

## B. STATISTICAL METHODS

### B-1. Description of Survey Design

The respondent universe for the *Annual Survey of Alternative Fueled Vehicles* include: 1) companies that are known to either have supplied AFVs and other advanced technology vehicles or that made plans to supply AFVs and other advanced technology vehicles in the United States<sup>1</sup>; and 2) fleet administrators that are known to have used AFVs during the previous year.

The survey frame consists of AFV and advanced technology vehicle suppliers and AFV users identified through other EIA surveys, published vehicle production plans, trade associations, trade press articles, and AFV industry mailing lists. The frame consists of both company-level and establishment-level contact information. Although the majority of survey responses are expected to come from a single reporting entity, there may be cases where manufacturing companies or conversion facilities are independently operated, and, therefore, report vehicle data independently. The survey frame captures such facilities. To maintain an up-to-date survey frame, Form EIA-886 also requests information on respondent ownership and operating status (i.e., company was sold or merged, went out of business or changed its product line, etc.)

To develop a comprehensive inventory of AFVs made available, planned to be made available, and in use, the *Annual Survey of Alternative Fueled Vehicles* will collect aggregated vehicle data and categorize the vehicles using a standard set of vehicle and fuel type codes. Respondents can group their vehicles by similar classifications, as bulleted below. Respondents are also asked to report the geographic location (State) where the AFVs are typically operated and the amount of ATFs that their vehicles consumed. If the amount of ATF consumed is unknown, respondents are asked to provide their best estimate. The amount of ATFs and the alternative fueled vehicles will be distinguished by the following characteristics:

- Vehicle Type
- Primary Application
- Alternative Fuel Type
- Vehicle Configuration

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<sup>1</sup>For the purpose of the Form EIA-886, the United States includes the 50 States, the District of Columbia, the Commonwealth of Puerto Rico and the Virgin Islands.

## **B-2. Sampling Methodology, Estimation Procedures, and Data Collection Procedures**

### **B-2a. Sampling Methodology**

Form EIA-886 attempts to canvass all entities that “make vehicles available,” i.e., original equipment manufacturers and converters. In the case of onroad AFV users, the survey requires a response from all State government and transit bus fleets that use AFVs, all electric and natural gas utilities that use AFVs, and all known municipal and private fleets that use AFVs. Form EIA-861, which is completed by all electric utilities, requires utilities to report AFV usage. Form EIA-886 uses as its basic frame of electric utilities all utilities that answer “yes” to this question. Form EIA-176, “Annual Report of Natural and Supplemental Gas Supply and Disposition,” serves as the basic frame of natural gas utilities. These natural gas utilities are canvassed by EIA employees to determine if they use AFVs. Any other utilities known to use AFVs are also included. For propane fuel providers, EIA-886 is sent to a sample of companies who identify themselves as propane providers on Form EIA-863, “Petroleum Providers Identification Survey,” and who also indicate on that survey that they use alternative fueled vehicles. The sample is drawn via a “probability proportional to size” method, using the latest year’s annual sales from Form EIA-863 as the size measure. Form EIA-863 is executed every four years.

### **B-2b. Estimation Procedures**

Published statistics from the *Annual Survey of Alternative Fueled Vehicles* will represent the sum of actual counts reported by AFV supplier respondents. For AFV users, published statistics represent counts for Federal and State government, transit systems, and electric and natural gas providers. For propane fuel providers, the Horwitz-Thompson method will be used to estimate total vehicles in use from a sample (see “Sampling Methodology” above). Statistics for municipal government and private fleets represent estimates based upon universe AFV supplier information reported on Form EIA-886 and AFV counts reported for the selected user categories mentioned above, using assumed vehicle retirement schedules. This procedure is conducted by reporting region and various vehicle/fuel characteristics. Nonresponse will be handled by follow-up telephone and email data requests to the respondents, as well as data element imputation where data requests are unsuccessful.

### **B-2c. Data Collection Procedures**

All of the data will be obtained from respondents reporting via electronic submission or mail. Respondents are encouraged to respond by electronic submission using an interactive, web-based survey form. Instructions and guidelines on submitting the data electronically are provided with the initial data call. Respondents are instructed to contact the EIA survey program manager if they have further questions. Respondents are given approximately two months from the initial data call to submit electronically or to return the form to EIA. Respondents not using electronic submission have the choice of submitting the original form or a computer printout, or submitting data via facsimile or computer-to-computer data transfer.

### **B-3. Maximizing the Response Rate**

After the deadline for submitting the completed form, companies that did not respond, or failed to complete the survey form, will be contacted by email or telephone and instructed to provide the requested information. For respondents that use electronic submission (approximately 84% of respondents in 2009), the system will automatically generate a list of non-respondents and notify any respondent who has not reported after the deadline. Nonrespondents are contacted for a period of approximately 60 days in a prioritized fashion based on prior year inventory or production. The response rate for the 2009 EIA-886 was 100%.

### **B-4. Tests of Procedures**

In the past, EIA has conducted a number of one-on-one discussions at AFV-related conferences, trade shows, and fleet organization meetings with representatives of groups using AFVs to discuss user reporting issues. Since no significant changes were made to the Form EIA-886, no pretests were conducted.

### **B-5. Name and Telephone Number**

Questions or comments on Form EIA-886 can be directed to Cynthia Amezcua, (202) 586-1658. Questions regarding the clearance request overall may be directed to Jason Worrall, (202) 586-6075.