

**The American Chemistry Council**  
**Clean Energy Economic Recovery Proposals**  
**December 2008**

American Chemistry supports funding clean energy programs as part of an economic recovery package. American Chemistry produces materials that make the rest of the economy more energy efficient (e.g. insulation, light-weight vehicle parts). We also make materials used in clean energy technologies (e.g. wind turbines, solar panels, lithium-ion batteries). Finally, American Chemistry invests in technologies and services that improve the energy-efficiency of our own operations (e.g. combined heat and power systems). Investing in clean energy programs creates jobs, improves the nation's energy security, and reduces greenhouse gas emissions. Here are some of the many programs American Chemistry supports.

**End-User Energy Efficiency**

**Low-Income Home Weatherization**

Weatherizing a home is a more cost-effective strategy than providing home heating financial assistance. Weatherizing creates lasting improvements in energy savings and reduced greenhouse gas emissions. Done on a large scale, it generates large numbers of jobs, reduces energy consumption and lowers energy prices. *The Energy Conservation and Production Act, Section 422 and 42 U.S.C. 6872* appropriated \$700 million for FY 2008 for improving the energy efficiency of low-income homes. These funds are dispersed via community agencies that engage contractors for services. The Senate stimulus package included an additional \$200 million in FY 2008 for this program. Given President-elect Obama's campaign goal of weatherizing one-million homes a year, funding for this program should be considerably expanded.

**High-Performance Schools**

The House-passed version of the stimulus package included \$3 billion in grants for improving the energy efficiency of our nation's schools. This program would stimulate demand for construction materials, create jobs for restoration crews, lower energy costs on strained school budgets and create a better learning environment for students.

**Energy Efficiency and Conservation Block Grants**

Buildings and Transportation are the two largest sources of greenhouse gas emissions. A major commitment to funding energy efficiency programs in these areas is needed to achieve job

creation, energy security and greenhouse gas emission reduction goals. *The Energy Independence and Security Act, Title V, Subtitle E and 42 U.S.C. 17012* authorized \$2 billion in each of FY 2008 through 2012 to help local governments initiate programs and strategies to improve energy efficiency in the transportation and building sectors. A recent economic study sponsored by the Center for American Progress estimates that a \$100 billion investment in clean energy and efficiency would result in 2 million new jobs, which suggests that \$2 billion in funding could create 40,000 jobs. Funding for this program has not been appropriated. This program should be fully funded, if not expanded.

### **Building Code Upgrades**

Upgrading state building codes would work well in concert with direct funding programs like the energy efficiency and conservation block grants initiative. Contemporary building targets create the energy efficiency targets that implementation-oriented programs can target to achieve. *EPAct, Section 128 and 42 U.S.C. 15801* authorized \$100 million to fund State programs from FY 2006 through 2010 for building code upgrades, training and technical assistance and the state building energy efficiency codes incentives program. The program has not been fully funded, although \$3.7 million was appropriated for FY 08.

## **Industrial Energy Efficiency Investments**

Investing in industrial infrastructure is another effective economic recovery strategy. Modernizing manufacturing plants and equipment creates jobs, makes the manufacturing economy more competitive in global markets, curbs energy consumption and reduces greenhouse gas emissions. Helping to spur large-scale and widespread investment in manufacturing plants and equipment is a vital precursor on the road to building a low-carbon economy.

### **Funding Assistance for Energy-Intensive Industrial Equipment**

Businesses face frozen credit markets and have been forced to severely curtail capital investment budgets. *The Energy Independence and Security Act (EISA), Title IV, Subtitle D* authorized \$410+ million for industrial energy efficiency RD&D programs through the DOE Energy Efficiency and Renewable Energy office. This program should be expanded in size and scope and money should be made available to help finance the purchase of high-efficiency industrial equipment.

Boilers, furnaces, and motors are the largest sources of energy consumption and greenhouse gas emissions. The manufacturers who use this equipment are the largest energy consumers in the industrial economy and account for almost 10 percent of national greenhouse gas emissions. In

many cases, purchasing new equipment can improve energy efficiency by up to 20 percent, making for a very considerable energy savings potential for this proposed program.

### **Funding for the Waste Energy Recovery Incentive Grant Program**

The 110th Congress saw the value in creating a program to recover waste energy from industrial facilities and included such a program in the 2007 energy bill. Capturing and using waste energy at industrial facilities saves energy, increases energy security and reduces greenhouse gas emissions. It would also help make the industrial economy more competitive in global markets.

*The Energy Independence and Security Act, Title IV, Section 373* authorized \$200 million for waste heat recovery through CHP. The funding for this program has not been appropriated. Instead, this program should be funded and at higher levels than authorized by statute.

### **Expand DOE's Industrial Technologies Program**

DOE's Industrial Technologies Program (ITP) works with U.S. industry to improve industrial energy efficiency and environmental performance. The program invests in high-risk, high-value R&D to reduce industrial energy use while stimulating productivity and growth. *Save Energy Now* energy assessments have helped U.S. manufacturing facilities save an average of \$2 million, or 8% of their total energy costs.

Congress should expand the scope and funding for ITP and its *Save Energy Now* programs. ITP's mission should go beyond research and development and should directly assist with the modernization of industrial facilities. *Save Energy Now* provides a valuable energy efficiency work plan that industrial facilities could implement, if they had the capital required to fully realize the energy savings potential discovered during energy assessments.

Congress should create a funding mechanism to permit participating industrial facilities to obtain low-cost capital to fully implement energy assessments performed by *Save Energy Now's* expert auditors.

### **Accelerate Capital Cost Recovery for Energy Efficient Investments**

A new report, "Combined Heat and Power: Effective Energy Solutions for a Sustainable Future," recommends supplying 20 percent of the nation's electricity from CHP by 2030 (in 2006, CHP accounted for more than 12 percent). A 20 percent CHP target would deliver fuel savings of 5.3 quads a year, equal to half of U.S. household energy consumption; \$234 billion in new investment and nearly 1 million new jobs for highly-skilled workers; CO2 emissions reductions

of more than 800 MMT – equal to taking more than half of all passenger cars off the road; and will avoid more than 60 percent of projected increases in CO2 emissions.

Unfortunately, investment in CHP systems is discouraged in the U.S. by high capital costs and tax rates. One way to stimulate investment in new CHP systems is to put U.S. capital cost recovery rates for energy efficient investments on par with Canada's. According to Ernst and Young, nominal capital costs recovered after five years of investment in U.S. CHP units stand at 29.5 percent. In Canada, capital costs recovered after five years equals 79.6 percent.

Accelerated depreciation for other energy-related equipment purchases should also be considered. Examples include high efficiency boilers, furnaces, motors and air compressor systems.

### **Energy Efficiency and Renewable Energy Incentives**

The tax code is another effective tool for spurring investment in energy efficiency and renewable energy projects and programs. We believe the following proposals have high job creation potential, will curb energy consumption and improve energy security, and will result in less greenhouse gas emissions.

#### **Extending Tax Credits to Homes and Commercial Properties**

In 2008, Congress extended tax credits for a number of energy efficiency investments. Congress should now consider long-term extensions (8 to 10 years) of those credits to ensure that a lasting market is created for energy-saving technologies. Proven efficiency technologies are capable of reducing energy loss in homes and buildings by 30 to 50 percent. The new energy efficient credit began three years ago and is just now showing its value (use of the credit grew by 300 percent in 2007 over 2006). Some initiatives that Congress should consider are:

- Extending the credit for home owners to retrofit existing homes with energy efficiency improvements. The current credit expires in 2010. ACC also supports expanding the Sec. 302 credit for non-business energy property. It defines the building envelope and is a credit for retrofitting current homes. The entire language could be picked up and applied to the sections dealing with commercial buildings and new home construction. It could also be extended for 5 years instead of the current one year credit.
- Extending the credit for home builders to build more energy efficient homes. The current credit expires in 2010. Congress should also increase the tax credit for residential energy

efficiency investments to \$4,000 if the investment yields an efficiency improvement of at least 40 percent.

- Extending the credit for purchases of energy efficient appliances. The current credit expires in 2011.
- Increasing the Energy Efficiency Commercial Building Tax Deduction from the current \$1.80/square foot to at least \$3. Also, enacting provisions which make the deduction more accessible and user friendly for building envelope investments.
- Supporting bonus depreciation for efficient roofs by enacting a 50% bonus depreciation for 2009 and 2010 for energy efficient roof replacements installed on existing commercial buildings and high-rise residential-rental buildings. The building owner would deduct 50% of adjusted basis of the qualified roof property placed in service in 2009.

### **Renewable Energy Tax Extenders**

*The Financial Stabilization Package, H.R. 1424 (P.L. 110-343)*, included \$18 billion in renewable energy tax extenders. Congress can build on that accomplishment by:

- Extending the wind production tax credit (PTC) by at least 5 years, and make the PTC and its accelerated depreciation refundable. The PTC should be refundable for the duration of the credit for projects placed in service through 2015. This will create a longer-term, stable environment for large-scale U.S. wind infrastructure investment.
- Investing in upgrading the transmission grid to better connect consumers to renewable energy. Many believe this is the biggest obstacle to growth in renewable energy use. Upgrading the grid is essential to improving efficiency and connecting the remote wind corridor to cities that need the energy. This is stimulus because of the infrastructure technology demand and job creation impact.

### **Alternative Energy -- Industrial Incentive Program for Carbon Capture and Storage**

Carbon Capture and Storage (CCS) is a critical technology that must be fully developed and commercially deployed in order to achieve reductions in greenhouse gas emissions while also increasing jobs in the U.S. Current market conditions are not adequate to incentivize or drive commercial investment in the technology and government funds to support private investment are limited.

A government-funded CCS grant program should make all industrial sources (i.e., power plants and manufacturing plants) eligible for participation. Eligible projects should not be limited in scope and should include retro-fits, modifications or new plants. The program should also be structured to maximize the job growth potential of the program by ensuring that any funded projects are geographically diverse. The current CCS program at DOE is too limited in size and scope.

In order to achieve CCS commercialization and robust job growth, a substantial increase in funding is needed. The Electric Power Research Institute (EPRI) estimates that \$17 billion is needed over the next 25 years in order to undertake the necessary RD&D that would avoid a \$1 trillion reduction in economic growth by 2050. The grant program should be funded at a level sufficient to provide each facility with a five-year payback schedule or less.

## **Infrastructure**

### **Water Infrastructure Improvements and Enhancements**

Each day, about 700 water main breaks occur in North America -- 250,000 breaks annually. Primarily as a result of this leakage and breakage, some 2.2 trillion gallons of water are lost annually in the United States -- enough to meet the drinking water needs of every person on Earth for a year. Corroded, leaking and broken water pipes also have real energy impacts. Extra energy is required to pump water to make up for amounts lost from breakage, and to force water through passages constricted by pipe corrosion and tuberculation.

Properly designed and installed plastic pipe has an estimated life span of more than 100 years, with little or no loss of strength. Such piping is also able to bend or flex without breaking, making it better suited to handle ground movements caused by unstable, shifting soils and earthquakes.

A coalition of water utilities recently estimated that the nation is in immediate need of at least \$10 billion to modernize drinking water infrastructure. Projects in this sector are “ready to go” and could, according to the utilities, employ more than 400,000 American workers.

## **Vehicle Efficiency**

### **Plastic and Composite Intensive Vehicles (PCIVs)**

U.S. automakers must adapt their global vehicle architectures to provide consumers with choice and value when it comes to energy efficient vehicles. One way to drastically reduce vehicle

energy consumption is to cut the weight of the vehicle. New developments in lightweight plastic and composite materials provide an innovative way to lighten vehicles while maintaining passenger safety and the integrity of the vehicle. The characteristics of plastic and composites – including strength to weight ratio, energy absorption and flexible design – make these materials ideal for use in automobile design. Congress should encourage the use of PCIVs in the manufacture of automobiles to lighten their weight and achieve higher fuel efficiency.

### **Advancing Electric Vehicle Technology**

Congress should provide funding of at least \$1 billion for a \$3.3 billion advanced battery loan guarantee program (*EISA, Sec. 135, 42 U.S.C. 17012*) for the construction of facilities for the manufacture of advanced vehicle batteries and battery systems that are developed and produced in the United States, including advanced lithium-ion batteries and hybrid electrical system and component manufacturers and software designers. The House-passed stimulus included \$1,000,000,000 for this program.