



# Summary of Waxman-Markey Draft Greenhouse Gas Legislation

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## Summary

A discussion draft of legislation to reduce greenhouse gas emissions was released March 31, 2009, by Representative Waxman, Chairman of the House Committee on Energy and Commerce, and Representative Markey, Chairman of the Energy and Environment Subcommittee. The draft legislation, titled the American Clean Energy and Security Act of 2009, proposes a “cap and trade” system to control carbon dioxide and other greenhouse gases that have been associated with global climate change.

The proposed cap-and-trade system would cover electric utilities and other entities that together are responsible for 85% of U.S. greenhouse gas emissions. Covered entities would need permits (called allowances) to emit carbon dioxide and other greenhouse gases, and unused allowances could be banked for future use or sold. The number of allowances issued each year would be gradually reduced until greenhouse gas emissions from covered entities were cut 83% below 2005 levels in 2050.

To address concerns that greenhouse gas controls could place U.S. manufacturers at a competitive disadvantage, the draft bill authorizes compensation to certain industrial sectors. The discussion draft indicates that provisions to assist workers and consumers affected by the cap-and-trade system remain to be written.

The draft bill would require retail electricity suppliers to meet a certain percentage of their power load with electricity generated from renewable resources, starting at 6% in 2012 and gradually rising to 25% in 2025. A state could meet up to one-fifth of that requirement with energy efficiency measures. Deployment of “smart grid” technologies would be encouraged, as would technologies to capture and sequester carbon emissions. Standards would be required to reduce carbon emissions from motor vehicle fuel, and federal support for building electric vehicles would be authorized.

Energy efficiency provisions in the draft bill include state incentives for adopting advanced building efficiency codes, codification of appliance efficiency standards, and transportation efficiency goals.

Several major issues are not addressed by the draft bill and are still under discussion. A key unanswered question is how to allocate emission allowances. Industry groups contend that allowances should initially be provided at no cost, to reduce economic disruption. Others have proposed that allowances be auctioned to raise revenue for consumer protection, industry rebates, and other transitional programs.

Substantial controversy is also continuing over the draft bill’s renewable energy mandate on electricity suppliers. Regional differences in renewable energy resources have prompted criticism that a national renewable electricity standard would be unworkable, or that the goal of 25% renewables by 2025 is unrealistic.

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## Introduction

A discussion draft of broad legislation to reduce greenhouse gas emissions was released March 31, 2009, by Representative Waxman, Chairman of the House Committee on Energy and Commerce, and Representative Markey, Chairman of the Energy and Environment Subcommittee.<sup>1</sup> The draft legislation, titled the American Clean Energy and Security Act of 2009, proposes a “cap and trade” system to control carbon dioxide and other greenhouse gases that have been associated with global climate change.

The proposed cap-and-trade system would cover electric utilities and other entities that together are responsible for 85% of U.S. greenhouse gas emissions. Covered entities would need permits (called allowances) to emit carbon dioxide and other greenhouse gases, and unused allowances could be banked for future use or sold.<sup>2</sup> The number of allowances issued each year would be gradually reduced until greenhouse gas emissions from covered entities were cut 83% below 2005 levels in 2050. To address concerns that greenhouse gas controls could place U.S. manufacturers at a competitive disadvantage, the draft bill authorizes compensation to certain industrial sectors. If the President determined that competitive imbalances persisted despite those payments, foreign manufacturers and importers would have to purchase special allowances to cover the carbon emissions related to their imported products. The draft bill would require retail electricity suppliers to meet a certain percentage of their power load with electricity generated from renewable resources, starting at 6% in 2012 and gradually rising to 25% in 2025.

Several major issues are not addressed by the draft bill and are still under discussion, such as how to allocate emission allowances and how to assist workers and consumers affected by the cap-and-trade system. Substantial controversy is also continuing over the draft bill’s renewable energy mandate on electricity suppliers.

The remainder of this report provides a brief summary of the provisions of the March 31 Waxman-Markey discussion draft. The summary focuses on general descriptions of the discussion draft’s provisions, excluding most details and analysis. It is not designed to track the development and evolution of greenhouse gas legislation.

This summary was prepared by CRS analysts in the following subject areas:

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<sup>1</sup> Full text available on the Committee’s website at [http://energycommerce.house.gov/index.php?option=com\\_content&task=view&id=1560](http://energycommerce.house.gov/index.php?option=com_content&task=view&id=1560).

<sup>2</sup> Each allowance would permit the emission of one metric ton of carbon dioxide equivalent.

# **Title I—Clean Energy**

## **Subtitle A—Renewable Energy Standard**

### **Sec. 101. Federal Renewable Electricity Standard**

Establishes a federal Renewable Electricity Standard to promote renewable energy production. Under the standard, each retail electricity supplier with annual sales of 1 million megawatt-hours (mwh) or more must earn or acquire Renewable Electricity Credits (RECs) for a portion of its retail electricity sales. The portion begins at 6% in 2012 and rises to 25% in 2025, remaining at that level through 2039. RECs can be traded or banked, and can be earned by producing electricity from any “renewable energy resource,” including wind, solar, geothermal, marine or hydrokinetic, biomass, landfill gas, or qualified hydropower. “Distributed generation”—small-scale, non-combustion power production located at consumer sites—qualifies for three RECs for each mwh of eligible renewable electricity. Up to 20% of the RECs can be provided by complying with the Federal Energy Efficiency Resource Standard in sec. 611 of the draft. “Alternative compliance” payments can substitute for RECs. A new Renewable Electricity Deployment Fund would collect alternative compliance payments and civil penalties for non-compliance; the funds would be redistributed annually to retail electric suppliers that had submitted the required RECs. In establishing regulations for this program, the Secretary of Energy must, to the extent practicable, incorporate and preserve best practices of existing state-level renewable electricity programs and cooperate with states on minimizing administrative costs and burdens.

## **Subtitle B—Carbon Capture and Sequestration**

### **Sec. 111. National Strategy**

Within 120 days of enactment, the Administrator of the U.S. Environmental Protection Agency (EPA), in consultation with the Secretary of Energy and the heads of other relevant federal agencies as the President may designate, must submit to Congress a report setting forth a unified and comprehensive strategy to address the key legal and regulatory barriers to the commercial-scale deployment of carbon capture and sequestration.

### **Sec. 112. Regulations for Geologic Sequestration Sites**

Requires a coordinated certification and permitting process for geologic sequestration sites, considering all relevant statutory authorities. In establishing such an approach, the Administrator shall take into account, and reduce redundancy with, the requirements of the Safe Drinking Water Act and, to the extent practicable, reduce the burden on certified entities and implementing authorities.

Not later than two years after enactment, the Administrator is to promulgate regulations to protect human health and the environment by minimizing the risk of atmospheric release of carbon dioxide injected for geologic sequestration, including enhanced hydrocarbon recovery combined with geologic sequestration.



Not later than two years after enactment, and at three-year intervals thereafter, the Administrator is to deliver to the relevant congressional committees a report on geologic sequestration in the United States, and to the extent relevant, other countries in North America.

Amends the Safe Drinking Water Act by inserting a provision directing the EPA Administrator to promulgate regulations for the development, operation, and closure of carbon dioxide geologic sequestration wells. The regulations are to include requirements for maintaining evidence of financial responsibility for emergency and remedial response, well-plugging, site closure, post-injection site care, and related activities.

### **Sec. 113. Studies and Reports**

Within 18 months, requires a report on the legal framework for geologic sequestration sites by a task force composed of an equal number of subject matter experts, nongovernmental organizations with expertise in environmental policy, academic experts with expertise in environmental law, state officials with environmental expertise, representatives of state attorneys general, and members of the private sector. The task force is to conduct a study of existing federal environmental statutes, state environmental statutes, and state common law that apply to geologic sequestration sites for carbon dioxide.

Requires a study of carbon dioxide transportation by the Department of Energy (DOE), the Federal Energy Regulatory Commission (FERC), and other relevant federal agencies to assess the need for and barriers to the construction and operation of pipelines to transport carbon dioxide for sequestration or enhanced hydrocarbon recovery. The Secretary of Energy is to consider barriers or potential barriers, and regulatory, financing, or siting options that would mitigate market risks or help ensure the construction of pipelines dedicated to transporting carbon dioxide for sequestration or enhanced hydrocarbon recovery. Within 180 days after enactment, the Secretary is to submit a report describing the results of the study to the relevant congressional committees.

### **Sec. 114. Carbon Capture and Sequestration Demonstration and Early Deployment Program**

Authorizes a Carbon Storage Research Corporation to establish and administer a program to accelerate the commercial availability of carbon dioxide capture and storage technologies and methods. The program is to include competitively awarded grants, contracts, and financial assistance to electric utilities, academic institutions, and other eligible entities. The corporation is to be established as follows:

Qualified industry organizations may conduct, at their own expense, a referendum among the owners or operators of distribution utilities delivering fossil fuel-based electricity for the creation of a Carbon Storage Research Corporation. Such referendum shall be conducted by an independent auditing firm agreed to by the qualified industry organizations. Upon approval of those persons representing two-thirds of the total quantity of fossil fuel-based electricity delivered to retail consumers, the Corporation shall be established unless opposed by the State regulatory authorities. If 40 percent or more of the State regulatory authorities submit to the independent auditing firm written notices of opposition, the Corporation shall not be established notwithstanding the approval of the qualified industry organizations. The Corporation shall operate as a division or affiliate of the Electric Power Research Institute and be managed by a Board of not more than 15 voting members responsible for its operations. EPRI, in consultation with the Edison Electric Institute, the American Public

Power Association and the National Rural Electric Cooperative Association, shall appoint the Board members from among candidates recommended by those organizations.

The section establishes requirements for board members, compensation, and terms of service. Provides descriptions of the status of corporations, functions and administration of the corporation, and details of corporation administration, including the use of grants and contracts, intellectual property issues, budgeting, record keeping, audits, and reports.

Provides assessment rates as follows:

<b>Fuel type</b>	<b>Rate of assessment per kilowatt hour</b>
Coal .....	\$0.00043
Natural Gas .....	\$0.00022
Oil .....	\$0.00032

This section provides specific provisions for the Electric Reliability Council of Texas (ERCOT), including the corporation factors listed above. Methods are specified for determining fossil-fuel-based electricity deliveries.

Within five years, the Comptroller General of the United States must prepare an analysis and report to Congress assessing the Corporation's activities, including project selection and methods of disbursement of assessed fees, impacts on the prospects for commercialization of carbon capture and storage technologies, and adequacy of funding.

Establishes a technical advisory committee to provide independent assessments and technical evaluations, as well as make non-binding recommendations to the Board, concerning Corporation activities and describes its role and management.

## **Sec. 115. Commercial Deployment of Carbon Capture and Sequestration Technologies**

Not later than two years after the date of enactment, the EPA Administrator is to promulgate regulations establishing a program to distribute authorized funds to support the commercial deployment of carbon capture and sequestration technologies in both electric power generation and appropriate industrial operations. Eligibility for funds requires: an electric generating unit that has a nameplate capacity of 250 megawatts or more and derives at least 50% of its annual fuel input from coal, petroleum coke, or any combination of these fuels; or an industrial source that, absent carbon capture and sequestration technology, would emit over 250,000 tons per year of carbon dioxide equivalent. The section provides mechanisms and conditions for distribution of funds.

## **Sec. 116. Performance Standards for Coal-Fueled Power Plants**

Amends title VIII of the Clean Air Act (CAA) by adding performance standards for new coal-fired power plants. Plants covered by this section include plants that have a permit issued under CAA title V to derive at least 30% of their annual heat input from coal, petroleum coke, or any combination of these fuels. A covered unit that is finally permitted after January 1, 2009, shall emit no more than 1,100 pounds of carbon dioxide per mwh. A covered unit that is finally permitted after January 1, 2020, shall emit no more than 800 pounds of carbon dioxide per mwh,

or meet any more stringent standard that the Administrator may establish. Compliance is required by the earliest of the following:

- four years after the Administrator issues a determination that there are in commercial operation in the United States electric generating units equipped with carbon capture and sequestration technology that, in the aggregate, have a total of at least 2.5 gigawatts of nameplate generating capacity; and are capturing and sequestering in the aggregate at least 5 million tons of carbon dioxide per year;
- four years after the Administrator issues a determination that there are in commercial operation worldwide electric generating units equipped with carbon capture and sequestration technology that, in the aggregate, have a total of at least 5 gigawatts of nameplate generating capacity; and are capturing and sequestering in the aggregate at least 10 million tons of carbon dioxide per year;
- January 1, 2025.

Not later than 2025 and at five-year intervals thereafter, the Administrator is to review the standards for new covered units under this section and shall reduce the maximum carbon dioxide emission rate for new covered units to a rate which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which the Administrator determines has been adequately demonstrated.

## **Subtitle C—Clean Transportation**

### **Sec. 121. Low Carbon Fuel Standard**

Requires the EPA Administrator to promulgate regulations to reduce the lifecycle greenhouse gas (GHG) emissions per unit of energy from transportation fuel. “Transportation fuel” includes fuels for motor vehicles and engines, nonroad vehicles and engines, and aircraft. At the Administrator’s discretion, this “Low Carbon Fuel Standard” (LCFS) program may also include fuel for use in ocean-going vessels. After 2022, the renewable fuel standard (RFS) established by the Energy Policy Act of 2005 (P.L. 109-58) and expanded by the Energy Independence and Security Act of 2007 (P.L. 110-140) is eliminated.

Not later than three years after enactment, the Administrator must determine the baseline emissions intensity of transportation fuel for calendar year 2005. For each year from 2014 through 2022, the transportation fuel GHG emissions per unit energy must not exceed the baseline. After 2022, lifecycle emissions per unit of energy must be 5% below the baseline. For 2030 and later, emissions must be 10% below the baseline. Regulations may not include a per-gallon emissions requirement, but must be based on average emissions intensity.

Fuel providers may generate credits for achieving greater reductions than required. The Administrator may determine conditions for the use, duration, and trading of credits. The Administrator may (but is not required to) grant credits for producing electricity used as transportation fuel. A fuel provider not in compliance for a given year may carry a deficit forward to the following year as long as the deficit is offset in that year.

If the Administrator determines that implementation of the LCFS would severely harm the economy or environment of the United States, or if there is inadequate domestic supply of low-carbon fuel, the Administrator may revise the percentage reduction requirement in a given year. A

waiver decision may be granted in response to a petition by any state or fuel provider, or by the Administrator's own motion.

### **Sec. 122. Electric Vehicle Infrastructure**

Electric utilities are required to develop plans to support the use of plug-in hybrid vehicles (PHEVs) and pure plug-in electric vehicles (EVs), including heavy-duty hybrids. Plans may include deployment of charging stations, battery exchanges, fast-charging infrastructure, and triggers for development based on vehicle market penetration. Infrastructure should be interoperable with products from all manufacturers, to the extent practicable. State regulatory authorities and utilities must establish protocols and standards for integrating plug-in vehicles into the electrical distribution system, and include the ability for each vehicle to be identified individually and associated with its owner's electric utility account, for the purposes of billing of electricity use and the crediting of any power returned to the grid by the vehicle's batteries.

Within one year of enactment, state regulatory authorities must set a hearing date for considering the plan, and must make a determination on new standards within two years of enactment. State regulatory authorities must consider whether to allow cost recovery for the development and implementation of such plans.

### **Sec. 123. Large-Scale Vehicle Electrification Program**

Requires the Secretary of Energy to establish a program to deploy and integrate plug-in vehicles in multiple regions. Any state or local government—either solely or jointly with electric utilities, automakers, technology providers, car sharing companies, or other entities—may apply to the Secretary for financial assistance. The Secretary is to determine the design elements and requirements for the program, including the type of financial assistance provided. Financial assistance may be used for various purposes: assisting in the purchase of new vehicles; deployment of recharging or battery exchange infrastructure; integration of plug-in vehicles into the grid; and other projects the Secretary deems appropriate to support large-scale deployment of plug-in vehicles.

### **Sec. 124. Plug-in Electric Drive Vehicle Manufacturing**

Requires the Secretary of Energy to establish a program to provide financial assistance to automobile manufacturers to facilitate the manufacture of plug-in vehicles. The Secretary may provide assistance for the reconstruction or retooling of vehicles developed and produced in the United States, and for the purchase of domestically produced batteries for such vehicles. However, assistance may be granted only if the manufacturer is unable to finance the project without such assistance. The Secretary is to determine the design elements and requirements for the program, including the type of financial assistance provided. The Secretary is to give preference to facilities located in areas that have the greatest need for the facility.

## **Subtitle D— State Energy and Environment Development Funds**

### **Sec. 131. Establishment of SEED Funds**

Directs the Department of Energy (DOE) to create a program that allows each state energy office to establish a State Energy and Environment Development (SEED) Fund. The state-level SEED Fund is to serve as a common repository that manages and accounts for federal financial assistance that is designated mainly for clean energy, energy efficiency, and climate change purposes. DOE is required to develop model regulations for SEED operations and to assist states with set-up and operations.

Each state is allowed to deposit into its SEED Fund the appropriations from DOE's Weatherization Assistance Program (WAP), State Energy Program (SEP), and Energy Efficiency and Conservation Block Grant (EECBG) Program. Also, appropriations from the Department of Health and Human Services' Low Income Home Energy Assistance Program (LIHEAP) could be deposited in the SEED Fund. To the extent that amounts deposited in a SEED Fund are not tied to a specific use, such amounts may be used to support grants, loans, loan interest subsidies, and revolving loan programs.

## **Subtitle E— Smart Grid Advancement**

### **Sec. 142. Incorporation of Smart Grid Capability in Energy Star Program**

Directs the Energy Secretary and EPA Administrator to evaluate appliances with smart grid capability for inclusion in the Energy Star appliance labeling program. Although not specifically defined in the section, the smart grid capable appliances are presumably appliances able to communicate with a home's smart meter (either through a wired or wireless connection). The smart meter collects information on the home's electricity usage and communicates with the local utility's control center. In the most advanced smart grid concept, these linkages allow the utility to directly regulate the consumer's home appliances during periods when electricity is expensive and/or scarce. For example, during peak periods on a hot day, when power is costly, the utility could cycle the consumer's air conditioner on and off, and/or change the thermostat setting in a residence.

Smart grid-capable appliances found cost-effective are to be appropriately labeled. The labeling would indicate that the savings associated with the smart capability will only be available to the consumer if the consumer's utility has deployed other smart grid technology (e.g., the smart meters) on its system. The smart grid appliance analysis is to be completed within three years of enactment and the results reported to Congress. It is not clear if this appliance analysis is to be a one-time or ongoing effort.

### **Sec. 143. Smart Grid Peak Demand Reduction Goals**

Requires load serving entities (i.e., utilities that sell electricity directly to customers) to establish and meet goals reducing peak electricity demand for the years 2012 and 2015. No targets are set in the draft bill itself, except that the goals should be "realistically achievable with an aggressive effort to deploy Smart Grid and peak demand reduction technologies and methods. This provision

is mandatory for load serving entities with an annual baseline peak demand of at least 250 megawatts (equivalent to the output of a single medium-sized power plant).

Goals can be set by individual load-serving entities, by states, or by “regional entities.”<sup>3</sup> The goals can be designed to cover a single load-serving entity or a region. Although this section is under the smart grid rubric, many of the listed measures for achieving peak demand reductions do not necessarily require deployment of smart grid technology. These include, for example, utility ability to cycle demand at industrial facilities that have signed up for demand response programs (in which they receive lower rates in return for giving the utility the option of interrupting service), and power supply from distributed generation.<sup>4</sup> Other options, such as direct control of residential appliances, do require smart grid technology.

FERC is ordered to implement this program in coordination, to the extent possible, with state demand response and peak reduction programs. There is no penalty for a load-serving entity’s failure to reach goals, except for being identified in annual progress reports to Congress. The bill authorizes grant programs to help states and other entities achieve the peak reduction aim.

#### **Sec. 144. Reauthorization of Energy Efficiency Public Information Program to Include Smart Grid Information**

Modifies an energy efficiency public information program authorized by the Energy Policy Act of 2005 to make it into a smart grid and energy efficiency program. In addition to the change in emphasis, the end-date for the program is extended from 2010 to 2020.

#### **Sec. 145. Inclusion of Smart-Grid Features in Appliance Rebate Program**

Modifies an energy efficiency appliance rebate program authorized by the Energy Policy Act of 2005 to add appliances with smart grid capabilities. The section also amends the original language generally such that federal money can be used to fund 100% of the rebate amount instead of just administrative costs (states must still supply at least 50% of administrative costs).

### **Subtitle F—Smart Grid Advancement**

#### **Sec. 151. Transmission Planning**

Amends the Federal Power Act to create a new voluntary transmission planning process. FERC is to establish planning principles, receive all plans (effectively combining regional plans into super-regional or national plans), and attempt to resolve conflicts between plans. It is also to report to Congress on the status of the planning efforts three years after enactment and can recommend legislative changes to facilitate development of the transmission system. Does not direct FERC to

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<sup>3</sup> The term regional entity is not defined in the bill. It could refer to the FERC-sponsored Regional Transmission Organizations that operate the transmission grid and perform other functions in parts of the United States. The term could also refer to the regional reliable entities that assist the North American Electric Reliability Corp. in establishing and enforcing power system reliability standards. It also not clear how the states, load-serving entities, and regional entities are supposed to coordinate the process of setting peak reduction goals.

<sup>4</sup> This is generation owned by the customer and located at the customer’s site. Distributed generation ranges from rooftop solar on a home to large generating facilities located at big manufacturing plants.

select federally sponsored regional planning entities, does not give transmission projects included in final transmission plans any special benefits, and is not mandatory.

The planning processes are directed to focus primarily on facilitating the “deployment of renewable and other zero-carbon” power sources. Other objectives are noted, such as power system reliability and cost-effective service, but these are to be met in the context of the overarching goal of facilitating renewable/zero-carbon power deployment.

Specifies that the transmission planning processes should consider non-transmission solutions to power system needs, such as energy efficiency, distributed generation, and electricity storage. These requirements implicitly turn transmission planning into wider scope power system planning.

FERC is to establish planning principles within a year after enactment, and participants in the process are to submit plans to FERC no more than 18 months later. FERC is to report to Congress as noted above not more than three years after enactment. The draft authorizes funding as necessary for FERC to assist the planning process with, for example, technical expertise, computer modeling support, and dispute resolution services.

## **Subtitle G—Federal Purchases of Electricity Generated by Renewable Energy**

### **Sec. 161. Federal Purchases of Electricity Generated by Renewable Energy**

In general, federal government agencies may contract to acquire renewable energy for periods up to 30 years, as long as the renewable energy is not generated from municipal solid waste. The Federal Energy Management Program is to publish a standardized contractual agreement with terms and conditions for purchase of renewable energy by federal agencies.

## **Title II**

### **Subtitle A—Building Energy Efficiency Programs**

#### **Sec. 201. Greater Energy Efficiency in Building Codes**

Requires DOE to update the national model building energy codes at least once every three years. The target for nationwide energy savings is set 30% higher than the baseline for updates released after enactment, and then rises to 50% for updates released after January 1, 2016. All model code updates are coordinated with updates of specified industry standards. Federal training and funding assistance is provided to states that adopt advanced building efficiency codes. States are required to certify their code updates and code compliance with DOE.

#### **Sec. 202. Building Retrofit Program**

Creates a Retrofit for Energy and Environmental Performance (REEP) program to facilitate the retrofiting of existing buildings nationwide to achieve maximum cost-effective energy efficiency

improvements and significant improvements in water use and other environmental attributes. EPA is charged with one part of the program: developing standards for a retrofit policy for single-family and multi-family residences. In creating and operating the residential REEP program, EPA is required to use existing programs, especially the Energy Star for Buildings program.

DOE is charged with another part of the REEP program: developing standards for a retrofit policy for commercial buildings. In creating and operating the commercial REEP program, DOE is required to use existing programs, including delegating authority to the Director of Commercial High-Performance Green Buildings (established under 42 U.S.C. 17081) to designate and fund a High-Performance Green Building Partnership Consortium.

Provides federal financial assistance to be deposited in each state's SEED Fund (sec. 131). DOE is required to administer financing for the REEP program. State and local agencies would have broad flexibility in REEP program operations.

### **Sec. 203. Energy Efficient Manufactured Homes**

Authorizes DOE grants to states to provide rebates to low-income families residing in pre-1976 manufactured homes. The rebate could be applied only toward the purchase of a new Energy Star-rated manufactured home. The value of the rebates is capped at \$7,500.

### **Sec. 204. Building Energy Performance Labeling Program**

Directs EPA to establish a building energy performance labeling program that would apply broadly to residential and commercial building markets. The goal is to encourage owners and occupants to reduce energy use. EPA is required to consider existing programs, such as the Home Energy Rating System and DOE programs. Also, EPA is required to develop model performance labels for residential and commercial buildings and to use incentives and other means to spur the use of labels by public and private sector buildings.

## **Subtitle B—Lighting and Appliance Energy Efficiency Programs**

### **Sec. 211. Lighting Efficiency Standards**

Sets four lighting standards. First, manufacturers of outdoor luminaires are required to achieve a minimum lighting efficiency of 50 lumens per watt by January 1, 2012, 70 lumens per watt by January 1, 2013, and 80 lumens per watt by January 1, 2015. By January 1, 2017, DOE is required to issue a final rule to amend that standard to “the maximum level that is technically feasible and economically justified.” The amended standard would take effect by January 1, 2020. Second, manufacturers of outdoor high output lamps are required to achieve a standard of 45 lumens per watt by January 1, 2012. Third, manufacturers of portable light fixtures are required by January 1, 2012, to either meet Energy Star requirements for residential light fixtures or meet a minimum efficiency of 29 lumens per watt for LED light fixtures. DOE is required to publish amended standards by January 1, 2014, that would take effect on January 1, 2016. Fourth, certain technical requirements are set for art work light fixtures; and DOE is required to establish standards for certain incandescent reflector lamps, which would take effect three years after the law is enacted.



## **Sec. 212. Other Appliance Efficiency Standards**

Sets four efficiency standards for certain commercial appliances, in addition to existing standards for a number of other types of residential and commercial equipment. First, by January 1, 2012, water dispensers are required to have a maximum standby energy use of 1.2 kilowatt-hours per day. Second, by January 1, 2012, commercial hot food holding cabinets are required to have a maximum idle energy use rate of 40 watts per cubic foot of interior volume. Third, by January 1, 2012, portable electric spas are required to have a maximum standby power use set by formula that depends on the volume of the spa. DOE is directed to consider revisions to each of the foregoing three standards and publish a final rule by January 1, 2013. Revised standards would take effect on January 1, 2016. Fourth, efficiency standards are set for commercial furnaces with an input heat rate of 225 thousand Btu per hour. Gas-fired furnaces are required to have a minimum combustion efficiency of 80% and oil-fired furnaces would have a minimum combustion efficiency of 81%.

## **Sec. 213. Appliance Efficiency Determinations and Procedures**

Revises the criteria for prescribing new or amended standards to include the estimated value of reduced emissions of carbon dioxide and other greenhouse gases; the estimated impact on average consumer energy prices; and the estimated energy efficiency attributable to Smart Grid technologies. Further, the criteria would require that the carbon output of each covered product be included on the EnergyGuide labels.

Other criteria for prescribing new or amended standards would require information about the commercial availability of products that meet higher standards; the standard's potential creation of a serious hardship on consumers or manufacturers; and the potential to avoid hardship through the prescription of regional standards.

Requires manufacturers of covered products to submit annual reports and information to DOE regarding compliance, economic impact, annual shipments, facility energy and water use, and sales data that could support an assessment of the need for regional standards.

Clarifies the definition of "energy conservation standard" to include energy efficiency for some covered equipment, water efficiency for some covered equipment, and both energy and water efficiency for still other equipment.

Directs that state and local building codes use appliance efficiency requirements that are no less stringent than those set by federal standard.

Revises other definitions and provisions, including the use of test procedures adopted elsewhere, updated test methods for televisions, a state waiver, waiver of federal preemption, and permitting states to seek injunctive enforcement.

## **Sec. 214. Best-in-Class Appliances Deployment Program**

Directs DOE to establish a deployment program to reward retailers with bonuses for increasing the sales of best-in-class high-efficiency installed building equipment, high-efficiency consumer electronics, and high-efficiency household appliance models. The goal of the program is to reduce life-cycle costs for consumers, encourage innovation, and maximize energy savings and public

benefits. DOE would determine the size of the bonus payments. The best-in-class products would include no more than 10% of the most efficient product models in a class, and that group must show a “distinctly greater” efficiency than the average for that class. Further, DOE would review the class annually and make upward adjustments in the criteria as appropriate.

In parallel, DOE is to establish bounties to retailers for replacing and recycling old, inefficient, and environmentally harmful appliances. The size of the bounty is based on the increment of energy use above that for an average new product. DOE is allowed to require that a product bonus be accompanied by retirement of old products. Also, DOE is required to ensure that no product receiving a bounty is returned to active service.

A bonus program is established for manufacturers that develop new “superefficient best-in-class” products. The structure of the program and calculation of bonuses is similar to that for the retail sector. DOE would have the authority to establish a standard, even if no product existed yet, if it determined that a mass-producible product could be made to meet the standard. Products that receive a sec. 45M federal tax credit would not be eligible for bonus payments.

### **Sec. 215. Purpose of Energy Star**

Defines the purpose of the Energy Star program as “to assist consumers in selecting products for purchase that have demonstrated high energy efficiency and that are cost-effective from the consumer’s perspective, ensuring that any incremental cost attributable to the energy-efficient features of such products will be more than recovered in the value of energy savings the products will make possible within several years of purchase, typically within 2 years but no more than 5 years.”

## **Subtitle C—Transportation Efficiency**

### **Sec. 221. Emissions Standards**

Requires the President to use all current statutory authorities to set motor vehicle GHG standards. Standards must be achievable by automakers, harmonize Corporate Average Fuel Economy (CAFE) standards with any standards set by the EPA Administrator under the Clean Air Act, achieve emissions reductions at least as much as those required by California under its current vehicle GHG standards, and not preempt California’s authority to adopt and enforce new emissions standards.

The EPA Administrator is also required to establish GHG standards for heavy-duty vehicles and engines, non-road vehicles and engines (including locomotives and marine vessels), and aircraft. Such standards must be based on various factors, including the relative contribution to GHG emissions from that class of vehicles, the costs of achieving reductions, technology available to meet the standards, and the effects on safety and energy consumption. The Administrator is granted the authority to establish provisions for averaging, banking, and trading emissions reduction credits within or across classes of vehicles and engines.

## **Sec. 222. Greenhouse Gas Emissions Reductions Through Transportation Efficiency**

States must submit to EPA goals and plans to stabilize transportation-related GHG emissions in a “designated year” (determined by the state) and reduce emissions in subsequent years. States must consider establishing 2010 as the designated year, and must update goals every four years. If a state fails to submit goals or a plan, the EPA Administrator may prohibit the awarding of federal highway funds.

Metropolitan planning organizations (MPOs) in areas with population exceeding 200,000 must update transportation plans and transportation improvement programs (TIPs) to achieve such goals. The EPA Administrator may award competitive grants to MPOs to develop or implement submitted plans. The Administrator is required to give priority to applicants based on total or per capita GHG reductions, and other factors the Administrator deems appropriate.

## **Sec. 223. Smartway Transportation Efficiency Program**

Codifies EPA’s existing SmartWay program (established under EPA’s existing authority). The Administrator is required to quantify, demonstrate, and promote the benefits of technologies, products, fuels, and strategies to reduce petroleum consumption, air pollution, and GHG emissions from mobile sources. The Administrator must develop measurement protocols for fuel consumption and emissions reductions, thresholds for designating SmartWay technologies and strategies, develop programs to promote best practices, and promote the availability and adoption of SmartWay technologies and strategies. The Administrator is required to establish a SmartWay Transport Partnership to promote the efficient shipment of goods.

Requires the EPA Administrator to establish a SmartWay Financing Program. Entities receiving funds are required use the funds to provide flexible loan and lease terms to public and private entities for the financing of low-GHG technologies and strategies. The Administrator is to determine the type of financial mechanism, the designation of eligible entities, and criteria for evaluating applications.

## **Subtitle D—Utilities Energy Efficiency**

### **Sec. 231. Energy Efficiency Resource Standard for Retail Electricity and Natural Gas Distributors**

Adds a new sec. 611 to the Public Utility Regulatory Policies Act of 1978 (PURPA) to require all but the smallest gas and electric utilities to take steps to achieve energy efficiency goals established by the federal government:

- a reduction of electricity demand of 15% by 2020; and
- a reduction of natural gas demand of 10% by 2020.

Sets annual savings goals for 2012 through 2020. Annual objectives for years after 2020 are to be established beginning in 2018 by the Secretary of Energy. Provides for mid-course corrections to the initial set of objectives in 2014 and every ten years thereafter, but only to increase the targeted savings.

Requires DOE to establish regulations for the program, including the technical means of verifying the savings. DOE is also to review annually a report from each utility demonstrating that it has achieved that year's savings target. (Since there will be at least hundreds of such reports, this implies a significant administrative burden for DOE.) Utilities that fail to meet goals have to pay substantial civil penalties on each mwh of electricity and million Btus of natural gas not saved.

As part of its annual review of utility reports, DOE is to verify not only that the targeted savings have been achieved, but that the utility actually "played a significant role in achieving the claimed savings. However, there is no requirement for state utility commissions, which regulate utility retail activities, to allow utilities to adjust their rates to recover the costs of energy efficiency programs. Not addressed is the issue that if a utility achieves a 15% reduction in energy sales, it will incur, other things being equal, a 15% reduction in revenues and profits.<sup>5</sup>

Authorizes utilities to purchase energy savings through bilateral contracts with other utilities (except that, without special state permission, the buyer and seller must serve the same state). Does not create a market in energy efficiency credits, analogous to some existing markets in air pollution reduction credits. DOE can delegate administration of the program to states, with state implementation to be reviewed roughly every four years.

## **Subtitle E—Industrial Energy Efficiency Programs**

### **Sec. 241. Industrial Plant Energy Efficiency Standards**

Directs DOE to develop industrial plant energy efficiency certification standards as part of the existing DOE program of developing American National Standards Institute (ANSI) accredited standards for industrial benchmarking, and would seek ANSI accreditation of such standards.

### **Sec. 242. Electric and Thermal Energy Efficiency Award Programs**

Directs DOE to establish a monetary award program for owners and operators of electric power generation facilities and thermal energy production facilities that use fossil or nuclear fuels. The award is to encourage innovative means for recovering thermal energy as a potentially useful byproduct of electric power generation or certain other electric or thermal energy production processes. The award is capped at the value of 25% of the energy projected to be recovered or generated during the first five years of facility operation that uses the innovative method. Further, DOE is directed to provide appropriate regulatory status for thermal energy byproduct businesses of regulated electric utilities. Owners and operators of electric and thermal energy facilities are eligible for SEED Fund loans for initial capital.

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<sup>5</sup> Some states have implemented "decoupling," a rate structure that disconnects utility sales and profitability to eliminate disincentives for conserving energy. This is currently more common for natural gas utilities than for electric utilities. The draft bill does not include a decoupling provision.

## **Subtitle F—Improvements in Energy Savings Performance Contracts**

### **Sec. 251. Energy Savings Performance Contracts**

Amends the National Energy Conservation Policy Act (42 U.S.C. 8287(a)) to require competition for task or delivery orders under energy savings performance contracts.

## **Subtitle G—Public Institutions**

### **Sec. 261. Public Institutions**

Amends the National Energy Conservation Policy Act (42 U.S.C. 8287(a)) to specifically include not-for-profit hospitals or not-for-profit inpatient health facilities or designated agents, and changes the financial limit from \$1,000,000 to \$2,500,000.

## **Title III — Reducing Global Warming Potential**

### **Sec. 301. Short Title**

Provides suggested title — “Safe Climate Act.”

## **Subtitle A — Reducing Global Warming Pollution**

### **Sec. 311. Reducing Global Warming Pollution**

Amends the Clean Air Act (42 U.S.C. 7401 et seq.) by adding title VII, below.

## **“Title VII — Global Warming Pollution Reduction Program”**

### **“Part A — Global Warming Pollution Reduction Goals and Targets”**

#### **“Sec. 701. Findings and Purpose.”**

Identifies threats posed by global warming. Highlights scientific studies that find links between manmade greenhouse gas (GHG) emissions and global warming. Determines that GHG emission control is vital to the mitigation of global warming and its impacts, some of which are listed. States that U.S. action is critical to engage other nations in international efforts. Names purpose as prevention, reduction, and mitigation of global warming and its impacts, to be accomplished by establishing a emissions trading market and advancing clean energy and efficiency technologies.

### **“Sec. 702. Economy-Wide Reduction Goals.”**

Lists GHG emission reduction goals as:

1. in 2012, U.S. GHG emissions not to exceed 97% of 2005 GHG emissions
2. in 2020, U.S. GHG emissions not to exceed 80% of 2005 GHG emissions
3. in 2030, U.S. GHG emissions not to exceed 58% of 2005 GHG emissions
4. in 2050, U.S. GHG emissions not to exceed 17% of 2005 GHG emissions

### **“Sec. 703. Reduction Targets for Specified Sources.”**

Directs EPA, no later than two years after enactment, to promulgate regulations that cap and reduce GHG emissions from capped sources so that the emission reduction goals in sec. 702 are applied to capped sources. For example, in 2012, GHG emissions from capped sources should not exceed 97% of GHG emissions from such sources in 2005.

### **“Sec. 704. Supplemental Pollution Reductions.”**

Instructs EPA to allot emission allowances to support international deforestation reduction efforts. Between 2012 and 2025, EPA is to transfer (per sec. 781) up to 5% of each year’s emission allowances to nations that enter into and implement agreements (pursuant to Part E) relating to reduction of deforestation. The allotted percentage decreases to 3% between 2026 and 2030 and 2% between 2031 and 2050. The section’s objective is to support emission reductions (through avoided deforestation) that is outside of and additional to those required by the U.S. emissions cap. For example, the 2020 goal is to achieve reductions equivalent to 10% of U.S. emissions in 2005.

### **“Sec. 705. Scientific review.”**

Establishes process for scientific review to be conducted by the National Academy of Sciences (NAS). NAS is to prepare a report by July 1, 2012, and every four years thereafter. The report will include an analysis of (1) latest climate change science, (2) technological feasibility of GHG emission mitigation efforts, and (3) domestic and international efforts to mitigate climate change. (The first report will examine only the latest scientific information.) This section provides considerable detail regarding what the NAS is to provide in its reports, including recommendations and identification of improvements.

### **“Sec. 706. Presidential response and recommendations.”**

Directs federal agencies — by July 1, 2017, and every four years thereafter — to address shortfalls identified in the periodic NAS reports (sec. 705). If NAS report finds that emission reduction targets (or atmospheric concentration or safe temperature thresholds) are not on schedule, the President is to submit a plan outlining additional domestic and international reduction efforts or legislative recommendations that would address these concerns.

## **“Part B – Designation and Registration of Greenhouse Gases”**

### **“Sec. 711. Designation of greenhouse gases.”**

Designates the following gases as GHGs: (1) carbon dioxide, (2) methane, (3) nitrous oxide, (4) sulfur hexafluoride, (5) hydrofluorocarbons emitted as a byproduct, (6) a perfluorocarbon, (7) nitrogen trifluoride. Sets up process by which EPA can designate other GHGs. Allows for any person to petition EPA for other manmade gases to be added as GHGs.

### **“Sec. 712. Carbon dioxide equivalent value of greenhouse gases.”**

Lists the carbon dioxide equivalents of other GHGs. For example, one metric ton of methane equals 25 metric tons of carbon dioxide equivalent. Directs EPA to periodically review, not later than February 1, 2017, and every five years thereafter, the carbon dioxide equivalent values. Establishes process by which EPA can revise the values.

### **“Sec. 713. Greenhouse gas registry.”**

Directs EPA, no later than six months after enactment, to establish a federal GHG emission registry. The registry will include data on (1) GHG emissions, (2) production/importation of fuels and products that lead to GHG emissions, and (3) electricity delivered to carbon-intensive industries. Reporting entities, including covered entities and other entities that EPA determines will help achieve overall goals of title VII, must submit 2007-2010 data by March 31, 2011. For calendar year 2011 and each subsequent year, reporting entities will submit quarterly data. In creating the registry, EPA is to consider best practices from ongoing state and regional efforts. EPA is to disseminate the data to states and tribes and publish the data online as soon as practicable.

## **“Part C – Program Rules”**

### **“Sec. 721. Emission allowances.”**

Instructs EPA to establish a specific quantity of emission allowances (the cap), starting in 2012, based on the table provided in sec. 721(e). Each allowance will have a unique identification number. From a legal standpoint, neither emission allowances, compensatory allowances, strategic reserve allowances, nor offset credits constitute a property right. EPA may adjust the annual caps, if specified assumptions are subsequently found to be inaccurate, such as 2005 emission levels and percentage of emissions from covered sources. Directs EPA to promulgate regulations to establish a process of providing compensatory allowances for several activities, including the use of fossil fuels (e.g., asphalt or plastic manufacturing) that does not lead to emissions.

### **“Sec. 722. Compliance obligation.”**

Requires covered entities, starting April 1, 2013, and each year thereafter, to have one emission allowance for each ton of carbon dioxide equivalent of GHGs that were either, depending on the type of covered entity, (1) directly emitted by the entity in the previous year or (2) emitted

downstream in the economy in relation to a covered entity's GHG inputs (e.g., fossil fuels) that were produced or imported for sale or distribution in the previous year. EPA will retire the held allowances after the annual deadline has passed. Covered entities are defined specifically in sec. 700 but include electricity generators, various fuel producers and importers, fluorinated gas producers and importers, geological sequestration sites, various industrial sources, and local distribution companies (LDCs) that deliver natural gas. Compliance provisions are phased in by entity: most entities start compliance in 2012; industrial stationary sources begin compliance in 2014; LDCs begin in 2016.

EPA must review the emission threshold for relevant covered entities in 2020 (and every eight years thereafter). EPA may lower the emission threshold, which currently stands at 25,000 tons/year, to not less than 10,000 tons/year, after considering various factors, such as cost-effectiveness.

Covered entities can use offset credits to satisfy compliance. Offsets are discounted: 1.25 offsets equals one emission allowance. In 2012, approximately 30% of an entity's allowance obligation can be satisfied with offsets (half from domestic and half from international sources). This percentage increases to 66% by 2050. Entities may also satisfy compliance with international emission allowances or compensatory allowances.

EPA must launch an education and outreach program to assist covered entities with compliance obligations.

### **"Sec. 723. Penalty for noncompliance."**

Establishes penalties for noncompliance. A covered entity must pay a penalty to EPA for each allowance the entity should have held at the compliance deadline. The penalty amount equals the emissions generated in excess to the allowances held multiplied by twice the fair market value for emission allowances in the relevant calendar year. In addition, covered entities must submit, in the following calendar year or other time period determined by EPA, allowances to cover the excess emissions from the previous year.

### **"Sec. 724. Trading."**

Ensures that emission trading will not be restricted. Allows for both covered and non-covered entities to hold allowances. Holders of allowances may ask the EPA to retire the allowance. Allowance transfers are not effective until EPA receives written certification in accordance with regulations required by sec. 721.

### **"Sec. 725. Banking and borrowing."**

Allows for unlimited banking of emission allowances for compliance in future years.

Allows entities to borrow (without interest) emission allowances from the calendar year (vintage) immediately following the compliance year. For example, vintage 2015 allowances can be used for compliance in 2014. This effectively creates a rolling two-year compliance period. In addition, covered entities may borrow at interest allowances (limited to 15% of compliance obligation) from up to five vintage years in the future.



**“Sec. 726. Strategic reserve.”**

Directs EPA to create a “strategic reserve” of about 2.7 billion allowances by setting aside a small number of allowances from each vintage year. EPA will conduct quarterly auctions of allowances from the strategic reserve. Only covered entities may participate in the auctions. The auctions will have a reserve price, which in 2012 will be twice the estimated emission allowance price for 2012 (to be provided by EPA). Subsequent year reserve prices are 100% above the average market price. Limits the number of allowances up for auction, and entities are limited in the number they may purchase at each auction. Unsold allowances replenish the reserve. EPA is to use the auction proceeds to purchase international (reduced deforestation) offsets (with the same 1.25 discount rate for offsets) that will replenish the strategic reserve. Under certain conditions, international (reduced deforestation) offsets may be sold by EPA at the strategic reserve auction.

**“Sec. 727. Permits.”**

Describes procedural requirements for sources that are also subject to title V of the Clean Air Act. Requires an entity’s designated representative to file a certificate of representation. Describes procedural process for situations involving multiple owners or leasing arrangements.

**“Sec. 728. International emission allowances.”**

Lists process by which EPA can designate an international climate change program as “qualifying.” Only international allowances from “qualifying” programs can be used by covered entities for compliance purposes. Requires covered entities to certify that international allowances used for U.S. compliance have not been used for compliance with other programs. Allows EPA to issue a rulemaking that would modify the percentage of international offsets a covered entity may use for compliance purposes.

**“Part D – Offsets”**

**“Sec. 731. Offsets Integrity Advisory Board.”**

Instructs EPA to create an independent Offsets Integrity Advisory Board, which will make recommendations that include (1) which offset types should be eligible for compliance purposes, and (2) methodologies for evaluating offset projects. The Board shall by 2017, and every five years thereafter, provide an analysis to EPA of the offset program and make recommendations regarding the offset program.

**“Sec. 732. Establishment of offsets program.”**

Directs EPA, not later than two years after enactment, to promulgate regulations that establish a program for issuing offsets for compliance purposes. EPA is to consult with other federal agencies and consider the Advisory Board’s (sec. 731) recommendations. EPA must ensure that offsets are verifiable and additional, that sequestration projects are permanent, and that offsets avoid or minimize negative effects. EPA must set up an offset registry. The agency may collect fees from offset project representatives to cover administrative costs.

**“Sec. 733. Eligible project types.”**

Directs EPA (through the regulatory process) to develop a list of eligible offset project types, which can be revised at a later time. EPA must consider (and give priority to) the Advisory Board recommendations. Persons may petition EPA to add or remove offset project types from the list of eligibility.

**“Sec. 734. Requirements for offset projects.”**

Instructs EPA to include certain provisions in its regulations, including project-specific standards that address additionality, baseline calculations, measurement, leakage, and uncertainty. EPA is to develop a process that accounts for offset “reversals,” including mechanisms such as an offsets reserve and/or insurance. EPA will specify the crediting period for each offset type. The periods must fall between five and 10 years, excepting sequestration projects.

**“Sec. 735. Approval of offset projects.”**

Describes the process by which an offset project representative seeks approval for a particular offset project. The representative must submit to EPA a petition that includes the information specified in EPA’s forthcoming rulemaking. EPA must respond in writing to the petition within 90 days. Procedures for an appeal process are to be established by EPA. In addition, EPA is to establish a voluntary pre-approval review process as an option for project developers.

**“Sec. 736. Verification of offset projects.”**

Requires offset project representatives to provide to EPA with verification from an EPA-accredited third-party. EPA is to create a process to accredit third-parties for this function. Required information (e.g., tons reduced/avoided/sequestered, methodologies used) in the verification and the schedule for its submittal will be determined by EPA.

**“Sec. 737. Issuance of offset credits.”**

Directs EPA to make offset issuance determinations no later than 90 days after receipt of the third-party verification reports. EPA may issue offset credits only for approved projects (sec. 735) and only for reductions, avoidance, or sequestration that have *already occurred* (i.e., no forward crediting) during the project’s crediting period. EPA will assign a unique serial number to each offset credit.

**“Sec. 738. Audits.”**

Authorizes EPA to conduct random audits of offset projects, credits, and practices of third-party verifiers. EPA is required to annually audit, at minimum, a representative sample of project types and geographic areas. EPA may delegate this duty to a state or tribal government.

**“Sec. 739. Program review and revision.”**

Requires EPA to review various components — methodologies, reversal policies, accountability measures — of its offset program at least once every five years.

### **“Sec. 740. Early offset supply.”**

Directs EPA to issue offset credits, if specific conditions are met, for offsets issued under other regulatory or voluntary offset programs. The following are highlights of some of the conditions:

- An offset project must have started after January 1, 2001, but EPA can only issue offset credits for reduction/avoidance/sequestration tons that occur after January 1, 2009, and only for a limited period of time (three years after enactment or effective date of regulation, whichever is sooner).
- The other-program offsets must have been issued under a program that was established by state (or tribal) law or regulation.
- The offset standards must have been developed through a public consultation process.
- All projects must have been or will be verified by a state regulatory agency or accredited third-party.
- Offsets are ineligible if used for compliance with a state law.

### **“Sec. 741. Environmental considerations.”**

Instructs EPA, if it lists forestry projects as eligible offset types, to develop regulations that address concerns particular to forestry offsets. The list of concerns includes biodiversity, invasive species, and non-native species.

### **“Sec. 742. Ownership and transfer of offset credits.”**

States that initial offset ownership lies with the entity represented by the offset project representative. Allows offset credits to be sold, traded, or transferred, unless the credit has expired or been used for compliance purposes.

### **“Sec. 743. International offset credits.”**

Authorizes EPA to issue (in consultation with Department of State) international offset credits. Directs EPA to promulgate regulations (considering recommendations from the Advisory Board) to carry out this section. EPA may only issue international offset credits if (1) the United States is a party to a bilateral or multilateral agreement that includes the nation hosting the offset project, and (2) the nation is a “developing country” (defined in sec. 700).

Establishes a process through which EPA can issue international offset credits on a sectoral basis in developing nations if such an approach is deemed appropriate to ensure the integrity of the U.S. emissions cap against carbon leakage and would encourage other countries to take measures to reduce, avoid, or sequester greenhouse gases.

Allows EPA to issue international offset credits that originate from international bodies established by the United Nations Framework Convention on Climate Change (UNFCCC), a UNFCCC protocol, or a treaty that succeeds the UNFCCC. This suggests that offsets that come from the Clean Development Mechanism may be available.

Authorizes EPA to issue, if certain conditions are met, international offset credits for projects that reduce deforestation. The United States must be a party to a bilateral or multilateral agreement that includes the nation hosting the offset project. A national deforestation baseline must be established in accordance with an appropriate agreement (details for developing baselines are provided). Credits can only be issued after deforestation reduction has been demonstrated using “ground-based inventories, remote sensing technology, and other methodologies” to ensure carbon stocks are measured. EPA must make country-specific adjustments, such as discounting. EPA (with Department of State) is to prepare a list of developing nations that are eligible, based on the nation’s ability to monitor/measure carbon fluxes from deforestation and its institutional capacities and governance.

## **“Part E – Supplemental Emissions Reductions from Reduced Deforestation”**

### **“Sec. 751. Definitions.”**

Includes definitions of five terms relevant to Part E.

### **“Sec. 752. Findings.”**

States that (1) deforestation amounts to approximately 20% of global GHG emissions, (2) reducing deforestation is cost-effective compared to other GHG emission mitigation efforts, and (3) reducing deforestation yields secondary benefits, such as biodiversity.

### **“Sec. 753. Supplemental emissions reductions through reduced deforestation.”**

Directs EPA, in consultation with the Departments of State and Agriculture, to promulgate regulations that create a program to allot emission allowances for supporting reduced deforestation efforts. Identifies objectives as (1) achieving a cumulative emission reduction of 6 billion tons by 2025, (2) building institutional capacities in developing nations, and (3) preserving intact, native forests.

### **“Sec. 754. Requirements for international deforestation reduction program.”**

Authorizes EPA to support efforts only in developing nations whose forest carbon stock present a deforestation risk and have entered a bilateral or multilateral agreement with the United States. EPA may support a wider variety of efforts than those in sec. 743, including pilot activities that are “subject to significant uncertainty.” EPA may support projects directly or distribute allowances to established international funds. EPA must promulgate standards to ensure emission reductions (from reduced deforestation) are additional, measureable, verifiable, permanent, monitored, and account for leakage and uncertainty. National baselines (for deforestation) must be established. EPA must develop a publicly available registry of the supplemental emission reductions.

**“Sec. 755. Reports and reviews.”**

Directs EPA to submit, by January 1, 2014, a report that lists the quantity of emission reductions under the program, a breakdown of allowances provided, and the accomplishments supported. EPA is to conduct a review of the supplemental emission reduction program four years after enactment and every five years thereafter. The review will include an assessment of emission reductions achieved per participating nation and an examination of related factors, such as governance, biodiversity, and leakage.

**“Sec. 756. Legal effect of part.”**

States that Part E does not supersede, limit, or affect restrictions imposed by federal law on any interaction between an entity in the United States and an entity in another country.

**“Part F — Carbon Market Assurance”**

**“Sec. 761. Oversight and assurance of carbon markets.”**

Provides for the Federal Energy Regulatory Commission (FERC) to regulate the cash market in emission allowances and offsets created under title VII and directs the President to delegate regulatory authority for the derivatives market to “an appropriate agency.” FERC is to promulgate regulations for the establishment, operation, and oversight of the cash market, within 18 months of enactment, designed to prohibit fraud, market manipulation, and excess speculation, and provide measures to limit unreasonable allowance price fluctuations. Participants are limited to no more than a 10% position in any class of regulated allowance, and FERC has the authority to suspend or revoke the registration of any trading entity violating any rule or order issued under this subsection.

Taking into consideration the recommendations of an interagency working group created under the bill, the President is to delegate to appropriate agencies the authority to promulgate regulations for the establishment, operation, and oversight of all markets for regulated allowance derivatives. The purposes of the derivatives provisions are similar to those above for the cash market. Each federal agency that is designated under these provisions shall have the same authority to enforce compliance as does the Commodity Futures Trading Commission (CFTC).

**Sec. 312. Definitions**

Amends title VII of the Clean Air Act (created by this legislation) by adding a definitions section before Part A.

**“Sec. 700. Definitions.”**

Provides definitions for terms relevant to title VII.

## **Subtitle B—Disposition of Allowances**

### **Sec. 321. Disposition of Allowances for Global Warming Pollution Reduction Program**

Adds Part H to the new title VII of the Clean Air Act.

## **“PART H—DISPOSITION OF ALLOWANCES”**

### **“Sec. 781. Allocation of allowances for supplemental reductions.”**

Instructs EPA to allot particular percentages of emission allowances to support supplemental reduction efforts, the avoided deforestation projects described in Part E. For (“vintage year” allowances) 2012 through 2025, the program receives 5% of each year’s allotment; for 2026 through 2030, 3%; for 2031 through 2050, 2%. Directs EPA to modify these percentages as necessary to meet the 2020 reduction objective (annual reductions equivalent to 10% of U.S. emissions in 2005) and the cumulative 2025 objective (achieve total reduction of 6 billion tons). Unused allowances are to be sold at an auction (sec. 791) in the following year, and the following vintage year’s allotment (for supplemental reduction) is increased by the number of unused allowances from the previous year.

### **“Sec. 782. Disbursement of allowances and proceeds from auctions of allowances.”**

Directs EPA to allocate emission allowances. Recipients and precise amounts “to be supplied.”

Directs EPA to auction emission allowances. Amounts of allowances auctioned “to be supplied.”

Establishes a Strategic Reserve Fund in the U.S. Treasury. Other funds “to be supplied.”

### **“Sec. 783-789 [Sections Reserved]”**

### **“Sec. 790. Exchange for State-issued allowances.”**

Instructs EPA to promulgate regulations that would establish a process by which any person can exchange emission allowances issued before December 31, 2011, by California or the Regional Greenhouse Gas Initiative (RGGI) for emission allowances under this title. The exchange will not necessarily be a one-to-one swap. EPA’s regulations will provide that a person exchanging a “state allowance” receive a title III allowance that is “sufficient to compensate” for the cost of obtaining (this is specifically defined) and holding a state allowance. Title III allowances allotted for this purpose will be deducted from the sec. 782 auction allowance pool.

### **“Sec. 791. Auction procedures.”**

Establishes auction format and procedures. Directs EPA to promulgate regulations, within 12 months of enactment, that govern allowance auctions. Auctions will be held quarterly, starting no

later than March 31, 2011. At each auction, EPA will offer both current and some proportion of future vintage allowances. Auctions will follow a single-round, sealed-bid, uniform price format (similar to RGGI auctions). Auctions will be open to any person. EPA may require demonstrations of financial assurance as a condition of participation. Persons may not purchase more than 5% of allowances offered in any auction. This section does not mention a price floor (reserve price). EPA may revise auction design (through the regulatory process) if the agency determines an alternative design is more effective.

**“Sec. 792. Auctioning allowances for other entities.”**

Allows for any holder of an emission allowances to request that EPA auction their allowances. EPA will sell the allowances during one of the quarterly auctions per sec. 791. EPA may permit allowance holders to set a reserve price for their allowances. However, allowance holders from foreign nations (selling allowances received per avoided deforestation projects) may not request a reserve price. EPA is to promulgate regulations to implement this section within 24 months of enactment.

**Subtitle C—Additional Greenhouse Gas Standards**

**Sec. 331. Greenhouse Gas Standards**

Amends the Clean Air Act to include a new subtitle C at the end of the new title VII.

**“Title VIII—Additional Greenhouse Gas Standards”**

**“Sec. 801. Definitions.”**

Provides a revised definition of “stationary source” under this title (title VIII).

**“Part A — Stationary Source Standards”**

**“Sec. 811. Standards of performance.”**

Generally provides that EPA promulgate New Source Performance Standards (NSPS) under sec. 111 of the Clean Air Act for categories of uncapped stationary sources that emit more than 10,000 tons of carbon dioxide equivalent annually. Stipulates the schedule for promulgation of the NSPS for various categories that is not subject to judicial review. Sources of enteric fermentation are expressly exempted from these provisions. In setting the appropriate NSPS, EPA is to take into account projections of allowance prices to ensure that the marginal costs imposed by such standards are not expected to exceed those projected allowance prices.

## **Part C – Exemptions from Other Programs**

### **“Sec. 831. Criteria pollutants.”**

Provides that a greenhouse gas can not be listed as a criteria air pollutant under sec. 108(a) of the Clean Air Act on the basis of its effect on climate change.

### **“Sec. 832. Hazardous air pollutants.”**

Provides that a greenhouse gas can not be added to the list of hazardous air pollutants under sec. 112 of the Clean Air Act unless such gas meets the listing criteria of sec. 112(b) on a basis other than its climate change effects.

### **“Sec. 833. New source review.”**

Provides that a greenhouse gas can not be subject to the New Source Review provisions of the Prevention of Significant Deterioration (Part C of the Clean Air Act) program solely on the basis of its effect on climate change or its regulation under title VII.

### **“Sec. 834. Title V permits.”**

Provides that in determining whether a source is covered under the permitting provisions of title V of the Clean Air Act, EPA shall not consider the source’s GHG emissions.

## **Sec. 332. HFC Regulation**

Creates a separate cap-and-trade program to reduce emissions of hydrofluorocarbons (HFCs). Basically, puts 20 HFC substances in a new class II, group II category to be regulated under title VI of the Clean Air Act. Beginning in 2012, producers and importers of any class II, group II substance is required to hold an allowance or destruction offset credit for each CO<sub>2</sub>-equivalent ton of class II, group II substance. The allowances available are capped and that cap is steadily reduced from 96% of the average annual consumption during a 2004-2006 baseline to 15% of that baseline after 2038. Beginning in 2012, 20% of 80% of available consumption allowances are auctioned, increasing steadily to 100% of 80% in 2020 and thereafter. Only covered entities may participate in the auction. The remaining 20% of consumption allowances are to be offered for sale at the auction clearing price by EPA. Allowances may be banked for future use. Other provisions include the regulation of substances used in motor vehicle air conditioners.

## **Sec. 333. Black Carbon**

Requires EPA to submit a report to Congress on black carbon abatement within one year of enactment.



## **“Part E — Black Carbon”**

### **“Sec. 851. Black carbon.”**

Authorizes EPA to propose either a finding that existing Clean Air Act provisions adequately address black carbon emissions or a regulation to reduce black carbon emissions.

### **Sec. 334. States**

Amends sec. 116 Clean Air Act — which allows for states to implement more stringent air pollution standards for stationary sources than the federal government — to clarify that the phrase “standard or limitation respecting emissions of air pollutants” includes provisions relating to GHG emission controls.

### **Sec. 335. State Programs**

Amends title VIII of the Clean Air Act) by adding Part F — “Miscellaneous.”

## **“Part F — Miscellaneous”**

### **“Sec. 861. State programs.”**

Prohibits states from implementing or enforcing a GHG emission cap that covers any (federally) capped emissions during the years 2012 through 2017. Clarifies that a cap does not include fleet-wide motor vehicle emission requirement or life-cycle fuel standards. This section is “notwithstanding section 116.” Sec. 116 allows states to implement more stringent standards at stationary sources, including (per sec. 334 of this proposal) GHG emission controls.

### **Sec. 336. Enforcement**

Amends sec. 304 of the Clean Air Act with respect to citizen suits to include climate change in its provisions, and to mitigate potential implementation delays due to litigation.

### **“Sec. 862. Judicial review.”**

Amends sec. 304 of the Clean Air Act to provide for judicial review and remedies for any failure by a federal agency to perform a nondiscretionary act under title VII.

### **Sec. 337. Conforming Amendments**

Makes various conforming amendments to existing law.

## **Title IV — Transitioning to a Clean Energy Economy**

### **Subtitle A—Ensuring Domestic Competitiveness**

#### **Part 1 — Preserving Domestic Competitiveness**

##### **Sec. 401. Purposes**

Lists five environmental and economic purposes for the provisions of Part 1.

##### **Sec. 402. Definitions**

Part 1 generally uses the same definitions as those used in title VII of the Clean Air Act above.

##### **Sec. 403. Distribution of Rebates**

Creates a rebate program directed at energy/greenhouse gas-intensive, trade-exposed industries harmed by the direct emissions reduction costs and indirect increased energy input costs from implementing title VII of the Clean Air Act. Based on the best data available, EPA is to provide the rebate to eligible companies based on a two-part formula: (1) 85% of the industry's average emissions per unit of output times the company's output; (2) average emissions per kilowatt-hour of electricity purchased by the company times 85% of the industry average electricity used per unit of output. Entities not covered by title VII are eligible for the indirect emissions rebate.

##### **Sec. 404. Reports to Congress**

Requires EPA to transmit to Congress a report on carbon leakage and the effectiveness of sec. 403 one year after the first year of the rebate program.

##### **Sec. 405. Modification or Elimination of Distribution of Rebates**

Program is to be phased out over a 10-year period, starting in 2021 (subject to annual review).

##### **Sec. 406. Cessation of Qualifying Activities**

Eligible entities who are no longer engaged in eligible sectors or subsectors are to no longer receive rebates from the EPA.

## **Sec. 407. Authorization of Appropriations**

### **Part 2—International Reserve Allowance Program**

#### **Sec. 411. Definitions**

Defines a covered good under Part 2, including iron, steel, steel mill products, aluminum, cement, glass, pulp, paper, chemicals, and industrial ceramics.

#### **Sec. 412. Purposes**

Defines the purpose of Part 2 in terms of environmental goals and encouraging effective international actions.

#### **Sec. 413. International Negotiations**

States the policy of the United States is to achieve effective international agreements on climate change that require all major greenhouse gas-emitting nations to contribute equitably to reducing emissions.

#### **Sec. 414. Report to Congress and Finding**

Requires the President by June 30, 2017, to submit a report to Congress that analyzes the impact of title VII of the Clean Air Act compliance costs on industries that manufacture covered goods, related jobs, carbon leakage, and the degree to which the rebates provided in Part 1 mitigates these factors. If the President finds that title VII compliance is still having adverse economic and environmental effects after initiation of Part 1, then the President shall initiate Part 2.

#### **Sec. 415. Prohibition**

Under Part 2, no person may import a covered good without submitting the required number of international reserve allowances in accordance with rules promulgated by EPA.

#### **Sec. 416. International Reserve Allowance Program**

Within 24 months of President's determination, EPA is to promulgate rules establishing an appropriate price and distribution system for international reserve allowances. These allowances will be required for importation into the United States of any covered good as determined by the President. Exemptions are provided for least developed countries or countries who emit less than 0.5% of global greenhouse gas emissions. The purpose of the program is to address the competitive imbalance of production costs resulting from the direct and indirect costs of implementing title VII of the Clean Air Act.

## **Subtitle B—Green Jobs and Worker Transition**

### **Sec. 421. Clean Energy Curriculum Development Grants**

The Secretary of Education may competitively award grants to eligible partnerships for developing programs focused on emerging careers and jobs in renewable energy, energy efficiency, and climate change mitigation. Partnerships shall include at least one local agency eligible for funding under sec. 131 of the Perkins Career and Technical Education Act of 2006 (PCTEA), or an area career and technical education school or education service agency; at least one post-secondary institution eligible for PCTEA funding; representatives of the community (including business, labor or industry) with experience in clean energy. Application criteria and priorities are prescribed. A peer review panel (comprised of educators and clean energy professionals) is to review applications and recommend awards.

### **Sec. 422. Workforce Training and Education**

Directs the Secretary of Labor to carry out a program for workforce training and education in industries and practices in clean energy, energy efficiency, or sustainable practices. Half of the funds awarded in each fiscal year shall go to institutes of higher education with pre-existing programs leading to particular certificates or degrees in specified areas. A peer review panel (composed of educators and clean energy professionals) will review applications and recommend awards.

### **Sec. 423. Wage Rate Requirements**

Recipients of support from funding in this subtitle shall provide reasonable assurance that all those employed in the authorized programs, or by contractors (or subcontractors) will be paid at wage rates not less than those prevailing on similar work in the locality.

## **Subtitle C—Consumer Assistance (draft text not available)**

## **Subtitle D—Exporting Clean Technology**

### **Sec. 451. Purposes**

Provides developing countries with assistance from the United States to encourage widespread deployment of technologies that reduce GHG emissions, and encourage developing countries to adopt policies and measures that will reduce GHG emissions.

### **Sec. 452. Definitions**

*Appropriate Congressional Committees*—House: Energy and Commerce, Foreign Affairs.  
Senate: Environment and Public Works, Energy and Natural Resources, Foreign Relations.

*Developing Country*—Country eligible to receive assistance from the World Bank.

*Eligible Country*—A developing country determined by the President under sec. 454 as eligible to receive assistance from the International Clean Technology Fund (ICTF).

*Interagency Group*—Group established by the President under sec. 453 to administer the ICTF.

### **Sec. 453. Fund Establishment and Governance**

Establishes an International Clean Technology Fund in the U.S. Treasury. An Interagency Group is to consist of the Secretaries of State, Energy, and Treasury; the EPA Administrator; and any other federal agency head or executive branch appointee the President designates. The Secretary of State is to chair the Group.

### **Sec. 454. Determination of Eligible Countries**

Directs the President to publish a list of countries eligible for assistance no later than January 1, 2012, and revise this list annually. Criteria for eligibility shall include developing countries that have signed and ratified an agreement or treaty to undertake GHG mitigation activities; a determination by the President that such activities will achieve substantial, measurable and verifiable GHG reductions (relative to business as usual); and such other criteria as the President determines.

### **Sec. 455. Funding**

Authorizes the Secretary of State, in consultation with the Interagency group, to provide assistance from the ICTF for projects in eligible countries. Assistance may be in the form of grants, loans or other assistance. Distribution of assistance from the ICTF may be direct, via the World Bank or other international development bank or institution, through an international fund created by the UNFCCC, or through some combination of these mechanisms. The Interagency Group will establish criteria for project selection. The Secretary of State shall monitor project performance and shall have authority to terminate assistance in whole or part for noncompliance with the approved proposal.

### **Sec. 456. Annual Reports**

Requires the President to submit annual reports on assistance from the program, beginning no later than March 1, 2012.

## **Subtitle E. Adapting to Climate Change**

Parts 1 and 2 support domestic and international assessments of vulnerabilities to climate change, development of adaptation strategies and plans, and authorization of funding to assist adaptation to climate change. Part 1 establishes three overlapping domestic programs with distinct interagency coordination bodies, program offices, requirements for assessments, adaption plans and strategies, funding mechanisms, and reporting requirements. Part 2 addresses an international adaptation assistance program.

## **Part 1. Domestic Adaptation**

### ***Subpart A. National Climate Change Adaptation Program***

Establishes the National Climate Change Adaptation Council for interagency coordination among 16 or more federal agencies. The Council is chaired by the representative of the National Oceanic and Atmospheric Administration (NOAA) and supported by a new National Climate Change Adaptation Program within NOAA. The Council is to serve as a forum for interagency consultation and coordination on federal policies relating to the assessment of, and adaptation to, the effects of climate change on the United States and its territories.

Establishes a National Climate Change Program within NOAA to increase the effectiveness of federal climate change adaptation efforts. Under this Program, among other duties, the Administrator of NOAA must produce a quadrennial National Assessment evaluating the nation's vulnerability to the effects of climate change. The Assessment is to be comprised of Regional Assessments and a National Synthesis. Several factors for inclusion in regional assessments are listed. In each assessment cycle, the Administrator of NOAA must convene workshops in each identified region and one nationally.

Establishes a National Climate Service within NOAA to be an information clearinghouse for data and services on the effects of climate change and adaptation, and to provide technical assistance to other agencies, as well as state, local and tribal government decision-makers. Further, the Administrator of NOAA is authorized to deploy observation and monitoring systems for adaptation. Each department or agency serving on the Council must prepare a detailed adaptation plan to address the effects of climate change on matters within its jurisdiction. These adaptation plans are due to the President for approval within one year of publication of each National Assessment, and must be submitted to Congress, after Presidential approval, within 18 months of publication of each National Assessment.

Establishes a National Climate Change Adaptation Fund in the Department of the Treasury by 2013 to provide financial assistance to regions, states, localities, and tribes for implementing projects that reduce their vulnerability to the effects of climate change, as well as other project categories.

### ***Subpart B. Public Health and Climate Change***

States that the federal policy of the United States is to “use all practicable means and measures” to assist the efforts of public health professionals and communities to adjust health systems to address impacts of climate change, and to encourage further understanding of health effects due to climate change. Requires the Secretary of Health and Human Services (HHS) to promulgate a national strategy to mitigate public health impacts of climate change in the United States, in consultation with relevant agencies and stakeholders.

### ***Subpart C. Natural Resource Adaptation***

States that federal policy is “to use all practicable means and measures to assist natural resources to become more resilient and adapt to and withstand the impacts of climate change and ocean acidification” (hereinafter “adapt to”), and establishes a Program to that effect. Directs the Chair of the Council on Environmental Quality (CEQ) to advise the President on development and

implementation of a Natural Resources Climate Change Adaptation Strategy and federal natural resource agency adaptation plans. Within one year of each Strategy, each agency represented on the Panel must produce a Federal Natural Resource Agency Adaptation Plan.

Establishes a new Natural Resources Climate Change Adaptation Panel to coordinate related federal agencies' adaptation strategies, plans, programs and activities (CEQ is to chair the Panel). The Panel must be established within 90 days of enactment of the law, include heads of five additional agencies (NOAA, the Department of the Interior, EPA, the Department of Agriculture, and the Army Corps of Engineers), and is to develop a Natural Resources Climate Change Adaptation Strategy within two years of enactment.

Directs the Administrator of NOAA and the Director of the U.S. Geological Survey (USGS) to establish a Natural Resource Climate Change Adaptation Science and Information Program, to be implemented through the USGS National Global Warming and Wildlife Center and counterpart programs in NOAA. This Program is to provide technical assistance, research, tools to assist development of adaptation strategies and plans, supplemented by five-year surveys of adversely affected natural resources and decision support needs. An appointed Science Advisory Board will advise the Program. Funding is expected to be available for states to implement adaptation plans. To be eligible for more than three years for funding from a new Natural Resource Climate Change Adaptation Fund, each state must prepare a State Natural Resources Adaptation Plan, to include performance measures and to be reviewed and updated every five years. Directs percentages of the Fund to support a variety of agencies, governments, and programs.

## **Part 2. International Climate Change Adaptation Program**

The Secretary of State, with the Administrators of the U.S. Agency for International Development (USAID) and EPA, is to establish an International Climate Change Adaptation Program within USAID to assist developing countries most vulnerable to climate change. Foreign aid can be given to any private or public group to assist with the development of adaptation plans and projects, including specific investments and research to improve capacity building and resilience to climate change, and engagement with communities and other stakeholders. The Administrator of USAID must report within 180 days after enactment, and later annually, to the President and Congress. The report would detail priorities, provide assessments of vulnerabilities, describe how funds were spent, and discuss cooperation with other countries and international organizations. Requires the Administrator to distribute 40-60% of program funds to relevant international fund(s), providing at least 15 days advance notice to Congress. To receive funding, an international fund must meet specific criteria. For these funds, the Administrator of USAID also must establish performance goals, evaluate the effectiveness of the assistance provided, and report annually to Congress.

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