

# 7. Entity-Level Reporting and Future Commitments

## Overview

The Voluntary Reporting of Greenhouse Gases Program permits three distinct types of emissions reporting:

- Entity-level emissions and emission reductions, defined as the emissions and reductions of an entire organization, usually defined as a corporation
- Project-level emissions and reductions, defined as the emission reductions consequences of a particular project or action
- Commitments to take action to reduce emissions in the future.

Chapters 2 through 6 of this report cover project-level emissions and reductions. This chapter covers entity-level emissions, emission reductions, and commitments to reduce emissions in the future.

Entity reporting and project reporting are not mutually exclusive. Most (175, or 77 percent) of the 225 participants in the program for 2004 reported project-level information on emissions and/or reductions, and 122 (54 percent) reported entity-level information. Of all the participants in the program, 70 (31 percent) reported both entity-level information and project-level information. In addition, 86 entities (38 percent of all participants in the program) reported formal commitments to reduce greenhouse gas emissions in the future or to provide financial support for activities related to greenhouse gas reductions.

## Entity-Level Reporting

### Who Reported

Electric power producers accounted for 40 of the 122 entity-level reporters. Those with the largest emissions totals for 2004 included Southern Company, Tennessee Valley Authority, Cinergy Corp., FPL Group, Duke Energy, First Energy Corporation, Allegheny Energy, DTE Energy/Detroit Edison, Entergy Services, and Florida Power Corp. Among the remaining 82 entity-level reporters, 20 other industries were represented.

The four other industries with the most entity-level reporters were the following:

- Landfill operators, with 11 reporters (Commonwealth Bethlehem Energy, Energy Developments, Inc., Gas Recovery Systems, Greater New Bedford Regional, Integrated Waste Services, Middlesex Generating Company, Mystic Development, New Jersey Meadowlands, Palmer Capital Corporation, PEI Power Corporation, and Waste Management, Inc.)
- Transportation companies, with 10 reporters (BMW, DaimlerChrysler, Ford Motor Company, General Motors, International Truck and Engine, Mitsubishi Motors, Nissan, Rolls-Royce, Sikorsky Aircraft, and Toyota)
- Chemical companies, with 8 reporters (Ajinomoto Aminoscience, Allergan, Inc., Baxter Healthcare, Bristol-Myers Squibb, Dow Chemical, Fisher Scientific, Johnson & Johnson, and Mallinckrodt, Inc.)
- Textile companies, with 6 reporters (CommScope Solutions, Hanes Dye and Finishing, Highland Industries, M.J. Soffe Company, National Spinning, and Valdese Manufacturing).

Among the other industries represented were coal mining, food, apparel, petroleum refining, rubber, cement, primary metals, electronics, industrial instruments, railroads, communications, furniture, insurance, and personal services.

### Reported Emissions

Total 2004 entity-level direct emissions of greenhouse gases reported to the Voluntary Reporting Program were 933.9 million MTCO<sub>2</sub>e, or 13 percent of total estimated U.S. emissions of greenhouse gases<sup>50</sup> (Table 25). Entity-level indirect emissions reported to the program were 75.3 million MTCO<sub>2</sub>e, or 1.1 percent of total U.S. greenhouse gas emissions. Carbon dioxide was the most widely reported greenhouse gas in terms of tonnage. Reported entity-level direct carbon dioxide emissions were 902.4 million MTCO<sub>2</sub>, representing 97 percent of entity-level reported direct emissions (Table 25). Carbon dioxide also accounted for more than 99 percent (75.3 million metric tons) of all reported indirect emissions (Table 25), of which 74.9 million MTCO<sub>2</sub> resulted from purchased power transactions (i.e., the indirect emissions associated with generation of the electricity purchased) (Table 26).

<sup>50</sup>Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2004*, DOE/EIA-0573(2004) (Washington, DC, December 2005), web site [www.eia.doe.gov/oiaf/1605/ggprpt](http://www.eia.doe.gov/oiaf/1605/ggprpt).

The single largest category of direct carbon dioxide emissions reported was the 879.2 million MTCO<sub>2</sub> emitted by stationary combustion sources (mostly electricity generators), which represented 97 percent of the total direct carbon dioxide emissions reported for 2004 (Table 26). The five largest reporters of direct carbon dioxide emissions were Southern Company (128.8 million MTCO<sub>2</sub>), TVA (87.9 million MTCO<sub>2</sub>), Cinergy

Corporation (58.3 million MTCO<sub>2</sub>), FPL Group (55.5 million MTCO<sub>2</sub>), and Duke Energy Corporation (54.4 million MTCO<sub>2</sub>) (Table 27). Direct emissions of greenhouse gases other than carbon dioxide included methane (25.4 million MTCO<sub>2</sub>e), SF<sub>6</sub> (3.1 million MTCO<sub>2</sub>e), HFCs (2.6 million MTCO<sub>2</sub>e), PFCs (0.2 million MTCO<sub>2</sub>e), and nitrous oxide (0.1 million MTCO<sub>2</sub>e) (Table 25).

**Table 25. Total Entity-Level Emissions of Greenhouse Gases by Type of Emissions, 1990 and 1996-2004, Reported for Data Year 2004**  
(Million Metric Tons Carbon Dioxide Equivalent)

Gas and Type of Emissions	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Carbon Dioxide</b>										
Direct . . . . .	682.2	738.1	779.1	868.1	873.2	904.5	884.8	891.0	898.7	902.4
Indirect . . . . .	423.4	412.3	406.1	396.2	397.0	69.3	67.6	78.2	73.5	75.3
<b>Methane</b>										
Direct . . . . .	59.5	30.4	32.3	37.3	31.8	30.4	30.2	27.4	23.5	25.4
Indirect . . . . .	1.7	1.5	1.4	1.4	1.3	*	*	*	*	*
<b>Nitrous Oxide</b>										
Direct . . . . .	*	*	*	*	*	0.1	*	0.1	*	0.1
Indirect . . . . .	17.3	19.9	19.3	18.6	17.9	*	*	*	*	*
<b>Hydrofluorocarbons</b>										
Direct . . . . .	*	*	*	0.1	0.2	0.4	0.8	2.1	2.3	2.6
Indirect . . . . .	*	5.0	5.2	5.2	5.2	5.2	3.9	5.6	4.5	—
<b>Perfluorocarbons</b>										
Direct . . . . .	0.6	0.3	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2
<b>Sulfur Hexafluoride</b>										
Direct . . . . .	0.2	5.2	5.3	4.1	3.3	3.7	3.9	3.6	3.1	3.1
Indirect . . . . .	—	—	—	—	—	0.1	0.1	0.1	*	*
<b>Total</b>										
<b>Direct . . . . .</b>	<b>742.5</b>	<b>774.0</b>	<b>817.1</b>	<b>909.7</b>	<b>908.7</b>	<b>939.1</b>	<b>919.9</b>	<b>924.4</b>	<b>927.9</b>	<b>933.9</b>
<b>Indirect . . . . .</b>	<b>442.4</b>	<b>438.7</b>	<b>432.0</b>	<b>421.3</b>	<b>421.4</b>	<b>74.6</b>	<b>71.6</b>	<b>83.9</b>	<b>78.1</b>	<b>75.3</b>

\*Less than 50,000 MTCO<sub>2</sub>e.

— = None reported.

Source: Energy Information Administration, Form EIA-1605.

**Table 26. Total Entity-Level Carbon Dioxide Emissions by Type and Source, 1990 and 1996-2004, Reported for Data Year 2004**  
(Million Metric Tons Carbon Dioxide)

Type of Emission Source	1990	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Direct Emissions</b>										
Stationary Combustion . . .	677.2	718.3	759.2	846.8	851.6	883.1	863.5	870.2	877.7	879.2
Transportation . . . . .	1.3	11.7	12.0	13.3	13.5	13.3	13.1	13.0	13.7	15.1
Other Direct Sources . . . .	3.7	8.0	7.9	7.9	8.1	8.0	8.2	7.8	7.3	8.2
<b>Total Direct . . . . .</b>	<b>682.2</b>	<b>738.1</b>	<b>779.1</b>	<b>868.1</b>	<b>873.2</b>	<b>904.5</b>	<b>884.8</b>	<b>891.0</b>	<b>898.7</b>	<b>902.4</b>
<b>Indirect Emissions</b>										
Purchased Power . . . . .	49.2	52.0	53.4	50.7	56.2	69.1	66.6	77.0	72.0	74.9
Other Indirect Sources . . .	374.1	360.3	352.7	345.5	340.8	0.2	1.0	1.2	1.5	0.3
<b>Total Indirect . . . . .</b>	<b>423.4</b>	<b>412.3</b>	<b>406.1</b>	<b>396.2</b>	<b>397.0</b>	<b>69.3</b>	<b>67.6</b>	<b>78.2</b>	<b>73.5</b>	<b>75.3</b>

Source: Energy Information Administration, Form EIA-1605.

Thirteen companies reported entity-level direct emissions of methane. The companies that reported the four largest direct methane emissions were: Consol Coal Group (12.1 million MTCO<sub>2</sub>e), Jim Walter Resources, Inc. (4.3 million MTCO<sub>2</sub>e), Peabody Holding Company, Inc. (4.1 million MTCO<sub>2</sub>e), and BP America (3.2 million MTCO<sub>2</sub>e) (Table 28). These four entities together accounted for 75 percent of all reported direct emissions of other greenhouse gases for 2004. Six companies reported direct emissions of HFCs, including two companies (General Electric and Dow Chemical) with emissions in excess of 1 million MTCO<sub>2</sub>e each. Eight companies reported direct emissions of SF<sub>6</sub>, including four companies (Consolidated Edison Company of New York, Duke Energy, Xenon Specialty Gas, and Public Service Enterprise Group) with emissions in excess of 0.2 million MTCO<sub>2</sub>e each. Three companies reported direct emissions of PFCs, including Alcan Primary Metals Group–Sebree Works, which reported 0.2 million MTCO<sub>2</sub>e of PFC emissions.

### Reported Reductions

Entity-level direct reductions of greenhouse gas emissions reported for 2004 were 208.3 million MTCO<sub>2</sub>e, and reported indirect reductions were 48.2 million MTCO<sub>2</sub>e (Table 29). Carbon sequestration reductions reported at the entity level were 6.9 million MTCO<sub>2</sub>e (Table 30).

Reported entity-level direct reductions of carbon dioxide emissions totaled 137.5 million MTCO<sub>2</sub> (Table 30), of which 136.9 million MTCO<sub>2</sub> was reported as reductions in emissions from stationary-source combustion. Reported indirect reductions of carbon dioxide emissions totaled 37.1 million MTCO<sub>2</sub>, including 33.6 million MTCO<sub>2</sub> from sources other than stationary-source combustion, such as load control improvements, building shell improvements, improvement or replacement of equipment and appliances, lighting and lighting control improvements, coal ash reuse, materials recycling and reuse, improvements in motors and motor drives, and heating, ventilation, and air conditioning (HVAC).

Reported direct reductions in emissions of greenhouse gases other than carbon dioxide for 2004 were 72.2 million MTCO<sub>2</sub>e, and indirect reductions were 9.7 million MTCO<sub>2</sub>e (Table 29). Virtually all were reductions in emissions of methane.

The largest direct reductions for 2004 were reported by Waste Management, Inc. (36.1 million MTCO<sub>2</sub>e methane), TVA (27.8 million MTCO<sub>2</sub>), Consol Coal Group (19.3 million MTCO<sub>2</sub>e methane), FPL Group (16.6 million MTCO<sub>2</sub>), and FirstEnergy Corporation (16.5 million MTCO<sub>2</sub>). These five reported entity-level direct reductions accounted for 56 percent (116.3 million MTCO<sub>2</sub>e) of total reported entity-level direct reductions (Table 31).

**Table 27. Largest Reported Entity-Level Direct Carbon Dioxide Emissions by Reporter and Source, Data Year 2004**

Reporter	Emissions Source	Reported Direct Carbon Dioxide Emissions (Million MTCO <sub>2</sub> )	Percentage of 2004 Total Reported Direct Emissions of All Greenhouse Gases
Southern Company . . . . .	Stationary Combustion	128.8	13.9
Tennessee Valley Authority . . . . .	Stationary Combustion	87.9	9.5
Cinergy Corp. . . . .	Stationary Combustion	58.3	6.3
FPL Group . . . . .	Stationary Combustion	55.5	6.0
Duke Energy Corporation . . . . .	Stationary Combustion	54.4	5.9
FirstEnergy Corporation . . . . .	Stationary Combustion	42.5	4.6
Allegheny Energy, Inc. . . . .	Stationary Combustion	40.3	4.4
DTE Energy/ Detroit Edison . . . . .	Stationary Combustion	40.0	4.3
Entergy Services, Inc. . . . .	Stationary Combustion	34.7	3.8
BP America. . . . .	Stationary Combustion	32.4	3.5
The Dow Chemical Company . . . . .	Stationary Combustion	26.1	2.8
Florida Power Corporation . . . . .	Stationary Combustion	22.4	2.4
Alliant Energy . . . . .	Stationary Combustion	21.0	2.3
Public Service Enterprise Group. . .	Stationary Combustion	20.6	2.2
Constellation Energy. . . . .	Stationary Combustion	20.4	2.2
Dynegy, Inc. . . . .	Stationary Combustion	20.2	2.2
<b>Total. . . . .</b>		<b>705.5</b>	<b>76.3</b>

Source: Energy Information Administration, Form EIA-1605.

The largest reporter of indirect emission reductions was the Integrated Waste Services Association (IWSA), which reported indirect emission reductions on behalf of its members. IWSA reported indirect emission reductions of 15 million MTCO<sub>2</sub> and 9.4 million MTCO<sub>2</sub>e methane, resulting from the combustion of municipal solid waste. FPL Group and Southern Company reported indirect reductions of carbon dioxide emissions at 4.6 million MTCO<sub>2</sub> and 4.2 million MTCO<sub>2</sub>, respectively (Table 32). These four reductions together accounted for 33.2 million MTCO<sub>2</sub>e or 69 percent of total reported positive indirect emission reductions.<sup>51</sup>

Of the 45 largest reported entity-level reductions (direct and indirect), 38 were computed on the basis of “modified” reference cases—i.e., the reporter indicated that emissions were lower than they would have been without the actions taken (Tables 31 and 32). TVA, for example, used a generation planning model to calculate what its emissions from 1990 through 2004 would have been if it had used the set of generating units operational in 1990 at their 1990 capacity factors and heat rates. Since 1990, TVA has greatly expanded nuclear generation. Browns Ferry Unit 2 returned to service in 1991, Browns Ferry Unit 3 returned to service in 1995, and Watts Bar

Unit 1 started commercial operation in 1996. TVA’s reported carbon dioxide emissions from stationary combustion sources for 2004 were 13 million MTCO<sub>2</sub> above 1990 levels but 27.8 million MTCO<sub>2</sub> below what they would have been if the 1990 generation mix and heat rates had been used.

IWSA reported two sources of indirect reductions: (1) by burning municipal solid waste to generate electricity, its members made it possible for electric utilities to burn less coal; and (2) if the municipal solid waste had not been burned, it could reasonably have been expected to be landfilled, and some portion of the landfilled waste would have decomposed anaerobically, producing methane emissions. Thus, IWSA reported that burning the waste reduced both fossil fuel burning and methane emissions on the part of others.

A total of 32 companies, 15 of which were electric power producers, reported emission reductions or sequestration at the entity level using a “basic” reference case. In a basic reference case, reductions are calculated as the difference between actual emissions in the reporting year and emissions in a baseline year.

**Table 28. Largest Reported Entity-Level Direct Emissions of Greenhouse Gases Other Than Carbon Dioxide by Reporter and Emissions Source, Data Year 2004**

Reporter	Gas	Emissions Source	Reported Direct Emissions (Thousand MTCO <sub>2</sub> e)	Percentage of Total Reported Direct Emissions of Other Greenhouse Gases
Consol Coal Group . . . . .	CH <sub>4</sub>	Other Direct	12,084.8	38.3
Jim Walter Resources, Inc. . . . .	CH <sub>4</sub>	Other Direct	4,307.4	13.7
Peabody Energy . . . . .	CH <sub>4</sub>	Other Direct	4,070.1	12.9
BP America . . . . .	CH <sub>4</sub>	Other Direct	3,171.5	10.1
Consolidated Edison Company of New York, Inc. . .	SF <sub>6</sub>	Other Direct	1,950.5	6.2
General Electric Company . . . . .	HFC-134a	Other Direct	1,292.2	4.1
The Dow Chemical Company . . . . .	HFC-134a	Other Direct	1,062.0	3.4
Public Service Enterprise Group . . . . .	CH <sub>4</sub>	Other Direct	651.8	2.1
Cinergy Corp. . . . .	CH <sub>4</sub>	Other Direct	380.3	1.2
Consolidated Edison Company of New York, Inc. . .	CH <sub>4</sub>	Other Direct	339.2	1.1
NiSource/NIPSCO . . . . .	CH <sub>4</sub>	Stationary Combustion	319.7	1.0
Duke Energy Corporation . . . . .	SF <sub>6</sub>	Other Direct	288.6	0.9
The Dow Chemical Company . . . . .	HFC-245fa	Other Direct	245.8	0.8
Xenon Specialty Gas . . . . .	SF <sub>6</sub>	Other Direct	237.4	0.8
Public Service Enterprise Group . . . . .	SF <sub>6</sub>	Other Direct	195.4	0.6
<b>Total . . . . .</b>			<b>30,596.7</b>	<b>97.0</b>

Source: Energy Information Administration, Form EIA-1605.

<sup>51</sup>Negative indirect reductions in entity-level emissions (i.e., emission increases) were reported for 2004 by 25 participants in the Voluntary Reporting Program.

**Table 29. Total Entity-Level Reductions in Greenhouse Gas Emissions by Type of Emissions, 1991 and 1996-2004, Reported for Data Year 2004**  
(Million Metric Tons Carbon Dioxide Equivalent)

Gas and Type of Reduction	1991	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Carbon Dioxide</b>										
Direct . . . . .	27.3	87.8	89.2	102.5	107.7	126.3	128.9	131.9	127.6	137.5
Indirect . . . . .	12.8	16.0	16.0	20.3	22.1	20.2	21.9	24.3	31.7	37.1
<b>Methane</b>										
Direct . . . . .	5.9	35.0	39.3	43.0	49.7	54.6	59.8	67.3	70.8	69.5
Indirect . . . . .	1.4	3.8	4.7	5.4	5.9	7.1	8.0	9.7	10.4	10.9
<b>Nitrous Oxide</b>										
Direct . . . . .	*	*	*	*	*	-0.1	*	*	*	*
Indirect . . . . .	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Hydrofluorocarbons</b>										
Direct . . . . .	—	—	—	—	—	—	—	*	*	—
Indirect . . . . .	*	*	*	*	-0.2	-0.3	-0.7	-1.2	-1.1	-1.3
<b>Perfluorocarbons</b>										
Direct . . . . .	*	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.4	0.5
Indirect . . . . .	*	*	*	*	*	*	*	*	*	*
<b>Sulfur Hexafluoride</b>										
Direct . . . . .	*	-0.1	-0.1	1.1	1.4	1.8	1.8	2.3	2.1	2.1
Indirect . . . . .	—	—	*	*	*	*	*	*	*	*
<b>Total</b>										
<b>Direct . . . . .</b>	<b>33.2</b>	<b>122.9</b>	<b>128.5</b>	<b>146.8</b>	<b>158.9</b>	<b>182.5</b>	<b>190.3</b>	<b>200.7</b>	<b>199.8</b>	<b>208.3</b>
<b>Indirect . . . . .</b>	<b>14.2</b>	<b>19.9</b>	<b>20.8</b>	<b>25.9</b>	<b>28.1</b>	<b>27.5</b>	<b>30.0</b>	<b>34.2</b>	<b>42.3</b>	<b>48.2</b>

\*Less than 0.05 million MTCO<sub>2</sub>e.

— = none reported.

Note: Negative numbers indicate increases in emissions.

Source: Energy Information Administration, Form EIA-1605.

**Table 30. Total Entity-Level Reductions in Carbon Dioxide Emissions by Type and Source, 1991 and 1996-2004, Reported for Data Year 2004**  
(Million Metric Tons Carbon Dioxide)

Type of Reduction Source	1991	1996	1997	1998	1999	2000	2001	2002	2003	2004
<b>Direct Reductions</b>										
Stationary Combustion . . .	27.1	88.6	89.1	102.0	107.3	125.6	128.4	131.7	126.6	136.9
Transportation . . . . .	*	0.1	0.2	0.5	0.5	0.7	0.8	0.8	0.7	0.9
Other Direct Sources . . . .	0.2	-0.8	-0.1	—	-0.2	—	-0.2	-0.6	0.3	-0.3
<b>Total Direct . . . . .</b>	<b>27.3</b>	<b>87.8</b>	<b>89.2</b>	<b>102.5</b>	<b>107.7</b>	<b>126.3</b>	<b>128.9</b>	<b>131.9</b>	<b>127.6</b>	<b>137.5</b>
<b>Indirect Reductions</b>										
Purchased Power . . . . .	0.2	-3.8	-3.9	0.1	-1.7	-4.5	-3.8	-3.9	0.9	3.5
Other Indirect Sources . . .	12.6	19.8	19.9	20.3	23.8	24.8	25.7	28.2	30.8	33.6
<b>Total Indirect . . . . .</b>	<b>12.8</b>	<b>16.0</b>	<b>16.0</b>	<b>20.3</b>	<b>22.1</b>	<b>20.2</b>	<b>21.9</b>	<b>24.3</b>	<b>31.7</b>	<b>37.1</b>
<b>Carbon Sequestered . . . . .</b>	<b>0.6</b>	<b>6.6</b>	<b>6.9</b>	<b>7.1</b>	<b>7.1</b>	<b>6.7</b>	<b>6.8</b>	<b>6.8</b>	<b>6.8</b>	<b>6.9</b>

\*Less than 0.05 million metric tons.

— = none reported.

Note: Negative numbers indicate increases in emissions.

Source: Energy Information Administration, Form EIA-1605.

## Future Commitments To Reduce Emissions

The Voluntary Reporting Program also permits entities to report commitments to reduce emissions or to take action to reduce emissions in the future. There are three types of future commitment in the 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, and a project commitment is a commitment to take a particular action that

will have the effect of reducing the reporter's future emissions. A financial commitment has no emissions reporting counterpart. It is a commitment to spend a particular sum of money on emission reduction activities, without a specific promise as to the emissions consequences of the expenditure.

### Entity-Level Commitments

Entity-level commitments to reduce greenhouse gas emissions were reported by 55 participants in the Voluntary Reporting Program. The firms made promises to reduce, avoid, or sequester future emissions at the corporate level. As in the case of entity reporting, some

**Table 31. Largest Individual Reported Entity-Level Direct Emission Reductions by Gas, Source, and Type of Reference Case Employed, Data Year 2004**

Reporter	Gas	Source	Reference Case	Reported Direct Emission Reduction (Million MTCO <sub>2</sub> e)	Percent of Total Reported Direct Reductions
Waste Management, Inc. . . . .	CH <sub>4</sub>	Other Direct	Modified	36.1	17.3
Tennessee Valley Authority . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	27.8	13.3
Consol Coal Group . . . . .	CH <sub>4</sub>	Other Direct	Basic	19.3	9.3
FPL Group . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	16.6	8.0
FirstEnergy Corporation . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	16.5	7.9
Southern Company . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	12.9	6.2
Duke Energy Corporation . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	10.7	5.2
Entergy Services, Inc. . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	8.2	3.9
Constellation Energy . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	6.4	3.1
Florida Power Corporation . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	5.7	2.7
The Dow Chemical Company . . . . .	CO <sub>2</sub>	Stationary Combustion	Basic	4.3	2.1
Jim Walter Resources, Inc. . . . .	CH <sub>4</sub>	Other Direct	Modified	4.0	1.9
Municipal Electric Auth of Georgia (MEAG Power) . .	CO <sub>2</sub>	Stationary Combustion	Modified	3.6	1.7
NiSource/NIPSCO . . . . .	CH <sub>4</sub>	Other Direct	Modified	3.4	1.7
PG&E Corporation . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	3.3	1.6
KeySpan Energy Corporation . . . . .	CO <sub>2</sub>	Stationary Combustion	Basic	3.0	1.4
CMS Energy . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	2.8	1.3
Alliant Energy . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	2.7	1.3
Palmer Capital Corporation . . . . .	CH <sub>4</sub>	Other Direct	Modified	2.7	1.3
BP America . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	2.3	1.1
General Motors Corporation . . . . .	CO <sub>2</sub>	Stationary Combustion	Basic	2.0	0.9
BP America . . . . .	CH <sub>4</sub>	Other Direct	Modified	2.0	0.9
Los Angeles Department of Water and Power . . . . .	CO <sub>2</sub>	Stationary Combustion	Basic	1.8	0.9
Consolidated Edison Company of New York, Inc. . .	SF <sub>6</sub>	Other Direct	Modified	1.7	0.8
Sunoco, Inc. . . . .	CO <sub>2</sub>	Stationary Combustion	Basic	1.6	0.8
Cinergy Corp. . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	1.6	0.8
Allegheny Energy, Inc. . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	1.5	0.7
Santee Cooper . . . . .	CO <sub>2</sub>	Stationary Combustion	Modified	1.2	0.6
BNSF Railway Company . . . . .	CO <sub>2</sub>	Transportation	Modified	1.2	0.6
<b>Total . . . . .</b>				<b>207.1</b>	<b>99.4</b>

Note: For 2004, negative direct entity-level emission reductions were reported by 26 participants in the Voluntary Reporting of Greenhouse Gases Program.

Source: Energy Information Administration, Form EIA-1605.

**Table 32. Largest Reported Individual Entity-Level Indirect Emission Reductions by Gas, Source, and Type of Reference Case Employed, Data Year 2004**

Reporter	Gas	Source	Reference Case	Reported Indirect Emission Reduction (Million MTCO <sub>2</sub> e)	Percent of Total Reported Indirect Reductions
Integrated Waste Services Association . . . . .	CO <sub>2</sub>	Other Indirect	Modified	15.0	31.1
Integrated Waste Services Association . . . . .	CH <sub>4</sub>	Other Indirect	Modified	9.4	19.6
FPL Group . . . . .	CO <sub>2</sub>	Other Indirect	Modified	4.6	9.6
Southern Company . . . . .	CO <sub>2</sub>	Other Indirect	Modified	4.2	8.8
Mystic Development, LLC . . . . .	CO <sub>2</sub>	Other Indirect	Modified	2.7	5.6
Sacramento Municipal Utility District . . . . .	CO <sub>2</sub>	Purchased Power	Basic	1.8	3.8
Portland General Electric Co. . . . .	CO <sub>2</sub>	Purchased Power	Modified	1.4	3.0
General Motors Corporation. . . . .	CO <sub>2</sub>	Purchased Power	Basic	1.2	2.5
PG&E Corporation . . . . .	CO <sub>2</sub>	Other Indirect	Modified	1.0	2.0
Public Service Enterprise Group . . . . .	CO <sub>2</sub>	Purchased Power	Modified	0.9	1.9
Alliant Energy . . . . .	CO <sub>2</sub>	Other Indirect	Modified	0.9	1.9
Public Service Enterprise Group . . . . .	CO <sub>2</sub>	Other Indirect	Modified	0.8	1.7
FirstEnergy Corporation. . . . .	CH <sub>4</sub>	Other Indirect	Modified	0.8	1.6
Waste Management, Inc. . . . .	CO <sub>2</sub>	Purchased Power	Modified	0.7	1.4
Berkshire Power LLC. . . . .	CO <sub>2</sub>	Other Indirect	Modified	0.7	1.4
CMS Energy. . . . .	CO <sub>2</sub>	Other Indirect	Modified	0.6	1.2
<b>Total . . . . .</b>				<b>46.7</b>	<b>97.1</b>

Note: For 2004, negative indirect entity-level emission reductions were reported by 21 participants in the Voluntary Reporting of Greenhouse Gases Program.

Source: Energy Information Administration, Form EIA-1605.

**Table 33. Largest Reported Individual Entity-Level Commitments To Reduce Greenhouse Gases by Gas and Type of Reference Case, Data Year 2004**

Reporter	Gas	Reference Case	Reported Entity-Level Commitment (Million MTCO <sub>2</sub> e)	Percent of Total Reported Entity-Level Reduction Commitments
Tennessee Valley Authority . . . . .	CO <sub>2</sub>	Modified	22.6	28.0
National Grid . . . . .	CO <sub>2</sub>	Basic	15.1	18.8
FPL Group . . . . .	CO <sub>2</sub>	Modified	10.0	12.4
Entergy Services, Inc. . . . .	CO <sub>2</sub>	Basic	5.0	6.2
Middlesex Generating Company, LLC. . . . .	CH <sub>4</sub>	Modified	4.8	5.9
FirstEnergy Corporation. . . . .	CO <sub>2</sub>	Modified	2.9	3.5
Noranda Aluminum Inc. . . . .	CF <sub>4</sub>	Basic	2.8	3.4
Alliant Energy . . . . .	CO <sub>2</sub>	Modified	2.4	3.0
Greater New Bedford Regional Refuse Mgt District . . .	CH <sub>4</sub>	Modified	2.1	2.6
BNSF Railway Company . . . . .	CO <sub>2</sub>	Modified	2.1	2.6
South Carolina Electric & Gas Company. . . . .	CO <sub>2</sub>	Basic	1.8	2.2
Allegheny Energy, Inc. . . . .	CO <sub>2</sub>	Basic	1.8	2.2
Alliant Energy . . . . .	CO <sub>2</sub>	Modified	1.8	2.2
Public Service Company of New Mexico . . . . .	CO <sub>2</sub>	Basic	1.5	1.8
General Motors Corporation . . . . .	CO <sub>2</sub>	Basic	1.1	1.4
Alliant Energy . . . . .	CO <sub>2</sub>	Modified	1.0	1.2
<b>Total . . . . .</b>			<b>83.8</b>	<b>97.6</b>

Note: Reporters are not asked to indicate whether future reductions will be direct, indirect, or sequestration.

Source: Energy Information Administration, Form EIA-1605.

commitments were to reduce emissions below a specific baseline, others to limit the growth of emissions per unit of output, and others to limit emissions by a specific amount in comparison with a baseline emissions growth trend.

Total entity-level emission reduction commitments reported in 2004 were 80.7 million MTCO<sub>2</sub>e. TVA (22.6 million MTCO<sub>2</sub>e), National Grid USA (15.1 million MTCO<sub>2</sub>e), FPL Group (10 million MTCO<sub>2</sub>e), Entergy Services (5 million MTCO<sub>2</sub>e), and Middlesex Generating Company (4.8 million MTCO<sub>2</sub>e) reported the five largest entity-level reduction commitments, which in combination accounted for 71 percent (57.5 million MTCO<sub>2</sub>e) of the total reported entity-level commitments to reduce greenhouse gases. National Grid USA and Entergy Services, Inc., measured their reduction commitments using basic reference cases. The three other reporters used modified reference cases.

### Project-Level Commitments

A total of 20 companies reported on commitments to undertake 107 individual emission reduction projects. Some of the commitments were linked to future results from projects already underway and forming part of the reporters' submissions; others indicated projects not yet begun. For all but one of the projects, the reporters provided data on the quantities of reductions expected. In total, the reporters indicated that their projects were expected to reduce future emissions by 62.9 million MTCO<sub>2</sub>e, including 51.6 million MTCO<sub>2</sub>, 6.9 million MTCO<sub>2</sub>e methane, 3.3 million MTCO<sub>2</sub>e perfluorocarbons, and about 1.0 million MTCO<sub>2</sub>e nitrous oxide and sulfur hexafluoride.

TVA reported the largest individual project-level commitment, described as "an increase in low-emitting capacity" resulting from TVA's nuclear power program. It would reduce carbon dioxide emissions by 17.6 million MTCO<sub>2</sub>. The second and third largest individual project-level commitments were made by Middlesex Generating Company, LLC (4.8 million MTCO<sub>2</sub>e methane) and FirstEnergy Corporation (4.4 million MTCO<sub>2</sub>). These three project-level commitments accounted for 43 percent of total reported project-level commitments, or 26.8 million MTCO<sub>2</sub>e (Table 34).

### Financial Commitments

A total of 15 companies, 14 of which were electric utilities, made 31 financial commitments to reduce greenhouse gas emissions in the future. The total amount of promised funds was \$19.1 million. The single largest reported financial commitment was made by Noranda Aluminum, Inc. (\$5.5 million), followed by Ameren Corporation (\$5.0 million) and by Minnesota Power, FirstEnergy Corporation, and Kansas City Power & Light Company, each of which committed to spend \$2.0 million. Together, these 5 entities reported financial commitments that accounted for 86 percent of the financial commitments reported for 2004 (Table 35).

The largest expenditures reported for 2004 were by Entergy Services, Inc. (\$2,000,000), Ameren Corporation (\$500,000), Bountiful City Light & Power (\$238,159), NiSource/NIPSCO (\$200,000), and Noranda Aluminum, Inc. (\$100,792). These four companies reported combined expenditures of \$3,038,951 to reduce greenhouse gas emissions in 2004, making up 98 percent of the total reported expenditures (Table 36).

**Table 34. Largest Reported Individual Project-Level Commitments To Reduce Greenhouse Gas Emissions, Data Year 2004**

Reporter	Project Description	Gas	Reported Commitment (Million MTCO <sub>2</sub> e)	Percent of Total Reported Project-Level Commitments
Tennessee Valley Authority . . . . .	Increase in low-emitting capacity	CO <sub>2</sub>	17.6	28.0
Middlesex Generating Company, LLC . . . . .	Landfill gas control and energy recovery to produce electric power	CH <sub>4</sub>	4.8	7.6
FirstEnergy Corporation . . . . .	Supply-side efficiency improvements	CO <sub>2</sub>	4.4	6.9
Noranda Aluminum Inc. . . . .	Reduce PFC emissions through anode effect reduction program, in keeping with EPA goal of 30-60%; 90% reduction in emissions from lines 1 & 2 and 69% reduction from line 3 (all reductions from 1990 baseline)	CF <sub>4</sub>	2.8	4.4
FirstEnergy Corporation . . . . .	Nuclear generation operation improvement	CO <sub>2</sub>	2.5	4.0
Municipal Electric Authority of Georgia (MEAG Power) . . . . .	Increase nuclear unit availability	CO <sub>2</sub>	2.5	3.9
Alliant Energy . . . . .	Modified forest management	CO <sub>2</sub>	2.4	3.8
New York Power Authority . . . . .	NYPA customer energy services programs	CO <sub>2</sub>	2.3	3.6
Tennessee Valley Authority . . . . .	Fuel switching	CO <sub>2</sub>	2.2	3.5
Greater New Bedford Regional Refuse Management District . . . . .	Landfill gas control and future utilization	CH <sub>4</sub>	2.1	3.4
CMS Energy . . . . .	Atlantic Methanol Production Company (AMPCO) to build methanol production plant adjacent to ALBA gas processing plant on Bioko Island, Equatorial Guinea, to make use of large quantities of residue natural gas currently being flared	CO <sub>2</sub>	2.0	3.2
Alliant Energy . . . . .	Other energy end-use projects/activities (electric)	CO <sub>2</sub>	1.7	2.7
Santee Cooper . . . . .	Cross Unit 2 retrofit	CO <sub>2</sub>	1.1	1.8
Municipal Electric Authority of Georgia (MEAG Power) . . . . .	Increase nuclear unit capacity	CO <sub>2</sub>	1.0	1.5
Santee Cooper . . . . .	Upgrade Summer Nuclear Station	CO <sub>2</sub>	0.9	1.4
Allegheny Energy, Inc. . . . .	UtiliTree Rio Bravo Carbon Sequestration Project (Belize), 134,400 acres	CO <sub>2</sub>	0.9	1.4
Tennessee Valley Authority . . . . .	Heat rate improvement	CO <sub>2</sub>	0.8	1.3
Tennessee Valley Authority . . . . .	Other energy end-use projects/activities	CO <sub>2</sub>	0.8	1.2
Consolidated Edison Company of New York, Inc. . . . .	Voluntary commitment under SF <sub>6</sub> Reduction Program for Electric Power Systems to reduce emissions by 4% per year relative to 1996 baseline levels (beginning in 2000), with ultimate goal of 20% reduction from 1996 baseline by 2005	SF <sub>6</sub>	0.7	1.2
Lower Colorado River Authority . . . . .	Coal combustion byproduct recycling	CO <sub>2</sub>	0.6	1.0
New York Power Authority . . . . .	Non-customer energy services programs	CO <sub>2</sub>	0.6	1.0
BP America . . . . .	Noel Kempff Climate Action Project	CO <sub>2</sub>	0.6	1.0
Tennessee Valley Authority . . . . .	Reconductoring	CO <sub>2</sub>	0.6	0.9
Noranda Aluminum Inc. . . . .	Reduce PFC emissions through anode effect reduction program, in keeping with EPA goal of 30-60%; 90% reduction in emissions from lines 1 & 2 and 69% reduction from line 3 (all reductions from 1990 baseline)	C <sub>2</sub> F <sub>6</sub>	0.6	0.9
Lower Colorado River Authority . . . . .	Residential and commercial DSM programs	CO <sub>2</sub>	0.5	0.9
<b>Total</b> . . . . .			<b>57.0</b>	<b>90.6</b>

Source: Energy Information Administration, Form EIA-1605.

**Table 35. Largest Reported Individual Entity-Level Financial Commitments To Reduce Greenhouse Gas Emissions, Data Year 2004**

Reporter	Industry	Financial Commitment (Dollars)	Voluntary Program Affiliation	Percent of Total Reported Financial Commitments
Noranda Aluminum Inc. . . . .	Primary Metals Industries	5,500,000	Voluntary Aluminum Industrial Partnership	28.7
Ameren Corporation <sup>a</sup> . . . . .	Electric, Gas, and Sanitary Services	5,000,000	Climate Challenge	26.1
Minnesota Power . . . . .	Electric, Gas, and Sanitary Services	2,000,000	Climate Challenge	10.4
Kansas City Power & Light Company . . . . .	Electric, Gas, and Sanitary Services	2,000,000	Climate Challenge	10.4
FirstEnergy Corporation . . . . .	Electric, Gas, and Sanitary Services	2,000,000	Climate Challenge	10.4
Dynegy, Inc. . . . .	Electric, Gas, and Sanitary Services	450,000	Climate Challenge	2.4
FirstEnergy Corporation . . . . .	Electric, Gas, and Sanitary Services	400,000	Climate Challenge	2.1
Bountiful City Light & Power . . . . .	Electric, Gas, and Sanitary Services	379,354	Climate Challenge	2.0
Kansas City Power & Light Company . . . . .	Electric, Gas, and Sanitary Services	264,000	Climate Challenge	1.4
NiSource/NIPSCO . . . . .	Electric, Gas, and Sanitary Services	200,000	Climate Challenge	1.0
FirstEnergy Corporation . . . . .	Electric, Gas, and Sanitary Services	200,000	Climate Challenge	1.0
TXU . . . . .	Electric, Gas, and Sanitary Services	155,000	Climate Challenge	0.8
Dynegy, Inc. . . . .	Electric, Gas, and Sanitary Services	105,000	Climate Challenge	0.5
Constellation Energy . . . . .	Electric, Gas, and Sanitary Services	100,000	Climate Challenge	0.5
<b>Total . . . . .</b>		<b>18,753,354</b>		<b>98.0</b>

<sup>a</sup>Formerly UE, CIPS, and CILCO.

Source: Energy Information Administration, Form EIA-1605.

**Table 36. Reported Entity-Level Financial Expenditures To Reduce Greenhouse Gas Emissions, Data Year 2004**

Reporter	Industry	2004 Financial Expenditure (Dollars)	Voluntary Program Affiliation	Percent of Total Reported Financial Expenditures
Entergy Services, Inc. . . . .	Electric, Gas, and Sanitary Services	2,000,000	None	65.2
Ameren Corporation <sup>a</sup> . . . . .	Electric, Gas, and Sanitary Services	500,000	Climate Challenge	16.3
Bountiful City Light & Power . . . . .	Electric, Gas, and Sanitary Services	238,159	Climate Challenge	7.8
NiSource/NIPSCO . . . . .	Electric, Gas, and Sanitary Services	200,000	Climate Challenge	6.5
Noranda Aluminum Inc. . . . .	Primary Metals Industries	100,792	Voluntary Aluminum Industrial Partnership	3.3
Kansas City Power & Light Company . . . . .	Electric, Gas, and Sanitary Services	10,000	Climate Challenge	0.3
TXU . . . . .	Electric, Gas, and Sanitary Services	5,000	Climate Challenge	0.2
NiSource/NIPSCO . . . . .	Electric, Gas, and Sanitary Services	5,000	Climate Challenge	0.2
Xcel Energy . . . . .	Electric, Gas, and Sanitary Services	5,000	Climate Challenge	0.2
Cleco Corporation . . . . .	Electric, Gas, and Sanitary Services	1,600	None	0.1
<b>Total . . . . .</b>		<b>3,065,551</b>		<b>100.0</b>

<sup>a</sup>Formerly UE, CIPS, and CILCO.

Source: Energy Information Administration, Form EIA-1605.