

## **American Recovery and Reinvestment Act: Transforming Our Economy with Science, Technology & Innovation**

The American Recovery and Reinvestment Act, signed into law by President Obama on February 17, invests in science and technology – both creating jobs in the short-term and building a foundation for strong economic growth in the long-term. The recovery package includes a \$17 billion investment in scientific research, including investments at the National Institutes of Health and the National Science Foundation, among others. Regarding new technologies, the package also includes nearly \$40 billion in investments in America's IT network infrastructure (including broadband, health IT, and a smarter energy grid). More than 100 high-tech CEOs and business leaders have endorsed these IT investments and stated that this \$40 billion investment alone will create more than 949,000 U.S. jobs, more than half of which will be in small businesses.

### **Investments in Scientific Research (\$17 Billion)**

#### **National Science Foundation**

- Provides \$3 billion overall for the National Science Foundation (NSF), putting the NSF budget on track to double over the next seven years, as called for under the America COMPETES Act (PL 110-69).
- Includes \$2.5 billion for NSF research and research-related activities. Sustained, targeted investment by NSF in basic research in fundamental science and engineering advances discovery and spurs innovation.
  - The \$2.5 billion includes \$300 million for major research equipment shared by institutions of higher education and other scientists.
  - The \$2.5 billion also includes \$200 million to repair and modernize science and engineering research facilities at the nation's institutions of higher education.
- Includes \$400 million to build major research facilities that perform cutting-edge science.
- Includes \$100 million for improving K-12 instruction in science, technology, engineering, and mathematics (STEM).

#### **Department of Energy's Office of Science**

- Provides \$1.6 billion for DOE's Office of Science, putting the office's budget also on track to double over the next seven years, as called for under the America COMPETES Act (PL 110-69).
- The DOE Office of Science is the single largest supporter of basic research in the physical sciences in the United States, providing more than 40 percent of total funding for this vital area of national importance. It oversees the nation's research programs in climate science, advanced computing, biofuels, high-energy physics, nuclear physics, and fusion energy sciences – areas crucial to our energy future.

#### **ARPA-E**

- Provides \$400 million for the Advanced Research Project Agency-Energy (ARPA-E) to support high-risk, high-payoff research into energy sources and energy efficiency in collaboration with private industry and universities.

#### **National Institutes of Health**

- Provides \$8.7 billion overall for NIH research and research-related activities, including \$500 million for renovation of NIH research facilities. The \$8.7 billion will fund a significant expansion in cutting-edge research to study diseases such as Alzheimer's, Parkinson's, cancer, and heart disease.

- According to Research America, this investment could create 70,000 jobs and stimulate the economy in numerous states because 90 percent of NIH research funding is distributed to colleges, universities and research institutions across the country.
- Also provides \$1.3 billion for NIH to renovate and equip university research facilities and help them compete for biomedical research grants.

### **National Institute of Standards and Technology**

- Provides \$580 million overall for the Commerce Department's National Institute of Standards and Technology (NIST).
- Includes \$360 million for construction at NIST labs and competitive construction grants for research science buildings at colleges, universities, and other research organizations.
- Includes \$220 million for additional research, equipment, and competitive grants.

### **Certain Other Key Investments in Scientific Research**

- \$1 billion for NASA, including \$400 million to put more scientists to work doing climate change and other research, \$400 million to further exploration activities, \$150 million for aeronautics activities to improve aviation security and Next Generation air traffic control (NextGen), and \$50 million to repair NASA centers damaged by hurricanes and floods last year.
- Provides \$830 million for the National Oceanic and Atmospheric Administration (NOAA), including \$600 million for construction and repair of facilities, ships, and equipment, improving weather forecasting, supporting satellite development, and addressing critical gaps in climate modeling; and \$230 million to address a backlog of ready-to-go research, restoration, navigation, and conservation activities.

### **Investments in IT Network Infrastructure (\$37 Billion)**

*More than 100 high-tech CEOs and business leaders have endorsed the bill's nearly \$40 billion in investments in IT network infrastructure, including broadband, health IT, and a smarter energy grid and estimate these investments will create more than 949,000 U.S. jobs, more than half of which will be in small businesses. They stated, "The investments in a smarter energy grid, health care IT..., and accelerating broadband deployment ... will not only stimulate the economy, but will also accelerate long-term growth."*

### **Broadband and Wireless Services**

- Provides \$7.2 billion for extending broadband and wireless services to underserved communities across the country, so that rural and inner-city businesses can compete with any company in the world.
- For every dollar invested in broadband, the economy sees a ten-fold return on that investment.
- The stimulative impact of this investment would be: 1) jobs to procure, produce, deliver, install, and maintain new infrastructure; and 2) jobs in sectors of the economy that rely on e-commerce, including the retail, high-tech, education, health care, and real estate sectors.

### **Smarter Energy Grid**

- Provides \$11 billion for improving the grid, including transforming the nation's electricity systems through the Smart Grid Investment Program to modernize the grid to make it more efficient and reliable. This will jumpstart smart grid demonstration projects in geographically diverse areas; increase federal matching grants for smart grid technology (to 50% from the current 20%) including "Smart Meters" that give consumers more choice in their energy consumption at home; and spur research and development. The funding will also facilitate the building of new power lines that can transmit clean, renewable energy from sources throughout the nation.

### **Health Information Technology**

- Provides \$19 billion to accelerate adoption of Health Information Technology (HIT) systems by doctors and hospitals, in order to modernize the health care system, save billions of dollars, reduce medical errors, and improve quality – including significant financial incentives through the Medicare and Medicaid programs to encourage doctors and hospitals to adopt and use HIT.