FTA RESEARCH
FEDERAL TRANSIT ADMINISTRATION

REPORT SUMMARY

U.S. Department of Transportation
Federal Transit Administration

Transit Investments for Greenhouse Gas and Energy Reduction Program: First Assessment Report

Background

In 2009, the U.S. Department of Transportation's Federal Transit Administration (FTA) implemented a new program to promote energy savings and sustainable technologies to the transit industry. The Transit Investments for Greenhouse Gas and Energy Reduction (TIGGER) Program made funds available for capital investments over a three-year period from 2009 through 2011 that would reduce greenhouse gas emissions or lower the energy use of public transportation systems.

Over the next few years, data will be collected, compiled, and analyzed on each project to determine the overall impacts and assess how each project has contributed toward meeting overall program goals. To aid in the analysis, FTA entered into an interagency agreement with the National Renewable Energy Laboratory (NREL) to provide a third-party assessment. NREL is working with the TIGGER project partners to gather the data and information needed for the assessment.

Objectives

The purpose of this report is to provide an overview and preliminary analysis of the TIGGER Program. The report outlines the program history, goals, and technologies being implemented. It also provides a preliminary analysis of potential energy and GHG savings estimates. The report provides a description and current status of each project awarded in the program.

Findings and Conclusions

Under the TIGGER program, nearly $225 million in total grants have been awarded to 88 competitively-selected projects implementing a wide variety of technologies including building efficiency improvements, solar installations, wind technology, wayside energy storage for rail, and purchase of technologically-innovative energy-efficient buses. The awarded projects are geographically diverse, covering 35 states and 68 different transit agencies in both urban and rural settings.

Data collection has begun; however, there are not sufficient data to draw conclusions or make significant comparisons in this report. At this point, the potential savings of the program can be estimated based on information provided to FTA reflecting the current state of knowledge for each technology. Over the next few years, FTA will collect performance data from the projects to validate actual savings. The lifetime savings estimates will be recalculated once there are sufficient data.

Preliminary analysis shows the following:

- A total of 40 projects are implementing efficient bus technologies such as purchase of new buses—powered by both hybrid-electric and zero-emission propulsion systems—as well as retrofits to existing buses for increased efficiency.
- A total of 10 projects are investigating efficient rail technologies such as wayside energy storage, locomotive upgrades, and control systems for track heaters.
- A total of 39 projects are implementing technologies to reduce energy use by increasing efficiencies of facility buildings or generating electricity to offset what is used from the grid.
- Annual energy savings of more than 933,000 MBtu are expected, adding up to more than 15 million MBtu total lifetime energy savings.
- Annual estimated GHG savings for the program will total more than 63,700 tons CO_2^e, which adds up to more than 411,700 tons CO_2^e over the life of the program.

Benefits

This report provides the current status of the overall TIGGER Program and each separate project. It also outlines the estimated savings based on the energy claims of the grantees and projects the impact of the program.

Project Information

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This research project was conducted by Leslie Eudy, Rob Burgess, Chris Ainscough, and John Lewis of the National Renewable Energy Laboratory. For more information, contact FTA Project Manager Matthew Lesh at (202) 366-0953, matthew.lesh@dot.gov. All research reports can be found at **www.fta.dot.gov/research**.