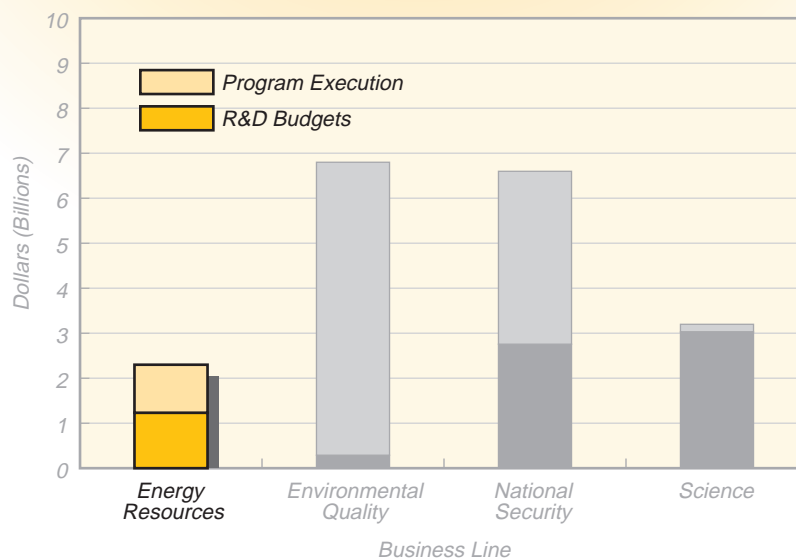
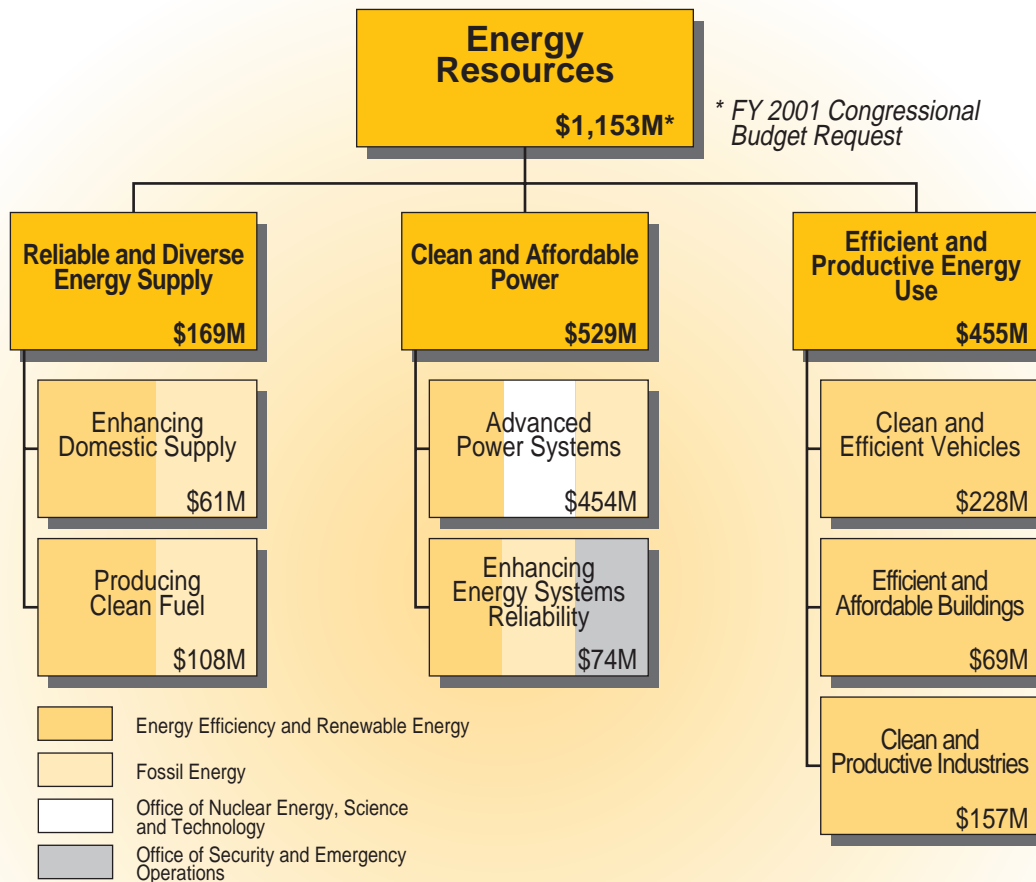


Energy Resources



Energy Resources R&D Portfolio

FY 2001 Congressional Budget Request, R&D Highlights

Areas of Major R&D Focus

- **Reliable and Diverse Energy Supply** [FY99-\$153.6M, FY00-\$162.1M, FY01-\$169.7M]
 - Enhance the efficiency and environmental quality of domestic oil and gas recovery, with R&D emphasis on exploration and production, and work in areas such as diagnostics, imaging and reservoir life extension.
 - Produce ultra-clean transportation fuels (See Expanded Areas below). Carry out biofuels R&D (see below), stressing ethanol production as a gasoline additive and replacement fuel. Address the lack of a hydrogen utilization infrastructure through development of gaseous storage and distribution technologies.
- **Clean and Affordable Power** [FY99-\$464.3M, FY00-\$454.0M, FY01-\$528.5M]
 - Pursue a broad range of clean/affordable generation technology options that utilize fossil fuels, renewable energy resources, and nuclear power, in both large, high efficiency energy systems and in distributed and hybrid energy systems. Emphasize technologies that can lead to significant greenhouse gas emissions plus other benefits (see below).
 - Enhance the reliability and security of domestic energy infrastructures (see below). Increase R&D emphasis on electricity transmission and gas pipeline system reliability, protecting energy systems from physical and cyber disruptions, and research that can promote infrastructure integrity in key developing countries.
- **Efficient and Productive Energy Use** [FY99-\$338.3M, FY00-\$387.3M, FY01-\$455.0M]
 - Pursue advanced engines, batteries, and fuels cells to dramatically improve the efficiency/mileage of passenger vehicles and light and heavy trucks. Increase emphasis on diesel engine emissions control.
 - Focus on R&D to improve the efficiency of commercial and residential buildings. Emphasize heating, cooling, air conditioning, building material and envelope, and building design and operations.
 - Carry out cooperative projects and crosscutting research to improve efficiency and reduce pollution in nine major process and extraction industries, including recently-added mining and agriculture industries.

New or Expanded Areas of R&D Emphasis

- **Energy Grid Reliability Initiative** [FY99-\$9.2M, FY00-\$13.1M, FY01-\$36.1M]

Develop systems that will help ensure the availability of a robust, reliable electricity and natural gas infrastructure required to serve emerging, competitive regional and interregional markets, and approaches for dealing with physical and cyber threats to this infrastructure.
- **Ultra-Clean Transportation Fuels Initiative** [FY99-\$6.6M, FY00-\$9.5M, FY01-\$27M]

Develop technologies to produce ultra-clean, high performance transportation fuels from petroleum and other hydrocarbon feedstocks such as natural gas and coal, and better pollution control devices, to enable the introduction of advanced, highly efficient fuel/engine combinations being developed by the Department.
- **International Clean Energy Initiative** [FY99-\$0, FY00-\$0, FY01-\$46M]

Support June 1999 report by President's Committee of Advisors on Science and Technology (PCAST) through international cooperation in energy R&D and technology promotion to support U.S. priorities and address the key global energy environmental challenges of the next century.
- **Biobased Products and Bioenergy Initiative** [FY99-\$81.6M, FY00-\$95.7, FY01-\$144.2M]

Carry out government-wide, integrated research, development and deployment effort in bio-based technologies that convert crops, trees, and other "biomass" into a vast array of fuels and products. (Funding shown does not include funding for Biological Sciences in DOE's Office of Science)
- **Power Generation Greenhouse Gas Reduction Technologies** [FY99-\$110.5M, FY00-\$107.6M, FY01-\$152M]

Accelerate introduction of technologies (in addition to biopower/fission in above initiatives) that, in the longer-term, can contribute significantly to reduced greenhouse gases reductions in both domestic and foreign markets, plus other benefits. Included are wind, photovoltaic, and carbon capture/sequestration.