having and not
4 having bright lines, I'm not sure there really is a solution if we stay in that model.

5 FACILITATOR BROOKMAN: Okay. Other comments on this side? Scott, please.

6 MR. MURTISHAW: Scott from LBL. There are some general rules of thumb that we've looked
7 at that are sort of first cuts about deciding whether a project is likely to have been initiated for the explicit
8 purpose of reducing emissions, with the expectation that there either is or will be some sort of valuable
9 credit that goes along with that. And one is to look at what's displaced.

10 In general, even with just a back-of-the-envelope calculation we found that if you're talking about
11 a project that saves natural gas, it's very unlikely that that was done for the value of the credits because the
12 value of the fuel is much more than the value of the credits saved for the amount of fuel saved. For every
13 unit of fuel that you don't use, it was the value of the fuel itself which was more valuable than any credits
14 that go along with it.

15 But if you're talking about electricity or coal offsets, then it's quite possible, depending on the
16 region where the electricity purchased.

17 And for petroleum products it can be a little gray. So that's one sort of first cut that we look at:
18 What fuels does it claim are being offset. If it's coal, which is a cheap fuel with high-carbon content, then
19 we say, 'Well, there's a good chance that there was actually some influence on the carbon credits.' If it was
20 natural gas there's essentially zero chance that this was due to the carbon credits.

21 FACILITATOR BROOKMAN: I want to make sure we answer these last questions on the next
22 slide. Sue, I'm going to give you a chance before I switch slides on us here. Sue.

23 MS. HALL: I think if your desire is that your project is going to be tradable and to you creditable,
24 then you have a standard of rigor that you are going to need to embrace that ensures that that project is
25 additional.

26 And one of the reasons why additionality kicks in is because currently we do not have a cap-and-
27 trade system. And I may be over simplistic here, but in a cap-and-trade system it matters far less what kind
28 of project you are putting forward for trading purposes, because each and every project is subject to
29 essentially a mandatory cap.

30 Now absent a cap, essentially the role that additionality plays is to substitute for that regulated
31 kind of requirement. So additionality essentially asks what are you doing above and beyond an expected
32 requirement, above and beyond business as usual.

33 So if you're looking in the system essentially to trade projects, then the level of rigor that you're
34 going to need around additionality is, in my view, much, much higher.

35 FACILITATOR BROOKMAN: Okay.

36 MS. HALL: Now the other issue I think that comes up in this context is if you're reporting and, as
37 it were, somewhat cherry-picking the projects that you report within your own operations, but you're not
38 reporting entity wide, and there are some very well documented concerns around that, so I mean any project
39 that you're working on internally, it would seem to me, could very credibly contribute towards your entity-
40 wide reporting goals.

41 And for that purpose, perhaps the level of rigor, because you're just reducing your emissions, the
42 level of rigor around additionality, you're just reducing your emissions. You don't need to have the same
43 level of rigor. You're just kind of using any means at your disposal to reduce the greenhouse gas emissions
44 internally, and that's terrific.

45 So I think there's a major distinction here between what you need for a tradable, creditable project
46 versus one that's essentially just contributing towards your entity-wide goals.

47 FACILITATOR BROOKMAN: Bill, did you want to comment? Bill Hohenstein.

48 We need to go shortly to break, but, Susann.

49 My goal is to get you done to break by 4:00, since we're running a half-hour behind. We're almost
50 there. I've got one more question. We've got three minutes left. Go ahead.

1 MS. NORDRUM: Okay, really fast, just to get on the record. In terms of natural gas or methane
2 improvements, just paying out on their own, and so they'd happen anyway. In fact, the Natural Gas Star
3 Program incentivized oil companies to take a look at where there were methane emissions in our natural gas
4 systems and do something about it. And that was basically a request by the government to take a look at it.
5 And it was systems that were designed to actually emit natural gas in some cases, because for a lot of
6 reasons.

7 But, anyway, I would have to take exception to the fact that, 'Oh, these would happen because it's
8 worth happen,' because they didn't happen and it was worth money.

9 MR. MURTISHAW: I wasn't talking about methane. I was talking about combustion.

10 FACILITATOR BROOKMAN: Let's go to the last question, the last slide, which is --

11 MS. NORDRUM: It's still in a refinery, that you don't do your energy-efficiency projects. It's
12 worth money.

13 MR. MURTISHAW: Talk about it later on.

14 FACILITATOR BROOKMAN: Okay. The final question is about base years and multi-year
15 reporting. Mark Friedrichs.

16 MR. FRIEDRICHS: This question has also come up in the discussion already, the difficulty of
17 setting a base year for calculating emission reductions and the difficulty of year-to-year changes in
18 emissions and/or emission intensity that may be unrelated to any action or inaction by the entity, but instead
19 may be related to weather or other factors.

20 This is just an example of two different companies, Company X and Company Y. Company X's
21 emissions vary considerably year to year, over this seven-year period. And if you started in year 2 and you
22 went down to year 3 and a half or 4, Company X would have a significant reduction. But if you looked over
23 the seven-year period, Company X is actually flat or possibly increasing.

24 And obviously if you looked at Company Y from perhaps year 2 to year 4, they would be flat. But
25 if you looked over the entire period they would have a substantial reduction.

26 I think there's a general agreement that we want to encourage Company Y's and we don't want to
27 recognize Company X's. The question is how can we do this through our guidelines.

28 FACILITATOR BROOKMAN: So base years, how to handle that in multi-year reporting. Brief
29 comments on those. How would you like to see it be?

30 Yes, Michelle.

31 MS. PASSERO: Michelle Passero of the Pacific Forest Trust. You know selecting a base year
32 with forestry projects or whether it's mandated, you'll have people making -- it's going to be arbitrary, so I
33 won't speak to what year it is.

34 But from the point that you choose that year and start to register, it does become important to keep
35 track of both your gains and losses of carbon in order to be able to then sell your additional net gains for
36 whatever buyer is seeking the offset. So there is a necessity then to do multi-year reporting and to stay in
37 the Registry over time.

38 FACILITATOR BROOKMAN: Okay. Other comments on baselines?

39 Yes, Howard.

40 MR. GOLLAY: Just a simple point. I think there should be maximum flexibility. And I
41 understand what we're saying about Company X, but what we should do I think is that any -- you know a
42 company should be free to choose a base year in which they want to start. And then of course you should
43 encourage multiple-year reporting so you can get a good picture over time, but I don't think you should
44 designate a specific base year or say you have to do average years, or whatever. I think we should have
45 flexibility.

46 FACILITATOR BROOKMAN: That means that there is no fixed starting point and it would be
47 hard to do comparability, I think, if you allow companies to enter when they wish to enter.

48 It also occurs to me it provides an opportunity for the companies to maximize their starting point,
49 right, which maybe -- I don't know whether that is ultimately good or not good. I mean it seems like you
50 could argue both sides of it, it seems to me, right? Because you're trying to incentivize this as well.

1 Other comments on baselines and multi-year reporting? Any juxtaposition to Howard's
2 comments?

3 Okay. Let's take a break. What -- where? Sue, please.

4 MS. HALL: Well, I mean the other approaches you can obviously take a look at are -- I mean you
5 can choose an opening year, but if you index that to maybe a three- or five-year or seven-year average, --

6 FACILITATOR BROOKMAN: Right.

7 MS. HALL: -- people can see from your reporting whether or not the year you've chosen is kind
8 of juryrigged or not. So at least there's some level of -- strike "juryrig." Find another word. But whether
9 that's a favorable choice.

10 FACILITATOR BROOKMAN: Right.

11 MS. HALL: So when you look at most -- when you look at the kind of systems that the other
12 registries have used for other gases, averaging gets you around that.

13 FACILITATOR BROOKMAN: Okay. Let me thank you for putting in really an exception
14 afternoon. I was hesitant to push you any faster because it really was a very, very good conversion. We
15 covered a lot of ground here in a very short span of time.

16 We're going to breakout groups immediately following break.

17 Would you put the next slide up there, Michael?

18 FACILITATOR BROOKMAN: Here's how it works. Here's how it works. We have four
19 breakout groups: The electricity generation, including grid-connected, renewable generations in this room.
20 Industrial and other large sources in the next room over. Yet the next room over is small distributed
21 sources. And agriculture and forestry is in Kent across the hall.

22 It's now four o'clock, two minutes after 4:00. Let's start in the breakout groups at 4:15. This will
23 probably take no more than an hour. We've got capable facilitators in each room. And so we're going to
24 send you out of here a few minutes late today, but since we won't see you until tomorrow morning, we're
25 going to start tomorrow morning at 8:30. Please try and get here on time so we can start on time.

26 Our hope is that maybe we'll finish a little early tomorrow and release all of you for your good
27 work. And thanks for really contributing to a great conversation today. Help your facilitators get through
28 these topics effectively, please.

29 Thanks a lot.

30 (The Workshop was adjourned for the day at 4:00 o'clock p.m. to reconvene at 8:30 o'clock a.m.
31 on December 10, 2002.)
32

9. TRANSCRIPT OF PROCEEDINGS FOR DAY 2

Voluntary Greenhouse Gas Reporting Workshops

P-R-O-C-E-E-D-I-N-G-S

1
2
3 (8:32 o'clock a.m.)
4

5 FACILITATOR BROOKMAN: So good morning everybody. The plan for today is to start off
6 the morning to give people a chance to just kind of comment, make additional comments on what they
7 heard yesterday. I frequently call this reflections or insights or carry-overs from yesterday. And
8 frequently a few people at least have a thought or two that they carry with them from yesterday that
9 they'd like to share with us.

10 We're going to go from there to report backs from the various breakout sessions. As I
11 understand, we have four of them this morning corresponding to each of the topics yesterday.

12 We'll go from there to describing verifying emissions and reductions, and use the same format we
13 used yesterday where we'll have a slide with kind of detailed content on it, and have a kind of brief
14 preparatory presentation by DOE and EIA.

15 Then we will go from there to managing the 1605(b) Registry.

16 The agenda has written has us wrapping up and adjourning by three o'clock or 3:30. In the
17 previous sessions we did finish early, but we want to make certain we preserve time for the discussion
18 here. So we'll just see how it goes this morning. If we get to lunchtime and we still got a lot to do, we'll
19 keep working. If we're close to being done around about lunch, we'll just press on and conclude the day
20 and give all of you a chance to get out the door, okay. So that's the general plan.

21 Questions, comments at the outset?

22 Okay. I see none.

23 I just wanted to start off by giving people a chance to say things that didn't get said yesterday that
24 had occurred to them. Linkages, shower epiphanies. I'm not going to describe those. You know I mean
25 the thoughts that kind of tumbled around and came to you after you left here yesterday afternoon. I'm
26 sure we have a few of those.

27 Yes, Franklin. How do you pronounce your last name, Franklin?

28 MR. GUENTHER: Frank Guenther from NIST.

29 FACILITATOR BROOKMAN: Yes.

30 MR. GUENTHER: Thinking about this last night, I was at the science session in Washington,
31 D.C. last week and I'm here this week. And it's becoming rapidly clear to me that this is the most
32 challenging thing the human race has ever attempted. It's so complex that every scientific discipline is
33 involved, every farmer, every manufacturer. The supply-chain problems. It's complicated beyond
34 imagination.

35 FACILITATOR BROOKMAN: So one thing that's happened in all these workshops, I believe
36 we've developed sincere empathy for DOE in all of this, and the other federal partners.

37 MR. GUENTHER: And I believe the voluntary system is very productive and very useful in this
38 situation. I'm going to confine my remarks only to transferable credits and say that in order to get
39 transferable credits you need to have a well defined entity that you're transferring.

40 And to try to convert methane units to carbon dioxide or carbon dioxide to SF₆ is just too
41 complicated. And there's a lot to be said for KISS, the KISS principle, simple.

42 I believe the only way to make really true advancements in reductions is really to define very
43 clearly what just transferable credits are and define them precisely and with the eye that they need to be
44 able to be transferred across international boundaries also.

45 So I would suggest that it is very, very proper to set up transferable credits only per gas. For
46 instance, sulfur, sulfur hexafluoride, SF₆. Set up a transfer system for that.

47 FACILITATOR BROOKMAN: For each of the six?

48 MR. GUENTHER: Each of the six or each of --

49 FACILITATOR BROOKMAN: However many.

50 MR. GUENTHER: However many there are, because that's the only way you can really gain

1 useful, meaningful reductions.

2 FACILITATOR BROOKMAN: If it gets blended, it doesn't work?

3 MR. GUENTHER: Well, there is no scientific basis to say that trading off SF₆ emissions to
4 methane reductions is justifiable. There's no way to say that with a science. There's no scientific basis to
5 say that SF₆ is n times more powerful than methane in the atmosphere.

6 We could say that for some data that we have there are some suggestions about this. We don't
7 have any idea about the reaction rates, reactions in the stratosphere. All the way up and down the
8 atmospheric column we have no idea what is going on with SF₆. That's just one example. So -- but we
9 know that SF₆ is a bad actor in the atmosphere. We know that it's unnatural. We know that we want to
10 get rid of it. Just go after targeted compounds.

11 Now the voluntary system is good for global reductions in entities, to say, 'Well, General Motors
12 has reduced their total emissions.' That's great. It's a public relations positive. It's a positive for the
13 nation, but it doesn't really generate a credit, a transferable credit.

14 FACILITATOR BROOKMAN: Okay. Thank you.

15 What we're doing right now are additional thoughts, comments, reflections, epiphanies from
16 yesterday.

17 Yes, Bud Beebe.

18 MR. BEEBE: In response to Mr. Guenther's comments, I think you haven't a hope that the
19 politicians would not want to trade. Certainly SO₂ is very different than NO_x in the atmosphere, and yet
20 they swap those things all the time. The same with ROG and NO_x. Even in different air basins they just
21 put a multiplier on it. How does that make you feel as technical person?

22 So I think it would be naive to believe that people are not going to want to swap across these
23 things. And I think our better job would be to come up with reasonable rules that would allow people
24 who have no idea what the technology is to not come to the wrong judgments on this.

25 FACILITATOR BROOKMAN: Yes. Frank, follow on. Of course one thing you might say
26 about KISS, try to keep it simple, would be to have the ability for players in this to do that very
27 aggregation that you said you shouldn't do.

28 MR. GUENTHER: Well, in acid rain you have a much simpler system than global atmospheric
29 climate change and your boundary conditions are acid rain only. Now obviously SO₂ and NO can impact
30 global warming in some way also, so they have not put that into the mix.

31 So what I'm saying is acid rain is a much, much simpler ruleset than a global warming ruleset for
32 the whole globe. I'm saying that when you're looking at something so different from SF₆ to methane,
33 there is nothing to say that there is even any equivalence at any level.

34 FACILITATOR BROOKMAN: Yes. Of course probably the tension always is between
35 description or capture that's adequate versus really finally done, you know that kind of extra ten percent
36 or extra 20 percent or whatever that level of discrimination.

37 Other thoughts and comments? Yes, Howard.

38 MR. GOLLAY: Howard Gollay with Edison. Building on the comments here and maybe
39 offering, I don't know if it's a different perspective or whatever, I'm still not clear honestly on what the
40 overall objectives of this reporting system is. And here is the question to consider.

41 I mean we mention international, and do we want to make it consistent with international? Do
42 we want to make it consistent with Kyoto? What are we trying to accomplish within the United States in
43 its reporting with companies that have headquarters in the U.S. with this reporting here?

44 And my concern is that the more consistency that we try to get across the globe on this
45 potentially the more complicated this will be in reporting. I'm not saying that's bad or good, I'm just
46 making a point that you're adding complexities to the system.

47 I mean I think our goal here should be to encourage companies to do what they can either
48 through trading or through market mechanisms or through their own efforts to reduce greenhouse gases
49 within -- that we can say we've done our share. But for companies -- and we have plants all over the
50 world as well. Then when you do trading, are you working with projects outside this country, then

1 you've got to take what those governments are thinking and what those governments need to, are required
2 to do, what they're saying they're going to do.

3 And then all of a sudden your international business, that's also part of the business, is
4 understanding when you build a project in another country what their regulations are, what their
5 requirements are. And you need to abide by that as well.

6 So, anyway, these are just some thoughts. I'm just suggesting that we try to make this very, like
7 you suggested, simple. Have flexibility, get government incentives to encourage companies to do things,
8 and recognize that you may not always be absolutely consistent to the letter with everything else that's
9 being done around the world. As long as we're accomplishing the objectives that we're trying to in terms
10 of encouraging companies to reduce greenhouse gas, I think then the government has probably met its
11 objective.

12 FACILITATOR BROOKMAN: Okay.

13 MR. GOLLAY: Just a different thought.

14 FACILITATOR BROOKMAN: Thank you. Thank you. We're -- yes, Kristin. Kristin
15 Zimmerman. We're wanting to hear additional thoughts and reflections, insights, carry-forward ideas
16 from yesterday before we launch into the breakout session reports. Kristin.

17 MS. ZIMMERMAN: Kristin, GM. You brought something to mind and it is the lack of
18 coordination that appears to be prevalent across state registries doing their thing and then you've got a
19 national registry and then you have international activity going on. How do we gain coordination?

20 From the state levels, could the state levels report up through 1605(b)? I don't know. But if we
21 don't have this coordination it's going to be a nightmare. I mean I'd be interested for feedback from the
22 California Registry folks.

23 FACILITATOR BROOKMAN: And that nightmare to me means it provides not an incentive but
24 a disincentive.

25 MS. ZIMMERMAN: Right. Correct.

26 FACILITATOR BROOKMAN: Chris deVos.

27 MR. deVOS: I'd just like to add to that from a company that has international operations, this is
28 a very confusing effort. At a minimum I would hope that the agencies in the U.S. government would get
29 together and establish who is doing what in a formal way.

30 FACILITATOR BROOKMAN: Uh-huh. Yes, please.

31 MS. HEWITT: I'm Ann Hewitt with the California Climate Action Registry. I think that the
32 confusion or the overlap may not be as large as you may think it is. There are a number of things that
33 allow for coordination between them. There is the sort of person-to-person coordination that goes on
34 through joint meetings, through discussions about moving the accounting standards forward, through
35 reporting requirements.

36 The California State Registry and other state registries are talking to the 1605(b) Program. There
37 has been -- you know when President Bush directed the federal agencies to work to improve 1605(b) that
38 included requirement that they consult and discuss these changes with the state registries and with the
39 states.

40 The other common feature is that generally the WRI reporting standards are starting to be
41 accepted as a baseline. I don't want to "standard," because they're not a standard but they are starting to
42 be accepted. And then state registries -- it may be that in the end all the state registries will go away and
43 there will be 1605(b), and that's a possibility.

44 But the state registries play a role not only for large industries but for some of the small and
45 medium-size enterprises, but are more difficult to get at through national programs. And that may be
46 where the state registries start to play an important role, because I think somebody earlier said that
47 climate change and the science of climate change is probably the most challenging thing that the human
48 race has ever faced. And we at the State recognize that it's not just an issue for large industries.

49 If you look at, for example, for California, where the majority of emissions come from, they
50 come from transportation. And when we talk about transportation we tend to think, 'Oh, yeah, that's all

1 those people driving their cars to work.' But in addition to that it's all of those many, many small and
 2 large companies with vehicle fleets that provide those fleets for their employees. And we need to address
 3 that as well through registries. The state registries probably have quite a strong role to play there.

4 FACILITATOR BROOKMAN: Thank you.

5 Yes, please. Bob Prolman. Use the mic.

6 MR. PROLMAN: I need another cup of coffee maybe, another for the day. Something that sort
 7 of occurred to me late in the session and is coming back to me this morning as I sit and think about what's
 8 going on.

9 And it basically seems to me that consciously or unconsciously we'd all like to be in a cap-and-
 10 trade world because it's simple, it gives us a process. It's nice and tight. We can put our mental minds
 11 and models around it. But the reality we're faced with is that this is a large, messy problem, multi-
 12 faceted. And we as a country and Australia, for example, has said we're not going to do it that way.

13 And so we have this constant tug of war back and forth, which I know I'm guilty of, of always
 14 driving in that simple model. And I think the challenge that we're going to face and the opportunity we
 15 have is now to say: What if really force ourselves to let go of the comfort of what we think is a simple
 16 solution and look at the path forward as a way to just get at behaviors, leverage the existing incentives of
 17 the underlying world economic models and so forth and just get results.

18 And it's messier still, but rather than to try to come up with *the* perfect way to do it, what I'm --
 19 you know there's a undertone here. People have a lot of creative ways to get at this and I think that we'll
 20 see that come out no matter what we do or don't do. It'll happen.

21 FACILITATOR BROOKMAN: So it doesn't need to be perfect at the outset perhaps?

22 MR. PROLMAN: No. I mean even in the trading model, the world already has several systems
 23 of currency in international trading and discounting. And we always want to in this Kyoto debate drive
 24 toward: Let's have one.

25 FACILITATOR BROOKMAN: Yes.

26 MR. PROLMAN: And the fact is we don't -- whether we can do it or not, we don't need to find
 27 the perfect silver bullet. The world has ways of sort of working this through that'll probably happen no
 28 matter how we design it.

29 FACILITATOR BROOKMAN: Yes. Arthur Rypinski.

30 MR. RYPINSKI: I think that on behalf of the Department we can promise that we won't find the
 31 perfect system.

32 (Laughter.)

33 FACILITATOR BROOKMAN: I will follow in your comment, Bob. I note, for example,
 34 Susann's comments yesterday about this spectrum of activity being a learning activity, that being an
 35 expectation about it improving over a span of time, that -- establish what you can, get that in place, create
 36 incentives, make it easier for people to participate, and keep working it to increase involvement and get
 37 the results you're trying to achieve.

38 Okay. Yes, and back to Frank Guenther.

39 MR. GUENTHER: People work best when they're working within well constrained boundaries.

40 FACILITATOR BROOKMAN: Because of the shape of this room here.

41 MR. GUENTHER: Yes. Because you know what your goals are and you can work toward those
 42 goals. My comments are mostly towards the state registries. I think they're a good thing. I think every
 43 state should have one, because then the state can be working towards a goal. They know where they're
 44 going. And the population has a constrained boundary that they can say that 'Our state is doing better,'
 45 you know.

46 FACILITATOR BROOKMAN: If you don't measure it's not real kind of thing?

47 MR. GUENTHER: Yes. And also in keeping it simple, I think constraining your goals to less
 48 than the whole issue is better than just trying to come up with a very complex system and trying to reduce
 49 it based on very complex mathematics and economics.

50 So -- and my third comment is internationally I don't think what's going to drive the U.S. to toe

1 the line is any regulations in a worldwide calamity, but actually trade restrictions. I've seen that in the
2 health industry already where the Europeans have put into place regulations to require all health
3 instrumentation coming into the European Union to be traceable to national standards.

4 They put that into place, we think, because they wanted to reduce the imports of instruments
5 from the U.S. But we got wind of it and we got -- we started working on this problem, and now we're
6 well under way to solving that.

7 But I think that's where we're really going to see an impact, is that other nations are going to put
8 in some trade restrictions. And if we want to work internationally we're going to have to figure out some
9 ways of having transferable credits, showing absolutely that we are producing these units, these widgets
10 without impacting global climate.

11 FACILITATOR BROOKMAN: Thank you.

12 Final comments before we move onto the -- yes, Margot Anderson.

13 MS. ANDERSON: I don't think we talked in enough detail yesterday about this issue of
14 coordination internationally. I'm less concerned about coordination internally because I do think that
15 we'll ultimately morph to a single system that accommodates the best of all of the state systems. And that
16 might take some time as we learn as to what the states are doing.

17 Yesterday we posed a question about counting reductions that occur overseas. And we didn't
18 really have a full discussion on that. It does raise this issue of given that the President has set a domestic
19 intensity goal, 1605(b) actions are designed to help the President meet the Greenhouse Gas 18-Percent
20 Intensity Goal.

21 If reductions are occurring overseas they don't much help us meet our Greenhouse Gas Intensity
22 Goal. Yet we know that a lot of the reductions currently registered within 1605(b) are, in fact, reductions
23 taken overseas. So it raises this issue that while we all sort of agree that -- or talked about reporting
24 emissions both domestically and internationally, and tagging which ones are which, like we currently do
25 in 1605(b), we didn't really have a discussion on the implications if you take actions overseas do you get
26 a domestic transferable credit here in the United States under the 1605(b) Program. And it's kind of a
27 very sticky issue and it raises these issues about coordination with what's going on internationally.

28 And not only am I concerned about being able to compare cross sectors, now we've got to worry
29 about do we have to compare across nations and are we disadvantaging our companies if, in fact, we
30 don't deal with this issue head on.

31 I don't know whether we had an opportunity to discuss it yesterday or whether we will today, but
32 it's yet another complexity that we're going to have to address about actions that are taken overseas,
33 which are often the best low-cost actions for many companies. Yet it doesn't help us meet our goal and
34 doesn't help us what we need to do to get an A on our report card.

35 FACILITATOR BROOKMAN: Bud Beebe and then Mike Burnett.

36 MR. BEEBE: As an add-on to what Margot just mentioned, we've watched the European Union
37 begin to devise ways that they can trade internally and do lots of things, but we sort of think of them as a
38 bloc. And certainly the United States is big enough that we could be thinking of ourselves as a bloc.

39 But I've heard it mentioned and it seems reasonable to me that perhaps we should be thinking as
40 we design our 1605(b) and follow-on registries, that we should be thinking in terms of at least North
41 America or perhaps even the Western Hemisphere as a unit that can begin to work proactively with each
42 other in similar vein to the EU, but on a much larger scale because we're the USA.

43 MR. BURNETT: This is Mike Burnett. I guess the conclusion I drew from yesterday is that
44 1605(b) is not one registry. It's really kind of a series of separate registries for different purposes:
45 Progress reporting versus baseline protection and crediting. I think those are very different purposes.
46 The same data may enter into both of these registries.

47 The same thing about projects and entities. I think that there is entity reporting, there is project
48 reporting. I think they have to be kept separate and clearly marked as such.

49 Then, finally, I think two purposes are emissions reporting versus emissions-reduction reporting.
50 And I think those may be derived from the other kind of four, box of four registries.

1 So that's kind of one of the main conclusions I drew from yesterday. And then I wanted to
2 briefly hit on Margot's point about the international emissions.

3 I think, again, if you're doing reporting of progress of U.S.-based companies and so in the
4 progress reporting, I think it's probably okay to report that. I think if you start -- if the U.S. starts taking
5 credit inside our own boundaries for things outside of -- that are done in other countries, then of course
6 we'd have to be debiting those from progress in other countries. You can't have double counting. I mean
7 it's probably okay if we count it here, but then we shouldn't count it there.

8 And I think it would be kind of a big mistake if we allowed a system that allowed a company to
9 kind of earn a transferable credit here in this country, at the same time kind of use that same emissions
10 reduction to meet another country's goals at the same time, because that would be double counting. And
11 that's kind of the bugaboo you always want to avoid in this stuff.

12 FACILITATOR BROOKMAN: Okay. Thank you.

13 Additional thoughts, final comments before we move onto the breakout reports?

14 Thanks for that start this morning. I thought that was interesting and got us going.

15 Let's start then with electricity generation, the report back from that group.

16 Let me ask you: How was it in your breakout groups? Interesting, in what respect, Kristin?

17 MS. ZIMMERMAN: Kristin, GM. I was in the breakout group for small industrial sources,
18 other sources, renewables included. And there was a group of maybe about six of us. And we had more
19 of a conversation on opportunities and possibilities. I don't know if we necessarily honed in on solutions,
20 but it was quite a creative conversation.

21 FACILITATOR BROOKMAN: Good.

22 MS. ZIMMERMAN: It spun a lot of ideas.

23 FACILITATOR BROOKMAN: Great. We covered a lot of ground. I will report for the
24 electricity generation sector. We covered a lot of ground in that group. We had a lot of good
25 conversation as well.

26 How about the other groups? Forestry, how did that one go? Yes. Bill Hohenstein.

27 MR. HOHENSTEIN: Bill Hohenstein from the USDA. I was lucky enough to moderate the
28 session on forestry. And we had a small group, about eight of us, but had a great discussion on the range
29 of issues, and I think you're going to be hearing about them from Bob Prolman. But I just wanted to
30 thank everyone who was involved. I actually learned a few things, and we had a good discussion.

31 FACILITATOR BROOKMAN: Great. Let's press on with the reports.

32 Mike and Howard, are both of you reporting? And do you want to just use the mic there on your
33 -- or do you want to come up here and point to the slides? What's your kind of kinesthetic preference?

34 MR. GOLLAY: Well, let me -- just so I can see what I'm talking about. That may be a little bit
35 easier.

36 FACILITATOR BROOKMAN: Okay. For the record, he chooses to remain seated. No, he's
37 standing. I got it wrong.

38 MR. GOLLAY: I love speaking.

39 FACILITATOR BROOKMAN: We chose the right guy. You've got seven minutes. That's all.

40 MR. GOLLAY: Mike and I are going to be kind of a tag team on what we discussed in
41 yesterday's breakout session. I'm going to introduce the topic.

42 We looked at four different questions. The first question was: How to establish intensity
43 baselines for utility and utility systems? What shall we be using to establish baselines.

44 The second part of that question is kind of interesting. It has to do with displaced emissions.
45 And the concept there is do we use grid-based, for example, and how much displacement in the grid that
46 you get, or is it project-based emissions that you were talking about. And I thought that was kind of an
47 interesting discussion.

48 That third bullet we talked a little bit about yesterday. Should causes in reductions other than
49 output be considered in identifying what the company's emissions are. I would -- and I guess there's two
50 parts in my eyes. One is you can answer this question on a company perspective. You can also answer

1 this question from an aggregate perspective, from the U.S. Department of Energy's role in aggregating the
2 data.

3 The fourth question, again there's two parts to that question. We're talking about DSM and green
4 power sales, and double counting, but there's another aspect of that. And really the question is who gets
5 the credit for those. Who gets a credit in double counting I think are interrelated.

6 So with that, Mike is going to start.

7 MR. BURNETT: I guess we need the next slide. And this is -- we talked a good bit about
8 options for intensity baselines. One of the issues there is what geographic area or domain do you look at.
9 Are you looking at -- you know are we establishing or utilizing kind of power-pool-based, kind of
10 regional power-pool-base numbers. Are we using state-based numbers.

11 We talked some about probably a preference for power-pool-base numbers because that's kind of
12 -- that's an operational unit for the electrical grid. We also talked about the need to perhaps separate the
13 treatment between baseload and peakload, because they're kind of different -- I guess they're different -- I
14 don't know -- operational goals, I guess, for utilities.

15 We talked a good bit too about marginal. Kind of if you're looking at reductions using marginal-
16 grid displacement factors or emissions rates rather than average. And so the difference there is the
17 marginal ones are basically usually done from the marginal grid dispatch models meaning you're kind of
18 looking at kind of what power units are being turned off on an economic basis as you're reducing loads,
19 as opposed to the average could be a good bit different in the fact that it is true that it is a good bit
20 different.

21 The next one we talked then about kind of -- I mean heretofore we've been talking about kind of a
22 utility or system wide emissions factors. We also then got into talking about new projects. And if you're
23 looking at a project, what is its baseline. And that's where we're looking at kind of the difference
24 between what you are building and what you could have been built, what has been built recently. And
25 we actually have a more detailed slide in that coming up.

26 We got into a pretty interesting discussion, and this is probably one of the more challenging
27 things, is how do you accommodate growth. I mean if you kind of look at the power industry, and largely
28 they're required to meet whatever demand is placed upon them. And so if there's growth, demand is
29 placed upon them. They're going to sell more kilowatt hours.

30 So there was some discussions of how do you -- you know, if we're setting intensity targets do we
31 have kind of an adjustment factor for growth. How do you factor in growth was really a basic question.

32 Maybe we can flip onto the next slide. In a discussion about reductions we talked about kind of
33 what is a project a little bit and can -- you know sometimes a project is an amalgam of somewhat
34 different actions at a facility, and is that a project or not.

35 Maybe onto the next slide, and if you have anything to add, Howard.

36 This has to do with new plants, new projects. And so this is project-based accounting, not entity-
37 based accounting. And Scott from LBL was talking about, as they looked at it there are three different
38 kind of baselines, essentially base cases from which you would measure your project. And if you are
39 doing something like wind or intermittent-power-supply-type project, he had something called the
40 operating margin baseline that they had defined for that.

41 You know if you're building a baseload plant, like a coal plant, perhaps a nuclear plant, then
42 there is -- you kind of have a specific baseload for those types of plants. And that might be looking back
43 at the last several years or in the most-recently built plants, or some kind of representative recently-built
44 plant.

45 Then for load following, like gas turbines, either simple or combined cycles, that you would use
46 that as your baseline, which kind of a thought there.

47 MR. GOLLAY: I think a couple more comments to make about the previous slide or the slides
48 that we just discussed. I think this is an appropriate time to talk about it.

49 FACILITATOR BROOKMAN: Back to Walter.

50 MR. GOLLAY: This has to do with -- Walter?

1 FACILITATOR BROOKMAN: Pardon me. Howard.

2 MR. GOLLAY: I thought, okay, this is a joke. At least I'm listening.

3 But, for example, there's a couple of things that are not reflected here yet, and I don't think -- for
4 example, one question is if you're primarily hydropower generation, for example, and you build a new
5 plant, how does that go into the mix and how do you take -- I mean do you get penalized because you're
6 burning a fossil fuel because you need to because there's no more hydropower, for example. How do you
7 take that into the overall mix in establishing a baseline.

8 What do you do about -- is there a difference between repowering, say, of existing power plants
9 versus building a new power plant. And when you build a new power plant, do you look at existing grid
10 or do you look at what could have been built, what plant could have been built and what plant you're
11 actually building. Is it combined cycle or simple cycle, for example, in a gas. These are the kinds of
12 considerations to make. And those are the only extra points I wanted to make.

13 Treatments of acquisitions, divestitures. You can see there's a lot on this slide. And the question
14 really is if you sell your plant or you acquire a plant, how does that work. Do the credits go with the
15 plant sale or do the emissions -- let's use the words: Do the emissions go with the plant sale or do they
16 stay with a previous owner.

17 The other question is: Is it a time series. For example, it's a related concept. If you own the
18 plant for ten years and you've been reporting. Say you've been reporting for ten years and you sell the
19 plant to Company A. Does Company A get the tenth year's full emissions with the plant or do they start
20 when they acquire the power plant.

21 And I think where we came in -- these are general conclusions, because I don't think we
22 discussed it in detail enough to reach a total, 100-percent conclusion, but I think that the answer is that
23 the owner should -- the owner of the credit, it should stay with the owner of the plant at the time. So that
24 means if you had a gas-fired power plant and you these emissions for the years, then when you sell the
25 power plant, beginning that new year, say 2003, the new owner would be responsible for those credits,
26 then you're talking about adjusting the baseline. And that's the other -- we didn't really get into that, but
27 if you don't use a time series, then you're also talking about adjusting the baseline for the company that
28 sold the power plants and the company that acquired the power plants.

29 This is -- here's a couple: Should causes in reductions other than output be considered. Yes, and
30 the conclusion was that if there's incentives for doing new technologies or for building cost-efficient -- I
31 mean energy-efficient power plants, should companies claim those and take credit for those actions that
32 they took, even if they were mandated. The answer is, yes, we believe they should.

33 Now there's -- and the thing that we did not discuss yesterday and something we go through in
34 our company as well, is that there's two parts of this puzzle. One is that, yes, the company should take
35 credit for that, but then you have a public relations thing. And how do you categorize that. And that's up
36 to the individual companies. I mean because environmentalist groups will have one say on that. And so
37 companies might have quite another say on it. So how you actually publicize that I think is an individual-
38 company consideration.

39 But, however, if you're doing a good thing, the point is you should take credit for that. Whether
40 -- oh, go ahead.

41 MR. BURNETT: Well, and I think the way this is written here, it probably applies more towards
42 entity-wide reporting. I think if it's mandated and it drives your entity-wide emissions factor down, that's
43 fine. But if you're looking at it from kind of a project-accounting point of view, if it's mandated, kind of
44 due to the additionality concerns, then you probably couldn't -- that probably wouldn't constitute a
45 creditable event in that regard. So, again, it's kind of -- you always have to kind of clarify whether you're
46 talking about entity versus the project counter.

47 MR. GOLLAY: Thanks.

48 And weather might be the one exemption to this. We don't really know how to handle the
49 weather aspect, especially with respect to hydro. There's different ways to do this.

50 For example, when we as a company report to the Department of Energy we now include our

1 repowering of one of our hydropower plants. If we have a dry year, the answer is we don't have any
 2 emissions reductions to report. When we have a wet year, then we do have emissions reductions to
 3 report as a result of the repowering that we did.

4 And I think there's two ways of looking at weather. One is if you look at it from the short-term
 5 perspective or a long-term perspective. In a short-term perspective, good weather or bad weather, and
 6 whatever that "good" or "bad" means has a big impact on what you're projecting. From a long-term
 7 perspective it shouldn't. It should all balance out.

8 We talked about the time period of control. You should get the credits for reductions that occur
 9 when you are in control of those credits, unless they're contractually sold, or whatever, based on the
 10 transaction.

11 The last bullet has to do with if you divest power plants, like a lot of companies did, our
 12 included, what happens if -- say we were reporting those power plants before. And say the entity that
 13 gets, acquires those power plants do not -- no longer report it, there's a potential concern that you're going
 14 to have different numbers because the companies that acquired the power plants are no longer reporting
 15 it. So I don't know how to handle that exactly. I don't think we do, unless you have an answer to that
 16 one.

17 FACILITATOR BROOKMAN: Mike.

18 MR. BURNETT: Yes, this is Mike. I don't think I have an answer to that one, but I think in a
 19 voluntary system, it's different than a mandatory system here. In that if you had a mandatory system -- I
 20 think it's important in a voluntary system that when you divest, you know that kind of you divest the past
 21 stream also. So you adjust your baseline as if you had never had that project in the first place.

22 Because the concern here is that if you take all of your -- you know, the voluntary system
 23 theoretically you could take -- you could divest all your high carbon sources, maybe put them off in
 24 another subsidiary or actually just flat off sell them. And then your emissions would go down, you
 25 would report that great emissions reduction and then develop a creditable -- you know, government-
 26 backed creditable commodity out of it. And meanwhile in a voluntary system the ones who bought the
 27 coal went from low or zero up to high, wouldn't volunteer to report.

28 So you have to kind of think of -- differentiate between a voluntary system, you know, versus a
 29 mandatory system. I think you can treat divestiture different under a mandatory system and kind of allow
 30 that past-time series type thing.

31 And so one way I think you can deal with if a company kind of achieved a bunch of emissions
 32 reductions and then sells that facility, then as a part of that sale they could negotiate kind of a return of
 33 those emissions benefit back to them as a part of the transaction, but I think kind of the basic rule in a
 34 voluntary system would be that when you divest you basically go back to kind of the base year and take
 35 all of those emissions out and move them over to the new entity.

36 MR. GOLLAY: Okay, next slide. This first bullet I don't understand. Do you understand 1,
 37 Mike, or -- because I want to get to the other part of this thing. That one I don't understand.

38 MR. BURNETT: Well, this one has to do with the fact that there's an accounting -- I mean
 39 there's a potential for double counting. If you take credit for a project, then you've got to subtract that out
 40 of your entity reporting. Or then the flipside concern is if you take credit for a project and the project is
 41 owned by an entity that isn't reporting its entity wide, I mean they could be kind of gaining the entity --
 42 you know, by their things. And so there has to be some integrity check on projects versus entities to
 43 make sure that, especially if you're building credits in as opposed to progress reporting, that you're not
 44 really allowing for double counting.

45 MR. GOLLAY: Thank you. By the way, is this the last slide?

46 MR. SCHOLAND: One more.

47 MR. GOLLAY: Oh, the renewables is the last one or is that the last slide? Let's start with this.
 48 I'd like to go in reverse order.

49 This is kind of interesting question. I want to lay out the scenario for you. Say you're a
 50 renewable energy power project and you're selling the power to the utility, like a qualifying facility under

1 PURPA does. And say it's a fixed-price contract or a contractual long-term commitment. The utility has
2 got that as part of its actual firm mix.

3 And let's say that the power -- the utility then sells its aggregate of power to various -- to all its
4 customers. The question there is who would get the credit for those, the less emissions produced by, say,
5 a cogeneration power plant or renewable-energy power plant.

6 And in this case the answer would be the utility would get the credit because they were the ones
7 that are purchasing the power at a contractual price or whatever contractual arrangement they have. And
8 the customer is just buying it, getting that power as part of an overall mix. That's one scenario.

9 The second scenario. Let's say that the customer elects to buy green power and he or she is
10 actually buying it at a higher price. And they're electing to buy at a higher price. So say it's above
11 market price by three cents a kilowatt hour, for example.

12 The question then is who gets the credit for those emissions. And it seems that if the customer's
13 actually buying it at the higher price, it may not be the utility that actually gets the credit. It may be the
14 customer. It may be the generator of the renewable credit. I don't know how that would exactly -- we
15 don't know how exactly that would work, but it's a different situation. That's the key point.

16 So that's -- let's go back to the previous slide now. DSM --

17 MS. GLASER: Can we make a comment on that one?

18 FACILITATOR BROOKMAN: Please go ahead if you have a comment, yes. Your name,
19 please.

20 MS. GLASER: Yes. Nancy Glaser from Seattle City Light. In the contracting issue in, say, who
21 gets the credits for a renewable project, I think it's important -- certainly when we've contracted for
22 renewables we've made it clear in the contract that we're purchasing both the power output and the
23 environmental attributes.

24 I think to the extent you don't do that you, in fact, can't take credit and you don't get them. And,
25 in fact, your contract you're going to pay a different price if you want them both than if you just want the
26 energy, because the developer's actually going to end up selling those tags somewhere else. So you need
27 to deal with that very explicitly contractually or I think you can't count it.

28 FACILITATOR BROOKMAN: Thank you. And I think that --

29 MR. GOLLAY: And --

30 FACILITATOR BROOKMAN: Yes.

31 MR. GOLLAY: And we agree. I mean that's a good point you're making. We agree with that.

32 FACILITATOR BROOKMAN: You anticipate the next slide I think.

33 Yes, go ahead. Bud. Bud Beebe.

34 MR. BEEBE: Yes. And I think most people are aware of the Green E Program, which has very
35 successfully accounted for these differences and is very careful about separating these things. I think that
36 that process and/or state processes that are out there that do basically the same thing, you can't rely on
37 them until you've looked at them, but most of them are high integrity and I think that we have the tools in
38 place to do the right thing.

39 FACILITATOR BROOKMAN: Back to Howard.

40 MR. GOLLAY: Thank you.

41 In that last point we'll talk about demand-side management. This is another one of those
42 interesting questions I think. First of all, usually like most -- a lot of demand-side management -- where
43 does the funding come from demand-side management. Does it -- for public utilities, does it come from
44 the shareholder or does it come from the ratepayer.

45 I would guess for our -- I know for our utility's it's the ratepayer, and I would guess for all other
46 utilities it's also the ratepayer or the customer.

47 But the utility is responsible for implementing the system, the program to reduce energy usage
48 for customers. The utility is the one that develops the programs, that creates the programs, that markets
49 the programs to allow for the reductions to actually occur. As a result, again the general consensus in our
50 group was that the utility should take credit for its demand-side management programs unless it's put in

1 the contract the other way.

2 And I think sometimes you may have an individual, a case-by-case basis sometimes where the
3 customer and the utility might have to work on it to determine that. But, generally speaking, we believe
4 that the utility should take credit for the demand-side management programs, for the programs that it
5 manages itself and that it the one that's actually doing the work.

6 FACILITATOR BROOKMAN: Mike.

7 MR. BURNETT: And there again I think that for the utility, when the utility's putting money on
8 the table and in its participation agreement with its customer, it should put in there if it wants to receive
9 the credit, you know the fact that the credits would be transferred to this, I think the end-user, emissions
10 reduction, which is demand-side management, you know kind of like end-user initiated I guess and from
11 end-user investments, I think would rightfully accrue to that end-user.

12 And so I think according to the accounting methodology that we've put together that's pretty
13 simple, the kilowatt-hour reductions go to the end-user and that those benefits kind of is calculated. And
14 so the utility, you know paying for the demand-side-management program as a condition of participation,
15 then would probably want to put in that contract, 'I want those credits if I'm going to give you this
16 money.'

17 FACILITATOR BROOKMAN: Okay. Is that it?

18 Questions, comments following on -- following on those presentations?

19 Bud Beebe.

20 MR. BEEBE: Here are some comments for you spreadsheet junkies that actually keep track of
21 greenhouse gases, I have some good news for you. Our 1605(b) reporting has been done in the past and
22 will be for the foreseeable future done with heat rates against the various plants that we own and assumed
23 heat rates on the various things that we purchase from the outside.

24 And the California Climate Action Registry, which we are now a participant of, will really
25 require us to change basically the way we keep track of our greenhouse gas. We're going to have to go to
26 fuel bills as a method because of its far greater ease of certification. Third parties have to be able to look
27 at this and agree. And, frankly, when you come up with your own heat rate, how you apply that and so
28 forth, there's going to be endless problems.

29 So we recently did a thorough review of both how we have handled four different plants in the
30 past. And these are complex plants. They're cogeneration -- three of them are cogen plants with both
31 baseload and peakers. And one is a separate peaker unit. So it's not an easy heat rate to come up with.

32 But I wanted you to know when we compared the fuel bills for those projects for a whole year
33 relative to our assumed heat rates that we've used consistently over the years for those things, we were
34 within three percent in the final total.

35 So what I'm saying is have faith in your heat rates. They give you a good number, but that's not
36 the right thing for the future. We need to go to a fuel-bill-based way of handling things for certification,
37 but just sort of a good feedback from the past, if you will.

38 FACILITATOR BROOKMAN: Thank you.

39 Additional. Jane Turnbull, follow-on comments.

40 MS. TURNBULL: Just one quick question. Bud, are you dealing with different fuels or the
41 same fuel with the heat rates?

42 MR. BEEBE: It's all natural gas.

43 MS. TURNBULL: Okay. So if you had a mix of coal and natural gas, you'd have a different --

44 FACILITATOR BROOKMAN: Bud responds, "It's all natural gas."

45 MS. TURNBULL: Yes.

46 FACILITATOR BROOKMAN: Okay.

47 MR. BEEBE: Yes. But on the heat rate --

48 FACILITATOR BROOKMAN: Bud. Use the mic.

49 MR. BEEBE: Oh, sure.

50 MR. BURNETT: We know you're loud.

1 FACILITATOR BROOKMAN: They probably picked it up.

2 Okay. Additional follow-on comments?

3 That was a good report. Thanks for that.

4 Who's going to do the next report? Industry. Michael Scholand's going to do the next report,
5 from Navigant Consulting.

6 MR. SCHOLAND: Yes. I tried in vain to get somebody from the industrial breakout group to
7 agree to give the report back, so I think it's a lot nicer when participants do it, but no takers. Got to try
8 harder in Houston.

9 Basically we went through a series of questions. You all have the questions in your packets that
10 you've received. The first one that we discussed was: Are there some existing entity-wide greenhouse
11 gas intensity measures of output being used by industry.

12 And essentially we found in the discussion that, yes, there are some emissions pound per product,
13 for instance, tons of carbon per ton of cement or per ton of steel. But then we got into the discussion, we
14 had a couple companies represented which had diverse product portfolios, and it gets difficult. You
15 know there are tons of things produced. There are satellites and airplanes and semiconductors. So with
16 the widget metrics it gets a little bit harder.

17 By the way, I notice people taking notes. All these slides that are being presented will be in the
18 record. You'll be getting a pdf version of everything that you see on the screens as part of the workshop.

19 So then we said, 'Well, if you can't do a widget metric, well, maybe the revenue metric is the way
20 to go.' And we discussed some weaknesses there in that the market forces could cause a change in the
21 denominator which has nothing to do with what's going on in the factory. For instance, a gentleman from
22 the California Registry said they considered the revenue metric and decided to abandon it for that reason.

23 We discussed emissions per square foot of floor space for particularly commercial buildings, a
24 retail type of thing. And then we were sort of discussing what would be a service industry metric that
25 would be useful, perhaps emissions per unit of service, kilometer traveled, things like that, and emissions
26 per hour of work.

27 People who were in the meeting yesterday, did I miss anything on this question? Any points you
28 want to add?

29 Okay. The next slide, please, John. So then we threw out the question of what would be your
30 ideal greenhouse gas intensity metric. We talked about an intensity metric that would cut across
31 industry, an industry sector, and would fit within the business activity. For instance, pounds of carbon
32 dioxide per kilowatt hour. Useful to our customers and add societal value is something that was
33 desirable.

34 A metric that stands the test of time. But then the concern was raised: Well, a car today is not
35 the same as a car produced yesterday. Things are evolving. Take cement. Cement's even evolving. The
36 ash content, I understand, has been increased, and that's not the same as a ton of cement produced a few
37 years ago. So that metric is diverse and is sort of moving. Anyway, we had some discussion around that.

38 Some expressed an interest in having a per-dollar-per-ton reduced metric reported. That is to
39 say, what's the cheapest mitigating option, technology option available within industry.

40 And then, finally, there was a suggestion made that the group should review what's going on in
41 the U.K. They have an industrial greenhouse gas reporting system with more than 30 different metrics --
42 30 different sectors and metrics within those sectors that they have painstakingly negotiated, I
43 understand, over several years. So we're going to be reviewing that and providing that information to the
44 analysis in the 1605(b).

45 Have I misrepresented or missed anything on this slide, guys? Okay.

46 Okay, the next slide, please, John. Are intensity-based metrics the same as tradable credits.
47 That's a big question. There are some challenges to convert your rate-based metrics to an absolute-based
48 measure. Obviously you're going to need to take your intensity metric at some point and convert it to
49 tons of carbon dioxide if you want a tradable credit. Well, there's some debate around that issue. That's
50 a challenging issue.

1 One gentleman raised a point that, you know, the atmosphere doesn't care if a ton of CO₂ is
2 produced here or in South Africa, that there's no regionality barriers with these issues in intensity-based
3 metrics.

4 And the delegation from Canada actually made a very good contribution -- well, they had very
5 good contribution throughout, but this point I thought was particularly interesting, is that the intensity-
6 based metric is a good base for allocating emissions permits, what could be considered that. Because
7 companies that take early action relative to other companies in their industry would not be penalized if
8 you made a decision under Kyoto to allocate carbon emission credit -- permits based on an intensity
9 metric. You would not be penalizing companies that take early action because they would be -- you
10 know, relative to their own industry, they would be lower already. So I thought that was an interesting
11 point.

12 Yes, please.

13 MR. PROLMAN: Bob Prolman. A question for you. I'm a little confused about the difficulty
14 that you suggest is there in translating the intensity information into reductions. And like it usually
15 comes from how does one create an intensity measure without knowing upfront, in the first place, what
16 the reductions are that are going on? Don't you actually have to start from that?

17 MR. SCHOLAND: There was -- I agree with you, that if you're going to have an automobile
18 produced or a ton of cement, then you know what the carbon is associated with that. The issue came if
19 you're reporting on an intensity -- entity-wide, intensity basis. I guess...

20 FACILITATOR BROOKMAN: Does anybody else in this group wish to respond to that?

21 MR. SCHOLAND: Do you guys remember the context around that? Because I know that we
22 didn't really have general agreement, so I didn't want to say yes or no. I just wanted to highlight that it
23 was discussed.

24 MR. PROLMAN: Bob Prolman again. Maybe it's just -- in my mind it's just whether you're
25 reporting one or reporting the other, you actually will end up with both. And the issue to me is where
26 and how do you -- if you're reporting only intensity, lodge someplace or register someplace the more
27 quantified total, that you'd get a qualified credit for future trading that's in the President's Directive. And
28 maybe that's the difficult issue, I don't know.

29 FACILITATOR BROOKMAN: Bud Beebe.

30 MR. BEEBE: Yes, I was in that session. And I believe that the real nugget here is that there's
31 great value to the companies and the employees of companies and different people within the certain
32 industry in having these intensity-based metrics.

33 They're useful for understanding how -- how well you're doing, okay, relative to what you did
34 last year or maybe the year before or maybe even last month. So they can be very valuable to employees
35 and companies themselves. And they can be valuable to the customers of companies.

36 I think that that's where we saw the real stuff, but when you try to translate -- you can't just take
37 those intensity-based metrics and apply them directly into some registry. Because, as was noted in the
38 previous slide, things change. So they're not absolute. They're simply metrics and they do have value.
39 And we should promote their use, but not their use instead of the absolute or baseline items.

40 MR. SCHOLAND: Thanks, Bud.

41 FACILITATOR BROOKMAN: Brad. Brad Upton has a comment.

42 MR. UPTON: Just a clarifying question. Brad Upton with NCASI. Are you basically saying the
43 denominator of the intensity could change with time, so if you're looking at maybe historical data on
44 intensity where the denominator may have changed in nonregular patterns, it might be hard to convert it
45 back to absolute emissions?

46 MR. BEEBE: A specific case is if you were -- if you're an automobile company and you decided
47 that the metric that you were going to use for a particular facility was greenhouse gas tons per ton of
48 vehicle, that might be a very useful item for people in the plant, for management in the plant. But it
49 would be not very useful for either the customer or for -- or as models change, as you decide to go from
50 trucks to Volkswagens, or something. It wouldn't have any translation capability, but it could be a very

1 valuable metric for that industry or for that facility.

2 And so, yes, those metrics have value, but you shouldn't use them instead of a more absolute
3 mass-based registry system.

4 MR. BURNETT: This is Mike Burnett. And I think you can set up a crediting system based
5 upon intensity metrics. You know, pounds or tons per whatever. If you set up that rule, yes, there's some
6 possibility that you'll get some whipsawing around of that number because your denominator goes up and
7 down maybe not in synchronicity with your tons. But I guess if that's a system, that's a system, I guess
8 that's a risk that a company takes.

9 I mean maybe you give companies the option of, you know, either doing mass-based or intensity-
10 based type things, but I think it can be done. I think there are -- I don't think any system's going to be
11 perfect.

12 The nice thing about intensity metrics is again that you can get growing companies to participate
13 and maybe be able to do something that they otherwise wouldn't have done, you know, to drive that
14 metric down. Whereas if they're in a mass-based system and they're growing and they can't get any
15 monetized credit value for that, then they -- you know, they just maybe won't doing something different
16 and won't help solve this problem.

17 FACILITATOR BROOKMAN: Thank you.

18 Sue, did you have a...

19 MS. HALL: This is Sue Hall with the Climate Neutral Network. I think Bob raised an important
20 point here which is your intensity metrics I think are very valuable as an indicator of your overall
21 performance and progress through time.

22 But at this stage in the game if we establish a series of mechanism by which you can trade carbon
23 between entities based upon an intensity measure, underneath that intensity measure are a whole series of
24 emissions reductions, offset projects, that have amalgamated up into that one metric.

25 Now as I see this emerging market at this point there is enough complexity in trying to establish
26 whether a particular project is sufficiently credible, verifiable, and additional, that it can legitimately be
27 traded and be recognized within a market system.

28 I think that one of the quite significant additional layers of complexity that you bring into this, if
29 you're going to trade based on an intensity metric --

30 FACILITATOR BROOKMAN: Do some translation.

31 MS. HALL: -- is that you have rolled up into that intensity metric a whole -- a whole system of
32 emissions, internal reductions, and offset projects. And at that point, you know my mind goes, 'Whoa,
33 this is getting kind of boggling,' to be able to figure out, you know, the additionality all of all those
34 actions rolled up into just one metric.

35 So I'm not saying that it's -- it's not worth looking at further, but I'm just pointing towards really
36 quite, quite different levels of complexity that are embedded in those two ways of conceiving what it is
37 you're going to be trading.

38 FACILITATOR BROOKMAN: Anne, is your comment related to Sue's?

39 MS. BOUCHER: No.

40 FACILITATOR BROOKMAN: Let Mike follow on, and then I'm coming back to you.

41 MR. BURNETT: I think that --

42 FACILITATOR BROOKMAN: Mike Burnett.

43 MR. BURNETT: -- if you're dealing with an intensity metric and you're dealing with entity
44 wide, then I think that you don't really care then about additionality. You just care about kind of absolute
45 performance.

46 You know, again, you have to consider in a voluntary system you have all those inside and
47 outside-the-system issues that have to deal with, but --

48 MS. HALL: This is Sue again. So in that sense an intensity metric would be a very good basis
49 for allocating credits if you had a cap. If you had a cap it would be a great way of doing things. But
50 absent a cap, if you're going to trade something, you have an additionality question. And so my concern

1 --

2 FACILITATOR BROOKMAN: On a project basis.

3 MS. HALL: On a project basis.

4 FACILITATOR BROOKMAN: Yes.

5 MS. HALL: And so I guess my question would be how you -- absent a cap, how you would you
6 evaluate that quality, that additionality in the context of an intensity metric, absent the cap.

7 FACILITATOR BROOKMAN: Okay. Thank you.

8 Anne Boucher.

9 MS. BOUCHER: Anne Boucher, Baseline Protection Initiative. The way that we look at those
10 emission intensity under the BPI, it's really the concept of avoided emissions. So it doesn't have to be a
11 reduction in the absolute emission. It has to be a reduction that's come from a reduction in your emission
12 intensity.

13 And when you look at the kind of action that can reduce the emission, well, you can reduce the
14 emission intensity or you can reduce the outputs, but there is not so much company that is working on
15 reducing their outputs. So the best way to look at what is a real reduction is to look at the emission
16 intensity. And if the output increase, well, there is still some avoided emission.

17 At this under the bpi we look at those metrics to quantify reductions honestly, and from that
18 adjusting the allocation that early reducer would have had. It's really useful there.

19 FACILITATOR BROOKMAN: Okay. Thank you.

20 I want to give Michael Scholand a chance to finish.

21 MR. SCHOLAND: A couple more slides.

22 Pete, am I still on? Okay.

23 So moving on. The next question actually was touched upon by the previous group. And the
24 gentleman from NIST had raised this: What about actions taken by companies to purchase low-carbon
25 inputs, either energy or materials. Should the industrial customers get greenhouse gas credits for buying
26 a low- or no-CO₂ kilowatt hour, for example, because emissions are avoided. And I think we actually
27 have a satisfactory answer to that from Seattle City Light already, so I won't discuss that.

28 But then if you look at it from a material point of view because, you know, we are the industrial
29 breakout group, what about buying low-CO₂ materials, such as recycled aluminum instead of box-side-
30 based aluminum or other recycled materials that have less embodied energy in their manufacturing.
31 There are CO₂ savings associated with that.

32 And then we started talking about that, you know, they would be difficult to verify, because
33 you'd be relying on the information from your suppliers or you would have to send a third-party and
34 audits. Anyway, it would be difficult to verify, but it was just something else that we had discussed.

35 Any comments on this one?

36 The next slide, John. Two more slides left.

37 How many -- how should the Registry handle the nonCO₂ gases. So I think we had, I think,
38 agreement on this issue. Companies should continue to report on a disaggregated basis using the term
39 gas species.

40 I think there's about, Paul, is it 50 different gases? It's an enormous number of gases in the
41 1605(b) long form.

42 MR. McARDLE: I think it's 45.

43 MR. SCHOLAND: Forty-five, yes. I have six listed there, so obviously it's --

44 FACILITATOR BROOKMAN: Paul McArdle says 45 gases.

45 MR. SCHOLAND: -- an incomplete list.

46 And, you know, apparently the global-warming potential, or GWP, of those gases changes as
47 their science or understanding of the gases and their response to the atmosphere changes, so we like have
48 the disaggregating reporting.

49 And then, finally, for public-reporting purposes a gentleman remarked that carbon dioxide was a
50 better unit to report than carbon.

1 FACILITATOR BROOKMAN: Thank you. Arthur Rypinski.

2 MR. RYPINSKI: Right. Arthur Rypinski with the DOE. A short clarifying comment. When the
3 1605(b) Program was being designed it was of course in the early 1990s. And the question of which
4 gases would be considered greenhouse gases under international agreements was much less settled than it
5 was in the later 1990s.

6 The 1605(b) statute itself lists, for example, chloro -- chlorofluorocarbons explicitly in the
7 statute. And the question of the radiatively-important criteria pollutants was also on the table at that
8 time. So there are a very large number of gases listed in the 1605(b) database as an artifact of that
9 particular period of time. In fact, there's relatively little, though not zero, reporting of chlorofluorocarbons
10 and radiatively-important green -- did I say segment untrue?

11 FACILITATOR BROOKMAN: Paul McArdle.

12 MR. McARDLE: Just -- is this on? Just for the record, I count 41. Forty-two counting "other."

13 MR. SCHOLAND: Thanks, Paul.

14 Okay. Finally, the confidentiality question.

15 FACILITATOR BROOKMAN: Are these guys data rats, or what. Okay.

16 MR. SCHOLAND: If a business is reporting on an entity-wide basis there's general agreement
17 that there's not too much concern with confidentiality. And the gentleman remarks as well that there's a
18 fair level of information sharing within his particular sector, so he wasn't concerned about confidentiality
19 at that level.

20 However, there could be a problem if data were to be evaluated at a facility level, so that was a
21 concern.

22 A representative from the EPA said that in the Climate Leaders Program they have a third party
23 because, you're familiar with that acronym, FOIA, the Freedom of Information Act. Anything that the
24 government pays for or is in the government's possession becomes public information if someone writes
25 a formal request for information.

26 So I see Cynthia grabbing the microphone. Go ahead.

27 MS. CUMMIS: Hi. Cynthia Cummis from the Climate Leaders. I just want to clarify, we
28 actually haven't set that up for Climate Leaders yet. That's something we're thinking about, --

29 MR. SCHOLAND: I'm sorry.

30 MS. CUMMIS: -- but it's an option that other voluntary programs at EPA have used.

31 MR. SCHOLAND: Thank you. Thank you. Sorry about that.

32 The idea is that if a reporting company wants to participate, the reporting company pays a third
33 party. The data is maintained by them. And since the government's not contracting that company, they
34 are protected by the confidentiality agreement between the company and the third party. One way to get
35 around confidentiality.

36 And, financially, the issue that there is a trade-off between confidentiality and transparency. You
37 need to establish legitimacy of your calculations to get credibility in your program. But if you go too far
38 down the road of black ox, you may lose your confidence in your program from the public.

39 A few hands have gone up. So, Bud, did you want to handle that?

40 MR. BEEBE: Yes. It's important to note that confidentiality is -- I tend to think of it as being a
41 competitive thing. You don't want your competition to know what you're doing. The competitive
42 advantage, and whatever.

43 But it's clear that much of the confidentiality issues that are associated with government have to
44 do with fear of future regulation. And so the confidentiality is a protection that private companies use to
45 forestall government looking in their books and deciding how to regulate them.

46 FACILITATOR BROOKMAN: I see. Bill Irving.

47 MR. IRVING: This is Bill Irving, EPA. I just wanted to follow up with an example of how EPA
48 in one instance deals with confidential information.

49 In the National Inventory with the reporting of HFC₂₃ emissions from the production of the gas
50 HCFC₂₂ there are only four plants and I think only a couple of companies in the country that do it. And

1 you can actually calculate production based on emissions.

2 And so what these producers have decided to do in order to report emissions, which is voluntary,
3 is do this through a third party. This third party reviews the estimates and then rolls them up and
4 presents them to EPA.

5 And Kevin Fay, who I don't think is here today, is actually a member of that group that does that
6 wracking up.

7 FACILITATOR BROOKMAN: Thank you. Thank you.

8 MR. SCHOLAND: Other comments or additions from the industrial group?

9 Call it a wrap. Okay. Thank you.

10 FACILITATOR BROOKMAN: Thank you. Thanks a lot.

11 Final comments on this cluster of slides?

12 Frank Guenther. Let's queue up the agriculture one.

13 MR. GUENTHER: This goes back to the intensity metrics. And I see it as you're trying to
14 compare bananas with apples with oranges, and try to convert them all to apples.

15 When you're trying to compare things it's better to compare apples to apples and oranges to
16 oranges. I'm thinking of a company that would produce buses first and big trucks. You try to do an
17 entity-wide metric. That doesn't make sense. I mean you want to do a metric based on person miles or
18 you want to do a metric versus on tons traveled. It doesn't make any sense.

19 I think you have to go down from the entity wide and really go down to something that's fake and
20 compare apples to apples and say, 'Well, this company is producing something that's based on person
21 miles. It's a people-transport system, and that can be directly compared to automobiles.' And I just don't
22 see where this entity-wide metric are really that useful.

23 FACILITATOR BROOKMAN: In the other workshops many people had referenced to how
24 many challenges there were to try to create broad entity-wide metrics, especially from many in the
25 industrial sectors. Okay. There's a lot of diversity in the product mix.

26 Let's go to the agriculture one. Are you presenting, Bill? Bob.

27 Thank you. Bob Prolman.

28 MR. PROLMAN: I will try and stand out of the way of anyone's view here. We had a long
29 session that went way past quitting time. We were very committed or needed to be committed group.

30 Several topics came up. I think what we'll have here, and there are three slides, are basically an
31 attempt to capture the issues that came up. They were not -- these are not necessarily a profile of
32 consensus or agreements or conclusions we reached, but rather the issues that will have to be addressed
33 and ideally resolved in some workable fashion.

34 The first category, as you see there, is dealing with the treatment of agriculture and forestry
35 within 1605(b). Category: The entity versus project-reporting issue, which you've heard every other
36 group raise.

37 Fundamentally, one of the critical things that comes out there is how do you resolve the issue
38 around benefits to entity reporting when you take on leakage. And that's not really just product based or
39 small project or large. Whenever you're talking about some entity and you draw a boundary around it,
40 there's going to be the question of dealing with leakage or transfer.

41 Another element is, as you see, projects require additional documentation. I think it's the
42 obvious. The more you go down into a subset in an attempt to define a piece that you can put your arms
43 around, the more you -- almost in the context of leakage, the more you have to begin to describe what is it
44 so that any third party can take a look at it and have a common understanding of what's being talked
45 about.

46 The CDM dilemma. What is an entity. The more you go offshore or far away, other host areas
47 that aren't in the U.S. Again you come up to whose definition of what is an entity, how do you
48 circumscribe the thing that's being quantified or compiled or even if it's an efficiency or intensity metric.

49 And then, lastly, how do you add all this up, all the different pieces, all the different accounts. If
50 we have lots of different metrics of pieces, even in just the forestry element alone, how do we put it all

1 back together, in what kinds of packages or pieces so that it can be evaluated and made use of; which
2 really trips right into the next element: Baselines.

3 One of the ongoing issues we have in both agriculture and forestry is the so-called additionality.
4 There was not necessarily agreement on what ought to be in additionality in terms of all the different
5 things you count or don't count. For example, if it's regulatory driven is it business as usual. Since you
6 get dinged for a downside, do you get a credit for an upside. Or, conversely, will you be held liable for a
7 loss on something if it's not counted in an additionality baseline.

8 But fundamentally I think there is agreement around that there has to be a net increment of
9 change. And that's however you approach it, that has to be addressed, which again some of these are
10 probably overlapping elements. How do you go about identifying and establishing credits and debits that
11 get counted in the system.

12 How do you factor in natural variations. This is sort of the weather question that came up. In
13 forestry and in agriculture weather is a very immediate type of factor. You will get a degree of natural
14 variation. There are questions about what are the different options for smoothing out the curve and
15 keeping a viable number in place to use as a baseline or a point of reference. So that will have to be
16 taken on, and that works both ways.

17 You pick a year where you've had a big number, you can reduce from easily. It gives you one
18 situation. Or you could pick that year and it's overly constraining on your operation, and you'll have to
19 work against, let's say, a year where you didn't get much gain, and reduce from there. So it could be a
20 very difficult challenge.

21 The need to ensure small land-owner participation. Agriculture and the forest industry are two
22 industries that still have a very high percentage of players in it that are small. They're not fully
23 dominated by like the big three in the auto industry type of thing -- or I don't know what that number is
24 today in the world. But each individual small piece may not add up to much, but they are often in
25 forestry a majority of the wood supply in the U.S. in and other parts of the world.

26 And so if we don't find ways to make this cost-effective, eliminate the frictional costs of all the
27 transactions that have to go on to count and report and so forth, we're going to lock out participants and
28 not capture a very significant piece of the pie.

29 I mentioned a moment ago on additionality the question about exceeding things required by law.
30 Again, how do you deal with, if it's what you count, and if we preclude things that are required by law
31 and there is a loss. This is agriculture and forestry, two areas where you can actually lose the locked-up
32 credit that can evaporate from catastrophic events. If you haven't encountered it then how do you debit it.
33 Do you have to add it and then debit and so forth. So somehow we have to resolve the handling of that
34 element of the additionality discussion.

35 And then, lastly, there's a question of particularly in agriculture there are a number of programs
36 that have gone on historically and we still have some significant ones, and I believe some new ones
37 recently legislated where the agricultural community can receive a subsidiary for doing something or not
38 doing something. And if that results in locking up credit, can they also get resources or value for the
39 credit. In other words, can they double dip into the federal pot and get two payments for doing one thing.

40 And there's a question around -- I guess legally right now that's a very real potential, but the
41 question is how do you deal with at least extracting value or putting some integrity into that process so
42 it's not just excessive subsidization of one particular sectoral subset.

43 And one of the options considered, and there may be others, is perhaps since this is a so-called
44 perishable-credit universe, you put some obligations that if you get the subsidiary you have to do
45 something to make sure it stays permanent. You don't just get it for a year and then discard it and it has
46 to be paid again on a following year.

47 Next slide, please.

48 Sequestration. Again, this really applies across the board for whether it's a crop or a forest. The
49 whole business of counting and how do you actually measure this stuff. The methods for calculating, and
50 particularly with respect to projects. The concern was that we ought to have a comprehensive approach,

1 whether it's lifecycle or all the other different elements and time. There's a lot that goes on. It is time
2 based and a lot of pieces, so we need to capture that.

3 Another aspect is uncertainty. In the calculus. In the methodologies for measuring nature
4 biosystem growth and biomass stock changes, there are several regimes when you're talking about both
5 forest and agriculture. There's what's above the ground and what's below the ground. The science above is
6 fairly precise. We can all see it and physically you can literally measure it. You can harvest it and put it
7 on a scale.

8 But what's below the ground is a lot less certain. And if we want to go forward now and not wait
9 for certainty, can we establish acceptable levels of certainty around the calculus, whether it's the medium
10 or mean or low, a boundary value on some statistical sampling or something, but can we set up a set of
11 rules that everybody would buy off on that would allow people to go and make the measurements in an
12 accepted way. And thereby eliminate uncertainty in and of itself as a barrier to proceeding.

13 Lastly in this category, the need to develop a system that will improve over time. We're very
14 much oriented to a world in both agriculture and forestry, but we've seen practices change dramatically as
15 the science and methodologies improve over often five- and ten- and 15-year time spans.

16 I know in forestry today we do things in rivers and streams that were banned by law a few years
17 ago, so there are dramatic changes.

18 And the idea here was in order to facilitate, let's move on and make things happen, is to get
19 comfortable around the concept of putting something in place and recognize it ought to be periodically
20 revisited and updated and changed. Along with that goes the risk that -- and this also relates to the
21 uncertainty issue. You may make a decision now that you'll go back and revalue the inventory under new
22 rules five or ten years out. And it may not go up. It may go down. You may have created a new
23 exposure for yourself.

24 But I think not only does it cut both ways, but a lot of us, actually if we stop and think about it,
25 are always dealing with and managing that kind of uncertainty and risk all the time. So I think that's not
26 insurmountable, as we discussed it.

27 Permanence. These are, as I mentioned before, assets that could get created, but they're also
28 subject to loss from catastrophic and other events. And so how do we deal with that.

29 The Pacific Forest Trust mentioned in the trades that they have created already they use a number
30 of mechanisms as basically the buyer, owner, and holder of the carbon asset to ensure through things like
31 easements or so-called project pools, or you set aside some of the carbon stock that you've created, some
32 acres that you don't sell or trade. And that's sort of your own self-insurance.

33 There are a lot of other market mechanisms that exist that actually both in agriculture where you
34 have a commodities trading world already and in the forest industry as well through actual physical pools
35 and self-insurance and risk-management methods to deal with effectively being able to permanently
36 guarantee that if I have a credit and it's traded or sold to somebody else, the seller can back that and be
37 liable for permanent existence of that credit. It may have to be substituted in some other way, but there
38 are many mechanism that exist already. And that includes things like self-insurance, as I mentioned.

39 The concept of leasing carbon. Can you sell it for maybe 20 or 30 or 50 years. And the buyer
40 would then have to do something else and maybe perhaps the price they pay for at least a ton of carbon
41 might differ from a permanent contractual thing of carbon. But in a fully fungible trading world in the
42 future, why not. It goes on all the time.

43 There is a question about permanence related to certification. In a trading context there has to be
44 credibility behind the asset. And so somewhere you have to deal with a process to certify. And the
45 fundamental question that will be asked around that is how do you get the information around
46 permanence. How can you certify if you can't really ascertain the degree of permanence. And that will
47 get into evaluating perhaps the quality of the credit being taken and/or traded.

48 And I mentioned traditional-risk management already.

49 Next slide, please.

50 I think this is our last slide. There were three or four other issues that we didn't have the luxury

1 of additional time to talk about, but nonetheless they're going to be I think an important part of the debate
2 and discussion in any effort to reform or revise the 1605(b) rules.

3 Ethanol. Is it oversold, undersold, as the viability of it and the different forms at which it can
4 make a contribution, and there's a lot of question around I guess the science really. This is not my
5 strength subject matter, but around the alternative ways of producing it and the benefits you get from
6 each way of producing it vary.

7 Did I get that right? Okay.

8 Boundaries and transfers. One of the issues particularly in the forest industry that we have is if
9 you do the forest accounting in a cycle, you grow and you harvest, and it's a net zero, what about the fact
10 that a log leaves the forest and it really didn't go to the atmosphere and there's a product credit out there.
11 And so somewhere something that is acknowledged right now, a national reporting of the forest regime
12 under the Climate Change Reporting requirements, the convention.

13 And somehow we need to figure out how to make that more workable in a detailed enough way
14 to track it at the site level or entity level, be able to quantify that, and also avoid double counting.

15 Internationally, as you've heard in the other reports, the question again of leakage comes up and
16 offshore, things far away, other regimes, other rules. The same set of issues there: How do we deal with
17 the integrity around that.

18 And then the last category of concern relates to a question of co-impacts or co-benefits. And this
19 recognizes that both forestry and agricultural projects are really there for many other reasons and have
20 many other benefits and impacts depending upon how they're managed. Both merchantable benefits.
21 Things you buy and sell, and things that aren't monetized in our society today but are nonetheless of
22 critical importance. And what is a way to manage that so that you don't find this program driving
23 investments to gain credits that have negative rules in other areas without complicating the rule package.

24 And I will ask others who were there: Any omissions, creative verbal writing here that I did in
25 the presentation, or are we okay?

26 FACILITATOR BROOKMAN: Paul McArdle.

27 MR. McARDLE: Paul McArdle, EIA. I would just amplify on the ethanol. The alternative-
28 production approaches that were referred to were corn-based ethanol production versus cellulosic-based
29 ethanol production. And they have quite different greenhouse gas impacts.

30 FACILITATOR BROOKMAN: Thank you.

31 Other comments on agriculture and forestry? Please.

32 MS. GLASER: Nancy Glaser, Seattle City Light. I guess I'll ask the question here, it really
33 could relate to other industries also, but certainly one of the things we've been wrestling with is how do
34 you deal kind of the time value of CO₂ reductions. And it really kind of comes out clearly in
35 sequestration kinds of projects.

36 To the extent we're trying to, for example, purchase mitigation via project and value the CO₂
37 reductions, you know we've actually looked at some discounting believing that reductions now are more
38 valuable than reductions later. And I wonder if there was any kind of thinking about how to deal with the
39 time value of carbon reductions that emerges from projects and how people account for that?

40 FACILITATOR BROOKMAN: Did you discuss that in your group?

41 MR. PROLMAN: Bob Prolman again. We didn't discuss it, I think, in any great detail. It did
42 come up in general, in a general sort of way of these things happen over time because they're growing
43 things that grow over time.

44 I guess I could add from our own experience of looking at this is, and I can only speak to the
45 forestry side, someone else may be able to speak to it on the agricultural side, we have a pretty well
46 developed capacity to project what we call yield -- growth and yield.

47 I think in a carbon-stock, though, regime there's going to be a necessity, as we do actually with
48 our fundamental inventory of continuously updating the reality of it. And then when you get into the
49 booking of it annually, for example. You know, if we have a -- I'll say a new forest, an A forestation
50 project. Green fields. It may have just been grasslands. And now you're going to grow x hundred acres

1 or thousands of acres of trees. We could project what that would be. You've got to go back and look as
 2 it occurs, validate, adjust the books. Sort of like projected revenue versus realized revenue, and do that
 3 on a regular basis. And that is the mechanism through which you could look at verification and
 4 certification.

5 And then the question of how do you -- if you're trading it or offsetting, you know it's very
 6 reasonable to look at it from whoever's buying, paying, might want to do a present-value based approach,
 7 just like any other financial asset.

8 As to whether you want to discount the number of credits, that gets into the certainty issue and
 9 whether you want to take a lower-bounded value or a median expectation and adjust for that. So those
 10 are the three or four parameters that we are constantly evaluating to try to figure out what makes sense
 11 and what's credible.

12 FACILITATOR BROOKMAN: Let's let Bill from the Department of Agriculture, Bill
 13 Hohenstein first, and then I'll go to Mike and then to sue.

14 MR. HOHENSTEIN: Sure. Bill Hohenstein. This issue didn't come up yesterday in our
 15 discussion, but it has come up internally within USDA as we work to develop accounting rules and
 16 guidelines, and also our perceived comments from a number of stakeholders on this. And there are a few
 17 options out there, I think.

18 I mean one is simply realtime accounting, where the credits for carbon that's sequestered from,
 19 say, a forestry project are given when the carbon is sequestered. I think the issue when it comes to some
 20 of these forestry investments is the lag time between the capital investment and the return is pretty long.
 21 And so there are some issues with that. And that's not an issue that's unique to forestry necessarily. I
 22 think it's an important one for forestry projects.

23 We've record other proposals that would basically allocate the entire benefit of a project over its
 24 lifetime and allocate that upfront. And these are options that we're going to have to work through, I
 25 think.

26 The groundrules for us, when we're dealing with an issue like this, is that what we develop for
 27 forestry and agriculture needs to be consistent with how these issues are dealt with in the system in its
 28 entirety. So you know to the extent where there's a unique issue for forestry and agriculture, I think we're
 29 going to be dealing with it within USDA. To the extent where this is an issue that cuts across industrial
 30 sectors, the DOE process is going to have a lead.

31 FACILITATOR BROOKMAN: Um-hum. Thank you.
 32 Mike Burnett.

33 MR. BURNETT: Yes. Nancy brings up a very interesting question. So say that Seattle City
 34 Light needs 100,000 tons. And she can go to Bob at Weyerhaeuser, and he's got industrial facilities and
 35 he can come up with 100,000 tons next year. Or you could go to her and say, 'Well, I've got, you know,
 36 100,000 tons over 100 years, that's a thousand tons a year,' and then kind of -- and I think Nancy's
 37 question is on an effects basis, are those actually equivalent or not.

38 Or is the fact that you're getting the 100,000 tons all in one year, you know, kind of better for the
 39 environment because it's happening earlier in a time series than later. And then does she as a buyer have
 40 to look out years and almost do an environmental discounting apart from an economic type discounting
 41 when she is trying to match her 100,000 tons of emissions this year, she wants to offset this year. You
 42 know, it's pretty clear that if you can get her this year's tons or next year's tons, there's not a time
 43 problem. But if it's kind of an overly-lengthy amount of time, does she need to kind of discount those
 44 and maybe buy 110,- or 120,000 tons of sequestration, say, to equal the 100,000 tons of the other one.
 45 That's a basic question.

46 FACILITATOR BROOKMAN: I'm looking to Nancy. Is that a fair interpretation?

47 MS. GLASER: Yes.

48 FACILITATOR BROOKMAN: Yes, she says.

49 Bob Prolman.

50 MR. PROLMAN: Yes. You have raised a question which I have watched in the northwest on

1 particularly some of your projects and some of the others. And I think there's a fundamental policy call.
2 It's sort of like do you have accelerated depreciation write-off or not, and I think that's an environmental
3 fundamental policy call if we're looking at greenhouse gas emissions, that we need basically a
4 government decision on how it wants to make it.

5 There are a lot of different arguments and views on all sides out there.

6 FACILITATOR BROOKMAN: Mike Burnett.

7 MR. BURNETT: I guess maybe since we have government representatives here I guess I can
8 make a request. It would be very interesting if someone who would run the climate model, the climate
9 impact models, are we going how many -- you know, and take a chunk of carbon out, you know, now,
10 and take the same chunk out every 10, 20, and 30, and 40, 50 years, or something like that, and see what
11 difference does that make in the temperatures and kind of -- you know, it seems like the scientists
12 somehow could at least bound this impacts. And is it a one-percent discount rate. Is it a two-percent
13 discount rate. Is it negligible. You know you can't -- you know, without some kind of scientific
14 assessment of it, it would be hard to figure out what a reasonable discount rate to use would be.

15 FACILITATOR BROOKMAN: Thank you.

16 Sue and then to Howard.

17 MS. HALL: Sue Hall with the Climate Neutral Network. When our Environmental Advisory
18 Board has been looking at this question we've gone back to the IPCC global-warming potential factors
19 and the assumptions that lie behind that, which essentially are assessing the potency of greenhouse gases
20 over a 100-year spectrum.

21 And from that we've worked with using a one-percent discount for the forcing effect of having
22 global-warming gases persist in the atmosphere each year through time. So I think there are some very
23 helpful, credible, scientific-based systems that are already out there that we can look to, to try and look
24 and answer that question as to what the discount factor should be for forcing effects that IPCC have put
25 together.

26 FACILITATOR BROOKMAN: Thank you. Thank you.

27 Howard Gollay.

28 MR. GOLLAY: Thank you. Just a brief comment on what Bill had said before. I believe that
29 eei, the Electrical Engineering Institute and utility too is assuming that credits would come in the year in
30 which they are accrued. And so when trees are planted, for example, whatever -- in 50 years you get so
31 many emissions reductions and in a hundred years you get so many emissions reductions. And all I'm
32 suggesting here is again there needs to be some coordination.

33 Because they have these power partner initiatives, and we're doing this here and hearing this.
34 There needs to be some coordination among the agencies, among the initiatives that are being presented
35 by various industrial organization.

36 FACILITATOR BROOKMAN: Thank you. Thanks very much.

37 Back to Mike.

38 MR. BURNETT: Well, you know that poses an interesting project-finance issue because if you
39 -- as an offset seller, you can only get paid for the tons as they accrue. And let's say you have a 50-year
40 sequestration project, so you get paid one-fiftieth of the money every year, or something, and depending
41 on the growth curve. But that means you're going to have to be able to finance your whole project, you
42 know to plant all the trees or whatever you're doing, and you're going to have to go to a bank and say,
43 'Okay. Well, lend me money against this credit stream.' And that probably isn't a real well evolved part
44 of our banking system as of yet.

45 And what we find at the Climate Trust is there's a number of good projects out there which they
46 couldn't go to a bank and finance, so they want the capital money upfront, which we provide. And we
47 have to build all these mechanisms into our contract to make sure we're getting what we pay for.

48 FACILITATOR BROOKMAN: Arthur Rypinski.

49 MR. RYPINSKI: The Department of Energy hasn't asked any questions about capitalizing future
50 reductions. If one were to extend that principle outside of the area of agriculture and forestry, it might

1 get quite complicated because you would of course create the problem of permanence in other sectors
2 and lots of other issues related to the maintenance of contracts over time. And we've not asked that
3 question in the context of other sectors and we haven't heard anyone advocating capitalization in any of
4 the other sectors.

5 FACILITATOR BROOKMAN: Sue Hall first and then to Bob.

6 MS. HALL: In Australia the greenhouse gas agency there only permits the current year carbon
7 to be registered in their system. And thus folks are only -- I mean investors are only buying current-year
8 carbon.

9 What that does to the economics of forestry projects you can see in the resulting purchases.
10 There are very few purchases of forestry offsets there because the -- I mean with forestry your stream
11 through time is particularly long. So if you're only paid in your current account for the carbon that you
12 sequester each year, you'll have offset projects that would be incredibly expensive.

13 So how you -- there's an enormous intersection here between how you configure this part of your
14 Registry, as to whether you are going to create a discounting system that will bring tons through time
15 forward through a discounting system into the current year for all projects, not just forestry, but for all
16 projects or not.

17 And you know it clearly gets a great deal more complicated if you're going to discount those tons
18 to the present year. But if you don't recognize that, you're going to need a far more sophisticated capital
19 market than you have currently for the financing of carbon offsets. That capital, as I have seen it, is
20 simply not there in the marketplace to entrepreneurially buy that carbon and put their financial assets at
21 risk in order to support the investments that are made on essentially a cashflow-carbon basis.

22 So I think we need to take a very careful look at what level of maturity there is in the current
23 carbon market from all of the different institutions who would need the play relative to how you
24 configure that forward-tons and discounting system.

25 FACILITATOR BROOKMAN: Bob Prolman.

26 MR. PROLMAN: Yes. Let me just add onto Sue's comments and maybe complement what she
27 says. I think she's done a pretty good description of what's currently happening. And, again, the forest is
28 just one piece of this whole portfolio of things we all need to be looking at it.

29 But in regard to Mike's comment a moment ago, I think it's certainly. Again I'll say that what we
30 need is for the policy decisions around what the accounting rules will be for the carbon, the booking if
31 you will of the debits and credits of carbon in the Registry, how do they get established or recognized.
32 And then leave the project-financing stuff out, because there are lots of mechanisms already in place, Sue
33 alluded to a few, for dealing with forward-delivery contracts, for current-value pricing, and all that sort of
34 stuff that the finance world actually has models and nothing new is needed. Once it goes to that side, it's
35 there.

36 But what is missing, and I think Mike's comments really capture it, is the need for clarity around
37 the rules that the industry will play by and the buyers and sellers will play by. That's what's limiting the
38 market right now.

39 FACILITATOR BROOKMAN: Final comments on agriculture and forestry?

40 Let me ask everybody to give a round of applause to the people who did the reporting --

41 MR. SCHOLAND: One more.

42 FACILITATOR BROOKMAN: One more? I thought we had them all. Sorry. Small industry
43 resources. They're next. Let's go. Who's reporting on that?

44 MR. FRIEDRICHS: I am.

45 FACILITATOR BROOKMAN: Oh, Mark.

46 MR. FRIEDRICHS: I am. You can't forget me.

47 FACILITATOR BROOKMAN: I was trying to get you a coffee break.

48 MR. FRIEDRICHS: And you can't forget Ryan Bell, Bill Irving, Eran -- Seger?

49 MR. SEGEV: Eran Segev.

50 MR. FRIEDRICHS: -- Sue Hall, Kristin Zimmerman, Lori -- Sonnier or...

1 MS. SONNIER: Sonnier.

2 MR. FRIEDRICHS: ...Sonnier, Kevin Fay, and me. We did have a good discussion, as Kristin
3 indicated earlier. I'm glad because I personally think that this is an important area. And I know that
4 others in the Department and elsewhere in the administration want to explore ways of getting at this part
5 of the problem.

6 Next slide.

7 I think everyone pretty much knows the problem, but just as a remainder. With the exception of
8 Arthur Rypinski, it's very unlikely that we're going to get many households to participate, or small
9 businesses. And no one except for Arthur is willing to bear the transaction costs of filling out federal
10 forms and sending them in.

11 However, this -- these small distributed sources directly and indirectly make up a tremendous
12 amount of U.S. greenhouse gas emissions? Depending on how you count, it certainly can be on the order
13 of 50 percent. And there are many opportunities for reductions that exist. So it's important.

14 The things that we talked about in our group were the types and roles of aggregaters.
15 Aggregaters, we realize that there needs to be some kind of larger organization, entity, company that
16 actually is trying to pull together all of the emission reductions from these small sources. So we use the
17 term "aggregator" to apply to all of them.

18 We needed to figure out ways of identifying emission reductions in these areas. We needed to
19 figure out ways of minimizing double counting. And we needed to somehow keep it simple enough so
20 that the transaction costs for the aggregator and for the government are small enough so that they'd
21 actually be encouraged to do it.

22 Next. Types of possible aggregaters that we talked about. Product manufacturers, builders. I
23 guess we could add product suppliers to that list. These are products or buildings that actually end up
24 using electricity or directly emitting GHG.

25 Okay. State and local governments. Some states and local governments have already begun to
26 think about how they can encourage emission reductions. And if they serve as aggregaters to encourage,
27 identify, track emission reductions by households or small businesses, they could serve as an aggregator.

28 Generators and large sources, utilities. Large manufacturers who are reporting their 1605(b) may
29 look to small distributed sources as offsets. And NGOs, other types of organizations. Nonprofits or
30 trade associations might also be able to play.

31 Next. Roles of possible aggregaters. Each of those types can play one or more roles.
32 Manufacturers, builders can be introducers or suppliers of new technology that significantly cut
33 emissions. They can be instigators, organizers of community group action even though they don't
34 necessarily provide the financing or funding for it.

35 State and local governments might be able to get recognized for regulations that they issued with
36 respect to new buildings, for example, which is generally under the purview of state and local
37 governments. And they can be providers of incentives. Utilities through DSM programs, manufacturers
38 who are looking for offsets and are willing to provide incentives to buyers of efficient products or low-
39 emitting products.

40 Next. We realize that under -- even if we made it relatively simple for aggregaters, this is such a
41 new area that government is likely to have to undertake some actions to inform, to assist aggregaters in
42 getting started.

43 Next. We thought that there are several types of emissions reductions that might qualify. And
44 there are parallels to the utility and large-source emissions that we've spoken about, namely. There could
45 be entity-wide emissions. Household wide or small business or school, or something like that, that are
46 tracked that could be intensity measures, very much parallel to that kind of emissions tracking for large
47 sources in utilities.

48 There could be projects. And there was a general feeling, although we didn't discuss it in detail,
49 that the rules for entity-wide reductions and project reductions should be parallel to the rules for large
50 entities. In other words, there shouldn't be a disconnect in the types of emission reductions that are being

1 recognized.

2 And for manufacturers and suppliers there was a sense that if they were to get credit for new --
3 for introducing new technology or high-efficiency technology, that they should meet a kind of higher
4 threshold of some kind.

5 Minimizing double counting was obviously a big concern. Double counting among the
6 aggregaters and double counting, if we do get actually some direct participation of these small distributed
7 sources. And a variety of different kinds of double counting can exist. So whatever guidelines we've
8 come up with would have to address this issue in some detail.

9 We've talked about various ways in which we could minimize the double-counting problem.
10 Restricting these rules to sectors and emitters that are unlikely to participate directly. That's kind of the
11 first step.

12 Setting clear rules for determining who's the default owner of emission reductions under different
13 circumstances. Making it clear that that default owner can change, but there needs to be some kind of
14 contractual agreement for changes.

15 And enabling the actual emitters, the users to opt out, to sort of take control of their own
16 emissions, and when they decide they want to.

17 Okay. Minimizing transaction costs. Obviously it's really critical if we're going to be able to
18 successfully get anything going in this area, because the risk is that aggregaters, the government could
19 just be overwhelmed with the administrative costs. So we recognize that higher transaction costs will
20 stifle and limit participation.

21 We felt that some kinds of simplified reporting rules, especially from users to the aggregator
22 would be necessary. And some kinds of simplified monitoring or something to minimize costs.

23 And having different levels of participation. As discussed in many other areas, it was felt that
24 only some of these aggregaters would really be seeking credits that might be tradable. While others
25 might be seeking recognizing and other kinds of noncredit. So they could be allowed to meet sort of
26 lesser standards.

27 And I think that's it. I hope I covered. Do those in the group, would you like to add something?

28 FACILITATOR BROOKMAN: Sue Hall.

29 MS. HALL: Mark, I think you did a great job. Many thanks. For me one of the take-aways from
30 the discussion was that when you're looking at how to incorporate smaller sources into any registry
31 design, because you're dealing almost very often by definition with a whole series, a multiple of small
32 end-users, you've got a basic tension that you're struggling with here between two principles that you've
33 been using to design the Registry in its broader kind of context.

34 One is around making sure that you've really put the right incentives in place at the points in the
35 system where you've got really decent leverage. And so when you're working, for example, with
36 appliance manufacturers and suggesting that if a product manufacturer were to design a really super,
37 high-efficient widget that goes above and beyond, way above and beyond the call of duty, because they're
38 a concentrated spot in that supply chain, you've got a point of leverage there where you'd really like to be
39 able to provide an incentive. And so you'd like them to be able in some way count the efficiency tons
40 that they have helped to create.

41 With a different design principles that you've been using in the Registry, which is that it's those
42 organizations, it's those individuals who bring the capital to bear, the investment to make in purchasing
43 that technology that should have ownership, essentially, of the credits. And I think that's one of the
44 fundamental tensions that when you're dealing with small sources that you're grappling with.

45 And is for me what was really salient yesterday was if you're not going to end up with some real
46 tensions there between those two design principles for your Registry, you really need to make sure that
47 for the -- as Mark pointed out in one of the earlier slides, that those end-users who are investing their own
48 money, who themselves feel like they have helped to create those emission reductions, that they own
49 those tons, that there is a default mechanism by which they can signal to the default aggregator that they
50 would like those tons back, because they put their money on the line to purchase that technology.

1 And it's particularly important when you think about the emerging market in tradable projects,
2 because otherwise you have located the fulcrum point where the carbon is aggregating to the product
3 sellers.

4 Whereas it is, in fact, the capital investors who are the users, who are the ones making the
5 decision to actually effect those reductions. And so you've got a displacement problem in your system.
6 So that's why that default mechanism that Mark referred to I think is so critical, if you're actually going to
7 align all of the incentives correctly so this will work well.

8 FACILITATOR BROOKMAN: Thank you. Additional comments on small and distributed
9 sources?

10 Four excellent presentations. Almost three, but four. And really surprisingly well -- a lot of
11 dense content, so I appreciate that. Let's give a hand of applause.

12 (Applause.)

13 FACILITATOR BROOKMAN: I'm going to suggest we take a break at this point. It's 10:30.
14 When we return we're talking about verifying emissions and reductions and managing the Registry. It's
15 now just about 10:30. We'll come back and start back up at 10:45. Thanks for a good start.

16 (Recess taken from 10:30 to 10:52 a.m.)

17 FACILITATOR BROOKMAN: Here we go. I'm going to get myself a little bell. At the break I
18 had a brief conversation with Nancy Glaser from Seattle City Light.

19 Nancy, do you want to raise the issues that you raised with me briefly?

20 MS. GLASER: Sure. This is Nancy Glaser, Seattle City Light. And I do want to offer for the
21 record and for folks here two of the things that we in Seattle have developed, which basically organize
22 our best thinking both in terms of how from an entity-wide perspective we develop a greenhouse gas
23 footprint.

24 And we've had the development of that footprint over the past year and a half, and have that kind
25 of third-party certified, consistent with a lot of the WRI protocol in the best thinking we've been able to
26 bring to it from the various discussions we've participated in. So I'd like to get that inserted in the record
27 and encourage people to take a look at that, if possible.

28 Secondly, we do as a matter of policy have a priority on being what we're going to call
29 greenhouse gas neutral in 2003, next year. And to that end we have in the first round purchased some
30 greenhouse gas mitigation projects in cooperation with the Climate Trust.

31 But just two to three weeks ago we went out with a request for proposal to look for projects
32 where we would be buy the greenhouse gas reductions from those projects to mitigate for resources in
33 our portfolio.

34 And one of the things kind of that in that request for proposal is, again, kind of our best thinking
35 to date about how do we deal with some of these issues about additionality or criteria to make sure that
36 we are, in fact, purchasing something that adds value to the broader issue of greenhouse gas reduction.
37 So that's a proposal that's out on our website, and we will submit that as part for the record. If any of you
38 would personally like to get a look at that, just let me know.

39 FACILITATOR BROOKMAN: Thank you. Thank you very much.

40 I know the Department would welcome and value a lot any additional resources, any papers and
41 sources that have been developed for other people that have worked in this area. So if you would like --
42 if any of you that would wish to add anything to this record, you should please contact Michael
43 Scholand. He's the kind of aggregator for this workshop. So any additional resources you'd like to add to
44 the record, please do so.

45 The topic we're starting with next is verifying emissions and reductions. And John Staub is
46 going to queue this up.

47 MR. STAUB: What we'd like to talk about right now is think about what we should verify in
48 terms of should we be verifying the total tons that people report or the processes that they go about
49 measuring their emissions or their reductions, or the -- excuse me -- I lost my train of thought -- how they
50 interpret what they're going to report, or look at the equipment that they're using to measure their

1 reductions.

2 And some of that -- there's different reasons for why people would want to look at those different
3 types of reductions. And the background paper kind of got into detail about that. If you haven't looked at
4 that, I would suggest looking at it. It's at the end of the report or the series of papers.

5 And we also want to think about how often verification should be done. Should it be done every
6 year or should it be done randomly, as Australia's currently doing it. Or just based on a challenge, if
7 someone says, 'Well, I'm not sure if your report is quite accurate,' you know they can challenge that.
8 There's a variety of different ways to decide how often. And the affects the cost of doing the actual
9 verification.

10 And then there's the issue of when you do verification do you just do a desk review, kind of like
11 what EIA does, or do you go out to the sites or to the plants and look at the data and look at the machines.

12 One thing we need to remember is that the interagency letter to the President recommended that
13 we should use independent verification versus the self-certification process that's used right now. So try
14 to keep it in that context.

15 And in the next section we're going to talk more about maintenance of records and things like
16 that. When we do talk about that we're thinking more about how do you make sure that records are
17 verifiable in the future so that if you do need to go back and look at something, you can do it.

18 And then the last big question is who should verify. Should it be the government doing it, should
19 it be companies, consulting companies that go out and do the verification, kind of like accounting firms,
20 and who should verify those verifiers to say that these guys are the guys that can do it. So...

21 FACILITATOR BROOKMAN: Thank you.

22 Paul McArdle. Paul McArdle, EIA.

23 MR. McARDLE: Paul McArdle, EIA. Just real briefly. The current Program requires self-
24 certification by the reporting entity. We do not accept any report into the database unless we receive a
25 separate certification letter from the reporting company. Now that's real briefly on what we do.

26 I wanted to step back and address some of these points on how EIA treats these points under the
27 current program. Types and frequency of verification. Annually we require a self-certification letter
28 with each report, so obviously it's every year.

29 Process and methods, I think I've reviewed already the EIA desk audit, a kind of four-step
30 process. I won't go over that again, but if you have questions, just come see me.

31 Maintenance of records. EIA maintains both the paper forms we receive and the electronic
32 reports we receive. We do not have a come-back to the reporting companies in terms of a requirement on
33 them, how long they need to maintain their records, kind of like the IRS. We don't have a requirement
34 like that. There's no hard or fast rule there.

35 And in terms of who should verify I will just substitute who should certify. The company
36 certifies their data. And, in some instances, the companies have what we call third-party certifiers who
37 do the work for them, do their report. They get the data from the company. They compile their report.
38 They certify the accuracy of the data on behalf of the company.

39 FACILITATOR BROOKMAN: Thank you.

40 Comments on verifying emissions and reductions? And, particularly, what? I mean total tons,
41 processes. That was the point John started with.

42 How should this work? Yes, please.

43 MS. CAMP: Robyn Camp with the California Registry. I can tell you just briefly what the
44 California Registry is doing. We're requiring independent third-party verification. And verifiers have to
45 go through a state approval process to the California Energy Commission as well as the Registry
46 approval process and complete some training as to what the Registry's expectations are.

47 We also have a certification protocol that sets the standards for verification procedure.

48 The emissions have to be -- for every year that an emissions are filed, it has to be verified. We
49 do have site visits. It's not every site has to be visited, but there are some guidelines as to an appropriate
50 sample.

1 Participants are required to maintain their records for, it now looks like four years following the
2 year that they reported. And participants actually report through an online application that we have. And
3 the Registry will keep that information in the database for every year -- as long as the participant keeps
4 reporting and then I believe it's for three years after that point.

5 FACILITATOR BROOKMAN: Uh-huh. And so the verification that you do that's not onsite, is
6 it a process check?

7 MS. CAMP: We actually use -- we require third-party certification and so it is -- you'd have to
8 check the process. And we have required some formulas to use for the calculating of emissions reports.
9 And the certifiers need to verify that the correct methodologies were followed.

10 FACILITATOR BROOKMAN: And the certifiers are both trained and certified?

11 MS. CAMP: Correct.

12 FACILITATOR BROOKMAN: Correct, okay. Okay.

13 MR. duVAIR: This is Pierre duVair with the California Energy Commission. I'll just add a few
14 points to Robyn's comments.

15 The certifiers need to really check two key things. They need to check that the participant has an
16 adequate program in place to gather the data needed to meet the requirements of the general reporting
17 protocol. That's the first kind of step that the certifier must review.

18 And then they need to review the annual emissions data and the calculations that led to the
19 annual results. And we're envisioning potentially trying to streamline the review of the program, because
20 for particularly the large participants, their -- either environmental-management system is not going to
21 change year to year, things like that.

22 We looked at some thresholds where if they took on some new operations or had some
23 significant changes to their operations that the certifier would not to ensure that their program for
24 gathering the information was adequately adjusted to account for new activity.

25 So -- but basically we're envisioning sort of the initial year the certifier takes a close look at their
26 program. The next following two years they just really look at the annual data and make sure that all of
27 those results are reasonable. And then they follow back up in the fourth year with another review of the
28 program in place.

29 FACILITATOR BROOKMAN: Mark Friedrichs.

30 MR. FRIEDRICHS: Can you be a little bit more specific about their review of the program in
31 place? What does that entail? Does that entail looking at the way in which emissions data is gathered
32 and reported within the firm or...

33 MR. duVAIR: This is Pierre duVair again with the Energy Commission. We're really leaving a
34 lot of that up to the discretion of the certifier to evaluate the program. And we recognize that different
35 participants are going to have very different, you know, information-tracking systems. And some of the
36 participants that are joining are municipalities that may be setting up a program working specifically to
37 develop their inventory. So it's going to vary by participant, and the certifiers are going to have a lot of
38 discretion in reviewing the adequacy of the program. That's going to be more of the qualitative part of
39 the certification.

40 FACILITATOR BROOKMAN: But the certifiers that you both train and qualify, effectively
41 you've given them instructions, boundary conditions, robustness tests, that sort of thing? So that -- Bob,
42 and I'm looking at you. Not to put you on the spot, or anything.

43 MS. CAMP: Well, I think the expectation is that they have to -- they are professionals. And as
44 certifiers, you know part of the training is to make clear what the Registry's expectations are --

45 FACILITATOR BROOKMAN: Uh-huh.

46 MS. CAMP: -- and to convey also kind of the spirit. And so we are relying on them to
47 understand that. And we have put some checks in place to make sure that that is happening and --

48 FACILITATOR BROOKMAN: Most of these people are professional engineers, professional --

49 MS. CAMP: Or professional certifiers.

50 FACILITATOR BROOKMAN: Oh, interesting. Professional certifiers.

1 MS. CAMP: There are companies that exist, you know, whose job is really to verify. And
2 maybe greenhouse gases is a new line of business, but perhaps they work ISO, ISO standards.

3 FACILITATOR BROOKMAN: Okay. Thank you.

4 Do you have a follow-on question, Mark?

5 MR. FRIEDRICHS: No, that was it actually, what kind of professional.

6 FACILITATOR BROOKMAN: Please, your name for the record.

7 MR. WILSON: Yes. Jeff Wilson, California Energy Commission. I just wanted to add that a
8 significant part of checking the program really is to do a risk assessment and determine where there are
9 significant uncertainties associated with their program, so that they can determine the appropriate
10 sampling process.

11 FACILITATOR BROOKMAN: And, Pierre, in your comments you were talking to kind of a
12 time stream of assuring that there was kind of an adequate process or an adequate system in place. And
13 that perhaps for many companies that doesn't change much over time so the intensity level -- that's the
14 wrong word. The burden on the company in terms of the reporting may be not the gathering of the data,
15 but constructing that system, presumably you talk about -- say more about that time.

16 MR. duVAIR: The concern is more -- this is Pierre again -- the concern is to try and keep the
17 cost of the certification down --

18 FACILITATOR BROOKMAN: Right.

19 MR. duVAIR: -- and, where we can avoid, you know, duplicative efforts in the certification. We
20 don't need a detailed review of an environmental-management system for tracking the GH- -- the data
21 inputs for their GHGs every year. So the thought was how can we avoid excessively-costly certifications
22 every year.

23 FACILITATOR BROOKMAN: Um-hum. Mr. Friedrichs.

24 MR. FRIEDRICHS: Just a follow-on question on the annual review that you described. It
25 sounded a fair amount like what EIA actually does in looking at the report, to check methodologies, to
26 check the consistency of data. Is that a fair comparison?

27 FACILITATOR BROOKMAN: Robyn.

28 MS. CAMP: I've actually been learning a lot, myself about what it is that EIA is doing. There is
29 a final step in the submission of emissions reports. And that after a certifier has reviewed a participant's
30 emissions report and has certified to a registry that it meets with our standards, we do have a final review
31 of the data to make sure -- you know, kind of a check on the certifiers. And at that point the Registry
32 accepts the data and it is available for public viewing on an entity level.

33 FACILITATOR BROOKMAN: Do you have maintenance requirements onsite?

34 MS. CAMP: Maintenance for?

35 FACILITATOR BROOKMAN: Of records.

36 MS. CAMP: The participants -- this is something we're actually working out, but it seems that it
37 will be that the participants will be required to maintain their records of supporting documentation for
38 four years after the year that they filed. So if they filed a 2000 emissions report, they will be required to
39 keep that information onsite until 2004.

40 FACILITATOR BROOKMAN: And then once it's into your database it's there and you keep it
41 there and you maintain your own database of course?

42 MS. CAMP: We have an online database that the emissions are reported through. And, yes, we
43 will keep the information -- for as long as a participant keeps reporting, that information will be alive and
44 accessible in the database. And if at a point they stop reporting, we will keep the information for three
45 years beyond that point.

46 FACILITATOR BROOKMAN: Okay. Pierre.

47 MR. duVAIR: I'd like to just add one more point. This is Pierre from the Energy Commission.
48 The CEC actually has a statutory responsibility to sort of monitor the certification process. So we're
49 required to do those random or periodic site visits with the certifiers and make an evaluation ourselves of
50 the program that the participant has in place and the reasonableness of their data. So we're sort of the

1 checks and balance on the certifier.

2 FACILITATOR BROOKMAN: So that's kind of a random or --

3 MR. duVAIR: Yes.

4 FACILITATOR BROOKMAN: -- periodic, in between those two?

5 MR. duVAIR: Right.

6 FACILITATOR BROOKMAN: Okay.

7 MR. duVAIR: So the contract will go between the certifier and the participant themselves.

8 FACILITATOR BROOKMAN: Right.

9 MR. duVAIR: But the certifier has to let the participant know. And the Registry is letting them
10 know that CEC will be on a random basis attending site visits and looking at potentially, you know,
11 confidential data as well. And the CEC has a regulatory process that we can keep information
12 confidential.

13 FACILITATOR BROOKMAN: And the entity involved, this is entity-wide reporting typically?
14 Yes. And the entity involved, it bears the cost for this, correct?

15 Yes, please.

16 MS. HEWITT: The discussion that --

17 FACILITATOR BROOKMAN: I couldn't see your name. Ann Hewitt.

18 MS. HEWITT: Ann Hewitt. Sorry. With the Registry, the California Registry. I think it's
19 important to remember that we're talking about entity-wide reporting right now. And we are looking at
20 developing a project-reporting protocol. And the certification requirements for that will likely have some
21 differences and will maybe need to be -- the data may need to be maintained for a longer period of time,
22 if entities are looking at using them for trading purposes. And so that is being worked out right now.

23 FACILITATOR BROOKMAN: Okay. Thank you.

24 Frank Guenther.

25 MR. GUENTHER: Frank Guenther, NIST. I think this is a very good thing and I think DOE
26 should actually encourage aggregators of data, for a better word, the California Registry is a very good
27 thing I think because it allows entities to verify that are closer to the source. So they can verify
28 reductions emissions and check with physical inspections, where a national registry probably could not
29 afford to do that.

30 I think if you could produce some sort of requirements or some guidelines on how to set up local
31 aggregators of data that could then feed into your 1605, you would really improve the process a lot
32 because you would get more localized checking and verification.

33 FACILITATOR BROOKMAN: And would those aggregators also be the certifiers?

34 MR. GUENTHER: Yes.

35 FACILITATOR BROOKMAN: Yes, presumably at least.

36 MR. GUENTHER: Yes. And that would leave to the national registry only the other parts of the
37 database that cannot be done that way.

38 FACILITATOR BROOKMAN: I could see another potentially value-added aspect of that
39 service, viability. And so EIA of course now requires self-certification, does a desk audit, and I think the
40 President's instructions were to allow for --

41 MS. ANDERSON: Encourage independent verification.

42 FACILITATOR BROOKMAN: Encourage independent verification. So I'm wondering if
43 there's a place for self-certification in this possible spectrum or whether you think independent
44 verification is absolutely the way to go, or how that might play itself out in the real world.

45 Yes, please, Jill Gravender.

46 MS. GRAVENDER: Jill Gravender with the California Registry. I would just say we, the
47 Energy Commission and the Registry, did a fairly intensive look at self-certification versus independent
48 certification before the Energy Commission came up with guidelines for the Registry, and I would just
49 recommend in terms of certainly, to build on Ann's comment, if there is any use of transferable credits or
50 trading, that there is some sort of standardized and independent third-party certification.

1 I think the self-certification may be of interest depending on the types of information that people
2 want to report. If it's just based on energy efficiency and they would like some additional
3 acknowledgement for their efforts. But if participants are really interested in transferable credits, I would
4 certainly advocate third-party certification.

5 FACILITATOR BROOKMAN: Thank you.

6 And I think, Robin, you referred to -- did you refer in part to -- I'd like someone to address the
7 issue of projects, to the extent we can. How does it change from a project perspective?

8 MS. GRAVENDER: I didn't quite understand the question. How does certification change in
9 terms of --

10 FACILITATOR BROOKMAN: Certification and verification both, yes.

11 MS. GRAVENDER: Well, right now the California Registry is only looking at entity-level --

12 FACILITATOR BROOKMAN: Right.

13 MS. GRAVENDER: -- certification and verification. When we consider project-level reporting
14 first we have to make the policy decision on sort of if -- again, we're not interested in reductions at this
15 point, so project-level verification will be, as Ann mentioned, different from entity-level reporting. And
16 we're just on the verge of thinking about that so I don't know that I can offer any real guidance on that
17 front. But we're certainly in the midst of thinking about how to consider project-level reporting.

18 FACILITATOR BROOKMAN: Okay. I saw Sue, then I go to Howard, then --

19 MS. HALL: Sue Hall with the Climate Neutral Network.

20 FACILITATOR BROOKMAN: -- Nancy.

21 MS. HALL: When the Climate Neutral Network formed several years ago, and this was a group
22 of companies and environmental leaders that were interested in creating systems that would support
23 companies that wanted to make credible claims that they had achieved a net zero impact on the Earth's
24 climate, fundamentally we were needing to design a system that could incorporate both an entity-based
25 reporting system and projects, in order to get to net zero.

26 You can't reduce your way to net zero by internal reductions all the way. You reach this -- you
27 know, you are going to be investing essentially in offset projects.

28 And the companies in the group asked explicitly of the network and all of the participants that
29 they design a certification system in order to be able to credibly ensure that all of the companies and all
30 of the projects that they invested in met the protocol standards that the dialogue between the leading
31 companies and the environmental groups and the policymakers had designed for themselves.

32 In other words, they felt that -- and this request came from the corporate sector -- they felt that it
33 would not be credible to be making those kind of claims that related both to entity and project-based
34 claims without a certification system in place.

35 FACILITATOR BROOKMAN: Um-hum.

36 MS. HALL: I think that one of the design elements that you need to look at really carefully when
37 you're looking at developing a certification system or a verification system in the carbon arena is the
38 question of conflict of interest and how you design a system, any certification or verification system, that
39 deals with that fundamental conflict-of-interest dilemma, where essentially a verifier or a certifier is
40 receiving moneys in return for an independent assessment.

41 And typically you know you're going to need some kind of independent body or accreditation
42 system that will handle that conflict. I understand with the Registry that's part of what the California
43 Energy Commission's role is.

44 With the Network it's our Independent Board of Environmental Advisors, who volunteer their
45 time and aren't remunerated. But when you're looking at any system that is encouraging verification or
46 certification, you've got a number of layers that you need to look at.

47 If you're looking at encouraging or even requiring verification or certification, it has an automatic
48 question, an associated question which is: And how are you going to accredit those certifiers and
49 verifiers. So you create the check and balance that manages the inherent conflict of interest that's nested
50 in any verification system.

1 FACILITATOR BROOKMAN: Yes. Jill, follow on. Jill Gravender.

2 MS. GRAVENDER: Jill Gravender with the California Registry. Yes. I just thank you for
3 bringing that point up. I just wanted to briefly explain the way that the Registry and Energy Commission
4 are partnering together to, in fact, deal with that conflict-of-interest potential dilemma.

5 We have sort of a two-step approval process for any certifier who would like to be approved
6 underneath the California Registry Program. They submit an application to the Energy Commission,
7 which is then reviewed by an evaluation committee in terms of their qualifications, their staff, their
8 experience, and so on. Criteria for the certifiers.

9 And then the second step in the process, once they've been approved through the application is to
10 attend a mandatory training session that is hosted by the Registry. And the thought there is to provide
11 consistent direction on how certifiers would then conduct the certification activities.

12 And then in terms of the conflict-of-interest code, the Energy Commission is working to develop
13 what exactly that language will be, but there will certainly be a conflict-of-interest code in place for
14 certifiers that will be screened initially through the application process and continually monitored
15 throughout the interaction with participants.

16 FACILITATOR BROOKMAN: Thank you.

17 MS. GRAVENDER: So we do, in fact, have a system in place.

18 FACILITATOR BROOKMAN: There are about four people who would like to comment, so if
19 we could be brief. Howard first and then to Nancy.

20 MR. GOLLAY: This is Howard Gollay with Southern California Edison again. I think there's
21 different levels to this topic. On the higher and in general, I don't believe that independent certification is
22 necessary in the current environment in which we operate. And --

23 FACILITATOR BROOKMAN: For a voluntary program?

24 MR. GOLLAY: For a voluntary program, --

25 FACILITATOR BROOKMAN: That's what I --

26 MR. GOLLAY: -- where there's no caps and trades, where there's no mandates. And that's in a
27 general sense.

28 Now as you go, as you drill down on this, and you get toward trading between two entities, then
29 some type of certification or need by the person that's buying the credit by the buyer, that it needs to
30 assure that the credits are credible by some process.

31 FACILITATOR BROOKMAN: By a third party?

32 MR. GOLLAY: A third party is one such process.

33 FACILITATOR BROOKMAN: Uh-huh.

34 MR. GOLLAY: Now there's another complication to this. I'm just going -- we all need to be
35 aware of this. We may all be aware of this already, but the question then is who does eventually approve
36 that the credits are credible.

37 And, for example, if a trade is done within the state of California I would think that the Registry
38 would be in a good position with its process to do that. Now if it's a trade done between a California
39 entity and somewhere else in the U.S., who is the governing body in that? That's a question.

40 And the third point is if you do an international trade, for example in Ontario, Canada they have
41 an organization I believe called P-E-R-T, or PERT, that does the approval for credit there. So let's say
42 Ontario Power Generation, for example, and all of a sudden what we think is certified here in the U.S. or
43 within the state of California may not be certified by their rules and regulations, by PERT.

44 And, again, there needs -- and I don't have an answer to this, but it is an added complication.
45 And the value of the certification depends on where you're actually doing the trading and that kind of
46 thing.

47 FACILITATOR BROOKMAN: Okay. Nancy Glaser.

48 Thank you.

49 MS. GLASER: Nancy Glaser, Seattle City Light. I want to speak to the area of kind of
50 credibility in terms of projects and what we've kind of worked with. But one of the things we've found is

1 we get a wide variety of proposals from industries, as a utility we don't really know much about.

2 How we've kind of addressed this then is as part of our contracting for tradable credits we've
3 required a third-party monitoring-and-verification process as part of the contracting. And typically we've
4 brought in somebody who is really much more experienced in that industry to help us evaluate the merit
5 of that third-party verification.

6 And I think that's pretty critical as you're looking at projects, you need to be pretty close to that
7 industry to be able to kind of understand what might be real in terms of additionality.

8 On top of that then, given we have a portfolio of projects that we purchase, we really feel like we
9 need a third-party verifier to kind of look over and certify that. And --

10 FACILITATOR BROOKMAN: The entire portfolio?

11 MS. GLASER: The entire portfolio. And I think they really probably bring a different set of
12 skills once you've got that underlying professional credibility from the industry perspective itself. And I
13 really think there are kind of two different levels of making sure we've got quality data, particularly if
14 you're going to buy something and be certain you're going to buy something real.

15 FACILITATOR BROOKMAN: Susann is next and then I'll return. There are a lot of people
16 who wish to speak.

17 MS. NORDRUM: Susann Nordrum from Chevron Texaco. I just wanted to address, I guess
18 Howard touched on and also Frank, this issue of different states. While it's nice to think about a local
19 verification and certification, the differences from place to place would get huge. And it's extremely
20 difficult if you have 50 different reporting-and-certification systems for one company or one entity to do
21 reporting. You're going to have your New Jersey numbers and your Texas numbers and then your U.S.
22 numbers.

23 So the month each system and each state and certainly the system for the whole country can be
24 the same, I think that's got to be more useful.

25 FACILITATOR BROOKMAN: Yes. It's the analogous point to the reporting side.

26 MS. NORDRUM: Right.

27 FACILITATOR BROOKMAN: Yes.

28 MR. SAN MARTIN: It's kind of like a horse race. This is Greg San Martin with PG&E. And
29 you have to pick the registry that's going to win in the end and give you the most flexibility for what you
30 want to do with your carbon.

31 We have participated for a long time in 1605(b) and we've become a member of the California
32 Climate Action Registry. And all I wanted to do was point out in the public comments that one company
33 has suggested that it's important for the data that's inherent in each of the various registries and programs
34 to be developed or put together in a way that it can be transferred from one registry to another so that if
35 we pick -- if we end up picking five registries that we think are frontrunners, the time that we invest
36 inputting data into one shouldn't be -- we shouldn't have to spend that time again.

37 FACILITATOR BROOKMAN: Uh-huh.

38 MR. SAN MARTIN: Ultimately I think the registries need to be connected, even though they
39 may have different objectives and therefore different --

40 FACILITATOR BROOKMAN: Or different fields.

41 MR. SAN MARTIN: Differences in -- yeah, differences in the way the reporting is done.

42 FACILITATOR BROOKMAN: Okay. I see. Yes. I saw Ann. You're nodding your head up
43 and down. Do you want to contribute to this? Ann Hewitt.

44 And then I'll come to you, Bud.

45 MS. HEWITT: I think I mentioned earlier this morning that there are these WRI protocols that
46 have been used to establish a number of the registries. And that's one of the ways in which you can start
47 to find a consistency that you need for companies.

48 In addition to that these registries are not developing all on their own, each in its own little state
49 or at a national level. They are, in fact, talking to each other and discussing some of the more difficult
50 issues and trying to come up with automated processes for transferring data, et cetera.

1 FACILITATOR BROOKMAN: Yes.

2 MS. HEWITT: And I think it's important to keep that in mind, that I don't think it's really a horse
3 race exactly. I think it may be a little bit more of a team sport than that.

4 FACILITATOR BROOKMAN: Uh-huh. There was an aspect of the handicapping that I heard,
5 though, in Greg's comment. That's what I heard in his comment.

6 Paul McArdle has a question and then I'm going to Bud and then Bob.

7 MR. McARDLE: Okay. Paul McArdle, EIA. I just wanted to revisit briefly the conflict-of-
8 interest issue for certifiers. And this is a question probably more towards Pierre duVair of CEC or
9 possibly Jill Gravender of CCAR, is that you mentioned that you're developing some possible language
10 on conflict-of-interest requirements for certifiers. It's a two-part question: When will that be available?
11 And, secondly, is there anything you can share with us right now in terms of what type of conditions
12 would trigger a conflict-of-interest flag?

13 MR. duVAIR: This is Pierre duVair with the Energy Commission. I'll field part of that and then
14 turn it over to Jeff Wilson of the Energy Commission as well for the other half.

15 We are putting out our second request for certifiers, applications for certifiers. And we're in the
16 process of revising that and hope to put that out within about a month. And that'll have a lot of the new
17 forms that need to be filled out.

18 We're envisioning -- we've taken a close look at U.S. EPA's conflict-of-interest provisions in their
19 contracting process. We're taking a close look at what's being developed for conflicts of interest under
20 the Clean Development Mechanism. And then the SEC is developing some rules right now on auditing.
21 And so we're looking at sort of all of these sources for thoughts about how to handle conflict of interest
22 in our next proposal.

23 And, Jeff, why don't you go ahead and talk about what we --

24 MR. WILSON: Some of the factors that we would look at are similar to the EPA language in
25 that we would look at the type of work that is potentially going to cause a conflict of interest. We look at
26 the amount of funding that went into that. We would look at the individuals involved as well as
27 geographic location. How far is it.

28 What's the chance for communications between the individuals working on work that would
29 represent a potential conflict and the individuals that would be involved in certification.

30 FACILITATOR BROOKMAN: Jeff, the EPA work that you referred to, specifically what is
31 that?

32 MR. WILSON: The...

33 FACILITATOR BROOKMAN: I can return to you.

34 MR. WILSON: Yes, I'll have to get back to you.

35 FACILITATOR BROOKMAN: It would be nice to have a citation for that.

36 MR. WILSON: Um-hum.

37 FACILITATOR BROOKMAN: Bob -- Bud Beebe.

38 MR. BEEBE: I'd like to comment on two items, first of all, the self-certification question. Self-
39 certification is certainly quite adequate for the level of interest, effort, whatever on a lot of these
40 registries and perhaps even for the national Registry for the time being.

41 However, the California Registry has recognized that it likely will evolve to something else. And
42 let me suggest here that participant in the California Registry are currently participating in the vetting and
43 construction of third-party certification, verification. And that gives you a tremendous proactive
44 opportunity to make sure that third-party certification will be inexpensive and will be adequate to your
45 needs.

46 And for anybody who has looked on while the government put together a regulatory program that
47 you would have to then comply with, without your input, you can see that there are tremendous
48 advantages to participating in the third-party certification building that is going on right now and will
49 continue over the next year. My guess is that the third-party certification will not really be complete as a
50 first set for about 18 months.

1 FACILITATOR BROOKMAN: Um-hum.

2 MR. BEEBE: So this is your opportunity to participate to maintain those values that your
3 company thinks are important to certification and certainly to keep the things as inexpensive as we could
4 possibly make them consistent with everyone's, with societal needs.

5 That said, let me suggest that there are inevitable conflicts and that leads us to conflicts of
6 interest. One of the things that I think is going to be important in a forward look is the ability of a
7 corporation's normal auditors to be able to incorporate this third-party certification as an adjunct to their
8 normal audit of the books, if you will.

9 FACILITATOR BROOKMAN: Um-hum.

10 MR. BEEBE: Never, ever use the word "audit" in conjunction with third-party certification of
11 greenhouse gases. It turns out that as engineers and technocrats, we might think of these things as audits,
12 but they ain't. People who do auditing have specific rules and regulations, and that's all been laid out.
13 And they don't -- if you call something an audit and it's really greenhouse gas certification, you've led
14 them wrong and you are going to get something that you didn't want either.

15 So for a time you must recognize that there is a big difference between a normal audit of the
16 books and greenhouse gas certification.

17 That said, I can see that they clearly can be incorporated within the same contract and that that's
18 going to be the cheapest way ultimately to do it. So we sort of need to get on with that.

19 FACILITATOR BROOKMAN: Okay. Anne, is your comment a direct follow-on or should you
20 get in the queue?

21 Bob first and then to Anne.

22 MR. PROLMAN: Going back to which issue. The issue of recognition in the state registries,
23 just a couple thoughts. And there's a lot of precedent for this in other environmental programs.

24 Mutual recognition among the states perhaps facilitated by the National Governance Association
25 or some other entity, so that it wouldn't matter which state you get registered or certified in. And a
26 corollary to that might be the concept of whether federal Registry maybe sets forth some set of core
27 criteria or elements that must be in a state registry for mutual recognition back and forth. And the subset
28 of that would be a consideration of whether you want to have a distributed database, if you will, or a
29 distributed set of registries that are compiled.

30 So that's -- you know, some of it is information technology can handle the details of it, so the real
31 question is how do you want to manage that. And I think that again this is an example of where we could
32 figure out the ideal single approach or I think what we look at it, from a business point of view, is
33 simplicity, low-transaction friction, and that means easy to use. So it doesn't really matter to us if it's one
34 federal registry or one mutually-recognized state registry. And the question is integrity of minimum core
35 elements, if you will, so that it gets to credibility and viability of what's being registered.

36 FACILITATOR BROOKMAN: Thank you. That's a lot.

37 Anne Boucher.

38 MS. BOUCHER: Anne Boucher, Baseline Protection Initiative. The approach that we have
39 taken under verification is it's very important that any reduction is credible and for that, yes, we feel that
40 verification is needed. And we ask for independent, third-party verification.

41 But the role of that verification entity is to quantify what does the reduction actually achieve.
42 The credibility of the reduction achieved is provided by the methodology to quantify the reduction, which
43 is the responsibility of the program.

44 And to ensure that the methodology used is acceptable, we would put in place a validation
45 process before verification. And the validation is to confirm to the participant that, yes, the methodology
46 that they use or that the entity use and the monitoring plan that they intend to use to monitor the
47 reduction is the way that they should quantify their reduction.

48 FACILITATOR BROOKMAN: Um-hum.

49 MS. BOUCHER: By doing that we ensure that the reduction, if there is a reduction would be
50 credible because the methodology is there for that. And then the verification is just on assessing the

1 quantity of reduction that have been achieved.

2 FACILITATOR BROOKMAN: Thank you.

3 Nancy Glaser.

4 MS. GLASER: Yes, thank you. Nancy Glaser, Seattle City Light. As I'm sitting here I realize
5 there's one more dimension of certification that I know we haven't grappled with yet. And that's in a
6 tradable world how do we verify there is not double counting or, you know, if we buy credits, although
7 we assert in a contract that the party we buy them from is not going to use them in another forum, I think
8 there really is a question about how is that managed and how is that certified or how is that overseen.

9 FACILITATOR BROOKMAN: Yes.

10 MS. GLASER: And we don't know the answer to that, so I just throw that out there.

11 FACILITATOR BROOKMAN: Okay. Thank you.

12 Other comments related to these specific aspects?

13 Did you remember that? You can provide that source, Jeff, from EPA?

14 MR. WILSON: Actually we have a website that we've cited in a paper that we've sent out to our
15 work crew, and I can get that.

16 FACILITATOR BROOKMAN: If you could get that. That would be great.

17 MR. WILSON: Yes.

18 FACILITATOR BROOKMAN: I'm looking at the list of bulleted items up here and I think we've
19 touched on most of them. I think we have, yes.

20 Who should verify. Okay. Let's move onto the next slide then. Final comments on this slide
21 before we move? I think we've covered it pretty adequately.

22 Yes. Margot, do you think...?

23 MS. ANDERSON: Yes.

24 FACILITATOR BROOKMAN: Okay. Margot Anderson's going to queue up the next slide.

25 MS. ANDERSON: The good news is this is the last lap. The bad news is it's all uphill.

26 (Laughter.)

27 MS. ANDERSON: Yes, Nancy, on the issues that were just raised in the last comment. And
28 these are the issues that center around managing the Registry of Emissions Reports and Reductions, and
29 what's going to be the role of the Department of Energy and the EIA once you register your emissions
30 and your candidates for emissions reductions. What do we do next.

31 So here are a bunch of issues we'd like some feedback on. And they deal with certifying the
32 reports and the reductions. This may be with or without that independent certification. However, that
33 works itself out. What's the role of the federal government in determining whether a real reduction has
34 occurred based on your reporting under the new guidelines and what is the government-review process
35 parallel to, in addition to substantive -- as a substitute for independent verification.

36 Who documents the reductions. Who imposes the transferability of the reduction. Is that
37 something only the marketplace does or is that something the DOE does by giving you a certificate or a
38 piece of paper that identifies that the claim that you've made on this reduction is, in fact, a reduction that
39 we recognize, so that then you can transfer it among the parties that want to transfer these reductions.

40 Thirdly, does DOE maintain the database of certified reductions or is that left to the marketplace.
41 Do you take your certificate and go somewhere else with it or are you expecting DOE or EIA to manage
42 that for you.

43 There raises a whole bunch of issues in this section about public versus confidential data. Again,
44 many of the issues of confidentiality which have been a cross-cutting theme in the last day and a half rise
45 again when we're managing a database of emissions and emissions reductions.

46 Should data submitted to DOE be made publicly available; at what level of aggregation. If other
47 parties want to review that data, how deeply can they go into that data in order to determine the value of
48 that data.

49 How can DOE effectively protect confidential data. We do so now with the current reports.
50 We're now talking about reporting more sophisticated data perhaps, more detailed data, more data that

1 might be confidential to companies.

2 Treatment of prior-year reports. Here's a big issue. One of the recommendations in the ten
3 recommendations that were sent to the President said that we would develop a process for reviewing
4 prior-year reports. That means all the times you've already reported to 1605(b). What should that
5 process look like. When should we do that process. Who ought to be involved in that process.

6 And, finally, as you know and I spoke yesterday -- was that just yesterday -- yesterday, that the
7 goal of looking at this Program anew has to do with not penalizing under future climate policy, and for
8 issuing transferable credits to those businesses and companies that report real reductions in greenhouse
9 gas emissions.

10 What kind of a system can we put in place, what kind of data-collection system, monitoring
11 system, managing system can we put in place to ensure that you're protected against future climate
12 policy. We don't know what it's going to be. But what kind of data ought we be collecting and managing
13 and reporting on in order to make sure that we can meet this clause of not penalizing those under future
14 climate policy. And how can we do that through transferable credits or through other mechanisms. What
15 does that mean to you.

16 So we'd like comments on all of those, and you're not leaving the room until we solve that
17 problem.

18 FACILITATOR BROOKMAN: She said "solve that problem," not "comment." She said, "solve
19 the problem." Lock the doors.

20 Paul McArdle.

21 MR. McARDLE: Paul McArdle, EIA. Just before we get started I just want to cover what we do
22 currently on confidentiality for data. And as a rule -- well, let me step back.

23 We get very few requests from reporters to have their data classified as confidential. In the most
24 current reporting year we have 229 reports, we have one request for confidentiality. And that's basically
25 mirrors what happens in the past. It's a very small percentage.

26 However, I understand that the system's going to change, so this may become more of an issue,
27 but under current law and also under current practice right now if someone asks us for confidentiality we
28 generally just grant it. We take the report out of the summary statistics, you can't get the data out of the
29 database, unlike all the other reports that are publicly available.

30 Now if we get a letter from someone who says, 'I want to see Company X's report,' under the
31 FOIA, under the Freedom of Information Act, we'll generally go back to the reporter and ask them to
32 write us a letter telling us why the data should be kept confidential.

33 And the reasons they need to cite in that letter is that the information contains trade secrets or
34 commercial or financial information whose release would be likely to cause substantial harm to the
35 reporter's competitive position. And if they came back with good reasons to keep the data confidential, it
36 would remain confidential. However, if they did not have good reasons for keeping it, they did not meet
37 the FOIA requirement, and our Office of General Counsel also thought that, then we'd actually have to
38 make the data publicly available.

39 FACILITATOR BROOKMAN: So there's no a priori...

40 MR. McARDLE: It's not a lock.

41 FACILITATOR BROOKMAN: It's not a lock. Thank you. It's not a lock at the front end.
42 Okay.

43 Comments on managing the Registry of Emissions Reports and Reductions. We've got a whole
44 bunch of issues here to deal with. Bud first.

45 MR. BEEBE: Just a suggestion. I've made this before in some places, but the Department of
46 Energy has led the charge on greenhouse gas databasing with the help from EIA, and that's not
47 inappropriate because most of it has to do with energy and energy policy and so forth.

48 But looking at databases and confidentiality and just keeping track of contracts and who has
49 what, it may be that these databases belong in a different place than the Department of Energy or EIA.
50 They may belong in Commerce or Treasury. And that would give them a different view from society,

1 and I think it's the correct view.

2 And certainly the Department of Energy and NOAA and Interior and Ag and all of these people
3 that have input to it would have input opportunities if it were, let's say, in Treasury, but it would be just a
4 suggestion.

5 FACILITATOR BROOKMAN: Thank you.

6 Let's talk about the nitty gritty here -- oh, yes, Arthur Rypinski.

7 MR. RYPINSKI: As a matter of clarification following on Bud's remark, confidentiality can
8 only be extended under some statute. And there are various statutes under which confidentiality may be
9 extended under existing legislation.

10 The agency that has the most confidential confidentiality statute is the Census Bureau and so --
11 of the Department of Commerce, yes. So it turns out that there's no -- no one can FOIA, for example,
12 your Census return, okay. They can't -- the Census offers absolute confidentiality for data collected
13 pursuant to that particular --

14 MR. BEEBE: And Congress will protect that, won't they?

15 MR. RYPINSKI: So it turns out that my friends in the EIA when they collect -- when they
16 collect manufacturing energy-consumption data, which turns out to be quite sensitive, is actually
17 collected by the Census Bureau through the annual -- through an add-on to the Annual Survey of
18 Manufacturers. And the confidentiality protection is therefore much more rigorous than the
19 confidentiality protection that the EIA can offer to energy data in general.

20 Of course if one is thinking of new legislation, then all bets are off, and then there are ways, as
21 referenced, Cynthia Cummis of the EPA has mentioned there are ways of working within the confines of
22 existing legislation.

23 FACILITATOR BROOKMAN: So the question is, going back to the slide, what should DOE's
24 role be? Should they be certifying reports in reductions? Should there be a government-review process?
25 So they be documenting reductions or transfers? Should the market do these things? Should the
26 government do these things?

27 Comment on those broad subjects. Say, Bob Prolman.

28 MR. PROLMAN: I'll take this off with repeating a comment that I at least alluded to if I didn't
29 expressly say yesterday which is I sort of like the SEC model or its equivalent, where you're registering
30 something and there's a set of elements. And the registry would look: Did they address each of these
31 elements in the way that we asked to be addressed. But leave the third-party or other verification and
32 certification to external processes.

33 You want to know that that might have been done and how and who it was done, or whatever, but
34 the same way a company submits a stock issue red herring and then it gets finalized, but it's a different
35 auditor, a different set of players put the content together and it's out there in all the other integrity
36 controls. So it separates those functions.

37 FACILITATOR BROOKMAN: Thank you.

38 Yes, Jill Gravender.

39 MS. GRAVENDER: Jill Gravender with the California Registry. That's pretty much the model
40 that the California Registry has also adopted.

41 And I would just add to that then there's an additional responsibility to train the certifiers or the
42 auditors. And there's also then a level of oversight in terms of making sure that there's consistency
43 amongst the certifier in some way so that the Registry would obtain credible information across the
44 board.

45 FACILITATOR BROOKMAN: Yes. And you said earlier that not only do you train certifiers
46 and get their -- and you're working on confidentiality -- conflicts-of-interest provision, but also then you
47 take a final look at what they submit as well.

48 Yes, Margot Anderson.

49 MS. ANDERSON: This is kind of a follow-on to that. Aside from the issue of the Department
50 of Energy receiving a certifiable report, let's say that's all been done, what is then the role of the

1 Department of Energy? If you've registered a certified amount of reductions and it's been validated or
2 whatever by an independent verifier, what do we do with that? Do we give you something, do we issue a
3 certificate that says this is worth a hundred tons? Do we keep track of that?

4 What is this? What is this, what do we do with these real reductions that are -- presumably have
5 met all the qualifications that are consistent with the guidelines. They've been independently verified.
6 You want to claim these as real reductions to presumably exchange with a friend, buy and sell, meet an
7 obligation you might have somewhere. What's our role in this and what do we do?

8 FACILITATOR BROOKMAN: Kristin Zimmerman.

9 MS. ZIMMERMAN: Kristin, GM. A possible role for the DOE would be to certify the verifiers.
10 And this -- you know feeding into to a multi-tier type registry, the DOE could also own and track the
11 public piece of it, the piece that companies or individuals want to report into without the intent of
12 transferring any credit.

13 And then if there was in this multi-tiered structure, the other tiers were managed possibly by the
14 SEC, then there could be this confidentiality and tracking and managing by them. So kind of like a joint
15 registry, two federal entities kind of in charge, but the DOE gets to hold the public piece and the SEC
16 holds the private or transferable-credit piece.

17 FACILITATOR BROOKMAN: But Bob's comment I think was SEC as a model, but your
18 suggestion is maybe go so far as to have them be --

19 MS. ZIMMERMAN: A role.

20 FACILITATOR BROOKMAN: Or have a role. I'm going to let Bob follow on.

21 MR. PROLMAN: Yes. On that two points. One is when I used the shorthand of SEC, to me
22 they have an audit function in the auditing and all the integrity functions, so they have a front end and a
23 back end. But it occurs to me in the last exchange that I just listened to, one thing that's missing in the
24 absence of a full-blown trading system where you have forces that keep book and/or the parties. You
25 know I counted -- me and my terrible broker --

26 FACILITATOR BROOKMAN: Can anybody name a good broker, I'm listening.

27 MR. PROLMAN: But somebody has to keep book. I think there is the national reporting and all
28 the other reporting, and the question of you know where does it all lie in the state level, national level
29 sector, whatever.

30 So I think one of the other functions in the absence of any other way to do it right now, it has to
31 be lodged some place. So this needs to be addressed perhaps in a registry, is where do we keep the set of
32 books that we can tally all this up and track the pluses and minuses --

33 FACILITATOR BROOKMAN: Kristin, follow on.

34 MS. ZIMMERMAN: Kristin. I think what might work is, you know from this public tier, we'll
35 call it tier 1. Tier 1 has followed the guidelines to allow entities to report verifiable data. And then the
36 DOE may track whether or not some of those tons move up to tier 2 or move into the hands of the
37 transferable piece that has to go out for third-party verification, but I kind of see the flow possibly from
38 the public tier up into these other two tiers.

39 You know the middle tier might be for state-to-state transfer, you know national transfer of credit
40 which would have certain verification and certification protocols. And then maybe the top tier, which is
41 this gold standard would be allowing a ton to be transferred from the U.S. to any other part of the globe,
42 so it would have international verification and certification standards wrapped into it.

43 But -- so the DOE holds this foundation and then would show the transfer. They would manage
44 this foundation, but show the transfer up to the different the tiers. That's --

45 FACILITATOR BROOKMAN: And your earlier comment was perhaps they'd certify the
46 certifier. So that was how they'd kind of maintain -- get the first aspect of quality control.

47 MS. ZIMMERMAN: Certify the verifiers.

48 FACILITATOR BROOKMAN: Yes. Thank you. Certifying the verifiers, yes.

49 I thought I saw Susann first, then to Bud. Then I'll come -- yes, we want to hear from both
50 California and the experience of --

1 MS. NORDRUM: Susann Nordrum, Chevron Texaco. I just wanted to support what Bob and
2 Kristin were saying. I think I was thinking very much along the same lines as Kristin. And to point out
3 explicitly that there is a national SEC. There isn't a California SEC and a Texas SEC and on down the
4 line. So I think that's been workable.

5 FACILITATOR BROOKMAN: So, Pierre, why don't you start.

6 MR. duVAIR: Pierre duVair, the California Energy Commission. We're a little bit in a unique
7 spot where we're, the State is statutorily bond to defend or to ensure appropriate consideration to results
8 that are fully -- fully go through the certification process at the Registry. So it's a little bit squishy and it's
9 unclear exactly how much of a carrot that is, because I know that the state's going to try and defend your
10 results and get you consideration in some type of future, you know, controlled, carbon-constrained world.
11 So that's as far as the State Legislature was willing to go in saying that the State's going to back the data.

12 But that's also what led us to say that self-certification is not adequate because the State is on the
13 hook to provide consideration.

14 FACILITATOR BROOKMAN: Got you.

15 Susan or...

16 MS. HALL: Thanks. A couple of general observations when you look at certification systems in
17 other markets.

18 First of all, very often in a certification system the entity that is the accrediting body is not the
19 same as the standard-setting body. And the reason for that is because there is an inherent conflict of
20 interest, again alas, we're in an alas system here, between the body that is looking to develop the
21 standards, on an ongoing basis and refine them and steward them, and the accrediting body, which is
22 essentially holding the certifiers accountable for following those standards.

23 So as you're thinking about building the system I would be asking ourselves the question: Okay,
24 who is the accrediting body here and who is the standard-setting group. And ultimately through time you
25 probably don't want those to be identical or else there's a conflict there again.

26 To the questions that we've been exploring around DOE's role in establishing you know at what
27 level of kind of participation does it make sense for the Registry to have, in supporting the transfer and
28 trading of these credits, gosh, this is a complicated one.

29 The carbon market that will ultimately emerge is going to be essentially trading a financial
30 instrument. I mean carbon will become a tradable commodity, just like we trade soybeans. And financial
31 markets have a whole series of prerequisites, of systems that they need in order for tradable markets to
32 emerge.

33 So several questions kind of then emerge as to the Registry's role relative to what the needs of an
34 emerging financial market are. I mean you need to have property rights well defined to have a tradable
35 commodity. So what that means if within the Registry system you're going to have very specific
36 guidelines regarding what is an additional ton of carbon with really clearly documented protocols that
37 enable people to determine whether or not that ton is additional, you know then you have helped create a
38 system that has got a property right, which is called a tradable ton of carbon.

39 Then there's a whole series of systems that a financial market needs: Legal contracts, fungibility.
40 I mean there's a whole series of systems and supports that a market needs.

41 And so what's unclear to me at the moment is the extent to which we are looking to the Registry
42 to perform many of those functions that that market is going to need or whether that's something, for
43 example, the Climate Exchange or other entities that have already begun to build many of these systems
44 are going to be performing on an independent basis and what the dockability, how these systems -- we
45 keep talking about things being consistent. They've got to be more than consistent. They've got to dock.

46 So what -- you know how does something like a California -- not a California -- I mean a Chicago
47 climate exchange with some of the trading systems and the property rights and the contracts, I mean you
48 can't have a property right until you've got a contract. So now you've got a contract for carbon. I mean
49 all these systems are needed in order to get this thing to trade.

50 Well, how does something like a CCX then dock with a registry or is the registry going to take on

1 the role of providing those kind of systematic contracts that make that ton of carbon fungible and
2 therefore tradable.

3 FACILITATOR BROOKMAN: Yes. And so what would be -- perhaps maybe the question
4 would be: What would be the minimum things the Department of Energy would need to do?

5 MS. HALL: Right.

6 FACILITATOR BROOKMAN: Right?

7 MS. HALL: Right. Right. That's the question that DOE needs to answer.

8 FACILITATOR BROOKMAN: And --

9 (Laughter.)

10 FACILITATOR BROOKMAN: So let's draw on that for a moment here. I mean because in one
11 of the other previous sessions I recall someone had raised the issue of whether or not DOE should, for
12 example, try and provide a green tag or something like that as a part of the Registry, right? Didn't they
13 raise that? I think they did.

14 And you want to follow on with this, and other issues that have been raised, just to kind of get
15 them --

16 MR. FRIEDRICHS: Serial numbers.

17 FACILITATOR BROOKMAN: Yes. Yes.

18 MR. FRIEDRICHS: Keeping track of ownership transfers. I mean these are the kinds of things
19 that some people have suggested we might do, but --

20 FACILITATOR BROOKMAN: And does DOE, like California, if they're going to accept this
21 data and if they're going to create certified verifiers, are they going to, along with the concept of property
22 rights, are they going to be the ones that say, 'We have confidence in the quality, marketability, whatever,
23 of these tons'? I mean how far should DOE go in this enterprise?

24 Bob Prolman.

25 MR. PROLMAN: I think there actually is more of an answer already in existence than people
26 realize. The first thing, don't try to do duplicate or create a separate financial market. We already have a
27 commodities-exchange world and they're already moving to the Chicago and other projects to put in
28 place the capacity to trade this commodity. So I would highly counsel, highly advice and recommend
29 that you take a look and learn and see what both the traditional commodities market's capable of doing
30 and then what projects like the Chicago Exchange are doing, and what even some of the model one-off
31 trades are doing.

32 For example, they've got model -- model contracts are already being developed by a number of
33 different parties to facilitate that. So don't take on those roles.

34 Some of the roles that don't exist, though, yet are the things that in the traditional financial
35 system are by other bodies. Where is the what I call the "carbon accounting Fasbian GAAP guide" for
36 the accounting rules and all that? We've been talking about all that. So there's a question of who does
37 and, if not, can the Registry set out either the rules or how the rules will be established for that
38 accounting to answer the question of what's a tradable ton of carbon. So you have contracts. And there's
39 a whole body of contract law.

40 Property rights. Once you've defined what the entity is, we'll call it a ton of CO₂E equivalent and
41 how it's measured, there's a whole body of law already existing on property rights. And perhaps that can
42 answer most if not all the questions around who does that tonnage accrue to, to start with. Contracts are
43 the vehicle by which the property rights are conveyed, one party to another. So there's a whole host of
44 many answers in that.

45 And I don't know the whole list, so I'll stop here with the suggestion again that if you take a look
46 at how it's already being done in the commodities world and all the players and all the work that what I
47 call the "Wall Street community" is way out there already doing in anticipation of this, they're actually
48 way ahead of most of us I think, you may find a lot of this already in play. And there's a net set of things
49 they need, and you can address how you fulfill them or someone else does.

50 FACILITATOR BROOKMAN: Yes. Margot Anderson, and then I'll return to Kristin.

1 MS. ANDERSON: We indeed have heard this comment at other workshops as well, to rely upon
2 what the financial markets are already doing. And some of those representatives have been at other
3 workshops, who of course have suggested that what they need is for the government to certify that what
4 reporters have reported is government backed.

5 And so it kind of comes back around to this question of what is it that we are backing when you
6 apply for a real reduction in our revised database. And so it's kind of are we setting standards for real
7 reductions; is that what we're doing?

8 FACILITATOR BROOKMAN: I'm going to let Jeff follow on, Kristin. And then I'll come back
9 to you.

10 MR. WILSON: I would make a distinction between --

11 FACILITATOR BROOKMAN: Jeff, your last name.

12 MR. WILSON: Jeff Wilson, California Energy Commission. I'd make a distinction between a
13 reduction and a credit. I would see a credit as inherently tied to a regulatory system in place and
14 certainly we can establish reductions, but the credit really has to be established by the regulatory body.
15 You know it's like we're putting the cart before the horse. We're talking about finances for credits and all
16 the rest. And yet eventually there has to be a regulatory body or some agency that is forcing the carbon
17 market that's going to accept these credits.

18 FACILITATOR BROOKMAN: Sue Hall, do you want to follow on with this?

19 MS. HALL: I think one of the unique value-added that a DOE Registry, given the President's
20 mandate, can uniquely bring that no other entity can at this point convey is that those credits, however
21 they might get defined, within a private-sector market, the unique value added that I think this Registry
22 conveys is that there are some or all of those, which to Margot's last bullet on this slide, --

23 FACILITATOR BROOKMAN: Yeah.

24 MS. HALL: -- would not result in penalties under a future climate policy.

25 In other words, it's the intersection between how the market is defining a credible ton of carbon
26 and the value that it assigns to that ton of carbon, which is just a market function, and the unique function
27 -- or one of the unique functions that the government plays here, which is to discern those tons which
28 would be sufficiently credible, that they would not -- that they would not result in a penalty at some
29 future date and some future regulatory system.

30 FACILITATOR BROOKMAN: The Registry would be composed in a way that it would be
31 credible enough, complete enough that -- then that would be its principal attribute, that --

32 MS. HALL: Yes. Otherwise essentially what you're doing is creating the sets of standards
33 which define the ton of carbon and the property rights and, however, you're in the private market.

34 FACILITATOR BROOKMAN: And if there's enough definition, credibility well enough
35 composed, this Registry and the stuff that's in the Registry, then the market's going to handle the bulk of
36 the financial transaction and the trading under some future regime, regulatory regime, trading system.

37 MS. HALL: I mean that's in a sense that kind of an at-minimum. I mean an at-minimum would
38 be that that's one unique value-added that a registry --

39 FACILITATOR BROOKMAN: I will return to Kristin. We're looking for other at-minimums
40 for the Department and hopefully we're not going to do this ad nauseam.

41 Kristin Zimmerman.

42 MS. ZIMMERMAN: Kristin. Going back to the role of the DOE, a possible thing would be, as
43 Mark suggested, a tagging. So say GM submitted their inventory. And there are subsegments of that,
44 which you know there's direct, there's indirect, there's projection. And we submit under an SIC code, but
45 the DOE might help to tag some of those subsegments, the direct piece, which might be more open to the
46 tradable market. You know, indirect, ah, it's going to have to abide by maybe a few different standards
47 under certification.

48 So some of the tagging could also be the role of the DOE.

49 FACILITATOR BROOKMAN: Um-hum.

50 MS. ZIMMERMAN: Reporting up to this public database and tagging of the subsegments of

1 that which is being reported by the reporting company.

2 FACILITATOR BROOKMAN: What about confidentiality of data -- oh, go ahead, Pierre.
3 Follow on.

4 MR. duVAIR: This is Pierre duVair of the Energy Commission. The State of California for our
5 California Registry is not going to say that a corporate inventory that's established and registered at our
6 Registry is going to be able to trade in some future market because we can't predict future markets.

7 What we can say is that the State is going to defend your inventory and any reductions you're
8 showing in your corporate inventory against some future requirement that the State may have a role in.
9 And so that's really where we feel that the State is going to potentially provide some value in support of
10 results at this Registry.

11 FACILITATOR BROOKMAN: And would you suggest an analogous role for the federal
12 government?

13 MR. duVAIR: I would, yes.

14 FACILITATOR BROOKMAN: Yes, Bud Beebe.

15 MR. BEEBE: From a personal experience that I had with auditing of a renewable-energy
16 program that we -- that I ran, I had to get third-party audit of some green energy that we sold to
17 customers. And I thought it was going to be slam dunk to take auditors and teach them what a kilowatt
18 hour was. And that turned out not to be easy. It was a very difficult task.

19 FACILITATOR BROOKMAN: Um-hum.

20 MR. BEEBE: In the end they never knew what a kilowatt hour was, but if I showed them the
21 kilowatt hours, they could add them up --

22 FACILITATOR BROOKMAN: Uh-huh. It's just like pornography, right?

23 MR. BEEBE: It's sort of like that. Yeah, they had no idea --

24 FACILITATOR BROOKMAN: They saw it. They recognized it when they saw it, right.

25 MR. BEEBE: Yes, right. They were definitely dollars people and they could not transition to
26 kilowatt hours.

27 Certainly they're smart people and they could eventually, but my suggestion to the Department of
28 Energy is that perhaps what the commercial markets are looking for is for you to either help them
29 understand so they can begin to understand what a greenhouse gas is or for you to take on the role of
30 validating this new currency.

31 FACILITATOR BROOKMAN: You earlier said, "Don't use the word 'audit.'" Now you're using
32 the word "audit."

33 MR. BEEBE: I use --

34 FACILITATOR BROOKMAN: Are you distinguishing it by verification?

35 MR. BEEBE: Use the word "audit" because when we started out we thought we could audit
36 these things.

37 FACILITATOR BROOKMAN: Uh-huh.

38 MR. BEEBE: And I found that that was impossible. I learned from the auditors that these
39 verifications are not audits, which have very specific rules.

40 FACILITATOR BROOKMAN: Got you. Bob Prolman.

41 MR. PROLMAN: Yes. I would go back to maybe one other analogy when you think about the
42 role. If I want to go out and trade soybeans, I can pick one up. Everybody knows what a soybean is, and
43 so on and so forth.

44 In my own industry we have lumber. We have grades of lumber, so you can buy grade 1, grade
45 2, and grade 3, or whatever they call it. What I'm hearing here is the potentiality, and what I think the
46 critical need that we see is for the DOE process to define what is a federally -- what would a credit look
47 like.

48 You have reductions emissions, all the same. But for it to be a credit capable of being traded,
49 that would qualify as -- be recognized under the federal system and Registry, versus one that may be both
50 that and/or not, or just singly California.

1 I may only have a need to register or meet something in California. I'll go into the market and
 2 buy a California-qualified-only and pay a certain price to that seller, Massachusetts, or some other place.
 3 Or I may want to have something across a portfolio nationally. I'll say I'm only going to look and buy,
 4 and I'll pay the price for a federally-qualified-described thing.

5 So it's defining what is the ton and what makes it a tradable ton, which is where you bring
 6 together all the pieces of additionality and netting and accounting and methodology.

7 If that can get defined, that's the undefined thing right now. Everybody else is out there making
 8 assumptions about what that is. And then once they made their assumptions and they know what that is,
 9 all the other stuff is starting to flow in the trading world, the reduction world, and everything.

10 When I sit down with management I am consistently, the first set of questions I get is: If we do
 11 this and we do that, and I get this, is that a credit, a tradable net additional whatever.

12 And so we -- and I can say mathematically it is, physically it is: But is it a federally-qualified or
 13 a California-qualified tradable credit. We're looking for the ability to answer that question, claim it so,
 14 have something that verifies it so, have a place to register or lodge it so that it can represent it as such.

15 FACILITATOR BROOKMAN: Okay. What about issues of -- yes, Sue, follow on. Sue Hall.

16 MS. HALL: Really briefly. When you look at financial markets and how they emerge, they tend
 17 to evolve through two basic avenues. One is that financial markets evolve because different entities
 18 perceive that there is an entity of value that they want to exchange between them.

19 Financial markets will emerge and self-form by creating simple contracts that exchange that
 20 value between them, and then they'll gradually evolve as those contracts get more sophisticated and there
 21 are more buyers and sellers to develop nodes where that value is exchanged on a periodic basis. We go
 22 to Saturday markets. I mean, you know, the financial services arena have those kind of nodes at which
 23 those contracts become fungible and are exchanged on a periodic basis, until you eventually get to the
 24 point we've got realtime trading.

25 Now that's one way in which financial markets emerge on a kind of self-forming basis. They
 26 emerge naturally. And the definitions of property rights and contracts and all the rights of it emerge
 27 naturally out of that market system.

28 The other way in which markets can emerge, and I'm hearing a kind of tension, because we're ask
 29 go the DOE to potentially try and do both things, or not. And it -- anyway, the other way in which a
 30 market can emerge is if a regulatory entity or a government entity helps define the unit of value that is
 31 going to be exchanged.

32 And that creates a fungible entity which defines the unit of value. A dollar. I mean as it was
 33 with the gold standard, I mean you define that dollar and then you knew what that dollar was. And you
 34 can go around and exchange it between each other.

35 Now I think we need to kind of get clear with the Registry as to which we'd like them to do.
 36 Because on the other hand I hear folks saying, 'Well, we'd like the market to figure out, you know, what
 37 this ton looks like. And it's got all the mechanisms to be able to do it nicely, so we need to keep this
 38 market based.'

39 And on the other hand I hear calls to say, 'DOE needs to step in and define what that ton really is
 40 in order to support the market coming -- to come into being.'

41 Now both of those are valid ways in which financial markets can emerge. And I'm hearing a kind
 42 of -- I'm hearing calls for both approaches. And I think the question is, you know, is essentially whether
 43 -- I mean there are ways in which the market and a regulatory entity that defines that commodity, they
 44 can work in mutually supportive ways. But I think fundamentally you have to answer the question as to
 45 whether you want either or both of those from the Registry.

46 MR. PROLMAN: One clarification?

47 FACILITATOR BROOKMAN: Yes. Bob Prolman.

48 MR. PROLMAN: I would just add one other perspective on that, and perhaps maybe I'm going
 49 to actually contradict what you're saying, in the sense that I don't see two different things here.

50 You cannot have a market as acknowledged unless there's a value to be a traded, and we're

1 talking commodities. We don't have a scarce commodity. So in lieu of having a scarce commodity we
2 have a legislatively or a policy-driven creation of the scarce commodity. And in lieu of a cap-and-trade
3 creation of scarcity, that government role at least is to define it down to the point where two parties can
4 now, if they want to engage in a buy-sell, it's defined, then the market mechanisms come into play. So
5 there's really a juxtaposition. I don't know that there's so much a contradiction here. But we need both
6 pieces because we don't have a naturally-occurring scarce commodity.

7 FACILITATOR BROOKMAN: Pierre duVair.

8 MR. duVAIR: Pierre duVair, at the Energy Commission. The State of California and the
9 California Registry are defining the corporate inventory commodity. And basically what we're saying is
10 that commodity needs to have a minimum quality data standard. It needs to capture 95 percent of the
11 California statewide emissions and it needs to capture with 95-percent reporting accuracy. So we're
12 trying to at least set some bounds on what that commodity is.

13 FACILITATOR BROOKMAN: Thank you. Thank you.

14 Yes. Frank Guenther.

15 MR. GUENTHER: I don't know if we're losing sight of the actual real goal all of this, is to
16 actually reduce the emissions of greenhouse gases. And under our voluntary system the trading of
17 transferable credits really does not good, as far as I can see.

18 I mean you must have goals set by some entity, some governments that will tell us that we must
19 meet this goal or reduction. And if you exceed that goal, then you have a transferable credit that can be
20 offset by somebody else who's not meeting that goal. Under a voluntary system that is just not into place.
21 And where are the transferable credits? I just don't understand.

22 FACILITATOR BROOKMAN: Mark Friedrichs, do you want to take that?

23 MR. FRIEDRICHS: Do you want to take it?

24 MS. ANDERSON: I'll be happy to take that.

25 FACILITATOR BROOKMAN: Margot Anderson will take it.

26 MS. ANDERSON: The transferable credits are coming because the President has asked us to
27 create a system with transferable credits. And those of us that are working in the agencies that are trying
28 to determine what that's going to look like are struggling with this very issue.

29 So there may be criticisms of that approach and are there other approaches in order to get at the
30 President's Goal, but the President's Goal is an 18 percent reduction in greenhouse gas intensity by 2012.
31 And one of the instruments that he wants businesses and other entities to use is taking on action and then
32 reporting that action through the Registry.

33 And, consequently, he wants to reward folks for taking that action. And one way to reward them
34 is to provide this transferable credit that they can use as a measure of the action that they've taken.
35 Presumably it has market value or will have market value or will protect them against some future
36 climate policy that may be different than the one we have today, and that they can take that reduction and
37 do something with it in order to be compensated for the efforts that they've undertaken in order to help
38 the President meet his goal.

39 So we all have different concepts of ideal ways to get at greenhouse gas reductions, and this is a
40 concept that he's advocating that he feels is going to work. And we've all seen what some of the
41 shortcomings are and what some of the advantages are, but I think our efforts are really to try and figure
42 out how do we really implement something that's going to work for all the people that we know are
43 interested in taking some action, demonstrating that action and getting rewarded for taking that action.
44 And this is a approach that we're trying to explore. So that's where it comes from.

45 FACILITATOR BROOKMAN: Sue Hall, follow on.

46 MS. HALL: So in that context without a cap, you know, this -- I struggle to find the meaning in
47 this game unless the Registry takes a very, very serious look at establishing explicit standards for
48 additionality, because additionality is the evaluation that determines whether those carbon tons have gone
49 above and beyond business as usual, when you boil it down to its simplest function.

50 And unless you are going beyond business as usual, we won't have a downward trend in

1 greenhouse gas emissions. So absent a cap I find it hard to see how the Registry can achieve the
2 objective of creating transferable, creditable tons without setting very explicit standards as to how at a
3 content level you determine additionality.

4 FACILITATOR BROOKMAN: Thank you.

5 Mark, do you want to... Mark Friedrichs.

6 MR. FRIEDRICHS: I think that this is a difficult question. Emissions trading --

7 FACILITATOR BROOKMAN: You don't know how difficult it is up here.

8 MR. FRIEDRICHS: Emissions reduction credits and trading are developing on their own in
9 anticipation of some future climate policy, as yet undefined. That may be a cap-and-trade program. That
10 may be some kind of financial incentive program.

11 We know that those countries that are implementing the Kyoto Protocol, if it ever goes into
12 effect, will have their own cap-and-trade program.

13 In a sense we are trying to identify credits which we think can, should, will be recognized under
14 a future climate policy.

15 FACILITATOR BROOKMAN: Yes, Susann.

16 MS. NORDRUM: Susann Nordrum, Chevron Texaco. At the risk of sounding a little bit naive, I
17 think to some extent industry wants to respond to a voluntary program, as suggested by the President.
18 And the threat of a cap-and-trade may be enough to incite enough action and to get us moving towards
19 doing things. And having the ability to buy offsets or trade offsets, or whatever, just adds one more thing
20 that we could do.

21 FACILITATOR BROOKMAN: Okay. Thank you. Thank you.

22 Yes, Howard Gollay.

23 MR. GOLLAY: I just want to emphasize what Susann just said. That was going to be my
24 comment as well. The concept here is really to avoid a cap and any type of proceeds of a real necessity
25 for a cap-and-trade program. And companies want to take the initiative to show that they support the
26 President's plan.

27 And one avenue to do such a thing, for example, you can try to reduce by 18 percent over the
28 next ten years where you can have a market mechanism like -- like something like an emission reduction
29 as credits or so. I think it makes perfectly good sense.

30 FACILITATOR BROOKMAN: I just want to make sure it's on the record.

31 Are you getting him? Did you get him?

32 MR. BRANDT: Yes, I did get him. But closer --

33 FACILITATOR BROOKMAN: Okay. Close to your face.

34 Frank Guenther.

35 MR. GUENTHER: Yes. I think it can be done in a voluntary system, but you still have to have a
36 voluntary cap. I mean if he says 18 percent by 2012, that's your goal. And every sector, if you take on
37 that as a goal for your sector, then if you are beating that goal, then you obviously have something that
38 you can trade. And that might be a transferable credit, but you still have to have something that you have
39 to exceed. You just can't trade emission credits that you have reduced that have not met that goal.

40 FACILITATOR BROOKMAN: What about the issue of confidentiality? Public versus
41 confidential data. We heard in previously workshops that, for example, the EPA data, the EPA air data,
42 as I recall, is completely open, right? That is there are no confidentiality restrictions on -- I'm looking at
43 you, Cynthia.

44 What program is it in EPA that all the reporters, that it's all -- there's no restriction, no
45 confidentiality?

46 MS. CUMMIS: There's no confidentiality?

47 FACILITATOR BROOKMAN: Well, that's what I thought. Maybe I'm overstating it.

48 MS. CUMMIS: Yes, I'm a little confused. Emissions data. Anything that's considered I guess
49 pollution data I think under the Clean Air Act can be FOIA-ed.

50 FACILITATOR BROOKMAN: Okay.

1 MS. CUMMIS: So there's a couple voluntary programs that have found a way to house the data
2 at a third party and that way it doesn't become the custody of EPA and it therefore can't be FOIA-ed.

3 FACILITATOR BROOKMAN: Thank you. I think Arthur is going to correct my misstatements.

4 MR. RYPINSKI: The sulfur emissions and other of large emitters reported to EPA pursuant to
5 the Clean Air Act amendments of 1990 are all public, as far as I know. All the guys who trade sulfur, all
6 that data is in the public domain.

7 MS. CUMMIS: Yes. I think any --

8 FACILITATOR BROOKMAN: Back to Cynthia.

9 MS. CUMMIS: Any emissions that's considered like pollution data can be FOIA-ed under the
10 Clean Air Act.

11 FACILITATOR BROOKMAN: Okay. Thanks very much.

12 Yes, Jeff.

13 MR. WILSON: But isn't the underlying activity data, that still can be confidential. It's just the
14 results, the actual emissions that are open to the public?

15 FACILITATOR BROOKMAN: So what should be done about this? Should data submitted to
16 DOE be made publicly available? Can DOE effectively protect confidential data?

17 We've heard a couple of different ways that could be done, through -- aggregated through third
18 parties. Have a confidentiality agreement in place there to protect it, companies that -- how should this
19 be handled?

20 Bob Prolman.

21 MR. PROLMAN: Yes. I'm going to make one suggestion and raise one conflict that we've
22 already run into or one issue we're running into in our industry on this. The suggestion is, you know,
23 look at the existing mechanism for confidentiality, not only in the environmental programs, but look at
24 financial data. Companies report their earnings and certain basic things, but protect a lot of competitive
25 proprietary, financial data.

26 On the third-party issue, our industry is in discussion with DOE in terms of a sectoral report.
27 And to the gentleman's question about a goal and so forth, you know, if we were to adopt exclusively that
28 18-percent target, on the other hand, we all just go home and do our thing and report our numbers to the
29 industry and it rolls up. And see where we are.

30 And if we're not there and we want to do something more aggressive, now we get into allocating
31 amongst ourselves who's going to help us meet our sectoral target, which implies who's going to spend
32 what, which gets into not the conflict of interest, but -- I'm forgetting the term --

33 FACILITATOR BROOKMAN: Antitrust.

34 MR. PROLMAN: -- antitrust -- thank you -- kind of issue. And we're doing some legal research
35 around how do we manage that. So we've got some other factors to consider in dealing with -- you can
36 get on one past to protect A and wind up in conflict on item B.

37 FACILITATOR BROOKMAN: Yes, thank you.

38 Additional comments on the issues of confidentiality?

39 Yes, Pierre duVair.

40 MR. duVAIR: This is Pierre at the Energy Commission. It's partly linked to confidentiality. I
41 guess it's the issue of the key thing I think DOE can provide is what Bob's been asking for, is to help
42 define the commodity. What is a ton of CO₂ that's reported at the Registry and what are the attributes of
43 that ton.

44 And, like I mentioned, the State Registry is setting a 95-percent accuracy for corporate inventory.
45 And we've heard from our first training workshop with the certifiers that that may be a costly
46 certification. We don't know yet. We haven't had any experience with it. We're going to find out, but
47 for some of the large complex emitters, getting a certifier to stamp, yes, this is a 95-percent accurate
48 inventory may be costly.

49 And this is what you're going to be facing if, A, to set the quality standard of data reported to the
50 Registry, and what is the trade-off with the cost of getting a particular quality standard.

1 FACILITATOR BROOKMAN: Um-hum. Okay. Other issues related to confidentiality?
2 What should be the treatment of priority of reports? What should DOE do about that?
3 Jill Gravender.

4 MS. GRAVENDER: Jill Gravender from the Registry. Certainly I think one approach might be
5 to allow participants to retroactively meet the requirements of the new, revised 1605(b) Program if they
6 would like to, so that if they have five years of data in there before the new 2004 reporting year, they may
7 have the option to go back and meet the, additionally, their data requirements or certification
8 requirements for prior years in order to achieve that same level of transferable credit or whatnot moving
9 forward.

10 But then I would assume that moving forward, all participants in the program would need to meet
11 the new guidelines rather than the old guidelines, as an option.

12 FACILITATOR BROOKMAN: Thank you. Thank you.

13 Other comments on how that could be done? Yes, Jane Turnbull.

14 MS. TURNBULL: I just would like to bring up the issue again of permanence that came in the
15 agricultural and forestry group, because I don't think that there is any good approach to deal with that at
16 this point in time. And I'd like to hear some suggestions.

17 FACILITATOR BROOKMAN: And describe the problem from your perspective.

18 MS. TURNBULL: Well, if you're dealing with sequestration, in particular, you're projecting
19 results into the future and those projections may or may not be valid.

20 FACILITATOR BROOKMAN: Yes. Through either catastrophic loss or whatever other factors.

21 MS. TURNBULL: Yes.

22 FACILITATOR BROOKMAN: Okay. Permanence is forward looking. This topic is more prior
23 year. I'm not linking them. Maybe I'm just missing something.

24 Bob Prolman.

25 MR. PROLMAN: I don't know if this is what you intended in the comment, but in my mind
26 where I went to with that is perhaps we could look, evaluate those past representations in the Registry,
27 assess their permanence --

28 FACILITATOR BROOKMAN: I got it.

29 MR. PROLMAN: -- to a degree of certainty, and you know allow some level, all the way to a
30 hundred percent of booking of what was claimed.

31 FACILITATOR BROOKMAN: Yes, Bud Beebe.

32 MR. BEEBE: A follow-on to what he just mentioned. First of all, the Voluntary Program in the
33 past has only captured, what, 10 to 17 percent of total emissions. So it's not a real big number
34 percentagewise for the whole nation.

35 Secondly, you are developing a set of values, characteristics, and so forth that will become a part
36 of databases going forward. Maybe -- you know, when Environmental Defense put out their critique of
37 past -- it was a scathing critique of the failings of 1605(b). There's been no repost to that.

38 And maybe what you could do is you could reflect on what they said, gather some input from us
39 and other people, and make some value judgments about the character of past data, and throw out some
40 of it and accept others, and go forward with the realization that it's temporal, it's in time. It's like -- so it's
41 bounded in time. It's a fairly -- it's a very small part of the overall picture, and just accept certain past
42 stuff as it was submitted.

43 FACILITATOR BROOKMAN: As it was submitted.

44 Howard, and then I'll go to Mike.

45 MR. GOLLAY: I think -- yes, I sort of agree with this. First of all, there's -- let me create the
46 picture for us. What we will say five or six years from now -- thank you -- when we're trying -- when
47 we're saying different in this area and then we don't want to penalize under Future Climate Policy
48 transferable credits. So what are we going to be saying about the same type of issue that may raise its
49 head five years from now.

50 And the idea is not to penalize under -- for companies that did do voluntary efforts.

1 FACILITATOR BROOKMAN: Right. And we don't want to penalize early actors.

2 MR. GOLLAY: That's right.

3 FACILITATOR BROOKMAN: Right.

4 MR. GOLLAY: And so my take on all this is that we should accept the emission reductions that
5 companies have submitted at face value. And there should not be a need to use any more scrutiny on
6 them.

7 FACILITATOR BROOKMAN: And so they have equivalent status as new? You're going there.
8 Go ahead.

9 MR. GOLLAY: And then going back to what Jill was saying, that -- and if I'm taking for a
10 subset, that if you are going to trade them, that's a different standard that you probably will need to abide
11 to.

12 So for trading then you may want to use what the new standard is, but for what companies are
13 claiming is emission reductions, I think you should accept them at face value.

14 FACILITATOR BROOKMAN: Okay. Yes, Mike.

15 MR. BURNETT: Yes. I guess I was going to --

16 FACILITATOR BROOKMAN: Mike Burnett.

17 MR. BURNETT: -- it seems that for the purposes of progress reporting, you know kind of
18 accepting what's already in the Registry kind of unchanged you know might be okay. It seems like the
19 concept of the baseline protection and transferable credits, that's kind of a new idea that really is now just
20 being associated with the 1605(b). And it seems that the credits and the baseline protection needs to
21 meet, that data would need to meet the new standards that are set by this initiative, not the prior initiative.
22 And so I think maybe companies might have to upgrade, perhaps, their data to bring it into conformity
23 with new data.

24 Now there might be some reason to provide exceptions if, you know, it's hard to get, and things
25 like that. But I mean philosophically it seems like if you're kind of building this government-backed
26 baseline protection or transferable credits, it probably ought to generally meet the new standard by which
27 we're defining those.

28 FACILITATOR BROOKMAN: Okay.

29 MS. GRAVENDER: Can I ask a question about that?

30 FACILITATOR BROOKMAN: Please. Jill Gravender.

31 MS. GRAVENDER: Are you saying that all data in the Registry would then be upgraded to the
32 new standard?

33 MR. BURNETT: I guess only if you wanted to use it for baseline-protection purposes or for
34 transferable-credit purposes.

35 FACILITATOR BROOKMAN: So in that respect a company that wished to pursue it, recreate
36 the data, improve the data, trace the data, meet the new standard, that company could do it, and other
37 companies that didn't wish to do it...

38 MR. BEEBE: Hey, what kind of message is this?

39 FACILITATOR BROOKMAN: I don't know.

40 MR. BEEBE: Are you protecting a baseline if you modify the data later and then, you know,
41 throw a bunch of it? I don't think that's -- you know, people aren't going to think that's good faith with
42 this voluntary process.

43 I do think that you could apply a certain -- you can apply some judgment on some of that bad
44 data and reasonable people will accept that. That's okay. You're going to have to throw some of it out
45 because it isn't all good. But I think that if you're going to begin to build faith, that this Voluntary
46 Program worth anything, you're going to have to accept what's pretty much there.

47 FACILITATOR BROOKMAN: You're aligned with Howard. Yes, okay.

48 Mike Burnett.

49 MR. BURNETT: Well, and I guess some of the problems that I think probably would need to be
50 addressed are kind of double and triple reporting of the same project, you know, that are in 16- -- that are

1 in the data right now. You know different parties along the chain have all reported it. Well, somehow
2 there has to be an ownership rule established so that only one can claim that.

3 I mean it's okay again for progress reporting. I think it might be okay to allow that, but when
4 you're getting into kind of the baseline protection, I mean it seems like only one baseline can be protected
5 by one ton, I guess. And the same thing with the transferable credits.

6 And so I think there are problems that have been identified that probably can be resolved, but I
7 think just kind of saying carte blanche that everything in there, you know, gets transferable credit and
8 baseline-protection status probably is going too far with it.

9 FACILITATOR BROOKMAN: Arthur Rypinski.

10 MR. RYPINSKI: I think the discussion we've just heard may involve a slight misapprehension
11 about the nature of the issues and the existing data. It's not, at least in my opinion, like there's good data
12 and bad data. Nor do I think that in general the double counting is a big issue quantitatively, although
13 there might be some individual instances.

14 The kinds of issues that emerge is that if the new regime specifies organizational boundaries or
15 provides more standards for organizational boundaries, it's not necessarily the case that every previous
16 report would have used the new standards for organizational boundaries.

17 If the new regime is more specific about the kinds of baselines that are applied, it's not
18 necessarily the case that every previous report would have used the same approach that would be adopted
19 going forward.

20 So the only sort of institution -- the only sort of like structural issue that's in the database that is
21 really -- that I'd really key on is that many companies have reported both projects and entities in parallel,
22 which you can do and is perfectly permissible under the existing database. And I would think that one
23 would be cautious about accepting reductions from both in parallel.

24 But -- I guess that's about as far as I'll go at the moment.

25 FACILITATOR BROOKMAN: Okay. Yes, Sue Hall.

26 MS. HALL: I mean there has been really quite vociferous comment on 1605(b) from some of the
27 environmental groups. And I mean it seems to me that at a minimum if the new Registry is going to put
28 in place a series of other guidelines for how you put your inventories together and how you report your
29 industry-wide emissions, your projects, et cetera, et cetera, at the very least you would need to be able to
30 give your participants the choice should they have the means available to upgrade their reporting data to
31 your new requirements.

32 FACILITATOR BROOKMAN: Um-hum.

33 MS. HALL: That does not invalidate the -- in the sense that it does not quote-unquote invalidate
34 the registration that was made in realtime during the previous registration period. But it enables
35 participants who are able and interested to quote-unquote upgrade to do so.

36 FACILITATOR BROOKMAN: Okay. Thank you.

37 Let me ask you to focus on the last bullet. We've been addressing this as we've been going along:
38 Not penalizing under future climate policy/transferable credits. That, in fact, has been the boundary
39 condition for this entire conversation, it seems like for me.

40 I want to see if there are any additional comments that relate to that bullet, because this, folks, is
41 the final bullet.

42 Bob Prolman.

43 MR. PROLMAN: I just want -- this may be a lot of far off the wall but, on the other hand, in
44 view of some of the legislation I see being drafted, maybe not.

45 Fundamentally the whole question about not penalizing is that if I invest now and spend real
46 dollars, I want it to count. I don't want to have to respend the dollars. So one way perhaps to clear the
47 whole thing up is simply authorize a prevalue, I'll just -- I'll pick a number for an example, like \$5 a ton
48 as a tax credit if used to purchase under the new rules or invest in under the new rules a replacement
49 credit, so that I have a no-cost exchange basically.

50 FACILITATOR BROOKMAN: Okay. Thank you.

1 Other thoughts on how that would be accomplished, not penalizing under future climate policy,
2 allowing transferable credits?

3 Please.

4 MS. GLASER: Nancy Glaser. I just want to comment. I think it was kind of Frank's point
5 earlier about why would anybody trade if they haven't met the 18-percent President's Goal. And you
6 know certainly my sense is a lot of folks maybe bring us projects that aren't being structured to kind of
7 meet that goal. And I certainly wouldn't want us to be penalized because in a particular sector people
8 didn't meet that goal, but they choose instead to market the credits. And it seems like you want to leave
9 room for that.

10 FACILITATOR BROOKMAN: Thank you. Thank you.

11 Additionally comments on this last bullet?

12 I see none.

13 I'm going to -- I myself now am going to sit down. And I would personally like to thank you all
14 of you. I would like to thank you for your endurance. I'd like to thank you for your extraordinary, tough
15 backsides. I would like to thank you for your talent, your energy, and particularly your spirit of
16 collaboration.

17 And I'd also ask, there is an evaluation form in your blue packet, please fill it out. Will you read
18 it?

19 And if you have any additional things you'd like to have submitted in the record, Margot
20 Anderson will take it from here.

21 (Applause.)

22 MS. ANDERSON: You will be pleased to know that I don't think any -- myself or my colleagues
23 feel that we have heard all this stuff all over for the third time because, in fact, there was a tremendous
24 amount of new information that came out of this workshop. We had a different kind of a conversation
25 here than we did in Chicago and D. C.

26 Kristin, can you verify that for me, please? Thank you.

27 So there were a lot of very good practical suggestions, and we'll be calling you to follow up on
28 many of those.

29 As Doug mentioned, there is an opportunity for you to write back to us. We gave you the
30 website. I'm going to ask Michael: Michael, do we have a list of participants and all the relevant
31 websites that are now available?

32 So that will be out on the table for you so you can see who was here and you can see the websites
33 that you need to have at your fingertips when you want to contact us with your written comments.

34 So do send in your comments. And, again, we'll be accepting comments well into the winter
35 months. I don't want to give you a deadline on that. Originally in our *Federal Register* notice we said
36 December 20th. We know that's ridiculous, so we're -- January, February, March timeframe, if you could
37 submit comments to us or to anybody else that you think needs to hear from you on this issue that would
38 be very helpful.

39 I don't want to sum up because this wasn't really a consensus process but, as I said earlier, I do
40 think that we heard some things that we hadn't heard before, got some suggestions, very practical
41 suggestions on dealing with some issues that have been rather thorny for us.

42 So I thank you all for bearing with us. This has been a good group, a vocal group. You stuck
43 with us. As I said earlier, pace yourself. It's going to go on for many more months to come, and we'll
44 want you to continue your involvement. In for a penny and for a pound, we say.

45 I want to thank EIA and my colleagues at the Policy Office. EPA, still here? I know they're
46 here. Bill's here. Cynthia was here a minute ago. There she is.

47 We had DOT here. We had DOC here. We had USDA -- unfortunately, had to go catch a plane.
48 There's a storm coming to D. C. and they needed to get back in time.

49 The rest of us are going onto Houston for our last workshop. And again thank you very much for
50 coming. Thank you very much, Doug. And thank you, Navigant, for the wonderful work that you've

1 done to date. And we look forward to Houston. Thank you.
2 (Applause.)
3 (The Workshop was adjourned at 12:41 o'clock p.m.)
4

10. BREAKOUT SESSION REPORT-BACK SLIDES

Voluntary Greenhouse Gas Reporting Workshops

Electricity Generation including Grid-Connected Renewable Generation

- Options for intensity baselines?
 - Applying intensity baselines for utilities and utility systems
 - Estimating displaced emissions
- Treatment of acquisitions / divestitures?
- Should causes of reductions, other than output, be considered, such as weather, technology, voluntary programs, regulations, new investment, improved management?
- Minimizing double-counting:
 - Green power sales / purchases?
 - DSM incentives / programs?

Options for intensity baselines?

- Look industry wide. (maybe regionally)
- Separate peak and base loads.
- There is a difference between marginal emission rate and KWh based intensity reduction.
- Try to look at contributing factors.
 - Use differential between built and could have been built power generation units.
- Need intensity baselines to allow for increasing power demand.
 - Something to hold power companies harmless.
 - Make the comparison with recent built technology to supply similar quantities of energy.

Breakout Group – Electricity Generation

Options continued:

- Reductions aren't always easily identified as a single project.
- Delivery mix of electricity might be viewed as important for receiving credits.

Breakout Group – Electricity Generation

Options continued: (New Plants: 3 types of projects and 3 baselines)

- Reductions from intermittent power (e.g. wind)
 - Operating margin baseline
- Reductions from base load (e.g. coal, nuclear)
 - Build margin baseline
- Reductions from load-following units (e.g. simple gas, CCGT)
 - Build margin baseline

Breakout Group – Electricity Generation

Treatment of acquisitions / divestitures?

- If have partial shutdown followed by sale; who gets credits?
 - New owner that restarts it should take a hit.

Breakout Group – Electricity Generation

Should causes of reductions, other than output, be considered?

- If mandated: should still be eligible for credits.
 - Weather might be one exemption from this.
- Time period of your control is important. You should get the credits for reductions that occur when you are in control.
- There is a potential concern of everyone divesting coal and acquiring credits, only to have same amount of coal operating under different companies.

Breakout Group – Electricity Generation

Projects and DSM:

- Projects:
 - Need to close the loophole between entities and projects.

- DSM
 - Put it in the contract
 - Rate payer vs. share holder?
 - Utility takes credit b/c of its effort to drum up participation.

Breakout Group – Electricity Generation

Green power who gets GHG credit?

- Green power could be used to:
 - Push down own intensity, or
 - Sold to grid at a premium.
- A tracking system is needed for green power sales.

Industry Breakout Session Report Back Slides

**San Francisco Workshop
December 9-10, 2002**

Industry Breakout Group

Are there existing entity wide GHG intensity measures of output?

- Emissions per pound of product are common
- Companies with diverse product portfolios have difficulty with widget metrics
 - Revenue metric - market could cause a change in denominator with no operational change; California Registry considered revenue and abandoned
- Emissions per square foot floor space (non-industrial)
- Service industry metric?
 - Emissions per unit of service activity (e.g, km traveled); Emissions per employee hour of work

What would be your ideal GHG intensity metric?

- A measure that cuts across an industry and fits with business activity (e.g., pounds CO₂ per kWh)
- Useful to our customers and adds societal value
- A metric that stands the test of time; but, a car or ton of cement today is not the same as yesterday
- Some expressed interest in a per dollar per ton reduced, to be able to compare cost-effectiveness of GHG reductions across sectors
- Suggestion: Review the UK industrial GHG reporting system, more than 30 sectors / metrics painstakingly negotiated with industry

Are intensity-based metrics the same as tradable credits?

- Some challenges converting rate-based measure to absolute-based measure.
 - Intensity reductions would need to be converted to tons of carbon dioxide
- No regionality – a ton of CO₂ is a ton of CO₂ whether is emitted in California or South Africa
- Intensity metrics can be a good basis for allocating carbon emission rights (e.g., Canada) because it doesn't penalize early action

What about actions taken by companies to purchase low carbon inputs?

- Energy – should industrial consumers get GHG credits for buying low- / non-CO₂ electrical power over conventional sources?
 - Indirect – emissions are avoided
- Materials – should industrial consumers get GHG credits for choosing low-CO₂ material inputs? (e.g., recycled aluminum)
 - Indirect – emissions are avoided; sends good signals to suppliers if industry calls for low-CO₂ products
 - Difficult to verify – would be relying on supplier

How should the registry handle non-CO₂ gases? e.g., CH₄, N₂O, HFC, PFC, SF₆

- Continue to report on a disaggregated basis in physical units by gas species
- DOE supplies the appropriate, updated global warming potential conversion factor to normalize everything to carbon dioxide equivalent
 - For public reporting purposes, it was felt that CO₂ was a better reporting metric than C

Are there Confidentiality Issues?

- If businesses report on an entity-wide basis, generally not a problem; already a fairly high level of information sharing
- However, could be a problem if data were looked at from a facility level
- EPA solution: data reported to 3rd party, confidentiality contract, reporter pays - FOIA proof
- Trade-off between confidentiality and transparency
 - Need to establish legitimacy of calculations and process

Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

Ryan Bell, Cities for Climate Protection

Bill Irving, EPA

Eran Seger, US DOT, Volpe Center

Sue Hall, Climate Neutral Network

Kristin Zimmerman, GM

Lori Sonnier, Toyota Motor Sales, USA

Kevin Fay, Intl Climate Change Partnership

Mark Friedrichs, DOE

Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

Problem

- Small emitters unlikely to participate
- Sectors have large direct and indirect emissions (~50% of U.S.)
- Many opportunities for reductions exist

Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

- Types / Roles of Aggregators
- Identifying Emission Reductions
- Minimizing Double-Counting
- Minimizing Transaction Costs

Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

Types of Possible Aggregators

- Product Manufacturers / Builders
- State / local governments
- Generators / Large Sources
- NGOs (Non-Profits, Trade Associations)

Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

Roles of Possible Aggregators

- Introducers / suppliers of new technology
- Instigators / organizers of community / group action
- State / local government regulations / incentives
- Providers of incentives (seeking offsets)

Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

Helping Aggregators Get Started

- Informing
- Assisting

Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

Identifying (Qualified) Emission Reductions

- Entity-wide reductions
- Projects
- High efficiency / low emitting products

Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

Minimizing Double Counting

- Restricting to sectors / emitters unlikely to participate directly
- Setting clear rules for determining “owners” of emission reductions
- Contractual transfers of ownership rights
- Enabling end-users to assert ownership

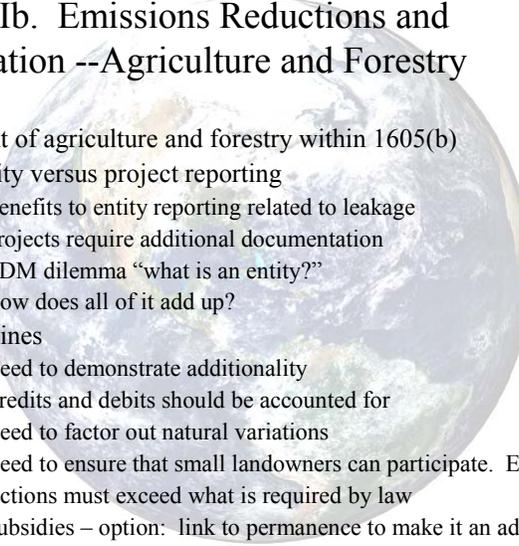
Small Distributed Sources

Residential, Commercial, Transportation, End-Use Renewables

Minimizing Transaction Costs

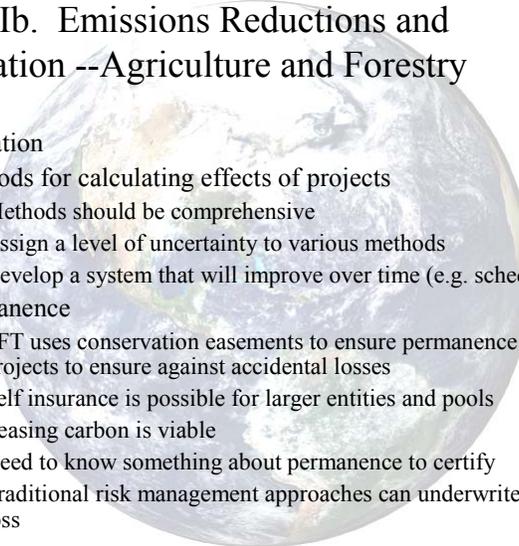
- Higher transaction costs will limit participation and strain Federal program
- Simplified rules for identifying / reporting emission reductions
- Different levels of requirements, participation

Session IIb. Emissions Reductions and Sequestration --Agriculture and Forestry



- Treatment of agriculture and forestry within 1605(b)
 - Entity versus project reporting
 - Benefits to entity reporting related to leakage
 - Projects require additional documentation
 - CDM dilemma “what is an entity?”
 - How does all of it add up?
 - Baselines
 - Need to demonstrate additionality
 - Credits and debits should be accounted for
 - Need to factor out natural variations
 - Need to ensure that small landowners can participate. E.g. Pooling?
 - Actions must exceed what is required by law
 - Subsidies – option: link to permanence to make it an addition

Session IIb. Emissions Reductions and Sequestration --Agriculture and Forestry



- Sequestration
 - Methods for calculating effects of projects
 - Methods should be comprehensive
 - Assign a level of uncertainty to various methods
 - Develop a system that will improve over time (e.g. schedule updates)
 - Permanence
 - PFT uses conservation easements to ensure permanence and pools projects to ensure against accidental losses
 - Self insurance is possible for larger entities and pools
 - Leasing carbon is viable
 - Need to know something about permanence to certify
 - Traditional risk management approaches can underwrite exposure to loss

Session IIb. Emissions Reductions and Sequestration --Agriculture and Forestry

- Other issues
 - Ethanol
 - Base the methods on science – alternative production approaches have different GHG benefits
 - Boundaries and transfers
 - Decisions on treatment of wood products will need to be made
 - International
 - Leakage will be important and more difficult to assess
 - Co-impacts/co-benefits
 - Recognize that many forest and agriculture projects have co-benefits
 - Develop minimum standards in some cases (e.g. non-native species)

11. SUBMISSION TO THE RECORD:

”EMISSIONS TRADING: HOW TO AVOID
DOUBLE COUNTING” AND OTHER CLIMATE
TRUST MATERIAL RELATING TO INDIRECT
EMISSIONS AND DOUBLE COUNTING
AVOIDANCE; MICHAEL BURNETT, THE
CLIMATE TRUST, PORTLAND, OREGON

How to avoid double counting

Greenhouse gas emission trading schemes should incentivise industry in general to reduce its power consumption.

Mike Burnett and **Michael Ashford** explain how this can be done while avoiding the problem of 'double counting'

Viable, market-based emissions trading systems will be a critical component of overall policy directed at slowing the advance of climate change. We are seeing the beginnings of regulatory certainty and liquidity in the nascent offset trading market, as evidenced by the new UK market in greenhouse gas (GHG) emissions as well as strong buy signals from institutions like the Dutch government, the World Bank's expanding range of carbon funds, and the Oregon-based Climate Trust.

In addition, in the US, a limited number of voluntary bilateral emissions reduction trades have been concluded, and market-making mechanisms such as the Chicago Climate Exchange are under development.

To be effective on the massive scale needed to address the global climate problem, market mechanisms must be equitable and provide the appropriate decision-makers with adequate incentives. In addition, simplicity is preferred to enhance participation.

The time is therefore ripe for a discussion of how best to credit reductions that result from end-user actions that reduce the use of electricity. Since these actions do not cause emissions reductions directly on-site, but rather cause reductions remotely on the electricity generating grid (through lower smoke-stack emissions at power plants), they are termed 'indirect' emissions reductions.

The fundamental policy question is: do these reductions accrue to the benefit of the end user, or to the power generator that produces less electricity by burning less fossil fuel, thereby reducing the amount of emissions from its smokestack?

This is an issue of considerable importance. In the US, transportation, buildings and industry each account for approximately one third of national GHG emissions. Roughly half

of emissions from buildings and industry are caused by electricity use. Thus, one third of US emissions fall in the 'indirect' category and, as it is expected to be difficult to include transportation in a trading system, half of the emissions reductions that are likely to be tradable are indirect.

For both equity and effectiveness reasons, it is essential that these emissions reductions accrue to the end user, not the power generator. First, common sense and fair play imply that the organisation investing in reducing emissions should be the financial beneficiary. Providing the GHG benefit to the end user encourages decisions that reduce electricity consumption. If power generators get credit for these reductions, not only would the incentives for end users be non-existent, but a power generator could potentially 'free-ride' off the investments of its end users.

Second, from a policy perspective, the preferred tools for fighting global warming are electricity displacement offsets: energy efficiency; cogeneration; and renewable energy. Both energy efficiency and cogeneration involve decisions by the end user, as does the purchase of green power. Providing the resulting GHG benefit to the end users encourages them to invest in these technologies. On the contrary, providing this benefit to the power generator discourages these mitigation approaches.

'Direct-only' crediting attributes emissions reductions from end-user investments to the power generator. Proponents of direct-only crediting argue that indirect crediting is fraught with potential 'double counting'. This can occur if the end-user emissions reductions are attributed to both the end user and the power generator: that is, where indirect

emissions reductions at an end user facility also show up as reduced stack emissions at the power plant.

These proponents also argue that a system that credits indirect emissions reductions to the end user is more complex. It is true that the accounting system needed to capture such reductions is more complex. But, in order for a direct-only trading system to provide incentives to end users to encourage efficiency, cogeneration and green power, a legal contract must be put in place between the power generator and the end-user.

As a result, direct-only crediting achieves accounting simplicity, but at the expense of creating a contract-intensive implementation system and significantly increased administrative overheads. To achieve substantial emissions reductions would therefore require an electric utility-based demand-side management programme of unprecedented magnitude. Such utility-based programmes have had a limited record of success in the past.

Furthermore, a utility-based programme would focus on reducing an end user's electricity consumption and ignore potential reductions in the end user's own direct fossil fuel consumption, since the utility would not be a beneficiary of these latter reductions. The end user would not face an integrated emissions reduction programme, but an electricity reduction programme.

This lack of an integrated programme would probably result in sub-optimal investments by end users as the programme would not encourage them to pursue their own direct emissions reductions.

In addition, direct-only trading could lead end users with their own direct emissions from fossil fuel combustion to 'outsource' these emissions by shifting from on-site fossil fuel consumption to buying in electricity in order to reduce their corporate emissions footprint. Thus, direct-only trading dictates an inefficient market structure that would probably be only partially effective at mobilising end-user participation.

In contrast, by providing the incentive to the end user, indirect trading avoids such a contract-intensive, high-overhead, non-integrated, sub-optimal system. Far more important than accounting simplicity is that the basic structure of the incentive system provides the strongest support for end user investments in emissions reductions.

Given this compelling case for allowing the end user to trade indirect emissions reductions, the challenge is to find an approach that can avoid the Achilles heel of this system: double counting.

The Climate Trust has developed a simple accounting approach that avoids this problem. This approach equitably and logically distributes electricity-related emissions reductions between the end user and the power generator. It is based upon a basic ownership rule – you own what you control. The end user is responsible for the quantity of power purchased, not the carbon intensity of its power supplier's grid. The power gen-

Common sense and fair play imply that the organisation investing in reducing emissions should be the financial beneficiary

Credits where credits are due: simple accounting rules can ensure that industry is fairly rewarded for curbing its power consumption



erator is responsible for the carbon intensity of its electricity generation, not the quantity of power sold.

The end user's goal is to reduce electricity consumption. To quantify their emissions reductions, the reduction in kilowatt-hours (kWh) must be calculated. This is multiplied by the carbon intensity factor – in terms of pounds of carbon dioxide (CO₂) emitted per kWh of electricity generated – for the end user's power supplier. However, the end user gets no credit for any reduction in the carbon intensity factor achieved by the power generator; this value is frozen in the calculation.

For example, if the end user reduces electricity consumption from 1,000 million kWh to 990 million, it has saved 10 million kWh. If the carbon intensity factor is 2.00 pounds/kWh, the end user has achieved 20 million pounds of CO₂ reductions.

The power generator's goal is to reduce its carbon intensity factor. To quantify the generator's emissions reduction, the change in carbon intensity factor must be calculated. This is multiplied by the quantity of kWh it sold in the base year. The quantity of electricity is frozen at the base year value so that kWh reductions can be attributed to the end user. In the above example, if the power generator did not change its carbon intensity factor, it would achieve no emissions reductions, despite generating 10 million kWh less than in the base year.

However, if the generator reduced its carbon intensity factor to, say, 1.98 pounds/kWh, and the end-user achieved no kWh reductions, then the entire emissions benefit would accrue to the power generator. The 1,000 mil-

lion kWh of base year electricity sales would be multiplied by the change in CO₂ intensity (2.00–1.98, or 0.02 pounds/kWh) and the power generator would thus earn 20 million pounds of CO₂ reductions.

In a more typical case, both the end-user and the power generator will achieve reductions in their respective metrics. In these cases, for technical reasons, The Climate Trust believes that a mid-point approach for freezing the other party's metric is most equitable.

In the above examples, each entity has improved by 1% against its metric.

Combining these examples, base year emissions are 2,000 million pounds (1,000 million kWh × 2.00 pounds/kWh) and current year emissions are 1,960.2 million pounds (990 million kWh × 1.98 pounds/kWh). The total emissions reduction is 39.8 million pounds. The end user's 10,000 million kWh of electricity reductions are multiplied by the mid-point of the carbon intensity factors (1.99 pounds/kWh), yielding 19.9 million pounds of CO₂ reductions. The power generator's 0.02 pounds/kWh of carbon intensity factor improvement is multiplied by the mid-point of the electricity values (995 million kWh), yielding 19.9 million pounds of CO₂ reductions. Thus, in this example in which each entity improves against its metric by 1%, the emissions reductions are equally shared.

To summarise, it is critical that GHG emissions trading systems provide end-user decision-makers with the strongest practicable encouragement to reduce electricity consumption via the preferred policy options of

energy efficiency, cogeneration and green power. For equity reasons, end users must get credit for the emissions reductions resulting from their investments, even when the emissions reductions physically occur remotely on the power grid.

The alternative, a direct-only trading system, requires a massive utility-based demand-side management programme that is contract-intensive, has high overheads, and results in sub-optimal investment by the end user. End-user participation under such a system is likely to be much lower than in a system that allows the end user to trade indirect emissions reductions. One half of the emissions for the combined buildings and industry sectors are from electricity, and emissions reductions for these would be poorly served by direct-only trading. Electric energy efficiency, cogeneration and green power – the preferred policy solutions for climate change – would face significantly diminished prospects.

Concerns about potential double counting are the primary impediment to implementing a system that allows the end user to trade emissions reductions related to reduced purchases of grid electricity. The simple accounting methodology proposed here addresses this issue and clears the way for a trading system that equitably assigns emissions reductions from end-user investments to the end user. **E**

Mike Burnett and Michael Ashford are the executive director and deputy director respectively of The Climate Trust, a Portland, Oregon-based non-profit that implements carbon dioxide offset projects. Email: mburnett@climatetrust.org and mashford@climatetrust.org



February 28, 2002

Crediting Indirect CO₂ Emissions Reductions Without Double Counting: Getting Equity and Incentive Right

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One of the key issues in the design of a trading system is the treatment of the indirect emissions reductions resulting from decreases in electricity use by end users investing in energy efficiency in their facilities. This is an issue of considerable magnitude, as half of our country's non-transportation emissions are indirect emissions related to electricity generation.

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For both equity and effectiveness reasons, it is essential that these emissions reductions accrue to the end user, not the power supplier. First, common sense and fair play imply that the organization investing in an emissions efficiency improvement should be its financial beneficiary. Second, from a policy perspective, the preferred tools for fighting global warming are all electric displacement offsets: electric efficiency, cogeneration, and renewable energy. Yet a trading system that does not provide the emissions reduction benefit to the owners of these facilities provides little or no incentive for these owners to undertake such investments, thus diminishing the likelihood of achieving this policy goal.

STAFF

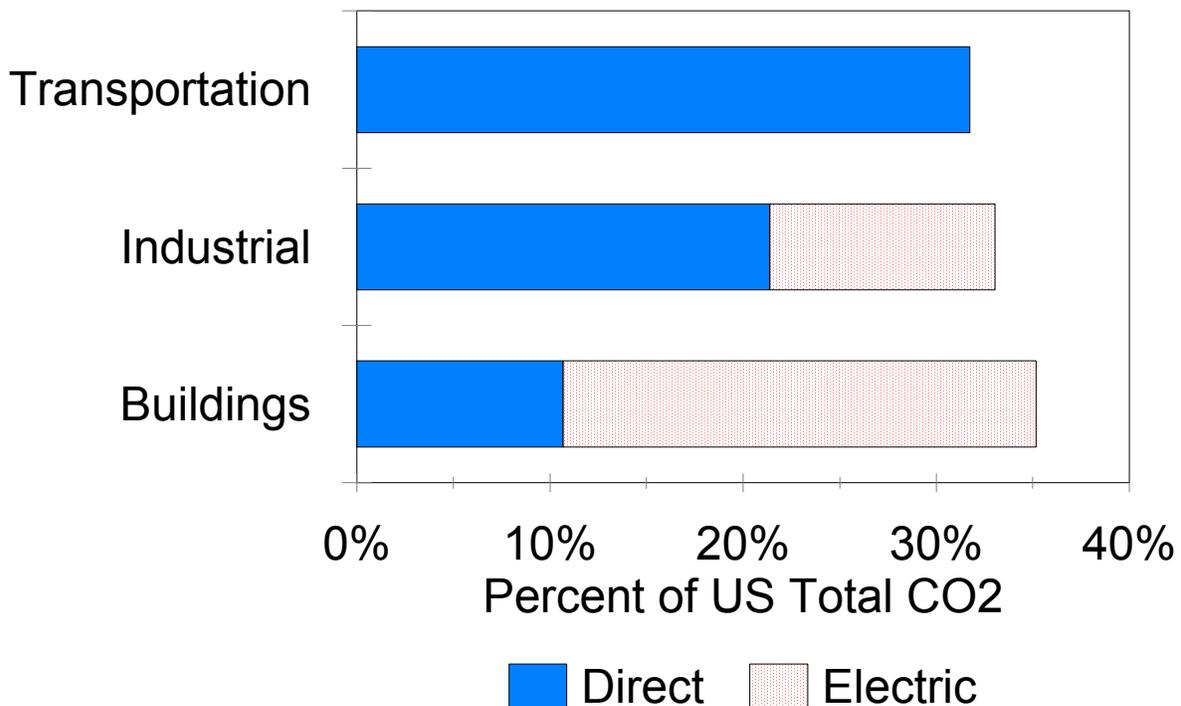
Mike Burnett,
Executive Director
Michael S. Ashford,
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Kris Nelson,
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Operations Manager
Erica C. Graetz,
Office Manager and
Program Assistant

The main concern regarding the inclusion of indirect emissions reductions in a trading system is the potential for double counting: an indirect emission reduction at an end user facility also shows up as reduced stack emissions at the power plant. The Climate Trust has developed a simple approach that solves this double counting problem. If applied, it would allow inclusion of indirect emissions in a trading system without double counting. The methodology allows 1) indirect emissions reductions relating to reduced usage of electricity to accrue to the end user, and 2) direct emissions reductions relating to improvements in the emissions per kilowatthour to accrue to the power generator. The use of such an approach is important, because it is equitable and best aligns incentives for effectiveness.

Two documents are attached. One is a description of the problems caused by excluding indirect emissions from a trading system, and the second presents the methodology which allows the inclusion of indirect emissions without double counting. The Climate Trust welcomes questions and feedback on this topic. Please direct your inquiries by e-mail to mburnett@climatetrust.org. Thank you.

US CO2 Emissions - Direct & Electric

USEPA Data for 1999



A “direct emissions only” trading system excludes direct involvement by end users who can improve their electric energy efficiency and reduce indirect emissions. A “direct only” system is likely to be effective for half of the emissions from buildings and industry. Such a system is not likely to be an effective mechanism for addressing the other, indirect, half of their emissions associated with their use of electricity. It is not structured well to encourage electric energy efficiency, renewable energy, and cogeneration, three of the most important mitigation options.

-
- ▶ The preferred tools for reducing CO2 emissions are 1) improving energy efficiency and 2) decarbonizing energy supplies through renewable energy, cogeneration, fuel switching, and power plant efficiency. Our policy goal should be to provide effective incentives for all of these tools.
 - ▶ Emissions trading is desirable because it encourages the most cost-effective mitigation measures. However, a “direct emissions only” trading system dictates an inefficient marketplace structure that is likely to be only partially effective in providing such incentives.

Contact Mike Burnett or Michael Ashford of The Climate Trust for more information.

- ▶ End use emissions are divided almost equally among buildings, industry, and transportation.
 1. Emissions trading is not thought to be an effective tool for the transportation sector.
 2. Over 2/3 of building emissions and 1/3 of industrial emissions are embodied in the electricity consumed by these sectors.
 3. Thus, only 1/3 of all emissions are likely to be effectively addressed by “direct only” trading.

- ▶ It is very difficult for a “direct only” system to encourage energy efficiency for electric emissions. The benefit and responsibility for addressing these emissions falls on the electric utility under a “direct only” system. A utility-operated demand side program of unprecedented scale would be required.
 - Utility programs have been somewhat effective at securing modest market penetration, but are contract-intensive and come with considerable administrative overhead.
 - Because a “direct only” system separates the benefits into two portions (direct and indirect), the end user will face a non-integrated program for achieving energy savings. Rather than optimize a facility’s overall efficiency, the end user would face a utility program focused on reducing electricity usage only.
 - A “direct only” system is structured so that the utility can “free ride” off of the investments in efficiency and renewable energy of its customers. Absent a utility program, end users will be reluctant to invest in efficiency. It is not equitable to establish a system under which the party investing in efficiency does not receive the benefit from such investment.
 - We have a choice. We can place the responsibility for achieving these emissions reduction in the hands of an entity that must discourage sales of its product (the utility), or in the hands of the entity that can save money by doing so (the end user). Clearly, the most fundamental incentive under a “direct only” system is questionable.

- ▶ Renewable energy and cogeneration are not encouraged by a “direct only” system, since they involve indirect emissions reductions.

- ▶ An “integrated” trading system involving both direct and indirect emissions can be developed, and would be much more effective. It would more directly encourage the most preferred mitigation options by providing direct incentives to end users:
 - An integrated approach toward increasing efficiency both for directly burned fuels and for electricity consumption, absent the necessity of a contract-intensive utility program.
 - Renewable energy and cogeneration.

- ▶ Conceptually, an “integrated system” faces the problem of double counting of indirect emissions reductions by both the end-user and the utility. This double counting problem can be addressed by a using an emissions rate approach which separates out the emissions reductions into two portions, with the following effects:
 - ▶ Increases in end use energy efficiency accrue to the end user. This includes cogeneration.
 - ▶ Emissions reductions from renewable energy accrue to the renewable energy provider.
 - ▶ Increases in power plant efficiency and power plant fuel switching accrue to the utility.

12. SUBMISSION TO THE RECORD:

”REQUEST FOR PROPOSALS FOR GREENHOUSE GAS OFFSETS”; ”THIRD PARTY VERIFICATION REPORT OF SEATTLE CITY LIGHT GHG EMISSIONS”; NANCY GLASER, SEATTLE CITY LIGHT, SEATTLE, WASHINGTON

Seattle City Light

Request for Greenhouse Gas Mitigation (“Offset”) Project Proposals Requesting Project Summary Information (Phase 1)

Notice Issue Date: November 15, 2002

Background on Seattle City Light’s Request

The Seattle Mayor and City Council adopted a resolution (Resolution #30359) directing its municipal electric utility, Seattle City Light (“Seattle”), to fully mitigate the greenhouse gas (GHG) emissions resulting from its operations. For information regarding our current and previous solicitation, visit our web site at www.cityofseattle.net/light/climatechange.

Bidders' Conference on Monday, December 2, 2002, 1:00-3:00 pm, Seattle

For more information about this Request for Proposals (RFP), attend the Bidders' Conference on Monday, December 2, 2002 in Key Tower, 40th Floor, Room 4080 located at 700 Fifth Avenue in downtown Seattle. The room is limited to 50 people. If you plan on attending, send notification no later than Monday, November 25, 2002 to Denise Sanders at denise.sanders@seattle.gov, or call (206) 684-3270, or write to Denise Sanders, Seattle City Light, Environment and Safety, 700 5th Avenue, Suite 3300, Seattle, WA, 98104. State your name, organization, phone, email address and how many from your organization will be attending.

Make sure you clarify if you will attend the conference or join by phone (see next paragraph).

If you cannot attend in person, you can call into the meeting through a conference line to join the Bidders' Conference. Callers will have to pay for their own long-distance charges and the call-in number is outside of Washington State. Callers must register to participate in the call by contacting Denise Sanders no later than Monday, November 25, 2002. Denise will contact all registered callers by email with the call-in number. If email is not available, Denise will contact you by phone. Follow the notification instructions above to register for the conference call.

What is Seattle soliciting?

Cost-effective proposals for GHG mitigation “offset” projects. An “offset” project directly avoids, displaces, or sequesters GHG emissions; will be implemented in the future; will only occur because of the Seattle funding; and will clearly quantify the GHG emissions reduction. Proposals are due on Thursday, January 30, 2003.

How many “offsets” is Seattle looking for?

Seattle estimates that it will be mitigating 386,000 metric tons of carbon dioxide equivalent (MgCO_{2e}) annually. This RFP is intended to solicit project proposals to offset the Utility's GHG emissions in 2003 and 2004, for a total of 772,000 MgCO_{2e}.

Which Greenhouse Gases (GHGs) Qualify?

Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Seattle uses the Intergovernmental Panel on Climate Change's (IPCC) "global warming potential" to evaluate the carbon dioxide equivalent for the GHG gases other than carbon dioxide. See the Appendix.

How many proposals will Seattle eventually select?

Seattle intends to contract for three to 10 offset projects totaling 772,000 metric tons of carbon dioxide equivalent (MgCO_{2e}).

How many tons should the projects offer?

The sizes of the projects are expected to range from 50,000 to 350,000 MgCO_{2e}. Local projects* will be allowed to offer fewer tons than 50,000 MgCO_{2e}.

How much will Seattle pay per ton?

Seattle expects to pay a total average of \$4.00/MgCO_{2e} or less for all projects combined. Projects that are most competitive will have costs per ton that are below \$4.00/ton. Projects with costs per ton that are greater than \$10/ton are discouraged. However, local projects* will be given considerable flexibility on the cost per ton, especially for local projects with strong co-benefits (additional benefits beyond the GHG reductions).

***What defines the preference for Local Projects?**

Local project preferences are for Seattle, King County, the Puget Sound region, Washington State, and the Northwest. Proximity to Seattle is preferred.

What is the Selection Process?

There are two phases. This Request for Proposals (RFP) is for the Phase 1, 10-page proposal plus a coversheet, a budget spreadsheet and a spreadsheet showing the calculations of GHG emission reductions. For projects selected for Phase 2, additional instructions will be provided.

What is the Schedule?

Bidders' Conference: Monday, December 2, 2002, 1:00-3:00pm, Seattle, WA

PROPOSAL DEADLINE: MUST BE RECEIVED BY THURSDAY, JANUARY 30, 2003, 5:00PM (PACIFIC TIME)

Anticipated Schedule Thereafter:

February 7, 2003	Seattle will acknowledge receipt of Phase 1 Proposals
April 2, 2003	Seattle will notify projects selected for Phase 2

June 2, 2003 (5 pm, Pacific Time)	Phase 2 Proposals due
August 1, 2003	Seattle will notify projects selected to enter negotiations for contracts
Fall 2003 and Winter 2004.	Seattle goal for signing contracts

Seattle will make every effort to meet this schedule yet reserves the right to modify the process and schedule.

DISCLAIMER: This RFP is not an offer by Seattle to purchase any rights, goods or services, and submission of project proposals does not create any rights whatsoever. Seattle is free to accept or reject any project proposal, and is not bound to accept the economically most favorable proposal, or any proposal at all. Seattle, and its directors, officers, public officials, agents, employees or assigns are not liable at law or at equity to any project or participant or any other party for any decision by any of them regarding submission, acceptance, rejection or modification of a proposal, or in any other connection with this RFP. All costs directly or indirectly related to preparation of a proposal or submission shall be the sole responsibility of, and shall be borne by, the developer of the project proposal.

What are the proposal requirements?

Timing of Project Implementation: Seattle will consider only projects where mitigation measures will be implemented in the future, subsequent to contract execution. Seattle will not consider projects where mitigation measures have been implemented prior to contract execution.

Additionality: Seattle will only fund projects where mitigation measures occur because of funding from this RFP. Projects for which the applicant or other party derives benefits, including financial benefits, other than those relating to GHG reduction benefits, are eligible.

Regulatory Surplus: Seattle will only consider projects where the GHG reduction benefit is over and above what is required by law. An emission reduction is surplus if it is not otherwise required by current regulations. In addition, GHG reduction credits from projects that are selected cannot be applied to future regulatory obligations.

Voluntary Programs: Seattle will only consider projects where the GHG reduction benefit is over and above what is provided for voluntary programs such as the U.S. Department of Energy's 1605(b) program or the California Climate Action Registry. Seattle will consider exceptions to this requirement as long as projects can guarantee that project-related credits are attributed to Seattle alone.

Baselines: Proposals must describe a “Baseline” projection that does not include the proposed project and a “Project Case” projection. Proposals must describe the assumptions and methodologies used to quantify each. The difference between the two is the project’s GHG reduction benefit. Proposals must show how the Baseline projection changes over time if changes from business-as-usual could be reasonably anticipated during the project life. Seattle will review the proposed Baseline and Project Case projections, and may use its own judgment to modify them for the purposes of evaluating projects.

Leakage: This occurs when a project’s GHG reduction benefit is lessened because the project has led to other GHG emission increases. An energy example includes reduction in use of power for a facility that then uses that saved power for other on-site activities. A transportation example includes reduction of congestion that increases efficiency and therefore reduces emissions but is counteracted by an increase of traffic that fills up the less-congested road system. A vehicle efficiency example includes incentives for more fuel efficient vehicles counteracted by an increase in driving because of the increased miles per gallon. A forest sequestration example is when proposed acres of trees are set aside for sequestration, but other acres of trees are cut down instead.

Proposals must describe how leakage is addressed by the project, both in terms of project activities to minimize leakage and in terms of adjustments to the project’s GHG reduction benefit. Seattle will review and may use our own leakage factors when evaluating projects.

Range of Uncertainty: Proposals must describe important risks and risk mitigation strategies, and provide an estimate of the range of uncertainty around the expected carbon dioxide benefit. Seattle may use adjustment factors other than those proposed by the developer’s emissions reduction estimates.

Units of Measurement: All GHG reduction benefits are to be presented in metric tons (Mg) of carbon dioxide equivalent (CO₂e): MgCO₂e. See the Appendix for conversion factors to be used for MgCO₂e, fossil fuel, U.S.-based electricity grid factors, 100-year Global Warming Potentials, and weights, volumes and densities. Proposals must justify any variation from these figures. Seattle reserves the right to apply its own conversion factors for the purpose of proposal evaluation.

More than One Proposal: Entities may submit more than one proposal but must submit them individually following the criteria of this RFP.

International Projects: Seattle requires an international project to have both a strong U.S. partner and a strong international partner in the host country. The U.S. partner must co-sign the proposal and any offset contract. The U.S. partner will be liable for all costs related to breach of contract and contract delays. Host country approval for international projects is strongly encouraged.

Retirement of Credits: Seattle plans to “retire” the offsets they acquire, holding them in perpetuity for the benefit of Seattle. Seattle may use these credits in any manner allowed under any future greenhouse gas regulatory or voluntary system that may be put into place. The project will not be eligible to receive allocation or credit in the future in another regulatory or voluntary setting for the offsets acquired by Seattle. Seattle will not consider offsets that have already been allocated or awarded credit for carbon dioxide or greenhouse gas emissions benefits in another regulatory or voluntary setting such as the U.S. Department of Energy's 1605(b) program or the California Climate Action Registry.

Monitoring and Verification Plans: The purpose of the Monitoring and Verification (M&V) Plan is to define how the carbon dioxide benefit will be quantified during the life of the project. The quality of the proposed M&V Plan is a component of project evaluation. Monitoring and verification are the responsibility of the project, not Seattle. The use of mutually-agreed upon third party verification is required.

All projects that are chosen for contracting will be required to include an M&V Plan. These plans may be developed with Seattle during the contracting phase of the RFP. M&V Plans do not need to be submitted as part of this Phase 1 Proposal, but a description of the M&V process must be included. Please describe 1) procedures to be employed, 2) how the ongoing monitoring and verification will be funded, and 3) the time frame and frequency over which the monitoring and verification will occur.

Project Finances Other than Seattle: If the project anticipates having funding sources in addition to Seattle, then the sources of those funds must be identified to the greatest possible extent. Either specific or expected additional funding sources must be identified.

What other additional information or guidance is available?

Co-Benefits: Seattle prefers projects with environmental, health, and socioeconomic co-benefits, and will request information on co-benefits from projects. Special consideration may be given to projects with excellent co-benefits.

Permanence: Seattle prefers projects that permanently avoid or displace GHG emissions, such as energy-related projects, over projects that temporarily sequester GHG emissions.

Guarantees: Seattle prefers projects that provide guarantees, especially carbon benefit guarantees. Guarantees are especially important for sequestration projects, and would provide important support for any project proposal.

Replicability and Expandability: Projects that can be replicated in or expanded to other sites or areas are encouraged.

Options, Alternatives: To supplement specific project proposals, projects may offer unspecified alternative sites or approaches to the project. For example, if a proposal identifies a specific site for a project and the projects know that other sites may become available, then the proposal may leave open the possibility that other, unidentified sites, may become the focus of specific contract negotiations.

Types of Projects: Seattle will consider a broad range of offsets projects. The types of projects include, *but are not limited to*, energy efficiency, renewable energy (solar, wind, geothermal, biomass, other), fuel switching, CO₂ sequestration, flue gas sequestration, materials substitution, recycle/composting programs, coal mine methane, landfill methane, biogas methane (animal waste and waste water), alternative transportation fuels, vehicle emissions reductions and transportation initiatives.

Portfolio Diversity: Seattle considers it important to acquire a portfolio of diverse project types.

Eligible Projects: Seattle will accept proposals from non-profit and for-profit corporations, government agencies, national laboratories, individuals, and combinations of these parties. Multiple project partners are encouraged.

Discounted Value for Projects with Long Implementation Time: Seattle places a priority on projects that deliver the GHG emissions reduction as close in time to 2003 and 2004 as possible. For projects that take decades to deliver the GHG emissions reduction or sequestration, Seattle expects to discount the value of the GHG offset. Phase 1 proposals do not need to include this calculation in their GHG reduction calculation. This will be addressed in Phase 2 or during contract negotiations.

Projects as Programs: Seattle will accept proposals that administer a program or package of GHG reduction benefits. Specific sites, facilities, units or operations may not be necessary as long as specific performance milestones guarantee the GHG reduction benefit. An energy example includes the installation of a set amount of compact fluorescent light bulbs in locations to-be-determined. A transportation example includes a guarantee of reduced vehicle miles traveled (VMT) within a transportation corridor without identifying the specific drivers who have reduced their VMT. A materials substitution example includes a guarantee of reduced use of virgin materials in commercial products but without specified end users. Programs must have a plan for clearly documenting their GHG reductions.

Assignment and Sale: While the primary goal is to “retire” credits, Seattle reserves the right to assign or sell GHG reduction benefit acquired as a result of this RFP.

Partnering: A project may have multiple potential funders but only one (Seattle) funder who seeks to claim the carbon credit. Since many offset projects have multiple benefits -- such as reduction of criteria pollutants, lower energy costs, additional environmental

benefits -- the carbon reduction benefit can be isolated and paid for by Seattle. This partnering approach can be used to lower the total cost per ton of carbon offset.

For example: an energy efficiency project may reduce criteria pollutants and energy costs. Some funding partners want the pollution credit (sulfur oxides or nitrogen oxides), the project host gets the reduced energy costs, and Seattle gets the carbon dioxide reduction. The project costs \$300,000. Each partner pays \$100,000. Seattle funds 33 percent of the project but gets 100 percent of the carbon reduction, thus substantially reducing the cost per ton for the project.

Restrictions on Use of Seattle Funds: Seattle will not provide loans or long-term escrow accounts. Seattle will only pay on proof of delivery of services, activities, or products that result in reductions in GHG. Delivery can include construction or purchases where the GHG reduction subsequently follows, staff time for the administration of a program, or other activities or products that are clearly defined and acceptable to Seattle.

Public Disclosure: Seattle is bound by the Washington Disclosure Act. Specific projects will be notified about any public disclosure requests related to their project before information is released.

Indemnification Coverage: Projects that are selected for contracting will be required to provide Seattle with indemnification coverage.

What is the format for the Phase 1 proposals?

Proposals are to be limited to a one-page cover sheet (described below) and a 10-page proposal of text. The 10-page proposal must have one inch margins and a twelve-point font. In addition, two appendices are required, one to display the project budget and one to display the project carbon dioxide emissions benefit calculations. **It is strongly preferred that the cover sheet and the 10-page proposal are transmitted in Microsoft Word 97 or compatible format, while the appendices are to be transmitted in Microsoft Excel 97 or compatible format. Responses must be in English:** We will not accept proposals in other languages.

One-page Coversheet:

Present the following 17 items in this order and following this format:

1. Type of Project. Choose one or more of the following: energy efficiency, renewable energy (solar, wind, geothermal, biomass, other), fuel switching, CO₂ sequestration, flue gas sequestration, materials substitution, recycle/composting programs, coal mine methane, landfill methane, biogas methane (animal waste and waste water), alternative transportation fuels, vehicle emissions reductions and transportation initiatives. Or other and describe.

2. Type of Greenhouse Gas. Choose one or more of the following: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

3. Location of Project

4. Proposing Organization(s) Name

5. Proposing Organization(s) Address

6. Proposing Organization(s) Web Site

7. Contact Person Name

8. Contact Person Phone Number

9. Contact Person Fax Number

10. Contact Person E-Mail Address

11. Total Project Cost (U.S.\$)

12. Amount of Money Requested (U.S.\$)

13. Amount of Carbon Dioxide Emission Benefit Proposed (MgCO₂e)

14. Price of Carbon Dioxide Emissions Benefit Proposed (U.S.\$/MgCO₂e)

15. Project Implementation Starting Date

16. Project Implementation Completion Date

17. Project Summary (No more than 50 words)

10-Page Project Proposal and Appendices:

The 10-page (or less) proposal must include the following. No specific formatting is required except for a minimum of one-inch margins and 12-point font.

1. A description of the project.
2. Identify known or expected sources of funding.
3. Define the role(s) of each funder and organization involved.
4. Include qualifications for participating organizations and/or individuals.
5. Address or adhere to all items listed in the "What are the proposal requirements?" section above.
6. Address Co-Benefits, Permanence, Guarantees, and Replicability/Expandability listed in the "What other additional information or guidance is available?" section above.

In addition to the 10-page document above, proposals must include:

7. Appendix A: Present the project budget, specifying specific sources and uses of funding, identifying the capital and operating costs. Include costs for monitoring and verification throughout the project life.
8. Appendix B: Present the project MgCO₂e benefit calculations, including the Baseline projection and the Project Case projection. (See "Baselines" above.) Address leakage and the range of uncertainty in the calculation of the MgCO₂e benefit. Include a breakdown of the accrual of the MgCO₂e benefit on an annual basis.

Where are the proposals submitted?

Proposals are to be transmitted to Doug Howell and Corinne Grande at Seattle City Light in two formats, email and hard copies, to:

1. By e-mail to doug.howell@seattle.gov and corinne.grande@seattle.gov
2. Three hard copies by mail to Climate Change RFP, Seattle City Light, Strategic Planning Office, 700 Fifth Avenue, Suite 3300, Seattle, WA 98104.

What if we have questions during this solicitation period?

Questions and answers will be posted on our website at www.cityofseattle.net/light/climatechange. It is the responsibility of the project developer to keep informed regarding clarifications by visiting this Web site. Questions and answers about this offset solicitation are posted there. Please review these Q & A prior to contacting Seattle. If your question is not addressed on the website, you may contact Corinne Grande by email at corinne.grande@seattle.gov, or by phone at (206) 386-4517, or by letter at Corinne Grande, Seattle City Light, Environment & Safety, 700 Fifth Avenue, Suite 3300, Seattle, WA 98104.

Appendix

Fossil Fuel Conversion Factors -

(US Department of Energy, Energy Information Agency, <http://www.eia.doe.gov/oiaf/1605/factors.html>)

Fuel Type	CO₂ Content (Pounds CO ₂ per Unit Volume or Mass)	CO₂ Coefficient (Pounds CO ₂ per Million Btu)
Natural Gas	120.593 lb/10 ³ cf	117.080
Gasoline (conventional)	19.564 lb/gal.	156.425
Distillate Oil/Diesel	22.384 lb/gal.	161.386
Residual Oil	26.033 lb/gal.	173.906
LPG/Propane**	12.669 lb/gal.	139.178
Kerosene/Jet fuel	21.537 lb/gal.	159.535
Anthracite Coal	3852.16 lb/short ton	227.4
Bituminous Coal	4,931.3 lb/short ton	205.3
Sub-bituminous Coal	3,715.9 lb/short ton	212.7
Lignite Coal	2,791.6 lb/short ton	215.4
1 pound of carbon in carbon dioxide = 3.6667 pounds carbon dioxide, measured at full molecular weight (CO ₂)		

Electricity Carbon Dioxide Conversion Factors

CO₂ Intensity Factors for Marginal Electricity Generation for US Regions

EPA Region	Pounds of CO₂ per kWh
Region 10: OR, WA, ID	1.202
Region 9: CA, AZ, NV	1.240
Region 8: CO, UT, MT, WY, ND, SD	1.244
Region 7: MO, IA, KS, NE	1.404
Region 6: TX, LA, OK, AR, NM	1.186
Region 5: OH, IL, MI, IN, WI, MN	1.988
Region 4: FL, NC, GA, TN, AL, SC, KY, MS	2.215
Region 3: PA, VA, MD, WV, DC, DE	2.096
Region 2: NY, NJ	1.679
Region 1: MA, CT, ME, NH, RI, VT	1.726

CO₂ Intensity Factor for New Natural Gas Fired Electricity Generation

Combined cycle combustion turbine: 0.81 Pounds of CO₂ per kWh

Global Warming Potentials (GWP) Relative to Carbon Dioxide

Please see Table 3, of the Intergovernmental Panel on Climate Change (IPCC) report at www.ipcc.ch/pub/wg1TARtechsum.pdf

Other Conversion Factors

Weight

1 kilogram = 2.205 pounds
1 short ton = 0.9072 metric tons
1 metric ton = 1.1023 short tons = 2,205 pounds

Volume

Liquid Fuels

1 barrel	42 US gallons
1 barrel	159 liters
1 cubic meter	6.289 gallons

Gaseous Fuels

1 cubic meter	35.315 cubic feet
---------------	-------------------

Energy

Natural Gas

1 cubic foot (cf) = 1,030 Btu
1 therm = 100 cf = 103,000 Btu
1 Mcf = 1,000 cf = 1.03 million Btu

Density

1 thousand cubic feet of methane/natural gas = 42.28 pounds
1 thousand cubic feet carbon dioxide = 115.97 pounds
1 metric ton natural gas liquids = 11.6 barrels
1 metric ton alcohol = 7.94 barrels
1 metric ton liquefied petroleum gas/propane = 11.6 barrels
1 metric ton aviation gasoline = 8.9 barrels
1 metric ton motor gasoline = 8.53 barrels
1 metric ton kerosene = 7.73 barrels
1 metric ton distillate oil = 7.46 barrels

For other conversion factors, please see the Environmental Protection Agency Web site: www.epa.gov/ttn/chief/eiip/eiip_ghg.htm Vol. VIII link, Tables 1.4

Sources: www.epa.gov/ttn/chief/eiip/eiip_ghg.htm. For CO₂ Intensity Factors: *Regional Electricity Factors Final Report*, US Environmental Protection Agency, Atmospheric Pollution Prevention Division (APPD), November 16, 1998, contract no. 68-W6-0050.
For Other Conversion Factors: <http://www.eia.doe.gov/oiaf/1605/ggrpt/appendixf.html>.



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**Seattle City Light Greenhouse Gas Inventory
Evaluation and Verification Report for Year 2000
with 2002 Emissions Projection**

May 31, 2002

**Roel Hammerschlag, ILEA
Michael Lazarus, Tellus Institute**

Statement of Verification

We have audited the SCL Calendar Year 2000 greenhouse gas emissions inventory, as represented by the documents listed in the Appendix. The inventory is the responsibility of SCL's management. Our responsibility is to express an opinion on the inventory based on our audits.

We conducted our audits so as to verify the SCL inventory in consultation with the GHG Protocol, a recognized standard for corporate GHG reporting. Our verification involved examination of original records and calculation methodologies to ascertain whether they correctly reflect the actual emissions due to SCL operations. We also corresponded and met with various parties, including SCL staff and organizations involved in the provision of electricity and other services to SCL. We believe that our audit provides a reasonable basis for our opinion.

In our opinion the inventory referred to above presents fairly -- when adjusted per our remarks in Chapter 3 and represented finally in Table 3-1 -- the GHG emissions due to SCL operations between the dates of January 1, 2000 and December 31, 2000, in conformity with corporate GHG accounting principles, as expressed in the GHG Protocol. It is important to recognize that GHG accounting is a nascent field, and cannot yet be compared to financial and other accounting methods in terms of widespread understanding and acceptance.

The 2002 projection provided in this document is a provisional estimate and the work of ILEA and Tellus. The projection is not an inventory, and thus cannot be audited or verified in any way. ILEA and Tellus take no responsibility for SCL or other's use of this projection for planning, operating, or other purposes.

Respectfully Submitted,

Roel Hammerschlag, ILEA

Michael Lazarus, Tellus Institute

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Summary

As the country's 7th largest municipal electric utility (EIA 2000), Seattle City Light (SCL) serves approximately 350,000 customers with a load of approximately 10 billion kWh (1200 aMW), for Seattle and neighboring communities. On April 10, 2000 (Earth Day), the City of Seattle adopted a resolution specifying a long-term goal for SCL of "...meeting the electric energy needs of Seattle with no net greenhouse gas [GHG] emissions." A year later, the City of Seattle adopted another Resolution (the SCL Strategy Resolution), which laid out SCL's approach for meeting its long-term goal of GHG-neutral operations. The SCL Strategy Resolution specified an initial estimated 'GHG footprint' based on work of an SCL GHG Advisory Committee; instructed SCL to track and evaluate these emissions and report back to City Council in August of each year; and requested third-party verification of its GHG emissions inventory. This report is intended to satisfy that request.

In verifying SCL's inventory, we use the GHG Protocol, an increasingly recognized standard for corporate GHG accounting. We begin by characterizing SCL's GHG emitting activities according to the organizational and operational boundaries suggested in the GHG Protocol. We then assemble and comment on the year 2000 emissions inventory based on information provided by SCL.

SCL also requested that ILEA/Tellus offer a projection of year 2002 emissions. Since 2000, SCL has made important changes to its resource portfolio. Year 2002 emissions are thus more indicative of emissions for 2003, the first year that SCL plans to be GHG-neutral. Our projection for 2002 is approximately 51% lower than the estimate produced by SCL's GHG Advisory Committee and reflected in the SCL Strategy Resolution. The difference is driven largely by unanticipated changes in market and weather conditions since the time of the Committee estimate in June 2001.

In conclusion, we note a number of areas for further analysis and review in subsequent inventories, including: the need for up-to-date emission factors for market purchases; the importance of more comprehensive and transparent reporting by the Bonneville Power Administration; possible expansion of emission sources to include; and the tracking of emissions from a major supplier (Klamath Cogeneration Project). We also provide a number of suggested areas for further enhancement of the GHG Protocol's application to electric utilities.

1. Historical Background

1.1. Seattle's Commitments

Seattle City Light's (SCL) commitment to action on curbing greenhouse gas (GHG) emissions was developed through a series of three resolutions passed by the Seattle City Council.

"Earth Day" Resolution (April 2000)

City of Seattle Resolution 30144 passed on an 8-0 vote on April 10, 2000. In honor of Earth Day 2000, this Resolution specifies two goals relating specifically to Seattle City Light (SCL):

- a short-term goal of meeting all load growth with no net increase in greenhouse gas emissions, effective immediately upon passage of the resolution (Doc. #1, §2 ¶1). The resolutions states that this goal shall be achieved by "(a) Using cost-effective energy efficiency and renewable resources to meet as much load growth as possible (b) Mitigating or offsetting greenhouse gas emissions associated with any fossil fuels used to meet load growth."
- a long-term goal of "...meeting the electric energy needs of Seattle with no net greenhouse gas emissions." The long-term goal is specified generally only, with no specific timeline or implementation plan.

It is the Earth Day Resolution that establishes the need for SCL to inventory its GHG emissions on an ongoing basis.

"Klamath" Resolution (October 2000)

City of Seattle Resolution 30256 passed on a 9-0 vote on October 30, 2000. In October of 2000, SCL was in the process of finalizing a contract to purchase 100 MW of power from the Klamath Cogeneration Project ("KCP"). Since it runs on natural gas, Klamath emits significant amounts of carbon dioxide (CO₂), and fuel supply and handling can lead to leakage of methane (CH₄), the key constituent of natural gas and a potent greenhouse gas.

In line with the Earth Day Resolution, the Klamath resolution states, "Seattle City Light will fully mitigate or offset the carbon emissions associated with its purchase of power from the Klamath Cogeneration Project." (Doc. #2, §1) The resolutions specifies further that SCL shall proceed initially by exploring opportunities to purchase GHG offsets – credits for emissions reductions resulting from projects undertaken in other locations – in cooperation with the Climate Trust.^a (Doc. #2, §2)

^a Formerly the Oregon Climate Trust.

"SCL Strategy" Resolution (July 2001)

City of Seattle Resolution 30359 passed on a 9-0 vote on July 23, 2001. Whereas the Klamath Resolution provided for implementation of the Earth Day Resolution's short-term goal relating to GHG-free growth, the SCL Strategy Resolution presents SCL's approach to meeting its long-term goal of GHG-neutral operations. Key provisions of the resolution include:

- "As a matter of policy, reducing or avoiding the environmental impacts of energy production and use through efficiency and the development of new renewables is preferable to mitigating or offsetting those impacts." (Doc. #3, §1)
- "The initial 'GHG footprint' for City Light is estimated to mitigate for 150 average MW of fossil fuel resources." (Doc. #3, §2a)
- "The GHG emissions associated with the power purchased from the Klamath Cogeneration project are estimated to be 247,752 metric tons of CO₂ annually from July 1, 2001 through June 30, 2005." (Doc. #3, §2a(i))
- "The GHG emissions associated with market purchases, power purchased from the Bonneville Power Administration (BPA), the related upstream emissions for BPA and market purchases, and internal operations are estimated to be 362,976 metric tons of CO₂ annually from 2003 through 2005." (Doc. #3, §2a(ii))
- "Because of the uncertainty of estimating GHG emissions associated with market purchases, City Light will track and evaluate these emissions and report back to Council in August of each year on these emissions. If the amount of emissions is significantly greater than initially estimated, then City Light will add the additional GHG emissions associated with this increase to its mitigation obligation during that year." (Doc. #3, §2b)

In other words, SCL has made an advance estimate that it will be responsible for mitigating the equivalent of 150 aMW of GHG-emitting resources. The mitigation responsibility for Klamath is effective as of July 1, 2001. Responsibility for mitigating other emissions becomes effective in 2003. As noted in the resolution, SCL has made a provisional estimate that its 2003 responsibility would be 610,728 metric tons of carbon dioxide equivalent (MgCO₂e)^b. The resolution contains provisions to adjust this total based on new contracts, purchases or changes in market purchases. Under the resolution, in 2004, SCL will reassess its emissions from 2006 onwards.

This resolution also requests third-party verification of its GHG emissions inventory, which is intended to be satisfied with this report. (Doc. #3, §2c)

^b Early literature on GHG emissions reported these in units of pounds, short tons or metric tons, and as either carbon equivalents or carbon dioxide equivalents. Recent literature consistently reports metric tons of carbon dioxide equivalent, so we adhere to this *de facto* standard. However, the abbreviation for this unit still appears in many forms, e.g. "tonnes CO₂ equiv," "MTCO₂E," "tCO₂e," "MgCO₂eq," etc. We use "MgCO₂e" to remain brief yet clearly distinguish the use of metric tons (Mg) from short tons (which are often abbreviated "t".)

1.2. The GHG Advisory Committee and Other Work To Date

The SCL strategy resolution emerged from deliberations of the SCL GHG Advisory Committee. Composed of six SCL staff, six representatives from the City, and eight stakeholders from the business, ratepayer, environmental and academic communities, the committee was charged with “establishing a framework to determine the amount that needs to be mitigated in order to fulfill the climate resolution.” The Committee met regularly from January to June 2001, and iterated several times with SCL staff on the various bases for emissions “footprint” calculations. The committee culminated with recommendations to the Superintendent, as reflected in a memo from SCL staff Nancy Glaser and Doug Howell on June 18, 2001. (Doc. #7)

This memo estimated an SCL responsibility to mitigate 104-148 aMW^c of GHG-emitting generation, and recommended actual mitigation of 150 aMW, based on a “rounding up” of the upper estimate. The calculations are illustrated in Table 1-1 below, and were based on an outlook as of June 2001, in the midst of the Western power crunch. These figures will be explained and reviewed in further detail in later sections of this report.

Table 1-1: SCL emissions footprint estimate as approved by the GHG Advisory Committee (June 2001)

Resource/Emission Source	Range (aMW)	Value adopted (aMW)	Emission rate (MgCO ₂ e/aMW)	Total emissions (MgCO ₂ e)
Klamath Falls combustion turbine	74	74	3,348	247,752
BPA and Market Purchases	20-60	60	4,776	286,560
Upstream Emissions (Natural gas)	9-13	13	4,776	62,088
Operations (vehicles, overhead, etc.)	1	1	4,776	4,776
Sulfur Hexafluoride (SF ₆)	TBD	0		
“Rounding up”		2	4,776	9,552
Total	104-148	150		610,728

1.3. The GHG Protocol

For the purposes of consistency with emerging international practice, we look to the Greenhouse Gas Protocol (GHG Protocol)^d as the basis, to the extent possible, for our inventory verification. The GHG Protocol is the outcome of a multi-stakeholder process convened by the World Resources Institute and World Business Council for Sustainable Development in 1998 to develop internationally accepted GHG accounting and reporting standards. The GHG Protocol provides useful guidance on how to define the

^c An aMW or average megawatt is equal to the output of a 1 MW facility operating all 8760 hours of a year, i.e. 1 aMW = 8760 MWh or 8.76 million kWh. The aMW term is used loosely by SCL for calculation purposes. Indeed, vehicle and other operations and upstream emissions (of methane) cannot be directly measured in electrical output. Instead their emissions have been directly calculated in total CO₂ equivalents, and then shown here in aMW “equivalents” by dividing total emissions by the emission rate shown.

^d See entry WBCSD/WRI 2001 in Section 6, Bibliography. More information about the GHG Protocol is available at www.ghgprotocol.org

boundaries of organizational responsibility for emissions-producing activities, as described in Section 2 below. Since the GHG Protocol is still an evolving process, it may not precisely apply in all situations that SCL faces.

1.4. Goals and Approach

The goal of the present validation exercise is to provide third-party verification for SCL's emissions inventory and estimates as required by the SCL Strategy resolution, and by so doing, assist in SCL's ongoing efforts to become and remain a "net-zero" GHG utility. The goal is also to identify any emissions-related issues that have not been fully addressed by the work done to date and to suggest, based on our experience and existing efforts, possible remedies.

Our verification approach involved:

- Compiling documentation on SCL loads, resources, operations, and emissions calculations to date
- Consulting experts on the issues of GHG accounting
- Developing a comprehensive inventory for the year 2000, the most recent year for which complete data are currently available, in line with the GHG Protocol
- Reviewing the recent and anticipated changes to the inventory since 2000, due to resource acquisitions and sales and changes in the amount and source of SCL electricity purchases
- Developing an *estimated* 2002 inventory based on these changes; and,
- Validating the calculations and procedures used to derive the emissions responsibility as defined in the SCL Strategy Resolution

In conducting this verification, we use our best professional judgment, recognizing that often there is no singular "right answer" in this emerging field, especially where emissions estimates are often calculated relative to counterfactual situations that cannot actually be measured.

2. SCL Organizational and Operational Boundaries

As the country's 7th largest municipal electric utility (EIA 2000), Seattle City Light serves approximately 350,000 customers with a load of approximately 10 billion kWh (1200 aMW), supplying the city of Seattle and the surrounding area. In 2000, SCL met about 63% of this load with its own generation facilities, largely comprised of hydro facilities on the Skagit and Pend Oreille Rivers. This generation fluctuates annually with rainfall, the year 2000 being a relatively dry one. The remainder of SCL load is met primarily through long-term and short-term market purchases, the largest of which is from the Bonneville Power Administration (BPA) system. It is particularly challenging to estimate the GHG emissions associated with purchased electricity.

The GHG Protocol provides helpful guidance on how to account for the emissions from various sources. The key step is clearly defining organizational and operational boundaries.

Organizational boundary

The GHG Protocol suggests that the organizational boundary should be drawn around all facilities over which the organization exerts control or significant influence. Full ownership of a facility typically implies both. SCL should account for GHG emissions due to its wholly-owned facilities ranging from generation, transmission and distribution (T&D) equipment to its vehicle fleets. Cases requiring more scrutiny include partial ownership of a facility or an operating license for a facility owned by another party.

Operational boundaries

The GHG Protocol distinguishes between three *scopes* of GHG emissions.

Scope 1 includes emissions due directly to operations falling within the organizational boundary, as described above. Generally these emissions are attributable to fossil fuel combustion, industrial processes, and to the leakage of gases, such as methane and sulfur hexafluoride, with high global warming potentials. With respect to SCL, Scope 1 emission sources include owned or controlled generation (Section 2.1 below), and other facilities and equipment such as vehicles, buildings, and transmission and distribution (2.3).

Scope 2 includes emissions attributable to the generation of electricity or steam purchased from another party. SCL sources of Scope 2 emissions include contracted generation sources (both long-term and short-term) and spot market purchases. Though used to meet SCL loads just like owned generation, these sources are included in Scope 2, since they are not under SCL control.^e

^e Accounting for Scope 2 and 3 emissions may lead to double counting, since they may be reported by the owning/controlling organization as well. While avoidance of double counting is important for regulatory compliance and emissions trading regimes, the GHG Protocol is principally concerned with providing incentives for GHG management.

Scope 3 includes any additional emissions that are an indirect consequence of SCL's operations, but are attributable to sources owned or controlled by other parties. Reporting organizations "should report on those activities that are relevant to their business and goals, and for which they have reliable information". Examples can include employee business travel, employee commuting, production of imported materials, and upstream and downstream emissions related to product lifecycles. The GHG Protocol states that reporting organizations "should, at a minimum, account and report GHG emissions from Scopes 1 and 2." They are also "encouraged to account and report relevant scope 3 emissions", since "together these three scopes represent significant opportunities for reducing emissions". (WBCSD/WRI 2001)

2.1. Scope 1 Emissions Sources

Generation under SCL ownership or control

SCL owns generation sources sufficient to provide well over half of its current loads. These facilities include several hydroelectric plants, which are nominally free of GHG emissions:

- The Skagit Project (Ross, Diablo, Gorge and Newhalem Creek dams)
- Boundary Dam
- Powerhouse at South Fork Tolt Dam (note that SCL owns only the penstock and powerhouse; the dam is owned by Seattle Public Utilities)
- Masonry Dam at Cedar Falls (cooperative with Seattle Public Utilities)

In 2000, SCL also held an 8% ownership stake in the 1350 MW Centralia coal steam plant, located about 100 miles south of Seattle (doc. #16, p. 44).^f Since Seattle sold its share on May 7, 2000, Centralia emissions will not appear in subsequent inventories.

Other facilities, equipment, and activities under SCL ownership or control

Additional facilities under SCL ownership or control, which may generate Scope 1 emissions, are:

- Buildings and similar facilities
- Vehicle fleet
- Transmission & distribution equipment (breakers using sulfur hexafluoride)
- Management of SCL lands
- Reservoirs (methane emissions from decaying biomass)
- Transmission rights-of-way
- Emergency generators
- Small equipment

^f The GHG Protocol suggests various criteria to determine whether SCL should account for a partially-owned facility like Centralia: voting interests greater than 20%, participation in operating decisions, and long-term interests. The 8% equity share accounts for a substantial source of SCL's emissions, a rationale for including Centralia in SCL's inventory.

2.2. Scope 2 Emissions Sources

Long-term generation contracts

SCL purchases substantial quantities of electricity under contracts of 18 months or longer ("long-term" contracts).^g In 2000, SCL held long-term contracts with:

- *Bonneville Power Administration (BPA)* for 195 aMW. Though it controls only (largely GHG-free) hydroelectric and nuclear facilities, BPA also purchases some market resources to meet its responsibilities to subscribing utilities such as SCL. These market resources may have associated GHG emissions.
- *BC Hydro* for 37.3 aMW of electricity to satisfy the High Ross treaty.
- *Pend Oreille County PUD* for hydroelectricity from the Box Canyon dam.
- *Columbia Storage Power Exchange* for resold Canadian hydroelectric power.^h
- *Grant County PUD* for hydroelectricity from the Priest Rapids dam.
- *Grand Coulee Project Hydroelectric Authority* for hydroelectricity generated incidentally from a system of irrigation dams.
- *Boise Project Board of Control* for hydroelectricity from the Lucky Peak dam.
- *Metro Methane* for GHG-neutral electricity produced with methane from King County's West Point sewage treatment plant.ⁱ

Of these contracts, only those with BPA and BC Hydro presented the potential for significant GHG emissions in 2000.

Since 2000, SCL has restructured and increased its purchasing agreement with BPA. In 2001 SCL entered a 100 MW, five-year contract with the Klamath natural gas facility noted in Chapter 1 above. These are discussed in Chapter 4.

Short-term market purchases and sales

Short-term market purchases and sales include transactions on the spot market and short-term contracts covering less than 18 months.

Of all emissions sources in the inventory, these are perhaps the most difficult to quantify. The sheer volume of electricity trading that SCL (or most any other major utility) engages in, renders detailed accounting of purchases and sales extremely difficult. Furthermore,

^g The choice of 18 months as the boundary between short- and long-term reflects Seattle city municipal code, which requires SCL to obtain City Council approval for contracts lasting more than 18 months.

^h "In 1964 the US and Canada signed a comprehensive treaty providing for bilateral development and management of the Columbia River to enhance flood control and increase power production. As part of the treaty provisions, Canada agreed to build three dams that created significant downstream benefit in the US. Canada was to receive half of the benefit, which is called the *Canadian Entitlement*. Not needing additional power at the time, Canada agreed to sell it in the US through a nonprofit corporation, the Columbia Storage Power Exchange. City Light bought a 12.5 percent share of Entitlement (CSPE) power. The amount declines each year until the CSPE contract expires in 2003." (doc. #16, p. 61)

ⁱ The electricity would be GHG neutral if the methane otherwise would have been flared. If it otherwise would have been vented, electricity production might be considered a significant emissions savings, since methane is a powerful greenhouse gas.

it nearly impossible to relate market purchases to specific power plants and their emissions, given the nature of electricity markets where a kWh may be sold and resold multiple times between generator and ultimate buyer.^j Finally, the GHG Protocol is not absolutely clear on whether utilities should report the emissions associated with all of the “gross” purchases they make, which can often be many times the load they serve, or simply the emissions associated with the “net” purchases required to meet load.^k

In light of these difficulties, SCL chooses to take responsibility for its net short-term purchases, and assign to these a regional emission factor (see Section 3.2). This is the method that the SCL GHG Advisory Committee adopted in coming up with the projected emissions shown in Table 1-1.

Exchanges

SCL's portfolio includes three multi-year exchange agreements with other electricity providers. Under these agreements, SCL provides a prescribed amount of electricity during a particular portion of each year and receives, in exchange, a prescribed amount of electricity during a different portion of each year. The GHG Protocol makes no clear statement on the status of bartered electricity, and SCL chooses not to report the emissions associated with the exchanged electricity.^l However, SCL does report the gross quantity of exchanges in the inventory Supporting Information.

Other Scope 2 sources

Retail purchases of non-system electricity

SCL owns several facilities that lie outside of its service territory (power stations, generation and distribution equipment, and administrative facilities), which may consume electricity delivered by other utilities.

2.3. Scope 3 Emissions Sources

SCL has thus far elected to report on two Scope 3 emission sources: 1) “upstream” emissions from the production and transport of natural gas consumed to generate electricity by the Klamath plant, as well as by spot market purchases (see Table 1-1), and 2) employee airline travel. It is SCL's intention to inventory all Scope 3 emissions sources that can be reasonably identified.^m

^j This refers only to “paper kWh”, i.e. what is transacted among market entities, rather than the physical “electrons” that flow from generating stations to consumers.

^k See Section 5.2, Ambiguities in the GHG Protocol, for further treatment of this subject.

^l See Section 5.2, Ambiguities in the GHG Protocol, for further treatment of this subject.

^m There are other Scope 3 sources besides employee airline travel and upstream natural gas emissions. However, these additional sources are extremely difficult to quantify. See Section 5.1, Findings of Special Interest, for additional discussion.

3. Year 2000 GHG Inventory

3.1. Scope 1 Emissions

Generation under SCL ownership or control

Centralia Coal Plant

During the year 2000, SCL took delivery of 277,103 MWh (doc. #22) of electricity from the Centralia coal plant, prior to divestiture of this facility on May 1, 2000. SCL used a value of 2,225 lb/MWh (1.01 Mg/MWh) to estimate the CO₂ emissions from the Centralia plant (doc #14, p. 57). This value is an industry average extracted from SCL's own Strategic Resources Assessment. The resulting calculated CO₂ emissions are 279,743 Mg.

[Verifier's opinion: These calculations reflect standard practice and reasonable assumptions. USDOE/EIA dataⁿ for coal-based electricity specific to Washington State, where Centralia is the only significant source, suggests an emission rate of 2198 lbCO₂/MWh, within 1% of the figure used by SCL.]

Other facilities under SCL ownership or control

Natural gas in buildings

SCL reports that two buildings utilize natural gas for space heating and hot water. These are the North Service Center and the South Service Center. In 2000, these facilities consumed about 40,000 therms of natural gas, producing 216 Mg of CO₂ emissions, according to calculations provided by SCL (docs #17 and #18). SCL does not document gas consumption for any other buildings.

[Verifier's opinion: We reviewed the data and assumptions underlying these calculations, which appear reasonable and reflect standard practice. We made no effort to verify actual consumption figures at these sites.]

Fleet vehicles

SCL reports that, in 2000, it purchased 241,986 gallons of gasoline, 160,659 gallons of diesel fuel and 4,097 gasoline-equivalent gallons of compressed natural gas for its vehicle fleet. It reports resulting CO₂ emissions of 4,201 short tons (3,812 Mg) (doc. #19).

[Verifier's opinion: We reviewed the data and assumptions underlying these calculations, which appear reasonable and reflect standard practice. We made no effort to verify actual consumption figures on site.]

ⁿ EIA State Electricity Profile - WA, Nov 28 2001; Table 68, EIA Annual Energy Outlook 2002

Transmission & distribution equipment

SCL reports that, in 2000, it purchased 1,000 pounds of sulfur hexafluoride (SF₆) to replace losses from its switchgear. SF₆ is an extremely potent GHG, with a global warming potential of 22,200 times that of CO₂. In CO₂ equivalents, the half-ton of SF₆ emissions translates to 10,839 MgCO₂e. SCL has recently implemented a new SF₆ tracking and management process. Expectations are that the average annual SF₆ emissions will be significantly lower in the future.

[Verifier's opinion: Based on our understanding, the SF₆ loss estimate is rough, undocumented, and conservatively high, given the unavailability of precise information. SCL's recently-launched SF₆ management program should clarify as well as greatly reduce any emissions in the future.]

Reservoirs

SCL has not reported any emissions from its hydroelectric reservoirs.

[Verifier's Opinion: There is evidence that the reservoirs created by dams are responsible for substantial methane emissions from decomposition of the submerged biomass (WCD 2000). The emissions can decrease over time after a dam is built, and emissions from reservoirs may be significantly lower in cooler climates such as those found in the Pacific Northwest, especially compared with tropical regions. There is currently no widely accepted basis for calculating GHG emissions from hydroelectric dams. We recommend this question be revisited when sufficient scientific consensus emerges.]

Management of SCL lands

SCL has not reported any carbon dioxide emissions or sequestration from its land management activities.

[Verifier's Opinion: SCL controls over 8,000 acres of forested land (doc. #27) in order to maintain unpolluted watersheds and conserve habitat. According to SCL, this land would otherwise most likely be managed for timber production on a 40-50 year rotation. In the future, SCL could elect to account for long-term changes in carbon stocks due to its land management strategies. However, such accounting is somewhat controversial and highly uncertain. Nonetheless, SCL may wish to consider off-line or other accounting for the GHG impacts of its land management, so as to provide incentives for forest preservation and enhancement that can yield carbon sequestration as well as other ecological benefits.]

Other sources

Other Scope 1 sources -- emergency generator testing, small, oil- or gas-fired equipment, trace gas (N₂O and CH₄) emissions associated with fossil fuel combustion tabulated above -- were not reported by SCL.

*[Verifier's Opinion: These emissions are unlikely to comprise (cumulatively) more than 5% of total SCL emissions, and therefore can be considered **de minimis** -- not*

warranting undue effort toward analysis and reporting. However, trace gases associated with fossil fuel combustion can be estimated easily, and may merit reporting in future inventories; see Section 5.1, Findings of Special Interest below.]

3.2. Scope 2 Emissions

Long-term generation contracts

BPA contract

In 2000, SCL purchased 1.7 million MWh from BPA. (Doc. #22)

[Verifier's Opinion: BPA reports that in calendar year 2000, 3.39% of delivered electricity was provided by "unspecified purchases" (BPA 2001). Assigning the same emission factor used for SCL's short-term market purchases (0.545 MgCO₂e/MWh, or 4776 MgCO₂e/aMW, as described below) to unspecified purchases implies an average emission factor of .018 MgCO₂e/MWh for BPA electricity. Multiplying this factor times the 1.7 million MWh of BPA electricity purchased by SCL suggests GHG emissions of 31,436 MgCO₂e.]

High Ross treaty

SCL has not reported any emissions related to the High Ross treaty.

[Verifier's Opinion: The High Ross treaty provides SCL rights to purchase a fixed annual quantity of electricity from BC Hydro at favorable rates, in exchange for not infringing on Canadian hydro resources by building up Ross dam to a higher head. The contract became effective in 1986 and remains valid for 80 years. In 2000, the average GHG intensity for BC Hydro electricity was 0.042 MgCO₂e/MWh (BC Hydro 2001). In 2000, SCL received 296,828 MWh of electricity from the High Ross contract (doc. #22), implying 12,467 MgCO₂e emissions.]

Short-term market purchases

In 2000, SCL purchased a net amount of 543,787 MWh on the spot market (Doc. #28). In its analyses supporting the Strategy Resolution, SCL adopted an emission factor for spot market purchases equal to 4,776 MgCO₂/aMW (0.55 MgCO₂/MWh). This figure is derived from a modeling analysis of marginal generation resources in the EPA Region 10, which covers much of the Pacific Northwest (Cadmus, 1998). The same emission factor is also used by the Climate Trust for regional offset projects submitted for their approval. The resulting emissions implied by these figures are 296,476 MgCO₂.

[Verifier's Opinion: The marginal emission rate is based on a study that is now four years old, and the model used, DOE/EIA's National Electricity Modeling System, does not necessarily reflect the proper level of regional aggregation and interchange to accurately estimate the source of marginal generation that SCL is purchasing. The marginal emission rate of 0.55 Mg CO₂/MWh, is considerably higher than the emission rate for the typical source of new capacity, combined cycle combustion turbines (0.3-0.4 MgCO₂/MWh), but also reflects the likelihood that higher-CO₂ older gas steam (0.5

MgCO₂/MWh) and coal steam (0.5 Mg CO₂/MWh) plants are often on the margin. The emission rate used by SCL appears reasonable, but we nonetheless recommend that SCL obtain or commission more recent analysis of marginal emission rates. For instance, the Northwest Power Planning Council might be able to produce such analysis upon request, using its Aurora model.^o

Other Scope 2 sources

Retail purchases of non-system electricity

SCL has not reported any GHG emissions due to retail purchases of non-system electricity.

[Verifier's Opinion: In personal communications from SCL it was indicated that the only likely such purchases were at the Tolt and Cedar Falls facilities, and then only when these are off-line, and that these would therefore be de minimis. No written documentation was provided.]

3.3. Scope 3 Emissions

Natural gas production and transport

The production, processing, and distribution of natural gas are significant contributors to methane emissions. In 2000, natural gas systems were responsible for 6.4 million Mg, or over 20% of US methane emissions (EIA, 2001). Because these emissions are a direct consequence of the demand for natural gas, they can be attributed to natural gas consumers at power plants and other sites. To the extent that natural gas consumption can be reduced, so too will be the upstream methane emissions. Similarly, oil and coal production result in some upstream methane emissions, though of considerably lower magnitude (EIA, 2001). Since there is no generally accepted methodology for estimating upstream methane emissions, SCL engaged its GHG Advisory Committee in a review of available data and methods. Among the information considered was a bottom-up estimate (based on a study by the National Renewable Energy Laboratory) that upstream methane emissions are equivalent to about 26% of combustion emissions (on a CO₂ equivalent basis), and a much lower estimate based on aggregate national data on methane emissions (5-10%). As the result of the uncertainties, the Advisory Committee agreed on a rough figure of 10% for the ratio of upstream to combustion emissions from all fossil fuel sources (on a CO₂ equivalent basis). This figure was then applied to SCL's estimated short-term market purchases and to BPA power derived from market purchases, as estimated in June 2001 and illustrated in Table 1-1.

Taking the 10% ratio and applying to the estimated short-term market and BPA market purchases for 2000, as well as including High Ross and building natural gas use (not reflected in the Advisory Committee calculations), the resulting upstream methane emissions amount to 34,059 MgCO₂e for the year 2000.

^o Note that the Washington State Energy Policy Office has a need for similar modeling, in order to satisfy requirements of fuel disclosure legislation.

[Verifier's Opinion: The assumption of 10% additional emissions due to upstream emissions for natural gas generation appears a reasonable estimate, though perhaps a bit low, assuming national average figures. In the year 2000, CO₂ emissions from natural gas consumption amounted to 1214 million Mg (EIA, 2001), while US methane emissions from natural gas systems totaled 147 million MgCO₂e (using the IPCC global warming potential of 23 for methane). Given that US natural gas resources provided for only about 84% of total demand (in 1999), for every Mg of CO₂ emitted from natural gas combustion, another 0.14 Mg of CO₂ equivalent emissions were produced by methane releases from natural gas systems. While the methane emissions rate may be low, when compared to US averages for natural gas, some of the incremental market generation will likely come from coal, with lower upstream methane emissions.]

Employee air travel

In the calendar year 2000 SCL reported 1,526,230 passenger miles of airline travel.

[Verifier's Opinion: According to the National Transportation Energy Data Book jet fuel is consumed at average of 3,981 Btu/passenger mile (21st edition, Table 2.10). Assuming 156lbCO₂/MMBtu (0.07 MgCO₂/MMBtu) of jet fuel, we calculate 420 MgCO₂.]

3.4. Summary

Table 1-1 compiles the emissions data for the year 2000 as described above. The sum total of year 2000 emissions comes to approximately 670,000 MgCO₂e, due principally to two sources: spot market purchases contributing approximately 44% of the total and the Centralia coal plant contributing approximately 42% of the total.

Table 3-1. Estimated year 2000 emissions inventory (MgCO₂e)*

	Total	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆
Scope 1							
Own Generation							
Centralia	279,743	279,743					
Fleet Vehicles	3,812	3,812					
Buildings and Facilities	216	216					
T&D Equipment	10,839						10,839
Land and Water	0						
Scope 1 Totals	294,610	283,771	0	0	0	0	10,839
Scope 2							
Contracted Generation							
High Ross	12,467	12,467					
BPA	31,436	31,436					
Net Short-Term Purchases	296,476	296,476					
Scope 2 Totals	340,378	340,378	0	0	0	0	0
Scope 3							
Upstream Natural Gas	34,059		34,059				
Airline Travel	420	420					
Scope 3 Totals	34,480	420	34,059	0	0	0	0
Grand Totals	669,468	624,570	34,059	0	0	0	10,839

* Totals may not equal sums due to rounding.

3.5. Supporting Information

Methodology

SCL's supporting information was provided as a collection of spreadsheets, and memos documenting various decision-making processes. These documents are described in Appendix I, "Documents Provided by SCL."

[Verifier's Opinion: The "Supporting Information" is a standard section prescribed by the GHG Protocol. In future years, SCL may wish to provide a written document describing the assumptions, calculation methodologies, and data sources for each of the reported data.]

Gross short-term purchases and sales

In the year 2000, SCL reported 2,880,459 MWh of short-term market energy purchases and 2,336,672 MWh of energy sales. (Doc. #28)

Gross exchanges

In the year 2000, SCL reported the following exchanges of electricity (doc. #21):

Trading partner	Electricity supplied	Electricity received
Tacoma Power	36,792 MWh	36,792 MWh
Idaho Power Company	124,392 MWh	127,896 MWh
Northern California Power Agency	90,228 MWh	109,500 MWh
Totals	251,412 MWh	274,188 MWh

4. Year 2002 GHG Projection

In part because SCL's resource portfolio has changed considerably since 2000, SCL requested that ILEA/Tellus offer a projection of year 2002 emissions. Aside from a different outlook for the regional electricity market, key changes include: sale of the Centralia coal station (May 2000), long-term purchase of up to 100 MW of power from Klamath, purchase of 100 MW of wind power from Pacificorp, and a new contract with BPA, specifying new purchase amounts and terms. The first three sections describe how these and other changes are likely to adjust the SCL inventory relative to 2000, for Scopes 1, 2 and 3 respectively. The fourth section provides the year 2002 projection.

4.1. Scope 1 Emissions

Generation under SCL ownership or control

Centralia coal plant

SCL sold its share of the Centralia coal plant on May 7, 2000. Hence, no emissions from this source appear in the year 2002 projection.

Other facilities under SCL ownership or control

Natural gas in buildings

We adopt 2001 gas consumption levels (57,120 therms) until full year 2002 data are available. CO₂ emissions associated with this natural gas use total 303 MgCO₂ using SCL's conversion factors (docs #17, #30).

Fleet vehicles

Analysis of SCL fleet fuel use from 1990 to 2000 shows that use of gasoline is steadily declining while diesel and CNG are both increasing slightly. As a result, on average GHG emissions due to fleet vehicles have been declining over time. A linear extrapolation of the changing fuel use rates suggests that 2002 emissions will decrease by about 8% from 2000 levels, to 3,504 Mg of CO₂.

Transmission & distribution equipment

Pending the results of SCL's new SF₆ tracking and mitigation process, it is most reasonable to maintain the year 2000 estimate of 1,000 pounds of SF₆, or 10,839 MgCO₂e.

4.2. Scope 2 Emissions

New BPA contract

In October, 2001 a new contract between SCL and BPA took effect (doc. #15). This contract divided SCL's electricity purchases from BPA into two separate product types: Slice and Block.

The Slice product commits SCL to purchase a fixed percentage of the output from certain resources under BPA's control known as the "Slice System." The Slice System includes the vast majority of resources typically drawn upon by BPA, comprising 35 hydroelectric projects of varying sizes, the Columbia Generating Station nuclear plant, a small biomass facility, a wind project and two contracts (doc. #15, Exhibit H). In 2002, 22.63% of generation produced by the Slice System will be dedicated to Slice contracts, across all purchasing utilities (BPA 2002, p. 9). It is SCL's understanding that these resources are all GHG-free.^p During the year 2002, it is expected that SCL's commitment to the Slice product would result in the purchase of 334 aMW at critical water and 426 aMW at average water (doc. #25).

The Block product commits SCL to purchase fixed quantities of electricity from BPA, with adjustments in each contract year to compensate for conservation programs implemented under the Purchase of Conservation Agreement (doc. #32). In the 2002 calendar year, the nominal commitment is 164 aMW, adjusted downward to actual delivery of 152.5 aMW (doc. #31). BPA provides Block electricity from its own resources (those not committed to Slice production), augmented by long-term contracts and by market purchases as needed to match the customer's load amount and shape. Therefore, BPA's Block product implies GHG emissions to the extent that BPA needs to contract from specific generators or buy from the spot market to fulfill customer demands.^q

Amid the 2000-2001 power crunch, expectations were that BPA would need to augment its system by as much as 3,000 aMW to meet customer demands. However, conditions have changed dramatically since that time, with significantly lower customer demands (including over 2,000 aMW of direct service industry demand that lays idle) and a much larger hydro resource (due to much higher regional precipitation) for 2002. The full effect of these changes will not be clear until the year is over.

Therefore, lacking data for 2002, we use the year 2000 rate of augmentation (3.39% of total BPA electricity derives from "unspecified purchases") only on a provisional basis.

^p The small biomass facility is a cogeneration facility operated at the Wauna mill of the James River Paper Company. Though there are CO₂ emissions associated with this electricity, they are considered fully mitigated by regrowth of the managed forest from which the fuel is extracted.

^q If a fraction $f_{\text{purchased}}$ of a given year's total delivered energy is purchased, and a fraction F_{slice} of Slice System is allotted to slice customers, then the emission factor associated with Block electricity is

$$E_{\text{block}} = \frac{f_{\text{purchased}}}{1 - F_{\text{slice}}(1 - f_{\text{purchased}})} E_{\text{purchased}}$$

where $E_{\text{purchased}}$ is the emission factor associated with the purchased electricity. Note the simplifying assumption here that the Slice System comprises the entire system controlled by BPA for the purpose of power generation.

Assigning these emissions solely to Block customers, results in an emission factor of .024 MgCO₂e/MWh. At this rate, SCL's anticipated 152.5 aMW of 2002 Block purchases translates to 31,607 MgCO₂e.

High Ross contract

Since we have no updated information on BC Hydro, and the same contract terms apply, we assume the emissions associated with the High Ross treaty will be unchanged from 2000.

Klamath Cogeneration Project contract

On July 31, 2001, SCL began taking delivery of electricity generated by KCP. SCL's contract with the City of Klamath Falls provides SCL with 100 MW of capacity, implying maximum delivery of 876,000 MWh/year^r (doc. #11). For purposes of estimating emissions in 2002, we assume that SCL will take delivery of approximately 85% of the available capacity, or 744,600 MWh.^s

The Klamath Falls Amended Site Certificate (doc. #12) describes certain mitigation programs that are to reduce the net CO₂ emissions due to KCP.^t In August 1996 the OEFSC issued an order listing its opinions of the CO₂ emissions offsets that could be attributed to these programs (doc. #23, §VI). In September 2000 SCL tabulated these offsets, and concluded that OEFSC's opinion implied that KCP's CO₂ emission rate could reasonably be expected to be 26% below (doc. #13) the maximum nominal heat rate allowed by the amended site certificate under full steam export (7.2 mmBtu/MWh).^u

^r The Klamath Falls Amended Site Certificate provides that the Klamath Falls facility shall operate at a heat rate of no more than 6.8 mmBtu/MWh with no steam load, and 7.2 mmBtu/MWh with full steam load (doc. #12, §IV.B(22)). The site certificate requires reporting of the actual heat rate to OEFSC. Specifically, Section IV(B)(22) states, "Within two months after the completion of the first full year of commercial operation of the Energy Facility, KCP shall report to the Council the Energy Facility's net full power heat rate as determined by a 100 hour test." This test has been completed (Pacific Klamath 2002), and the Klamath plant was verified to operate within the specifications.

^s KCP may occasionally supply market power to its customers in lieu of power generated at the plant. Since marginal generation in the region is likely to have a higher emission rate than KCP, SCL may wish to monitor the fraction of KCP's delivered energy that was purchased on the market and, if the fraction is significant (e.g.>5%), adjust their emissions estimate accordingly.

^t The programs consist of use of a highly efficient turbine-generator, fossil fuel offsets caused by steam exports, methane capture, solar electrification, Klamath Falls geothermal system expansion, reforestation and funding of Oregon Climate Trust projects. The carbon emission reductions associated with the offsets are tied by regulatory orders to KCP, and are held in trust by OEFSC. Thus these emission reduction activities may be considered an integral part of KCP, and spread evenly across the electricity generated, resulting in a lower GHG emission factor for KCP electricity. However, SCL does not have any ownership rights to the emission reductions. Future regulatory or other actions (e.g. changes of ownership, sale of credits, or assignment of credits to a particular subset of KCP's customers, such as those within Oregon jurisdiction) could conceivably alter the assignment of carbon credits. SCL should follow this situation closely.

^u Section 9.3 of the SCL-Klamath contract (doc. #11) requires KCP to monitor & verify the offsets. They are to report the results to the federal 1605(b) program annually, and are to provide a more elaborate report to OEFSC & SCL every 5 years. Because KCP just completed its first full year of operation, these reports are not yet available for examination. However, if KCP falls short of meeting its mitigation requirements, a contingency fund exists to ensure that they are met regardless.

The direct CO₂ emissions associated with SCL purchases of KCP electricity are limited by regulatory order to be as good or better than the Site Certificate allows under full steam load, or 284,139 MgCO₂/yr^v. Applying the 26% reduction compiled by SCL implies that the unmitigated portion of these emissions equals 210,589 MgCO₂/yr, approximately 85% of the 247,752 MgCO₂/yr value derived for 100 aMW by the Advisory Committee.

PacifiCorp wind contract

Beginning on January 1, 2002, SCL began taking delivery on wind power generated at the State Line Wind Project and shaped by PacifiCorp. The contract between SCL and PacifiCorp provides that SCL receives electricity according to a schedule that is estimated from wind conditions, though the total quantity of electricity is limited to that actually generated by the wind turbines (doc. #10, §3.5). It is understood that the environmental attributes associated with this wind energy are being purchased by SCL as well (doc. #24, §4.2). Thus, energy provided through this contract is net zero GHG.

Short-term market purchases

SCL is long on resources, and is therefore expected to be a net seller in 2002. Hence there will be no GHG emissions associated with short-term market purchases.

4.3. Scope 3 Emissions

Natural gas production and transport

Using the 10% factor for added upstream emissions from natural gas supply systems, as described in Section 3.3, the 2002 methane emissions come to 25,497 MgCO₂e.

Employee air travel

In 2001, SCL employees flew approximately 1 million miles on commercial airlines, a reduction of about 50% from 2000 levels. Assuming that 2002 flight activity will be similar to 2001, and the same per passenger-mile emission rate as in 2000, emissions drop to 271 tons of CO₂.

4.4. Summary

Table 4-1 summarizes our estimates of the most likely values for GHG emissions in the calendar year 2002. Please note these values are estimates of future emissions, not verified inventories of past emissions, and therefore should not be used for accounting purposes.

^v (7.2 mmBtu/MWh) x (744,600 MWh/year) x (.053 MgCO₂/mmBtu) = 284,139 MgCO₂/yr.

Table 4-1. Estimated year 2002 emissions inventory (MgCO₂e)*

	Total	CO ₂	CH ₄	N ₂ O	HFCs	PFCs	SF ₆
Scope 1							
Own Generation	0						
Fleet Vehicles	3,504	3,504					
Buildings and Facilities	303	303					
T&D Equipment	10,839						10,839
Land and Water	0						
Scope 1 Totals	14,646	3,807	0	0	0	0	10,839
Scope 2							
Contracted Generation							
High Ross	12,467	12,467					
Klamath	210,589	210,589					
BPA	31,607	31,607					
Net Short-term Purchases	0						
Scope 2 Totals	254,663	254,663	0	0	0	0	0
Scope 3							
Upstream Natural Gas	25,497		25,497				
Airline Travel	271	271					
Scope 3 Totals	25,767	271	25,497	0	0	0	0
Grand Totals	295,076	258,740	25,497	0	0	0	10,839

* Totals may not equal sums due to rounding.

5. Findings

5.1. Findings of Special Interest

2002 projection differs from advisory committee estimate

Our projection for 2002 is approximately 52% (315,000 MgCO₂e) lower than the estimate produced by SCL's GHG Advisory Committee. The difference is driven largely by unanticipated changes in market and weather conditions since the time of the Committee estimate in June 2001. As a result of these changed conditions:

1. SCL is expected to be long on resources in 2002 and is no longer a net purchaser of short-term market electricity in 2002, as it was in 2000 and 2001.
2. We assumed a lower rate of market purchases by BPA. We also followed SCL's claim that the BPA Slice product, which accounts for about 70% of overall SCL's purchases from BPA (under average water conditions) is GHG free. In contrast, the Committee assumed that emissions related to BPA market purchases would apply to Block and Slice purchases equally.

As a result of these changes, our projections show emissions from BPA and market purchases as less than 32,000 MgCO₂e rather than the Committee's 287,000 MgCO₂e, a drop of about 255,000 MgCO₂e, accounting for much of the overall difference. Other significant differences include:

- A decrease in anticipated delivery of KCP electricity from 100% of the 100 MW on contract to 85% of this amount (down 37,000 MgCO₂e)
- A decrease in upstream methane emissions, due to reduced market and KCP purchases (down 36,000 MgCO₂e)
- Our inclusion of emissions associated with the High Ross contract (up 12,000 MgCO₂e)
- The inclusion of SF₆ emissions from transmission and distribution equipment (up 11,000 MgCO₂e)
- The absence of a "rounding up" figure (down 10,000 MgCO₂e)

Our findings suggest that the amount of offset purchases ultimately required for 2002 may be significantly lower than assumed in the Strategy Resolution. A continuation of these trends implies that SCL may need to purchase only half the amount of offsets originally planned for.

Improved regional emissions study

In years of short resources, short-term market purchases will play a very significant role in SCL's GHG inventory. Currently the best estimate of marginal emissions associated with such purchases is the now-dated Cadmus (1998) study. We recommend that SCL perform or commission an up-to-date assessment of the emissions associated with marginal generation in the regional electricity system.

Expansion of Scope 3 inventory

Other possible Scope 3 emissions sources to consider accounting for are: lifecycle emissions from other fossil fuels; net emissions resulting from how SCL operates its hydro facilities to shape load; net emissions from shaping wind power purchases; employee commuting; materials purchased by SCL and their embodied emissions. However, all of these emissions sources are very difficult to quantify, and well beyond current standard practice in GHG accounting.

BPA transparency

Our ability to estimate the emissions associated with purchases of electricity from BPA was limited by a lack of publicly available information. Specifically, BPA lacks an annual statement of resources and generation that includes not only its annual generation from the federal system, but also its long-term contracts and the type of generation supplying each contract, as well as the net amounts of short-term purchases and sales. Given the trends towards greater and transparent accounting for GHG emissions, SCL should urge BPA to provide more information on its non-system resources, and ultimately to produce a comprehensive GHG inventory, such as that undertaken by SCL.

Integration with Washington State fuels disclosure

Seattle is required by Washington State law to disclose its fuel mix to its customers on an annual basis. Since the fuel mix is intimately related to GHG emissions, SCL should ensure that the annual GHG inventory and the fuel mix disclosure are calculated in a consistent fashion.

Variability of KCP emissions factor

The emissions factor associated with the Klamath Cogeneration Project will vary on an annual basis, depending on the total generation that year and the quantity of offset achieved. Detailed reports of the offset projects' performance are required only once per five years. It should be understood that evaluations of the KCP emission factor for each year are estimates, and that these estimates will improve over time as performances of the generating plant and the offset projects are better known.

Accounting for secondary gases of combustion

SCL did not estimate emissions of nitrous oxide (N₂O) and methane (CH₄) resulting from combustion processes. The greenhouse gas contributions of these two gases, though substantially smaller than carbon dioxide, can still be substantive and should be considered in future inventories.

Short notes

1. Upstream methane emissions deserve closer analysis (see Section 3.3)
2. Emissions associated with the High Ross treaty should be included in future inventories (see Section 3.2)
3. Methane emissions from reservoirs could be included in future inventories, if and

when the science enables sufficiently accurate estimation (see Section 3.1)

4. SCL should consider methods to account for the possible sequestration or emissions associated with its land management, even if not included in their full inventory. (see Section 3.1)

5.2. Ambiguities in the GHG Protocol

Responsibility for net short-term purchases and sales

The GHG Protocol suggests that “trading transactions of electricity should not be reported”, implying that only emissions from purchases needed to meet load should be counted. In order to determine how much of SCL's traded electricity is in fact used to meet load, it is necessary to calculate the net purchases, by subtracting gross short-term sales from gross short-term purchases. However, elsewhere the GHG Protocol recommends, “to increase data transparency, emissions data associated with imported [purchased] and exported [sold] electricity...should not be netted” (WBCSD/WRI 2001, p. 21).

We consulted with GHG Protocol developers to clarify this apparent contradiction, and conclude that only the net market purchases needed to meet SCL load need to be considered in the inventory. SCL need not be penalized for electricity that is purchased, then resold.

No reward for net sales

If, on the short-term trading market, SCL is a net seller, the GHG Protocol suggests that any resulting emissions savings – e.g. from selling low-GHG hydro or wind to displace fossil generation from other sources – be noted as supporting information, but not in the inventory itself. In effect, this system creates a one-way “ratchet” effect, whereby a year of net purchases (e.g. due to low rainfall) creates an emissions mitigation responsibility for SCL, yet a year of abundant rainfall and net sales to other utilities does not create a corresponding emissions offset. We suggest that this issue be revisited in subsequent discussions with GHG Protocol developers and other utilities, and the accounting methodology be adjusted, if appropriate.

Defining short-term vs. long-term contracts

Short-term purchases and sales of electricity play an important role in meeting SCL's load, and affect SCL's GHG inventory. The nature of electricity trading allows neither assignment of an emission factor to each particular trade, nor identification of particular purchases as delivered rather than resold, thus resulting in the need to calculate net purchases and assign an average emission factor to these.

On the other hand, long-term contracts – defined by SCL as those of 18 months or longer -- are treated differently, without being netted against sales and with a specific emission factor assigned to each one. The GHG Protocol should consider developing universal criteria to assist other utilities with this distinction – assuming this distinction is ultimately viewed as important for the purposes of GHG accounting. Furthermore, the GHG Protocol's rules for long-term contracts leads to the same one-way ratchet effect

described above for short-term sales; the value and rationale for this rule deserves further discussion and analysis.

Treatment of exchanges

There is no discussion of inter-utility exchange (barter) of electricity in the GHG Protocol. An explicit treatment of this subject is needed.

Emissions test to determine ownership or control

The GHG Protocol suggests that facilities in which a reporter has less than 20% ownership not be included in the organizational boundaries (WBCSD/WRI 2001 p. 15). However, in SCL's 2000 inventory the emissions due to its 8% stake in the Centralia coal plant accounted for more than 40% of its overall inventory. We suggest that the GHG Protocol also incorporate an emissions test for determining organizational boundaries that could address situations similar to SCL with respect to Centralia.

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Appendix

Documents Provided by SCL

no.	Date	Doc. type	Author(s)	Title	Notes
1	4/10/00	Resolution (#30144)	City of Seattle	A RESOLUTION proclaiming the City of Seattle's actions supporting and honoring Earth Day 2000.	
2	10/30/00	Resolution (#30256)	City of Seattle	A RESOLUTION committing Seattle City Light to fully mitigate the greenhouse gases emitted pursuant to its power purchases from the Klamath Cogeneration Project.	
3	7/23/01	Resolution (#30359)	City of Seattle	A RESOLUTION outlining Seattle City Light's strategy for meeting the goal of zero net greenhouse gas emissions and establishing specific greenhouse gas mitigation targets and timelines.	
4	?	Paper	?	Seattle City Light's Energy Demand and Resources – Overview	In possession of Michael Lazarus.
5	?	Paper	Kevin Clark	Should Seattle City Light's BPA Purchases Require Mitigation of Greenhouse Gasses Under the Earth Day 2000 Resolution 30144?	White paper attributed to Kevin Clark. Received from Doug Howell via e-mail 1/7/02.
6	12/18/01	Paper	Doug Howell	DRAFT – SCL Advisory Committee GHG Inventory Decision Schematic.	Received from Doug Howell via e-mail 12/18/01.
7	6/18/01	Memo	Nancy Glaser, Doug Howell	Summary of June 11 Meeting; Recommendations for Superintendent Gary Zarker	
8	6/25/01	Memo	GHG Advisory Committee	Our recommendations for implementation of Resolution 30144	
9	Jun 01	Publication	SCL	Weathering the Storm: Seattle City Light 2000 Annual Report	
10	10/22/01	Contract*	SCL, PacifiCorp	Integration and Exchange Agreement	Wind power purchase agreement. Received from Marilyn 3/1/02
11	Nov 00	Contract*	SCL, City of Klamath Falls	Power Purchase Agreement	Received by fax from Corinne Grande 3/4/02. Definitions pages rec'd 3/13/02.
12	Apr 98	Contract*	Oregon Energy Facility Siting Council?	AMENDED SITE CERTIFICATE (Klamath Cogeneration Project)	Received by fax from Corinne Grande 3/4/02
13	10/5/00	Presentation*	SCL	Klamath Cogeneration project CO ₂ Mitigation Plan	Received by fax from Corinne Grande 3/4/02. Corrected values received as spreadsheet from Corinne 3/13/02
14	Mar 97	Paper	Gary Zarker, Dennis Parrish, Ted Elmer	Power Options	Received by fax from Corinne Grande 3/4/02

no.	Date	Doc. type	Author(s)	Title	Notes
15	10/9/01	Contract	BPA, SCL	Block and Slice Power Sales Agreement	On loan from Corinne Grande 3/11/02
16	Nov 96	Publication	SCL	Existing Resources Portfolio	On loan from Corinne Grande 3/11/02
17	3/11/02	Spreadsheet	Corinne Grande	North Service Center – Natural Gas Use	Received 3/11/02
18	3/11/02	Spreadsheet	Corinne Grande	South Service Center – Natural Gas Use	Received 3/11/02
19	3/11/02	Spreadsheet	Corinne Grande	SCL Vehicle Fleet Fuel Use	Received 3/11/02
20	?	Spreadsheet	SCL	Firm Output of SCL Resources – as declared to BPA	Received from Corinne Grande 3/11/02
21	10/20/00	Spreadsheet*	SCL Power Mgmt.	TRANSFERS (APPENDIX 6)	Received from Corinne Grande 3/11/02
22	2/5/01	Spreadsheet	SCL Power Management Branch	Sources and Uses of Power	Received from Corinne Grande 3/11/02
23	?	Order	Oregon Energy Facility Siting Council	ORDER In the matter of the 500 Megawatt Exemption from the Demonstration of Showing Need for a Power Plant	Available at www.energy.state.or.us/climate/500mw.pdf
24	?	Contract*	SCL, State Line	?	Contract to purchase energy from State Line wind project. Received from Corinne Grande 3/13/02
25	3/13/02	Spreadsheet	Kevin Clark	SCL BPA Purchase 2001-2011	Received from Corinne Grande 3/13/02
26	3/13/02	Spreadsheet	Corinne Grande	SCL Airline Travel	Received from Corinne Grande 3/13/02
27	3/13/02	Spreadsheet	Corinne Grande	SCL Land Purchases	Received from Corinne Grande 3/13/02
28	3/4/02	Spreadsheet	SCL Power Management Branch	Preliminary Purchase/Sale Summary Report	Received from Corinne Grande 3/11/02
29	3/7/02	Presentation	BPA	Mark-to-Market Methodology Workshop – Augmentation	Received from Doug Howell 4/22/02
30	5/13/02	Spreadsheet	Corinne Grande	South Service Center – Natural Gas Use	Received from Corinne Grande 5/17/02. Supercedes doc. #18.
31	Mar 02	Spreadsheet	Kevin Clark	SCL BPA Purchase 2001-2011	Received from Corinne Grande 5/17/02. Supercedes doc. #25.
32	3/14/02	Contract	BPA, SCL	Purchase of Conservation Agreement	Contract No. 02ES-10535. Received from Corinne Grande 5/17/02.

* Indicates only a partial document was received

13. SUBMISSION TO THE RECORD:

”CONFLICT OF INTEREST BACKGROUND FOR STATE AND REGISTRY-APPROVED CERTIFIERS”; ” CONFLICT OF INTEREST PROCESS AND REQUIREMENTS FOR STATE AND REGISTRY-APPROVED CERTIFIERS”; JEFF WILSON AND PIERRE DUVAIR, CALIFORNIA ENERGY COMMISSION, SACRAMENTO, CA

Voluntary Greenhouse Gas Reporting Workshops

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December 2, 2002

Conflict of Interest Background for State and Registry-Approved Certifiers December 2002

Introduction

The California Energy Commission and California Climate Action Registry (Registry) would like to incorporate effective, efficient conflict of interest (COI) provisions in the certifier qualification process and the Registry's certification process that protect the interests of all Registry stakeholders. To this end, the following COI declaration was included in the June 2002 Request for Applications (RFA):

A qualified provider may not engage in consulting and certification services with the same client. Consulting services include any and all consulting services, not only greenhouse gas emissions or environmental consulting. A certifier may engage in consulting services for other clients, for whom the organization does not engage in any certification activities. In addition, an organization may not provide technical assistance and certification services to the same participant. If, for example, a participating entity chooses to report only emissions within California, that entity's certifier may not provide any consulting services to that entity either within or outside California. Conversely, a firm providing consulting services to the participant either within or outside California may not provide Registry certification services to that participant. A provider may not engage in certification services with a participant for whom that provider engaged in consulting services within the previous 3 years, and vice versa.

Every applicant to be qualified as a state-approved certifier signed a form, agreeing to this COI declaration. However, some of the applications did not adequately address COI requirements. For example, some companies submitted applications offering the services of staff from either their parent company or an affiliate—yet signed a COI provision for only their own organization. To meet the liability requirements, some companies reported the financial information of their parent. In such instances, the COI provisions, as currently signed, may not cover the activities for all staff or companies presented on the application.

If the COI declaration has been signed by a subsidiary, the Energy Commission will not be able to do a meaningful evaluation of potential COI situations for the parent company. This does not adequately protect the public, participants, Registry, and state from adverse COI situations.

Three possible solutions are presented to make the applications conform to the COI requirements included in the RFA.

- 1) The applicant could remove all staff not employed by the applicant subsidiary from its application and revise the financial information and experience to reflect only that of the applicant subsidiary.
- 2) The parent company could sign the COI form and the application could be submitted in the name of the parent company.

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- 3) Multiple subsidiaries could be represented as partners in the application. Each subsidiary would be required to submit separate forms for Contractor Status, Work References, COI, Designated Staff, and financial information. However, this solution may not be adequate in some cases, depending on the relationships between subsidiaries and the parent company.

To improve the COI provisions and to enable respondents to future RFAs to more easily understand the COI requirements, the Energy Commission intends to modify the COI requirements. The Energy Commission is considering revising the original COI. The revised process is based on the U.S. Environmental Protection Agency (EPA) COI model, the COI model included in the Kyoto Protocol's Clean Development Mechanism (CDM), and recent proposed rules of the Securities and Exchange Commission (SEC).

The propose revised COI process consists of these four steps:

- 1) A firm that applies to qualify as a state-approved certifier (applicant) will be screened by the Energy Commission for organizational COI. That is, they will disclose instances where the services provided by, shared management of, or other situations created by a parent company or other related entities have the potential to create COI situations. During the application process the applicant will provide the necessary information to inform this screening process.
- 2) As part of the state-approval process for certifier, the applicant will sign a declaration of ability to perform a case-by-case evaluation of COI and intent to comply with COI process and requirements contained in this document.
- 3) A state-approved certifier will submit a case-by-case COI evaluation of their activities for the prior three years to the Energy Commission, and the Energy Commission will make a determination of the potential COI, before the certifier will be allowed to begin certification activities.
- 4) The certifier will monitor, report to the Energy Commission, and mitigate any COI situations that arise during, and for two years after, certification of a Registry participant's emissions results.

A brief summary of the EPA model, Kyoto Protocol CDM model, and the SEC proposal is provided below.

Environmental Protection Agency COI Model

The U.S. Environmental Protection Agency (EPA) first promulgated COI rules in 1994, with updates and clarification in subsequent years. In brief, the EPA process requires a contractor to:

- 1) make full disclosure of any potential or actual COI before contracting with EPA
- 2) provide a proposal to avoid, neutralize, or mitigate any potential COI
- 3) monitor and notify the EPA if a COI situation is encountered during work
- 4) limit future contracting to avoid COI

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In turn, the EPA will evaluate potential COI situations and make a determination if the contractor's proposal is adequate to avoid, neutralize, or mitigate any potential COI. The EPA has documented factors that are considered when evaluating a contractor's potential COI and also successful, potential, and unsuccessful COI mitigation strategies. These documents can be found on the EPA web site at <http://www.epa.gov/oam/ptod/COI/COIindex.htm>.

EPA COI determinations are made on a case-by-case basis; the EPA does not have a blanket provision clearly defining COI situations for all possible contracting scenarios. The EPA does not set a maximum time limit to complete its COI determination.

Kyoto Protocol Clean Development Mechanism COI Model

The elements of the Clean Development Mechanism (CDM) COI model are still being delineated. The CDM COI model, similar to the EPA COI model, specifies that:

- 1) determinations are made on a case-by-case basis,
- 2) the certifier is to disclose actual and planned involvement with clients,
- 3) and demonstrate that the certifier (CDM uses the terms validator/verifier) can safeguard against potential and actual COI situations.

Documentation on CDM COI can be found on the United Nations web site at <http://unfccc.int/cdm/rules/modproced.html> in Appendix A (2) of the document.

Securities and Exchange Commission Proposed Rule

On November 20, 2002, the SEC approved publication of proposed rules that would implement elements of the Sarbanes-Oxley Act. The proposed rules would, among other requirements:

- 1) prohibit auditors from providing audit services to the client for more than five consecutive years;
- 2) prohibit auditors from returning to audit services with the same client within five years;
- 3) specify that workpapers and other documents that form the basis of the audit or review, and memoranda, correspondence, communications, other documents, and records (including electronic records), which are created, sent or received in connection with the audit or review and contain conclusions, opinions, analyses, or financial data related the audit or review should be retained by the auditors for a period of five years.

Documentation on the proposed SEC ruling can be found on the SEC web site at <http://www.sec.gov/news/digest/11-20.txt>

Conflict of Interest Process and Requirements For State and Registry-Approved Certifiers December 2002

Definitions

For the purposes of this document, conflict of interest (COI) is defined as a situation in which, because of other activities or relationships with other persons, a person is unable or potentially unable to render an impartial certification opinion, or the person's objectivity in performing certification activities is or might be otherwise impaired.

In the context of COI, "certifier" means the applicant to qualify as a certifier, the certifier, any parent, subsidiaries, affiliates, and sister companies to the applicant or certifier.

Policy

The certifier is to work in a credible, independent, non-discriminatory and transparent manner, complying with applicable state and federal law and the conflict of interest process and requirements contained in this document.

Process and Requirements

The COI process will consist of the steps outlined below.

- 1) A firm that applies to qualify as a state-approved certifier (applicant) will be screened by the Energy Commission for organizational COI. During the application process the applicant will provide the necessary information to inform this screening process.
- 2) As part of the state-approval process for certifier, the applicant will sign a declaration of ability and to perform a case-by-case evaluation of COI and intent to comply with COI process requirements contained in this document.
- 3) A state-approved certifier will make a case-by-case COI evaluation, and the Energy Commission will make a determination of the potential COI, before the certifier will be allowed to begin certification activities.
- 4) The certifier will monitor, report to the Energy Commission, and mitigate any COI situations that arise during, and for two years after, certification of a Registry participant's emissions results.

(1) Initial screening for organizational COI

To gain state-approval as a qualified certifier for Registry participants, a firm must submit an application in response to an Energy Commission Request for Applications. An applicant for qualification as certifier shall have a documented structure, which safeguards impartiality, including provisions to ensure impartiality of its operations. An applicant must demonstrate that it does not have any organizational COI, or has taken steps to mitigate any potential organizational COI. As a minimum demonstration, applicants should respond to the following questions:

A. Is the applicant partnering with another company?

If any designated staff are employed by a company other than the applicant, then the company for which they work shall be considered a partner. Subsidiaries, sister companies, parent companies shall be considered separate companies when determining partner relationships.

If **no**, then COI process and requirements apply to only the applicant.

If **yes**, then COI process and requirements apply to the applicant and all partners.

B. Is the applicant company or any partner companies owned or controlled by another company?

If **no**, then company information is not required regarding entities other than the applicant (or partner).

If **yes**, then the applicant company and any partners must submit information detailing the financial and legal relationships between the companies and the owner/operator and any affiliate, sister, subsidiary, or other entity according to the provisions below. If it is part of a larger organization, and where parts of that organization are, or may become, involved in the identification, development or financing of any GHG related activity, the applicant shall:

- Make a declaration of all the organization's actual and planned involvement in GHG related activities, if any, indicating which part of the organization is involved and in which particular GHG related activities;
- Clearly define the links via board members, profit and loss flows, financial liability, and personnel with other parts of the organization;
- Demonstrate that no COI exists between its functions as a certifier and any other functions that it may have, and demonstrate how business is managed to minimize any identified risk to impartiality. The demonstration shall cover all sources of conflict of interest, whether they arise from within the applicant or from the activities of related entities;
- Demonstrate that it, together with its senior management and staff, is not involved in any commercial, financial or other processes which might influence its judgement or endanger trust in its independence of judgment and integrity in relation to its activities, and that it complies with all rules applicable in this respect.

(2) Declaration of ability and intent to comply

When applying for qualification as a certifier, the applicant and any partners must each sign and submit a COI Declaration of Ability and Intent to Comply form. This is a

declaration of the ability to perform a case-by-case evaluation of COI and intent to comply with COI process and requirements.

The applicant and any partners will also submit supporting documentation detailing the mechanism for compliance. The Energy Commission will not require that certifiers establish any particular type or format of information retrieval system as a mechanism for compliance.

(3) Case-by-case evaluation and determination of potential COI situations

A certifier must demonstrate that it, its partners, and the individuals performing certification activities have no real or potential conflict of interest with the Registry participants for which it has been selected to carry out certification functions.

Prior to the commencement of any work related to certifying a Registry participant's data, a certifier must submit an evaluation of any potential or actual COI with certifying the participant's emissions results to the Energy Commission.

A certifier may not provide certification services for a client for more than six (6) consecutive years. A certifier may not provide certification services for a client for a period of six (6) years following any lapse in certification services to the client.

If the certifier identifies a potential or actual COI situation, the certifier must also submit a plan to avoid, neutralize, or mitigate the COI situation. The Energy Commission will then review the information submitted to determine if the certifier provided adequate information upon which to make a COI determination.

Factors that the Energy Commission may consider in evaluating and making COI determinations may include the following:

I. Nature of the Work Performed and Related Services

- What was the nature of the work performed?
- Is the work that may represent a potential COI similar to the type of work performed during certification? Such as auditing, energy efficiency, renewable energy, or other work with implications for GHG emissions or accounting of GHG emissions.

II. Past, Present, and/or Future Relationship(s) (\$)

- When did/will the contractor perform the work for the Registry participant or related entity?
- Is work currently being performed for the Registry participant or related entity? And if so, what work?
- How much work was performed for the Registry participant in the last three years?
- Does the certifier have any contracts or other arrangements to perform work for the Registry participant or related entity?
- What type of organizational relationships are envisioned (i.e., parent, affiliates, subsidiaries, sister companies)?

III. Geographic Proximity

- Is the potential COI related to work performed at the same site, in California, the U.S. or outside the U.S.? There are no geographical boundaries to potential COI. GHG related consulting, even in another country, could represent a COI.

IV. Certification Value (\$)

- What is the monetary value of the certification?

V. Financial (\$) Relationships

- How much GHG related work [in dollars (\$) and/or percentage (%) of company revenue/gross] has the certifier performed for the Registry participant or entities related to the Registry participant (e.g., parent company, affiliates)?
- Is the amount of work such that the contractor's credibility and lack of bias could be questioned or challenged?

VI. Sensitivity/Visibility

- Are there any extenuating circumstances that would cause this work to be considered sensitive or highly visible (e.g., press coverage, special Congressional interest)?

VII. Other

- Is there any other reason or potential area of conflict?

To complete its evaluation, the Energy Commission may request additional clarifying information. The Energy Commission recognizes that certifiers may not have all of the information readily accessible upon which to base their case-by-case COI evaluations.

Therefore, the evaluations contain the statement that the certifier is declaring to the best of its knowledge and belief as of the date of the declaration.

To provide consistency in the evaluation of COI situations, the Energy Commission will limit COI determinations to two staff of the Climate Change Program in consultation with Energy Commission attorneys as necessary.

The Energy Commission is committed to providing timely responses. However, it cannot specify a maximum time limit for its response, due to the nature of the COI evaluation. The Energy Commission anticipates that each COI situation will have varying degrees of complexity and that should the Energy Commission need to request additional information from certifiers to make its decision, this would make it difficult to set any specific time limit.

The Energy Commission will notify the certifier in writing when the COI evaluation information is deemed complete. The Energy Commission will make a determination of the risk of potential COI within ten working days of deeming the evaluation information complete. The certifier shall be permitted to begin certification work upon receipt of written notification of a determination that there is not a significant risk of COI, based upon the information provided to the Energy Commission.

The COI process requires provision of sufficient information to allow the Energy Commission to make an informed decision. This may involve providing the name of a client and a description of work performed that may represent a potential COI. However, there may be occasions where a client requires confidentiality regarding the release of its name and other information. When a disclosure waiver cannot be obtained from the client, the certifier should explore with the Energy Commission suitable alternatives for providing information sufficient to permit the Energy Commission to render an informed decision on the potential COI.

The Energy Commission will enter into confidentiality agreements with certifiers and Registry participants as necessary, following standard Energy Commission regulations. The Energy Commission stresses that it is committed to protecting sensitive business and other information to the full extent permitted by law. The Energy Commission also urges certifiers to identify confidential business information in its effort to fully disclose any potential COI.

The certifier should provide a plan for avoiding, neutralizing, or mitigating any potential COI that is identified. The Energy Commission will consider these plans when making a determination.

The certifier must agree in advance that contracts for certification services that are entered into prior to written notification of a COI determination are done so at the certifier's own risk. Therefore, no claim shall be made against the State of California to recover contract costs whether the COI determination is denied or approved.

The Energy Commission will maintain records of COI decisions and related correspondence.

The Energy Commission recognizes that there are instances where conflict situations have been overcome by events or, due to the time lapses involved, present reduced conflict relationships. However, it is impossible to define in any comprehensive way when a COI relationship may become acceptable. The Energy Commission will judge each situation on its own merits, applying common sense, consistent criteria, and sound judgement.

Since the Energy Commission is dependent upon the contracting community to self-disclose situations, it is forced to rely on the information provided by the contractor.

Energy Commission notification forms will contain a clause entitled, "Limitation of Future Contracting" (LOFC), in which certifiers agree to seek the approval of the Energy Commission before entering into certain types of arrangements or relationships that may present conflict of interest difficulties.

(4) Monitoring and mitigation of emerging COI situations

An emerging COI situation is one that arises, or becomes known, during certification or for a period of two years after the completion of certification activities. The certifier shall make full disclosure in writing to the Energy Commission immediately of a potential emerging COI situation, including personal or employee COI. This disclosure shall include a description of actions that the certifier has taken or proposes to take, after consultation with the Energy Commission, to avoid, neutralize, or mitigate the actual or potential conflict of interest. A personal conflict of interest is defined as a relationship of an employee or a partner employee that may impair the objectivity of the employee in performing the certification.

Recognizing that business structures are likely to change over time, the certifier must report organizational changes that would have COI implications.

As required by the LOFC agreement, for a period of two years after the completion of certification services, before entering into any contract that may represent a potential COI situation, the certifier must request a determination of COI from the Energy Commission. The certifier may not enter into any contract with a Registry participant or related entity that the Energy Commission determines would create an unacceptable level of risk of COI.

In order to obtain this determination, the certifier must submit a LOFC request to the Energy Commission detailing the specifics of their situation. In evaluating these requests, the Energy Commission treats each situation on an individual, case-by-case basis. Each case is unique depending upon the circumstances. However, the Energy Commission will consider the types of issues identified above when evaluating these requests.