- The distance from commercialization, where certain proprietary sensitivities otherwise might adversely affect private sector competition.

Deficit Reduction or Revenue Enhancement?
Given these considerations, the Department's funding of applied energy R&D is a wellfounded, complementary public investment in the advancement of science and technology in areas critically important to the Nation's future. Upon this enabling foundation of precompetitive research and knowledge, corporate America can build and market its own commercial products, which is the proper domain of the private sector.

These successes result in new products and processes that compete successfully in global competition and employ U.S. workers in high value-added jobs, who pay taxes on their income. These technologies reduce costs to businesses and consumers, which stimulates the economic growth of the Nation and adds to corporate taxable profits, all of which return revenue to the Treasury.

Accordingly, a case can be made that an investment in the Department's applied energy R&D programs should not be viewed as a current operating expense on the deficit side of the Federal budget account, but rather as a high-risk portfolio of capital investments in the Nation's future, with a predictable portion resulting in significant economic paybacks that are already adding net revenue to the income side of the Federal ledger. These R&D investments.not only produce public benefits, but make money for the U.S. Treasury.

Increasing Energy Efficiency
Energy efficiency improvements in homes, commercial buildings, transportation, and industry can contribute significantly to offsetting increased energy demand while freeing up capital for use elsewhere. Benefits from demand reduction include avoiding costly capital investments in electric capacity, lessening reliance on imported energy supplies, and reducing harmful emissions.

The Department of Energy aims to develop cost-effective energy-efficiency technologies that protect the environment and support the Nation's economic competitiveness. To achieve this goal, the Department emphasizes carefully targeted cost-shared collaborations with public and private enterprises. U.S. industry is increasingly involved in developing and using these technologies, thanks to the efforts of the Department.

Our programs in these areas carry out the Department's responsibility under the Energy Policy Act of 1992 (EPACT) and other major pieces of authorizing legislation. The benefits of the Department's efficiency programs--to industries, homeowners, and commercial firms-can be measured in cost savings, productivity gains, new high-value jobs created, and improved productivity and competitiveness for U.S. industry. The following paragraphs highlight some of the successes that have flowed from these programs.

Building Technologies
Residential and commercial buildings consume more than one-third of all U.S. primary energy and about two-thirds of the Nation's electricity. To help realize the energy security, economic, and environmental benefits of improved energy efficiency in buildings, the Department supports research and development on building systems, envelope, and equipment.

Fluorescent Lamp Electronic Ballasts
Department of Energy research and development created the current state-of-the-art electronic fluorescent lighting ballast, which was unknown in the mid1970s. The electronic ballast not only