Covenant Transportation Electrification Project







Presented by IdleAir 2017

The Problem: Long-Haul Truck Idling

DOT Federal Motor Carrier Safety Regulations require long-haul truckers to rest 10 or more consecutive hours after driving 11 hours.



To comply, drivers STOP during the rest periods and generally IDLE while stopped



•Costs drivers \$3.00/hour, because it:

- Burns ~1 gallon of diesel per hour (@ 2.00/gallon currently)
- Causes 25%-40% of engine wear (another \$1.00/hour per EPA data)

Produces 11 MM tons of CO2 and other harmful emissions each year.
EPA estimates that 1mm drivers idle 6-hours per day/2k hours per year.



Truck Driver Portrait

- Approx. 1.5mm trucks with sleeper cabs perform OTR (Over the Road) behavior
- Spend 10 hr and 34 hr resets in the truck
- Away from "home" several weeks or months
- 8th grade education
- According to Road King Magazine:
 - 86% percent of truck drivers are overweight and 57% are obese
 - Sleep apnea can affect safety
 - Averaged 5.24 hours of sleep
 - Average of 21 days with less than 4 hours sleep (15-week study)
- 8% women
- \$38,000 average salary
- \$5,000 average signing bonus/training cost
- 100% typical average turnover



Pet-Centric Customer Base







Introducing IdleAir



IdleAir In-Cab Service Module



IdleAir Customers

- 45,000+ unique driver customers
- 700+ fleet customers
 - Represents 100,000+ trucks
- 1000+ "virtual" motel rooms
- Over 50 million hours of use





The IdleAir Network



Private Terminal Installations



IdleAir at the Transportadora EGOBA Terminal in Nuevo Laredo, Mexico

IdleAir Private Facilities



Private Terminal Installations

Covenant Transport



- Location: Chattanooga TN
- Site went live in late 2015
- 2016 Hours Used: 19,094
- 2016 CO2 Offset: 199 Metric Tons

Special thank you to John Overly of the East Tennessee Clean Fuels Coalition to help secure a Diesel Emissions Reduction Grant that defrayed about 20% of the installation cost.

IdleAir TN Locations - 2016 Site Usage by Hour

 Total of 58,411 gallons of diesel and associated pollutants offset in TN last year

Site		
		TOTAL
Covenant Terminal	Chattanooga, TN	19,093.78
Pilot #53	Hurricane Mills, TN	12,618.63
TA #107	Knoxville West, TN	20,023.45
Pilot #412	White Pine, TN	6,674.88

Major Brands Choose IdleAir











BILL& MELINDA GATES foundation

IdleAir Adds Renewable Energy



20 kW Solar PV Array Installed at IdleAir in TN

Solar & DC Fast Charging





The IdleAir System



How is IdleAir "Green"?

IDLEAIR'S COST OF DISTRIBUTED ELECTRICITY IS \$0.25/HR

- •The United States' power generation grid is ~55% efficient in its conversion of BTU's.
- •The diesel engine of a long-haul truck is <**3% efficient** in its conversion of BTU's.

By using IdleAir,

DOMESTIC GAS & COAL-FIRED POWER BECOMES A "CLEAN" SOLUTION FOR *FOREIGN* IMPORTED OIL.

We believe this is compelling for numerous agencies, energy, and power companies.

Strategy	Median Cost/Ton of NOx/HC Reduced	Cost Range/Ton of NOx/HC Reduced
I/M	\$2,155	\$2,041-\$6,577
Regional Rideshare	\$8,392	\$1,361-\$18,144
Charges and Fees	\$11,680	\$907-\$56,020
Vanpool Programs	\$11,907	\$5,897-\$100,926
Misc. TDM	\$14,175	\$2,608-\$37,649
Conventional Fuel Bus	\$18,257	\$12,474-\$45,247
Replacements		
Alternative-Fuel Vehicles	\$20,185	\$4,536-\$35,834
Traffic Signalization	\$22,793	\$6,804-\$145,152
Employer Trip Reduction	\$25,742	\$6,464-\$199,017
Conventional Service	\$27,896	\$4,309-\$136,193
Upgrades		
Park-and-Ride Lots	\$48,762	\$9,752-\$80,174
Modal Subsidies & Vouchers	\$52,844	\$907-\$534,114
New Transit Capital Systems	\$75,298	\$9,639-\$533,887
/ Vehicles		
Bike / Pedestrian	\$95,369	\$4,763-\$390,890
Shuttles, Feeder, Paratransit	\$99,225	\$13,948-\$223,398
Freeway Management	\$116,122	\$2,608-\$616,783
Alternative-Fuel Buses	\$143,338	\$7,598-\$644,772
HOV Lanes	\$199,811	\$6,464-\$381,931
Telework	\$285,541	\$15,082-\$9,329,418
Truck Stop Electrification	\$1,696	\$1,416- \$1,976

Source: Transportation Research Board's Special Report 264, EPA, Office of Transportation & Air Quality; 2005 dollars used

Contact Us

Marvin ShephardYale KlatM: (423) 871-0002M: (646) 481-6684marvin.shepherd@idleair.comyale.klat@idleair.com



Convoy Solutions LLC Proud Providers of the IdleAir System 629 North Broadway Knoxville, TN 37917 P: (865) 232-1700 F: (865) 232-1699 info@idleair.com