



EIA's Revised Voluntary Reporting of Greenhouse Gases [1605(b)] Program

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Presentation Overview

- Background
- EIA's Implementation Schedule
- Products & Assistance
- Form Structure
- Conclusion



Program Background



- Established by Section 1605(b) of the Energy Policy Act of 1992.
- Flexible implementing guidelines issued in 1994.
- Over 200 regular reporters – from large utilities to landfill operators to small businesses.
- Reports on thousands of projects submitted.

On February 14, 2002, the President directed DOE, working with other agencies, to propose improvements to the current Voluntary Reporting Program to



“...enhance measurement accuracy, reliability and verifiability, working with and taking into account emerging domestic and international approaches.”

1. Reduce U.S. greenhouse gas emissions intensity by 18 percent by 2012
2. Improve DOE’s voluntary GHG reporting program
3. Develop recommendations for protecting real reductions against future climate policy and on giving transferable credits
4. Challenge businesses to take action (Climate VISION, Climate Leaders)



Revised Guideline Overview

- Encourage comprehensive, entity-wide reporting of
 - both emission inventories and reductions
 - all gases and sequestration
 - direct and certain indirect emissions
- Enhance quality, consistency and transparency
- Use emissions intensity as primary measure for reductions – although absolute reductions also allowed
- Retain most of the flexibility of current program

Background on Guideline Revision Process



- Interagency working groups, including USDA, EPA, CEQ & others
- Many opportunities for public review & comment, including public workshops
- March 2005 interim final guidelines
- April 21, 2006 final guidelines published
- New Guidelines effective June 1, 2006

EIA's Implementation Schedule



- Forms & Instructions
- Instruction Appendices
- Reporting Software
- Simplified Emission Inventory Tool (SEIT Tool)
- Calculation Tools

EIA's Implementation Schedule (cont.)



- Forms & Instructions
 - Federal Register Notice issued July 27, 2006
 - Public Comments due September 25, 2006
 - Review/address public comments
 - OMB Forms Clearance
 - Federal Register Notice October 2006
 - Public Comments due November 2006
 - Review/address public comments
 - Final Forms & Instructions Approval expected by December 2006

EIA's Implementation Schedule (cont.)



- Instruction Appendices (Electricity Emission Factors, Fuel Emission Factors, GDP Deflators, etc.)
 - Expected completion by Fall 2006
- Reporting Software
 - Internet-based Data Collection (IDC) system to be in place in CY 2007
 - Expected completion date August 2007

EIA's Implementation Schedule (cont.)

- Simplified Emission Inventory Tool (SEIT)
 - Posted on EIA website for public comment
 - Finalize by Program launch in CY 2007
- Calculation Tools (in development)
 - Inventory calculation tools
 - Emission reduction calculation tools
 - Finalize by Program launch in CY 2007



Products & Assistance

- Instruction Appendices
 - Electricity End Use Emission Factors
 - Avoided Emissions Benchmark
- SEIT Tool
- Calculation Tools



Products & Assistance - Instruction Appendices



- A. North American Industrial Classification System (NAICS) Codes
- B. U.S. Census Regions
- C. Foreign Country Codes
- D. Voluntary Greenhouse Gas Reduction Initiatives
- E. Greenhouse Gases
- F. Estimation Methods and Ratings
- G. Fuel Emission Factors
- H. Global Warming Potentials
- I. Energy System Type and Fuel Codes
- J. Electricity End Use Factors for Emission Inventories
- K. Electricity End Use Factors For Emission Reductions
- L. Emission Source Codes
- M. Implicit Price Deflators
- N. Output Measures
- O. Action Type Codes
- P. Avoided Emissions Benchmarks

Products & Assistance - Electricity End Use and Avoided Emission Benchmarks



- Emission Inventory Electricity Emission Factors
 - average emissions intensity of total electric sector generation for specified region
 - Includes transmission and distribution (T&D) losses
- Indirect Emission Reductions Emission Factors
 - average emissions intensity of fossil-fired generation for specified region
 - includes (T&D) losses
- Avoided Emissions Benchmark Emission Factors
 - average emissions intensity of fossil-fired generation for specified region
 - capped at 0.9 metric tons of CO₂ equivalent per MWh
 - does not include (T&D) losses

Electricity End Use and Avoided Emission Benchmarks (cont.)



- Regions under consideration:
 - (1) New York, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire and Maine
 - (2) New Jersey, Delaware, Pennsylvania, Maryland, West Virginia, Ohio, Indiana and Michigan
 - (3) Illinois and Wisconsin
 - (4) Missouri, Kentucky, Virginia, Arkansas, Tennessee, North Carolina, South Carolina, Louisiana, Mississippi, Alabama and Georgia
 - (5) Florida
 - (6) Texas
 - (7) Oklahoma and Kansas
 - (8) North Dakota, South Dakota, Nebraska, Minnesota and Iowa
 - (9) Colorado, Utah, Nevada, Wyoming and Montana
 - (10) New Mexico and Arizona
 - (11) Oregon, Washington and Idaho
 - (12) California
 - (13) Hawaii
 - (14) Alaska

Electricity End Use and Avoided Emission Benchmarks (cont.)



- Two Sets of Factors for Calculating Reductions & Emissions
 - Reported Reductions
 - Start Year Report is based within the following time period:
 - 1990 through 2001
 - Emission Factors to be based on weighted average of certain time frame (e.g., 1991-1994 average)
 - Registered and Reported Reductions
 - Start Year Report is based within the following time period:
 - 2002 and beyond
 - Emission Factors to be based on weighted average of certain time frame (e.g., 1999-2002 average)
- Note: Factors, Once Used, Remained Fixed
 - No reductions/increases for changes in emission intensity on the grid

Products & Assistance – SEIT Tool



- Simplified Emissions Inventory Tool (SEIT)
 - To be used to determine if reporter is small or large emitter
 - Estimate sources that may be “de minimus”
 - Not for emission inventory preparation

Simplified Emissions Inventory Tool (SEIT)



Microsoft Excel - SEIT Draft 07-27-06.xls

File Edit View Insert Format Tools Data Window Help

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Simplified Emissions Inventory Tool (SEIT) Calculation Workbook

Version 1.0 (July 2006) - DRAFT
Voluntary Reporting of Greenhouse Gases Program
Energy Information Administration
U.S. Department of Energy

Instructions

Small Emitter Determination. This sheet is intended to help you quickly determine your entity's eligibility to report and/or register as a "small emitter" under the 1605(b) Program. Small emitters are defined as those entities that emit less than 10,000 metric tons of carbon dioxide equivalent (CO₂e) per year.

To determine if you are a Small Emitter, enter activity data in the empty unshaded (white) cells below, and, when applicable, also choose your activity data units. Total emissions will be calculated and automatically summed at the bottom. A message will indicate whether you are eligible to report as a Small Emitter, or required to report as a Large Emitter.

Note that the following Entity types automatically qualify as a Small Emitter and need not complete this workbook:

- Residential - Households with fewer than 10 persons, 5 light-duty vehicles, less than 20,000 sq.ft. or 100 acres.
- Commercial Office Space - less than 100,000 square feet of total space, with no manufacturing, energy distribution, or materials processing and less than 1,000 acres of land
- Single Activity Farms:

Dairy operations (< 2,500 head)	Other livestock operations (TBD)
Beef operations (< 5,000 head)	Crop Production (TBD)
Rice production (< 3,300 acres)	Forest activities (TBD)

De Minimis Emissions. You may also use this workbook to identify de minimis emissions. The workbook will automatically calculate each source's percentage of total emissions in the column T. Any that meet the de minimis requirement of 3% or less will be highlighted in red.

Data Inputs, Subtotals, and Totals

INDIRECT EMISSIONS: Purchased Electricity

	Enter Activity Data	Unit of Measure	Emission Factors	Emissions (MT CO ₂ e)	% of Total Emissions
Electricity (Total Purchases)		MWh	0.654 MT CO ₂ e per MWh	0.0	0.0

INDIRECT EMISSIONS: Purchased Heat, Steam, and Chilled Water

	Enter Activity Data	Select Unit of Measure	Emission Factors	Emissions (MT CO ₂ e)	% of Total Emissions
Steam		<input type="radio"/> MMBtu	0.006	0.0	0.0
Hot water		<input type="radio"/> MWh	0.006	0.0	0.0
Chilled water		<input checked="" type="radio"/> MWh	0.006	0.0	0.0

SEIT Emission Factor Documentation

Products & Assistance – Calculation Tools

- Calculation Tools
 - Inventory calculation tools
 - Reduction calculation tools



Calculation Tools



Inventory Tools

- Stationary Combustion
- Mobile Combustion
- Purchased Energy (2)
- Industrial Process Emissions (9)
- Energy Sector Emission
 - Coal Mines
 - Oil and Gas Industries
- Waste Handling Emissions (2)
- High GWP Gases (4)
- Agricultural Emissions (6)
- Change in Carbon Stocks
- Geologic Sequestration

Reduction Tools

- Changes in Emissions Intensity and Absolute Emissions
- Changes in Carbon Storage
- Avoided Emissions
- Reductions Associated with Energy Exports
- Methane (Coalmine, Landfill, Anaerobic Digestion, and Animal Waste)
- Geologic Sequestration
- Transmission and Distribution Improvements

Form EIA-1605 Structure

- Form Schedules and Addenda
- Form Design Rationale



Form EIA 1605 Structure – Schedules and Addenda



- Form Schedules I-IV
 - Schedule I – Entity Information
 - Schedule II – Subentity Information
 - Schedule III – Entity-wide Reductions Summary
 - Schedule IV – Verification and Certification
- Addenda
 - Addendum A – Entity/Subentity Emission Reduction Method(s)
 - Addendum B – Subentity Emission Inventories
 - Addendum C – Foreign Emission Factors



Form EIA-1605

SCHEDULE I. ENTITY INFORMATION

- Section 1. Entity Statement
- Section 2. Entity Emissions Inventory
 - Part A. Aggregated Emissions by Gas (for Independently Verified Reports Only)
 - Part B. Inventory of Emissions and Carbon Flux
 - Part C. Total Emissions and Carbon Flux
 - Part D. Emissions Inventory Rating Summary
- Section 3. Emission Offsets
 - Part A. Offsets Obtained by Agreement with Another Reporter
 - Part B. Offsets Obtained by Agreement with a Non-reporter
- Section 4. Entity Emission Reductions *(Do not complete if reporting subsidiaries. Proceed to Schedule II.)*

Addendum B
Subentity Emissions
Inventory

Entity Only

SCHEDULE II. SUBENTITY INFORMATION

- Section 1. Subentity Statement
- Section 2. Subentity Emissions Inventory
- Section 3. Subentity Emission Reductions

Addendum C
Country-specific
Factors Used to
Estimate Emissions
from Foreign
Countries

Multiple
Subentities

SCHEDULE III. ENTITY-WIDE REDUCTIONS SUMMARY

- Section 1. Net Entity-level Registered Reductions
 - Part A. Domestic Net Entity-level Reductions
 - Part B. Foreign Net Entity-level Reductions
- Section 2. Net Entity-level Reported Reductions
 - Part A. Domestic Net Entity-level Reductions
 - Part B. Foreign Net Entity-level Reductions

Addendum A

A1-A16
Emission
Reduction
Methods

SCHEDULE IV. VERIFICATION AND CERTIFICATION

- Section 1. Independent Verification
- Section 2. Reporter Self-Certification

Form EIA-1605

Schedule I



- Contact information and identifying characteristics (Entity Statement)
 - Uses NAICS codes rather than SIC
 - Expanded list of entity type categories
 - Changes in entity statement from previous years
- Entity-wide emissions inventory
 - Aggregated by gas for independently verified reports
 - Entity-wide emissions inventory rating summary
- Entity-wide emission reduction and carbon storage calculations (see Addendum A)

Form EIA-1605

Schedule II



- Similar in scope to Schedule I but operates at subentity level
 - Subentity statement
 - Reason for delineation of subentity
 - Subentity emissions inventory
 - Summary of emission reductions or carbon storage from subentities
 - Attach all appropriate addenda A & B

Form EIA-1605

Schedule III



- Summarizes emission reductions and carbon storage submitted on Schedules I and II
 - Reductions and carbon storage listed as either Registered or Reported
 - Reductions and carbon storage divided into domestic and foreign
 - Reductions distributed to others entered and subtracted to yield net reductions

Form EIA-1605

Schedule IV



- Verification and Certification
 - Independent verification (Optional)
 - Identifying characteristics of verifying firm
 - Qualifications of verifying firm
 - Approach to independent verification
 - Certification of independent verifier
 - Reporter self-certification
 - Required for all submissions
 - Differing levels of certification for Reported vs. Registered reductions

Form EIA-1605

Addendum A – Emission Reduction Methods



- Changes in Emissions Intensity
- Changes in Absolute Emissions
- Changes in Carbon Storage
- Changes in Avoided Emissions
- Emission Reductions from Energy Generation and Distribution
- Coal Mine Methane Recovery
- Landfill Methane Recovery
- Geologic Sequestration
- Transmission and Distribution Improvements
- Anaerobic Digestion at Wastewater Treatment Facilities
- Anaerobic Digestion of Animal Waste
- Recycling of Fly Ash
- Demand Side Management
- Combined Heat and Power
- Other Action-specific Reductions
- Destruction of CFCs

Form Design Rationale



- Collect All Pertinent Entity-level Information Needed to Meet Reporting Guidelines
 - Entity/Subentity Statements
 - Entity Emission Offsets
 - Entity/Subentity Emission Inventories
 - Entity/Subentity Emission Reductions
 - Certification/Verification of Information
- If Reporting at the Entity-level only (no subentities)
 - One emission inventory
 - One reduction method



Form Design Rationale (cont.)

- If Entity-level report includes subentities:
 - Entity-level emission inventory must equal to sum of subentity emission inventories
 - Entity-level emission reductions are the sum of subentity emission reductions
- Subentities (if used) include:
 - One emission inventory
 - One emission reduction method

Thank You!

Any Questions?



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See the 1605b website!

[www.eia.doe.gov/oiaf/1605/
/frntvrgg.html](http://www.eia.doe.gov/oiaf/1605/frntvrgg.html)