



## Clean Energy and Energy Efficiency Program Recommendations for Inclusion in the 2009 Economic Recovery Legislation

Energy efficiency and clean energy technologies can play a vital role in the U.S. economic recovery – building robust and sustainable domestic industries, creating millions of new jobs, and providing long-term and enduring benefits to the economy, communities and the environment. The Business Council for Sustainable Energy appreciates the strong recognition of the role of clean energy and energy efficiency in the legislative proposals released by the Congress and the Obama Administration.

As Congress considers these proposals in greater detail, Council members strongly support the proposed investment of \$150 billion over a 10 year period to advance clean energy and drive large-scale energy efficiency improvements. We also agree with the proposed increase in funding for new job training programs for clean energy technologies, and the proposed extension of the Production Tax Credit (PTC) as well as vehicles to restructure the PTC and other clean energy tax incentives, such as accelerated depreciation, so they work in current market conditions.

In this document, the Council outlines a list of policies that the Obama Administration and 111<sup>th</sup> Congress should consider as it further refines the elements of the economic recovery plan. Given the urgent nature of the nation's economic situation, and the need for quick action on the recovery plan, these recommendations are designed to meet near-term economic, energy and environmental goals. A comprehensive and more expansive description of the Council's policy priorities is outlined in the Council's document entitled, *Moving the Nation Toward a Clean Energy Economy*. In addition, we refer you to the economic recovery recommendations supported by our individual members.

This package represents a "snapshot" of today's economic, energy and climate situation; however, as we have seen in recent months, this situation can change significantly from day to day. Therefore, the Council's views on this suite of proposals will continue to evolve as these situations change and as Congress considers various legislative proposals related to the economic recovery legislation.

It is important to note that as a diverse business coalition, not all Council members endorse or take positions on the entire set of recommendations provided below.

### Taxes

#### 1. Improve the Renewable Energy Investment Tax Credit

The current downturn in the economy has substantially reduced the utility of the investment tax credits (ITC) extended by Congress on October 3, 2008, including the ITC for combined heat and power (CHP). To address this challenge the credits should be improved to (1) be refundable (including accelerated depreciation) and/or make them fully transferable; and (2) allow state and local governments to provide financing without reducing ITC eligibility (e.g. eliminate penalties for "subsidized energy financing"). With the proper adjustments, the renewable energy tax credits will have a significant and immediate impact on the U.S. economy.

#### 2. Restructure and Extend the Renewable Energy Production Tax Credit and Adjust Other Renewable Energy Tax Benefits

Restructuring the Production Tax Credit (PTC) and the other important renewable energy tax benefits such as accelerated depreciation, is essential to continued industry growth and the creations of thousands of high quality jobs in the U.S.

The Council seeks temporary changes in federal renewable energy incentives that will help expand the number of investors in renewable energy projects, assist in providing adequate capital for project development, and ensure the incentives provide the benefit Congress originally intended when extending the PTC.

Specifically we support:

- Changes that enable renewable energy developers to effectively monetize their PTC and accelerated depreciation benefits to the extent they do not have sufficient levels of taxable income to otherwise utilize these tax incentives;
- Allowing renewable energy developers to carry back PTCs generated in 2008 and 2009 (regardless of when the facility was put into service) against their tax liabilities over the prior decade to the extent they make new renewable energy investments in 2009. Such extended carry backs are currently allowed for certain tax benefits for marginal oil and gas wells.

The existing PTC architecture requires renewable energy developers to enter into tax equity deals which lead to millions of extra dollars in transaction costs. Additionally, the tightening credit market has narrowed the number of available tax partners leading to a worsening of the commercial terms under which developers can enter into such deals, if they are fortunate enough to find a party with the tax appetite for their tax attributes, and to the reconsidering and/or cancellation of projects currently planned for fear of not being able to find a way to monetize the tax attributes of these projects in order to make the projects economically viable.

Lastly, we urge a multiple-year extension to the PTC to provide much needed certainty in the market.

### **3. Production Tax Credit for Hydropower Resources**

We urge credit parity for hydropower resources, including incremental hydropower at existing projects and hydropower development at non-hydropower dams, as well as the new ocean, tidal instream hydrokinetic and conduit power technologies. Currently these resources receive only one-half the credit compared to other renewable energy technologies. Developers are investigating hydro projects that remain uneconomic at the reduced credit level that become economic at the full credit level.

We suggest the following legislative amendment to the tax code to provide tax credit rate equity: Amend section 45(b)(4)(A) to read as follows: "(A) Credit rate. In the case of electricity produced and sold in any calendar year after 2003 at any qualified facility described in paragraph (3), (5), (6), or (7) of subsection (d), the amount in effect under subsection (a)(1) for such calendar year (determined before the application of the last sentence of paragraph (2) of this subsection) shall be reduced by one-half."

In addition, we support the inclusion a temporary change to the PTC placed-in-service deadline. For the current PTC extension, allow hydropower developers who place equipment orders or file a license application by January 1, 2011 (January 1, 2012 for hydrokinetic developers) to be eligible to receive the credit though generation may come online after the date. This would address the inability for developers to order, receive, and install customized equipment at manufacturing facilities that have a 12-18 month backlog.

### **4. Broaden the Definition of Renewable Energy for Purposes of the Tax Credits**

Broaden the definition of renewable energy for purposes of the tax credits to include other effective technologies (such as light pipe or any commercial solar light enhancing technology that

specifically optimizes illumination without heat, renewable natural gas, and daylight harvesting) and extend for eight years the renewable energy tax credits and establish a phase out period of four years.

We suggest the following legislative text to expand the federal business energy tax credit (26 USC § 48): add a new clause to Internal Revenue Code section 48(a)(3), defining “Energy Property,” to read “equipment that uses solar energy to illuminate the inside of a structure using a highly reflective light pipe, which has a solar collection component and a distribution lens at least 14” apart, to transport visible solar radiation from its collection point to the interior of a building. Such equipment shall integrate automatic lighting controls to adjust traditionally powered lighting to satisfy building lighting requirements.” Additional sections to be added to (26 USC § 48) Internal Revenue Code, to include renewable gas [section 48(a)(4)], and daylight harvesting [section 48(a)(5)].

In addition, please see the Biogas Production Incentive Act of 2008, HR 7097, (Higgins, Emanuel & Nunes) along with the Biogas Production Incentives Act of 2007 (Nelson & Craig), both of which would grant a seven-year transferable production tax credit of \$4.27 per MMBtu for production of pipeline-grade methane from qualifying facilities, and thereby put renewable natural gas production on equal footing with other producers of renewable energy.

#### **5. Loan Guarantees for Renewable Energy Manufacturing**

Provide loan guarantees to assist manufacturers of renewable energy components and equipment to obtain financing for new plants and investments.

#### **6. Solar Market Deployment Initiatives**

The stimulus bill should include a Solar Production Incentive as well as extend the bonus depreciation for one year for photovoltaic panel manufacture and installation that was included in the Economic Stimulus Act of 2008 for one year. This action, coupled with production incentives and restructuring of the renewable energy tax incentives can accelerate industry growth and create 64,000 jobs and generate over 3,000 megawatts of power.<sup>1</sup>

#### **7. Bonus Depreciation for Energy-Efficient Commercial Roof Replacements**

As an incentive to increase employment and energy savings in the commercial roofing sector, enact a 50% bonus depreciation effective during 2009 (and 2010 if necessary) for energy-efficient roof replacements installed on existing commercial buildings and high rise (*i.e.*, higher than three stories) residential-rental buildings. This would permit an owner to deduct 50 percent of the adjusted basis of the qualified roof property placed in service during 2009. The proposal could be added to the bonus depreciation that was enacted last February as part of the Economic Stimulus Act of 2008 or enacted on its own. Because building roofs are not covered under the existing bonus depreciation, including energy-efficient roof replacements would provide a significant incentive for building owners to initiate such replacements right away during the economic downturn, instead of waiting. A qualified roof replacement would be defined to require minimum roof R-values similar to those listed under the proposed ASHRAE Standard 189P for green buildings, which, on average, are 76% more stringent than the R-values under state and local codes used today.

We propose the following legislative text to be added to an extension of the 2008 bonus depreciation provisions of the economic recovery plan:

( ) INCLUSION OF COMMERCIAL BUILDING ENERGY-EFFICIENT ROOF REPLACEMENT PROPERTY.—

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<sup>1</sup> *Sun Edison*, Solar Power Stimulus Fact Sheet, January 2009.

(1) IN GENERAL.—Section 168(k)(2) of the Internal Revenue Code of 1986 is amended by adding at the end the following new subparagraph:

“(H) CERTAIN ROOF REPLACEMENTS.—The term ‘qualified property’ includes property—

“(i) which meets the requirements of clauses (ii), (iii), and (iv) of subparagraph (A),

“(ii) which replaces the roof of an existing building that was placed in service prior to January 1, 2004,

“(iii) which is installed on a building that is within the scope of ASHRAE Standard 90.1-2007, and

“(iv) which is within the scope of and has an insulation R-value that is equal to or greater the requirements for the category ‘insulation entirely above deck’ as prescribed under tables 5.5-1 through 5.5-8 of the ASHRAE Standard 90.1-2007, multiplied by—

“(I) 1.33 for buildings located in climate zone 1,

“(II) 1.25 for buildings located in climate zones 2 through

5

“(III) 1.5 for buildings located in climate zone 6, and

“(IV) 1.75 for buildings located in climate zones 6

through 8.

#### **8. Incentives for Greater Use of Zero-Emission Vehicles**

Examples of such incentives would be to include battery electric low-speed vehicles (LSVs, a class of motor vehicles created by NHTSA in 1998) in the federal tax credit that now exists for hybrids; and to include LSVs as qualifying federal fleets for purposes of EPACT compliance; and extending the federal tax credit to encourage owners of gas or diesel powered off-road fleets to switch to electric, zero-emission alternatives.

#### **9. Increase Investment in Security Upgrades at Public and Other Sensitive Buildings**

This would be especially important at our nation’s vital energy infrastructure, such as dams, refineries, power plants, etc.

#### **10. Incentives for More Efficient Temperature Control Equipment in the Transport Sector**

Commercial fleet owners who haul perishable food in refrigerated trucks operate on small profit margins and may not have the capital to invest in replacing old, inefficient temperature-controlled equipment in their vehicles. Incentives would encourage replacements, resulting in greater fuel efficiencies and reduced emissions.

#### **11. Incentives for Self-Contained Auxiliary Power Units on Long Haul Trucks**

Drivers of long-haul trucks now leave the truck diesel engine idling to keep their cab comfortable and to run internal equipment during scheduled non-driving times. Such idling wastes fuel, and contributes to greater emissions. Tax incentives that would encourage truck owners to install an auxiliary power unit (AUP), that would allow the truck engine to be shut down but keep the cab functions working, would reduce emissions and reduce fuel consumption by 90%.

### **Appropriations to Stimulate Jobs in Energy Efficiency**

The Council has been supportive of a coalition effort known as the “TAG” – Taxes and Appropriations Group – which has developed recommendations on energy efficiency investments for inclusion in an economic recovery bill. Legislative language for the economic recovery bill needs to be written broadly so that funds (whether they be used by the federal government or state government) are made available on a competitively neutral basis to all parties that can meet appropriate guidelines. Limiting availability of funding to certain entities would be anti-

competitive, reduce job growth and stifle innovation and creativity necessary to deliver the most efficient programs to consumers.

Consistent with the TAG recommendations, the economic recovery bill should include a State Energy Efficiency Grants Program, which would provide states with about \$20 billion for energy efficiency programs and condition some of the funding on state adoption of certain utility regulatory reforms that promote energy efficiency and modernized building energy codes.

The State Energy Efficiency Grants Program would be separate from the Energy Efficiency and Conservation Block Grants Program authorized by the Energy Independence and Security Act of 2007 (EISA), which provides funding primarily to local governments.

The State Energy Efficiency Grants Program would be administered by the Department of Energy (DOE). The DOE Secretary would distribute half of the program funding in Fiscal Year (FY) 2009 and the remaining funding in FY 2010. FY 2009 funding would be distributed without conditions, but FY 2010 funding would be disbursed according to performance-based criteria. Both the Secretary and the States would have flexibility in allocating funds to the various programs supported by the Efficiency Grants Program, which are:

- *Home Energy Efficiency Retrofits.* \$2.5 billion for expanding the current Home Performance with Energy Star whole home retrofit program with the goal of retrofitting about 750,000 homes within two years. The incentive amounts under the program would be based on the percentage improvements in efficiency.
- *Public Buildings Efficiency Retrofits.* \$3 billion for comprehensive energy efficiency retrofits of state and local government buildings and facilities, including buildings and facilities of state government agencies, public universities, municipalities, counties and vocational districts. The incentive amounts would be based on the percentage improvements in efficiency.
- *Commercial Buildings Efficiency Retrofits.* \$2.5 billion for a program that would provide an incentive to commercial building owners for efficiency improvements based on demonstrated energy savings of no less than 20 percent with incentives calibrated to encourage 30 percent savings or greater.
- *Energy Efficiency Programs Matching Fund.* \$5 billion for a federal match of state approved energy efficiency programs that are monitored and verified to ensure that energy efficiency measures are being implemented and are saving energy on a cost-effective basis.
- *Industrial Efficiency Program.* \$2 billion for a direct loan program to manufacturers that either implement cost-effective energy saving projects in their facilities or expand production of energy efficient equipment.

The State Energy Efficiency Grants Program would also include \$5 billion for an Energy Efficiency Challenge Grants Program. This program would be made available to states that complete the adoption and implementation of two critically needed state energy efficiency policies – 1) utility regulatory reforms that enable utilities to make energy efficiency a sustainable business, and 2) modernized building energy codes.

The State Energy Efficiency Grants Program would dramatically increase current investment in energy efficiency programs nationwide. Current utility energy efficiency program spending in the U.S., which accounts for most of the total efficiency investment, is approximately \$3 billion annually. The State Energy Efficiency Grants Program would jump-start a building efficiency retrofits industry, creating high quality permanent jobs in the U.S. and deploying technologies critical to solving global warming.

### **1. Whole Home Retrofit Rebate and Loan Program**

To reduce the economic burden of rising fuel bills and to create jobs, establish an emergency rebate and loan program to fund energy efficiency improvements in residential buildings, helping to reduce energy costs in participating homes by 10-30% or more. The program would provide a rebate (or reduced interest loan) to homeowners (or any party obtaining an owner's consent) to undertake an efficiency retrofit of an existing home. The rebate would be performance based, rewarding higher levels of energy efficiency improvement with higher rebates under a good (10% savings), better (20% savings) and best (30% savings or more) model. The program would also include support for the training of contractors and home energy auditors/raters who would help implement the program. Program would be administered by states, with half the resources allocated to states which use up their initial funding in order to reward states with the most effective programs.

Congress should appropriate the \$25 million for building codes inspector training that was authorized under the Energy Policy Act of 2005, and should authorize and appropriate another \$75 million for a total of \$100 million. The tax credit for new and existing homes, as well as for commercial building incentives should be extended to 2013.

### **2. Administrative Steps to Clear the Energy Efficiency Upgrade Backlog**

\$2.2 billion in major energy efficiency projects are currently in the Energy Savings Performance Contracting pipeline at the Federal Energy Management program – Congress Should enact a measure directing FEMP to clear the pipeline immediately. In 2006, FEMP did a “Blitz” that pushed more than \$400 million of projects into implementation in 6-9 months. Consider funding a 25% match from the Treasury for projects that are implemented in the next 12 months.

### **3. Waste Energy Recovery Incentive Grant Program**

Provide full funding (\$200 million) for the Waste-Energy-Recovery Incentive Grant Program authorized in the Energy Independence and Security Act. That provision provides “\$10 per megawatt hour of documented electricity produced from recoverable waste energy (or by prevention of waste energy in the case of a new facility) by the project during the first three calendar years of production.”

In December 2008 the Oak Ridge National Laboratory released a report stating that waste energy recovery is “one of the most promising options in the US energy efficiency portfolio.” CHP development could generate \$234 billion in new investments and create nearly 1 million new highly-skilled technical jobs throughout the United States.

### **4. Energy Efficiency in Federal Buildings**

A. Authorize and appropriate \$1.2 billion to fund audits, metering and energy efficiency improvements in federal buildings. The appropriations would be administered through the Department of Energy, which would retain two percent of the funds as a tariff to improve staffing and fund the administration of the program. The funds should be available on a first-come, first-served basis, and should be available for 24 months after the effective date of the stimulus bill. The funding would contribute to the achievement of President-Elect Obama's plan to reduce federal energy use by 45 percent and, ultimately, to attain carbon neutral buildings within a decade.

B. Increased Investment in Energy Efficiency Upgrades to Schools and Other Public Buildings. Congress should support additional investments in energy audits (performance contracts), as well as upgrades to a building's heating, cooling, ventilation, hot water, and interior lighting systems, and to its controls. Additional worker training is critical for energy efficiency audits.

C. Federal Procurement. We encourage Congress to provide \$1.2 billion in the economic recovery bill for federal agencies for energy efficiency improvements and installation of clean

distributed energy in federal buildings, including military installations. Federal agencies need funds for comprehensive energy efficiency improvements, and we encourage them to use those funds to leverage additional improvements via private sector options. We recommend that funds be provided on a first-come, first-served basis and be available for 18 months and that administration be at the Federal Energy Management Program (FEMP) of the DOE.

#### **5. Incentives for Supermarkets and Other Food Purveyors to Install Efficient Stationary Refrigeration.**

Currently, the return-on-investment (ROI) for supermarkets, grocers and convenience stores to replace old, less efficient equipment provides no incentive to replace the old equipment. Not only do store operators have to factor in the cost of the equipment, but they also have to be concerned about the loss of revenue that may accompany down-time during the switch-out. Furthermore, many of the older systems contain refrigerants that have high ozone-depleting and global warming potentials. An incentive, such as a tax credit, would improve the ROI for store operators to make the replacements to more efficient and environmentally-preferred equipment.

#### **6. Manufacturer's Tax Credit for Efficient Residential HVAC and Furnaces.**

This credit could be modeled after the similar tax credit for efficient home appliances that was enacted as part of EPACT 2005 and re-enacted as part of the Emergency Economic Stabilization Act of 2008. Most of the residential air conditioners and furnaces sold in the U.S. and Canada are made in the United States, so this credit would save energy, reduce greenhouse gas emissions, and create or preserve American jobs.

#### **7. Reduce the Depreciation Time for Efficient Commercial HVAC Equipment.**

Reducing the time frame for depreciating commercial HVAC equipment to more consistently match the expected life of the equipment would improve the return-on-investment (ROI) for building owners to make the changes. These changes would improve efficiency, lower greenhouse gas emissions, help the recovery of the ozone layer (many of the older units have CFC refrigerants) and create or preserve construction jobs in the United States.

### **Appropriations to Stimulate Jobs in Renewable Energy**

#### **1. Clean Renewable Energy Bonds for Hydropower Resources**

Increase the funding for the CREBs program a minimum of \$800 million. Hydropower projects are larger developments than other renewable technologies, both in terms of energy production and cost. In earlier rounds of CREBs applications, funding ran out and several hydro projects were denied.

#### **2. Aggressive Federal Procurement of Renewable Energy.**

As the economy worsens, about 30 utility-scale renewable projects have been canceled. This is understandable, since electricity use has actually gone down between 1% to 9% depending on the region in the United States. Additionally, because consumer credit and renovation loans are at a standstill, much of the small business and residential demand for energy efficiency, solar and small wind is on a downward trajectory. In about 4 months, this will hit the small and medium-sized clean energy assemblers, integrators, and installers like a brick wall, and a few months later, the larger manufacturers.

The Federal Government should aggressively procure renewable energy – some of which is already in the pipeline -- with other existing federal loan programs and with State and local government procurement programs to drive demand and to, hopefully, help these industries through this sudden drop in demand. Without aggressive federal procurement hundreds of small clean energy businesses around the country are likely to fail. Such an approach would use funds that have already been authorized, but would require significant coordination from the Administration.

We recommend \$3 billion for acquisition of renewable energy in Federal facilities. This funding should be combined with comprehensive energy projects to leverage the most renewable assets, priority should be given to projects that bring additional dollars, administered on a first come first serve basis, and allow for aggregation of small scale renewables across government facilities. The Department of Energy Federal Energy Management Program (FEMP) should manage this program.

Three approaches can be taken to utilize existing programs:

First, leverage existing federal programs with existing State and local government programs. For instance a third of the States have electric utility wire charges known as System Benefit Trust Funds which give more than \$1 billion of grants annually for clean energy applications. Federal programs can be leveraged with these type of programs as well as State Implementation Plan (SIP) funds to implement the Clean Air Act as way to accelerate and enhance the US focus and commitment.

Second, a host of grant, loan, bonding and loan guarantee programs exist over a range of agencies that are already directed towards clean energy - IRS CREBS, USDA's RUS FmHA and Section 9007\8, DOE and EPA State Grant programs, SBIR across all agencies, SBA, DHS State Infrastructure Grant programs, are just a few. These programs need to be directed both toward potential users of clean energy as well as those supplying clean energy technologies and services NOW. Faster, leveraged output of federal resources will sustain industry market pull and access to capital.

Third, the federal government is the largest user of energy in the world and the largest owner of buildings in the world. Add State and local governments' energy needs and facilities, and this market is even larger. There are over \$2 billion worth of existing projects already approved and budgeted for energy efficiency and renewables. Some are using private capital as well through ESPC or ESCO contractors. Other potential procurements are impending. federal procurements can be leveraged regionally with other agencies. And, institute a federal Feed-In-Tariff for renewable generation at the Federal Power Authorities - BPA, TVA and WAPA.

### **3. Smart Grid**

Local electric grid systems have historically evolved to distribute a uniform power quality from existing large power stations to electricity users. Without new investment this historic grid is failing to meet today's energy needs and is not suited to connect new clean technologies. New policies and private and public investment can supplement this historical grid with one that provides a variety of purposes, including enabling demand management/response, delivering various power quality, connecting user generation from residential distributed resources (fuel cells, solar, geothermal), as well as larger clean-tech systems for the commercial, institutional and industrial markets (e.g., combined heat and power). While the existing grid can accommodate a limited number of clean technologies at high unit cost, significant investment is required for lowering unit cost and expanding the volume of clean-tech capacity that the grid can support. Such system-wide technologies include, power electronics, storage, user advanced meters, grid control devices and high capacity conductors.

Congress should facilitate the transition to a smarter, more efficient transmission and distribution grid to allow a broad portfolio of technologies that are cleaner, more reliable and agile. As one part of an improved transmission grid, smart grid will increase use of distributed generation (DG), which will: improve electric power quality, substantially lower surges, sags and transients, increase power reliability, allow users and feeder line options for virtually uninterrupted power; overcome transmission and distribution blockages (power augmentation at substations); and level out peaks, thus lowering energy costs. In addition, Congress should further encourage the use of



time-based electricity pricing or “smart metering” technologies to save consumers billions of dollars in avoided electricity costs and significantly reduce greenhouse gas emissions through avoided electricity use. The following recommendations have been authorized, but not funded.

We specifically recommend that Congress fund Title XIII of the Energy Independence and Security Act of 2007 (PL 110-140) on Smart Grid:

- A. Research and Development of Information Technology, Section 1304 (\$200 million)
- B. Regional Demonstration Initiative, Section 1304 (\$100 million)
- C. Federal Matching Fund for Smart Grid Investment Costs, Section 1306 (\$1 billion)

In addition, given rapid technology advances occurring for smart meter and smart grid technologies, tax incentives that shorten depreciation from 10 years to 5 years should be adopted to speed adoption of advanced metering communication devices. Moving to 5-year depreciation would treat Smart Meters and Smart Grid equivalent to similar high-tech computer technology that receives the same level of depreciation.

#### **4. Transmission**

The economic recovery plan proposals contemplate funding a nationwide transmission system to boost the economy, implement a successful federal renewable portfolio standard, grow green jobs, promote consistency across the states, help resolve congestion issues, increase renewable projects being built across the nation with access to a nationwide venue, contain additional energy costs being transferred to consumers, and eliminate potential obstacles such as credit for businesses, utilities or states. This could also spur nationwide enhancements with smart grid technology

The lack of transmission infrastructure is one of the largest impediments to the continued growth of renewable energy. Congress should pass legislation that provides more authority for the Federal Energy Regulatory Commission (FERC) and the Department of Energy to advance the development of a green interstate transmission highway system. This legislation should include a regulatory structure for extra-high-capacity interstate transmission lines and feeder lines into renewable resource areas. The structure should include interconnection-wide transmission planning, broad regional cost allocation, and federal backstop transmission siting. The legislation should also include actions for federal utilities such as the Western Area Power Administration to promote renewable electricity resource development, reduce “seams” between the federal system and neighboring utility grids, acquire renewable energy and renewable energy certificates on behalf of the federal government, and develop renewable energy integration programs. Legislation should also direct FERC and the electric industry to evaluate and pursue means of improving regional grid operations.

As part of an improved and expanded transmission grid, smart grid will increase use of distributed generation, which will: improve electric power quality, substantially lower surges, sags and transients, increase power reliability, allow users and feeder line options for virtually uninterruptible power; overcome transmission and distribution blockages (power augmentation at substations); and level out peaks, thus lowering energy costs. In addition, Congress should further encourage the use of time-based electricity pricing or “smart metering” technologies to save consumers billions of dollars in avoided electricity costs and significantly reduce greenhouse gas emissions through avoided electricity use.

Specifically, we recommend providing ITC incentive, enhanced ROE, or multi-year accelerated depreciation for new investments in transmission and “smart grid,” especially for integrating renewable energy. Also critical to spurring investments in transmission is allowing full recovery of construction work in progress (CWIP), pre-operations costs, and costs of abandoned facilities.

## **5. Funding for Light Pipe Demonstration and Deployment Program**

Solar light pipe technology can provide free, renewable and carbon-free energy that will protect the environment and promote manufacturing job growth across the United States. While companies that install this technology will realize significant cost savings immediately upon installation, this new and exciting advance in solar energy technology will remain unaffordable to U.S. companies without the proper incentives. Installation of Light Pipe technology would put hundreds of roofers to work immediately. Because installation of light pipes takes only a few days, companies will start saving thousands of dollars in electricity costs *immediately*.

The commercial and industrial sectors spent \$42 billion on electricity for lighting in 2005. Solar light pipe technology allows companies to literally turn off their lights for up to 12 hours a day on average over a year's time, thereby saving enormous amounts of money that can be reinvested in the U.S. economy and used to create jobs. As an example, the installation of 1,500 light pipes in an industrial facility would deliver approximately 350 kW of solar capacity, providing enough energy to power 100 homes. This equates to annual energy savings of 1,022,112 kWh, and monetary savings totaling over \$150,000 every year. Further, by reducing energy demand, the use of solar light pipe technology leads to significant greenhouse gas emission reductions.

Funding for the light pipe demonstration and deployment program is authorized by Section 605 of the Energy Independence and Security Act of 2007 (Attachment A). Businesses that qualify for the grant could install the technology as quickly as administration of the grant program would allow.

## **6. Fund the Department of Energy Waterpower R&D Program for FY2009 at a Minimum of \$54 Million Dollars**

The Department of Energy Waterpower R&D program supports initiatives for conventional hydropower advancements and development of new ocean, tidal and instream hydrokinetic applications. However, for several years the program received zero funding and is currently receiving only \$10 million. A significantly increased program would allow the Department to strengthen the federal partnership with the industry to pursue projects such as resource assessments, advanced hydropower turbine designs, testing of new technologies for ocean, tidal and instream hydrokinetic development, perform needed environmental studies to assess potential impacts, study climate change and model impacts on hydrology, study grid integration issues and the role of hydro to firm intermittent or variable renewable resources and more.

The Waterpower R&D program is authorized under the Energy Policy Act of 2005, Title IX, Sec. 931 – “Conduct a program of research, development, demonstration and commercial application for cost competitive technologies that enable the development of new and incremental hydropower capacity, adding diversity of the energy supply of the United States, including: (i) Fish-friendly large turbines. (ii) Advanced technologies to enhance environmental performance and yield greater energy efficiencies. (...) The Secretary shall conduct research, development, demonstration, and commercial application programs for – (i) ocean energy, including wave energy (...) and (iv) kinetic hydro turbines.”

## **Green Jobs Training**

### **1. Workforce Training to Retrofit Foreclosed Homes**

Appropriate \$40 million in workforce training programs under the Green Jobs Act, as authorized in H.R. 6, *The Energy Independence and Security Act of 2007*. The programs would be administered by the Department of Labor and would train displaced and unemployed workers to retrofit foreclosed homes that had been acquired by the Department of the Treasury under the financial rescue plan.

## **2. Workforce Training for Qualified HVAC Technicians**

In many sectors, such as air conditioning and refrigeration, there is a shortage of qualified technicians to perform the necessary installation, repair and service of equipment, and to conduct energy efficiency audits. Training programs to prepare individuals for these careers would provide them with good U.S.-based job opportunities in a growing industry.

## **3. Workforce Training for New Class of Greenhouse Gas Professionals**

Congress should provide support for training a new class of GHG professionals should be a top priority. This will not only create green jobs, it will also prepare the US for pending cap-and-trade legislation, enable innovative and entrepreneurial companies to generate revenues from carbon markets, promote accountability, and ensure that our country has reliable ways to make sure we are on track to stabilize and reverse climate change impacts.

There is an insufficient supply of skilled professionals available to fill positions in the emerging regional and voluntary carbon markets profession. In addition, it is necessary to begin training efforts now to build the capacity for future federal cap-and-trade and offset systems so as to ensure the quality of emissions accounting data. It is expected that the number of jobs in greenhouse gas accounting will more than double in the next 5 years.

Please see the proposed legislative text in Attachment B

## Appendix A

*Energy Independence and Security Act of 2007 (P.L. 110-140)*

### **SEC. 605. DAYLIGHTING SYSTEMS AND DIRECT SOLAR LIGHT PIPE TECHNOLOGY.**

(a) Establishment - The Secretary shall establish a program of research and development to provide assistance in the demonstration and commercial application of direct solar renewable energy sources to provide alternatives to traditional power generation for lighting and illumination, including light pipe technology, and to promote greater energy conservation and improved efficiency. All direct solar renewable energy devices supported under this program shall have the capability to provide measurable data on the amount of kilowatt-hours saved over the traditionally powered light sources they have replaced.

(b) Reporting- The Secretary shall transmit to Congress an annual report assessing the measurable data derived from each project in the direct solar renewable energy sources program and the energy savings resulting from its use.

(c) Definitions- For purposes of this section—

(1) the term `direct solar renewable energy' means energy from a device that converts sunlight into useable light within a building, tunnel, or other enclosed structure, replacing artificial light generated by a light fixture and doing so without the conversion of the sunlight into another form of energy; and

(2) the term `light pipe' means a device designed to transport visible solar radiation from its collection point to the interior of a building while excluding interior heat gain in the nonheating season.

(d) Authorization of Appropriations- There are authorized to be appropriated to the Secretary for carrying out this section \$3,500,000 for each of the fiscal years 2008 through 2012.

## **Appendix B**

### A BILL

To amend the Workforce Investment Act of 1998 to establish an energy efficiency and renewable energy worker training program.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

#### **SECTION 1. SHORT TITLE.**

XXX

#### **SEC. 2. GREENHOUSE GAS MANAGEMENT, AUDITING, AND ACCOUNTING (GHG MA&A) WORKER TRAINING PROGRAM.**

Section 171 of the Workforce Investment Act of 1998 ([29 U.S.C. 2916](#)) is amended by adding at the end the following:

(e) Greenhouse Gas Management, Auditing, and Accounting Worker Training Program-

##### (1) GRANT PROGRAM-

(A) *IN GENERAL*- Not later than 6 months after the date of enactment of XXX, the Secretary of Labor shall establish a greenhouse gas management, auditing, and accounting worker training program under which the Secretary shall carry out the activities described in paragraph (2) to achieve the purposes of this subsection.

(B) *ELIGIBILITY*- For purposes of providing assistance and services under the program established under this subsection--

(i) target populations of eligible individuals to be given priority for training and other services shall include--

(I) workers affected by national energy and environmental policy;

(II) individuals in need of updated training related to the energy efficiency and renewable energy industries;

(III) veterans, or past and present members of reserve components of the Armed Forces;

(IV) unemployed workers;

(V) individuals, including at-risk youth, seeking employment pathways out of poverty and into economic self-sufficiency; and

(VI) formerly incarcerated, adjudicated, non-violent offenders;

##### (2) ACTIVITIES-

(A) NATIONAL GREENHOUSE GAS MANAGEMENT, AUDITING, AND ACCOUNTIN WORKER TRAINING GRANTS-

(i) *IN GENERAL*- Under the program established under paragraph (1), the Secretary shall award National Greenhouse Gas Management, Auditing and Accounting Training Partnership Grants on a competitive basis to eligible entities to enable such entities to carry out training that leads to economic self-sufficiency and to develop a greenhouse gas management, auditing, and accounting workforce..

(ii) *ELIGIBILITY*- To be eligible to receive a grant under clause (i), an entity shall be a non-profit institution that--

(I) demonstrates--

(aa) experience in implementing and operating worker skills training and education programs;

*(bb) the ability to identify and involve in training programs carried out under this grant, target populations of workers who would benefit from activities related to energy efficiency and renewable energy industries; and*

*(cc) the ability to help workers achieve economic self-sufficiency.*

**(C) STATE LABOR MARKET RESEARCH, INFORMATION, AND LABOR EXCHANGE RESEARCH PROGRAM-**

*(i) IN GENERAL- Under the program established under paragraph (1), the Secretary shall award competitive grants to States to enable such States to administer labor market and labor exchange information programs that include the implementation of the activities described herewith, in coordination with the one-stop delivery system.*

*(ii) ACTIVITIES- A State shall use amounts awarded under a grant under this subparagraph to provide funding to the State agency that administers the Wagner-Peyser Act and State unemployment compensation programs to carry out the following activities using State agency merit staff:*

*(I) The identification of job openings in the greenhouse gas management, auditing, and accounting sector.*

*(II) The administration of skill and aptitude testing and assessment for workers.*

*(III) The counseling, case management, and referral of qualified job seekers to openings and training programs, including greenhouse gas management, auditing, and accounting training programs.*

**(D) PATHWAYS OUT OF POVERTY DEMONSTRATION PROGRAM-**

*(i) IN GENERAL- Under the program established under paragraph (1), the Secretary shall award at least 10 competitive grants to eligible entities to enable such entities to carry out training that leads to economic self-sufficiency. The Secretary shall give priority to entities that serve individuals in families with income of less than 200 percent of the poverty threshold (as determined by the Bureau of the Census) or a self-sufficiency standard for the local areas where the training is conducted that specifies the income needs of families, by family size, the number and ages of children in the family, and sub-State geographical considerations. Grants shall be awards to ensure geographic diversity.*

*(ii) ELIGIBLE ENTITIES- To be eligible to receive a grant an entity shall be a partnership that--*

*(I) includes community-based non-profit organizations, educational institutions with expertise in serving low-income adults or youth, public or private employers from the greenhouse gas management, accounting and auditing sectors;*

*(1)(B)(ii), and labor organizations representing workers in such sectors;*

*(II) demonstrates experience in implementing and operating worker skills training and education programs;*

*(III) coordinates activities, where appropriate, with the workforce investment system; and*

*(IV) demonstrates the ability to recruit individuals for training and to support such individuals to successful completion in training programs carried out under this*

*grant, targeting populations of workers who are or will be engaged in activities related to greenhouse gas management, accounting and auditing.*

*(iii) PRIORITIES- In awarding grants under this paragraph, the Secretary shall give priority to applicants that--*

*(I) target programs to benefit low-income workers, unemployed youth and adults, high school dropouts, or other underserved sectors of the workforce within areas of high poverty;*

*(II) ensure that supportive services are integrated with education and training, and delivered by organizations with direct access to and experience with targeted populations;*

*(III) leverage additional public and private resources to fund training programs, including cash or in-kind matches from participating employers;*

*(IV) involve employers and labor organizations in the determination of relevant skills and competencies and ensure that the certificates or credentials that result from the training are employer-recognized;*

*(V) deliver courses at alternative times (such as evening and weekend programs) and locations most convenient and accessible to participants; and*

*(VI) link adult remedial education with occupational skills training.*

*(iv)*

*DATA COLLECTION- Grantees shall collect and report the following information:*

*(I) The number of participants.*

*(II) The demographic characteristics of participants, including race, gender, age, parenting status, participation in other Federal programs, education and literacy level at entry, significant barriers to employment (such as limited English proficiency, criminal record, addiction or mental health problem requiring treatment, or mental disability).*

*(III) The services received by participants, including training, education, and supportive services.*

*(IV) The amount of program spending per participant.*

*(V) Program completion rates.*

*(VI) Factors determined as significantly interfering with program participation or completion.*

*(VII) The rate of job placement and the rate of employment retention after 1 year.*

*(VIII) The average wage at placement, including any benefits, and the rate of average wage increase after 1 year.*

*(IX) Any post-employment supportive services provided.*

*The Secretary shall assist grantees in the collection of data under this clause by making available, where practicable, low-cost means of tracking the labor market outcomes of participants, and by providing standardized reporting forms, where appropriate.*

(3) **ACTIVITIES-**

(A) **IN GENERAL-** Activities to be carried out under a program shall be coordinated with existing systems or providers, as appropriate. Such activities may include--

- (i) occupational skills training, including curriculum development, on-the-job training, and classroom training;
- (ii) safety and health training;
- (iii) the provision of basic skills, literacy, GED, English as a second language, and job readiness training;
- (iv) individual referral and tuition assistance for a community college training program, or any training program leading to an industry-recognized certificate;
- (v) internship programs in fields related to greenhouse gas management, auditing, and accounting;
- (vi) customized training in conjunction with an existing registered apprenticeship program or labor-management partnership;
- (vii) career ladder and upgrade training;
- (viii) the implementation of transitional jobs strategies; and
- (ix) the provision of supportive services.

(4) **WORKER PROTECTIONS AND NONDISCRIMINATION REQUIREMENTS-**

(A) **APPLICATION OF WIA-** The provisions of sections 181 and 188 of the Workforce Investment Act of 1998 ([29 U.S.C. 2931](#) and 2938) shall apply to all programs carried out with assistance under this subsection.

(B) **CONSULTATION WITH LABOR ORGANIZATIONS-** If a labor organization represents a substantial number of workers who are engaged in similar work or training in an area that is the same as the area that is proposed to be funded under this Act, the labor organization shall be provided an opportunity to be consulted and to submit comments in regard to such a proposal.

(5) **PERFORMANCE MEASURES-**

(A) **IN GENERAL-** The Secretary shall negotiate and reach agreement with the eligible entities that receive grants and assistance under this section on performance measures for the indicators of performance to evaluate the performance of the eligible entity in carrying out the activities described herewith.

(B) **PERFORMANCE LEVELS-** The Secretary shall negotiate and reach agreement with the eligible entity regarding the levels of performance expected to be achieved by the eligible entity on the indicators of performance.

(6) **REPORT-**

(A) **STATUS REPORT-** Not later than 18 months after the date of enactment of the Act, the Secretary shall transmit a report to Congress on the training program established by this subsection. The report shall include a description of the entities receiving funding and the activities carried out by such entities.

(B) **EVALUATION-** Not later than 3 years after the date of enactment of such Act, the Secretary shall transmit to Congress an assessment of such program and an evaluation of the activities carried out by entities receiving funding from such program.



*(7) AUTHORIZATION OF APPROPRIATIONS- There is authorized to be appropriated to carry out this subsection, \$25,000,000 for each fiscal years, of which--*

*(A) 40 percent shall be dedicated to Pathways Out of Poverty Demonstration Programs under paragraph (2)(E); and*

*(B) the remainder shall be divided equally between entities applying to the National Greenhouse Gas Management, Auditing and Accounting Grants and the State Labor Market Research, Information, and Labor Exchange Research Program.*