# Making an All-American Public Fleet (Assumptions)

*A Case Study for the "Accelerating Alternative Fuel Vehicle and Infrastructure Deployment with Innovative Finance Mechanisms Workshop"*

The tables below define the assumptions used in the financial analysis that was included in the case study. The analysis was completed using the AFLEET Model, a free Microsoft Excel-based tool available for download from the U.S. Department of Energy. All data sources below are provided as part of the AFLEET model.

TABLE 1: FUEL PRICE ASSUMPTIONS

| Parameter | Assumption | Source |
|---|---|---|
| Gasoline | $3.00/gallon | http://www.afdc.energy.gov/fuels/prices.html |
| Diesel | $3.00/gallon | http://www.afdc.energy.gov/fuels/prices.html |
| Electricity | $0.075/kWh | http://www.afdc.energy.gov/fuels/prices.html |
| B100 | $3.15/gallon | http://www.afdc.energy.gov/fuels/prices.html |
| CNG | $1.50/diesel gallon equivalent | http://www.afdc.energy.gov/fuels/prices.html |

TABLE 1: VEHICLE PURCHASE PRICE ASSUMPTIONS ($ PER VEHICLE)

| Parameter | Assumption | Source |
|---|---|---|
| Gasoline Pass Car | $20,000 | Argonne National Lab assumption based on American Reinvestment and Recovery Act data. |
| Battery-electric Pass Car | $33,000 | Argonne National Lab assumption based on American Reinvestment and Recovery Act data. |
| Diesel Refuse Truck | $210,000 | Argonne National Lab assumption based on American Reinvestment and Recovery Act data. |
| CNG Refuse Truck | $260,000 | Argonne National Lab assumption based on American Reinvestment and Recovery Act data. |
| Diesel Delivery Truck | $65,000 | Argonne National Lab assumption based on American Reinvestment and Recovery Act data. |
| Biodiesel Delivery Truck | $65,000 | Argonne National Lab assumption based on American Reinvestment and Recovery Act data. |

TABLE 32: VEHICLE FUEL ECONOMY ASSUMPTIONS (MILES PER GALLON)

| Parameter | Assumption | Source |
|---|---|---|
| Gasoline Pass Car | 26.7 | Based on GREET 1_2013 - MY2014 |
| Battery-electric Pass Car | 90.8 | Based on GREET 1_2013 - MY2014 |
| Diesel Refuse Truck | 1.5 | Based on GREET 1_2013 - MY2014 |
| CNG Refuse Truck | 1.3 | Santini et al. (2013) Energy Security and Greenhouse Gas Emissions of Natural Gas Heavy-Duty Commercial Trucking. ANL Paper 13680. |
| Diesel Delivery Truck | 6.2 | Lammert et al. (2012) Measured Laboratory and In-Use Fuel Economy Observed over Targeted Drive Cycles for Comparable Hybrid and Conventional Package Delivery Vehicles, NREL SAE Paper. |

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| Biodiesel Delivery Truck | 6.2 | Lammert et al. (2012) Measured Laboratory and In-Use Fuel Economy Observed over Targeted Drive Cycles for Comparable Hybrid and Conventional Package Delivery Vehicles - NREL SAE Paper |

TABLE 4: ANNUAL MILEAGE ASSUMPTIONS (MILES PER VEHICLE PER YEAR)

| Parameter | Assumption | Source |
|---|---|---|
| Gasoline Pass Car | 12,400 | ORNL - Davis (2013) Transportation Energy Data Book 32, http://cta.ornl.gov, Table 4.1 - 2011 |
| Battery-electric Pass Car | 12,400 | ORNL - Davis (2013) Transportation Energy Data Book 32, http://cta.ornl.gov, Table 4.1 - 2012 |
| Diesel Refuse Truck | 23,400 | Vehicle Inventory and Use Survey - 2002, http://www.census.gov/svsd/www/vius/2002.html |
| CNG Refuse Truck | 23,400 | Vehicle Inventory and Use Survey - 2002, http://www.census.gov/svsd/www/vius/2002.html |
| Diesel Delivery Truck | 16,500 | Vehicle Inventory and Use Survey - 2002, http://www.census.gov/svsd/www/vius/2002.html |
| Biodiesel Delivery Truck | 16,500 | Vehicle Inventory and Use Survey - 2002, http://www.census.gov/svsd/www/vius/2002.html |

TABLE 5: MAINTENANCE COST ASSUMPTIONS ($ PER MILE COST)

| Parameter | Assumption | Source |
|---|---|---|
| Gasoline Pass Car | $0.14 | https://utilimarc.com |
| Battery-electric Pass Car | $0.13 | https://utilimarc.com |
| Diesel Refuse Truck | $2.89 | https://utilimarc.com |
| CNG Refuse Truck | $2.91 | https://utilimarc.com |
| Diesel Delivery Truck | $0.20 | Ricardo; http://www.aga.org/our-issues/natural-gas-vehicles/Pages/default.aspx |
| Biodiesel Delivery Truck | $0.20 | Ricardo; http://www.aga.org/our-issues/natural-gas-vehicles/Pages/default.aspx |