



DOCKET

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AB 118 2010-2011 Investment Plan

California Energy Commission Workshop

10/12/2009

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Who is Cascade Sierra Solutions?

- A non-profit organization working with public and private partners to:
 - Identify clean technologies in transportation applications
 - Promote fuel saving solutions
 - Improve air quality
 - Slow climate change

CSS Business Model

How Cascade Sierra Solutions works with Partners to

- ✓ Drive Down Fuel Consumption,
- ✓ Improve Air Quality in our Communities,
- ✓ and Increase Operator Profitability



The Role of CSS

Technology

Grants

Discounts

Rules

Tax credits

Offsets

Innovative Financing

Rebates

Technical Assistance



Trucking
Industry

Current Area of Operations



- Coburg, Feb, 2007
- Portland, Jun, 2008
- Sacramento, Sep, 2008
- Seattle, Oct, 2009
- Los Angeles, 2010
- Medford, OR, 2010

CSS to date has upgraded or replaced over 2,000 heavy duty diesel vehicles in 48 states

Accomplishments

Overall Savings: (3 years)*

- 6.5 million gallons diesel fuel (9,600 gal/day)
- 73,000 tons of carbon dioxide
- 607 tons of NO_x
- 15 tons of diesel particulate matter (DPM)

California Projects

- Upgraded or replaced 127 heavy-duty trucks
- 400+ Prop 1B truck replacements processing currently
- 66 DPF retrofits (\$1 M) through SMAQMD voucher program
- 16 TRU unit upgrades on California trailers

* Progress Report at: www.CascadeSierraSolutions.org

Los Angeles, CA



**Replaced 11 pre-1994
diesel tractors with
LNG trucks**

CSS Partners:

Pape Kenworth
Westport Innovations
Port of Los Angeles
Shippers Transport Express
Umpqua Bank

Result

11 Alternative fuel vehicles
placed in service displacing
1.7 mil gallons of diesel over
lifetime

Need for Truck Stop Electrification

- Over 100,000 heavy-duty trucks on West Coast
- Goods movement projected to grow 70% by 2020¹
- Idle times approach 2,000 hours/truck/year
- Can be built at private fleet locations or commercial truck stops
- Increasing number of States have adopted NO-IDLE regulations

¹ Bureau of Transportation Statistics, Quoted by Sen. Olympia Snowe, R-ME, April 2008

Need for Truck Stop Electrification

- Trucking industry contributes 6% to US global warming pollution²
- Diesel particulate matter kills more Americans annually than terrorism, war, aids, drunk driving, or fire arm homicide³
- Truck Stop Electrification cost is 50% to 75% lower than idling main truck engine (less than \$1 / hour)

² Union of Concerned Scientists, www.ucsusa.org/clean_vehicles/

³ Clean Air Task Force <http://www.catf.us/projects/diesel/dieselhealth/national.php?site=0>

Interstate Electrification Improvement Project

- **U.S. Dept of Energy – \$22 Million**

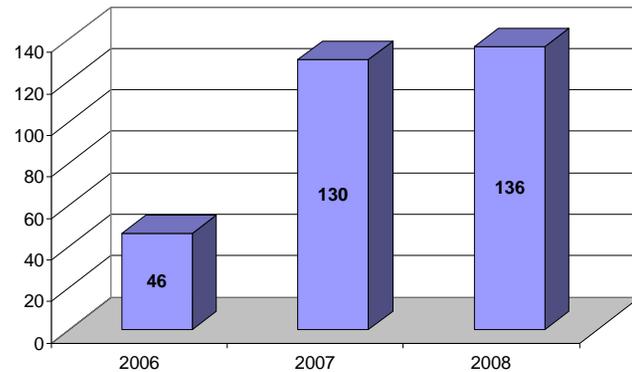
- Truck Stop Electrification partnership with Shorepower Technologies
- \$12 Million CSS Rebates for 5450 electric standby equipped upgrades
- 50 Truck Stops nation-wide (10 proposed CA sites)
- Ave 30 connects per site
- Project launch around end of 2009



Eliminates 36 million gallons fuel, 370,000 tons CO₂, 143 tons DPM, and 7,000 tons NO_x over next 10 years.

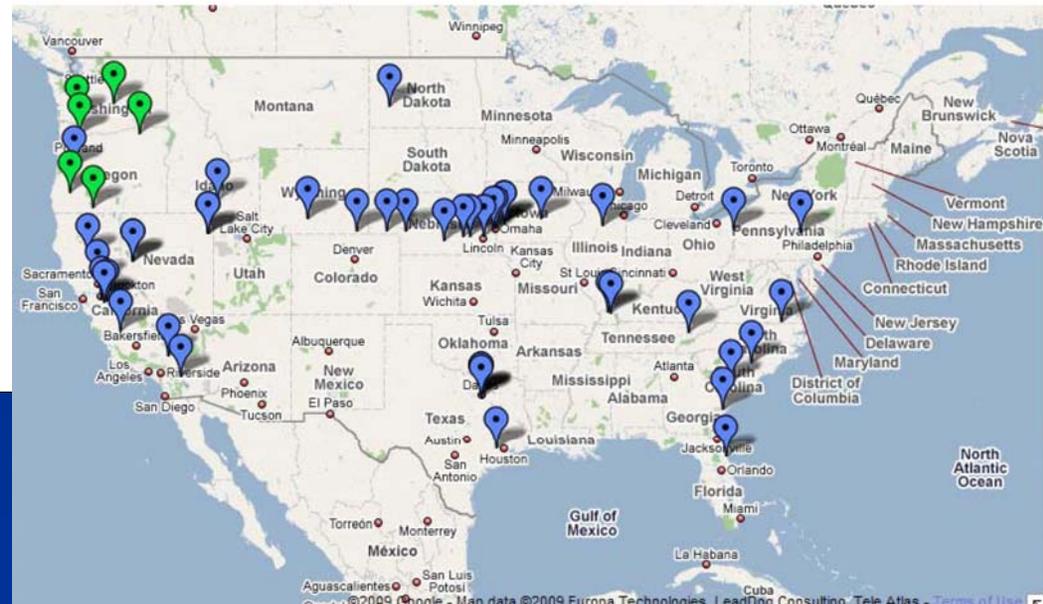
Proposed TSE Sites

Truck Stop Electrification Sites in U.S.



U.S. Dept of Energy – Alternative Fuels Data Center

Appendix B: Map of Preliminary Locations



CSS / Shorepower Technologies project increases Truck Stop Electrification Sites by 36% over 136 nation-wide sites in 2008.

Need for TSE Incentives

- **Infrastructure must be available for daily demands**
 - Along major transportation corridors
 - At major fleet terminals
 - At intermodal hubs
- **Incentives required to accelerate infrastructure development**
 - To address up-front infrastructure costs
 - To encourage site sponsorship
- **Incentives required for early adoption of TSE services**
 - For existing equipment upgrades
 - To standardize on new vehicles
 - To replace older, less efficient equipment

TSE Promotion

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» Other Locations

Cascade Sierra Solutions (CSS) is a non-profit organization dedicated to saving fuel and reducing emissions from heavy-duty diesel engines. CSS operates in the States of Washington, Oregon and California with a primary focus on the Interstate 5 corridor.

CSS is in the process of establishing outreach centers – strategically located with major truck stops. While the primary target of CSS outreach is the long-haul operator, the centers provide education and incentives for local fleets as well.

CSS Outreach Centers
The CSS outreach centers promote EPA's SmartWay Technology upgrade kits, and help to break down three barriers for the trucking industry:

- The Technology Awareness Barrier [Read more...](#)
- The Regulatory Information Barrier [Read more...](#)
- The Capital Cost Barrier [Read more...](#)

CSS News & Announcements

- Oct 17 - [SAVE THE DATE! Seattle Outreach Center Grand Opening](#)
- [Truck Stop Electrification Locator](#) National Renewable Energy Laboratory (NREL) Mobile Truck Stop Electrification Locator
- [CH Robinson Partnership Press Release April 29 2009](#) (PDF, 44kB) Announces charitable giving match partnership with CH Robinson

Results To-date

6,559,854.68
Gallons of Fuel Saved

66,749.57
Metric Tons of CO₂ Reduced

[Overall Progress Report](#)

CSS Fleet Member Login

Username:

Password:

Remember me

[I forgot my password.](#)

Not a member?
Click here to learn about our Fleet Membership Program.

[DONATE NOW THROUGH Network for Good](#)

[Donate to CSS](#)
Download our donation form PDF.

[Annual Report](#) (PDF, 13.61MB)

[Brochure](#) (PDF, 2.48MB)

[Equipment Guide](#) (PDF, 7.6MB)

[SmartWay Transport Partnership](#)

[WEST COAST COLLABORATIVE](#)

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**Truck Stop Electrification
Locator Link**

Interstate Electrification Improvement Project

GOALS: Quickly expand infrastructure for good movement trucks.
Jump start utilization as alternative to idling.
Gather data about use, preferences, grid loading, and emission reductions.

- Proven technology with over 136 installations in use
- Approx. \$10,000 per connection
- Level 1 and Level 2 charging (Level 3 can be retrofitted)
- Scalable installations for future growth
- Charging for trucks (cab comfort) & trailers (reefers)

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