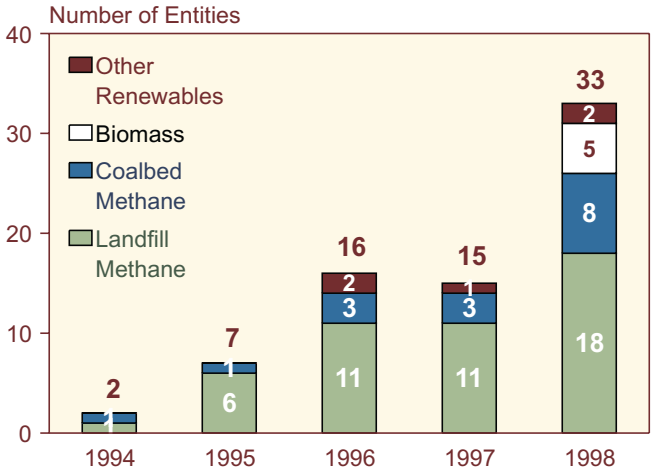
3. Alternative Energy Providers

Who Reported?

Thirty-three alternative energy providers submitted reports for the 1998 data year—more than twice the 15 companies that submitted reports for the 1997 data year (Figure 8). Of the 33 entities reporting, 18 were principally involved with recovering methane generated from waste decomposition at landfills for energy and 8 with recovering coalbed methane for energy; 5 burned biomass in boilers to displace fossil fuels; 1 used hydropower to displace fossil fuel generation; and 1 used wind power to displace fossil fuel. This was the first reporting cycle that included submissions by biomass energy companies.

Figure 8. Number of Alternative Energy Providers Submitting Reports, 1994-1998



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

What Was Reported?

The 33 alternative energy providers reported 102 projects for the 1998 data year, an increase of 82 percent from the 56 projects reported for 1997. Together, the 102 projects reportedly lowered emissions by 37.2 million metric tons carbon dioxide equivalent or an average of 364,000 metric tons carbon dioxide equivalent per project (Table 10). The average was raised substantially by one waste combustion project reported by the Integrated Waste Services Association (IWSA). Representing 65 of the Nation's 114 waste combustion facilities, IWSA reported carbon dioxide equivalent reductions of 11.7 million metric tons for 1998. The 11 coal-mine methane projects also showed reductions well above the average, claiming 818,000 metric tons of avoided methane emissions, or about 80 percent of the total estimated methane recovery from U.S. coal mines in 1998.[14]

Table 10. Number of Projects and Emission Reductions Reported by Alternative Energy Providers by Project Type, Data Year 1998
(Metric Tons)

Project Type	Number of Projects	Methane Emission Reductions	Total Carbon Dioxide Equivalent Reductions	Average Carbon Dioxide Equivalent Reductions
Landfill Gas Recovery for Flaring and Energy	5	51,345	1,065,795	213,159
Landfill Gas Recovery for Energy	54	252,100	5,294,099	98,039
Landfill Gas Recovery For Flaring	20	44,254	929,349	46,467
Source Reduction at Landfills	1	159,612	11,700,880	11,700,880
Total Landfills	**80**	**507,065**	**18,990,125**	**237,377**
Coal Mine Methane	11	817,859	17,175,016	1,561,365
Biomass	5	0	928,055	185,611
Other Renewables	6	0	66,097	11,016
Total	**102**	**1,324,924**	**37,159,293**	**364,307**

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

[14]U.S. Energy Information Administration, *Emissions of Greenhouse Gases in the United States 1998*, DOE/EIA-0573(98) (Washington, DC, October 1999), Table 14, p. 36.

Alternative Energy Provider Highlights

More Landfill Gas Recovery Projects Reported

In 1997, approximately 150 landfills had operational gas-to-energy projects in place. There were more than 200 operational projects in place in 1998, and, according to the U.S. Environmental Protection Agency's (EPA) Landfill Methane Outreach Program (LMOP), more than 270 projects are currently operational. The rapid growth is attributed principally to two factors. First, in order to maintain eligibility for a Federal tax credit under Section 29 of the Internal Revenue Code (created under the Windfall Profits Tax Act of 1980), methane recovery systems must have been operational by June 30, 1998. Second, the EPA recently implemented New Source Performance Standards and Emission Guidelines for landfills, giving operators an additional regulatory incentive to capture emissions.

The rapid growth in landfill gas-to-energy projects was reflected in the reports submitted to the Voluntary Reporting Program. For the 1998 data year, reductions were reported for 93 separate landfills, including 63 reported by utilities purchasing electricity generated from landfill gas. For the 1997 data year, only 79 landfills were included in the reports received. At several landfills, where recovery systems were placed in operation early in the year to meet the Section 29 deadline but power sales contracts were not concluded until later, both methane flaring and gas recovery for energy were reported for 1998.

Most Projects Associated with EPA Voluntary Programs

For the 1998 data year, 73 of the 80 projects (91 percent) that reduced methane emissions at landfills reported an association with EPA's Landfill Methane Outreach Program, up from 23 of 49 (47 percent) in the 1997 data reporting cycle. Seven of the 11 reported coal mine methane reduction projects indicated an association with EPA's Coalbed Methane Outreach Program, up from just one in the previous reporting year.

Multiple Reporting an Important Issue for Alternative Energy Provider Projects

The incidence of multiple reporting has increased as the number and diversity of program participants has risen.

Typically, multiple reporting takes one of three forms:

- Several entities share joint ownership of a project, and each reports its portion of the project.
- Two or more entities submit the same reductions for a project, one owning the emissions source and thus reporting the reduction as direct and the other purchasing the energy generated and thus reporting the reductions as indirect. This is most common in the case of electricity generated from methane collected at a landfill and sold to a utility.
- Reductions are reported as part of a project by one respondent and as part of an entity-wide reduction by another reporter. For example, a coal producer may report entity-wide reductions from its coal mining operations while a gas developer reports emission reduction projects at individual mines owned by the producer.

EIA was able to document 14 cases in which multiple owners of landfill gas-to-energy projects reported reductions and 9 cases in which gas flaring and energy recovery at a landfill were reported as separate projects. In the former case only the share of reductions associated with each reporter's ownership share was reported, preventing double counting. In the latter case, the reductions from flaring and energy recovery are separate events and thus not double counted.

There were 5 cases in which a generator of electricity from landfill gas reported direct emission reductions and the purchaser of the electricity reported indirect emission reductions. In those cases, the reductions were placed in different categories and were not double counted. Because the total appearing in Table 10 includes both direct and indirect emissions, however, it somewhat overstates the total reduction in emissions to the atmosphere. Because the table represents claimed reductions and not necessarily realized reductions and no property rights to emissions have yet been established, EIA reports total claims.

There were also three instances identified by EIA in which multiple owners of a single coalbed methane recovery operation reported projects. One project had four owners, another had three owners, and the third had two owners, and each of the owners reported independently. Again, only the share of reductions equal to ownership shares were reported. There was also one case in which a coal mine methane gas developer reported reductions that also appeared as reductions in the entity-wide emissions of a coal producer. The entity report is not included in the project total; however, adding project reductions and entity reductions would cause double counting in this case.