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EXECUTIVE SUMMARY

Heavy-duty diesel trucks are the workhorses of the American economy. The clothes you're wearing, the food you ate for breakfast and the products you use were brought to you on a truck.



Diesel trucks are also responsible for 10% of America's petroleum consumption and 6% of US greenhouse gas emissions¹. Each year in the United States, diesel particulate matter is responsible for 21,000 premature deaths, making it a greater threat to our health than drunk driving, HIV/AIDS, or firearm violence².

My name is Sharon Banks, I am the founder and CEO of Cascade Sierra Solutions (CSS), a non-profit organization of public and private partners dedicated to saving fuel and reducing emissions from heavy-duty diesel trucks.

CSS operates outreach centers co-located with truck stops to bring education, clean diesel technology, monetary incentives and affordable financing to the trucker in a convenient, unbiased, non-regulatory forum on the West Coast I-5 corridor.

To date CSS has upgraded over 2,000 trucks and has over 1,200 more in process for upgrade or replacement. CSS has saved over 3.5 million gallons of fuel, created hundreds of jobs, and raised the bottom line for trucking companies who are struggling to survive in this economic crisis. Even though this project is operating on the West Coast, CSS has upgraded trucks in 46 states.

A proper upgrade of a truck can save up to 5,000 gallons of fuel per year or 50,000 gallons of fuel over a ten-year lifecycle which equates to 500 metric tons of greenhouse gases per truck. This is truly one of the greatest opportunities we have to reduce greenhouse gas emissions in the transportation sector.

CSS would like to replicate this program nationally, but this program needs to be part of a national strategy. Most state and local programs are focused on local and regional trucks that have direct and exclusive air impacts on their communities, where long-haul trucks impact the entire nation. However, the greatest opportunity for saving fuel (and GHGs) is from the long-haul truck which travels 100,000-250,000 miles annually.

To achieve our goal of upgrading or replacing over 30,000 trucks and saving over 1.5 billion gallons of fuel, CSS proposes to establish a network of outreach centers at strategic intersections of freight corridors across the country. To accomplish this CSS needs to secure additional funding to operate the centers and needs to build a much larger revolving loan fund to offer truckers financing terms they can qualify for and afford.

An investment in clean diesel technology is an investment in energy independence, public health, small businesses, clean air, green-collar jobs and financial and environmental sustainability. CSS is ready to move today on clean trucking.

¹ Union of Concerned Scientists: http://www.ucsusa.org/clean_vehicles/vehicle_impacts/diesel/rolling-smokestacks-cleaning.html

² Clean Air Task Force: <http://www.catf.us/projects/diesel/dieselhealth/national.php?site=0>

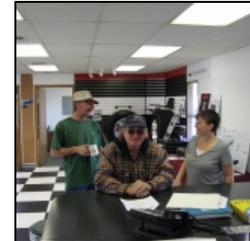


ABOUT CASCADE SIERRA SOLUTIONS

Cascade Sierra Solutions (CSS) is a non-profit created in 2006 to implement clean diesel trucking technologies on the West Coast and throughout the United States. Upgrading the legacy fleet is a win for the environment, business and all communities, but there are a number of significant barriers between this technology and its end users. CSS outreach centers are located at popular truck stops to bring education, technology and financing to the trucker's doorstep and break these barriers:

Awareness

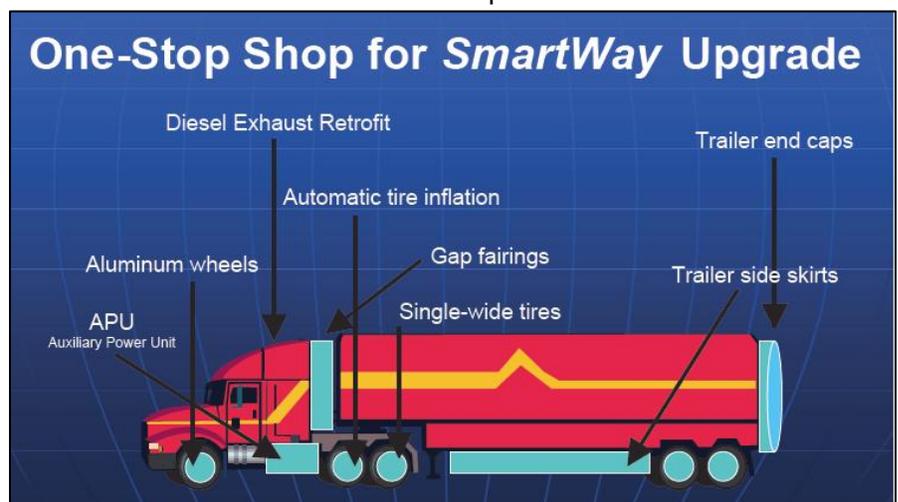
While the clean diesel technology sector has grown significantly in recent years, most truck owners and operators are unaware of the equipment available to reduce their emissions and fuel consumption. CSS outreach centers provide the largest permanent display of SmartWay technologies available under one roof.



At our outreach centers, truckers and fleet managers can compare options without bias towards any brand or product. The clean technologies CSS promotes include:

- Auxiliary Power Units (APUs) are small generators to provide cab comfort without idling. Most long-haul drivers sleep in the cabs while they're on the road. Without auxiliary power, they typically idle their 500 horsepower engines all night to provide livable temperatures. An average long-haul truck idles between 1830 and 2400 hours/year consuming around a gallon of fuel an hour in doing so. APUs and other anti-idling equipment can increase fuel efficiency by 8% or more.
- Fuel-efficient tires and wheels reduce weight and rolling resistance improving efficiency by up to 4% or more.
- Aerodynamic fairings on tractors and trailers can improve fuel efficiency 6% or more and are highly cost effective.
- Exhaust filtration can remove 85% of the most toxic diesel pollutants that threaten the health of all Americans.

Our centers are staffed with talented experts in the field who know their technology and understand the needs of their clients. The manager of each of our centers is a former service manager in the trucking industry.





Finance



Most of the equipment CSS represents improves the bottom line for trucking through savings in monthly fuel bills. But this equipment is expensive (typical APUs cost between \$8-15k) and only with the low-interest financing that CSS provides can most truck owners access this equipment. Through the CSS revolving loan fund, our clients can access financing at 8-11% and put money in their pocket every month

from their fuel savings. On the open market the same clients face 16-25% interest rates on loans that most cannot qualify for.

CSS has many dedicated partners in public agencies like the EPA, California Air Resources Board, Washington Department of Ecology, Oregon Department of Environmental Quality and many other state and local agencies. These partners share our goals of clean air and provide tax-funded incentives to make clean diesel affordable and help fleets they regulate comply with their laws.

But the paperwork and procedures required to access these incentives are a prohibitive barrier to most trucking companies who are unaware of incentives and have difficulty with government forms. CSS staff are expert in grant and incentive processing, working closely with granting agencies and achieving overwhelming rates of success. Cascade Sierra Solutions is a bridge that gets clean diesel funding from public agencies and onto the road quickly and efficiently.

Regulatory Awareness

As government agencies like the California Air Resources Board (CARB) and others recognize the terrible cost our people are paying for diesel pollution, they are creating regulations commensurate with the problem.

Most truckers do not have time to research the complex government regulations being imposed on the industry. Because of the time they spend on the road, most truckers get their information by word of mouth and rumors on regulations are often better circulated than facts.

Many trucking businesses live in denial of regulations until the last minute before enforcement begins, in part because they do not have ready access to accurate regulatory information.

CSS outreach centers provide neutral ground in convenient locations where the trucking industry can access accurate, up to date regulatory information without the threat of enforcement. By providing this service, CSS changes the industry compliance paradigm from late and forcible to early and voluntary.

Outreach services

In addition to work carried out through centers, CSS brings consulting services to fleets anywhere, meeting with key decision makers to upgrade hundreds and thousands of trucks at a time.



CSS fleet member locations



CASE STUDIES

Kedward Haines and Sonja Gesty

Kedward and Sonja are independent owner-operators from Keizer, OR. Their small trucking business has four trucks. Keddy and Sonja drive a 2005 Western Star between Oregon, Florida and California carrying flowers and frozen vegetables. They never would have been able to buy their first APU, single-wide tires, and tire pressure monitor without CSS, but now have been able to buy three more trucks. They are installing APUs and single-wide tires on all of them.



“Without CSS, the average working guy could never afford this stuff.” says Keddy.

Alex Crider

Alex drives for Stinger Transport, Prineville, OR. In his 1998 International he’s logged 1.5 million miles. Alex supports his wife and young children with his truck, so profitability is vital. CSS helped Alex finance low roll resistance tires, light weight rims and an APU. “I save over \$700/month.” With the APU, Alex doesn’t have to idle his main engine at night to run his appliances. He is able to eat healthier because his wife prepares and freezes food which he keeps in a freezer and microwaves while he’s on the road.





Devine Intermodal

Devine Intermodal serves all ports and rail ramps in northern California and western Nevada. Leveraging their combined strength Devine Intermodal partnered with CSS to help sixty four minority truck owners in the Oakland, California area obtain truck replacement grants and affordable financing with 10-year repayment terms. Devine Intermodal brought drivers to the CSS Sacramento Outreach Center to present the funding program, view available equipment options, and start the financing applications. This diverse group of minority business owners would not have been able to navigate the application process without assistance from CSS and its multi-lingual staff.



Mesilla Valley Transport (MVT)

Mesilla Valley came to CSS for answers on how to improve the fuel economy of their El Paso, TX fleet of long-haul trucks. CSS coordinated financial incentives to help them get the cleanest trucks possible with aerodynamics, APUs, low rolling-resistance tires and efficient engine calibration. Mesilla Valley also awards a Harley Davidson motorcycle to their driver who gets the best fuel economy each quarter. With these new trucks, MVT is getting over 7mpg, 17% better than the national average of 5.8mpg.



BENEFITS

An investment in Cascade Sierra Solutions and clean diesel will yield many times its value through benefits to the environment, the economy, national health, and communities across the country.

Environment

Diesel exhaust pollutants include:

- Particulate Matter, the deadliest outdoor air pollutant in the US generating over \$100,000 in health care costs per ton. 70% of California air toxic pollutants.
- Oxides of Nitrogen which react with sunlight to form ground level ozone
- Volatile Organic compounds which contribute to smog
- Carbon Monoxide which affect heart and lung function
- Carbon Dioxide which causes global warming

Each year in the US, diesel soot is responsible for:

- 21,000 Premature Deaths
- 27,000 Non-Fatal Heart Attacks
- 410,000 Asthma Attacks
- 12,000 Chronic Bronchitis
- 2,400,000 Work Loss Days (WLD)





Achieving our goal of upgrading or replacing 30,000 trucks, CSS would save twelve times the cargo capacity of the Exxon Valdez in fuel and associated emissions. Every year, those trucks would save the same amount of fuel as 165,000 Toyota Priuses.

That is fuel that will never have to be fought for, drilled, spilled or burned. That fuel will never cloud the air or clog our lungs. It will never cause acid rain and never contribute to climate change.

Economy

An investment in Cascade Sierra Solutions reduces petroleum dependence and particularly our need for foreign oil. It creates green collar jobs for the workers who manufacture, install, and sell clean equipment. It provides a path for trucking companies to improve their bottom line and the health of their communities. Our goal of saving 1.5 billion gallons will mean the small businesses we serve will save \$4 billion in fuel that they can spend in their local communities rather spending it on foreign oil.

Diesel pollution disproportionately affects those who can least afford to pay its consequences: children, the elderly, ethnic minorities and the poor who are more likely to live in areas of lower property values near sources of diesel pollution. Much of the burden of the medical costs associated with diesel are ultimately borne by the already overwhelmed public health system.

The Oregon Department of Environmental Quality estimates that diesel pollution costs the state \$2 billion a year in health and environmental costs. Doing nothing is costing us far more than investing in clean diesel solutions will.

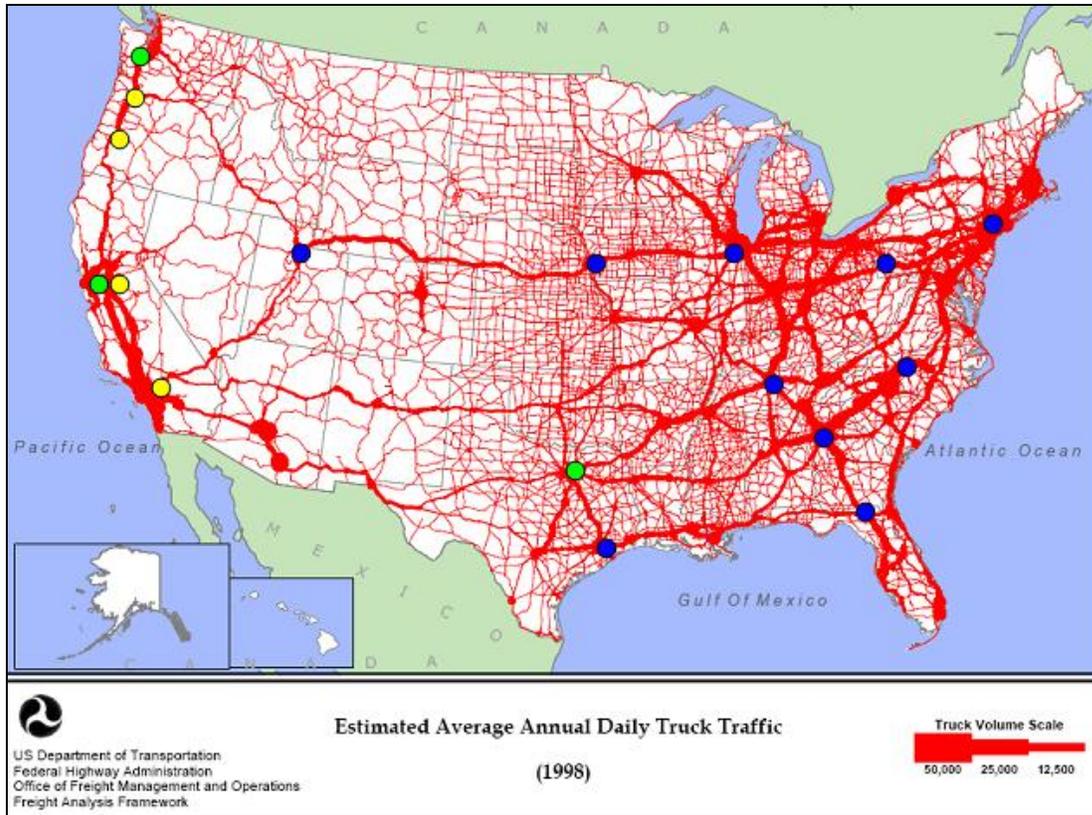


What Cascade Sierra Solutions needs to achieve its mission

CSS has already established a successful, replicable model of operations to bring clean diesel to the communities who need it most. Funding, however, continues to be a major barrier to our expansion as many state and local agencies are mandated to improve the air only in their districts. Keeping pollution outside of state lines is a bit like containing all the smoke in a restaurant smoking section.

Diesel pollution is a national issue and needs to be tackled with a national strategy. Clean trucks benefit all the communities as they travel through across the United States.

To do this, CSS needs to establish a network of outreach centers at strategic locations on the busiest national transportation routes.



Legend:

- CSS Outreach Centers Operating Now
- CSS Centers Planned in 2009
- CSS Vision for Centers for nationwide expansion

An investment of \$10m to pay for the establishment and operating costs of these centers will generate many times that amount in reduced health costs, and increased tax revenues from the businesses and employees that will survive as a result of their fuel-efficient operations.

An investment of \$100m will capitalize a loan fund to allow CSS to provide the crucial low-interest financing for us to give trucking businesses a hand up not a hand out.

Partners

