

Democrats Invest in Energy Alternatives Science and Technology Committee Actions

In 2007, the Democratic Majority championed two major legislative initiatives to reduce our dependence on foreign sources of energy and invest in new alternatives. Both of these measures – HR 2272, the America COMPETES Act and HR 6, the Energy Independence and Security Act – were signed into law in 2007.

America COMPETES Act and ARPA-E

The 2005 National Academies report, *Rising Above the Gathering Storm* made a variety of legislative recommendations on how to ensure the U.S. remains competitive in the global economy. In 2007, the Science and Technology Committee moved several bills to codify these recommendations, including legislation to establish an Advanced Research Projects Agency for Energy (ARPA-E). As recommended by the National Academies, ARPA-E would be based on the successful DARPA research model at the Defense Department that was responsible for such breakthroughs such as stealth technology and the Internet and would sponsor “creative, out-of-the-box, transformational” energy research. ARPA-E was ultimately included in HR 2272, the America COMPETES Act (PL 110-69).

ARPA-E is specifically charged to:

- Reduce imports of foreign oil;
- Improve the energy efficiency of all economic sectors;
- Reduce greenhouse gas emissions; and
- Maintain U.S. leadership in the development and deployment of energy technologies.

ARPA-E will be another tool for government to use to meet our energy challenges, and it will be less bureaucratic, less risk-averse, and more flexible than traditional energy programs at Department of Energy (DOE). ARPA-E is not meant to replace long-term basic or applied research at the DOE.

- ARPA-E will leverage the nation’s universities, commercial, industrial, and investor communities, and the national labs to pursue high-risk, high-reward research that neither they nor DOE would pursue on their own.
- ARPA-E will be an independent entity within DOE with a flat and much less bureaucratic management structure able to quickly and intensively “crash” on projects.
- ARPA-E will have flexible hiring authority so that it can recruit the best and brightest program managers at competitive salaries.
- ARPA-E will have the authority to start and stop targeted projects based on performance and relevance.

The Energy Independence and Security Act

In 2006, the Government Accountability Office found that DOE's total budget authority for energy R&D dropped by more 85 percent in real terms from 1978 to 2005. During that time, crude oil imports grew from 40 percent of the U.S. supply in 1980 to 65 percent of the U.S. supply in 2005.

To reverse this trend, last year the Science and Technology Committee moved eight bills to spur the development of new energy technologies. These were ultimately included in HR 6, the Energy Independence and Security Act (PL 110-140). These programs will:

- Develop the next generation of biofuels using cellulosic materials rather than food-based crops (H.R. 2773 Biofuels Research and Development Enhancement Act);
- Help make solar technologies, including small-scale photovoltaics and large-scale concentrating solar power more affordable (H.R. 2774 Solar Energy Research and Advancement Act of 2007);
- Demonstrate technologies to engineer geothermal energy where it does not naturally occur, potentially allowing for production of geothermal energy throughout the country (H.R. 2304, Advanced Geothermal Energy Research and Development Act of 2007);
- Harness the waves and currents in our oceans and rivers to produce a new type of clean renewable energy (H.R. 2313 Marine Renewable Energy Research and Development Act of 2007);
- Mobilize integrated, large-scale demonstrations of carbon capture and storage technologies so that we can continue to use our country's vast domestic coal supply without increasing greenhouse gas emissions (H.R. 1933 Department of Energy Carbon Capture and Storage Research, Development, and Demonstration Act of 2007);
- Develop more efficient energy storage technologies including higher capacity and more reliable batteries for vehicles as well as batteries to store electricity from renewable sources like wind (H.R. 3776 Energy Storage Technology Advancement Act of 2007);
- Help industries and manufacturers that use vast amounts of energy make their production processes more energy efficient (H.R. 3775 Industrial Energy Efficiency Research and Development Act of 2007); and
- Spur high risk innovation in hydrogen by offering prizes for the development of the best technologies (H.R. 632 H-Prize Act of 2007).