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Vice President Biden, University Leaders Discuss Impact of Stimulus on Research and Innovation
Among American Recovery and Reinvestment Act's legacies may be the knowledge to solve society's greatest challenges related to health, energy and the environment

WASHINGTON, D.C. – The presidents of six leading research universities and two higher-education associations joined Vice President Joe Biden and White House science advisor Dr. John Holdren this morning to discuss the scientific research and related activities that have been made possible by the American Recovery and Reinvestment Act (ARRA).

Participating in the event held in the Roosevelt Room of the White House were France Córdova, president, Purdue University; Ron Daniels, president, The Johns Hopkins University; Elson Floyd, president, Washington State University; Amy Gutmann, president, University of Pennsylvania; J. Bernard Machen, president, University of Florida; Mark Yudoff, president, University of California; Robert Berdahl, president, Association of American Universities; and M. Peter McPherson, president, Association of Public and Land-grant Universities.

The American Recovery and Reinvestment Act, also known as the stimulus, contained \$21.5 billion for scientific research, the purchase of capital equipment and science-related construction projects. While thousands of jobs have been created directly or retained as a result of this funding, the focus of this morning's discussion was on the basic research and discovery that would not have been possible if not for the ARRA. Although the investment was less than 3 percent of the \$787 billion stimulus measure, the money represented an historic infusion of funding for research. It was also an affirmation of the essential role scientific inquiry and discovery play in both short-term recovery and long-term economic growth.

No other event in recent history has had a similarly positive impact on basic research in the U.S. Funding from the American Recovery and Reinvestment Act has infused critical areas of research with needed resources, sped up work that would have taken years to complete, and enabled many of the nation's best and brightest minds to pursue novel research ideas that could yield potentially huge rewards.

For example, university laboratories in every state in the nation, supported by the National Institutes of Health with an infusion of ARRA funds, are conducting cutting-edge biomedical research.

- More than 20 cancer types, including breast and kidney, have been added to the [Cancer Genome Atlas](#) project (TCGA), which seeks to understand the genomic alterations and molecular pathways involved in the development of cancer in adults. The University of California, The Johns Hopkins University, [University of Southern California](#) and [Washington University in St. Louis](#) are among the many research institutions involved in this effort.
- A research team at West Virginia University has identified a gene pattern associated with lung cancer patients who are at high risk for recurrence of the disease. The new [finding](#) could have a major impact on survival rates for this disease.
- The University of Washington and Massachusetts Institute of Technology are spearheading efforts to understand the genetic connections to heart, lung, and blood diseases that account for three of the

leading causes of death in the U.S. The [Northwest Genomics Center](#) in Seattle will be among the first new, large-scale genomics centers focused entirely on medical sequencing to be created in the U.S. in more than a decade.

- Researchers at the University of Pennsylvania are studying [neurodegenerative disorders](#), such as Alzheimer's and Parkinson's disease, and specifically the long-term neurological effects of antiretroviral drugs taken by HIV patients—both what the effects are and, ultimately, how we can avoid harmful effects.
- A University of California, Berkeley, School of Public Health project will be one of the first to look at the [impact on children](#) of the chemical bisphenol A (BPA), an endocrine disruptor found in can liners and plastic water bottles that is causing growing concern around the world.

The American Recovery and Reinvestment Act also is making possible a tremendous investment in research into solving the nation's energy – and accompanying environmental – challenges.

- ARRA funding through the Department of Energy (DOE) is supporting a research team at Purdue University that is pursuing ways to improve [biomass fuels](#). Their goal is to reduce the need for large, expensive biorefineries and expand the range of viable biofuels.
- Washington State University is participating in and studying a DOE smart grid demonstration. Researchers there also are using ARRA funds through the National Science Foundation to test a new, environmentally-friendly [bioasphalt](#) they hope will replace petroleum-based asphalt.
- [University of Florida](#) researchers are studying how to better harness solar energy. One such effort, funded through DOE's ARPA-E program, will look at developing small refrigeration systems powered by solar energy or waste heat that do not contribute to global warming.
- At the University of Maryland, researchers are testing a new "[smart](#)" [metal](#) with the potential to dramatically improve the efficiency of current refrigeration and cooling technologies while substantially reducing carbon dioxide emissions.
- A consortium led by the [University of Maine](#) and including the [University of New Hampshire](#) will launch what is only the second active deepwater wind energy facility in the world and the first offshore deepwater wind project in the U.S.
- 150 graduate students across the nation, including from [Princeton University](#) and the [University of California](#), are recipients of fellowships from a new DOE program that aims to bolster the nation's scientific workforce, particularly in the areas of energy and the environment.

The examples cited above are only a small sampling of the research activities that have been made possible through funding from the American Recovery and Reinvestment Act. For more examples, visit www.ScienceWorksForUS.org. Taken together, this body of work will have a profound impact on society and the environment. It will lead to countless game-changing discoveries and innovations; it will help educate a generation of scientists, engineers, doctors and teachers; and it will lead to new products, companies and entire industries. All of which will make America stronger and better able to compete in a rapidly changing global economy.

[ScienceWorksForUS](#), an initiative of the Association of American Universities ([AAU](#)), the Association of Public and Land-grant Universities ([A·P·L·U](#)) and the Science Coalition ([TSC](#)), works to highlight the scientific research and related activities enabled by American Recovery and Reinvestment Act funding. AAU, A·P·L·U and TSC collectively represent more than 200 of the nation's leading academic research institutions.