

The American Clean Energy and Security Act of 2009



Summary | July 2009

The *American Clean Energy and Security Act of 2009* (“ACES”), passed by the House of Representatives as H.R. 2454, sets forth an ambitious and comprehensive reform of U.S. climate and energy policy, and charts the course to lower emissions and a sustainable clean technology future. The following document provides: (1) a brief overview of ACES; and (2) detailed section-by-section summaries. ENE’s position on the bill and recommendations for improvement are available at: <http://www.env-ne.org/resources/open/p/id/883/>

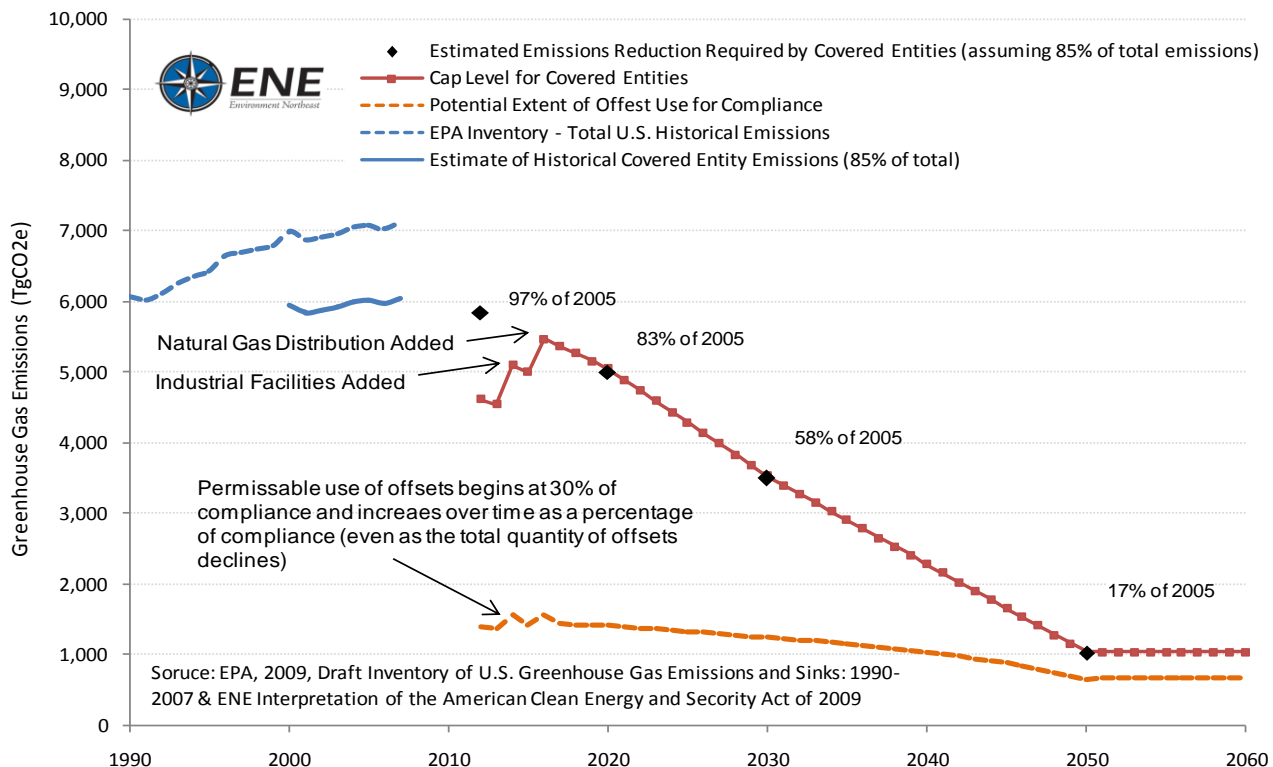
1. General ACES Overview

GHG Cap and Trade Program

ACES establishes a market-based cap and trade program that covers approximately 85% of domestic greenhouse gas (GHG) emissions from electricity generators, the transportation sector, industrial facilities, and suppliers of liquid fuel and natural gas. Coverage in most cases is limited to large entities (responsible for >25,000 tons of carbon dioxide equivalent or CO₂e). Electric generating and industrial units are covered at the point of emission, petroleum fuels are covered at the point of production or importation, and natural gas is covered at the distributor level. Smaller sources of emissions are addressed through performance standards.

The cap expands in coverage over the first five years of the program, with industrial sources and natural gas added in later years. From a 2005 baseline, emissions decline 17% by 2020, 42% by 2030, and 83% by 2050 (see Figure 1, below). The cap establishes numerical tonnage limits, which may be adjusted up or down if EPA revises the 2005 baseline or finds that covered sources are responsible for larger or smaller shares of emissions.

Figure 1: ACES GHG Cap and Offsets in Relation to Historic Emissions

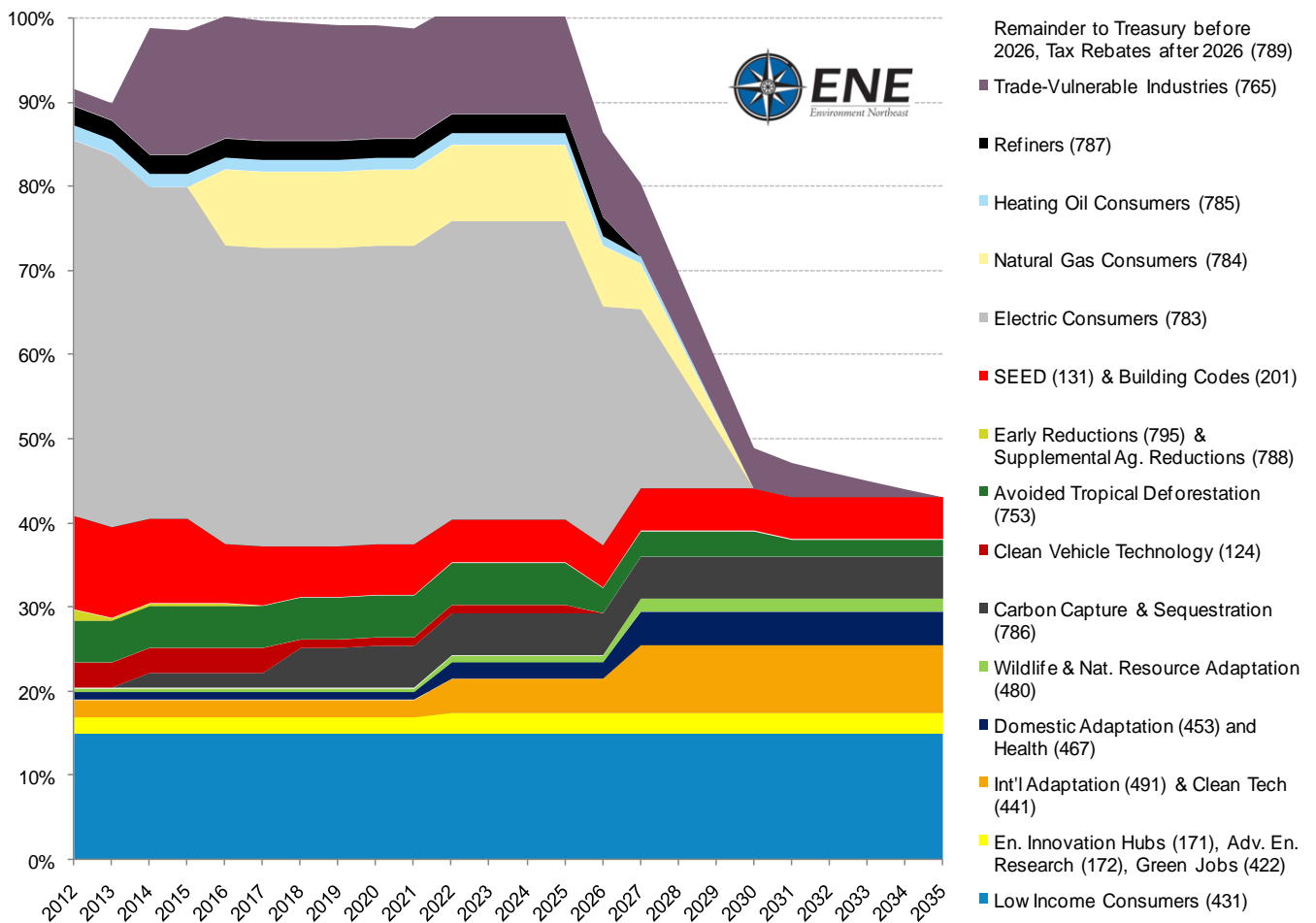


Covered entities may use offsets (emissions reductions from outside of the cap) to comply with the cap. In early years, offsets can be used for approximately 30% of an entity’s compliance obligation. Offsets are split equally between domestic and international offsets. Significant changes during the final negotiation of the bill transferred oversight of agricultural and forestry offsets from EPA to USDA, and created a preliminary list of eligible offset types.

Allowance Allocations

Allowances (permits to emit) are both auctioned and distributed for free, with free allocations decreasing over time (see Figure 2, below). For the duration of the program 15% of allowances are auctioned by the federal government to fund cash rebates for low-income consumers. The remainder of allowances are distributed to: emitters (large industrials, refineries, merchant coal plants, and power plants with long-term contracts); energy distributors (local distribution companies, which may or may not own power plants, depending on local electricity market rules); states; and, federal agencies. Recipients may auction allowances to raise revenue or use allowances for compliance, in the case of emitters and energy distributors. A significant portion of allowances – roughly 40% in the early years – is allocated for the benefit of electric, natural gas, oil, and propane consumers. State utility regulators will interpret “consumer benefit” and determine whether allowances are used for compliance, for rebates, or for efficiency programs. Un-allocated allowances are auctioned, with proceeds returned to the Treasury.

Figure 1: ACES Allowance Allocations – Section numbers listed parenthetically; allocations unchanged from 2035-2050



ACES preempts state and regional GHG cap and trade programs, such as the Regional Greenhouse Gas Initiative (RGGI), during the six years from 2012 to 2017. Fleet-wide motor vehicle emissions standards, emissions standards for fuels, and other policies would not be preempted.

A number of elements intended to contain costs are included in the bill:

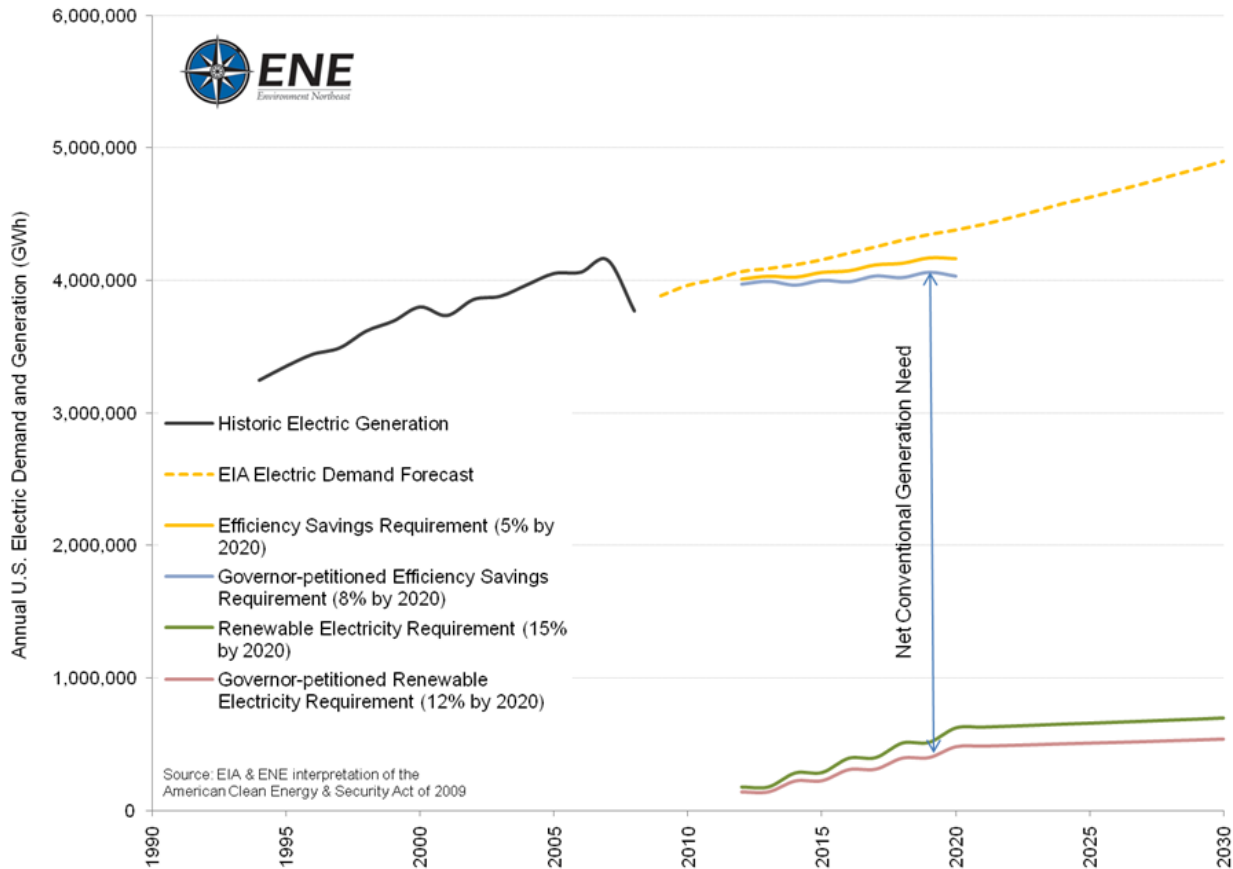
- Regulated entities may use offsets to cover approximately 30% of their emissions in early years, with allowable offset usage increasing over time as a percentage of capped emissions but decreasing on a quantity basis.
- International Emission Allowances from systems deemed eligible by the EPA may be used for domestic compliance.
- Banking of allowances is allowed without limitation, allowing buyers to retain or use for future compliance any unused allowances.
- Borrowing of allowances from a year ahead is allowed without interest. Allowances may be borrowed up to 5 years into the future to meet 15% of compliance, with an annual 8% interest rate paid at the time of usage.
- A Strategic Reserve of allowances is available for covered entities to purchase at quarterly auctions; reserve allowances prices are initially set at \$28 per ton, later adjusting to 160% of 3-year average real prices plus 5% annual increases. Revenue from the auction of strategic reserve allowances will be used to purchase offsets from avoided deforestation in the developing world. These offsets will then be discounted by 20% and converted to allowances to resupply the reserve.

ACES authorizes the allocation of allowances to energy- and emission-intensive domestic industries susceptible to competition from foreign producers that are not operating under comparable emissions constraints. These allowances are allocated based on manufacturing emissions and energy use, and will discontinue after 2020 if EPA determines that over 70% of global producers in a given sector operate under emissions constraints. If direct allowance allocations fail to protect domestic industry, an international reserve allowance program will be created to incorporate carbon costs into the price of imported products.

Energy

ACES establishes a **Renewable Electricity Standard (RES)** that requires electricity and distributors to meet targets for renewable electricity supply, while potentially replacing some of the renewable requirement with investments in efficiency programs. By 2020 distributors must achieve 20% from renewable sources or 15% from renewable resources and 5% from cumulative energy savings. If a governor demonstrates that his/her state is unable to meet renewable electricity targets, efficiency savings may be increased to 8% and renewable energy requirements dropped to 12%. Figure 3, below, depicts the energy savings and renewable generation benefits of the ACES RES.

Figure 3: Projected Benefits of Combined Efficiency and Renewable Electricity Standard



Performance Standards (which establish maximum allowable emissions and/or energy usage) are established to increase the efficiency of, and reduce emissions from coal plants, industrial plants, buildings and appliances. The new building codes require 30% reduction in building energy use by the date of enactment, and 50% reduction in energy use by 2014 for residential buildings and by 2015 for commercial buildings.

Other Programs

A **Carbon Storage Research Corporation** oversees research and development of CCS technology, using \$1-\$1.1 billion of funding collected from distribution utilities (based on the emissions rates of electricity sold) in addition to allowance allocations. ACES seeks to modernize electricity systems by promoting investments in **Smart Grid projects** and **vehicle electrification**, and by harmonizing **transmission** planning to deliver clean energy to markets. Funding would also be directed to the export of clean energy technologies to developing countries, and to adaptation in the U.S. and internationally.

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Environment Northeast is a nonprofit research and advocacy organization focusing on the Northeastern United States and Eastern Canada. Our mission is to address large-scale environmental challenges that threaten regional ecosystems, human health, or the management of significant natural resources. We use policy analysis, collaborative problem solving, and advocacy to advance the environmental and economic sustainability of the region.

2. Detailed ACES Summary

TITLE I	CLEAN ENERGY
Subtitle A	Combined Efficiency and Renewable Electricity Standard
SEC. 101	<p><i>Combined Efficiency and Renewable Electricity Standard:</i></p> <ul style="list-style-type: none">• Qualified resources: wind, solar, geothermal, biomass, biogas, biofuels, landfill gas, wastewater treatment gas, coal mine methane, waste-to-energy (municipal waste), hydropower (new or incremental from 1988), marine and hydro kinetic• Regulated entity: any electric supplier that sells over 4 million MWhs annually• State RPS's: regulations shall seek to preserve the integrity of existing RPS's• Tracking and compliance: uses a credit tracking and trading system that builds on existing reporting systems; annual compliance; achieve percentage of baseline sales from renewables and optional efficiency savings:<ul style="list-style-type: none">○ 2012 – 6.0%○ 2113 – 6.0%○ 2014 – 9.5%○ 2015 – 9.5%○ 2016 – 13.0%○ 2017 – 13.0%○ 2018 – 16.5%○ 2019 – 16.5%○ 2020 – 20%○ 2021 through 2039 – 20.0%• One-quarter of percentage target may be fulfilled with efficiency savings; with approved governor's petition efficiency savings may fulfill two-fifths of percent target (<i>i.e.</i> 8% efficiency and 12% renewables in 2020 and onward)• Savings from codes and standards <i>not</i> valid for achievement of efficiency savings targets• Electricity from existing hydro, new nuclear, and fossil power with carbon capture and CCS not included in baseline• Distributed renewables under 4MW capacity, or, in the case of biomass/biofuel plants, under 2MW capacity, receive 3 credits for every MWh of generation (3X payment)• Trading and banking (up to three years) allowed for renewable electricity credits; trading of efficiency savings within state• Alternative compliance: \$25/MWh credit, adjusted for inflation and paid to state• Penalty: parties failing to achieve savings or submit alternative compliance payment shall pay double alternative compliance payment for shortfall
SEC. 102	<p><i>Clarifying State Authority to Adopt Renewable Energy Incentives:</i> states may, through production incentives, encourage additional renewable energy generation in excess of federal requirements</p>
SEC. 103	<p><i>Federal Renewable Energy Purchases:</i> the federal government shall meet increasing percentages of its electricity consumption from renewable generating resources, as defined in Sec. 101, as follows:</p> <ul style="list-style-type: none">○ 2012 – 6.0%○ 2113 – 6.0%○ 2014 – 9.5%○ 2015 – 9.5%○ 2016 – 13.0%○ 2017 – 13.0%○ 2018 – 16.5%○ 2019 – 16.5%○ 2020 – 20%

	o 2021 through 2039 – 20.0%
Subtitle B	Carbon Capture and Sequestration (CCS)
SEC. 111	National Strategy: EPA in collaboration with DOE and other agencies shall develop a report setting out a unified and comprehensive strategy for CCS that addresses the key legal and regulatory barriers to commercialization
SEC. 112	Regulations for Geologic Sequestration Sites: EPA shall develop a coordinated and streamlined approach to CCS permitting, with details laid out on data collection, public processes, and other elements
SEC. 113	Studies and Reports: requires CCS reports and task forces on existing legal frameworks and CO ₂ transportation
SEC. 114	CCS Demonstration and Early Deployment Program: creates a carbon storage research corporation sited at the Electric Power Research Institute (EPRI) and overseen by the electric industry, to fund and accelerate the commercialization of CCS through large scale projects; funding shall be through a fee on electricity delivered by an electric distribution company that is indexed to the carbon intensity of the energy they provide, and designed to deliver funding of ~\$1 billion per year
SEC. 115	Commercial Deployment of CCS Technologies: <ul style="list-style-type: none"> • Directs EPA to develop regulations to allocate allowances allocated under section 782(a)(f) to large electric and industrial CCS facilities (>200MW) • Sequestration credit multipliers will increase allocations for first 6 gigawatts of generation, with higher allocations for higher levels of sequestration
SEC. 116	Performance Standards for Coal-fueled Power Plants: After the 4 gigawatts of generation with CCS come online, new coal fired power plants permitted after 2009 shall reduce emissions 50% on an annual basis; plants permitted after 2020 shall reduce emissions 65%
Subtitle C	Clean Transportation
SEC. 121	Electric Vehicle Infrastructure: requires utilities to develop a plan to support the use of plug-in hybrid-electric and electric vehicles; approval of costs are left to state regulatory authorities; plan should be integrated with Smart Grid technology, billing systems for the vehicles, and time-of-use pricing; state regulators must act on the plan within 3 years of enactment
SEC. 122	Large-Scale Vehicle Electrification Program: DOE shall develop a program to fund the deployment of electric vehicles and related infrastructure in many regions; program shall demonstrate and assess a number of issues related to the electrification of vehicles and make the information available to the public; placeholder language for appropriation of funds
SEC. 123	Plug-in Electric Drive Vehicle Manufacturing: DOE shall provide financial assistance to automakers for the retooling of facilities and purchase of domestically manufactured batteries; placeholder language for appropriation of funds
SEC. 124	Investment in Clean Vehicles: EPA, at direction of DOE, shall allocate allowances allocated pursuant to Sec. 782(i) to automobile manufacturers for reequipping, expanding, or establishing manufacturing facilities in the U.S. for electric vehicles or components supported by sections 122 and 123 of this Act
SEC. 125	Advanced Technology Vehicle Manufacturing Incentive Loans: loans supporting advanced vehicle manufacturing under Energy Independence and Security Act of 2007 doubled from \$25 billion to \$50 billion
SEC. 126	Amendment to Renewable Fuels Standard: definition of renewable biomass amended to

	include animal, construction, agricultural, and municipal wastes and limited biomass resources from federal forests; allows EPA to reduce renewable fuels requirements if targets are unattainable or would be cause economic harm to a state, region or the nation
SEC. 127	<i>Open Fuel Standard:</i> if necessary infrastructure exists, DOT may require vehicle manufacturers to produce ‘flex-fuel’ vehicles able to combust alcohol-based fuels and gasoline
SEC. 128	<i>Diesel Emissions Reduction:</i> the vehicle diesel emission reduction program created in the Energy Policy Act of 2005 is expanded to American territories; annual appropriations of \$200 million extended from 2011 to 2016
SEC. 129	<i>Loan Guarantees for Projects to Construct Renewable Fuels Pipelines:</i> loan guarantee program for innovative technologies under the Energy Policy Act of 2005 expanded to cover renewable fuel pipelines
SEC. 130	<i>Fleet Vehicles:</i> expands incentives in Energy Policy Act of 1992 for alternative fuel vehicles to include repowered or converted alternative fuel vehicles
SEC. 130A	<i>Report on Natural Gas Vehicle Emissions Reductions:</i> EPA, in consultation with DOE and DOT, shall investigate the contribution of natural gas vehicles to reduced emissions and shall report on additional measures to maximize usage of natural gas usage in stationary and mobile applications
Subtitle D	State Energy & Environment Development Funds
SEC. 131	<i>Establishment of SEED Funds:</i> <ul style="list-style-type: none"> • Allows for the creation of State Energy & Environment Development Funds (SEED Fund) into which states can deposit revenue from the sale of allowances, as well as funding provided through: the 2005 and 2007 energy acts, the Weatherization Assistance Program (WAP), Low Income Heating Energy Assistance Program (LIHEAP), Energy Efficiency and Conservation Block Grants (EECBGs), and the American Recovery and Reinvestment Act (ARRA) • Proceeds from allowances to support dedicated renewable energy and energy efficiency programs, but proceeds in excess of required funding may support loans, grants or other forms of support for clean energy, energy efficiency or climate change programs • State administration of SEED program, supported by not more than 5% of allowance value; placeholder appropriation language for EPA administration
SEC. 132	<i>Support of State Renewable Energy and Energy Efficiency Programs</i> <ul style="list-style-type: none"> • Allowances allocated to SEED program under section 782(g)(1) of ACES distributed as follows: 0.5% to Indian tribes, 99.5% to states; state allocations distributed one-third equally among states, one-third based on population, and one-third based on energy use At least 12.5% of allowance value distributed to local governments to support efficiency and renewables programs • At least 20% to support energy efficiency programs as follows: minimum 1% for low income programs; minimum 5.5% for implementation of REEP program (Sec. 202); remainder for implementation and enforcement of building codes (Sec. 201), energy efficient manufactured homes program (Sec. 203), and building energy performance labeling for new construction (Sec. 204) At least 20% to support renewable energy through capital grants, tax credits, production incentives, loans, loan guarantees, forgivable loans, direct provision of allowances, and interest rate buy-downs • At state’s discretion, remaining 47.5% of allowances may be dedicated to: efficiency and renewable programs described above; cost-effective energy efficiency programs for end-use consumers of electricity, natural gas, home heating oil, or propane, with programs administered by the state, local governments, and entities other than the state; smart grid

	<p>advancement, and/or surface transportation (though not more than 10% may be dedicated to transportation)</p> <ul style="list-style-type: none"> • States dedicating funds to cost-effective efficiency programs must: 1) prioritize expansion of existing programs under state oversight, and; 2) demonstrate that allowances are used to supplement, not supplant existing funding
SEC. 133	Support of Indian Renewable Energy and Energy Efficiency Programs: EPA shall distribute 0.5% of allowances allocated to the SEED program under section 132 to Indian tribes to fund competitive grants to support renewable energy and energy efficiency programs
Subtitle E	Smart Grid Advancement
SEC. 142	Assessment of Smart Grid Cost Effectiveness in Products: DOE and EPA shall assess the benefits of including Smart Grid technology in Energy Star products under a “best case” analysis; cost-effective products shall include additional labeling and information for consumers
SEC. 143	Inclusions of Smart Grid Capability on Appliance Energy Guide Labels: FTC shall require that appliance Smart Grid compatibility and customer savings benefits be labeled
SEC. 144	Smart Grid Peak Demand Reduction Goals: load-serving entities (LSE) or state, regional, or tribal entities shall set demand reduction goals; goals must be set for 2012 and 2015 in relation to a state or LSE baseline and based on what is “realistically achievable;” a plan must be developed by each LSE to achieve the goals through energy efficiency or demand response programs or contracts, including distributed generation, energy storage, and direct load control; placeholder language for appropriation of funds additional to allowance value from states (Sec. 132)
SEC. 145	Reauthorization of Energy Efficiency Public Information Program to Include Smart Grid Information: adds reporting on Smart Grid benefits to the energy efficiency public information initiative of the Energy Policy Act of 2005
SEC. 146	Inclusion of Smart Grid Features in Appliance Rebate Program: allows Smart Grid technology to be funded through the Energy Star program
Subtitle F	Transmission Planning
SEC. 151	<p>Transmission Planning:</p> <ul style="list-style-type: none"> • Makes it federal policy that the electric grid should facilitate the development of renewables and other zero-carbon energy sources while ensuring reliability and cost-effectiveness, among other things • Planning to meet the objective should take into account all significant supply-side and demand-side options, including efficiency, distributed generation, renewables, and other technologies • All utilities, states, and regional organizations to submit plans to FERC, and may invite FERC to participate in planning process • Regional planning entities to submit plans for review and approval by FERC • In the absence of a regional transmission planning entity in the Western Interconnection, the federal government shall have the authority to plan transmission and approve and permit corridors and projects (does not apply to the Eastern Interconnect) • Placeholder language for appropriation of funds
SEC. 152	Net Metering for Federal Agencies: Electric utilities with greater than 4 million megawatt hours of sales shall install net metering capability at all federal agencies, offices and facilities to measure quantities of energy consumed and produced by federal agencies
SEC. 153	Support for Qualified Advanced Electric Transmission Manufacturing Plants,

	<i>Qualified High Efficiency Transmission Property, and Qualified Advanced Electric Transmission Property:</i> DOE is authorized to provide grants for 50% of costs incurred in the development of advanced transmission property (cable, substation, integrated facility) that: is “reasonably likely to become commercially viable within 10 years;” is capable of reliably transmitting 5 gigawatts of high voltage electricity greater than 300 miles with losses less than 3%; does not produce an electromagnetic field; has been determined to be in the public interest by relevant regulatory body, and; meets safety requirements; grants only made to first eligible project; appropriation of at most \$100 million in 2010.
Subtitle G	Technical Corrections to Energy Laws
	Not Summarized – Contains significant appliance and equipment efficiency standard changes
Subtitle H	Energy and Efficiency Centers and Research
SEC. 171	<i>Energy Innovation Hubs:</i> <ul style="list-style-type: none"> • DOE shall establish 8 innovation centers, each with a unique focus, to encourage research and commercialization of clean energy technologies • Centers must be home to at least 2 research universities with a combined annual budget of \$500 million and one additional governmental or non-governmental partner with research or commercialization expertise • Centers funded with allowances allocated under Sec. 782(h) (1% of annual allowances)
SEC. 172	<i>Advanced Energy Research:</i> the DOE’s Advanced Research Projects Agency-Energy shall distribute allowances allocated under section 782(h) on a competitive basis to developers of advanced energy technologies; funding shall supplement, not supplant existing federal funding
SEC. 173	<i>Building Assessment Centers:</i> DOE shall distribute funding to higher education institutions to identify and promote mechanisms to increase efficiency and integration of renewable energy in buildings; \$50 million in annual appropriations from 2010 onward
SEC. 174	<i>Centers for Energy and Environmental Knowledge and Outreach:</i> DOE shall establish not more than 10 Centers for Energy and Environmental Knowledge and Outreach at institutions of higher education; Centers shall support building assessment, clean energy research, industrial research, workforce training; \$30 million in appropriations from 2010 onward, with at least \$5 million for workforce training; DOE shall additionally award \$10 million in loans annually to small businesses to implements recommendations of Centers
SEC. 175	<i>High Efficiency Gas Turbine Research, Development, and Demonstration:</i> DOE shall oversee the research and development gas turbines with 65% efficiency; competitive bidding with emphasis on job creation and technological advancement in U.S.; annual appropriations of \$65 million for 2011-2014
Subtitle I	Nuclear and Advances Technologies
SEC. 181-191	<i>Clean Energy Deployment Administration:</i> DOE shall establish a self-sustaining Clean Energy Deployment Administration to supplement private capital market in the development of high commercial risk clean energy technologies, energy infrastructure, efficiency technologies, and manufacturing of such technologies; supported through \$7.5 billion in Treasury-backed Green Bonds;
Subtitle J	Miscellaneous
SEC. 195	<i>Increased Hydroelectric Generation at Existing Federal Facilities:</i> Secretaries of Interior, Energy, and Army shall investigate the potential for increasing electric power production capability at federally owned dams
SEC. 196	<i>Clean Technology Business Competition Grant Program:</i> DOE authorized to provide

	grants to non-profit organizations (those eligible for 501(c)(3) status) to conduct business competitions to develop and deploy clean energy technologies; support through \$20 million in appropriations
SEC. 197	National Bioenergy Program: DOE shall establish partnership to coordinate actions among states and regions to support development of sustainable biomass fuels and bioenergy technologies; annual appropriations of \$7.5 million for 2010-2014
SEC. 198	Office of Consumer Advocacy: an office of consumer advocacy is established within FERC with the authority to investigate consumer complaints and rate structures, and to require disclosure in the interest of consumers
SEC. 199	Development Corporation for Renewable Power Borrowing Authority: DOE and Department of Commerce shall investigate power marketing authority for renewable energy nationwide and propose the establishment of a new Federal lending authority to the Energy and Commerce Committee: appropriation of \$25 million in 2010 to carry out study
SEC. 199a	Study: DOE shall study the use of thorium-fueled nuclear reactors for national energy needs
Title II	Energy Efficiency
Subtitle A	Building Energy Efficiency Programs
SEC. 201	Greater Energy Efficiency in Building Codes: the national model building energy codes and standards shall be updated to achieve 30% energy savings from the time of enactment and 50% by 2015; subsequently every 3 years codes shall achieve an addition 5% savings relative to baseline; goals shall include technologically feasible and cost-effective measures and drive towards net-zero-energy buildings; codes will also be established that increase the solar reflectance of roofs; states must certify that they have updated their codes to meet or exceed the new federal code; incentive funding from 0.5% allowance allocation (Sec. 782(g)) with proceeds into SEED funds (Sec. 131); distribution among states as follows: one-fifth equally distributed; two-fifths based on relative building energy use; two-fifths based on building construction starts; allowance allocations under this section and federal codes funding may be withheld from non-compliant states; appropriations of \$25 million annually for 2010-2020 to DOE for program administration
SEC. 202	Building Retrofit Program: <ul style="list-style-type: none"> • EPA in collaboration with DOE shall develop a cost-effective program to retrofit single and multi-family residences and nonresidential buildings; DOE in collaboration with EPA shall develop a cost-effective program for commercial buildings; both in consultation with HUD • Supported through 5.5% of allocation to SEED Fund (Sec. 132); administration by state energy offices; over time funding is performance based • Specific award levels have been written into the legislation • Appropriations of \$50 million to EPA and \$20 million to DOE for administration
SEC. 203	Energy Efficient Manufactured Housing: supports upgrading units constructed before 1976 to Energy Star; funding through the State Energy Offices for rebates and destruction/recycling of old units; funding support from SEED fund (Sec. 132)
SEC. 204	Building Energy Performance Labeling Program: establishes a new building energy labeling program for residential and commercial buildings; requires additional research and data collection on building energy performance; implementation through the State Energy Offices; funding support from SEED fund (Sec. 132); for 2010-2020 appropriations of \$50 million to EPA and \$10 million to DOE for administration, with DOE receiving an additional \$10m in 2010; applies only to construction beginning after the date of enactment of this act

SEC. 205	<i>Tree Planting Programs:</i> DOE shall establish a grant program to support tree plantings to reduce energy usage and improve air quality; funding only to support agreements between nonprofit tree-planting organizations and retail energy providers (<i>i.e.</i> electricity, natural gas, fuel oil); placeholder language for appropriation of funds
SEC. 206	<i>Energy Efficiency for Data Center Buildings:</i> amends the Energy Independence and Security Act of 2007 to expedite efficiency programs for data centers
SEC. 207	<i>Community Building Code Administration Grants:</i> HUD shall provide competitive grants to local building code enforcement departments that provide matching funds; annual appropriations to HUD of \$20 million for 2010-2014
SEC. 208	<i>Solar Energy Systems Building Permit Requirements for Receipt of Community Development Block Grant Funds:</i> establishes cost requirements for grant-funded solar systems
SEC. 209	<i>Prohibition of Restrictions on Residential Installation of Solar Energy System:</i> HUD shall establish regulations prohibiting covenants that impair the installation of solar energy systems
Subtitle B	Lighting and Appliance Energy Efficiency Programs
SEC. 211	<i>Lighting Efficiency Standards:</i> creates new efficiency standards for a limited set of lighting products, such as outdoor lights
SEC. 212	<i>Other Appliance Efficiency Standards:</i> creates new efficiency standards for water dispensers, hot food holding cabinets, portable spas, and commercial furnaces
SEC. 213	<i>Appliance Efficiency Determinations and Procedures:</i> makes changes to the process of establishing appliance and equipment efficiency standards; states given authority to enforce standards
SEC. 214	<i>Best-in-Class Appliances Deployment Program:</i> provides incentives to reward: retailers for sales of high efficiency appliances; the replacement and recycling of old products, and; the manufacture of new efficient products; appropriations of \$600 million to DOE for 2011-2013 in support of program
SEC. 215	<i>Watersense:</i> EPA to create a new program to reduce water and associated energy usage through performance labeling of products, buildings, landscapes and services; appropriations of \$7.5 million for 2010, \$10m for 2011, \$20m for 2012, and \$50m for each year thereafter
SEC. 216	<i>Federal Procurement of Water Efficient Products:</i> requires the federal government to purchase products and services within the top 25% of water efficiency
SEC. 217	<i>Early Adopter Water Efficient Product Incentive Programs:</i> EPA to create a program to support end-user water efficiency improvements: allocations to eligible utilities, local governments, or other organizations to support local programs; appropriations of \$50 million for 2010, \$100m for 2011, \$150m for 2012, \$100m for 2013, and \$50m for 2014
SEC. 218	<i>Certified Stoves Program:</i> EPA to establish a program to increase the efficiency of wood and pellet stoves through minimum efficiency standards, and funding for replacement or refurbishing of old, inefficient stoves; appropriations of \$20m for 2010-2014; 25% designated to Indian tribes, 3% designated to Alaskan native villages, and 72% available nationwide
SEC. 219	<i>Energy Star Standards:</i> update and clarification of Energy Star standards
Subtitle C	Transportation Efficiency
SEC. 221	<i>Emissions Standards:</i> requires new vehicle emissions standards that reflect the greatest degree of achievable emissions reductions with available technology; standards also required

	for heavy-duty engines, non-road vehicles and engines, and aircraft; trading of credit may be allowed among companies
SEC. 222	<i>Greenhouse Gas Emissions Reductions through Transportation Efficiency:</i> requires states and Metropolitan Planning Organizations (MPOs) to develop new/revised transportation plans and strategies to achieve GHG emission reduction goals; amends US Code (title 23) to incorporate efficiency objectives; noncompliant states lose federal funding
SEC. 223	<i>Smartway Transportation Efficiency Program:</i> EPA to establish a program to quantitatively evaluate, demonstrate, and promote technologies, products, fuels, and operating procedures that reduce energy consumption and emissions from mobile sources; includes a significant focus on freight technologies and opportunities; placeholder language for appropriation of funds
SEC. 224	<i>State Vehicle Fleets:</i> requires updating of existing rules based on SEC. 303
Subtitle D	Industrial Energy Efficiency Programs
SEC. 241	<i>Industrial Plant Energy Efficiency Standards:</i> DOE to develop industrial plant energy efficiency certification standards for American National Standards Institute (ANSI) standards and benchmarking; placeholder language for appropriations
SEC. 242-3	<i>Electric and Thermal Energy Efficiency Award Programs:</i> DOE to develop an awards program for fossil and nuclear power plants that recover high levels of thermal energy that is a byproduct of electric generation; program is eligible for SEED funding (Sec. 132); additional placeholder language for appropriations
SEC. 244	<i>Motor Market Assessment and Commercial Awareness Program:</i> DOE to investigate motor energy usage and recommend means of increasing motor efficiency awareness and data collection in motor market
SEC. 245	<i>Motor Efficiency Rebate Program:</i> DOE to issue rebates for purchase of efficient motors and disposal/reprocessing of old motors: \$25/hp for buyer, \$5/hp for distributor disposal; appropriations of \$350m from 2011-2105
SEC. 246	<i>Clean Energy Manufacturing Revolving Loan Fund Program:</i> EPA to provide states with funding for loans to small and medium sized manufacturers of renewable energy components and energy efficient technologies; grants may not exceed \$500m annually; states must provide at least 20% of loan funding; appropriations of \$15 billion for 2010 & 2011
SEC. 247	<i>Clean Energy and Efficiency Manufacturing Partnerships:</i> amends National Institute of Standards and Technology Act (15 U.S.C. 278(k)) to include clean energy manufacturing activities as eligible for support through regional centers for manufacturing technology; appropriations of \$1.5 billion from 2010-2014
Subtitle E	Improvements in Energy Savings Performance Contracting:
SEC. 251	<i>Energy Savings Performance Contracting:</i> for federal agencies, increases the competitiveness of performance contracting, expands contracting to combined heat and power and renewable thermal energy, among other minor changes
Subtitle F	Public Institutions
SEC. 261	<i>Public Institutions:</i> technical changes to 339A of the Energy Policy and Conservation Act to add non-profit hospitals and health care facilities, and increase potential funding levels
SEC. 262	<i>Community Energy Efficiency Flexibility:</i> Amends Energy Independence and Security Act (EISA) to remove limits on Energy Efficiency Conservation Block Grant (EECBG) funding to communities

SEC. 262	<i>Small Community Joint Participation:</i> Amends EISA to allow small communities to jointly receive funding through EECBG program
SEC. 264	<i>Low Income Community Energy Efficiency Program:</i> DOE may provide grants to private, non-profit community development organizations to improve energy efficiency and develop alternative, renewable and distributed generation projects; appropriations of \$50 million for 2010-2015
SEC. 265	<i>Consumer Behavior Research:</i> DOE authorized to make grants to higher educational institutions to identify factors affecting consumer actions to conserve energy and improve energy efficiency; placeholder language for appropriations
Subtitle G	Miscellaneous – not summarized
Subtitle H	Green Resources for Energy Efficient Neighborhoods
SEC. 282-299	Broad support for energy efficiency and clean energy in federal housing and construction initiatives, including: <ul style="list-style-type: none"> • Incorporation of efficiency standards in all HUD programs (Sec. 283 & 284) • Demonstration projects for increasing efficiency of multi-family housing (Sec. 285) • Incorporation of energy efficiency and location efficiency in federal mortgage program goals (Sec. 286-290) • Ensuring availability of homeowner’s insurance for homes not connected to the grid (Sec. 291) • Financing incentives for energy efficient housing (Sec. 292-294) • Tree-planting partnerships for HUD building programs (Sec. 295) • Residential Energy Efficiency Block Grant Program (Sec. 296) • Incorporation of sustainable development and transportation strategies in housing affordability (Sec. 297) • Grant program to increase sustainable low-income community development capacity (Sec. 298) • Incorporation of green building standards in Hope VI and other housing programs (Sec. 299)
Title III	Reducing Global Warming Pollution (Cap and Trade)
Subtitle A	Reducing Global Warming Pollution
SEC. 311	<i>Reducing Global Warming Pollution:</i> Amends the Clean Air Act with the following: <ul style="list-style-type: none"> • Emission reduction requirements: <ul style="list-style-type: none"> ○ National greenhouse gas emissions shall achieve the following levels(Sec. 702): <ul style="list-style-type: none"> ▪ In 2012 emissions shall not exceed 97% of 2005 emissions levels ▪ In 2020 emissions shall not exceed 83% of 2005 emissions levels ▪ In 2030 emissions shall not exceed 58% of 2005 emissions levels ▪ In 2050 emissions shall not exceed 17% of 2005 emissions levels ○ Emissions sources covered by the cap shall achieve the same reductions in emissions following the schedule above (Sec. 703) ○ Allowance value will be used to achieve an additional 10% reduction in emissions from 2005 levels through investment in programs to reduce deforestation in developing countries (Sec. 704) ○ Scientific Review: every 4 years the EPA shall undertake a review of the latest scientific and technological information, status of domestic and international GHG reduction efforts, and make broad recommendations, including increasing the quantity of additional reductions needed to achieve the goals of this Act (Sec.

705); the National Academy of Sciences will issue similar reports every 4 years; the President is then directed to take appropriate action based on the report (Sec. 706)

- Greenhouse Gases Regulated: carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons emitted as byproduct, perfluorocarbon, nitrogen trifluoride, and any other gas EPA, in consultation with Scientific Advisory Board, determines is a greenhouse gas (Sec. 711); initial carbon dioxide equivalent (CO_{2e}) values for GHGs listed (Sec. 712)
- Greenhouse Gas Registry (Sec. 713):
 - Entities that must report: any entity covered by the cap and trade program and entities that emitted over 10,000 tons of CO_{2e} in years prior to 2009, entities that emit over 10,000 tons of CO_{2e} in subsequent years, vehicle fleets that emit over 25,000 tons of CO_{2e} in a year, entities that sold over 184 million cubic feet of natural gas, and other entities if EPA determines it would help achieve the purpose of ACES
 - Reporting required for the years 2007 to 2010 by March 31, 2011; subsequent data reported within 60 days of the end of a quarter; data to be available as soon as practicable over the Internet
- Emissions Allowances: the quantity of emissions allowances issued in each year is established, with an opportunity for EPA to adjust the numbers if they prove to inaccurately represent the emissions from covered entities (Sec. 721)
- Compensatory Allowances: a separate allowance type is created for: the destruction of fluorinated gases, if emissions allowances were retired for their production and they are required to be destroyed under other laws; the non-emissive use of fossil fuel as feedstock, if allowances were retired for the GHGs that would have been emitted from their combustion; the consumptive use of fluorinated gases in production processes, if emissions allowances were retired for their production
- Compliance Obligation and Covered Entities (Sec. 722 & 700):
 - Each year (April) covered entities must hold a quantity of emissions allowances in excess of the quantity of emissions in the previous calendar year; allowances shall be retired by EPA
 - Covered Entities: any electricity source, entity that emits directly or produces/imports liquid fuels equivalent to over 25,000 tons of CO_{2e} emissions per year, or specific industrial sources (see Sec. 700, definition of Covered Entity for details):
 - Fuel producers and importers: responsible for each ton of CO_{2e} that will be emitted from the combustion of any petroleum based or coal based liquid fuel, petroleum coke, or natural gas liquids produced or imported by the entity starting in 2012
 - Fluorinated gas producers and importers: responsible for each ton of CO_{2e} from fluorinated gases produced or imported by the entity starting in 2012
 - Electricity sources: responsible for each ton of CO_{2e} emitted by the entity, excluding those from fuel producers and importers, renewable biomass, and fluorinated gases starting in 2012
 - Geological sequestration sites: responsible for each ton of CO_{2e} emitted by the entity starting in 2012
 - Industrial stationary sources: responsible for each ton of CO_{2e} emitted by the entity, excluding those from fuel producers and importers, renewable biomass, and fluorinated gases starting in 2014
 - Industrial fossil fuel-fired combustion devices: responsible for each ton of CO_{2e} emitted by the entity, excluding those from fuel producers and importers, renewable biomass, and fluorinated gases starting in 2014

- Natural gas distribution companies: responsible for each ton of CO_{2e} that will be emitted from the combustion of natural gas delivered, excluding to covered entities starting in 2016
 - EPA may lower the threshold in 2020 for covered entities to those that emit more than 10,000 tons of CO_{2e}
- Penalties: entities who fail to hold sufficient allowances shall pay a penalty equal to two times the last auction clearing price for the earliest vintage allowances for each allowance that they should have submitted to EPA and shall have to retire allowances equal to the emissions in the following year(s) (Sec. 723)
- Trading: allowances may be traded among any entity or person (Sec. 724) and qualified international emissions allowances may be used for compliance (Sec. 728)
- Banking: allowances may be banked for use in subsequent years (Sec. 725)
- Borrowing: allowances may be used for the calendar year one year before the vintage year of the allowance without penalty; a covered entity may borrow allowances from up to 5 years in the future at 8% annual interest to cover up to 15% of their emissions (Sec. 725)
- Offsets (Sec. 722, 731-743, & 500-511 of Title V, below):
 - Offsets may be used for compliance, with 1 offset required for each ton of emissions; after 2018, 1.25 international offsets are required for each ton of emissions
 - Offsets may be used for approximately 30% of a covered entity's compliance obligation in early years, with the percentage of compliance increasing over time (even as the total quantity of allowable offsets decreases)
 - Not more than one-half of offset compliance percentage may come from either offset category; if insufficient domestic offsets exist, EPA may increase use of international offsets
 - Term offsets (offsets certified only for a certain period of time) may be used for compliance, so long as replacement offsets or credits are provided by the regulated entity after expiry of term
 - An Offsets Integrity Advisory Board is established to make recommendations to EPA on all elements of non-agricultural, non-forestry offsets including types of offsets to include and methodologies for addressing additionality, leakage, permanence, and other issues (Sec. 731)
 - Within 2 years of passage of this Act, EPA will issue regulations for non-agricultural, non-forestry offsets establishing additionality, permanence, and verification standards; EPA may impose fees to cover the administrative costs of reviewing and issuing offsets credits
 - Based on input from the advisory board, EPA shall issue a list of eligible non-agricultural, non-forestry offsets project types which can be revised at any time; suggestions for additions or removal of offset types can be made through public petition
 - Within 1 year of passage of Act, USDA to establish offset program for agricultural and forestry offsets, in consultation with USDA GHG Emission Reduction and Sequestration Advisory Committee; initial list of eligible project types provided (Sec. 503)
 - Standardized methods will be established by project type for assessing: additionality and business as usual level of baseline activity, measurement, leakage, and uncertainty
 - For sequestration projects a system will be established to ensure that any reversal of sequestration is addressed through an offsets reserve, an insurance program, or other mechanisms
 - Offsets projects will receive credit for emissions reductions over a 5-10 year

- period, with potential opportunity to apply for additional periods; sequestration projects are not subject to this time limit
- Offsets must be verified by an accredited third party entity and credit will only be issued after the emissions reduction occurs and has been verified
 - Offsets from projects initiated after Jan. 1, 2001 under existing U.S. offset programs may be qualified if certain requirements are met
 - International offsets credits may be approved if a bilateral or multi-lateral agreement is in place and after a thorough review of a large number of issues and requirements is conducted; a list of eligible countries will be established
- Strategic Reserve Allowances (Sec. 726):
 - EPA will reserve 1% of allowances for strategic reserve (percent increases to 3% by 2030) and will auction reserve allowances quarterly to regulated entities only
 - A minimum auction price will be set at \$28/ton (twice the initial EPA-modeled price for allowances in 2012), increasing at 5% plus inflation; starting in 2015 the minimum price will be 60% above the three year average market price for allowances;
 - Allowances can accumulate in the reserve and no more than 5% of total allowances issued in a given year can be sold between 2012 and 2016, with the percentage increasing to 10% in subsequent years
 - Regulated entities can only purchase allowances from the reserve for up to 20% of their emissions in the prior year
 - Revenue from the auction shall be used to invest in international offsets that reduce deforestation, with offsets converted to allowances at a 20% discount and those allowances deposit back in the reserve
 - International Allowances (Sec. 728): qualified international allowances may be used if approved by EPA, in consultation with the Secretary of State, if the international program has a mandatory absolute tonnage cap and is at least as stringent as the U.S. program, including qualitative and quantitative offset controls
 - Supplemental Emissions Reductions from Reduced Deforestation (Sec. 751-756): a program will be established by EPA using allowance value allocated under Sec. 781 to achieve additional emissions reductions (beyond the cap) through support for reduced international deforestation; projects may be implemented by a range of entities and mechanisms, with clear standards, accounting, reporting, and review, where relevant EPA shall consult with Dept. of Agriculture
 - Carbon Market Assurance (Sec. 401): broad authority is given to Federal Energy Regulatory Commission (FERC) to oversee the regulated allowance markets created by this Act, including: establishment of strict market regulations; rule enforcement capabilities; authority to restrict entities from participating in markets; penalty imposition, etc; in addition the President may delegate similar authority to other agencies to establish regulations for allowance derivatives; market manipulation, fraud, and false and misleading statements or reports are a felony offense with hefty fines, imprisonment, and prohibitions on trading.
 - Disposition of Allowances (Sec. 781-782) for proportional allocations over time see Figure 2, above. Allocation categories:
 - Supplemental Emissions Reductions (reduced deforestation): decreases from 5%; supports programs to reduce emissions in developing countries (Sec. 753)
 - Electricity Consumers: decreases from 43.75%; receipt by local distribution company (LDC) under state supervision, long-term contract generator, or merchant coal generator; intended to prevent electricity price increases; allocation to LDCs one-half based on emissions, one-half based on electricity sales; allocation to long term contract generators based on emissions; allocation to

- merchant coal based on one-half of emissions; (Sec. 783)
- Small electricity LDCs: decreases from 0.5%; receipt by LDCs delivering less than 4 million MWhs of electricity annually; allowances distributed ratably based on emissions; may be used to support energy efficiency, renewable energy, or low income rate relief (Sec. 783)
- Natural Gas Consumers: decreases from 9%; allocation to LDC under state supervision; based on gas deliveries; intended to prevent price increases; one-third of allowances to support cost-effective efficiency investments (Sec. 784)
- Home Heating Oil and Propane Consumers: decreases from 1.875%; to support state-supervised efficiency programs and rebates for users of heating oil and propane; allocated among states based on share of national emissions from heating oil and propane; at least 50% must support efficiency programs with priority given to existing programs (Sec. 785)
- Low-Income Consumers: fixed at 15% to provide cash rebates to low-income consumers to compensate for reduced purchasing power resulting from ACES (Sec. 431)
- Trade-Vulnerable Industries: decreases from 15% (Sec. 765)
- Deployment of Carbon Capture and Sequestration Technology: increases from 1.75% (Sec. 786)
- Investment in Energy Efficiency and Renewable Energy: decreases from 9.5% (Sec. 132)
- Energy Innovation Hubs: fixed at 0.45% (Sec. 171)
- Advanced Energy Research: fixed at 1.05%; support Advanced Research Projects Agency – Energy (Sec. 172)
- Investment in Clean Vehicle Technology: decreases from 3% (Sec.124)
- Domestic Fuel Production: fixed at 2% through 2026; allocation based on emissions intensity of production (Sec. 787)
- Small Business Refiners: fixed at 0.25% through 2026: distributed based on emission intensity of production Investment in Workers: increases from 0.5% (proceeds to Sec. of Labor); an additional 0.75% of allowances provided in 2012 & 2013 to support Energy Efficiency and Renewable Energy Worker Training Fund (Sec. 422)
- Domestic Adaptation: increases from 0.9% (Sec. 453)
- Wildlife and Natural Resource Adaptation: increases from 0.39% (Sec. 480)
- International Adaptation: increases from 1% (Sec. 493)
- International Clean Technology Deployment: increases from 1% (Sec.443)
- Compensation for Early Actors: 1% for 2012; to be distributed to owners of offsets deemed eligible by EPA (Sec. 795)
- Supplemental Agriculture and Renewable Energy: 0.28% of allowances from 2012-2016; to support non-offset reductions in agricultural emissions with not less than one-half of allocation; remainder to states for renewable energy (Sec. 788)
- Allowances not allocated from 2012-2026 shall be auctioned, with proceeds returned to Treasury
- Allowances not auctioned from 2026-2050 shall be auctioned, with proceeds distributed as per capita tax rebates to citizens and lawful residents (Sec. 789)
- Allowances from 12-17 years after auction shall be auctioned, with proceeds returned to the Treasury; 0.65 billion allowances from 2026-2033 auctioned in 2014-2019; 0.55 billion allowances from 2032-2039 auctioned in 2020-2025; 0.3 billion allowances from 2038-2045 auctioned in 2026-2030 (Sec. 789)
- Exchange for State Issued Allowances: CA, WCI, and RGGI allowances may be exchanged for federal allowances at a quantity sufficient to compensate for the cost of

	<p>purchasing the state allowances, with the quantity of federal allowances auctioned to provide low-income rebates (Sec. 782(d)) reduced by the number of federal allowances exchanged (Sec. 790)</p> <ul style="list-style-type: none"> ● Auction Procedures (Sec. 791): <ul style="list-style-type: none"> ○ Auctions will be held quarterly starting no later than the first quarter of 2011 ○ Auctions will include both allowances from that vintage year and from future years and the format will be single round, sealed bid, uniform price ○ Allowances shall not sell below the auction reserve price, initially set at \$10/ton and increasing annually by 5% plus the rate of inflation ○ Financial assurance, disclosure of beneficial ownership, and purchase limits will be established ○ Auction results will be made available in a timely fashion ○ EPA may establish other requirements or change the design if more effective alternatives are found ○ A Small Business Refiner Reserve (decreasing from 6.2% of allowances) made available to small business refiners at average allowance price for previous 12 months; may only be used for compliance (Sec. 791) ○ Allowances held by other entities may be auctioned on their behalf on consignment with proceeds returned directly to consigning entities (Sec. 792) ○ Comptroller General shall review and evaluate all programs receiving allowances or proceeds from the sale of allowances (Sec. 794)
Title VIII	Additional Greenhouse Gas Standards
SEC. 331	<p><i>Stationary Source Standards:</i></p> <ul style="list-style-type: none"> ● EPA will establish performance standards for uncapped stationary sources of over 10,000 ton of CO₂e per year, which cover at least 20% of the remaining uncapped emissions ● The standards will be designed to achieve the emissions reductions targets of ACES and do so at a cost equivalent to the cost of compliance for capped sources (based on allowance prices) ● GHG emissions are exempt from other Clean Air Act requirements, given their inclusion under the new requirements of ACES
SEC. 332	<p><i>HFC Regulation:</i></p> <ul style="list-style-type: none"> ● Amends Clean Air Act to establish regulations on hydrofluorocarbons listed as GHGs to phase down their the production and use ● A closed cap and trade program is established for producers and importers with allowances increasingly auctioned over time ● By 2020 use should decline to 67% of the baseline established, 25% by 2030, and 15% after 2032 ● An offset program is established for the destruction of HFCs ● Limited exceptions exist for essential uses
SEC. 333	<p><i>Black Carbon:</i></p> <ul style="list-style-type: none"> ● EPA shall develop a report on the climate impacts of black carbon, sources in the U.S., opportunities for control, co-benefits of control, and other issues ● EPA shall use the existing authority of the Clean Air Act to address the climate and health effects of black carbon
SEC. 334&5	<p><i>States and State Programs:</i></p> <ul style="list-style-type: none"> ● States maintain the authority to exceed the federal standards established in the clean air act, including through cap and trade;

	<ul style="list-style-type: none"> But, for the first six years of the federal cap and trade program, states shall not be permitted to have a cap and trade program (<i>i.e.</i> RGGI); policies like Pavley and LCFS are not preempted
SEC. 336	Enforcement: not summarized
SEC. 337	Conforming Amendments: not summarized
SEC. 338	Davis-Bacon Compliance: Recipients of allowances or allowance proceeds must demonstrate that laborers and employees are paid the prevailing wages for work in the field, as determined by the Secretary of Labor
SEC. 339	National Strategy for Domestic Biological Carbon Sequestration: EPA, in consultation with Departments of Energy, Agriculture, and Interior to submit a report, not later than 1 year after enactment of ACES, setting forth a comprehensive strategy to maximize biological carbon sequestration potential in the United States
SEC. 340	Reducing Acid Rain and Mercury Pollution: EPA to evaluate the effect of GHG reduction strategies on mercury and acid rain pollution and make recommendations for reducing such pollution
Subtitle D	Carbon Market Assurance
SEC. 341	Carbon Market Assurance: Establishes broad authority for FERC to regulate carbon markets, including related financial instruments, to prohibit fraud, market manipulation, excess speculation, and limit unreasonable fluctuation in allowance prices
Subtitle E	Additional Market Assurance
SEC. 351	Regulation of Certain Transactions in Derivatives Involving Energy Commodities: Establishes broad authority for Commodities Futures Trading Commission (CFTC) to regulate fuel markets, including related financial instruments to prohibit fraud, market manipulation, excess speculation, and limit unreasonable fluctuation in fuel prices
Title IV	Transitioning to a Clean Energy Economy
Subtitle A	Ensuring Real Reductions in Industrial Emissions
Subpart 1	<p>Ensuring Real Reductions in Industrial Emissions (SEC. 761-764):</p> <ul style="list-style-type: none"> Purposes: to avoid significant additional emissions from sources in other countries due to out-migration of energy- and emissions-intensive industries (metal, glass, chemical, cement, pulp & paper, etc.) in response to cap and trade induced production cost increases; to provide limited compensation through rebates to eligible industrial sources who are subject to significant international competition; Distribution of Rebates: rebates will be distributed only to industries that are especially energy and carbon intensive and have a high level of trade intensity; distribution among entities is based primarily on energy and emissions intensity of their facilities; Phase Out: starting in 2021 the program will begin to phase out, with earlier or later phase out/cancellation possible depending on progress in other countries toward limiting emissions Funded through declining allowance allocations, per Sec. 782
Subpart 2	<p>Promoting International Reductions in Industrial Emissions (SEC. 765-769):</p> <ul style="list-style-type: none"> It should be policy of the U.S. to negotiate under the UNFCCC framework to have all countries equitably reduce GHG emissions

	<ul style="list-style-type: none"> By 2018 the President should assess the impact of U.S. regulations on international competitiveness and could require importers of primary goods to hold allowances equivalent to the emissions associated with production (excludes the least developed countries and countries that meet the standards provided in Sec. 767(c) and would not be implemented before 2020)
Subtitle B	Green Jobs and Worker Transition
SEC. 421	Clean Energy Curriculum Development Grants: the Dept. of Education is to provide grants on a competitive basis to fund programs of study in energy efficiency, renewables, and climate change mitigation
SEC. 422	Workforce Training and Education in Clean Energy, Energy Efficiency, Climate Change Mitigation, and Sustainable Environmental Practices: the Dept. of Labor is to provide grants to institutions of higher learning for work force training and development; appropriations of \$25 million
SEC. 423-4	Development of Information and Resources Clearinghouse for Vocational Education and Job Training in Renewable Energy Sectors: Sec. of Labor, in consultation with Sec. of Education to develop internet-based resources to aid job training in renewable energy field; Sec. of Labor, in consultation with DOE, to establish a green career demonstration project and apprenticeships; Sec. of Labor to monitor quantity of affected and displaced workers to ensure sufficient funding
SEC. 425-7	Climate Change Worker Assistance: workers suffering employment loss owing to ACES may petition Secretary of Labor for payment of 70% of lost wages for 3 years, job training, and health care premium payments
Subtitle C	Consumer Assistance
SEC. 431	Energy Refund Program: Health and Human Services (HHS) to create program to deliver cash payments to low income households to counter the effect of reductions in purchasing power owing to ACES
SEC. 432	Modification of Earned Income Tax Credit Amount for Individuals with No Qualifying Children: expands earned income tax credit to households that HHS determines experienced a reduction in purchasing power owing to ACES
SEC. 443	Protection of Social Security and Medicare Trust Funds: Treasury shall transfer funds to Social Security and Medicare to compensate for impacts of ACES
Subtitle D	Exporting Clean Technology (SEC. 441-446): establishes a fund to assist with widespread international adoption of clean energy technologies; overseen by an interagency group; funding only to countries that have adopted international treaties related to reducing GHG emissions, are adopting mitigation strategies to reduce emissions, and respect intellectual property rights; funding can be distributed in a number of ways including through the World Bank and UNFCCC; funding can only be for projects aimed at reducing emissions, including CCS, renewables, efficiency, and transportation efficiency and for low carbon content fuels; there are criteria for project selection and overall program reporting requirements
Subtitle E	Adapting to Climate Change
Part 1	Domestic Adaptation

Subpart A	<p><i>National Climate Change Adaptation Program</i> (SEC. 451-467):</p> <ul style="list-style-type: none"> • Office of Science and Technology Policy shall lead in the development of an interagency Global Change Research and Assessment Plan to improve understanding of global change, to disseminate information, and to provide periodic assessments of the vulnerability of the United States and other regions to climate change; \$10m in appropriations from 2009-2104 to Office of Science and Technology Policy to develop plan • Plan shall establish research needs and set forth roles for Federal agencies in implementing plan; plan reported to Congress within 1 year of enactment of Act • Plan to study domestic vulnerability, hurricane frequency, impacts of melting ice sheets, and other relevant climate change impacts. Office of Science and Technology Policy to develop and publish a national climate change vulnerability assessment every 4 years • Commerce and NOAA shall establish a climate service to serve as a clearing house for relevant climate change impacts and adaptation data, information, and forecasts • Each agency is required to develop a climate change adaptation plan every 4 years • There is established a national climate change adaptation fund to assist states, local governments, and tribal governments in implementing projects to reduce vulnerability to climate change impacts; funded through allowance allocation under Sec. 782
Subpart C	<p><i>Natural Resource Adaptation</i> (SEC. 471-482):</p> <ul style="list-style-type: none"> • The activities in this subpart are to be overseen by the Council on Environmental Quality, with consultation with an interagency panel • A natural resource climate change adaptation strategy shall be developed to promote natural resource resilience to climate change and adaptation to climate change and ocean acidification • A natural resource climate change adaptation science and information program shall be established through NOAA and the USGS to provide technical assistance, conduct research, and conduct a survey of ocean acidification, with input from a science advisory board • Relevant agencies shall develop natural resource agency adaptation plans that address impacts and needed actions • States that develop comprehensive natural resource adaptation plans will be eligible to receive funds from a new natural resource adaptation fund that will also support federal agency activities
Part 2	<p><i>International Climate Change Adaptation Program</i> (SEC. 491-496):</p> <ul style="list-style-type: none"> • Establishes an international climate change adaptation program within USAID to assist the most vulnerable developing countries developing and implementing climate change adaptation programs, consistent with U.S. foreign policy • Funding may be partially distributed by an international fund established for such purposes if one exists • Regular evaluations of performance and reporting are required
Subtitle F	Deficit Neutral Budgetary Treatment
SEC. 496	<i>Deficit Neutrality:</i> ensures budget neutrality of ACES supported programs
Title V	<i>Agriculture and Forestry Related Offsets</i>
Subtitle A	Offset Credit Program from Domestic Agricultural and Forestry Sources
SEC. 500-511	<ul style="list-style-type: none"> • Department of Agriculture to oversee domestic agriculture and forestry offset projects

	<ul style="list-style-type: none"> • Taking into account recommendations of USDA GHG Emission Reduction and Sequestration Advisory Committee, Secretary of Agriculture to determine eligible project types and methodologies within 1 year of enactment of Act; initial project type list included (Sec. 503) • Existing offset project may be eligible if achieve positive EPA determination under Sec. 740. • Defines protocols for offset application and determination (Sec. 505-507) • Program to be reviewed every 5 years
Subtitle B	USDA Greenhouse Gas Emission Reduction and Sequestration Advisory Committee
SEC. 531	<ul style="list-style-type: none"> • Food Security Act of 1985 amended to include USDA GHG Emission Reduction and Sequestration Advisory Committee; 9 members appointed by Secretary of Agriculture shall be qualified by education, training and experience to evaluate domestic agriculture and forestry offset mechanism • Committee to provide options and recommendations on offset types and protocols within 180 days of enactment of Act • Scientific review required by 2017 and 5 year intervals thereafter
Subtitle C	Miscellaneous
SEC. 551	<i>International Indirect Land Use Changes:</i> Clean Air Act amended to prohibit EPA from investigating deforestation and other indirect land use changes caused by domestic biofuel production; National Academies of Science to assess accuracy of indirect land use calculations; five years after enactment of ACES EPA and DOA to issue joint determination on inclusion of indirect land use in lifecycle GHG emissions calculations for biofuels
SEC. 552	<i>Grandfathering Biomass-Based Biodiesel:</i> biodiesel plants that commenced construction before enactment of Energy Independence and Security Act of 2007 exempted from lifecycle GHG considerations
SEC. 553	<i>Modification of Definition of Renewable Biomass:</i> renewable biomass definition expanded to include algae, municipal solid waste, animal waste, agricultural grains and wastes, construction wastes, and food wastes; restrictions on forest biomass sourcing relaxed

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