

US EPA ARCHIVE DOCUMENT



Everybody Wins USA

Midwest Clean Diesel Initiative

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Sándor Lau, Dir. Of Fundraising

info@cascadesierrasolutions.org



Cascade Sierra Solutions

- Cascade Sierra Solutions history
 - Origins at LRAPA, Lane County, Oregon
 - Independent non-profit, 2006, mission
 - West Coast Corridor strategy-expanding
 - First outreach center, Coburg, OR, 2006
 - Portland, Sacramento centers, 2008

Cascade Sierra Solutions

- Planned expansion to Seattle, Medford, Oakland, Fresno, Los Angeles, Dallas, Houston.
- With right partners, expansion to Midwest



Cascade Sierra Solutions

One Stop Shop at major truck stops:

- Education
- Equipment
- Financing

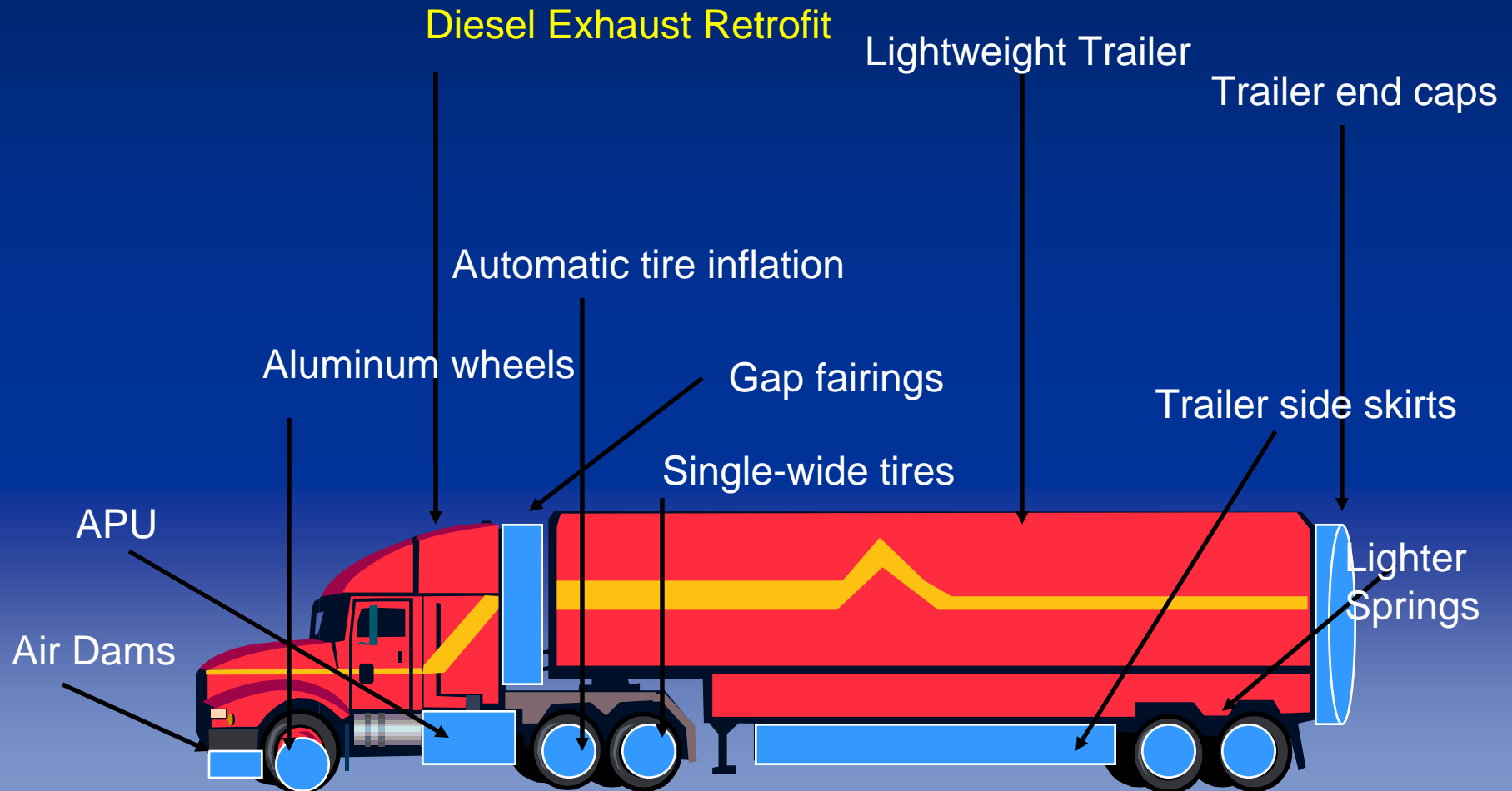
Cascade Sierra Solutions



Cascade Sierra Solutions

- Everybody Wins USA financing program
- \$1.13m grant from EPA for:
 - Idle reduction
 - Exhaust filtration retrofits
- Grant will securitize private bank loans to leverage over \$17m of clean technology.
- Other funds will finance additional SmartWay upgrades

Truck with *SmartWay* Technology



Cascade Sierra Solutions

- Results to date:
 - Upgraded over 1000 trucks with clean technology
 - Saved over 2.5m gallons of fuel
 - =4.31 Olympic swimming pools diesel
 - Saved over 25,000 metric tons CO₂

Everybody Wins USA

- Below-market financing 8-11%
- Greater access with modified credit rating
- No down payment
- Lease to own
- Very low default rate <1%

Our Clients

- Many owner-operators--46 states
- Fleets—MVT example
- Anywhere USA



Partners and Stakeholders

- Industry
 - Manufacturers and distributors of over 50 fuel saving and emissions reducing technologies
- Donors and Foundations
 - Private foundations, corporate foundations
 - NativeEnergy carbon offset sales
- Government
 - EPA, West Coast Collaborative
 - Federal Highway Administration
 - California Air Resources Board
 - Washington Department of Ecology

The Role of CSS

Technology

Grants

Discounts

Rules

Tax credits

Offsets

Financing

Rebates

Technical Assistance



Trucking
Industry

CSS Breaks Down Barriers

- The *awareness* barrier
- The *capital cost* barrier
- The *regulatory* barrier

CSS Strategies

- Upgrade pre-2007 trucks with fuel saving technology and exhaust retrofits
- Provide newer used trucks already upgraded
- Assist fleets in selecting the most fuel efficient trucks available when new trucks are purchased

CSS Programs

- **Outreach Program**
 - Outreach Centers
 - Catalog Program
- **Fleet Member Database**
 - Vehicle Registration Program
 - List serve for regulatory alerts
 - Tracking database for VMT by county
 - Tracks hours of use on APUs
 - Tracks fuel savings & calculates GHG emission reductions
 - Helps CSS match grants with eligible truckers

Incentives

- California Carl Moyer
 - Air District Programs
 - **CSS Voucher Program**
- Oregon Business Energy Tax Credits (35%)
- Oregon Pollution Control Tax Credit (50%)
- ODOE Free Shorepower upgrade
- SBA loans
- CMAQ grants
- Low interest loans & leasing

The Revolving Loan Fund Approach

- CSS uses a revolving loan approach to upgrading trucks
 - CSS receives 10% of the loan balance in a grant
 - CSS uses the grant to leverage bonds or a commercial bank loan
 - CSS loans out the money, including interest and a factor for risk
 - CSS collects the money back and perpetually upgrades trucks with the proceeds
 - At the end of the project, all of the money remains in the fund

Grant Programs

- Expend enormous resources
- Are expensive to administer
- Upgrade a limit number of trucks

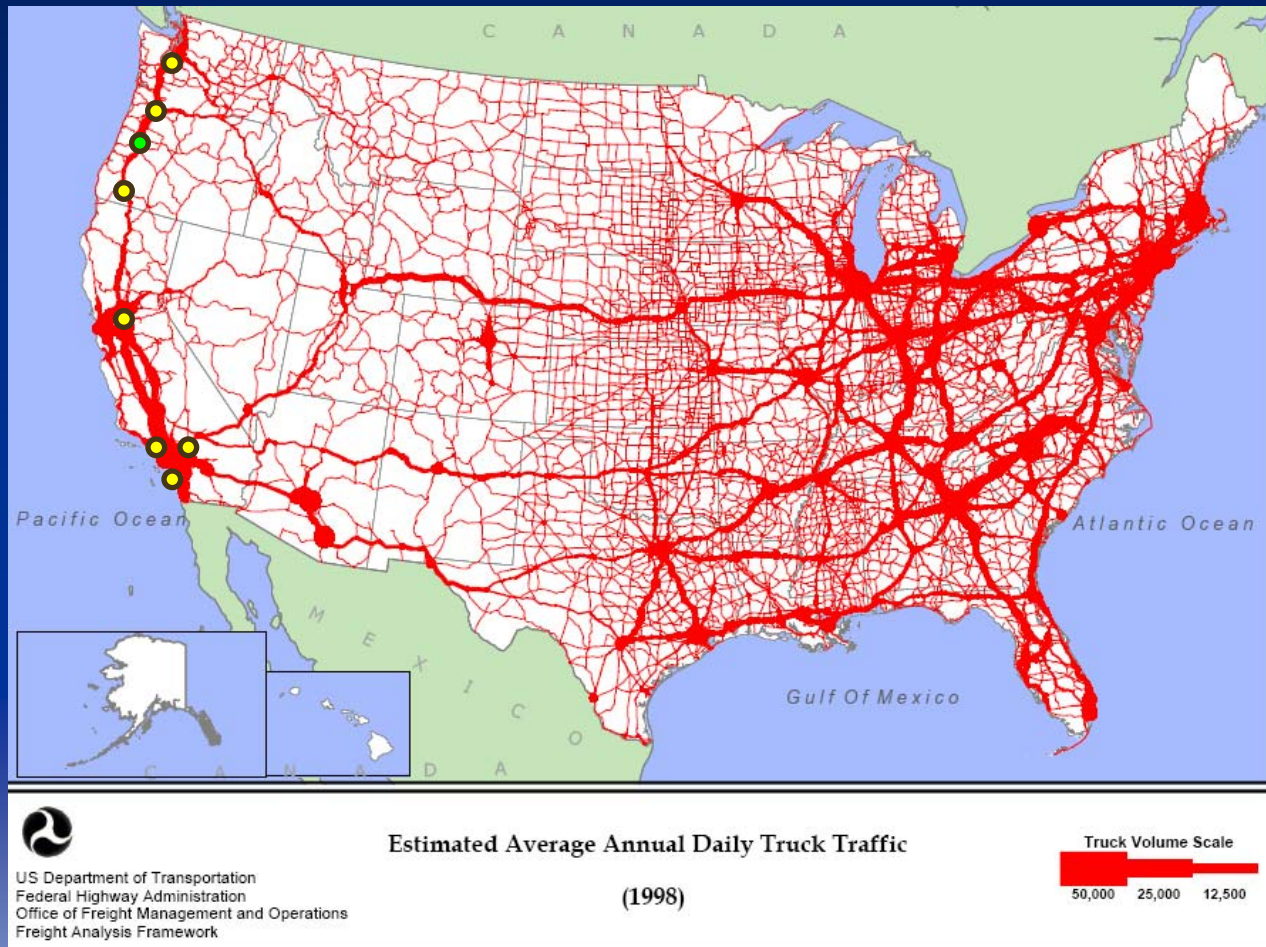
Facilities



Customers



Initial Locations



CSS in Oregon



CSS in Oregon



CSS Outreach Center



Idle Reduction Technology



Tires & Wheels



Lightweight Trailers



Fuel Saving Devices



Aerodynamics



Diesel Exhaust Controls

The image shows an exhibition booth for Diesel Exhaust Controls, featuring displays from Donaldson and Johnson Matthey. A large stainless steel toolbox with a cylindrical component on top is visible on the right.

Donaldson Filtration Solutions

Tailpipe & Crankcase Emission Solutions (Patented and Pat. Pending)

DPF or LTF Mufflers

- 85+ % PM reduction
- 2-3 hour installation
- Fuel type: ULSD
- Scavenging to exhaust temperatures

Filtration Technology

Wall-flow

- Filter requires cleaning
- CARB Level 3 (DPF) Exceeding CARB verification on Low Temp (LTD) Mufflers* meet!

DMF Mufflers

- 70-80% PM reduction
- Meets NO_x/NO₂ requirements (<20%)
- Multi-stage filters
- 1-2 hour installation

Filtration Technology

Flow-through

- Less sensitive to exhaust temperatures
- Maintenance free
- Fuel type: ULSD
- CARB Level 2 with and without Spiracle CFS

DOC Mufflers

- 20-30% PM reduction
- 1-1.5 hour installation
- Very reliable, no temperature limits

Filtration Technology

Flow-through

- Maintenance free
- Fuel type: any
- CARB Level 1 with Spiracle CFS

Spiracle™ Crankcase Filtration System

Filtration Technology

2-stage Barrier

- Eliminates crankcase emissions
- 2-3 hour installation
- Filter replacement every 5000 miles or change
- Fuel type: any

Combine the Spiracle DPF with any of our tailpipe solutions for CARB Level 3 emissions control!

Johnson Matthey Catalysts

Diesel Engine Retrofit Tailpipe & Crankcase Emission Solutions (Patented and Pat. Pending)

High Efficiency with Routine Maintenance

Cost-effective with Minimal Maintenance

Filter	PM	HC	CO	NO _x	SO ₂
1st Particulate Filter (LTD)	89%	53%	78%	15%	40%

DIESEL EMISSION CONTROL

Setting the Technology Standard for Today, 2007... for our Future

Emission Reduction Diesel engine emission control

PM + HC + CO + NO_x

Retrofit or OE

- GM™ Particulate Filter
- PORT™ Pansat CRT™ Technology
- DOC™ Catalytic Converter
- EGRT™ System Technology
- NO_x Adsorber Catalysts
- Active Filters

Light Weight Components



Our Progress

- 768 Oregon Base-plated trucks
- 160 nationwide SBA loan applications processed
- Trucks upgraded in 46 states

We can process loan applications over the phone or on-line

Sacramento

- 2800 Square Ft
- Custom built modular building
- Includes a retail showroom of technology (56 displays)
- Provides regulatory information
- Includes a large classroom with projector for nightly classes
- Has 5 full-time outreach specialists
- Is in the middle of a truck stop at the intersection of I-80 & I-5
- Estimate to be open by December 1??

Funding

- Sacramento AQMD \$200,000
- CMAQ \$200,000
- CARB \$1,000,000 in retrofit vouchers
- Local dealers 6% of sales generated
- EPA \$100,000 program support

Costs

- Cost of Facilities
 - Building \$200,000 (in California \$)
 - Displays, fixtures & furniture \$100,000
 - Operating costs are about \$30,000 per month
 - Operating costs are covered by discounts from manufacturers, grants, carbon credits
 - Centers should be self-supporting within 6 months

Needs

- ✓ More dollars for the revolving loan fund
- ✓ Support for an I-5 corridor approach
- ✓ Locations in Southern, CA
- ✓ Location in Seattle-Tacoma, WA

Contact Information

Sharon Banks

CEO

Cascade Sierra Solutions

32850 E. Pearl Street

Coburg, OR 97408

1-541-302-0900 office

1-541-915-9322 cell

sharon@cascadesierrasolutions.org

www.cascadesierrasolutions.org