



U.S. Department of Energy
Energy Efficiency and Renewable Energy

freedomCAR & vehicle technologies program

DOE's Role in Heavy-Vehicle Idling Reduction

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National Idling Reduction Planning Conference
Albany, New York
May 18, 2004

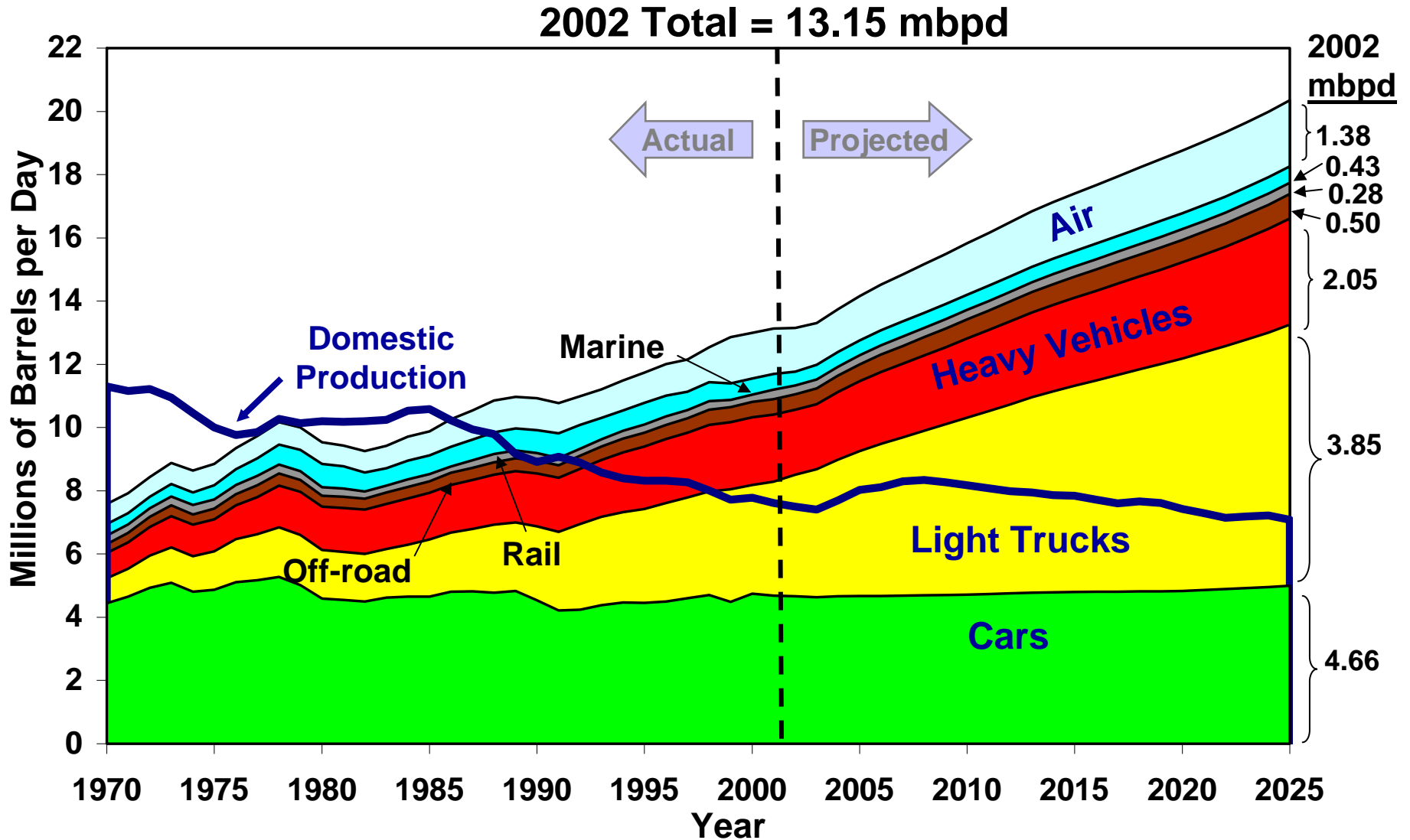
FCVT Program Mission

To develop more energy efficient and environmentally friendly highway transportation technologies that enable America to use less petroleum.

--EERE Strategic Plan, October 2002--



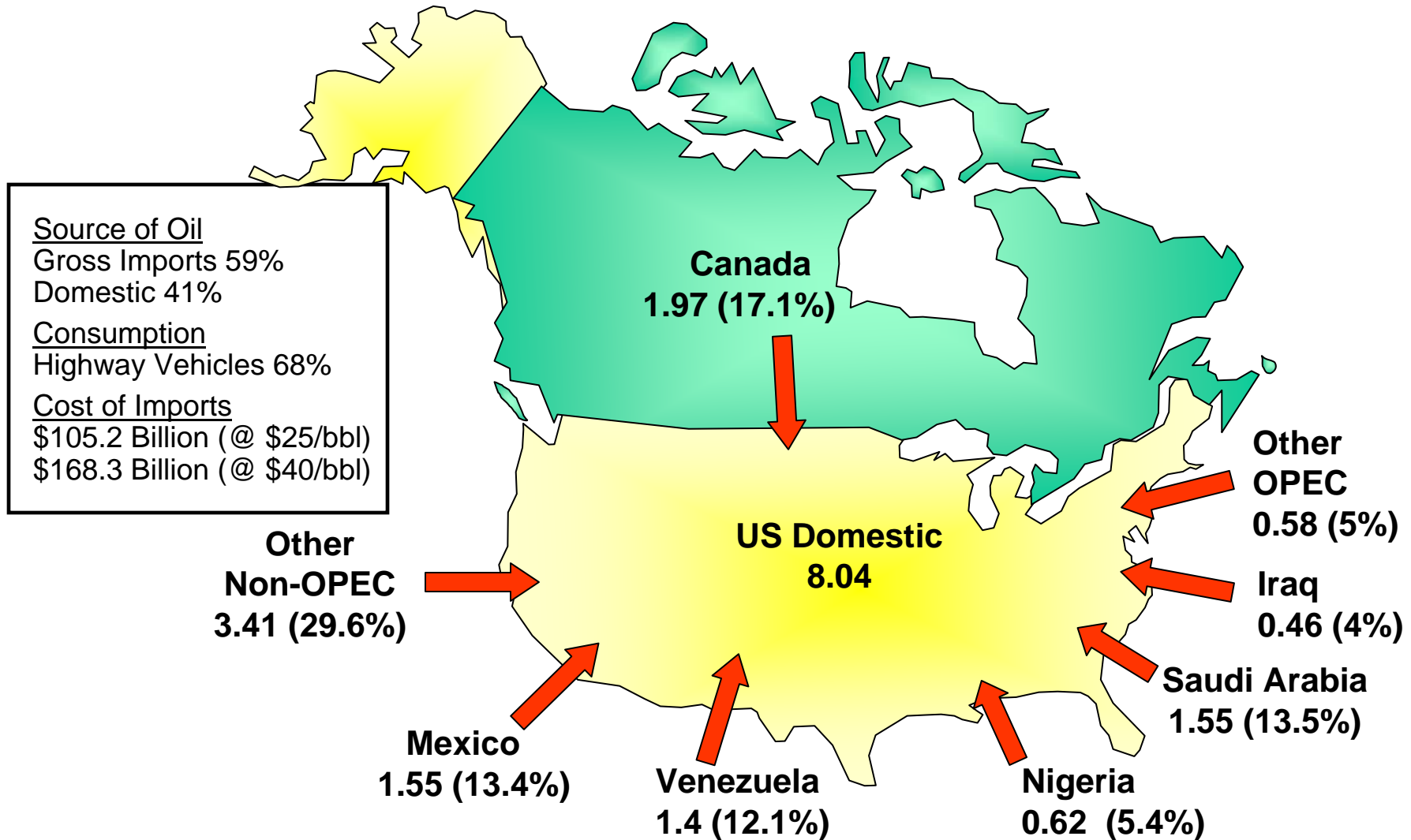
Transportation Petroleum Use by Mode (1970-2025)



Source: Transportation Energy Data Book: Edition 23, DOE/ORNL-6970, October 2003,
and EIA Annual Energy Outlook 2003, January 2004

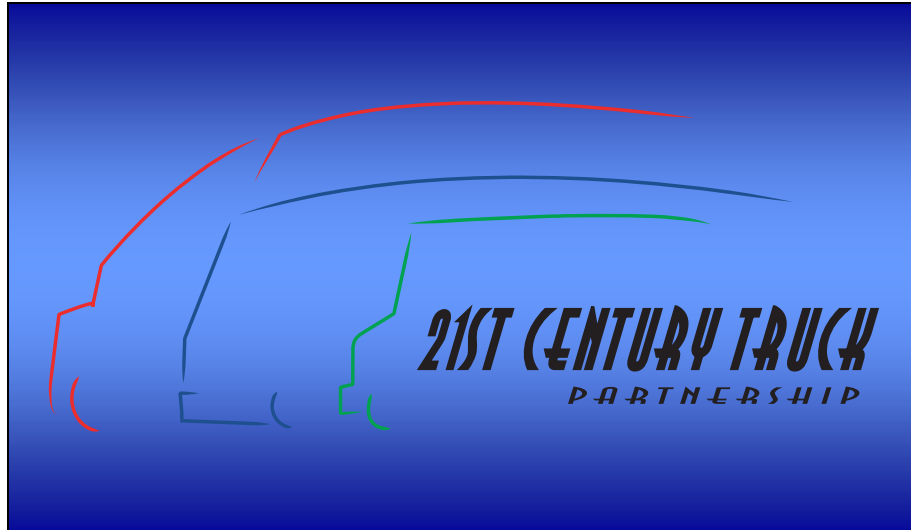


(Millions of barrels per day)





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DOE Believes Collaborations are the Key to Answering these Challenges





Government-Industry Truck R&D Partnership Answers 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.



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21st Century Truck: A Government-Industry Research Partnership



DAIMLERCHRYSLER



DOE / EE
FreedomCAR and
Vehicle Technologies

DOD / Army
TACOM NAC
Military Vehicle R&D



DOT / RSPA
Intelligent Vehicle
and Highway
Safety R&D

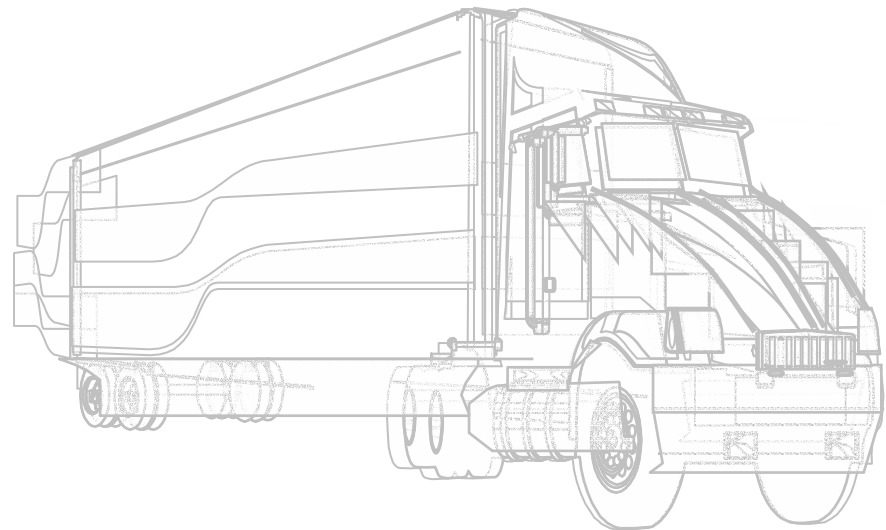
EPA
Vehicle Emissions
Regulations





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*



Reduce Idling Fuel Use and Emissions by 85%

- ❑ 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.

**Albany 2004
Conference**



Idle Reduction for Heavy Trucks

GOAL: To maximize the introduction and use of idle reduction technologies in heavy-duty trucks

Objectives

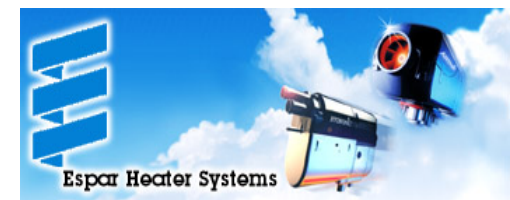
- ❑ Data collection/demonstration - in-use information on the performance of on-board idle reduction technologies
- ❑ Identify and implement strategies to overcome critical cost barriers inhibiting broad market introduction.
- ❑ Education and outreach - increase knowledge, awareness, and acceptance of idle reduction technologies within the trucking industry and public at large





Idle Reduction Technologies Data Collection/Demonstration

- ❑ 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





Solicitation for Truck OEM On-line Installation

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