# ARPA-E in the Energy Competitiveness Act of 2006

Pursuant to the recommendations of the Committee on Prospering in the Global Economy of the 21st Century, the Energy Competitiveness Act of 2006 creates a new research agency called ARPA-E: the Advanced Research Projects Agency – Energy. ARPA-E's mission will be transformative, out-of-the-box research to break America's addiction to oil and other scarce or nonrenewable fuels. They will be charged with creating brand-new energy technologies and strategies, all to ensure that America's global economic competitiveness is not compromised by our energy needs in the coming decades. Key features of the Baucus ARPA-E are as follows:

**Modeled after DARPA:** ARPA-E takes its inspiration from the Defense Advanced Research Projects Agency, or DARPA. This Pentagon research office developed the Internet and stealth technology.

**Independent:** The bill creates ARPA-E outside of the Department of Energy, instead of inside the Department, to maintain the agency's independence as it pursues new energy strategies.

**Direct access, direct responsibility:** The Director of ARPA-E will be appointed by and report directly to the President.

**Small and elite:** ARPA-E will be a small agency with a total of 250 people. A minimum of 180 would be technical staff. The director and four deputies would lead ARPA-E.

**Engaged, expert staff:** ARPA-E staff will be required to have a technical background. The agency would use the Experimental Personnel Authority designed for DARPA, enabling higher salaries and faster hiring than for typical Federal employees. To maintain an intense, innovative focus, technical staff would be limited to 3 to 4 years at the agency. Managers would be limited to 4 to 6 years. The director can give both groups extended terms of employment at his or her discretion.

**Full funding:** The Energy Competitiveness Act of 2006 recognizes the magnitude, importance and urgency of ARPA-E's task, and provides appropriate funding as follows:

- FY2007: $300 million
- FY2008: $600 million
- FY2009 $1.1 billion
- FY2010: $1.5 billion
- FY2011: $2 billion

**Flexible contracting:** For contracts, the agency would use the DARPA procedure, which allows more flexible contracting arrangements than are normally possible under the Federal Acquisition Regulations. To ensure that ARPA-E would conduct innovative research, 75 percent of research projects initiated by ARPA-E would <u>not</u> be peer reviewed.

**Real incentives:** ARPA-E would be authorized to award cash prizes to encourage and accelerate energy research accomplishments.

**Room for growth:** The Energy Competitiveness Act of 2006 require a report by the end of fiscal year 2007 on whether ARPA-E needs its own, in-house energy research lab.

# Tax Provisions in the Energy Competitiveness Act of 2006

The Energy Competitiveness Act of 2006 extends a number of tax provisions found in the 2005 Energy Bill. It also includes the America's Business Choice Act of 2006, introduced by Senator Baucus and Finance Committee Chairman Chuck Grassley (R-Iowa) this month.

**Production Tax Credit:** Extends the renewable electricity production credit for three years for the following qualified facilities: wind, hydropower, closed-loop biomass, open-loop biomass, geothermal, small irrigation power, landfill gas, and trash combustion. Provides parity in duration of the credit (10 years) for all qualifying sources of energy. In addition, allows pass through of the credit to members of a cooperative. Expires after December 31, 2010.

**Clean Renewable Energy Bonds:** Authorizes the issuance of an additional $800 million of tax-credit bonds per year following the termination of the initial 3-year $800 million allocation enacted in the Energy Policy Act of 2005 to support renewable investment by municipal power authorities, rural cooperatives and tribes.

**Clean Coal:** Adds $1 billion to tax credits for investments in clean coal facilities. The Energy Policy Act of 2005 established: (1) a 20 percent credit for industrial gasification projects, (2) a 20 percent credit for integrated gasification combined cycle (IGCC) projects, and (3) a 15 percent credit for other advanced coal-based projects that produce electricity. The Energy Competitiveness Act adds $500 million to IGCC projects and $500 million to industrial gasification projects.

**Refinery Expensing:** Allows 50 percent expensing of the cost of refinery investments which increase the capacity of an existing refinery by at least 5 percent through 2012 and for refineries which increase the throughput of qualified fuels by at least 25 percent permanently.

**Commercial Building Deduction:** Extends a deduction established in the Energy Policy Act of 2005 for energy efficient commercial buildings meeting a 50 percent energy reduction standard. The maximum deduction is $1.80 per square foot of the building. Expires after December 31, 2010.

**Energy Efficient New Homes:** Extends a business tax credit, up to $2,000, created in the Energy Policy Act of 2005 for the builder of a new energy efficient homes meeting a 50 percent reduction standard. Expires after December 31, 2010.

**Residential Solar Tax Credit:** Extends a 30-percent tax credit, created in the Energy Policy Act of 2005, for the purchase of residential solar water heating, photovoltaic equipment, and fuel cell property. The maximum credit is $2,000 (for solar equipment) and $500 for each kilowatt of capacity (for fuel cells). Expires after December 31, 2010.

**Business Solar Tax Credit:** Extends a 30-percent business credit, established in the Energy Policy Act of 2005, for solar energy property and fiber-optic property used to illuminate the inside of a structure. Expires after December 31, 2010.

**Fuel Cell and Microturbine Tax Credit:** Extends two credits established in the Energy Policy Act of 2005, a 30-percent business tax credit for the purchase of fuel cell power plants and a 10-percent credit for the purchase of stationary microturbine power plants. Expires after December 31, 2010.

**Biodiesel Excise Tax Credit:** Extends the biodiesel excise and income tax credit for biodiesel, biodiesel mixtures, and renewable diesel. Expires after December 31, 2010.

**Credit for Refueling Property:** Extends for one-year a 30 percent tax credit, enacted in the Energy Policy Act of 2005, for the cost installing clean-fuel vehicle refueling property. Clean fuels include ethanol, hydrogen, and mixtures of diesel fuel and biodiesel. Expires after December 31, 2010.

**Eliminate Depreciation Limitation for Alternative Motor and Electric Vehicles (the America's Business Choice Act):** Exempts alternative and electric passenger vehicles purchased by business owners from the limitation on depreciation for "luxury" automobiles -- a policy that already applies to heavy SUVs. Additionally, small business owners can deduct up to $100,000 of the cost of any alternative vehicles that they buy.