

(Pub. L. 109–58, title IX, §975, Aug. 8, 2005, 119 Stat. 903.)

§ 16316. Advanced scientific computing research and development program

(1) In general

The Secretary shall conduct an advanced scientific computing research and development program that includes activities related to applied mathematics and activities authorized by the Department of Energy High-End Computing Revitalization Act of 2004 (15 U.S.C. 5541 et seq.).

(2) Goal

The Secretary shall carry out the program with the goal of supporting departmental missions, and providing the high-performance computational, networking, advanced visualization technologies, and workforce resources, that are required for world leadership in science.

(Pub. L. 109–58, title IX, §976(a), Aug. 8, 2005, 119 Stat. 903.)

REFERENCES IN TEXT

The Department of Energy High-End Computing Revitalization Act of 2004, referred to in par. (1), is Pub. L. 108–423, Nov. 30, 2004, 118 Stat. 2400, which is classified principally to subchapter III (§5541 et seq.) of chapter 81 of Title 15, Commerce and Trade. For complete classification of this Act to the Code, see Short Title note set out under section 5501 of Title 15 and Tables.

§ 16317. Systems biology program

(a) Program

(1) Establishment

The Secretary shall establish a research, development, and demonstration program in microbial and plant systems biology, protein science, computational biology, and environmental science to support the energy, national security, and environmental missions of the Department.

(2) Grants

The program shall support individual researchers and multidisciplinary teams of researchers through competitive, merit-reviewed grants.

(3) Consultation

In carrying out the program, the Secretary shall consult with other Federal agencies that conduct genetic and protein research.

(b) Goals

The program shall have the goal of developing technologies and methods based on the biological functions of genomes, microbes, and plants that—

- (1) can facilitate the production of fuels, including hydrogen in sustainable production systems that reduce greenhouse gas emissions;
- (2) convert carbon dioxide to organic carbon;
- (3) detoxify soils and water, including at facilities of the Department, contaminated with heavy metals and radiological materials;
- (4) develop cellulosic and other feedstocks that are less resource and land intensive and that promote sustainable use of resources, including soil, water, energy, forests, and land, and ensure protection of air, water, and soil quality; and

(5) address other Department missions as identified by the Secretary.

(c) Plan

(1) Development of plan

Not later than 1 year after August 8, 2005, the Secretary shall prepare and transmit to Congress a research plan describing how the program authorized pursuant to this section will be undertaken to accomplish the program goals established in subsection (b).

(2) Review of plan

The Secretary shall contract with the National Academy of Sciences to review the research plan developed under this subsection. The Secretary shall transmit the review to Congress not later than 18 months after transmittal of the research plan under paragraph (1), along with the Secretary's response to the recommendations contained in the review.

(d) User facilities and ancillary equipment

Within the funds authorized to be appropriated pursuant to this part, amounts shall be available for projects to develop, plan, construct, acquire, or operate special equipment, instrumentation, or facilities, including user facilities at National Laboratories, for researchers conducting research, development, demonstration, and commercial application in systems biology and proteomics and associated biological disciplines.

(e) Prohibition on biomedical and human cell and human subject research

(1) No biomedical research

In carrying out the program under this section, the Secretary shall not conduct biomedical research.

(2) Limitations

Nothing in this section shall authorize the Secretary to conduct any research or demonstrations—

- (A) on human cells or human subjects; or
- (B) designed to have direct application with respect to human cells or human subjects.

(f) Bioenergy research centers

(1) Establishment of centers

In carrying out the program under subsection (a), the Secretary shall establish at least 7 bioenergy research centers, which may be of varying size.

(2) Geographic distribution

The Secretary shall establish at least 1 bioenergy research center in each Petroleum Administration for Defense District or Subdistrict of a Petroleum Administration for Defense District.

(3) Goals

The goals of the centers established under this subsection shall be to accelerate basic transformational research and development of biofuels, including biological processes.

(4) Selection and duration

(A) In general

A center under this subsection shall be selected on a competitive basis for a period of 5 years.