

**Summary of the Advanced Energy Tax Incentives Act (S. 3935)**  
**as introduced by Senators Jeff Bingaman (D-NM) and Olympia J. Snowe (R-ME)**  
**September 29, 2010**

**Title I – Industrial and Building Energy Efficiency**

**Subtitle A – Expansion of Building Efficiency Incentives**

**Section 101.**

*Energy Efficient Homes (Code Section 45L).* Currently, builders of homes that are 50% more efficient than code with respect to heating and cooling qualify for \$2,000 tax credit. The bill would extend the credit through 2012. In addition, the bill would establish, through 2013, a higher standard for new homes that are 50% more efficient than code with respect to heating, cooling, water heating, lighting, and appliance energy use. Such homes would receive a tax credit of \$5,000.

*Energy Efficient Manufactured Homes (Code Section 45L).* Manufacturers of manufactured homes that conform to Energy Star standards are also now eligible for a \$1,000 tax credit. The bill would raise the tax credit amount to \$1,500. Additionally, the bill would add a higher-tier credit of \$2,500 once more stringent Energy Star standards are promulgated for manufactured homes.

*Energy Efficient Low-Income Housing (Code Sections 42 and 45L).* The Low-Income Housing Tax Credit is responsible for producing more affordable rental housing than any other Federal program. Since 1987, more than 2 million units for low-income families and seniors have been constructed and preserved. But there currently are no incentives to make these units energy efficient. The bill would multiply the Section 45L credits described above by 150% for new homes that qualify under the Low-Income Housing Tax Credit.

**Section 102.**

*Energy Efficient Commercial Building Tax Deduction (Code Section 179D).* Currently, the Tax Code provides an incentive for constructing energy-efficient new buildings and retrofitting existing buildings through a tax deduction of \$1.80 per square foot. The deduction is available for buildings that are 50 percent above code with respect to building envelope, lighting, and HVAC system. Additionally, the Code provides a partial deduction of 60 cents per square foot for any one of these three components. The bill would increase the deduction to \$3 per square foot and a partial deduction to \$1 per square foot.

*REIT Eligibility.* The bill would modify Section 179D to facilitate the ability of real-estate investment trusts (REITs) – which account for about 15% of the nation’s commercial building stock – to claim the incentive.

**Section 103.**

*Energy Rating.* Energy ratings and audits enable homeowners to identify energy efficiency improvements. The bill would create a \$200 tax credit for a homeowner that undertakes a qualified rating or audit.

**Section 104.**

*Energy Rating Training.* Currently, there are shortages of qualified energy raters in many parts of the country, particularly in rural communities. To ensure that there are sufficient well-trained energy raters in all parts of the country, the bill would create a \$500 tax credit to defray training expenses incurred by individuals who become qualified energy raters.

**Section 105.**

*Performance-based credit for residential energy-efficiency retrofits.* The bill would establish a performance-based tax credit for home retrofits that deliver energy savings and enable existing homes to achieve greater overall energy efficiency. The credit is subject to a cap equal to the lesser of 50% of costs incurred or \$8000.

*Homes Built Before January 1, 1940.* The base credit is \$3000 for achieving a HERS (Home Energy Rating) Index of 100, plus an additional (a) \$1000 for a HERS index that meets the code that is in place that calendar year and (b) \$500 for every 5 point incremental improvement in HERS index better than the code that is in place that calendar year.

*Homes Built After January 1, 1940.* The base credit is \$2000 for achieving a HERS Index that is the equivalent of the code that is in place that calendar year, plus an additional \$500 for every 5 point incremental improvement in HERS index better than the code that is in place that calendar year.

**Subtitle B – Expansion of Industrial Energy Efficiency Incentives**

**Section 111.**

*Industrial Water Reuse Credit.* The U.S. currently reuses only 6 percent of its water, and there is significant potential for gains in this area. The industrial sector, which is responsible for 45 percent of domestic freshwater withdrawals, is an ideal place to introduce transformative water reuse and water saving technologies. The bill would create an investment tax credit for reuse, recycling, and/or efficiency measures related to process, sanitary, and cooling water, as well as for blow-down from cooling towers and steam systems used by utility-scale thermo-electric generators.

**Section 112.**

*Industrial Motor Efficiency Credit.* On average, motors account for 65 percent of an industrial energy user's electricity use, a percentage that is even higher in certain industries, such as water supply, mining and oil and gas extraction. New advances in power electronics and controls over the past five years have advanced the potential for new smart motor technologies to provide a significant energy savings potential if these new motors are placed widely into service. The bill establishes a \$120-per-horsepower tax credit for efficient motor systems with adjustable speed capability. By reducing the initial design and added component costs, this new credit will accelerate the adoption of advanced motor technologies into higher volume production, helping to make the technology available economy-wide.

### **Section 113.**

*CFC Chiller Replacement Credit.* Large water-cooled chillers are the engines of air-conditioning systems for almost all large buildings. The bill would establish a credit of \$150 per ton, plus an additional incentive of \$100 for each ton downsized during replacement. The incentive would extend only to pre-1993, post-1980 water-cooled chillers that use the environmentally harmful refrigerants CFC-11 and CFC-12. (While chillers that use CFC-11 and CFC-12 refrigerants have been banned for new installations, some 30,000 chillers that still use these refrigerants remain in both public and private facilities across the country.)

### **Section 114.**

*Combined Heat and Power Credit (Code Section 48).* A recent Department of Energy study estimates that increasing U.S. combined heat and power to account for 20 percent of electricity capacity would eliminate over 60 percent of the expected increase in carbon dioxide emissions from today to 2030 — the equivalent of taking more than half of current passenger vehicles in the U.S. off the road. In 2008, Congress enacted a 10 percent investment tax credit for combined heat and power systems. The bill would expand that credit's applicability, from the first 15 megawatts to the first 25 megawatts of system capacity. The bill would also remove the existing overall system size cap of 50 megawatts, allowing a greater number of combined heat and power projects to be financially viable and move forward.

## **Subtitle C – Thermal Energy Efficiency**

### **Section 121.**

*Bonus Depreciation.* The bill would incentivize businesses to invest in highly efficient natural gas or biomass thermal systems by permitting bonus depreciation for qualifying property installed before 2012. Bonus depreciation enables business taxpayers to expense – that is, immediately write-off – half of the cost of qualifying property, and depreciate the remaining balance over the typical cost-recovery period.

### **Section 122.**

*Natural Gas Distribution (Code Section 168(e)).* Because of pipeline limitations, many American homes and businesses cannot utilize natural gas. To encourage expansion of natural gas service capabilities, the bill would extend by two years the 15-year depreciation period for distribution facilities established under the Energy Policy Act of 2005.

## **Title III – Vehicle Efficiency**

### **Section 201.**

*Idling Reduction Incentive.* Commercial truck drivers often must keep the main engine of the truck running to provide heating, cooling, and electricity services for cab comfort. Idling Reduction Units are alternate power sources (such as a small, highly efficient engine or a battery) installed on the main truck that allow for a combination of heating, cooling, and electricity usage without turning on the main engine. More specifically, such devices are meant to reduce “hotel idling” (*i.e.*, idling of 8 hours or more). To address the investment hurdle, the bill creates a credit for the purchase of such devices that reduce main-engine idling in tractor trailer trucks. The credit, which is available to the purchaser of qualifying units, ranges from 30% to 50% of

cost (with caps ranging from \$800 to \$5,000), with higher incentives for units that demonstrate increasingly efficient performance.

## **Title IV – Promotion of Domestic Manufacturing**

### **Section 301.**

*Advanced Energy Manufacturing Tax Credit (Section 48C).* The American Recovery and Reinvestment Act (ARRA) established the Advanced Energy Manufacturing Tax Credit, which provides up to a 30% credit for investments in new, expanded, or re-equipped advanced energy manufacturing projects. Under the program, the Departments of Energy and the Treasury review and make determinations on the eligibility and merit of applications. Applicants receive tax credits based on the expected commercial viability of their project and the ranking of their project relative to other projects. Rankings are based on: expected job creation, reduction of air pollutants and greenhouse gas emissions, technological innovation, and ability to have the project up and running quickly. Technology; geographic and project size diversity; and regional economic development are also considered when ranking projects.

ARRA authorized the Departments to award \$2.3 billion in tax credits for qualified investments in advanced energy projects, to support new, expanded, or re-equipped domestic manufacturing facilities. In the first round of allocations, the Departments fully exhausted the \$2.3 billion allocation, making awards to 183 projects in 43 states, representing the solar, wind, vehicle, nuclear, energy storage, smart grid, energy efficiency, and biofuel sectors.

The bill would add an additional \$2.5 billion in credit allocation authority to the program – enough to leverage \$8.3 billion in new capital investment in clean technology manufacturing.

### **Section 302.**

*Existing Facilities Efficiency Tax Credit.* The bill would establish a competitively awarded tax credit, of up to 30%, for expenditures by existing manufacturing facilities that increase their overall energy efficiency. This credit is modeled on the 48C Advanced Energy Manufacturing Credit described above. The Departments of Energy and the Treasury would review and make determinations on the eligibility and merit of applications. Applicants would receive tax credits based on the expected commercial viability of their project and the ranking of their project relative to other projects. The bill authorizes \$1 billion in tax credit allocation authority for this program.

## **Title V – Renewable Electricity, Grid Efficiency and Reliability**

### **Section 401.**

*Allocated Tax Credit For Energy Storage Property Connected to the Grid.* Energy storage technologies can facilitate the integration of intermittent energy sources, like wind and solar power, into electric grids, thus enabling power providers to meet energy demands during peak hours and contributing to an overall more reliable, smart grid. To incentivize utilities to adopt storage technologies, the bill would authorize \$1.5 billion in tax credits for energy storage property connected to the grid. Eligible projects would be required to meet several minimum

capacity and efficiency requirements. Projects would apply to the Departments of Energy and Treasury for an investment tax credit of up to 20%, with an overall cap of \$30 million per project.

**Section 402.**

*CREBs Eligibility.* In order to incentivize public power facilities, which are not taxpayers, the bill would make grid-connected energy storage property eligible for Clean Renewable Energy Bonds.

**Section 403.**

*Investment Tax Credit for Onsite Energy Storage.* The bill would provide a 30% tax credit for onsite energy storage projects. To qualify, the property would be required to have a roundtrip energy storage efficiency of at least 70 percent, be able to store the energy equivalent of at least 20 kilowatt hours of energy, and be able to have an output of the energy equivalent of 5 kilowatts of electricity for a period of 4 hours. The credit is capped at \$1 million per project.

**Section 404.**

*Credit for Residential Energy Storage Equipment.* This section provides a 30% credit for residential energy storage projects. To qualify, the property would be required to have a roundtrip energy storage efficiency of at least 70 percent, be able to store the energy equivalent of at least 20 kilowatt hours of energy, and be able to have an output of the energy equivalent of 5 kilowatts of electricity for a period of 4 hours.

**Section 405.**

*REC Payments Taxation Exemption.* Many states have enacted renewable electricity standards (RES), which require utilities to generate a certain percentage of their electricity from renewable sources. To meet their obligations, utilities have created programs whereby grid-connected customers generating their own qualified renewable electricity can sell their electricity back to the utility. Utilities make these payments for renewable energy certificates (REC), with each certificate representing proof of one kilowatt-hour of electricity generated by renewable energy (such as solar or wind energy). These certificates provide homeowners with financial incentives to install PV and wind energy systems. This section ensures that REC payments of up to \$2,000 a year are exempt from Federal income tax to the homeowners that receive them.

**Section 406.**

*Offshore Wind PTC Extension (Code Section 45).* The Production Tax Credit provides a tax credit, currently of 2.2 cents per kilowatt hour, for wind facilities placed in service by December 31, 2012. The credit is allowed for production in the facility's first ten years after being placed in service. For offshore wind projects, which take considerably longer to be placed in service than traditional wind facilities, the bill would extend the placed in service deadline to December 31, 2016.

## **Title VI – Carbon Capture and Sequestration**

### **Section 501.**

*Allocated Credit Structure (Code Section 45Q).* In 2008 Congress created a tax credit for carbon capture and sequestration (CCS). The credit is equal to \$20 per metric ton of qualified carbon dioxide emissions which is captured at a qualified facility and sequestered and \$10 per metric ton of qualified carbon dioxide emissions which is captured at a qualified facility and used as a tertiary injectant in a qualified enhanced oil or natural gas recovery project. The credit is available only with respect to the first 75 million metric tons of carbon dioxide that the Environmental Protection Agency certifies has been captured and sequestered in a given year.

But the credit's current unallocated structure does not permit firms to pre-certify the amount they will claim, which is a priority, since there is a national cap on the amount of credit available. The absence of precertification has created uncertainty for firms. Since projects require many years to complete, they are now required to proceed without knowing that they ultimately will be able to claim the credit. Nor does the current structure enable Departments of Energy and the Treasury to determine which projects actually need the credit to move forward. The bill would modify the existing credit so that it is an allocated tax credit.

*Increase in Credit Amount; Ceiling.* The bill would raise the per-ton credit amount for permanent sequestration from \$20 to \$35. Additionally, the bill would increase the total credit from 75 million tons of CO<sub>2</sub> to 100 million tons of CO<sub>2</sub>. This increase in the total limit of available credits will reasonably provide credit to 10 CCS projects, which makes the credit consistent with the goals of the Administration's CCS task force of bringing five to ten CCS projects online by 2016. The goal of funding 10 commercial-scale projects is also consistent with the early movers CCS indemnity program.

*Project Credit Cap.* The bill would create a per-project cap of 10 million tons of CO<sub>2</sub> worth of credits. Creating a reasonably high cap will ensure that at least 10 projects are able to access this credit (projects may apply for a credit for fewer than 10 million tons of CO<sub>2</sub>).

*Facility Criteria.* The bill would amend the eligible facility criteria, from a facility that captures at least 500,000 tons of CO<sub>2</sub> per year under current law to a facility that captures at least 500,000 tons per year and also shows contractual intent to inject and permanently sequester the full amount of captured CO<sub>2</sub>. This is a technical modification simply to ensure qualifying facilities both capture *and* sequester CO<sub>2</sub>.

## **Title VII – Promotion of Clean Domestic Fuels**

### **Section 601.**

*Credit for Fuel Produced from Algae (Code Sections 40, 168).* This section would allow algae-based fuels to qualify for the existing \$1.01 per gallon tax credit that is available for producers of cellulosic biofuel. The proposal would also clarify that the cellulosic biofuel producer credit is awarded to taxpayers that make crude oil from algae if this oil is subsequently refined into a fuel.