

**Congestion Mitigation &
Air Quality (CMAQ)
Improvement Program:
SDEV's 2012 Grant Project**



Thursday, October 13, 2011

**Michigan Clean Diesel Initiative Meeting
Lansing Community College**

Southwest Detroit Environmental Vision



Working today for a cleaner, healthier tomorrow in Southwest Detroit

SDEV is a non-profit, membership organization that works with residents, community organizations, businesses, government, industry and universities to improve the environment and strengthen the economy of Southwest Detroit. SDEV focuses on a number of environmental issues and has programs to address these concerns:

ISSUES

- Air Quality
- Transportation Infrastructure
- Incompatible Land Uses
- Illegal Dumping
- Abandoned Buildings
- Lead Poisoning
- Recycling

PROGRAMS

- Clean Diesel Collaborative
- Community Benefits Coalition
- Healthy Businesses
- Clean Neighborhoods Initiative
- Tires Sweeps, Clean-Ups, Graffiti removal
- Healthy Homes
- Clark Park Recycling



SDEV Clean Diesel Stimulus Grant Project, 2009-2011

Partners and Projects:

- **Superior Materials:** Added emission controls to 28 cement mixers
- **Marine One Towing:** Replaced a 1980's marine engine with Tier II engine
- **JW Westcott:** Repowered a 1950's marine engine with Tier II engine
- **Edward C. Levy Co:** Replaced a 1990's Wheel Loader with a Tier II model
- **Ferrous Processing & Trading Co.:** Added emission controls to 7 trucks and installed 50 fuel-efficient tires on 5 trucks
- **Churchill Transportation:** Added emission controls to 6 trucks and installed 30 fuel-efficient tires on 3 trucks
- **DTE Energy:** Added emission controls to 15 utility vehicles
- **Lakes Pilots Association:** Repowered a 1970s Tier 0 engine with a Tier II engine
- **Red Cap Transportation:** Installed battery-operated air conditioners/auxiliary power units (idle reduction) on 11 trucks and installed 50 fuel efficient tires on 5 trucks



What is CMAQ?

“CMAQ funding is intended to reduce emissions from transportation-related sources. CMAQ funding is distributed by the federal government based, in large part, on a state's *nonattainment areas (parts of the state with higher concentrations of certain pollutants than allowed by the Environmental Protection Agency (EPA)).*”

- SEMCOG application

Southwest Detroit Environmental Vision's 2012 CMAQ project

Detroit (Fort St.) Produce Terminal

This project consists of two main components to reduce diesel emissions from a company located at the Detroit Fort St. Produce Terminal:

1) Electric reefer (refrigeration) units will be installed on 9 truck trailers, to replace diesel units.

Plug-in capability also installed on each trailer so the reefer units can be plugged in while the trailers are parked (while unloading or loading produce, or when needed for additional refrigerator space). While the trailers are on the road, the reefer units run on diesel, but while they are parked they can plug in. If power goes out while the units are plugged in, the diesel engine will automatically kick on so the food doesn't spoil. When power is restored, the electric will kick back on.

2) Updates to electrical infrastructure at the Produce Terminal.

Reefer units can be plugged directly into the building while they are parked. Other trucks & trailers with plug-in capabilities can also use the electrical outlets while unloading or loading produce.



Southwest Detroit Environmental Vision's 2012 CMAQ project

Detroit (Fort St.) Produce Terminal

Why do a project with the Produce Terminal?

- The Produce Terminal is located down the street from Southwestern High School and the asthma rate is disproportionately high for children and teens living in Southwest Detroit compared to other cities in Michigan
- Southwest Detroit is home to various heavy industrial operations and transportation infrastructure (e.g. the Ambassador Bridge), so truck traffic and diesel pollution are major concerns for residents
- Trailers at the produce terminal are often used for additional refrigeration because of lack of space inside the building. This means many of the diesel reefer units are running (idling) 24/7, particularly trailers on the Fort St. side of the building where space is more of an issue.



Southwest Detroit Environmental Vision's 2012 CMAQ project

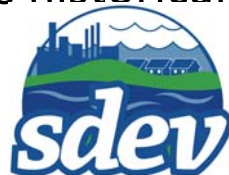
Detroit (Fort St.) Produce Terminal

- Project will likely begin in early 2012
- Hope is that other companies operating out of the produce terminal will see the benefits of electric reefer units and consider purchasing them for their trailers

Main incentive: Infrastructure for truck electrification will already be available for others to use

Concern about project: Produce Terminal is a historical site so any infrastructure updates can impact the historical designation of the building.

- Infrastructure updates are not expected to impact the historical designation of the terminal so this project could serve as an example of how to update a historical site without risking its historical designation.



SDEV's 2011 CMAQ Grant Project

SDEV is currently working on the following projects with four private partners from the SW Detroit area:

- Retrofitting 9 trucks with emissions controls
- Installing BACs & APUs (idle reduction technology) on 16 class 8A trucks
- Repowered four tier 0 diesel engines with newer, cleaner engines



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SmartPower

Standard Features:

- Automatic Diesel/Electric Selection
- Automatic Overload Reset
- Electric Heat
- Automatic Phase Correction
- Low Voltage Detection
- Single Phase Protection

Delivering What Matters

ONE THERMO KING



SmartPower

Customer Benefits:

- Reduced operating costs – up to 75%
- Reduced diesel emissions
- Reduced noise
- Lower maintenance costs
- Less waste from used oil and used filters

SmartPower Components



Delivering What Matters
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Engine Emissions

	HC + No_x g/kW-hr	PM g/kW-hr
EPA Interim Tier 4	7.5	0.30
TK486V Engine	6.1	0.21
SmartPower	0	0



Delivering What Matters
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Clean Environment Features

Item	SB30
EPA Interim Tier 4 Compliant	Yes
Hybrid (Diesel/Electric unit)	SmartPower
Noise Technology	Engineered In
R404A Refrigerant	Standard
Maintenance Interval	3000 hours
Bottom Panel (noise and fluid retention)	Standard

Thermo King provides the best ROI solutions to meet customer sustainability goals.



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