DOE’s Role in Heavy-Vehicle Idling Reduction

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FCVT Program Mission
To develop more energy efficient and environmentally friendly highway transportation technologies that enable America to use less petroleum.
--EERE Strategic Plan, October 2002--
Transportation Petroleum Use by Mode (1970-2025)

2002 Total = 13.15 mbpd

Our Oil Situation

(Millions of barrels per day)

Source of Oil
Gross Imports 59%
Domestic 41%

Consumption
Highway Vehicles 68%

Cost of Imports
$105.2 Billion (@ $25/bbl)
$168.3 Billion (@ $40/bbl)

Canada
1.97 (17.1%)

US Domestic
8.04

Mexico
1.55 (13.4%)

Venezuela
1.4 (12.1%)

Nigeria
0.62 (5.4%)

Other
OPEC
0.58 (5%)

Iraq
0.46 (4%)
DOE Believes Collaborations are the Key to Answering these Challenges
Energy Security
- Increasing dependence on imported oil
- Contributes to balance-of-payments deficit

Social Concerns and Needs
- Emissions
- Safety

Critical DOD Strategic Need
- 70% of the logistics burden in conducting military missions is moving fuel.
Goals focus on five key technology areas for heavy-duty vehicles:

- Engine Systems
- Heavy-Duty Hybrids
- Parasitic Losses
- **Idle Reduction**
- Safety

Support Research, Development and Demonstration
By 2007, demonstrate advanced 5 kW auxiliary power units (APUs) that meet performance goals and cost under $200/kW.

By 2012, develop and demonstrate 5-30 kW fuel cell APUs that meet performance goals and cost under $400/kW.

Develop new codes and standards for electrification of trucks and truck stops.

Co-sponsor conference with EPA and DOT in May 2004, establish an integrated and comprehensive Gov’t-Industry partnership.

Develop mix of incentives & regulations that encourage users to find more efficient and environmentally-sustainable ways to meet their power needs at rest.

Establish educational efforts for truck and bus owners & operators to implement enabling technologies and operational practices eliminating unnecessary idling.
**GOAL:** To maximize the introduction and use of idle reduction technologies in heavy-duty trucks

**Objectives**
- Data collection/demonstration - in-use information on the performance of on-board idle reduction technologies
- Identify and implement strategies to overcome critical cost barriers inhibiting broad market introduction.
- Education and outreach - increase knowledge, awareness, and acceptance of idle reduction technologies within the trucking industry and public at large
Caterpillar, International Truck, and Cox Transfer
- MorElectric technology
- Electrically-driven accessories
- Project start 4Q, FY03; Culminates 4Q, FY05

Schneider National, Freightliner, and Webasto Thermosystems
- Webasto Air Top cab heater (diesel-fueled air heater)
- Webasto cab cooler (phase change cooling storage technology)
- Project start 4Q, FY03; Culminates 2Q, FY05

Espar, Wal-Mart, Truck manufacturer TBD
- Espar Airtronic Bunk heater (diesel-fueled air heater)
- DC Airco (rooftop-mounted electric A/C unit)
- Project award Spring FY04
Focus: Integration of full function (heating, cooling, and electrical) on-board idle reduction technologies into heavy-duty trucks as factory-installed options

Solicitation Parameters

- Teaming requirements – Truck OEM (lead), idle reduction technology manufacturer, and fleet (preferably)
- $300-500K in total funding; 2-3 awards; 2 year-duration
- 50/50 cost share
- Summer 2004 release
- Award 4Q, FY04 – 1Q, FY05
Next Steps

- We are recruiting working group members to help craft the plan.
- Areas of particular interests are:
  - R&D
  - Financial
  - Regulatory
- Please give Lee Slezak, Diane Turchetta, Paul Bubbosh, or Heather McKee your name so that they can contact you with the schedule to develop the plan.