



FY 2012 Funding for the U.S. DEPARTMENT OF ENERGY Advanced Research Projects Agency – Energy (ARPA-E) April 2011

Position: The Council for Chemical Research (CCR) **enthusiastically supports the President's proposed \$550 million** budget for ARPA-E. Because ARPA-E supports endeavors critical to US economic and energy security, we support creation of a dedicated funding stream for ARPA-E.

Who We Are: CCR is a non-profit organization dedicated to advancing multi-sector, multi-disciplinary research in the chemical sciences and engineering. Its member organizations – companies, universities and government laboratories – are represented in CCR by their research leaders.

We strongly urge the important components of funding for physical sciences research be maintained. Our studies (<http://www.ccrhq.org/publications>) and those of others demonstrate that Federal investments in chemical science research yield significant payback for the US economy. **Every dollar of Federal investment is leveraged by \$5 of private investment; this investment generates \$10 of operating income for industry (a 17% annual after tax return), the economy gains roughly \$40 in GDP and \$8 in increased tax revenues. A highly regarded CCR study showed that for 2001 the overall \$1B Federal investment in chemical R&D will create 600,000 new jobs over the following 20 year period.**

Rationale

The United States faces numerous economic and technological challenges related to energy independence and energy security. ARPA-E has a unique role in enabling critical early stage development of paradigm changing technologies in the face of development challenges. These new technologies are crucial in developing the Nation's energy resources to achieve independence and maintain security. Programs supported by ARPA-E will reduce dependence on foreign oil, increase efficiency of energy consumption, and decrease energy related emissions. Consistent, growing support will allow ARPA-E to:

- **Create new jobs** through development of new technologies and new energy and energy-related industries.
- **Foster the international competitiveness of the US** by developing new sources of energy and new technologies to improve our energy efficiency. By investing in cutting edge new technologies, we can enjoy long term economic gains and an increased tax-base.
- **Foster translation of basic research into implementation of technology.** Through its funding and stewardship, ARPA-E stimulates translation of early research discoveries into viable, commercialized technologies that will be implemented across the country. Such stimulation is essential to maintain US strength with sharply increasing international competition.
- **Guide new technologies to market** through its commercialization team that helps new ventures find longer term funding and private sector partners. This process leverages the Federal investment with private funds.
- **Provide a mechanism for high risk, high reward projects to be completed in a timely manner.** ARPA-E funds projects that no other Federal agency will fund due to their higher risk nature. However, the agency utilizes close oversight of these projects to maximize effectiveness of the Federal investment and mitigate risk.
- **Establish long term energy independence for our nation** through development of key technologies that would not be developed without the support of ARPA-E.