108TH CONGRESS
1ST SESSION

S. 873

To authorize funding for catalysis science and engineering research and development at the Department of Energy for fiscal years 2004 through 2009, and for other purposes.

IN THE SENATE OF THE UNITED STATES

APRIL 10, 2003

Mr. BINGAMAN introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources.

A BILL

To authorize funding for catalysis science and engineering research and development at the Department of Energy for fiscal years 2004 through 2009, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Department of Energy Catalysis Research and Development Act''.

SEC. 2. FINDINGS.

The Congress finds that catalysis science is critical to the production of fuels for energy generation, the reduc-

tion of toxic waste streams, and the development of compounds to reduce global warming.

SEC. 3. DEPARTMENT OF ENERGY PROGRAM.

(a) ESTABLISHMENT.—The Secretary of Energy, through the Director of the Office of Science of the Department of Energy, shall establish a program of research and development in catalysis science consistent with the Secretary's statutory authorities related to research and development.

(b) SCOPE OF THE PROGRAM.—The program shall include efforts to—

(1) enable catalyst design using—

(A) combined experimental and mechanistic methodologies, and

(B) computational modeling of catalytic reactions at the molecular level;

(2) develop techniques for—

(A) high throughput synthesis of catalysts and novel assays for rapid throughput catalyst testing of small quantities of catalysts on diverse processes, and

(B) reducing the analytical cycle time by parallel operation and automation,

(C) characterizing catalysts at the 0.1 to 2 nanometer scale, and

(D) characterizing catalysts in-situ under actual operating conditions at high temperature and pressure,

(3) synthesize catalysts with specific site architecture,

(4) conduct research for the use of precious metals for catalysis (excluding platinum, palladium, and rhodium),

(5) translate molecular (picoscale) and nanoscale fundamentals to the design of catalytic compounds.

(c) DUTIES OF THE DIRECTOR OF THE OFFICE OF SCIENCE.—In carrying out the program under this Act, the Director of the Office of Science shall—

(1) support both individual investigators and multidisciplinary teams of investigators that include teams drawing upon the expertise of homogeneous, heterogeneous, and biocatalyic investigators to pioneer new approaches in catalytic design;

(2) develop, plan, construct, acquire, share, or operate special equipment or facilities for the use of investigators conducting research and development in catalysis science in collaboration with national user facilities such as nanoscience and engineering centers;

(3) support technology transfer activites to benefit industry and other users of catalysis science and engineering; and

(4) coordinate research and development activities with industry and other federal agencies.

(d) MERIT REVIEW REQUIRED.—All grants, contracts, cooperative agreements, or other financial assistance awards under this Act shall be made only after independent merit review.

(e) TRIENNIAL ASSESSMENT.—The National Academy of Sciences shall review the catalysis program every three years to report on gains made in the fundamental science of catalysis and its progress made towards developing new fuels for energy production, material fabrication processes and methods to reduce global warming.

SEC. 4. AUTHORIZATION OF APPROPRIATIONS.

The following sums are authorized to be appropriated to the Secretary of Energy, to remain available until expended, for the purposes of carrying out this Act:

(1) $33,000,000 for fiscal year 2004.

(2) $35,000,000 for fiscal year 2005.

(3) $36,500,000 for fiscal year 2006.

(4) $38,200,000 for fiscal year 2007.

(5) $40,100,000 for fiscal year 2008.

(6) $42,100,000 for fiscal year 2009.

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