ENERGY SCIENCES COALITION

Fiscal Year 2017 Funding Statement for the Department of Energy Office of Science

Federal investment in the U.S. Department of Energy's (DOE) Office of Science is critical to enhancing energy security, building the economy of the future, and restoring America's competitive edge through support for science and technology. Two recent studies rank the United States either 5th (Global Innovation Index 2015) or 10th (ITIF) among world leaders in innovation. Improving America's global position requires robust support for scientific research and research facilities.

The Energy Sciences Coalition (ESC) urges Congress to provide the DOE Office of Science at least $5.672 billion in FY17, an increase of $325 million. This will enable the Office of Science to do things like optimize the operation of its unique scientific facilities which are used by tens of thousands of university, industry and government scientists and engineers; expand university research through a dedicated, competitive university grants program; and achieve the development of exascale computing systems by the early 2020s – the cornerstone of the National Strategic Computing Initiative. We also ask Congress to restore proposed cuts to the domestic research budget within the Fusion Energy Sciences program without compromising the integrity and vitality of all DOE Science programs.

Leading Sponsor of Research in Important Fields: The DOE Office of Science is our Nation's primary supporter of basic physical sciences research. It also plays a critical role in U.S. leadership in other fields including the biological sciences, advanced materials, geosciences, computing and engineering. In subfields such as high energy and nuclear physics, heavy-element chemistry, plasma physics, magnetic fusion, and catalysis the Office of Science is the primary government sponsor.

Prepares the Next Generation of American Scientific and Engineering Talent: The DOE Office of Science supports a diverse portfolio of research at colleges and universities. It sponsors half of all university physics research and more than 24,000 Ph.D. scientists, engineers, graduate students, undergraduates and technical personnel at over 300 institutions through competitively awarded grants. DOE-funded research and education programs strengthen our Nation's scientific knowledge base and prepare the next generation of scientists and engineers.

Stewards World-Leading Scientific Facilities: The DOE Office of Science also supports the operation of the largest collection of major scientific user facilities in the world. Annually, more than 33,000 researchers from U.S. industry, universities and federal agencies rely on these facilities to meet their scientific and engineering needs. Located at national laboratories and universities around the country, these facilities include particle accelerators, experimental reactors, high-precision instruments, synchrotrons and light sources, leadership-class supercomputers, and high-resolution mass spectrometers. Nearly half of the DOE facility users are university and federal researchers working to answer fundamental science questions. Industry uses these facilities to do the underlying research required to develop new pharmaceuticals, advanced materials for use in manufacturing, telecommunications equipment, and new industrial products that drive the economy. Without these state-of-the-art facilities, U.S. scientists and engineers will carry out their research elsewhere in the world and contribute to the innovation ecosystem abroad.

China, India, South Korea, the European Union, and others copy our approach to innovation and are expanding their investments in research programs and facilities. Strong and sustained funding for DOE science programs is needed to maintain scientific leadership, build a world-class technical workforce, improve the nation's energy security, and ensure continued U.S. competitiveness in the global economy.

Recognizing the importance of basic research to the DOE's energy mission, the Department has dedicated $1.8 billion within the DOE Office of Science budget as that office's contribution to the **Mission Innovation** initiative, a worldwide effort to accelerate the development of clean energy technologies and reduce associated costs over the next five years. Mission Innovation includes a broad spectrum of disciplines supported by the Office of Science. In particular, the focus on fully optimizing all current DOE user facilities – as well as providing funding for the continued development and construction of new user facilities – will enable scientists and engineers to achieve breakthroughs in critical areas of discovery and energy production, conversion, storage and use.

For these reasons we request Congress provide at least $5.672 billion for the DOE Office of Science in FY17.

Agronomy, Crop and Soil Science Societies
American Chemical Society
American Geosciences Institute
American Institute of Physics
American Mathematical Society
American Physical Society
American Society for Engineering Education
American Society of Agronomy
American Society of Mechanical Engineers
American Society for Microbiology
American Society of Plant Biologists
Arizona State University
Association of American Universities
Association of Public and Land-grant Universities
Battelle
Binghamton University
Boston University
Case Western Reserve University
Clemson University
Coalition for Academic Scientific Computation (CASC)
Columbia University
Computing Research Association
Cornell University
Cray Inc.
Crop Science Society of America
Duke University
Florida State University
Fusion Power Associates
Geological Society of America
George Mason University
Georgia Institute of Technology
Harvard University
IBM
IEEE-USA
Iowa State University
Jefferson Science Associates, LLC
Krell Institute
Massachusetts Institute of Technology
Materials Research Society
Michigan State University
Northern Illinois University
Oak Ridge Associated Universities (ORAU)
Pace University
Pennsylvania State University
Princeton University
Purdue University
Rensselaer Polytechnic Institute
Rutgers, The State University of New Jersey
Society for Industrial and Applied Mathematics
Soil Science Society of America
South Dakota School of Mines
Southeastern Universities Research Association
Stanford University
Tech-X
The Ohio State University
University of California System
University of Colorado Boulder
University of Delaware
University of Maryland, College Park
University of Michigan
University of Missouri System
University of Southern California
University of Texas at Austin
University of Wisconsin-Madison
Vanderbilt University
Washington State University
Washington University in St. Louis
West Virginia University