Working Together for Clean Air

www.pscleanair.org

Puget Sound Diesel Solutions Program

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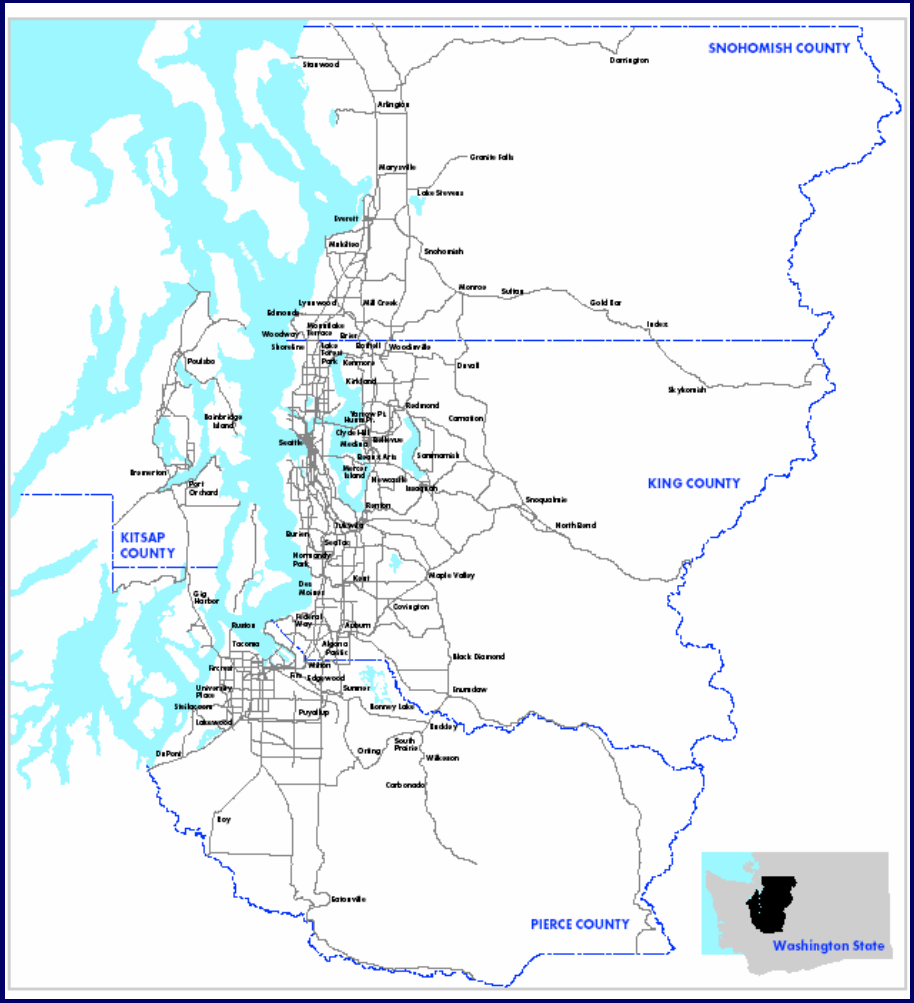
Presentation Outline

- About us
- Diesel Solutions
- Fuels
- On-road projects
- Non-road projects
- Funding
- Lessons we have learned

About us


SNOHOMISH COUNTY
KING COUNTY
KITSAP COUNTY
PIERCE COUNTY
Washington State

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Puget Sound Diesel Solutions

- Voluntary diesel emission reduction program
- Ultra-low sulfur diesel fuel /retrofits for four Puget Sound counties near Seattle
- A partnership with many
- Without the fuel from Conoco Phillips and EPA support there would not be a program

Why Diesel Solutions?

- Recent diesel health studies are compelling
- Modeling and monitoring show cancer risk from diesel exhaust is a concern
- EPA 2007 engine and fuel rules will address only new engines - we want results sooner

Our Initial Diesel Solutions Partners

Puget Sound Clean Air Agency

United States Environmental Protection Agency

King County Metro

The City of Seattle

The Boeing Company

Everett Public Schools & Durham School Services

Kitsap Transit

Cummins

Port of Seattle

Phillips Petroleum (76 brand)

Detroit Diesel

Washington State Department of Ecology

The Diesel Technology Forum

MECA (Manufacturers of Emission Controls Association)

Johnson Matthey

CleanAIR Systems

Community Transit

Puyallup Tribe of Indians

How we got started

- A STAPPA/ALPCO presentation by EPA retrofit staff got us interested
- We approached the 5 refiners in our region to see if they would make ultra-low sulfur diesel available before 2006
- Conoco Phillips said they would if we developed a sufficient market

How we got started

We went to key political leaders with large fleets to see if they would take a leadership role and made our case

How we got started

- Greg Green, Mitch Greenberg, Jim Blubaugh and the EPA retrofit staff
- Bruce Buckheit of OECA made key commitments

Fleet Operators: Arranging a meeting

- Arranged meeting with key fleet operators

- Also invited engine and retrofit manufacturers, fuel suppliers and people with retrofit experience
- EPA helped us involve Diesel Technology Forum, MECA, Cummins, Johnson Matthey, Detroit Diesel, Engelhard and other national players

Fleet Operators: Arranging a meeting

- We brought in local political leaders to endorse the effort at the meeting
- EPA made a grant funding commitment at the meeting
- Boeing and several other key partners committed to the program as a result and we created momentum

Fuels

- Over 25 million gallons of ulsd annual demand
- Number of users growing daily, particularly school bus fleets
- Local distributor marketing fuel
- Fuel price differential of under 5 cents per gallon
- Two fuel refiners now terminaling the fuel inside the urban area
- Second refiner, U.S. Oil and Refining, began production in June, 2003

On-road fleets

- Transit fleets
- School bus fleets
- Other public fleets
- Private fleets

Transit fleets

- Metro-King County
- Kitsap Transit
- Community Transit
- Sound Transit
- Pierce Transit (CNG)

King County Metro Transit

- ULSD for entire fleet beginning summer 2001
- Equip 500 buses with particulate filters by mid-2004 (205 installed, 100 new buses received)
- Purchase 213 diesel/electric hybrids meeting the 2007 EPA standards, Spring 2004
- Help recruit others in the public and private sectors

Kitsap Transit

- ULSD for entire fleet
- 20 buses equipped with particulate filters
- 52 new buses with filters to be added by 2005
- Equip 52 older buses with oxidation catalysts by mid 2004
- Help recruit other fleets in Kitsap County

Community Transit

- ULSD for entire fleet
- Equip 274 buses with particulate filters, 7 complete

Sound Transit

- ULSD for entire fleet
- Equip 391 buses with particulate filters, 49 by end of 2003
- Begin operation of 22 hybrid buses in 2004

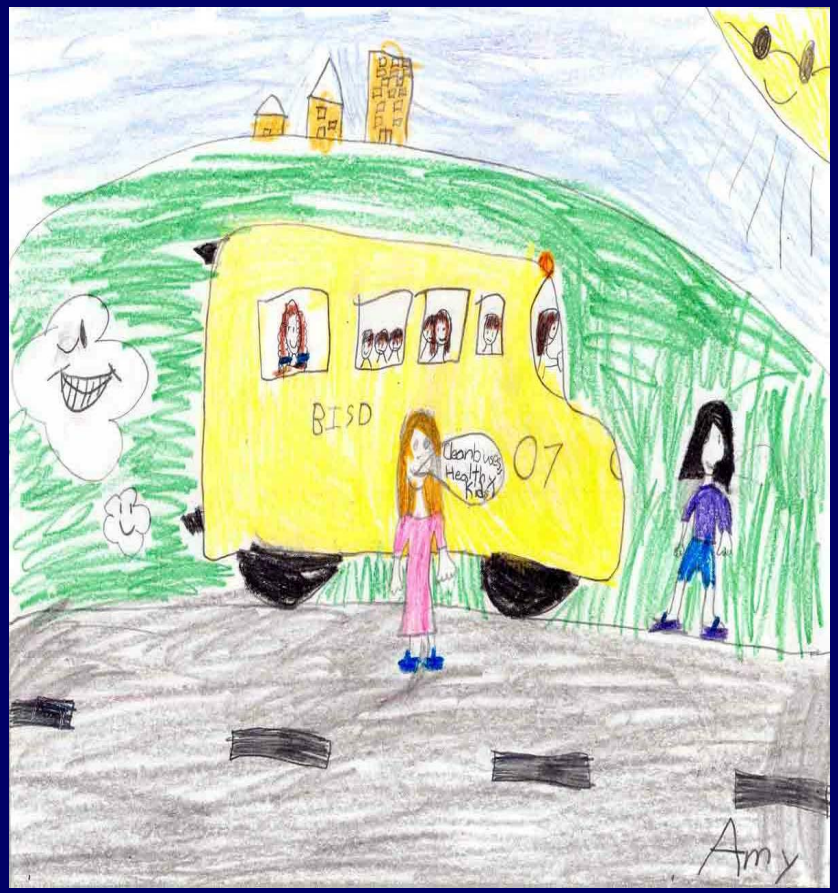
Pierce Transit

- Ultimately phase out all diesel buses and convert to CNG (more than half of the current fleet is CNG)

- Develop a public access CNG fueling station at their transit base in 2004

State-wide Clean School Bus Program

- WA legislature appropriated $5 million per year for five years
- Major legislative victory in face of record deficits and stagnant economy
- 5,000 to 8,000 school bus retrofits statewide
- Implementing program using a steering committee



Pilot School Bus Projects

- Everett, WA Schools/ Durham School Services
- Chief Leschi Schools
- North Kitsap, WA Schools

Everett Schools/Durham School Services

- First project
- Contracted to Clean Air Systems
- Funded by EPA
- Ultra low sulfur diesel used by entire fleet (~100 buses)
- 20 total retrofits (13 CDPF, 7 DOC)
- Second phase to be funded by state funds

Chief Leschi Schools/Puyallup Indian Tribe

- Second school bus project
- Contracted to Pacifica, Inc.
- Funded by EPA
- 10 DOC retrofits (20 remaining buses have factory DOC)
- First tribal project in our area

North Kitsap Schools

- Our largest completed project
- Funded by EPA (HQ and 105 grant funds)
- Contracted to Pacifica, Inc.
- 48 DOC retrofits
- Average cost about $1,900 per bus
- Completed shortly after the beginning of 2003/2004 school year

The next projects – under contract

- Seattle Schools – 52 DOC, 10 CDPF
- Bellevue Schools – 27 DOC
- Bainbridge Island Schools – 10 DOC
- Bremerton Schools – 12 DOC
- Kent Schools – 9 DOC, 1 CDPF
- Contacted by 30 out of 54 school districts
- 119 additional DOC out for bid
- Expect 600+ retrofits by July 2004
- Hope to retrofit entire fleet with DOC and CPDF over 5 years

Other public fleets

- City of Seattle
- Tacoma Solid Waste
- King County

City of Seattle Heavy Duty Fleet

- Switch to ULSD with 20% biodiesel on entire fleet
- Retrofit 400 vehicles (225 complete)
- Make ULSD available at city refueling stations for other agencies

City of Tacoma Refuse Fleet

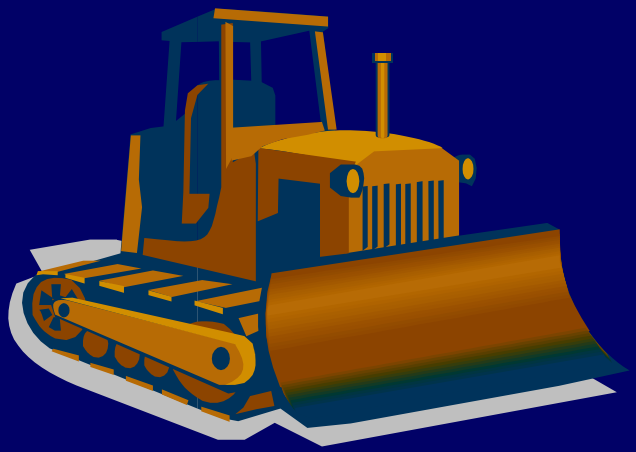
- Switch to ULSD with existing 20% biodiesel
- Retrofit 50 vehicles
- Contract in preparation

King County Heavy Duty Fleet

- Switch to ULSD
- Retrofit 30 vehicles, 2 complete

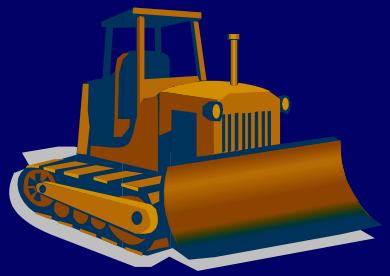
Non-road

- Port of Seattle ulsd on runway construction equipment
- State Ferries testing ulsd, EPA diesel and biodiesel
- Military bases using ulsd in boilers and diesel trucks
- Construction project contracting specifications effort
- West Coast marine vessels initiative
- Non-road feasibility study funded by EPA Region 10



Funding: Multiple sources and leverage

- EPA grants got us started (School bus projects, Clean School Bus USA grant, some diesel settlement funds)
- Our own civil penalty funds plus SEPs
- State school bus legislation
- Grant funding leveraged 10 to 1 on non-school projects
- Some schools paying for ULSD and/or bio-diesel



Key questions… key answers: What have we learned?

Puget Sound Clean Air Agency

- You can do a program like this
- There are many people who want to help make retrofits work
- People know that diesel pollution is a problem that needs to be addressed, they just need help in finding solutions
- It takes substantial funding to make an effort like this get off the ground, but others are willing to spend a lot more if there is a little seed money to get them going
- It takes a very sustained effort at a high organizational level to get a program up and running – you have to be willing to push through major challenges
- Rewards and recognition are motivators

Key questions… key answers: Where are we now with our program?

- We are focusing a lot of time and effort on getting the school bus program implemented
- Supporting partners is time intensive
- Fuel pricing and distribution challenges have largely been met
  - Increased fuel volumes to get terminals closer to users was necessary to reduce transport costs
  - Price competition is happening
  - More joint marketing efforts would be helpful

Conclusions

- This program offers great opportunities for avoiding additional regulations
- We are making significant, necessary environmental and public health improvements
- This has been a great opportunity for successful collaboration between the public and private sectors