

Shorepower Truck Electrification Project (STEP) – 2013

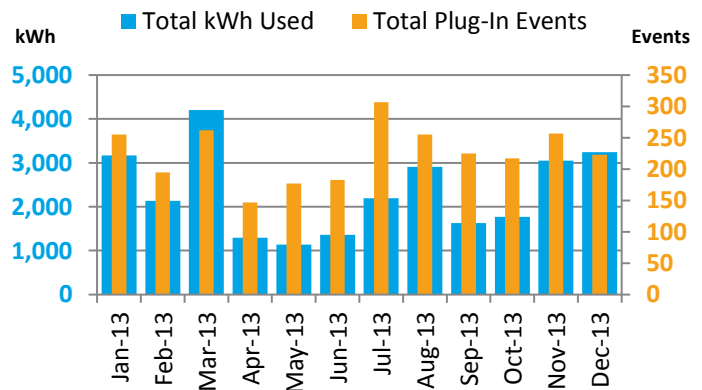
The Fleet Test and Evaluation Team at the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) is evaluating and documenting the use of shorepower at 50 planned American Recovery and Reinvestment Act (ARRA)-funded truck stop electrification (TSE) sites across the nation. Trucks participating in the study have idle-reduction equipment installed that was purchased with rebates through the ARRA. A total of 5,000 rebates will be approved.

Plug-In Infrastructure

Reporting period	01/01/2013 to 12/31/2013	Number of TSE sites completed	50
Input Power	208/240/480 V (min 50 A) 4 wire circuit	Number of pedestals installed	313
Output Power	120/208/240/480 V, 20/30 A outlets	Total vehicle capacity	1,252

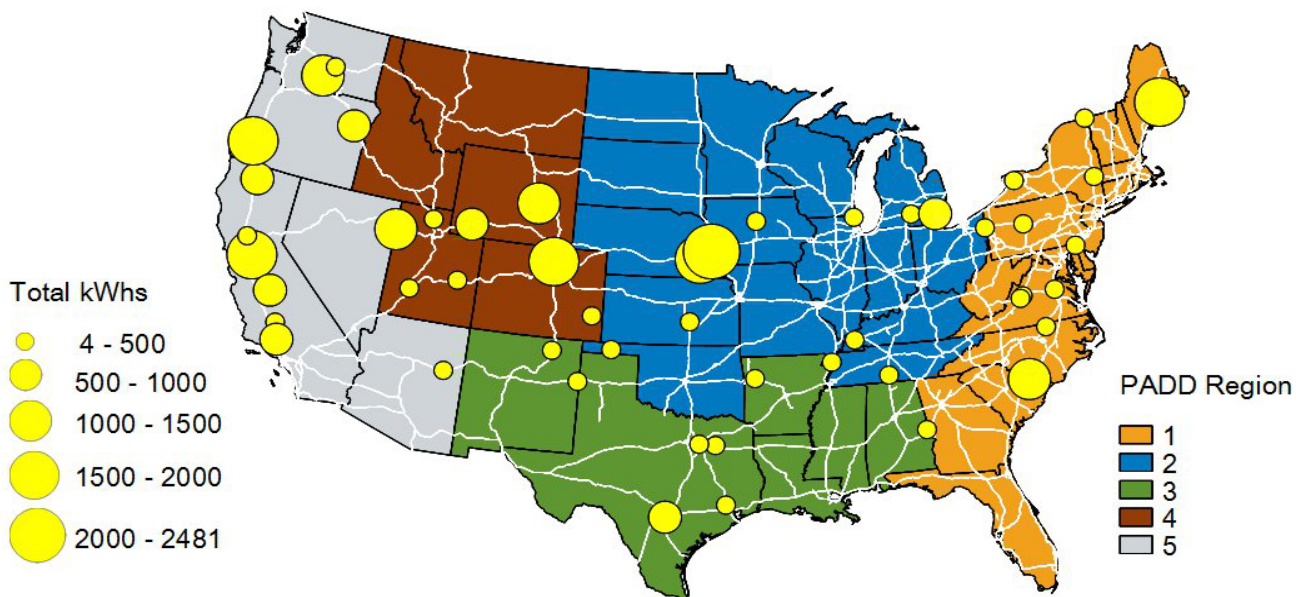
Utilization Summary

Idle-reduction rebate approvals	4,370
Completed equipment installations	4,353
Number of TSE sites with >90% uptime	50
Number of plug-in events	2,703
Total hours booked	40,740
Total kWh used	28,089
Average kWh/event	10.4
Gallons of diesel fuel saved ¹	32,592
Metric tons of CO ₂ avoided ²	332



TSE Site Location/Usage Map

This chart shows the locations of all installed TSE sites. The size of each site indicator is relative to the amount of total kWh utilized there. Visit <http://www.afdc.energy.gov/afdc/locator/tse/> for additional site information.



1. Gallons of diesel save calculated from booking time assuming 0.8 gallon / hour (EPA-420-F09-038).

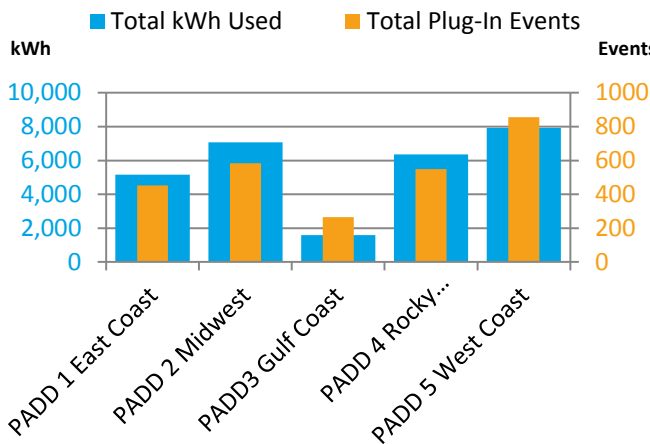
2. Metric tons of carbon dioxide calculated using U.S. EPA greenhouse gas guidelines of 10,180 g CO₂ / gallon of diesel.

Monthly Utilization Data

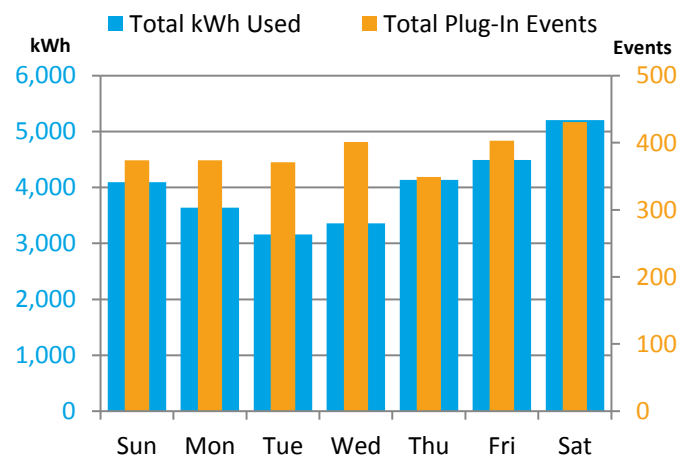
	<u>2013-Q1</u>	<u>2013-Q2</u>	<u>2013-Q3</u>	<u>2013-Q4</u>
Number of plug-in events	712	507	787	697
Number of plug-in events using STEP IDs	46	39	62	34
Total hours booked	14,251	6,560	10,452	9,477
Total kWh used	9,504	3,790	6,731	8065
Average energy used per event (kWh)	13.3	7.5	8.6	11.6
Average power per event (kW) ³	0.667	0.578	0.644	0.851

Utilization Data

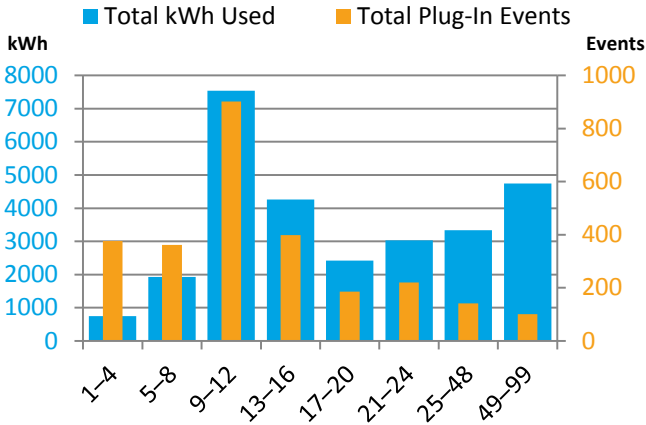
Geographic Utilization



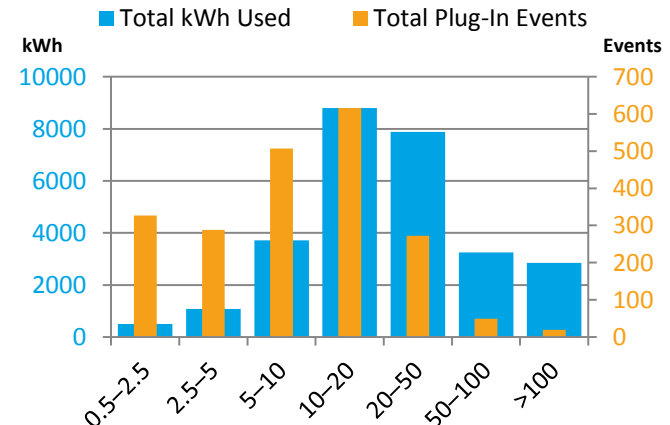
Day of Week Utilization



Booking Time Utilization



kWh Utilization



Hours Booked Per Event

kWh Used Per Event



Energy Efficiency & Renewable Energy

For more information, visit: vehicles.energy.gov

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3. Calculated based on booking time and total energy consumption.