

# **Voluntary Reporting of Greenhouse Gases 2005 Summary**

**December 2006**

**Energy Information Administration**  
Office of Integrated Analysis and Forecasting  
U.S. Department of Energy  
Washington, DC 20585

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## For More Information

Individuals or members of organizations wishing to report reductions in emissions of greenhouse gases under the auspices of the Voluntary Reporting of Greenhouse Gases Program can contact the Energy Information Administration (EIA) at:

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For reporting under the original guidelines issued in October 1994, EIA developed a long form (EIA-1605) and a short form (EIA-1605EZ), as well as electronic versions of the forms. The original forms are available upon request or on EIA's web site at:

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

The reports submitted to EIA from 1994 through 2006 have been compiled into a database that can be downloaded from EIA's web site at:

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

Under new program guidelines issued by the Department of Energy on April 21, 2006 (77 FR 20784), EIA is currently developing a new reporting form for approval by the Office of Management and Budget (OMB), as required by the Paperwork Reduction Act. EIA expects to have the new reporting form approved and new reporting software developed to allow the reporting of 2006 data in the latter half of 2007.

## Preface

*Voluntary Reporting of Greenhouse Gases 2005* was prepared under the general direction of John Conti, Director, Office of Integrated Analysis and Forecasting, Energy Information Administration (202/586-2222; e-mail, john.conti@eia.doe.gov); and Glen Sweetnam, Director of the International, Economic and Greenhouse Gases Division (202/586-2188; e-mail, glen.sweetnam@eia.doe.gov). General questions concerning the content of this report may be directed to the National Energy Information Center at 202/586-8800.

Specific technical information concerning the content of the report may be obtained from Stephen Calopedis at 202/586-1156 (e-mail, stephen.calopedis@eia.doe.gov) or Paul McArdle at 202/586-4445 (e-mail, paul.mcardle@eia.doe.gov).

Title XVI, Section 1605(b) of the Energy Policy Act of 1992 (EPACT) directed the Energy Information Administration (EIA) to establish a mechanism for “the voluntary collection and reporting of information on . . . annual reductions of greenhouse gas emissions and carbon fixation achieved through any measures, including fuel switching, forest management practices, tree planting, use of renewable energy, manufacture or use of vehicles with reduced greenhouse gas emissions, appliance efficiency, methane recovery, cogeneration, chlorofluorocarbon capture and replacement, and power plant heat rate improvement . . . .”

The legislation further instructed EIA to create forms for the reporting of greenhouse gas emissions and reductions, and to establish a database of the information voluntarily reported under this subsection of EPACT. The reporting Forms EIA-1605 and EIA-1605EZ, “Voluntary Reporting of Greenhouse Gases,” were first made available to the public in July 1995, providing a vehicle for voluntary reporting on activities that occurred before and during 1994. This publication summarizes data

reported for 2005, the twelfth year of data collection for the Voluntary Reporting of Greenhouse Gases Program.

All nonconfidential reports received by the program are compiled into a Public Use Database that can be downloaded from the Internet. The software is interactive and modular by design, allowing the user to select, view, or print the reports filed by the voluntary reporters for each year of their participation. The user can also connect to and query the database with Microsoft Access 97 (or later versions) or other software that supports 32-bit open database connectivity (ODBC).

The Public Use Database and the current reporting software are also available at the program’s FTP (File Transfer Protocol) site on the Internet at <http://www.eia.doe.gov/oiaf/1605/OldDatabases.html>. Interested parties are encouraged to visit the program’s home page at <http://www.eia.doe.gov/oiaf/1605/frntvrgg.html> for more information and background on the program. Reporting software, additional copies of this report, paper reporting forms, and technical support information can be downloaded from that web site or obtained from the Voluntary Reporting of Greenhouse Gases Communications Center, toll-free at 1-800-803-5182, locally at 202-586-0688, or by e-mail at [infoghg@eia.doe.gov](mailto:infoghg@eia.doe.gov).

Significant contributions to the program, the current software, and the preparation of this report have been made by Paul McArdle, Stephen Calopedis, Matthew Aberant, Emily Crego, Keith Forbes, Laura Gehlin, Sarah Goldstein, Michael Mondshine, Scott Morgan, Sarah Mudd-Simmons, Dick Richards, Rossen Roev, Charles L. Smith, Peggy Wells, and Luana Williams.

EIA would like to express special thanks to the voluntary reporters, without whom this program would not be possible.



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# Summary

## Introduction

The Voluntary Reporting of Greenhouse Gases Program, required by Section 1605(b) of the Energy Policy Act of 1992, records the results of voluntary measures to reduce, avoid, or sequester greenhouse gas emissions. For the 2005 reporting year, 221 U.S. companies and other organizations reported to the Energy Information Administration (EIA) that they had undertaken 2,379 projects to reduce or sequester greenhouse gases in 2005. The reported greenhouse gas emission reductions for the projects included 294 million metric tons carbon dioxide equivalent (million MTCO<sub>2</sub>e) of direct reductions, 67 million MTCO<sub>2</sub>e of indirect reductions, 8 million MTCO<sub>2</sub>e of reductions from carbon sequestration,<sup>1</sup> and 13 million MTCO<sub>2</sub>e of unspecified reductions (Table S1). Total U.S. greenhouse gas emissions in 2005 are estimated at 7,147.2 million MTCO<sub>2</sub>e.<sup>2</sup>

The number of entities (221) reporting to the Voluntary Reporting Program for 2005 is slightly lower than the number that reported for 2004 (232). The number of reporters for 2004 has been revised upward to include six additional entities that filed late reports after the closing of the 2004 database. Unlike previous years, EIA will not make a similar upward revision in the number of 2005 reporters in next year's report to reflect late reporters for the 2005 reporting cycle. Revised guidelines for the program became effective on June 1, 2006, and as a result EIA has terminated reporting under the original October 1994 guidelines for the program and will not accept late reports for the 2005 data year. EIA currently is developing a new reporting form to meet the

revised guidelines and has submitted the form for approval by the Office of Management and Budget (OMB) as required by the Paperwork Reduction Act. EIA expects to have the new reporting form approved and new reporting software developed to allow the reporting of 2006 data in the latter half of 2007.

Since the inception of the program in 1994, the number of entities reporting has grown by 105 percent. The number of reported projects has grown at a more rapid rate than the number of reporters. The 2,379 projects reported for 2005 represent an increase of 275 percent over the 634 projects reported in 1994.

Of the 221 organizations reporting for 2005, 118 provided entity-level reports, including estimates of emissions and/or emission reductions for their entire organizations. In addition, 69 of the reporters for 2005 recorded commitments for future actions to reduce emissions.

Of the 118 organizations reporting at the entity level, 111 estimated their 2005 entity-level greenhouse gas emissions. These entities reported direct greenhouse gas emissions of 947.6 million MTCO<sub>2</sub>e, equal to about 13 percent of total U.S. greenhouse gas emissions in 2005.<sup>3</sup> They also reported 86.5 million MTCO<sub>2</sub>e of indirect emissions, equal to about 1 percent of total U.S. greenhouse gas emissions in 2005. Of the 118 entity-level reporters, 111 also reported emission reductions, including 209.0 million MTCO<sub>2</sub>e of direct emission reductions, 27.6 million MTCO<sub>2</sub>e of indirect emission reductions, and 7.7 million MTCO<sub>2</sub>e of emission reductions resulting from carbon sequestration projects.

<sup>1</sup>Carbon sequestration is the fixation of atmospheric carbon dioxide in a carbon sink through biological or physical processes.

<sup>2</sup>Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2005*, DOE/EIA-0573(2005) (Washington, DC, November 2006), web site [www.eia.doe.gov/oiaf/1605/ggrpt](http://www.eia.doe.gov/oiaf/1605/ggrpt).

<sup>3</sup>Based on total emissions from Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2005*, DOE/EIA-0573(2005) (Washington, DC, November 2006), web site [www.eia.doe.gov/oiaf/1605/ggrpt](http://www.eia.doe.gov/oiaf/1605/ggrpt).

## Who Reported?

Reports for the 2005 data year were submitted by 221 participants in 24 different industries or services (defined by two-digit Standard Industrial Classification codes), a decrease from the 25 different industries represented among 2004 reporters. In comparison, 108 participants in 9 different industries or services submitted reports for the 1994 data year, the first year of the program (Table S2).

In the early years of the program, reporting was dominated by the electric power sector. In the first reporting

year (data year 1994), the 95 submissions from electric power producers represented 88 percent of the 108 reports received (Figure S1). Since then, the program has seen an influx of new participants from outside the electric power sector, representing a diverse set of industries. In addition, several mergers and acquisitions involving reporters to the program have reduced the number of reports received from electricity producers. As a result, only 44 percent of the organizations reporting to the program for data year 2005 were from the electric power sector.

Although the number of reporters from other individual industries remained relatively small, in many cases, key

**Table S1. Reporting Indicators for the Voluntary Reporting of Greenhouse Gases Program, Data Years 1994-2005**

Indicator	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004 <sup>(R)</sup>	2005
Number of Entities Reporting . . . . .	108	142	150	162	207	207	236	232	234	234	232	221
Number of Projects Reported . . . . .	634	960	1,040	1,288	1,549	1,722	2,089	1,897	2,055	2,222	2,185	2,379
Number of Entity-Level Reports Received . .	39	50	55	60	76	83	109	113	119	130	125	118
<b>Project-Level Reductions Reported (Million Metric Tons Carbon Dioxide Equivalent)</b>												
Direct <sup>a</sup> . . . . .	63	88	90	95	148	155	211	247	265	270	277	294
Modified Reference Case <sup>b</sup> . . . . .	59	76	75	88	127	126	176	209	257	262	269	285
Basic Reference Case <sup>c</sup> . . . . .	4	13	15	7	21	29	35	38	8	7	8	8
Indirect <sup>d</sup> . . . . .	5	52	53	38	43	57	62	72	80	81	92	67
Modified Reference Case <sup>b</sup> . . . . .	5	52	51	36	38	51	57	61	78	75	85	61
Basic Reference Case <sup>c</sup> . . . . .	0	1	3	2	5	6	5	11	2	6	6	6
Sequestration <sup>e</sup> . . . . .	1	1	9	10	12	10	9	8	7	8	7	8
Unspecified <sup>f</sup> . . . . .	4	6	6	9	19	13	12	15	17	16	14	13

<sup>a</sup>"Direct" emission reductions are reductions in releases of greenhouse gases "on site." For the purpose of completing Form EIA-1605, "on site" is defined as any source owned (wholly or in part) or leased by the reporting entity.

<sup>b</sup>In a "modified reference case," actual emissions (or sequestration) are compared to an estimate of what emissions (or sequestration) would have been in the absence of the project.

<sup>c</sup>In a "basic reference case," actual emissions (or sequestration) are compared with an estimate of historical emissions (or sequestration) in a particular base year or an average of up to 4 years.

<sup>d</sup>"Indirect" emission reductions are reductions in emissions from sources not owned or leased by the reporting entity but that occur, wholly or in part, as a result of the entity's activities (for example, an automobile manufacturer's investment in increased automotive fuel economy can result in decreased emissions from vehicles owned by individuals or managed fleets).

<sup>e</sup>"Sequestration" is the fixation of atmospheric carbon dioxide in a carbon sink through biological or physical processes, such as photosynthesis.

<sup>f</sup>"Unspecified" emission reductions represent quantities reported on the short form (Form EIA-1605EZ) for which the reporting entity did not specify whether the emission reduction or carbon sequestration was direct or indirect.

(R) = revised.

Notes: 2004 data have been revised to include reports that were submitted after the filing deadline. Totals for direct and indirect reductions may not equal sum of components due to independent rounding. With the exception of the number of entities reporting, data from confidential reports are excluded from this table.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.



**Table S2. Forms Filed by Standard Industrial Classification, Data Years 1994-2005 (Number of Reports)**

SIC Code	Description	Data Year											
		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004 <sup>(R)</sup>	2005
01	Agricultural Production: Crops.....	—	—	—	—	1	—	—	1	—	—	—	—
08	Forestry.....	1	2	1	1	3	3	1	—	1	2	3	2
12	Coal Mining.....	1	2	2	1	4	4	4	6	7	4	4	4
13	Oil and Gas Extraction.....	—	—	—	—	—	1	1	1	2	2	1	1
14	Nonmetallic Minerals, Except Fuels.....	—	—	—	—	1	1	—	—	—	—	—	—
20	Food and Kindred Products.....	—	—	—	—	1	2	6	4	4	4	3	2
22	Textile Mill Products.....	—	—	—	—	—	1	5	11	12	14	15	13
23	Apparel and Other Textile Products.....	—	—	—	—	—	—	1	1	2	2	2	1
24	Lumber and Wood Products.....	—	—	—	—	—	—	1	1	—	1	—	—
25	Furniture and Fixtures.....	—	—	—	—	—	—	1	1	1	—	—	—
26	Paper and Allied Products.....	—	—	—	—	—	1	1	—	—	—	—	—
27	Printing and Publishing.....	—	1	—	1	—	1	1	—	—	—	—	—
28	Chemical and Allied Products.....	1	3	2	3	8	5	11	9	11	11	12	12
29	Petroleum Refining and Other Related Industries.....	—	—	2	3	8	8	7	6	6	5	5	5
30	Rubber and Miscellaneous Plastic Products.....	—	—	—	—	—	—	2	2	2	2	2	1
32	Stone, Clay, Glass, and Concrete Products.....	—	—	2	4	12	13	7	5	5	5	5	5
33	Primary Metals Industries.....	2	2	4	4	5	5	5	11	11	13	13	13
34	Fabricated Metal Products, Except Machinery and Transportation Equipment.....	—	2	1	1	4	2	2	1	1	1	1	1
35	Industrial and Commercial Equipment and Components.....	—	—	—	—	—	—	1	1	1	1	2	2
36	Electronic and Other Electrical Equipment.....	1	1	2	4	4	4	9	9	8	6	5	2
37	Transportation Equipment.....	1	1	1	2	3	5	6	7	9	10	10	10
38	Instruments and Related Products.....	—	—	—	—	2	—	1	1	1	1	1	—
39	Miscellaneous Manufacturing Industries.....	—	1	1	—	2	2	1	1	1	1	—	1
40	Railroad Transportation.....	—	—	—	—	—	—	—	—	—	1	1	1
48	Communications.....	—	—	—	—	—	1	—	—	1	1	1	—
49	Electric, Gas, and Sanitary Services.....	98	123	125	129	138	135	151	145	138	145	139	137
57	Furniture and Home Furnishings Stores.....	—	—	—	—	2	1	1	—	1	1	1	1
63	Insurance Carriers.....	—	—	—	—	—	—	—	—	—	1	1	1
65	Real Estate.....	—	1	1	1	1	1	1	1	1	—	—	—
67	Holding and Other Investment Offices.....	—	—	1	1	1	1	1	1	2	2	1	1
72	Personal Services.....	—	—	—	—	—	—	1	1	1	1	1	1
80	Health Services.....	—	—	—	—	1	—	—	—	—	—	—	—
82	Educational Services.....	1	2	2	2	—	2	—	—	—	—	—	1
86	Membership Organizations.....	—	—	—	1	1	1	1	—	1	—	—	—
87	Engineering and Management Services.....	—	—	2	2	2	1	—	1	—	—	—	—
88	Private Households.....	2	1	1	1	1	1	1	1	1	1	2	3
89	Services Not Elsewhere Classified.....	—	—	—	1	1	3	2	1	1	1	1	—
91	Executive, Legislative, and General.....	—	—	—	—	1	2	2	2	1	1	—	—
97	National Security and International Affairs.....	—	—	—	—	—	—	1	—	—	—	—	—
99	Nonclassifiable Establishments.....	—	—	—	—	—	—	—	—	1	—	—	—
<b>Total Number of Reporters.....</b>		<b>108</b>	<b>142</b>	<b>150</b>	<b>162</b>	<b>207</b>	<b>207</b>	<b>236</b>	<b>232</b>	<b>234</b>	<b>240</b>	<b>232<sup>a</sup></b>	<b>221</b>
<b>Number of 2-Digit SIC Codes Represented.....</b>		<b>9</b>	<b>13</b>	<b>16</b>	<b>18</b>	<b>24</b>	<b>27</b>	<b>31</b>	<b>27</b>	<b>29</b>	<b>28</b>	<b>25<sup>a</sup></b>	<b>24</b>

<sup>a</sup>Includes 6 late reports for the 2004 data year.

(R) = Revised.

Note: The Voluntary Reporting of Greenhouse Gases database was designed in 1994-1995, when the Standard Industrial Classification (SIC) system was still in use. For the 2006 data year reporting cycle (to be conducted in calendar year 2007), EIA plans to modify the database to use the North American Industry Classification System (NAICS), which was introduced in 1997 by the United States, Canada, and Mexico to provide comparability in statistics about business activity across North America.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

companies in those other industries submitted reports, including: General Motors, Ford Motor Company, DaimlerChrysler Corporation, Nissan North America, Inc., and Toyota Motor North America, Inc., in the automotive products industry; Noranda and an operating division of Alcan in the metals industry; BP America, Sunoco, Inc., and Chevron Corporation in the petroleum industry; Johnson & Johnson and The Dow Chemical Company in the chemicals industry; Rolls Royce in the aerospace industry; Bristol-Myers Squibb Company and Pfizer Pharmaceuticals, LLC, in the pharmaceuticals industry; and IBM in the electronic equipment industry. A complete listing of all 2005 reporters is provided in Table S3.

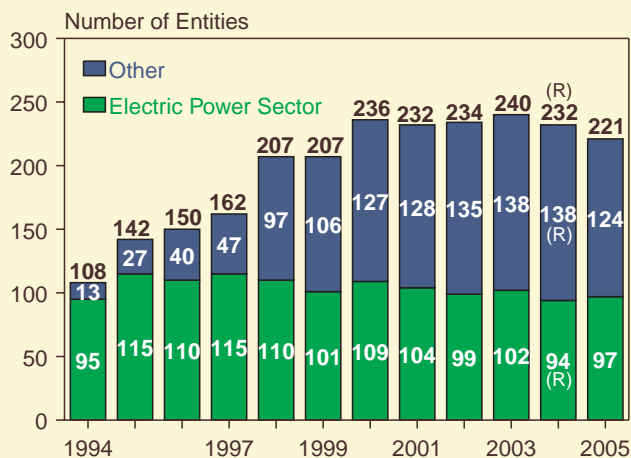
## What Was Reported?

The Voluntary Reporting Program permits three distinct types of reporting:

- Project-level reporting, defined as the reporting of the emission reductions or carbon sequestration achieved as a result of a specific action or group of actions
- Entity-level reporting, defined as the reporting of emissions, emission reductions, and carbon sequestration for an entire organization, usually defined as a corporation
- Commitment reporting, defined as the reporting of pledges to take action to reduce emissions in the future.

Of the 221 reports received for 2005, 188 (85 percent) were submitted on Form EIA-1605 (the long form) (Figure S2). The long form allows reporters to create an in-depth, multi-year, public record of emission reduction efforts for an entire organization and/or for specific actions or projects. Reporting on the long form can include information on activities conducted outside the United States and commitments to reduce future greenhouse gas emissions. The remaining reports were submitted on Form EIA-1605EZ (the short form), which allows reporters to provide only brief summaries of

**Figure S1. Electric Power Sector and Other Entities Submitting Reports to the Voluntary Reporting of Greenhouse Gases Program, Data Years 1994-2005**

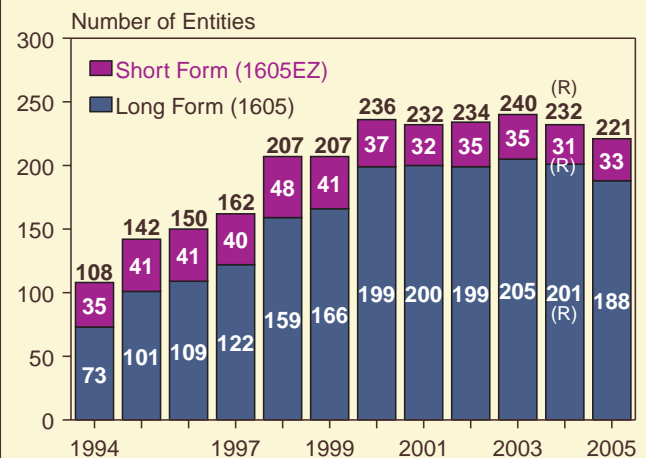


(R) = revised.

Notes: Electric power sector includes electric utilities and independent power producers. 2004 data year includes 6 late reports that were not included in the totals presented in last year's annual report and database.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

**Figure S2. Number of Reports Received by Form Type, Data Years 1994-2005**



(R) = revised.

Notes: Electric power sector includes electric utilities and independent power producers. 2004 data year includes 6 late reports that were not included in the totals presented in last year's annual report and database.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

Table S3. Reporting Entities, Data Year 2005

A&N Electric Cooperative	COMMSCOPE NEWTON PLANT	Kansas City Power & Light Company	Peabody Energy
Abe Krasne Home Furnishings, Inc.	COMMSCOPE SCOTTSBORO PLANT	Kern County Waste Management Department	PEI Power Corp
AES Hawaii, Inc.	CommScope Solutions (1111 Digital Dr)	KeySpan Energy Corporation	Pepco Holdings Inc
AES SeaWest, Inc.	CommScope Solutions (1300 E. Lookout Dr)	Klickitat County Public Utility District No. 1	Pfizer Pharmaceuticals LLC - Arcibo
AES Shady Point, LLC	COMMSCOPE SPARKS PLANT	Landfill Energy Systems	PG&E Corporation
AES Thames, LLC	COMMSCOPE STATESVILLE PLANT	Lehigh Cement Co. (fmrly Lehigh Portland Cement Co)	Pitt Landfill Gas, LLC
AES Warrior Run, LLC	Community Electric Cooperative	Lehigh Cement Co. (formerly Calaveras Cement Co.)	Polar Refrigerant Technology, LLC
Alabama Biomass Partners, Ltd	CONNECTIVITY SOLUTIONS MANUFACTURING Inc.	Los Angeles Department of Water and Power	Polar Technology, LLC
Alcan Primary Products Corporation, Sebree Works	Consol Coal Group	Lower Colorado River Authority	Portland General Electric Co.
Algonquin Power - Cambrian Pacific Genco LLC	Consolidated Edison Company of New York, Inc.	Lucent Technologies Inc.	Prime Tanning Co., Inc.
Allegheny Energy, Inc.	Constellation Energy	Mallinckrodt, Inc.	Prince George Electric Cooperative
Allergan, Inc.	County Sanitation Districts of Los Angeles County	Maple Springs Laundry	Public Service Company of New Mexico
Alliant Energy	DADS Landfill / Dept. Of Env. Health	McMinnville Electric System	Public Service Enterprise Group
Ameren Corporation (formerly UE, CIPS, CILCO, IP)	DaimlerChrysler Corporation	McNeil Generating Station	Public Utility District No. 1 of Snohomish County
American Electric Power, Inc.	Dakota Gasification Company	Mecklenburg Electric Cooperative	Rangely Weber Sand Unit
American Municipal Power - Ohio	DeBourgh Manufacturing Company	Michael Paul Taylor	Rappahannock Electric Cooperative
Anoka Municipal Utility	Delaware Electric Cooperative	Michigan CAT	Reliant Energy, Inc.
Aquila, Inc.	Delaware Solid Waste Authority	Middlesex Generating Company, LLC	Republic Metals Corporation
Arizona Portland Cement Co.	Dominion Generation	Minnesota Power	Rolls-Royce Corporation
Arizona Public Service Company	DTE Energy/ Detroit Edison	Minnesota Resource Recovery Association (MRRRA)	Sacramento Municipal Utility District
Asheville Landfill Gas, LLC	Duke Energy Corporation	Mitsubishi Motors North America, Manuf. Inc.	Santee Cooper
BARC Electric Cooperative	Dynegy, Inc.	Model City Energy, LLC	Seattle City Light
Baxter Healthcare Inc.	Edward Olthoff	Montauk Energy Capital	Seminole Electric Cooperative, Inc.
Berkshire Power LLC	Energy Developments, Inc.	Moorhead Public Service	Seneca Energy II, LLC
Biomass Partners, LP	Energy Management Partners, LP	Municipal Electric Auth of Georgia (MEAG Power)	Seneca Energy II, LLC_Ontario LFGE
Blue Source, LLC	Energy Services, Inc.	Mystic Development, LLC	Shenandoah Valley Electric Cooperative
BMW US Holding Corp.	Environmental Synergy, Inc.	Nashville Electric Service	Sikorsky Aircraft Corporation
BNSF Railway Company	Exelon Corporation	National Grid	Smithfield Foods, Inc.
Bountiful City Light & Power	FirstEnergy Corporation	National Spinning Co. Inc.- Alamance Dye Yarn	South Carolina Electric & Gas Company
BP America	Fisher Scientific International Inc.	National Spinning Co. Inc.- Alamance Yarn	Southeastern Biomass Partners, LP
Bristol-Myers Squibb Company	Florida Power Corporation	National Spinning Co. Inc.- Beulaville	Southern California Edison Co.
Burlington County Board of Chosen Freeholders	Ford Motor Company	National Spinning Co., Inc. Washington	Southern Company
California Portland Cement Co. - Colton Plant	FPL Group	Natural Power, Inc.	Southside Electric Cooperative
California Portland Cement Co. - Mojave Plant	Gas Recovery Systems	NC Muni Landfill Gas Partners, LLC	Springs Global US, Inc.
Cambrian Energy Development LLC	General Electric Company	Nebraska Public Power District	State Farm Mutual Automobile Insurance Co.
Cargill, Inc. - Oil Seeds Division	General Motors Corporation	New Jersey Meadowlands Commission	Sunoco, Inc.
Carolina Power & Light Company	Golden Valley Electric Association, Inc	New York Power Authority	Sustainable Development Technology Corporation
Catawba Landfill Gas, LLC	Granger Electric Company	Newton Landfill Gas, LLC	Tacoma Power
CDX Gas, LLC	Granger Energy, LLC	NiSource/NIPSCO	Tampa Electric Company
Cedar Falls Utilities	Greater New Bedford Regional Refuse Mgt District	Nissan North America, Inc.	Tennessee Valley Authority
Chevron Corporation	Hanes Dye and Finishing, Butner Plant	Noranda Aluminum Inc.	The Dow Chemical Company
Choptank Electric Cooperative	Hanes Dye and Finishing, Winston-Salem Plant	North Carolina Biomass Partners	The Empire District Electric Co.
Cinergy Corp.	Hawaiian Electric Company, Inc.	North Carolina Electric Membership Corporation	The Estee Lauder Companies
City of Austin Electric Utility (Austin Energy)	Highland Industries, Inc.Cheraw Finishing Pt	Northern Neck Electric Cooperative	Toyota Motor North America, Inc.
City of Palo Alto Utilities	Highland Industries, Inc.Kernersville Finishing Pt	Northern Virginia Electric Cooperative	TS Designs, Inc.
City Public Service	Hollomon Family	Ocean County Landfill Corporation	Tucson Electric Power Company
City Utilities of Springfield	IBM	Oglethorpe Power Corporation	TXU
Cleco Corporation	Indiana Univ., School of Public & Envir. Affairs	Oklahoma Gas & Electric Co.	US Energy Biogas Corp.
CMS Energy	International Truck and Engine Corporation	Old Dominion Electric Cooperative	Utah Municipal Power Agency
CMV Joint Venture	JEA	Omaha Public Power District	Valdese Manufacturing Company
CNX Gas Corporation	Jim Walter Resources, Inc.	Pak-Lite, Inc. - Mebane Plant	Vermont Public Power Supply Authority
CommonWealth Bethlehem Energy, LLC	Johnson & Johnson	Palmer Capital Corporation	Waste Mangement, Inc.
CommonWealth New Bedford Energy LLC			Waverly Light & Power Company
COMMSCOPE CATAWBA PLANT			We Energies
COMMSCOPE CLAREMONT PLANT			Wisconsin Public Power Inc.
COMMSCOPE CONOVER REEL RECYCLING			Wyeth Biotech
COMMSCOPE Headquarters- Hickory			Xcel Energy
			Zeeland Board of Public Works

greenhouse gas projects for the current reporting year. The short form does not allow entity-level or commitment reporting, nor does it allow for the reporting of activities outside the United States or of future emission reduction commitments. The proportion of reporters using the short form has decreased from 32 percent in the first year of the program (1994 data year) to 15 percent in the 2005 data reporting cycle. EIA believes that reporters are choosing the long form in order to document their emission reductions more thoroughly.

For the 2005 reporting year, 74 participants reported at both the entity and project levels, 100 submitted only project-level reports, 45 reported only entity-level information, and two designated their reports as confidential. In addition, 69 reporters provided information on their commitments to reduce emissions or to increase sequestration in the future.

Many reporters indicated that their projects were affiliated with one or more Government-sponsored voluntary programs. Among the projects reported, the following U.S. Environmental Protection Agency (EPA) and U.S. Department of Energy (DOE) programs were cited: EPA's Landfill Methane Outreach Program (398 projects); various DOE/EPA ENERGY STAR programs, including ENERGY STAR Buildings, ENERGY STAR Computers, and ENERGY STAR Transformers (122 projects); EPA's Natural Gas STAR Program (24 projects); EPA's Sulfur Hexafluoride Emissions Reduction Partnership (15 projects); EPA's WasteWise (11 projects); DOE's Compressed Air Challenge (9 projects); and EPA's Coalbed Methane Outreach Program (5 projects). Other voluntary programs cited by reporters included EPA's Climate Leaders, SmartWay Transport Partnership, Green Lights, and Voluntary Aluminum Industrial Partnership Programs, as well as DOE's Motor Challenge, Rebuild America, Cool Communities, and Energy Efficiency and Renewable Energy Information and Training Programs. Not all participants in the various voluntary programs provided information to the Voluntary Reporting Program.

Sources of greenhouse gas emissions and emission reductions reported to the Voluntary Reporting Program are characterized as direct, indirect, sequestered,

or unspecified. The unspecified category includes all reductions and sequestration reported on the short form, because the short form does not allow a reporting entity to specify whether an emission reduction is direct or indirect. Because of concern about possible double counting of emissions and reductions, particularly between direct and indirect emissions, EIA does not aggregate reported emissions or emission reductions across these four categories.

## Projects Reported on the Long Form

### Overview

Reporters provided information on a total of 2,379 projects for 2005 (Table S4). Most of the projects (2,159 or 91 percent) were reported on the long form. The total number of reported projects increased by 194, or 9 percent, compared with the previous reporting cycle.<sup>4</sup> Most of the 2,379 projects reported for 2005 were also among the 2,185 projects reported for 2004, because they continued to yield emission reductions in 2005. Projects often yield emission reductions over an extended period; for example, an availability improvement project at a nuclear power plant typically involves the adoption of new maintenance and refueling programs that, once in place, are followed over a multi-year period. Likewise, the reforestation of an area in one year can result in the sequestration of carbon in many subsequent years, even if no additional trees are planted. Reporters continue to report the emission reductions and carbon sequestration achieved by such long-lived projects on a yearly basis.

The most common objective of projects reported on the long form for 2005 (981 or 45 percent of reported projects) was to reduce carbon dioxide emissions (Table S4). Most projects reduced carbon dioxide either by reducing fossil fuel consumption or by switching to lower emitting sources of energy. Many also achieved small reductions in emissions of other gases. Other cited project objectives included increasing carbon sequestration (590 or 27 percent), reducing methane and nitrous oxide emissions (458 or 21 percent), and reducing emissions of halogenated substances (47 or 2 percent). Projects that primarily reduced carbon dioxide emissions included

<sup>4</sup>The total number of projects reported for 2004 has increased from 2,154 to 2,185 with the receipt of 6 additional reports after the database used to prepare the annual report and Public Use Database for 2004 was finalized. See note to Table S1.

the 83 “other” emission reduction projects, most of which involved either the reuse of fly ash as a cement substitute in concrete or the recycling of waste materials.

Most projects involve actions within the United States; however, some are conducted in foreign countries and are designed to test various concepts of joint implementation with other nations (Table S5). Of the 98 foreign projects reported for 2005, 58 represented shares in two forestry programs in Belize and Malaysia sponsored by the electric power industry.

Total reported project-level emission reductions included 293.8 million MTCO<sub>2</sub>e in direct reductions, 67.4 million MTCO<sub>2</sub>e in indirect reductions, and 7.9 million MTCO<sub>2</sub>e in carbon sequestration (Table S6). EIA uses global warming potentials (GWPs) from the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) to calculate carbon dioxide equivalents.<sup>5</sup>

Projects with the objective of reducing carbon dioxide emissions reported direct reductions of 194.1 million MTCO<sub>2</sub>e and indirect reductions of 32.1 million MTCO<sub>2</sub>e. The vast majority of the reported emission reductions were carbon dioxide reductions.

Reporters submitted information on a variety of efforts to reduce emissions of methane and nitrous oxide, including 458 projects with the objective of reducing methane and nitrous oxide emissions. The projects focused on waste management systems, animal husbandry operations, oil and gas systems, or coal mines. Reported net direct emission reductions from these projects totaled 73.8 million MTCO<sub>2</sub>e, representing 25 percent of the total direct reductions reported for 2005. Indirect reductions reported for projects that reduced methane and nitrous oxide emissions totaled 22.4 million MTCO<sub>2</sub>e.

**Table S4. Distribution of Projects by Reduction Objective, Project Type, and Form Type, Data Year 2005**

Reduction Objective and Project Type	Number of Projects			Number of Reporters		
	Long Form	Short Form	Total	Long Form	Short Form	Total
<b>Reducing Carbon Dioxide Emissions</b> . . . . .	<b>981</b>	<b>134</b>	<b>1,115</b>	<b>89</b>	<b>26</b>	<b>115</b>
Electricity Generation, Transmission, and Distribution . . . . .	517	46	563	71	18	89
Cogeneration and Waste Heat Recovery . . . . .	20	0	20	13	0	13
Energy End Use . . . . .	377	79	456	67	17	84
Transportation and Offroad Vehicles. . . . .	67	9	76	34	5	39
<b>Reducing Methane and Nitrous Oxide Emissions</b> . . . . .	<b>458</b>	<b>49</b>	<b>507</b>	<b>62</b>	<b>5</b>	<b>67</b>
Waste Treatment and Disposal (Methane) . . . . .	416	45	461	48	4	52
Agriculture (Methane and Nitrous Oxide) . . . . .	2	3	5	2	1	3
Oil and Natural Gas Systems and Coal Mining (Methane) . . . . .	40	1	41	21	1	22
<b>Carbon Sequestration</b> . . . . .	<b>590</b>	<b>16</b>	<b>606</b>	<b>60</b>	<b>13</b>	<b>73</b>
<b>Halogenated Substances</b> . . . . .	<b>47</b>	<b>1</b>	<b>48</b>	<b>32</b>	<b>1</b>	<b>33</b>
<b>Other Emission Reduction Projects</b> . . . . .	<b>83</b>	<b>20</b>	<b>103</b>	<b>47</b>	<b>9</b>	<b>56</b>
<b>Subtotal</b> . . . . .	<b>2,159</b>	<b>220</b>	<b>2,379</b>	<b>141</b>	<b>33</b>	<b>174</b>
Entity-Level Reporting Only (No Projects) . . . . .	NA	NA	NA	45	NA	45
Commitment Reporting Only (No Projects or Entity-Level Data) . . . . .	NA	NA	NA	0	NA	0
Confidential Reports . . . . .	W	W	W	2	0	2
<b>Total</b> . . . . .	<b>2,159</b>	<b>220</b>	<b>2,379</b>	<b>188</b>	<b>33</b>	<b>221</b>

NA = not applicable. W= withheld.

Notes: The total number of reporters is smaller than the sum of the number of reporters for each project type, because most reporters provided information on more than one project. Total number of reporters includes confidential reports, which are excluded from the sum of reporters for each project type. Table excludes projects submitted in confidential reports.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

<sup>5</sup>Energy Information Administration, *Voluntary Reporting of Greenhouse Gases 2004: Summary*, DOE/EIA-0608(2004/S) (Washington, DC, March 2006), p. 10, web site [www.eia.doe.gov/oiaf/1605/vr04data/summary/](http://www.eia.doe.gov/oiaf/1605/vr04data/summary/).

Almost all of the 590 carbon sequestration projects reported on the long form increased the amount of carbon stored in sinks through various forestry measures, including afforestation, reforestation, urban forestry, forest preservation, and modified forest management techniques. These activities accounted for 27 percent of the projects reported on the long form for 2005; however, 411 of the reported carbon sequestration projects represented the shares of 37 participating electric utilities in 16 projects conducted by the UtiliTree Carbon Company and the PowerTree Carbon Company.<sup>6</sup> Carbon sequestration projects reported on the long form for 2005 accounted for 7.9 million MTCO<sub>2</sub>e in carbon sequestration.

Projects with the objective of reducing emissions of halogenated substances—including perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and hydrofluorocarbons (HFCs)—reported direct reductions of 7.3 million MTCO<sub>2</sub>e for 2005. These reductions included 4.0 million MTCO<sub>2</sub>e of PFC emissions and 3.3 million MTCO<sub>2</sub>e of SF<sub>6</sub> emissions, as well as indirect reductions of 0.2 MTCO<sub>2</sub>e, the vast majority of which was SF<sub>6</sub>.

### Project-Level Reference Cases

Beginning with the 2000 annual report, EIA began dividing project-level data according to the reference case employed in calculating reported project-specific emission reductions. A “reference case” is an emissions or sequestration level against which actual emissions are compared in order to estimate emission reductions. In a “basic reference case,” actual historical emissions (or sequestration) in a specific year, or an average of a range of years, are used as the reference case. In a “modified reference case,” an estimate is made of what emissions or sequestration would have been in the absence of the project, and that estimate serves as the reference case.

Of the projects reported for 2005 on Form EIA-1605, 95 percent used modified reference cases (Table S7). A modified reference case is generally preferred for project-level analysis, because this approach attempts to isolate the effect of the action taken by the reporter from other factors that may have affected the reporter’s emissions. The use of basic reference cases for 2005 was greatest for projects that reported reducing emissions of

**Table S5. Geographic Scope of Reports Received and Location of Emission Reduction Projects, Data Years 1994-2005**

Year	Reports Received					Projects Reported <sup>b</sup>			
	U.S. Only		Foreign Only	Both U.S. and Foreign	Total <sup>a</sup>	U.S. Only		Foreign Only	Total <sup>a</sup>
	Long Form	Short Form				Long Form	Short Form		
1994 . . . . .	65	34	2	4	108	500	125	9	634
1995 . . . . .	82	40	2	16	142	760	164	36	960
1996 . . . . .	83	41	1	24	150	828	179	33	1,040
1997 . . . . .	90	40	1	31	162	1,017	199	72	1,288
1998 . . . . .	118	47	1	40	207	1,212	252	85	1,549
1999 . . . . .	125	39	4	37	207	1,397	237	87	1,721
2000 . . . . .	153	36	1	45	236	1,761	229	99	2,089
2001 . . . . .	155	32	1	43	232	1,596	210	91	1,897
2002 . . . . .	156	35	3	39	234	1,708	253	94	2,055
2003 . . . . .	162	35	2	40	240	1,900	226	96	2,222
2004 <sup>(R)</sup> . . . . .	161	31	3	36	232	1,881	212	92	2,185
2005 . . . . .	148	33	2	36	221	2,061	220	98	2,379

<sup>a</sup>Totals are greater than the sum of the components because the latter exclude information from confidential reports.

<sup>b</sup>Excludes projects submitted in confidential reports.

(R) = revised.

Notes: The number of reports received for 2004 was revised to reflect the receipt of 6 reports after the finalization of the Public Use Database for last year’s annual report. The number of projects reported for 2004 has also been revised to reflect the projects included in those reports.

Source: Energy Information Administration, Forms EIA-1605 and EIA-1605EZ.

<sup>6</sup>Twenty-seven electric utilities submitted reports on 10 ongoing UtiliTree Carbon Company projects. Twenty-three electric utilities, including 13 UtiliTree participants, submitted reports on 3 new PowerTree Carbon Company projects.

halogenated substances (51 percent of those projects), because the techniques for evaluating reductions for the projects are particularly suited to the use of a basic reference case. Emissions are determined by using inventory management data, with emissions of a particular substance being equal to the amount purchased during the year to replace quantities emitted. Annual reductions can be calculated by subtracting the emissions in the years after emission abatement measures were instituted from the emissions in the year before the measures were instituted.

For project-level emission reductions and sequestration reported for 2005, reporters indicated that they used modified reference cases for 285.4 million MTCO<sub>2</sub>e in direct reductions (97 percent of total direct reductions), 61.5 million MTCO<sub>2</sub>e in indirect reductions (91 percent of total indirect reductions), and 7.5 million MTCO<sub>2</sub>e in sequestration (94 percent of total sequestration) (Table S6). The halogenated substance category was the only project category for which entities reported using basic reference cases for a significant proportion (91 percent or 6.6 million MTCO<sub>2</sub>e) of the direct reductions.

## Electric Power

For 2005, 537 electric power and cogeneration projects were reported on Form EIA-1605. Total emission reductions from electric power and cogeneration projects reported on Form EIA-1605 (the long form) included 167.6 million MTCO<sub>2</sub>e from direct sources and 18.4 million MTCO<sub>2</sub>e from indirect sources. There were 271 reported projects that reduced the carbon content of fuels used to generate electricity, with emission reductions totaling 151.3 million MTCO<sub>2</sub>e from direct sources and 16.5 million MTCO<sub>2</sub>e from indirect sources. Reported emission reductions for the 292 projects that increased energy efficiency in generation, transmission, and distribution included 21.1 million MTCO<sub>2</sub>e from direct sources and 1.9 million MTCO<sub>2</sub>e from indirect sources.

## Energy End Use and Transportation

For 2005, 444 energy end use and transportation projects were reported on Form EIA-1605, with total reported emission reductions of 26.5 million MTCO<sub>2</sub>e from direct

**Table S6. Reported Emission Reductions and Sequestration for Projects Reported on Form EIA-1605 by Reduction Objective, Project Type, Source, and Reference Case Employed, Data Year 2005**  
(Million Metric Tons Carbon Dioxide Equivalent)

Reduction Objective and Project Type	Direct Reductions			Indirect Reductions			Sequestration		
	Modified	Basic	Total	Modified	Basic	Total	Modified	Basic	Total
<b>Reducing Carbon Dioxide Emissions</b> . . . . .	<b>192.7</b>	<b>1.4</b>	<b>194.1</b>	<b>32.0</b>	<b>0.1</b>	<b>32.1</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
Electricity Generation, Transmission, and Distribution . . . . .	164.9	0.8	165.7	17.5	—	17.5	NA	NA	NA
Cogeneration and Waste Heat Recovery . . . . .	2.0	*	2.0	0.9	—	0.9	NA	NA	NA
Energy End Use . . . . .	23.0	0.6	23.5	13.5	0.1	13.6	NA	NA	NA
Transportation and Offroad Vehicles . . . . .	2.9	*	2.9	0.1	0.0	0.1	NA	NA	NA
<b>Reducing Methane and Nitrous Oxide Emissions</b> . .	<b>73.3</b>	<b>0.4</b>	<b>73.8</b>	<b>21.3</b>	<b>1.1</b>	<b>22.4</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
Waste Treatment and Disposal (Methane) . . . . .	57.4	0.4	57.8	21.3	1.1	22.4	NA	NA	NA
Agriculture (Methane and Nitrous Oxide) . . . . .	*	—	*	*	—	*	NA	NA	NA
Oil and Natural Gas Systems and Coal Mining (Methane) . . . . .	15.9	—	15.9	—	—	—	NA	NA	NA
<b>Carbon Sequestration</b> . . . . .	<b>*</b>	<b>—</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>7.5</b>	<b>0.5</b>	<b>7.9</b>
<b>Halogenated Substances</b> . . . . .	<b>0.6</b>	<b>6.6</b>	<b>7.3</b>	<b>0.2</b>	<b>*</b>	<b>0.2</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Other Emission Reduction Projects</b> . . . . .	<b>18.7</b>	<b>—</b>	<b>18.7</b>	<b>7.9</b>	<b>4.7</b>	<b>12.6</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>Total</b> . . . . .	<b>285.4</b>	<b>8.5</b>	<b>293.8</b>	<b>61.5</b>	<b>5.9</b>	<b>67.4</b>	<b>7.5</b>	<b>0.5</b>	<b>7.9</b>

\*Less than 0.05 million MTCO<sub>2</sub>e. — = Not reported. NA = not applicable.

Note: Excludes reductions and sequestration for projects reported on the short form (Form EIA-1605EZ), which does not collect information on the reference case employed. Excludes projects submitted in confidential reports.

Source: Energy Information Administration, Form EIA-1605.

sources and 13.7 million MTCO<sub>2</sub>e from indirect sources. The 377 energy end use projects reported 23.6 million MTCO<sub>2</sub>e in direct reductions and 13.6 million MTCO<sub>2</sub>e in indirect reductions. Nearly all (93 percent) of the reported energy end-use reductions involved stationary-source applications, such as building shell improvements, lighting and lighting control, appliance improvement or replacement, and heating, ventilation and air conditioning (HVAC) improvements. Participants reported much smaller reductions for the 67 transportation projects, including 2.9 million MTCO<sub>2</sub>e from direct sources and 0.1 million MTCO<sub>2</sub>e from indirect sources.

### Carbon Sequestration

Reporters submitted 590 carbon sequestration projects on Form EIA-1605 for 2005, with total reported sequestration of 7.9 million MTCO<sub>2</sub>e. Most of the reported reductions resulted from afforestation, reforestation, urban forestry, forest management, and forest preservation efforts.

### Methane and Nitrous Oxide Emissions

Emission reductions for the 458 methane and nitrous oxide abatement projects reported for 2005 on Form EIA-1605 included 73.8 million MTCO<sub>2</sub>e from direct sources and 22.4 million MTCO<sub>2</sub>e from indirect sources. The three most frequently reported sources of methane reductions were municipal waste landfills (406 projects), natural gas systems (28 projects), and coal mines (12 projects). In addition to reducing methane emissions, projects that involved the recovery and use of methane for energy also reduced carbon dioxide emissions by displacing fossil fuels, such as oil and coal, which have higher carbon contents than methane does and thus produce more carbon dioxide when burned.

### Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

A total of 47 projects with the objective of reducing emissions of HFCs, PFCs, and SF<sub>6</sub> were submitted on Form

**Table S7. Number of Projects Reported on Form EIA-1605 by Reduction Objective, Project Type, and Reference Case Employed, Data Year 2005**  
(Number of Projects)

Reduction Objective and Project Type	Type of Reference Case				Total Number of Projects
	Modified		Basic		
	Number of Projects	Percent	Number of Projects	Percent	
<b>Reducing Carbon Dioxide Emissions</b> . . . . .	<b>923</b>	<b>94</b>	<b>57</b>	<b>6</b>	<b>980</b>
Electricity Generation, Transmission, and Distribution . . . . .	508	98	8	2	516
Cogeneration and Waste Heat Recovery . . . . .	19	95	1	5	20
Energy End Use . . . . .	334	89	43	11	377
Transportation and Offroad Vehicles . . . . .	62	93	5	7	67
<b>Reducing Methane and Nitrous Oxide Emissions</b> . . . . .	<b>451</b>	<b>98</b>	<b>7</b>	<b>2</b>	<b>458</b>
Waste Treatment and Disposal (Methane) . . . . .	412	99	4	1	416
Agriculture (Methane and Nitrous Oxide) . . . . .	2	100	0	0	2
Oil and Natural Gas Systems and Coal Mining (Methane) . . . . .	37	93	3	8	40
<b>Carbon Sequestration</b> . . . . .	<b>576</b>	<b>98</b>	<b>14</b>	<b>2</b>	<b>590</b>
<b>Halogenated Substances</b> . . . . .	<b>23</b>	<b>49</b>	<b>24</b>	<b>51</b>	<b>47</b>
<b>Other Emission Reduction Projects</b> . . . . .	<b>74</b>	<b>89</b>	<b>9</b>	<b>11</b>	<b>83</b>
<b>Total</b> . . . . .	<b>2,047</b>	<b>95</b>	<b>111</b>	<b>5</b>	<b>2,158</b>

Notes: Excludes projects reported on the short form (Form EIA-1605EZ), which does not collect information on the reference case employed. Excludes one project reported on the long form (Form EIA-1605) for which no reference case was specified because reductions were not estimated. Table excludes projects submitted in confidential reports.

Source: Energy Information Administration, Form EIA-1605.



EIA-1605 for 2005. Reductions reported for the projects included 7.3 million MTCO<sub>2</sub>e from direct sources and 0.2 million MTCO<sub>2</sub>e from indirect sources. The largest reported reductions were direct reductions of perfluoromethane, a type of PFC (3.0 million MTCO<sub>2</sub>e); SF<sub>6</sub> (2.4 million MTCO<sub>2</sub>e); and perfluoroethane, another type of PFC (0.6 million MTCO<sub>2</sub>e).

## Entity-Level Reporting

Most of the 118 reporters providing entity-level information for 2005 included data on emissions as well as emission reductions or sequestration. In addition, 7 reporters provided entity-level data on emissions only, and 7 reporters provided entity-level data on emission reductions or sequestration only.

Total entity-level direct emissions reported for 2005 were 947.6 million MTCO<sub>2</sub>e, representing a 0.3-percent

increase from the direct emissions reported for 2004 (Table S8). Total entity-level indirect emissions reported for 2005 were 15 percent higher than those reported for 2004, at 86.5 million MTCO<sub>2</sub>e. Total direct emission reductions reported at the entity level for 2005 (209.0 million MTCO<sub>2</sub>e) were 0.3 percent higher than those reported for 2004 (208.4 million MTCO<sub>2</sub>e). For 2005, 182.8 million MTCO<sub>2</sub>e (87 percent) of the reported direct reductions were estimated using modified reference cases, and 26.2 million MTCO<sub>2</sub>e (13 percent) were estimated using basic reference cases.

Reported entity-level indirect emission reductions for 2005 totaled 27.6 million MTCO<sub>2</sub>e, 43 percent lower than the total reported for 2004. Reported indirect reductions included 25.9 million MTCO<sub>2</sub>e calculated with modified reference cases and 1.8 million MTCO<sub>2</sub>e calculated with basic reference cases. Entity-level carbon sequestration reported for 2005 totaled 7.7 million MTCO<sub>2</sub>e, a 10-percent increase from that reported for 2004.

**Table S8. Number of Entities Reporting at the Entity Level, Reported Emissions by Source, Emission Reductions by Source and Type of Reference Case Employed, and Sequestration, Data Years 1994-2005**

(Million Metric Tons Carbon Dioxide Equivalent)

Year	Number of Entities Reporting	Emissions		Emission Reductions by Type of Reference Case						Sequestration
		Direct	Indirect	Direct			Indirect			
				Modified	Basic	Total	Modified	Basic	Total	
1994 . . . .	39	752.7	494.9	38.2	22.6	60.8	1.6	1.2	2.8	0.5
1995 . . . .	50	875.8	499.6	56.0	39.3	95.3	46.0	2.7	48.6	0.8
1996 . . . .	55	1,183.1	461.5	65.4	44.6	110.0	42.9	5.7	48.6	7.9
1997 . . . .	60	1,006.6	525.8	73.7	20.3	94.0	24.8	3.4	28.2	7.1
1998 . . . .	76	1,110.7	473.5	105.8	22.6	128.4	28.3	13.2	41.6	11.2
1999 . . . .	83	967.9	481.0	114.7	35.3	150.0	30.3	8.4	38.7	8.4
2000 . . . .	109	1,068.2	111.7	123.6	83.0	206.7	34.8	-7.8	27.0	7.5
2001 . . . .	113	799.6	111.5	121.4	90.4	211.9	38.9	-6.7	32.2	7.5
2002 . . . .	119	889.3	111.2	148.4	83.3	231.6	44.2	-8.3	35.9	6.9
2003 . . . .	130	899.5	106.4	183.6	31.8	215.4	46.0	-3.0	43.0	6.9
2004 <sup>(R)</sup> . .	125	945.2	75.3	180.9	27.5	208.4	49.1	-0.8	48.3	7.0
2005 . . . .	118	947.6	86.5	182.8	26.2	209.0	25.9	1.8	27.6	7.7

(R) = revised.

Notes: 2004 data year includes 6 late reports that were not received in time to be included in last year's annual report and database. Negative reductions represent increases in emissions.

Source: Energy Information Administration, Form EIA-1605.

## Commitments

For 2005, 69 entities reported formal commitments to reduce emissions, take specific action to reduce emissions, or provide financial support for activities related to greenhouse gas reductions,<sup>7</sup> 25 of which were electricity generators that participated in DOE's Climate Challenge Program (Figure S3). Reporters continued to include in their 2005 reports commitments related to Climate Challenge and other programs, such as EPA's Climate Wise and Green Lights, which are no longer active and have been subsumed by newer programs. In addition to various ENERGY STAR programs, other voluntary programs represented among the commitments reported for 2005 included the EPA's Climate Leaders Program, the EPA's Voluntary Aluminum Industrial Program, the U.S. Initiative on Joint Implementation, the EPA's Landfill Methane Outreach Program, DOE's Motor Challenge, the EPA's Sulfur Hexafluoride Emissions Reduction Partnership for Electric Power Systems, DOE's Cool Communities Program, and EPA's Natural Gas STAR Program.

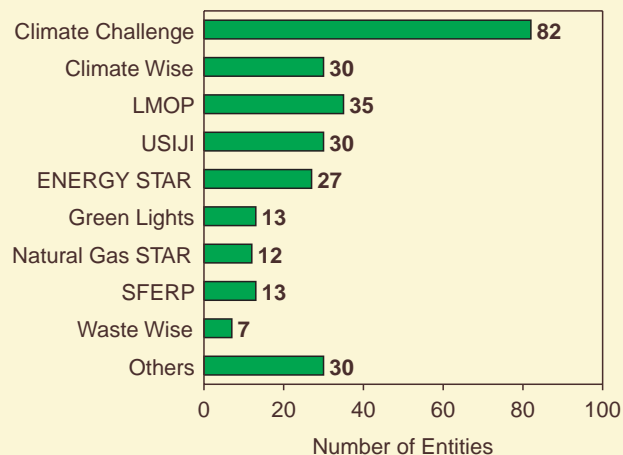
There are three forms of future commitments in the Voluntary Reporting Program: entity commitments, financial commitments, and project commitments. Entity and project commitments roughly parallel the entity and project aspects of emissions reporting: an entity commitment is a commitment to reduce the emissions of an entire organization; a project commitment is a commitment to take a particular action that will have the effect of reducing the reporter's emissions through a specific project. A financial commitment is a pledge to spend a particular sum of money on activities related to emission reductions without a specific promise concerning the emissions consequences of the expenditure.

For 2005, 46 firms made 53 specific commitments to reduce, avoid, or sequester future emissions at the entity level. Some of those entity-level commitments were to reduce emissions below a specific baseline, others were to limit the growth of emissions per unit of output, and others were to limit emissions by a specific amount relative to a baseline emissions growth trend. In their reports for 2005, companies reported commitments to

reduce entity-level emissions by a total of 160.4 million MTCO<sub>2</sub>e. They included 7 commitments, representing 53.6 million MTCO<sub>2</sub>e or 33 percent of the emission reductions promised, that were to be fulfilled in 2005.

Commitments to undertake 179 individual emission reduction projects were reported by 25 companies. Some of the commitments were linked to results from projects already underway; others were for projects not yet begun. Reporters indicated that the projects were expected to reduce future emissions or increase carbon sequestration by 64 million MTCO<sub>2</sub>e. In addition, 18 firms made 34 financial commitments. These entities promised a total of \$45 million and spent \$3.5 million of that total in 2005.

**Figure S3. Number of Entities Reporting Commitments Associated with Voluntary Programs in Data Year 2005, by Program**



Notes: LMOP = Landfill Methane Outreach Program, USIJI = United States Initiative on Joint Implementation, SFERP = Sulfur Hexafluoride Emissions Reduction Partnership. Others include Coalbed Methane Outreach Program, Cool Communities Program, Motor Challenge Program, and Voluntary Aluminum Industry Partnership. The sum of entities reporting commitments associated with each program exceeds the total number of entities reporting commitments because several entities reported commitments associated with more than one program.

Source: Energy Information Administration, Form EIA-1605.

<sup>7</sup>Formal commitments in one or more of the entity-level, project-level, or financial categories accommodated by Form EIA-1605 were reported by 76 companies. Descriptions of future activities were provided by 10 companies in the Additional Information section of Schedule IV.

## Projects Reported on the Short Form

A total of 220 projects were reported on Form EIA-1605EZ for 2005 (Table S9), up from 212 projects reported on the short form for 2004. The increase was primarily in waste treatment and disposal projects (primarily landfill gas recovery projects), which rose from 19 projects for 2004 to 45 projects for 2005. U.S. Energy Biogas Corporation, which did not report in 2004, submitted data for 34 projects in 2005. Of the 220 projects reported on Form EIA-1605EZ for 2005, 134 (61 percent) reduced carbon dioxide emissions, including 79 energy end use projects, 46 electricity generation, transmission, and distribution projects, and 9 transportation and off-road vehicle projects (Table S9). Projects reducing carbon dioxide emissions reported reductions of 9.7 million MTCO<sub>2</sub>e.

In addition to 45 waste treatment and disposal projects reported on the short form for 2005, entities reported 4 other projects that reduced methane and nitrous oxide emissions, including 3 agricultural projects and 1 oil and

natural gas system or coal mining project. Reported reductions for projects reducing methane and nitrous oxide emissions totaled 2.9 million MTCO<sub>2</sub>e in 2005.

Also reported on the short form for 2005 were 16 carbon sequestration projects, 1 project that reduced emissions of halogenated substances, and 20 other emission reduction projects. The carbon sequestration projects were predominantly urban forestry initiatives. The "other" category included 12 recycling projects and 5 fly ash reuse projects. Collectively, these projects reported reductions of 0.9 million MTCO<sub>2</sub>e in 2005, with 0.8 million MTCO<sub>2</sub>e from other emission reduction projects and 0.01 million MTCO<sub>2</sub>e each from carbon sequestration and halogenated substances projects.

Federal voluntary programs played an important role in those projects reported on Form EIA-1605EZ. Of the projects reported, 125 (57 percent) were associated with some Federal voluntary initiative: 61 were associated with the DOE's Climate Challenge program, 35 were associated with EPA's Landfill Methane Outreach Program, and 16 were associated with EPA's ENERGY STAR Program.

**Table S9. Number of Projects and Emission Reductions or Sequestration Reported on Form EIA-1605EZ by Reduction Objective and Project Type, Data Year 2005**

Reduction Objective and Project Type	Number of Projects	Emission Reductions or Sequestration (Metric Tons Carbon Dioxide Equivalent)
<b>Reducing Carbon Dioxide Emissions</b> . . . . .	<b>134</b>	<b>9,712,040</b>
Electricity Generation, Transmission, and Distribution . . . . .	46	9,193,401
Cogeneration and Waste Heat Recovery . . . . .	—	—
Energy End Use . . . . .	79	515,437
Transportation and Offroad Vehicles . . . . .	9	3,203
<b>Reducing Methane and Nitrous Oxide Emissions</b> . . . . .	<b>49</b>	<b>2,869,498</b>
Waste Treatment and Disposal (Methane) . . . . .	45	2,110,190
Agriculture (Methane and Nitrous Oxide) . . . . .	3	36,515
Oil and Natural Gas Systems and Coal Mining (Methane) . . . . .	1	722,793
<b>Carbon Sequestration</b> . . . . .	<b>16</b>	<b>11,602</b>
<b>Halogenated Substances</b> . . . . .	<b>1</b>	<b>13,947</b>
<b>Other Emission Reduction Projects</b> . . . . .	<b>20</b>	<b>848,478</b>
<b>Total</b> . . . . .	<b>220</b>	<b>13,455,565</b>

Source: Energy Information Administration, Form EIA-1605EZ.

## **Revised Program Guidelines for Voluntary Reporting**

As part of the President's Global Climate Change Initiative announced on February 14, 2002, DOE issued revised program guidelines for the Voluntary Reporting of Greenhouse Gases Program on April 17, 2006.<sup>8</sup> The primary goal of this effort is to slow the growth of greenhouse gas emissions while sustaining economic growth. Under the revised program, U.S. companies will be able to submit detailed annual reports on their greenhouse gas emissions and emission reductions, and their reports will become part of the public record. The objective of improving the program is to help motivate firms to take cost-effective, voluntary actions to reduce greenhouse gas emissions, which would, in part, aid in the achievement of the Global Climate Change Initiative's greenhouse gas intensity goal.

The revised guidelines will enable utilities, industries, and other emitters of greenhouse gases to be credited with registered reductions. The revised guidelines include new guidance and tools for estimating emissions associated with agriculture, forestry, and other sectors of the economy, and for calculating reductions from geologic sequestration, energy efficiency programs, and other efforts. Although the revised guidelines are directed primarily at large emitters of greenhouse gases, such as electricity generators and major industries, special provisions also encourage participation by farmers and small businesses.

This Voluntary Reporting of Greenhouse Gases Program is part of the Administration's efforts to accelerate reductions in U.S. greenhouse gas intensity while developing the advanced technologies needed to stabilize atmospheric concentrations of greenhouse gases, without impairing economic growth. The revised program guidelines were developed through an extensive inter-agency and multi-year public review process that included workshops, meetings, and other opportunities to provide DOE with oral and written comment. The revisions take into account new and emerging science and are the first revisions since the original guidelines were established in 1994. The revised guidelines became effective on June 1, 2006.

In response to the revised program guidelines, EIA prepared and made available for public review on July 27, 2006, draft reporting forms and instructions to implement the revised guidelines.<sup>9</sup> The 60-day public comment period for that public review ended on September 25, 2006. After addressing the comments received from stakeholders, EIA submitted the draft reporting form and instructions to the Office of Management and Budget (OMB) for approval under the Paperwork Reduction Act of 1995. The OMB released the draft form and instructions for a 30-day public comment period on November 9, 2006.<sup>10</sup> EIA expects to address the comments received and finalize the new Form EIA-1605 and instructions in January 2007. EIA is currently developing a new Internet-based electronic reporting form for the revised program, which is expected to be available for reporting in September 2007.

<sup>8</sup>*Federal Register*, Vol. 71, No. 77 (April 21, 2006), p. 20784.

<sup>9</sup>*Federal Register*, Vol. 71, No. 144 (July 27, 2006), p. 42637.

<sup>10</sup>*Federal Register*, Vol. 71, No. 217 (November 9, 2006), p. 65786.