Fuels Technologies

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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--

Fuels Technologies R&D Budget by Activities

Major Activities	FY 2007 Appropriation	FY 2008 Request	FY 2008 Appropriation	FY 2009 Request
Fuels Technologies	18,413	13,845	17,836	16,122
Advanced Petroleum Based Fuels	6,511	6,512	6,451	5,808
Non-Petroleum Based Fuels	11,902	6,948	10,885	9,863
SBIR/STTR		385	500	451

- Advanced Petroleum Based Fuels aims to develop advanced fuels and lubricants that will decrease consumption of imported petroleum, maximize engine efficiency, and improve emissions performance of existing and future vehicles.
- Non-Petroleum Based Fuels work includes identifying fuels and fuel-blending components that are suitable for advanced-combustion-regime engines, which have the potential to reduce dependence on imported petroleum.

Fuels Technology Program Goals

- Advanced Petroleum-Based Fuels
  - Identify fuel-property requirements to fully exploit post-2010 advanced IC engines.
  - Expand kinetic modeling of base-fuel properties that effect operation of advanced IC engines.
- Non-Petroleum Based Fuels
  - Develop and optimize vehicle engines that take advantage of the fuel properties of high ethanol blends fuel blends, such as E85, to improve expected fuel economy and performance.
  - Develop database on the impacts of intermediate blends of ethanol (E15, E20) on current and legacy vehicles and non-road engines.

20 in 10/EISA Goals Cannot be Met Solely Through Expansion of E10 Gasoline

- Ethanol markets are not able today to absorb the ethanol volumes specified by the Energy Independence & Security Act (36B gallons)
  - Today, blended gasoline used in standard vehicles (non-FFVs) is limited to 10 percent ethanol (E10).
  - More than 99 percent of the ethanol produced today is used in E10 blends; a tiny fraction is used to produce E85 for FFVs.
  - E10 markets are likely to saturate by 2012, 2013, possibly sooner, as production capacity approaches 15B gallons (~10% of all gasoline sold).
- There are two paths to increase ethanol markets beyond 15B gallons:
  - Path A: Saturate E10 markets – and significantly expand E85 markets at a greatly-accelerated pace relative to today
  - Path B: Certify “intermediate blends” of gasoline to use up to 15 or 20% ethanol (E15, E20) and let market forces drive ethanol supply distribution
- DOE is investigating the impact of Path B on the existing “legacy” fleet of vehicles and non-road equipment

E85 Remains Important

- We continue to support the expansion of the use of E85… *by focusing its deployment in areas in which it makes the most sense!*
  - Concentrated development of distribution/fueling infrastructure near production
  - High-traffic corridors
- Cooperative agreements and national laboratory projects focus on reducing or eliminating the fuel economy penalty associated with using E85
  - Agreements with Delphi Automotive Systems, Ford Motor Company, General Motors Corporation, Robert Bosch LLC, Siemens Government Services, and Mahle Corporation
- Clean Cities consumer education and technical advice for retail fueling station operators and fleet managers

Questions