

H.R. 2454: The American Clean Energy and Security Act Of 2009

Summary (May 18, 2009)

This summary highlights key provisions within H.R. 2454, the Waxman-Markey climate change bill, “The American Clean Energy and Security Act of 2009,” introduced on May 15, 2009.

TITLE I – CLEAN ENERGY

Subtitle A – Combined Efficiency and Renewable Electricity Standard

Amends PURPA to establish a 20-percent mandatory federal combined efficiency and renewable electricity standard (CERES) requirement by 2020 for retail electricity suppliers that sell more than 4 million megawatt-hours (MWh) of electricity to final consumers. At least three-fourths of the required percentage in any year must be met by the submission of renewable energy credits (RECs). Demonstrated electricity savings (energy efficiency) can be used to meet the remaining portion of the annual combined target.

Required Annual Percentage – Retail electricity suppliers shall submit credits to the Federal Energy Regulatory Commission (FERC) for the annual percentage of the retail electric supplier’s retail electric energy sold to customers, excluding hydropower other than qualified hydropower, electricity generated from a nuclear generating unit placed in service after the date of enactment, and the proportion of electricity generated by a fossil fuel-generating unit that is equal to the proportion of greenhouse gases produced by the unit that are captured and sequestered:

Year	Required Annual Percentage
2012	6.0
2013	6.0
2014	9.5
2015	9.5
2016	13.0
2017	13.0
2018	16.5.0
2019	16.5.0
2020	20.0
2021 – 2039	20.0

Definition of Renewable Electricity – Electricity generated from (1) a renewable energy resource: wind, solar, geothermal, renewable biomass, biogas and biofuels derived exclusively from renewable biomass, marine and hydrokinetic (as defined by EISA 2007-42 USC 17211), and qualified hydropower (generation achieved from increased efficiency or additions made after January 1, 1992, to a hydroelectric facility placed

in service before that date or to generating capacity added to a dam that did not previously have the capacity to generate electricity prior to that date) or (2) other qualifying energy resources: landfill and wastewater treatment gas, coal mine methane and qualified waste to energy.

Definition of “electricity savings” – Reductions in electricity consumption, relative to business as usual projections, achieved through measures implemented after the date of enactment, limited to customer facility savings, reductions in distribution system losses, combined heat and power (CHP) savings, and fuel cell savings. It does not include reductions achieved from meeting codes and standards. FERC is to establish standards and protocols for defining and measuring electricity savings that can be counted toward the compliance requirement. FERC may delegate to a state the authority to review and verify reported electricity savings.

Increased Energy Efficiency Proportion – The Governor of a state may petition FERC to increase the energy efficiency proportion of the annual combined target for retail electric suppliers in the state to not more than two-fifths, provided that the increase shall be effective only with regard to the portion of a retail electric supplier’s combined annual target that is attributable to electricity sales within the state. If the Governor subsequently revokes or revises the request, there is a phase-in period of at least two years to provide retail electric suppliers with adequate notice of the change.

Applicability – The CERES requirement applies to any retail electricity supplier that sells at least 4 MWh of electric energy to retail electric consumers. The requirement is applicable to government-owned utilities and electric cooperatives above the size threshold.

Calculation of Renewable Energy Credits – One credit is awarded for each MWh of renewable energy generated by each generator after December 31, 2011. Credits are issued to retail electricity suppliers instead of the generator when renewable electricity is generated with the support of payments from a retail electricity supplier pursuant to a State RES program or when a generator has sold renewable electricity to a retail electricity supplier under a contract for power from a facility placed in service before the date of enactment. Otherwise, the general rule is that the generator gets the credit. Triple credits are awarded for renewable energy generated by a distributed generation facility (2 MW or less).

Alternative Compliance Payments – Alternative compliance payments are \$25 (1 credit=1 MWh), or 2.5 cents per kWh adjusted for inflation beginning in 2010. Alternative compliance payments are to be paid directly to the state in which the retail electricity supplier is located to be used exclusively for deploying renewable technologies and cost-effective energy efficiency measures and programs.

Trading and Banking – Credits may be sold, transferred, or exchanged. Credits may be submitted for compliance the year they were issued or any subsequent year.

Civil Penalties – The penalty for failure to submit sufficient credits is equal to the product of double the alternative compliance payment and the aggregate quantity of RECs, total annual electricity savings, or equivalent alternative compliance payments that the person failed to submit.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Combined single RES and EERS program (previously separate mandates)*
- *Lower overall combined target requirement of 20% (previously 40%):*
 - *3/4 of overall 20% requirement must be met with renewables*

- *Governor can petition for 2/5 of overall requirement in a state to be met through energy efficiency in a given year, with 2-year phase-out of changes, effectively allowing as low as 12% RES with as high as 8% EERS*
- *Lower alternative compliance payment (ACP) of 2.5 cents (previously 5 cents)*
- *ACP funds paid directly back to state from which funds paid*
- *Expanded list of eligible resources (expands eligible hydro and adds certain types of biogas, biofuels, wastewater treatment gas, coal mine methane, and waste-to-energy)*
- *Adds new nuclear units and zero-emission portion of fossil generation with CCS to resources deductible from baseline calculation*
- *Expands size exemption to retail electric suppliers selling up to 4 million MWh per year (RES exemption previously 1 million MWh; EERS exemption previously 1.5 million MWh)*
- *Unlimited banking of RECs (previously limited to 3 years)*
- *EERS only applies to electricity suppliers (previously electricity and gas distributors)*
- *Changes EERS standard from “cumulative electricity savings” to “total annual electricity savings”; other changes include definition of “electricity savings” (e.g., no longer gives credit for savings from codes and standards) and baseline and savings measurement standards*
- *RES/EERS program administered by FERC (both previously DOE)*

Subtitle B – Carbon Capture and Sequestration

Section 111. National Strategy

This section directs the EPA Administrator, in consultation with the Energy Secretary and the heads of other relevant agencies, to submit a report to Congress setting forth a unified and comprehensive strategy to address the key legal, regulatory and other barriers to the commercial-scale deployment of carbon capture and sequestration (CCS) within 1 year after enactment of ACESA. This report must identify barriers and regulatory implementation challenges, as well as recommend actions to evaluate and address these issues further.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *The report needs to be completed within 1 year of enactment rather than within 120 days.*
- *The report now also must identify regulatory implementation challenges, including those related to approval of state programs and delegation of authority for permitting.*

Section 112. Regulations for Geologic Sequestration Sites

This section amends CAA title VIII and directs the Administrator to establish a coordinated approach to certifying and permitting geologic sequestration that reduces redundancy with the EPA’s proposed rule for geologic sequestration wells. Within 2 years of enactment, EPA also must promulgate rules to protect human health and the environment by minimizing risk of escape to the atmosphere of stored CO₂. EPA is required to make regular reports to Congress on the status of CCS activity in the U.S., including information on enhanced oil recovery (EOR) operations that include storage.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *This section is now part of the CAA, instead of freestanding legislation.*
- *EPA’s proposed rule for permitting geologic sequestration wells is recognized.*
- *EOR operations are no longer explicitly included in the provision requiring a rulemaking on minimizing the risks of escape of stored CO₂ to the atmosphere.*

Section 113. Studies and Reports

This section requires the establishment of a task force within 6 months of enactment to conduct a study of the legal framework for geologic storage sites. This study is to address risk management in the context of existing environmental and common law, the appropriate framework to address liability for closed EOR projects, liability and financial responsibility for closed storage sites, private sector risk management tools, and the bundle of property rights associated with CCS projects. The results of the study must be submitted to Congress within 18 months of enactment.

Major Change from March 31 Waxman-Markey Discussion Draft:

- *The provision requiring a study to assess the need for and the barriers to the construction and operation of CO₂ pipelines has been deleted.*

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

This section incorporates the provisions of Rep. Boucher's CCS wires charge bill, H.R. 1689, which authorizes an assessment on deliveries of fossil fuel-fired electricity to retail consumers to create a \$10-billion fund to support demonstration and early deployment of commercial-scale CCS projects over a 10-year period. A Carbon Storage Research Corporation, an affiliate of EPRI and not an agent of the U.S. government, is created to competitively award funds to projects. This section is very similar to a House Energy and Commerce Committee Staff Discussion Draft released in September 2008 that reflected the input of stakeholders, and includes new language for assessing the charge within the Electric Reliability Council of Texas.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Half of the funds collected are reserved for early mover electric utilities that commit resources to deploy large-scale, integrated CCS projects before the Corporation awards its first grant. These reserved funds are to defray the costs incurred for at least 5 integrated electric utility projects.*
- *The Corporation is directed, to the extent feasible, to support at least 5 commercial-scale demonstration projects.*

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

This new section provides bonus allowances for the first 10 years of a CCS project's operation for up to 72 GW of generating capacity. (New CAA section 782(f) allocates a percentage of allowances for CCS starting in 2014.) These allowances replace the tranche payments to CCS projects provided in the Waxman-Markey discussion draft.

Electric generating units (EGUs) must have a nameplate capacity of at least 200 MW, derive at least 50 percent of annual fuel input from coal or petcoke, and capture and "permanently sequester" at least 50 percent of emissions to qualify for allowances. Fifteen percent of the allowances allocated to CCS are for eligible industrial operations. If a portion of an annual allocation of allowances is not used, the remaining allowances are auctioned. Allowances can be borrowed from future vintage years to ensure sufficient allowances for a full 10 years of funding for each eligible CCS project.

EPA has 2 years to promulgate rules on the distribution of allowances, but the bill provides many of the details. For EGUs, allowances are to be distributed in two phases. The first 6 GW of cumulative generating capacity constitute Phase I. In Phase I, projects are awarded allowances equal to the number of tons stored multiplied by the bonus allowance value assigned to each rate of capture and divided by the average fair market value of allowances in the preceding year. The bill provides a ceiling and a floor for the bonus allowance values: \$90/ton for 85 percent capture and \$50/ton for 50 percent capture. EPA is directed to establish bonus allowance values for other rates of capture. Projects that achieve a capture rate of 50 percent by 2017 are entitled to an additional \$10/ton, but only if they notify EPA by 2012 that they intend to achieve

this rate. EPA is also directed to reduce the bonus allowance values for EOR operations “to reflect the lower net cost of the project.” In Phase II, EPA has the option of distributing allowances via a reverse auction or through multiple tranches. EPA has an additional 2 years to promulgate rules addressing Phase II distributions.

Otherwise eligible EGUs that are permitted between 2015 and 2021 cannot receive allowances unless they achieve a capture rate of 50 percent upon commencement of operations. If EGUs are permitted between 2009 and 2015, allowances are discounted to reflect the number of years prior to 2020 that they operated without CCS.

All projects receiving allowances are subject to the Davis-Bacon Act, which requires that all laborers and mechanics who work on these projects be paid the prevailing wage.

Section 116. Performance Standards for New Coal-Fired Power Plants

This section mandates emissions performance standards for new coal-fired EGUs that require all new coal-fired units that receive an initial permit after 2020 to achieve an emission limit that is a 65 percent reduction of CO₂ emissions. EGUs that receive an initial permit between 2009 and 2020 would be required to achieve an emissions limit that is a 50 percent reduction of CO₂ emissions four years after EPA certifies that there is a specific amount of “commercial operation” of CCS; the compliance date can be delayed 18 months after 2025 for certain EGUs that make an individual showing of technical infeasibility.

Date Initial Permit Received	Standard	Date Effective
After 1/1/2009	Achieve an emission limit that is a 50% reduction in CO ₂ emissions	4 years after commercial CCS operation certified by EPA or 2025; can be delayed an additional 18 months for certain EGUs
After 1/1/2020	Achieve an emission limit that is a 65% reduction in CO ₂ emissions	Immediately

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Performance standards apply to new coal plants that receive an initial permit rather than a final permit.*
- *Immediate compliance with emissions limits begins for plants that commence operations in 2020, not 2015.*
- *The standard is a percentage reduction of CO₂ emissions (i.e., 50 percent, 65 percent) rather than a quantitative standard (i.e., 800 lbs/MWH, 1,100 lbs/MWH).*
- *In determining compliance with the standard, the Administrator has to assume an energy penalty of the capture system of no greater than 15 percent.*
- *“Commercial operation” of CCS is confined to the U. S. and is defined as at least 4 GW of generating units, including at least 2 EGUs of 250 MW or greater injecting into geologic formations other than oil and gas fields; and the total 4 GW are capturing and storing at least 12 million tons of CO₂ per year. Of the 4 GW, 3 GW must be EGUs; 1 GW may be industrial applications (the industrial applications must capture and sequester 3 million tons CO₂ per year).*
- *If the compliance date of a plant that was initially permitted after 2009 and before 2020 is 2025, the deadline can be extended for 18 months if the operator of the plant can show that it would be technically infeasible to meet the 2025 deadline.*

Subtitle C – Clean Transportation

Electric Vehicle Infrastructure. Section 121 establishes a new PURPA 111(d) requirement, for state commissions to consider whether electric utilities must develop a plan to support the use of plug-in hybrid electric vehicles (PHEVs) and electric vehicles (EVs), including deployment of electric charging stations and other infrastructure necessary to support the use of these types of vehicles. This would include interoperable charging infrastructure. This section also allows the commissions to consider whether to allow cost recovery for plans and implementation of plans. This section also requires consideration of a smart grid integration standard to integrate PHEVs and EVs into an electrical distribution system in accordance with regulations issued by the FERC pursuant to EISA 2007. This provision includes the requirement for each PHEV/EV to be identified individually and to be associated with its owner's electric utility account for purposes of billing/crediting. This section also requires state regulatory authorities to review whether time-of-use pricing should be employed. This review must begin three years after enactment and must be completed no later than four years from enactment.

Large-Scale Vehicle Electrification Program. Section 122 authorizes DOE to establish a large-scale electric drive program, including financial support in the form of grants or loan guarantees to cities, states, or private entities to deploy and integrate PHEVs in multiple regions. Any state or local government can apply for financial assistance, and such applications may be made jointly with electric utilities, automobile manufacturers, or other persons or entities. The funds may be used to cover the incremental cost of PHEVs versus comparable conventionally fueled vehicles, projects for the deployment of electrical charging infrastructure, and other projects determined by DOE.

Plug-In EV Manufacturing. Section 123 authorizes DOE to establish a program to provide financial assistance to vehicle manufacturers to facilitate production of PHEVs.

Investment in Clean Vehicles. Section 124 authorizes EPA and DOE to provide allowances (3 percent in 2012-2017 and 1 percent in 2018-2025) under section 782(i) of the Clean Air Act for clean vehicle (including Plug-In EVs and electrical charging infrastructure) manufacturing and deployment. The allowances are available from 2012 to 2025.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Low Carbon Fuel Standard (originally Section 121) - Removed*
- *New Section 121 - -States to consider adopting interoperability standards and protocols in accordance with FERC regulation.*
- *New Section 124 – This is an entirely new section on Investments in Clean Vehicles, including EV infrastructure*

Subtitle D – State Energy and Environment Development Accounts

Section 131 authorizes DOE to establish a program under which a State, via its State Energy Office, may establish a SEED Fund. A state may deposit into a SEED fund Federal appropriations primarily for clean energy, energy efficiency, or climate change, including funds for the Weatherization Assistance Program; the Low-Income Home Energy Assistance Program; grants under the Energy Policy and Conservation Act; State portions of Energy Efficiency and Conservation Block Grants; and the American Recovery and Reinvestment Act of 2009.

Subtitle E – Smart Grid Advancement

Assessment of Smart Grid Cost-Effectiveness in Products. Section 142 establishes that not later than one year after enactment, DOE and EPA will assess the potential for designating Smart Grid technologies to be integrated within Energy Star products. Within two years after enactment, DOE and EPA will conduct analysis of the potential energy savings and electrical cost savings that could accrue from each of the

products referred for potential designation as Energy Star products to establish the “best case” Smart Grid analysis. If a product is found to be cost effective, then DOE and EPA, not later than three years from enactment, will change any such Energy Star label to include a prominent note including certain Smart Grid capability information.

Inclusion of Smart Grid Capability on Appliance EnergyGuide Labels. New Section 143 requires the FTC to initiate a rulemaking to determine if Smart Grid capabilities should be highlighted on EnergyGuide labels. The FTC has three years from the bill enactment to complete its rule.

Smart Grid Peak Demand Reduction Goals. Section 144 provides that not later than one year from enactment, load-serving entities (LSEs) or states will determine and publish peak demand reduction goals for any LSEs serving more than 250 MW. However, FERC, in consultation with the DOE and the EPA, will develop a methodology for adjustments or normalization to an LSE’s applicable baseline. FERC will support LSEs in developing peak demand reduction goals. DOE, in consultation with FERC, the EPA and the “National Electric Reliability Corporation” will develop a system and rules for measurement and verification of demand reductions. Goals must specify reduction/mitigation by a minimum percentage from the applicable baseline to a lower peak demand during year 2012. Additionally, greater reductions are required in 2015. The provision includes a savings clause preserving existing state authority, which requires FERC-in consultation with states having peak management, demand response and distributed storage programs—to facilitate coordination between the federal program and such state programs to the maximum extent possible. Within one year from enactment, FERC will establish a public website for posting information demonstrating compliance—by states, regional entities, and LSEs—in meeting applicable peak demand reduction goals. Commencing in 2012, FERC will provide an annual report to Congress on compliance success and include appropriate recommendations for meeting compliance goals. DOE is authorized to make grants to the States and other entities. Provides for FERC to grant relief to LSEs for “good cause.”

Reauthorization of Energy Efficiency Public Information Program to Include Smart Grid Information. Section 145 reauthorizes and funds the Energy Efficiency Public Information Program to include Smart Grid information. This section also amends the appliance rebate program pursuant to EPAAct 2005 to include smart capable appliances.

Inclusion of Smart-Grid Features in Appliance Rebate Program. Section 146 allows Smart Grid capabilities of a product to be a part of the Energy Efficient and Smart Appliance Rebate Program established under EPAAct 2005.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *New Section 143 – Entirely new section on the inclusion of Smart Grid capability on Appliance EnergyGuide labels.*

Subtitle F – Transmission Planning

Section 151 amends the Federal Power Act by adding new section 216A.

Section 216A requires FERC to adopt national grid planning principles to achieve national policy goals, including facilitating the deployment of renewable and other zero-carbon energy, ensuring reliability, reducing congestion, and ensuring cyber-security. Planning should take into account all significant demand-side and supply-side options, including energy efficiency, smart grid, electricity storage and underground transmission technologies, and conventional electric transmission capacity and corridors.

FERC should incorporate ongoing planning efforts and consult with DOE regarding its duties as lead agency under FPA section 216.

Planning entities (no FERC approval required to be a planning entity) are to submit plans to FERC within 18 months and are to build on subregional requirements and plans. FERC is to encourage the planning entities to coordinate and harmonize their plans, and is to assist the planning entities to resolve any conflicts between the plans. FERC is to review the plans, make recommendations, and convene multi-regional meetings to discuss the plans and to resolve any conflicts. FERC is to recommend how to resolve the conflicts.

Within 3 years, FERC is to provide a report to Congress on the results of the regional grid planning process and any recommendations on the appropriate federal role.

Subtitle G – Technical Corrections to Energy Laws

Makes technical corrections to the Energy Independence and Security Act of 2007 (EISA) and the Energy Policy Act of 2005 (EPAAct 2005).

Subtitle H – Clean Energy Innovation Centers

Establishes 8 regional Clean Energy Innovation Centers selected by DOE, each focusing on a unique technology.

Subtitle I – Marine Spatial Planning

Requires joint FERC-NOAA-Interior study for jointly recommended approach to develop renewable energy (wind, hydrokinetic, etc.) offshore. Study required in less than one year of enactment.

TITLE II – ENERGY EFFICIENCY

Subtitle A – Building Energy Efficiency Programs

Requires DOE to support updating building codes every 3 years to achieve these targets for commercial and residential building codes; a 30-percent improvement relative to 2004 or 2006 codes within 3 years of enactment, and a 50-percent improvement starting with codes released in or after 2014-2015 with 5 percent additional reductions every 3 years thereafter. DOE shall under consensus codes establish a national energy efficiency building code. DOE may adjust these targets. Establishes that DOE will provide incentive funding to the States to implement these requirements through the SEED Account. Establishes a building retrofit program under EPA, in consultation with DOE, for both commercial and residential buildings. Establishes a DOE program grant for low-income households to purchase new Energy Star-qualified manufactured homes. Requires EPA to develop a building energy performance labeling program.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *The new version accelerates the timing of the 50% improvement in building codes.*
- *It also requires 5% improvements every three years.*

Subtitle B – Lighting and Appliance Energy Efficiency Programs

Establishes a new energy efficiency standard for outdoor lighting fixtures. Initial standards are effective in 2011, and higher standards are effective in 2013 and 2015. DOE also is required to review these standards in 2020. Also establishes requirements, starting in 2012, for certain outdoor light bulbs. Additionally, creates new standards, starting in 2012, for portable light fixtures (e.g., table lamps). This means that new table lamps either will have different sockets or will be pre-packaged with high efficiency light bulb(s). Mandates

that DOE publish a final rule for certain incandescent reflector lamps (i.e., spotlights) within 1 year of enactment.

Also establishes, starting in 2012, standby energy usage levels for water dispensers, commercial hot food holding cabinets, and portable electric spas. Additionally, establishes a new efficiency standard for oil- and gas-fired commercial furnaces starting on January 1, 2011.

Also modifies the DOE rulemaking process for accepting consensus test procedures for any product covered by DOE energy efficiency regulations. This requires DOE to update the energy efficiency test procedures for televisions.

Significantly, this section requires DOE to estimate the value of CO₂ and other greenhouse gas emissions reductions achieved by higher energy efficiency standards. This is significant because these values will be used by DOE in conducting lifecycle and net present value analysis to determine whether a standard should be made stricter.

Modifies information to be requested by DOE from manufacturers. Also modifies the procedure for a state to request a waiver from federal preemption of state energy efficiency standards. Requires the FTC, within 24 months of enactment, to revise appliance energy guide labels to show overall site and source CO₂ output of the appliance. Requires DOE to create a best-in-class appliances deployment program.

Major Changes from March 31 Waxman-Markey Discussion Draft: None.

Subtitle C –Transportation Efficiency

Amends the Clean Air Act to require EPA to set greenhouse gas emissions standards for heavy duty vehicles and engines, and non-road vehicles and engines, excluding vehicles covered by Tier II standards, by 2010 or 2012. This section also requires that electric engines and electric vehicles are covered under this regulation. States must also establish goals or plans for reducing GHGs in transportation.

Major Changes from March 31 Waxman-Markey Discussion Draft: None.

Subtitle D – Industrial Energy Efficiency Programs

Directs DOE to develop industrial energy efficiency certification standards, and seek to achieve ANSI accreditation. To encourage use of innovative means of recovering thermal energy, establishes DOE financial awards to owners and operators of new and existing electric energy generation facilities or thermal energy production facilities using fossil or nuclear fuel.

Major Changes from March 31 Waxman-Markey Discussion Draft: None.

Subtitle E – Improvements in Energy Savings Performance Contracting

Section 251 establishes competition requirements for the use of an Energy Savings Performance Contract (ESPC). Revises section 203 of EPCA 2005 (which mandates a renewable energy purchase requirement for the federal government) to allow electric energy or thermal energy to meet this requirement. Additionally, revises FPA section 203 to provide that renewable energy produced on a federal facility on federal lands or on Indian lands will be calculated separately from renewable energy consumed for the purposes of compliance.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Cogeneration projects were allowed to be financed with ESPCs in the draft. That provision has been removed.*
- *Renewable energy production facilities were allowed to be financed using ESPCs in the draft. That provision has been removed.*

Subtitle F – Public Institutions

Generally authorizes DOE to make grants for efficiency and/or renewable programs to a variety of non-profit, community and low-income organizations.

TITLE III – REDUCING GLOBAL WARMING POLLUTION

Subtitle A – Reducing Global Warming Pollution

Part A – Global Warming Pollution Reduction Goals and Targets

Section 311 amends the CAA by adding a new title VII, Global Warming Pollution Reduction Program.

New title VII sets out “Economy-wide Reduction Goals” and “Reduction Targets for Specified Sources” (new CAA section 703). The initial Committee summary indicated that the intent is to cover 85 percent of U.S. GHG emissions, including those from electric utilities, oil companies, large industrial sources, and other covered entities. (Note: Capped emissions, capped source and covered entity are defined in section 312.) New CAA section 704 addresses supplemental reductions.

The targets and timetables of the bill are based on the U.S. CAP proposal:

Waxman-Markey bill

3 percent below 2005 levels by 2012
17 percent below 2005 levels by 2020¹
42 percent below 2005 levels by 2030
83 percent below 2005 levels by 2050

For comparison, other recent proposals provide:

U.S. CAP proposal

3 percent below to 2 percent above 2005 levels by 2012
14-20 percent below 2005 levels by 2020
42 percent below 2005 levels by 2030
80 percent below 2005 levels by 2050

Boucher-Dingell discussion draft (110th Congress)

6 percent below 2005 levels by 2020
44 percent below 2005 levels 2030
80 percent below 2005 levels by 2050

¹ The reduction goal in new CAA section 702 is still 20 percent below 2005 levels by 2020, but the reduction target for specific sources in new CAA section 703 has been changed to 17 percent below 2005 levels by 2020.

Obama FY 2010 budget proposal

14 percent below 2005 levels by 2020
83 percent below 2005 levels by 2050

Markey bill (110th Congress)

2005 levels by 2012
20 percent below 2005 levels by 2020
85 percent below 2005 levels by 2050

Waxman (110th Congress)

2009 levels by 2010
1990 levels by 2020 (roughly 20 percent below 2005 levels by 2020)
80 percent below **1990** levels by 2050

New CAA sections 705 and 706 instruct EPA to report by July 2017, and every four years thereafter, on scientific, monitoring and worldwide reduction trends. EPA must contract with the National Academy of Sciences (NAS) within one year of enactment for the NAS to submit its own report to Congress, by July 2018 and every four years thereafter, its own assessment of the items EPA looked at in section 705 plus technology trends. Significantly, the NAS must act even if EPA does not.

Interestingly, new CAA section 707 requires the President to act on the NAS reports and to direct agencies to adapt their regulatory policies to comply with NAS recommendations. Also, in the event the NAS concludes the U.S. actions and/or global actions will not achieve desired reduction levels, the President must submit a plan to Congress—including for additional legislative action—providing recommendations. The EPA and NAS reports could be used either to strengthen the reduction targets or provide an off-ramp.

Major Change from March 31 Waxman-Markey Discussion Draft:

- *The target for 2020 has been reduced from 20 percent below to 17 percent below 2005 levels.*

Part B – Designation and Registration of Greenhouse Gases

New CAA section 711 lists the six commonly recognized GHGs – CO₂, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons (emitted as byproduct) and perfluorocarbons (PFCs) – and also nitrogen trifluoride (NF₃). (Note: NF₃ is technically a subset of PFC.) Other anthropogenic gases may be designated as GHGs by the Administrator after undergoing a petition process. New CAA section 712 lists CO₂ equivalents (CO₂e) for the seven classes of GHGs and their components.

New CAA section 713 requires the Administrator to establish a “Federal greenhouse gas registry” for covered entities and vehicle fleets emitting more than 25,000 tons of CO₂e annually. The Climate Registry (TCR) is singled out as a reporting protocol but twice erroneously characterized with “other mandatory State or multistate” programs. ACESA does not acknowledge reporting by electric generating units under the CAA Amendments of 1990 or the rulemaking currently in process under the FY08 Omnibus Appropriations Act, but it does allow the Administrator to waive reporting requirements for “specific entities” if it is determined that “sufficient and equally or more reliable verified and timely data are available” on the Internet or under other mandatory statutory requirements.

Major Change from March 31 Waxman-Markey Discussion Draft:

- *The definition of a covered entity is expanded to include any entity that “produced, imported, manufactured, or delivered” any of the covered GHGs above specified thresholds, and also includes*

any entity that delivers electricity to energy-intensive facility in an industrial sector. See new CAA section 713(a)(2).

Part C – Program Rules

New CAA section 721 states that none of the following constitutes a property right: emission allowance, compensatory allowance, strategic reserve allowance and offset credit. It also lists the number of emission allowances for each year, 2012-2050, and thereafter.

New CAA section 722 sets out compliance obligations for electricity sources, fuel producers and importers, fluorinated gas producers and importers, geological sequestration sites, industrial stationary sources, industrial fossil fuel-fired combustion devices, and natural gas local distribution companies (LDCs). Compliance requirements are phased in by 2014 for a large number of industrial stationary sources and by 2016 for natural gas LDCs. Compliance may be satisfied by offset credits (see discussion under Part D below), international emission allowances (see discussion under section 728 below) and compensatory allowances.

Part C also addresses penalties for noncompliance (new CAA section 723), emissions trading (new CAA section 724), and banking (unrestricted) and borrowing (new CAA section 725).

New CAA section 726 creates a Strategic Reserve for the purpose of creating a cushion should prices rise faster than suggested. The reserve is created using a small percentage of allowances taken from future years in the base allocation pool. The Committee summary reports this total as 2.5 billion allowances. Applicable strategic reserve allowances will be offered in quarterly auctions at minimum prices which, beginning in 2015, are “60 percent above a rolling 36-month average” of the daily closing prices of that year’s allowance vintage. There are many limits on purchase levels. Funds raised from the sale of allowances are used to purchase offsets from international deforestation activities that are then converted to allowances at a ratio of 1.25:1 and used to replenish the reserve. Parties may elect to include privately held international offsets sold by the government in the reserve auction, though it is unclear why a party would utilize this mechanism versus simply selling offsets on the open market. Also, the Administrator is required to write rules such that any GHG used as an input in the production of algae-based fuels is not counted again when that fuel is combusted.

New CAA section 727 is related to permitting for stationary sources under CAA title V. Any such permits issued by the Administrator or by a state with an approved program shall require a covered entity to hold a number of emission allowances at least equal to the total annual amount of CO₂e for which allowances must be held by the entity under compliance section 722.

New CAA section 728 is also related to compliance section 722 and allows for international emission allowances from foreign governments if: 1) they impose mandatory absolute tonnage limits on GHGs, and 2) their programs are at least as stringent as the program established by ACESA (including comparable monitoring, compliance, enforcement, offsets quality and restrictions on the use of offsets). Allowances are disqualified if they do not meet the first restriction, and presumably would be disqualified if they do not meet the second set of restrictions. (See also discussion of new CAA section 743 in Part D below.)

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Allocations in new CAA section 721 are revised to reflect the revised targets in the early years (through 2029) of the program.*
- *The price multiplier for the strategic reserve auction floor price for 2015 and beyond has been reduced from 100 percent to 60 percent above the 36-month rolling average.*

- *New CAA section 722 is revised to clarify that certain gases, such as SF₆, purchased for use at a facility are not subject to the requirement to surrender allowances.*

Part D – Offsets

Offsets are addressed in new CAA section 722(d) as well as Part D. In the compliance section, a total annual limit towards compliance of 2 billion tons of offsets is established. Domestic offsets can be used for compliance on a 1:1 basis. International offsets can be used for compliance on a 1:1 basis for the first 5 years. Starting in year 6, a covered entity must hold 1.25 international offset credits in lieu of an emission allowance. A formula limits the percentage of offsets that may be used in any year to satisfy compliance obligations. Offsets must generally come half from domestic sources and half from international sources, although that can be modified by the Administrator to allow up to 1.5 billion tons if it is projected that less than 900 million tons will be available from domestic sources at allowance price levels. Funds from the Strategic Reserve are used, in part, to purchase international offset credits from reduced deforestation activities, which are then retired and reissued at a 1.25:1 ratio for compliance use. Holders of international offset credits from reduced deforestation activities can ask the Administrator to sell those allowances as part of the Strategic Reserve auction.

In Part D, an Offsets Integrity Advisory Board (new CAA section 731) and Offset Registry (new CAA section 732) are established. New CAA sections 733-739 establish numerous requirements for offsets projects. The Administrator must establish methodologies addressing additionality, baselines, measurement, leakage, uncertainty and for addressing potential reversals, both intentional and unintentional (*e.g.*, offsets reserves, insurance) (new CAA section 734). The Administrator must specify a crediting period for each project type. Project developers must petition EPA for approval (new CAA section 735). Verification by a third-party is necessary (new CAA section 736). There shall be random audits of projects and verifiers (new CAA section 738). Methodologies must be reviewed every 5 years (new CAA section 739).

New CAA section 740 provides for early offsets supply, but requires that all emission reductions or sequestration be verified by a state regulatory agency or an accredited third-party independent verification body, and that all credits are registered publicly with individual serial numbers assigned for each ton of CO₂ emission reductions or sequestration. Offsets credits are ineligible if used for compliance under a program established under state law. Finally, offsets credits are available for projects starting after January 1, 2001, but only for reductions, avoidances and sequestrations from those projects between January 1, 2009, and roughly 3 years later.

New CAA section 743 addresses international offsets credits. This section allows credits from developing countries under a sector-based program, under credits issued by an international body established pursuant to the Framework Convention on Climate Change, Kyoto Protocol or successor “treaty,” and under offsets from reduced deforestation. EPA, with the Department of State, can promulgate regulations regarding international sequestration projects in eligible developing nations, and approved sectors within those countries, with which the U.S. has a bilateral or multilateral agreement. EPA would work with an international body to issue credits for acceptable offsets projects in eligible nations. Sub-national (state, province) projects can be approved in some circumstances, but credits are phased out in 2017 (with the potential for an extension to 2025). In 2017 and every 5 years thereafter, the Advisory Board must submit a scientific review of deforestation research programs to EPA. There can be no double counting of these credits with non-U.S. programs or with Part E (Supplemental Emissions Reductions from Reduced Deforestation).

The draft allows forestry offsets projects that meet numerous requirements if included on a list of eligible projects by EPA. Projects must be ecologically sound, use native species, enhance biological diversity and

follow sustainable forestry practices. There are also numerous requirements for reduced deforestation offsets activities related to national deforestation baselines, monitoring, uncertainty and ecological soundness. These include safeguarding the rights of, and sharing profits with, local communities.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *The 20 percent discount on the use of domestic offset credits for compliance has been removed.*
- *The 20 percent discount on the use of international offset credits for compliance has been removed for the first 5 years.*
- *The 2-billion ton annual cap has been modified to allow the use of up to 1.5 billion tons of international allowances if it is projected that less than 900 million tons will be available from domestic sources “at domestic offset prices generally equal to or less than allowance prices.”*

Part E – Supplemental Emissions Reductions From Reduced Deforestation

This part of the bill calls for supplemental reductions equivalent to 10 percent of U.S. GHG emissions in 2005 by 2020 (720 million tons of CO₂ equivalent (CO₂e)) and 6 billion tons of CO₂e by the end of 2025, which are to be met through activities to reduce emissions from deforestation in developing countries (REDD). EPA is directed to enter into agreements with developing nations to prevent international deforestation, which accounts for roughly 20 percent of GHG emissions globally. The bill establishes a funding mechanism for international forest carbon projects through a 5 percent set-aside of allowances from the emissions cap. The U.S. government is mandated to use this money to fund activities to help meet this supplemental reduction goal for REDD activities. Eligible countries must have entered into a bilateral or multilateral agreement with the U.S. Various activities can be supported (deforestation reduction, capacity building, monitoring, leakage prevention, incentives). Some sub-national activities might be approved temporarily. Standards and goals must be established and met. EPA and U.S. AID share responsibility for the program. Reports and reviews are required. There are requirements regarding safeguarding the rights of, and sharing profits with, local communities. Activities funded through this mechanism cannot be used as international offsets credits.

Subtitle B – Disposition of Allowances

Part H – Disposition of Allowances

New CAA section 781 directs the Administrator to allocate allowances for the supplemental emissions reductions from reduced deforestation established under new CAA section 721(a) for distribution in accordance with Part E, with 5 percent for 2012-2025, 3 percent for 2026-2030 and 2 percent for 2031-2050.

New CAA section 782 sets forth the schedule for the Administrator for 1) allocation of emission allowances and 2) auction of some emission allowances in the following categories (which are allocations unless auctions are indicated):

- Electricity consumers – 43.75 percent for 2012 and 2013,² 38.89 percent for 2014 and 2015,³ 35 percent for 2016-2025, 28 percent for 2026, 21 percent for 2027, 14 percent for 2028 and 7 percent for 2029, after which the allocation to electricity consumers is completed phased out.
- Natural gas consumers – 9 percent for 2016-2025, 7.2 percent for 2026, 5.4 percent for 2027, 3.6 percent for 2028 and 1.8 percent for 2029.

² The allocation to the electric power sector is adjusted to this level for two years because industrial capped sources are not covered until 2014.

³ The allocation to the electric power sector is adjusted to this level for two years because natural gas local distribution utilities (LDCs) are not covered until 2016.

- Home heating oil and propane consumers – 1.875 percent for 2012 and 2013, 1.67 percent for 2014 and 2015, 1.5 percent for 2016-2025, 1.2 percent for 2026, .9 percent for 2027, .6 percent for 2028 and .3 percent for 2029.
- Low income consumers – 15 percent shall be auctioned annually by the Administrator, with the proceeds to fund the Consumer Assistance program established in title IV, subtitle C of ACESA.
- Trade-vulnerable industries (energy-intensive, trade-exposed entities) – 2 percent for 2012 and 2013,⁴ 15 percent for 2015 and on a declining basis thereafter through 2050 as set forth in the bill.
- Deployment of CCS technology – 2 percent for 2014-2017 and 5 percent for 2018-2050 in accordance with reserved new CAA section 786.
- Investment in energy efficiency and renewable energy – in accordance with section 132 of ACESA on support of state renewable energy and energy efficiency programs, 9.5 percent for 2012-2015 and on a declining basis thereafter to 3.55 percent for 2022-2025; and in accordance with section 201 of ACESA on greater energy efficiency in building codes, .5 percent for 2012-2050.
- Clean Energy Innovation Centers – 1 percent for 2012-2050 in accordance with section 171 (the text erroneously cites section 181) of ACESA.
- Investment in clean vehicle technology – 3 percent for 2012-2017 and 1 percent for 2018-2025 for investment in the development of clean vehicles in accordance with section 124 of ACESA.
- Domestic fuel production – 2 percent to domestic refiners for 2014-2026 in accordance with part F. (Note: This last reference should be to new CAA part G – see section 402 of ACESA.)
- Investment in workers – The Administrator shall auction .5 percent for 2012-2012 and 1 percent for 2022-2050 for workers.
- Domestic adaptation – in accordance with section 453 on state programs to build resilience to climate change impacts, .9 percent for 2012-2021, 1.9 percent for 2022-2026 and 3.9 percent for 2027-2050. Also, the Administrator shall auction .1 percent annually, with the proceeds being deposited in the Climate Change Health Protection and Promotion Fund established by section 467 of ACESA.
- Wildlife and natural resource adaptation – in accordance with section 480(a) of ACESA, the Administrator shall auction 1 percent for 2012-2021, 2 percent for 2022-2026 and 4 percent for 2027-2050, with the proceeds being deposited in the Natural Resources Climate Change Adaptation Account.
- International adaptation – 1 percent for 2012-2021, 2 percent for 2022-2026 and 4 percent for 2027-2050, for international adaptation in accordance with title IV, subtitle E, part 2 of ACESA.
- International clean technology deployment -- 1 percent for 2012-2021, 2 percent for 2022-2026 and 4 percent for 2027-2050, for international clean technology deployment in accordance with title IV, subtitle D (Exporting Clean Technology) of ACESA.
- Release of future allowances – The Administrator shall auction future-year allowances in these strings: .7 billion annually for 2015-2020, .5 billion annually for 2021-2025 and .3 billion annually from 2026-2030, with an equal number of allowances for each vintage year 11-16 years after the auction year.
- Deficit reduction – Proceeds are deposited in the Treasury from these Administrator auctions: 1) for 2012-2025, for allowances not designated for distribution or auction under new CAA sections 781, 782(a)-(o) and 790; 2) for allowances allocated under new CAA section 782(a)-(o) and not distributed by March 31 of the following year; and 3) for 2015-2025, for auctions under new CAA section 782(p).
- Climate change consumer dividend – The Administrator shall auction for 2026-2050 any allowance not designated for distribution or auction under new CAA section 782(a)-(p) and place the proceeds

⁴ Note: These allowances are allocated even before these industries are covered in 2014, limited to covering increased costs of electricity.

in the Climate Change Dividend Fund. In addition, for auctions conducted in 2026 and thereafter under new CAA section 782(p), the proceeds shall be deposited in the Climate Change Dividend Fund. (Note: It is unclear how this provision and the previous provision relate to each other and to the other subsections of new CAA section 782. The Climate Change Dividend Fund does not appear elsewhere in ACESA.)

Electricity Consumers (new Sec. 783). This section allocates allowances within the electricity sector. According to the Committee May 16 Memorandum, approximately 30% of all allowances go to LDCs and approximately 5% go to merchant coal generators and other generators with long-term power purchase agreements (QFs and IPPs). Since the merchant coal share is capped at 10% of the electricity sector share (or 3.5%), approximately 1 ½% are for the long-term power purchase agreements. These allowances phase out from 2026 to 2030.

LDCs. As with the EEI proposal, 50% are allocated “ratably” based on the LDC’s share of emissions and 50% are allocated “ratably” based on the LDC’s share of “sales.” (The reference to “sales” and not “delivery” appears to be inadvertent but needs to be fixed.) An LDC may select any 3 consecutive years between 1999 and 2008 for each base period (with 2006 to 2008 as the default). The base period for sales is updated every 3 years by the product of an LDC’s average annual customer deliveries during its selected base period times the number of its customers in the most recent year in which the formula is updated.

The allowances to LDCs must be used exclusively for the “benefit of customers”, must be distributed “ratably” among ratepayer classes “based on electricity deliveries to each class,” and “equitably” within each ratepayer class. No rebate may be based solely upon the quantity of electricity delivered to each ratepayer and rebates shall, to the extent practicable, be applied to the fixed portion of a bill. A state PUC must promulgate a regulation or complete a rate proceeding to implement these requirements before an LDC may receive emission allowances. The PUC must report its plans for the disposition of the allowances to EPA. This must be updated every 5 years. Each LDC is required to report annually to its PUC and EPA on its disposition of these allowances. EPA retains enforcement authority.

Merchant Coal Generators (MCG). Allowances to each MCG are calculated as 50% of the product of its number of qualifying emissions in each year times its average CO₂ emissions per MWH during 2006 to 2008 (less emissions sequestered) times an adjustment factor to phase-in any changes in allocations to the electric sector in any year. (The adjustment factor is the ratio of allowances to the electricity sector in any year divided by the number of allowances given to the electricity sector in 2012). By July 1, 2014, EPA must complete a study to determine whether this allocation formula results or is likely to result in “windfall profits” or “substantially disparate treatment” of generators in different markets or regions. If EPA makes an affirmative finding, it shall adjust the allocation formula “to mitigate to the extent practical,” any “windfall profits” or “disparate treatment.” Merchant coal generators may receive no more than 10% of the total emission allowances available to the electricity sector in any year.

Generators with Long-Term Power Purchase Agreements. Certain QFs and IPPs with long-term power sales agreements signed before January 1, 2007, that do not allow for recovery of the costs of compliance with the GHG limits of this title (and not otherwise a merchant coal generator) may receive allowances for 100% of their emissions until 2030 unless they no longer qualify as a QF or the contract expires, is terminated, or modified. This allocation share is not in the EEI agreement, but was included in the Dingell-Boucher discussion draft. (Section 416 of the Clean Air Act also provides a Special Reserve of allowances for IPPs.)

New CAA section 784 addresses allocated allowances to natural gas LDCs that are covered entities. The initial formula is based on annual average retail natural gas deliveries for 2006-2008 unless the owner or

operator chooses three other consecutive years between 1999 and 2008. The Administrator shall update the distribution formula prior to distributing 2019 allowances and every three years thereafter, reflecting changes in each gas LDC's service territory.

Allowances shall be used exclusively for the benefit of retail ratepayers of gas LDCs, and may not be used to support natural gas sales to entities or persons other than those retail ratepayers. No gas LDC may use allowances to provide to any ratepayer a rebate that is based solely on the quantity of natural gas delivered to the ratepayer. To the extent a gas LDC uses the value of allowances to provide rebates, it shall provide such rebates with regard to the fixed portion of ratepayers' bills. At least one-third of the value of allowances shall be used for cost-effective energy efficiency programs for natural gas consumers; such programs must be authorized and overseen by the state regulatory authority or, in the case of a gas LDC not regulated by such authority, by the entity with regulatory authority over retail natural gas rates.

New CAA section 785 addresses allocated allowances to home heating oil and propane consumers. The distribution of allowances among the states by the Administrator shall be ratably based on the ratio of the carbon content of home heating oil and propane sold to consumers within each state to the carbon content of home heating oil and propane sold to consumers within the U.S. States shall use allowances exclusively for the benefit of consumers of home heating oil or propane for residential or commercial purposes. Proceeds shall be used exclusively for such consumers for 1) cost-effective energy efficiency programs or 2) rebates or other direct financial assistance programs.

New CAA sections 786-788 are reserved.

New CAA section 789 establishes that by no later than October 31 annually, the President shall distribute the funds in the Consumer Climate Change Rebate Fund on a per capita basis to each household in the U.S.

New CAA section 790 allows the Administrator to exchange GHG emission allowances issued before December 31, 2011, by California, or for the Regional Greenhouse Gas Initiative or the Western Climate Initiative, for an emission allowance established under new CAA section 721(a). Allowances distributed under this section are deducted from allowances to be auctioned under new CAA section 782(b).

New CAA section 791 establishes procedures for the auction of emission allowances. The Administrator is required to develop regulations within 12 months of enactment to govern the auctions, including: that auctions will take place quarterly, follow a certain form, and involve allowances from the same vintage year and from future vintage years; requirements for financial assurance and ownership disclosure; and purchase limits. These regulations can be revised at any time by the Administrator. The minimum reserve auction price is \$10 per ton for auctions in 2012, and it then increases by 5 percent per year plus inflation.

New CAA section 792 allows any entity holding emission allowances or compensatory allowances to request the Administrator to auction such allowances on consignment. The Administrator is not obliged to obtain the highest price possible for the allowances and may permit them to be subject to a minimum reserve price.

Subtitle C – Additional Greenhouse Gas Standards

Part A – Stationary Source Standards

No performance standard shall be established under CAA section 111 to address GHG emissions from a capped source. However, performance standards may be used to address emissions from capped sources that affect air quality but are not climate change effects. EPA must create an inventory of larger uncapped sources and eventually promulgate performance standards designed to cut emissions from uncapped sources. Performance standards for uncapped sources must take into account GHG emissions, but performance standards for capped sources cannot.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Additional language makes it clear that EPA retains authority to promulgate performance standards for capped sources to address criteria air pollutant emissions.*
- *EPA must file a report with Congress on the costs and impacts of GHG performance standards for uncapped sources.*

Part C – Exemptions From Other Programs

GHGs are exempted from several CAA programs. CO₂ and other GHGs may *not* be regulated as a criteria air pollutant (like ozone or particulate matter), and therefore there would be no GHG national ambient air quality standards (NAAQS). CO₂ and other GHGs may not be listed as hazardous air pollutants based on their effect on climate change. GHG emissions should not be considered in the need to apply for or operate under a CAA title V permit. The language is less clear when it finds that permitting of sources under the Prevention of Significant Deterioration (PSD) program should not apply to a GHG solely on the basis of its effect on climate change, particularly with respect to the application of New Source Review (NSR).

These CAA program exemptions do not affect ongoing administrative proceedings or litigation under the CAA except with respect to new coal-based EGUs covered by the CO₂ performance standards under new CAA section 116 (discussed under title I, subtitle B).

Hydrofluorocarbon (HFC) emissions production and consumption are addressed in a replacement CAA section that creates an allowance-based cap-and-trade system to reduce HFCs 85 percent by 2032, with 90 percent of allowances auctioned in 2020 and after (after starting with a 10-percent auction in 2012).

Major Change from March 31 Waxman-Markey Discussion Draft:

- *New CAA section 835 makes it clear that the CAA program exemptions are not intended to affect ongoing administrative proceedings or litigation.*

Part E – Black Carbon

New CAA section 851 addresses black carbon (soot), which is the product of incomplete combustion of fossil fuels or biomass. A report on emission sources and control options is due to Congress 1 year after enactment. EPA also is directed to propose regulations within 1 year of enactment, with final regulations in 2 years. The only sources of black carbon emissions noted are related to diesel transportation, forest and agriculture burning, and residential cooking and heating using solid fuels in developing nations. A report on international black carbon emissions mitigation is due to Congress 1 year after enactment.

Part F – Miscellaneous

In order to give the federal carbon market time to develop, the draft bill effectively suspends state and regional cap-and-trade programs from 2012 to 2017 through the addition of new CAA section 861. According to Committee staff, states will have the right to run their own cap-and-trade program after 2017, but they presumably will lack the incentive to do so if the federal market is functioning well. New CAA section 861 explicitly recognizes states' authority to address emissions from mobile sources despite the temporary ban on state and local cap-and-trade programs.

Amendments to the CAA's enforcement provisions direct courts to remand, but not vacate, EPA actions deemed to be arbitrary, capricious or otherwise unlawful if a remand would undermine the protection of human health or the environment. In addition, petitions for reconsideration are deemed to be denied if the Administrator does not act within 150 days, allowing the petitioner to proceed to the federal courts.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *The CAA enforcement provision language regarding citizen suits and remedies has been dramatically reduced, including removal of language that relaxed standing requirements (which would allow citizens to sue sources to enforce any and all CAA standards and limitations, not just those related to GHGs, for incremental increases in emissions).*
- *Also deleted are provisions that authorized citizen suits against EPA for failure to perform non-discretionary acts or duties related to GHG regulation under the CAA and for damages and legal fees to be awarded in these cases.*

Subtitle D – Carbon Market Assurance

Subtitle D amends the Federal Power Act (FPA) by creating a new “Part IV–Carbon Market Assurance.” The new FPA Part IV gives FERC broad authority to regulate the allowance, offsets and renewable energy credit trading markets, including authority to set position limits and margin requirements in these OTC markets, and to set limits on counterparty risk. There is no requirement for OTC transactions to be conducted or cleared on an exchange and special flexibility is provided for matter relating to the development of an offset project. FERC can collect up to \$1 million per day, per violation; order restitution or disgorgement of unjust profits; issue cease and desist orders; and suspend or revoke trading privileges of traders and exchanges. FERC is required to collect fees, initially set at \$15 per \$1,000,000 of transaction value to cover its costs of regulating the market. This fee is subject to annual review and adjustment. FERC is required to report to Congress on additional staffing needs for market oversight, and subject to appropriations, appoint additional staff.

The President shall delegate responsibility for regulation of allowance derivative markets to relevant agencies based on advice from an interagency working group to include EPA. Agencies regulating an allowance derivative shall have the same enforcement authority as the CFTC has for matters under its jurisdiction. Until and unless regulations provide otherwise, all derivative transactions must occur on regulated exchanges, effectively barring customized OTC derivative transactions common in the existing sulfur dioxide (SO₂) and nitrogen oxide (NO_x) markets.

It authorizes a fine of up to \$25 million or imprisonment for up to 20 years for directly or indirectly and knowingly engaging in manipulation, false reporting (including knowing omission of a material fact) or other fraudulent and deceptive activities. The agency responsible for regulating the derivatives market is required to collect and analyze market data continually, including changes in the “roles, activities or strategies” of market participants, and report on such data analyses annually to the President and Congress.

Major changes from March 31 Waxman-Markey Discussion Draft:

- *FERC’s authority is now granted by modifying the Federal Power Act. Previously, the Clean Air Act had been amended to grant FERC the authority to oversee the markets. FERC is given authority to collect fees to cover the costs of regulating the markets.*
- *Renewable energy credit (REC) trading is now subject to FERC jurisdiction.*
- *Offset creation contracts have now been defined and by default are not deemed to be classified as a derivative contract, meaning that they can be traded on an OTC market. However, this flexibility could be subject to future rulemaking.*

Subtitle E – Additional Market Assurance

This new section modifies the Commodities Exchange Act (CEA) to give the CFTC broad jurisdiction over energy derivative transactions. It defines an energy commodity to include coal, crude oil, gasoline, diesel fuel, jet fuel, heating oil, propane, electricity, natural gas, and any other substance used as a source of energy. It sets forth explicit conditions for regulating energy commodities by the

Commodities Futures Trading Commission (CFTC). The text draws heavily on H.R. 6330, the Prevent Unfair Manipulation of Market Price Act of 2008 introduced by Rep. Stupak in the 110th Congress.

TITLE IV – TRANSITIONING TO A CLEAN ENERGY ECONOMY

Subtitle A – Industrial Sector

Part F – Ensuring Real Reductions in Industrial Emissions

Subpart I – Emission Allowance Rebate Program

The CAA is amended to provide a methodology for “rebating” emissions allowances to industries that are both trade exposed and energy or GHG intensive. Very high energy or GHG intensive industries that are not trade exposed may also qualify for rebates. Allowances are allocated to this program as described in section 782(e). Individual entities can petition EPA to designate their industrial sector as eligible for rebates. New industrial sectors and new entrants to an eligible industrial sector also qualify for allowance rebates. Petroleum refiners, which receive allowances through the separate program described in new CAA section 771, are specifically excluded from participating in this allowance rebate program.

EPA has until June 30, 2012, to publish a list of eligible industrial sectors and the rebate per unit of production for the next two calendar years. EPA must update this list in 2013 and then, subsequently, at least every four years, using the most recent data available.

Rebates are based on the sum of a covered entity’s direct and indirect carbon factors. Direct carbon factors are equal to the product of a covered entity’s average output and its average direct GHG emissions (as determined by EPA). Indirect carbon factors relate to an entity’s electricity use and intensity. The indirect emissions factor calculation attempts to account both for an entity’s increased electricity costs as a result of the cap (electricity emissions intensity factor) and the amount of electricity it uses per unit of output (electricity efficiency factor). Suppliers of electricity are required to provide necessary information about electricity sales to industrial sources and the EPA to help make relevant determinations and calculations.

Allowance rebates are capped in three ways. First, EPA cannot award rebates in excess of the allowances allocated for a particular year. Second, to encourage energy efficiency, an entity’s electric emissions intensity factor must decline from year to year. The GHG intensity factor must also decline annually. Third, because allowances allocated to this program are scheduled to phase out by 2035, at the latest, and may be phased out earlier if the President makes a determination that, for an eligible sector, more than 70 percent of the global output for that sector is produced in countries that are part of international, multilateral or bilateral efforts to reduce emissions (as described in new CAA section 767, below), calculated rebates are reduced to reflect the diminishing number of allowances allocated to the rebate program.

Industrial sources are not subject to the national emissions cap until 2014, but are eligible for allowances rebates in the period 2012-2013 to cover their indirect emissions factors. Two percent of allowances are allocated for this purpose in 2012 and 2013. Entities that are members of eligible industrial sectors but that are not covered entities as defined in new CAA section 700(13) receive allowances rebates equal to their indirect emissions factor for the life of the rebate program. As noted above, the indirect emissions factor is designed to address increased electricity prices as a result of the emissions cap. To the extent that an eligible entity’s electricity provider received a free allocation of allowances to benefit consumers (as described in section 782(a)), EPA is required to adjust the indirect emissions factor to reflect the reduce electricity costs incurred by the entity.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *The rebate program is now funded through an allocation of allowances.*
- *Eligibility requirements have been broadened to include very high energy or GHG intensity operations that are not also trade exposed.*
- *Petroleum refiners have been excluded from participation under this section, but are eligible for a similar program under Part G of this title.*

Subpart 2 – International Reserve Allowance Program

Part 2 is modeled (at least in part) on the IBEW-AEP proposal contained in several previous climate bills. New CAA section 766 establishes an international reserve allowance program (IRAP), which may be implemented by the President beginning in 2025 pursuant to a determination under Part 3. The program is to be used to address impacts on energy-intensive goods and sectors (defined generally as iron, steel, aluminum, cement, glass, pulp, paper, chemicals and industrial ceramics).

Subpart 3 –Presidential Determination

New CAA section 767 requires the President to submit a report to Congress by January 1, 2018, regarding the effectiveness of emission allowance rebates under Part 1 in mitigating the risk of increased GHG emissions in foreign countries as a result of compliance costs incurred under title VII. The President is also required to determine by June 30, 2022, and every 4 years thereafter, whether more than 70 percent of global output of each sector eligible for rebates under Part 1 is produced in countries that meet at least one of several criteria. If the President determines that less than 70 percent of global output of a sector is produced in countries that meet one or more of the criteria, he shall continue the rebate program under Part 1, or implement IRAP under Part 2, or a combination of the two for that sector. In the absence of such a determination, the emission allowance rebates for entities in the sector will decline by 10 percent per year.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *The implementation date has been moved out from 2022 to 2025.*
- *The President has the option to either modify the percentage by which the carbon factors are multiplied or implement an IRAP program for the affected sector*

Part G – Petroleum Refineries

New CAA section 771 establishes an emission allowance rebate from 2014-2026 for owners and operators of petroleum refineries. Two years after enactment of this section, the Administrator shall issue regulations for the distribution of emission allowance rebates. The rebate is based on the refinery's direct and indirect carbon factors. Calculating indirect carbon factors requires those who sell electricity to the owners or operators of petroleum refineries to provide an annual emissions intensity factor for the refinery. The section also establishes other complicated calculations involving electricity efficiency factors and ensuring efficiency improvements.

Subtitle B – Green Jobs and Worker Transition

Authorizes the Secretary of Education to award grants for education programs relating to renewable energy, energy efficiency and climate change mitigation. Authorizes the Secretary of Labor to award grants to institutions of higher education for a broader scope of workforce training and education programs, including those related to Smart Grid technologies, plug-in electric drive vehicles, and electric transmission systems, including upgrading and reconditioning. Increases funding for worker transition from \$125 million to \$150 million.

Establishes a new supplemental income program for workers displaced as a result of the new cap and trade program. Workers would be entitled to 156 weeks of income supplement, 80% of monthly health care premiums, and other payments and services.

Subtitle C – Consumer Assistance

New CAA section 431 amends the Internal Revenue Code to establish an energy tax credit for eligible individuals and ensures that the application of the tax credit is coordinated with the application of the energy refund established in new CAA section 432. The size of the credit varies based on the number of individuals in the tax filing unit, but in general cannot exceed the average annual reduction in purchasing power for low-income households resulting from the GHG regulations established under CAA title VII. EPA is required to determine annually the aggregate reduction in purchasing power—which is based on the total market value of the allowances used for compliance in a year adjusted to reflect costs not incurred due to the allocation of allowances—and to distribute the reduction to households. The section also contains various descriptions for the maximum income levels eligible for the tax credit and qualifying individuals. The section also addresses tax treatment for U.S. possessions.

New CAA section 432 establishes an energy refund program for low-income consumers. This program allows state agencies to request of EPA that eligible low-income households within the state receive a monthly cash energy refund equal to the estimated loss in purchasing power resulting from the CAA title VII GHG regulations. The section defines eligible households and requires the development of national standards for eligibility. It also requires states to set up procedures to administer the refund program, while listing numerous requirements for state programs. The monthly refund is equal to the maximum energy tax credit described in new CAA section 431 divided by 12. Information on the refunds is to be sent to each household receiving them and to the IRS. There are a series of definitions at the end of the section.

Subtitle D – Exporting Clean Technology

The purpose of this subtitle is to provide United States (U.S.) assistance and leverage private resources to encourage widespread implementation of activities that reduce, sequester or avoid greenhouse gas (GHG) emissions in developing countries. The assistance is to be provided in a way that encourages these countries to adopt policies and measures that reduce, sequester or avoid GHG emissions, and that promotes the successful negotiation of a global GHG reduction agreement under the United Nations Framework Convention on Climate Change (UNFCCC). This subtitle includes congressional findings related to global GHG emission and the role of developing countries, and addresses competitiveness concerns. The subtitle establishes an International Clean Technology Account (Account), which is funded by the Administrator through an allocation of allowances under section 782(o) of the Clean Air Act. An interagency group oversees the distributions of allowances from the Account and defines the type of distribution (e.g., bilateral assistance). The subtitle defines criteria for determining if a country is eligible for assistance and has a section outlining what activities qualify for assistance. The interagency group is required to establish and implement a system to monitor and evaluate the performance of the activities receiving assistance and to provide a report to Congress no later than March 1, 2012, and then annually, on the distributions from the Account and the success of the activities. The interagency group is also encouraged, where practical, to work with other U.S. foreign assistance activities.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *This subtitle contains a new section on congressional findings, including many that highlight the importance of clean energy technology cooperation in reducing emissions, and the role and responsibilities of developed counties in providing such technology.*
- *The Qualifying Activities section has been modified in several areas. For technologies that capture and store CO₂ emissions (CCS) from electric generation facilities, only the cost of retrofitting*

existing facilities or the incremental cost of purchasing and installing CCS technology on new facilities will be covered. The use of biomass is now limited to sustainably-produced product.

- *A new section entitled “Assistance” specifies the distributions of allowances from the International Clean Technology Account, including bilateral assistance, distribution to multilateral funds or institutions, or some combination of both. The bill also reduces the maximum number of allowances for bilateral assistance that can be used to support any single country from 20 percent to 15 percent.*
- *Several new criteria have been added to the set of criteria to be used in evaluating activities within eligible countries that may receive assistance.*

Subtitle E – Adapting to Climate Change

Part 1 – Domestic Adaptation

The President is directed to establish a National Climate Change Adaptation Program as part of the inter-agency U.S. Global Change Research Program. The Secretary of Commerce is directed to create a National Climate Service, as part of NOAA, to develop climate information, data, forecasts and warnings. State programs to build resilience to climate change impacts, like increased flooding and heat waves, are funded through an allocation of allowances under section 782(l) that ranges from .9 percent to 3.9 percent from 2012 to 2050. States will receive a portion of these allowances based on their population, with more allowances going to states with lower per capita incomes. States are required to sell these allowances within one year of receipt to fund their adaptation efforts. Receipt of allowances is conditioned upon approval of a state’s climate adaptation plan.

To address public health concerns domestically and abroad, the Secretary of Health and Human Services (HHS) is required to promulgate a national strategic action for mitigating the impacts of climate change on public health in the United States and other nations, with a focus on developing nations, within 2 years of the date of enactment. As noted in section 782(l)(2), one-tenth of all annual allowances will be auctioned and the proceeds deposited in a newly-created Climate Change Health Protection Fund. The HHS Secretary is authorized to make these funds available to other agencies or governments, including foreign governments.

The Chair of the Council on Environmental Quality is required to advise the President on a national strategy to help natural resources adapt and become more resilient. In order to be eligible for monies in the newly-created Natural Resources Climate Change Adaptation fund, states must have approved natural resources adaptation plans, which must cover a wide range of issues. Other monies in the Fund, which are available without further appropriation, are allocated to specific state and federal agencies and programs that focus on natural resources. Proceeds from the sale of allocated allowances, which increase from 1 percent to 4 percent over the period 2012-2050, as specified in section 782(m), are to be deposited in the Fund and used for these specified purposes.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Allowances are allocated to support the various domestic, health and natural resources adaptation efforts, as described above.*
- *Regular national climate change impact assessments are no longer required; instead, states must have approved climate and natural resource adaptation plans.*
- *Funds for public health adaptation assistance are to be in addition to other sources of funding and are not designed to supplant other sources of funding.*

Part 2 – International Climate Change Adaptation Program

An International Climate Change Adaptation Program is created within the United States Agency for International Development (USAID) to provide new and additional financial resources to developing countries to meet the costs of adaptation. Allowances are allocated to fund the Program. USAID is required

to develop a list of the most vulnerable developing countries and to concentrate assistance on these countries. Between 40 percent and 60 percent of the allowances may be given to either international institutions or multilateral funds, if they exist, for disbursement to countries vulnerable to climate change. Other allowances are to be used for bilateral assistance. Assistance is to be prioritized by need and should foster local community engagement.

Major Changes from March 31 Waxman-Markey Discussion Draft:

- *Allowances are allocated to fund international climate change adaptation assistance as described in section 782(n). Allowances allocated range from 1 to 4 percent between 2012 and 2050, with assistance increasing over time.*
- *No one country may receive more than 10 percent of the funds available in a given year in bilateral assistance. This limitation does not apply to international institutions or multilateral funds.*
- *H.R. 2454 makes clear that this assistance is in addition to, and does not supplant, other foreign aid.*