

Section-by-Section Summary of the “Low Carbon Economy Act” of 2007

The Low Carbon Economy Act is intended to reduce greenhouse gas emissions from the production and use of energy.

Section 2—Findings

This section outlines several Congressional findings, including that:

- under the United Nations Framework Convention on Climate Change, the United States is committed to stabilizing atmospheric concentrations of greenhouse gases (GHGs) at safe levels;
- according to the Intergovernmental Panel on Climate Change, protecting the climate system could require reductions of global GHG emissions equivalent to 50 to 85 percent below 2000 levels by 2050;
- stabilizing GHG emissions at appropriate levels will require a long-term global effort; and
- the United States can and should implement an economy-wide GHG reduction program that includes cost mitigation measures, is periodically reviewed, and encourages development of advanced clean energy technologies.

Section 3—Definitions

This section defines the terms used through the Act. Principal terms include the following:

“Initial allocation period” means the period beginning January 1, 2012, and ending December 31, 2021; and **“subsequent allocation period”** means the 5-year period beginning January 1, 2022, and ending December 31, 2026; and each subsequent 5-year period.

“Covered fuel” means coal; petroleum products; natural gas, including liquefied natural gas; and any other fuel derived from fossil hydrocarbons (including bitumen, kerogen, and coalbed methane).

“Nonfuel regulated entity” means: (a) the owner or operator of a facility that manufactures hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, or nitrous oxide; (b) an importer of hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, or nitrous oxide, or of a product containing hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, or nitrous oxide; (c) the owner or operator of a facility that emits nitrous oxide associated with the manufacture of adipic acid or nitric acid; (d) the owner or operator of an aluminum smelter; and (e) the owner or operator of a facility that emits hydrofluorocarbon-23 as a byproduct of hydrochlorofluorocarbon-22 production.

“Regulated coal facility” means a facility that uses more than 5,000 tons of coal in a calendar year.

“Regulated entity” means: (a) a regulated fuel distributor; (b) the owner or operator of a regulated coal facility; (c) a nonfuel regulated entity; or any other entity the President designates

under section 102 is necessary to ensure that allowances are submitted for all covered GHG emissions.

“Regulated fuel distributor” means: (a) the owner or operator of a petroleum refinery or a natural gas processing plant; or (b) an importer of petroleum products, coke, natural gas liquids, or natural gas (including liquefied natural gas).

This section also provides definitions for the following terms: “carbon dioxide equivalent,” “coal,” “covered greenhouse gas emissions,” “greenhouse gas,” “natural gas processing plant,” “offset project,” and “State.”

Title I—Strategic Reduction Targets, Compliance, and Trading

Section 101—Quantity of Annual Allowances

This section provides a table with the amounts of allowances to be issued for each year of the program. These allowances correspond to a limit on GHG emissions beginning in 2012, with the limit declining to 2006 levels by 2020 and 1990 levels by 2030.

Section 102—Submission of Allowances, Credits, and Payments

Subsection (a) states that, for calendar year 2012 and each calendar thereafter, each regulated entity (*e.g.*, coal facilities, natural gas processing facilities, and petroleum refineries) must submit to the President allowances equal to the CO₂-equivalent emissions associated with the fuel it produces, processes, imports, or consumes. Each nonfuel regulated entity must submit allowances equal to the CO₂-equivalent emissions associated with the non-CO₂ GHGs that it manufactures or imports.

This section notes that a regulated entity can pay the **“technology accelerator payment” (TAP)** price in lieu of submission of an allowance so long as the payment is received in March of the calendar year following the year in which the allowance was required to be submitted. The TAP price is \$12 per metric ton of CO₂ equivalent in 2012 and increases at a rate of 5 percent above the rate of inflation each year thereafter. Funds received under the TAP mechanism are used for technology development and deployment.

Section 103—Trading System for Allowances and Credits

Subsection (a) outlines administrative requirements related to the allowances and credits, namely that allowances: (1) shall be denominated in CO₂-equivalent; (2) may be used during the calendar year for which they are issued or banked for use in a subsequent year; and (3) shall have unique serial numbers so that they may be retired after they are submitted for compliance purposes.

Subsection (b) describes the authority of the President to establish rules for an orderly and transparent allowance trading system, including rules to protect the public from anticompetitive trading behavior.

Title II—Allocation and Auction of Allowances

Section 201—General Allocation and Auction Rules

Subsection (a) specifies the division of allowances between industry, the States, and the allowance auction. The table also sets aside allowances for certain special purposes: agricultural sequestration (see section 205), early reduction allowances (see section 206), and bonus allowances for carbon capture and sequestration (see section 207). The allocations are expressed in terms of percentages of the total amount of allowances issued in each year. The allocation to industry as a whole is 53% in 2012, but, beginning in 2017, the industry allocation declines by 2% each year. At the same time, the percentage that is auctioned grows each year by the same amount.

Allocations to Industry Sectors. Subsection (c) spells out the methodology for allocation of allowances to different sectors within industry. The allocation of industry allowances to each industry sector is as follows*:

- **Coal mines:** 12% of the industry allowances;
- **Petroleum refineries:** 7% of the industry allowances;
- **Natural gas processing facilities:** 4% of the industry allowances;
- **Electricity generating facilities:** 54% of the industry allowances issued;
- **Nonfuel regulated facilities:** 4% of the industry allowances; and
- **Carbon-intensive manufacturing facilities** (defined to include facilities that manufacture iron and steel, aluminum, pulp and paper, cement, or chemicals or such other products as the President may determine are likely to be significantly disadvantaged in competitive international markets as a result of the indirect costs of the Act): 19% of the industry allowances issued.

*Note: these values are expressed as percentages of the allocation to industry sectors, not as percentages of the total allowances.

Section 202—Allocation to Industry Sectors Other than Carbon-Intensive Manufacturing

- Existing facilities and new facilities that commence operation before the allowance allocation for that period receive 92% of the sector's allowances.
- The balance of each sector's allowances (8%) is reserved for "new entrants" – facilities that commence operation in the middle of an allocation period after the allowance allocation already has been made for that period.
- Individual facilities receive an allocation based on the relevant allocation factor for that industry – that is, GHG emissions from the facility, carbon content of fuel used or distributed by the facility, or similar factors.
- Special rules are provided for electricity generators. In the electricity generation sector, a generator that begins operation after December 31, 2006, may receive an allocation only if it meets certain emissions rate criteria. In particular:
 - A post-2006 natural gas-fired generator may receive an allocation only if its emissions do not exceed that of a new natural gas combined cycle facility, and it receives an allocation corresponding to the capacity factor and emissions rate of such a facility.
 - A post-2006 coal-fired generator may receive an allocation only if its emissions do not exceed the lowest economically achievable emissions level for a facility of

that type, and it receives an allocation corresponding to the capacity factor and emissions rate of such a facility.

Section 203—Allocation to Carbon-Intensive Manufacturing

- Currently-operating facilities and new facilities that commence operation before the allowance allocation for that period receive 96% of the sector’s allowances.
- The balance of each sector’s allowances (4%) is reserved for “new entrants” – facilities that commence operation in the middle of an allocation period after the allowance allocation already has been made for that period.
- Allocation to individual carbon-intensive manufacturing facilities is based on the number of production employees.
- Special rules also are provided for carbon-intensive manufacturing facilities that cease operations. If such a facility permanently shuts down, it must return to the President allowances equal to the allowances received for calendar years after the shut down.

Section 204—Allocation to States

Subsection (a) provides for allocation of allowances to States (9% of the total amount issued in any year) for the following purposes: (i) to mitigate impacts on low-income energy consumers; (ii) to promote energy efficiency; (iii) to promote investment in non-emitting electricity generation technology; (iv) to encourage advances in energy technology that reduce or sequester greenhouse gas emissions; (v) to avoid distortions in competitive electricity markets; (vi) to mitigate obstacles to investment by new entrants in electricity generation markets and energy-intensive sectors; (vii) to address local or regional impacts of climate change policy, including providing assistance to displaced workers; (viii) to mitigate impacts on energy-intensive industries in internationally-competitive markets; or (ix) to enhance energy security. State allocations are based half on level of emissions and half on population.

Sections 205—Allocation for Agricultural Projects

Describes the establishment and rules for allocation designated for agricultural sequestration projects. Subsection (a) requires the Secretary of Agriculture to prepare a report on the extent of knowledge about agricultural greenhouse gas management and to develop a standardized system of soil carbon measurement and certification within 1 year of enactment. Subsection (c) directs the Secretary of Agriculture to establish a program to distribute agricultural sequestration allowances to entities that carry out sequestration projects on agricultural land that achieve long-term greenhouse gas emission mitigation benefits. If this allowance pool is oversubscribed, allowances will be deducted from the auction. If this allowance pool is undersubscribed, allowances will be added to the auction. Subsections (e) and (f) describe an education and outreach program administered by the Secretary of Agriculture for agricultural producers and aggregators.

Sections 206—Allocation for Early Reductions

This section directs the President to establish rules for an early reduction allowance program for entities that undertake emission reduction or sequestration projects prior to the 2012 start of the initial allocation period. The President may distribute early reduction allowances only for

projects that are: (A) consistent with maintaining the environmental integrity of the Act; and (B) were reported under: (i) the Department of Energy’s Voluntary Reporting of Greenhouse Gases Program established under section 1605(b) of the Energy Policy Act of 1992; (ii) the Climate Leaders Program of the Environmental Protection Agency; or (iii) a State-administered or privately-administered registry.

Sections 207—Allocation of Carbon Capture and Sequestration Bonus Allowances

Describes the establishment and rules for allocation designated for carbon capture and sequestration projects. In order to encourage near-term projects that capture and sequester emissions from electric power generators in geologic formations, subsection (a) directs the President to award bonus allowances to such projects. These allowances are additional to any credits distributed to such projects under section 302. To be eligible, a project must meet the requirements under sections 302 and 303 and begin operation by 2030. For the first ten years of operation, an eligible project can receive bonus allowances each year for 10 years for each ton of CO₂ emissions it sequesters. Subsection (a) specifies allowance-to-ton ratios at which bonus allowances will be awarded; the ratios vary from year to year, starting at 3.5 bonus allowances for each ton sequestered in 2012 and gradually declining to 0.5 bonus allowances for each ton in 2039.

Subsection (b) further requires the President to provide Congress with a report on the environmental, health, and safety issues surrounding geologic sequestration of CO₂ emissions, including, as necessary, recommendations for new rules on liability for unintended releases of CO₂.

If this allowance pool is oversubscribed, allowances will be deducted from the auction. If this allowance pool is undersubscribed, allowances will be added to the auction.

Section 208—Auction of Allowances for Technology, Adaptation, and Assistance Programs

This section sets out the procedures under which the President conducts the annual allowance auction and distributes the proceeds. Initially 24% percent of allowances are auctioned; this percentage increases to 53% by 2030. The section provides that the President shall auction allowances and deposit the proceeds in specified funds in the Treasury. However, auction proceeds in excess of \$25 billion in any calendar year shall not be retained in the technology and adaptation funds. Title IV describes these funds and details the procedures under which they are required to distribute auction proceeds for the purposes of technology development, climate change adaptation assistance, and low-income assistance.

Title III—Provision of Credits

Section 301—Credits for Activities that Take GHG Precursors out of Commerce in the United States

This section directs the President to establish rules for a program that provides credits each year for certain “downstream” activities that prevent GHG emissions or destroy GHGs for which allowances already have been submitted. These activities include: (1) the use of covered fuel as a

feedstock; (2) exportation of covered fuel, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, or nitrous oxide; and (3) destruction of hydrofluorocarbons.

Section 302—Credits for Carbon Dioxide Sequestration

This section establishes rules for crediting geologic sequestration projects that will achieve long-term GHG mitigation benefits.

Section 303—Credits for Projects that Offset Other GHG Emissions

This section directs the President to establish a program to distribute credits to entities that carry out projects that reduce GHG emissions not otherwise covered by the cap-and-trade program. To earn credits, projects must meet monitoring and reporting requirements established by the President and must be consistent with maintaining the environmental integrity of the Act. Subsection (b) directs the President to establish streamlined procedures for distributing credits to categories of projects for which the President determines there are broadly-accepted standards or methodologies for quantifying and verifying long-term climate benefits. The Act provides an initial list of such project categories: (A) landfill methane use projects; (B) animal waste or municipal wastewater methane use projects; (C) projects to reduce sulfur hexafluoride emissions from transformers; and (D) coal mine methane use projects. The President may specify additional project categories by regulation.

For projects not in these categories, but that otherwise qualify, the President may award credits on a less than one-credit-for-one-ton basis.

Title IV—Technology, Adaptation, and Assistance Programs

Section 401—Early Technology Deployment Programs

Subsection (a) establishes the Energy Technology Deployment Fund, and outlines how the Secretary of Energy shall expend the auction proceeds directed to this Treasury fund.

Zero- or low-carbon energy technologies. 45% of the funds under subsection (a) shall be used to carry out a zero- or low-carbon energy technologies program under subsection (b). During each fiscal year beginning on or after October 1, 2008, the Secretary shall implement a reverse auction in order to award financial incentives for: (1) production of electricity from certain new zero- or low-carbon generation (based on the bid of each producer in terms of dollars per megawatt-hour of electricity generated) and (2) manufacture of certain high-efficiency consumer products (based on the bid of each manufacturer in terms of dollars per megawatt-hour or million British thermal units saved).

For zero- and low-carbon generators, a financial award shall take the form of a 10-year stream of production payments equal to the production of the amount bid by the producer of and the megawatt-hours estimated to be generated each year. For a manufacturer of a high-efficiency consumer product, a financial award shall take the form of a lump sum payment equal to the product of the amount bid and the energy savings during the projected useful life of the high-efficiency consumer product, not to exceed 10 years.

Advanced coal technologies and sequestration. 28% of the funds subsection (a) shall be used to carry out an advanced coal and sequestration technologies program under subsection (c). The Secretary shall use half of the funds during each fiscal year to provide Federal financial incentives to facilitate the deployment of not more than 20 gigawatts of advanced coal generation technologies. A project that receives an award under this paragraph may elect one of the following Federal financial incentives: a loan guarantee; a cost-sharing grant for not more than 50% of the cost of the project; or production payments of not more than 1.5 cents per kilowatt-hour of electric output during the first 10 years of commercial service of the project. The Secretary shall use half of the funds for this program during each fiscal year to finance incremental costs of large-scale geologic sequestration demonstration projects that use carbon dioxide captured from advanced coal combustion processes.

Cellulosic biomass. 7% of the funds subsection (a) shall be used to carry out the cellulosic biomass ethanol and municipal solid waste loan guarantee program and other financial assistance programs. Subsection (d) directs the Secretary to provide deployment incentives under this subsection to encourage a variety of projects to produce transportation fuels from cellulosic biomass. Incentives under this subsection may take the form of loan guarantees for facilities and infrastructure; or production payments through a reverse auction. The reverse auction will provide incentives to producers that submit the lowest bids (in terms of cents per gallon) for each class of transportation fuel from which the Secretary solicits a bid.

Advanced technology vehicles manufacturing incentive program. 20% of the funds under subsection (a) shall be used to carry out an advanced technology vehicles manufacturing incentive program under subsection (e). Under this program, the Secretary will provide facility conversion funding awards to automobile manufacturers and component suppliers to pay 30 percent of the cost of (i) re-equipping or expanding an existing manufacturing facility to produce advanced vehicles or the components for such vehicles; and (ii) engineering integration of such vehicles and components.

An award shall apply to facilities and equipment placed in service before January 1, 2016. However, if the Secretary determines that the program has resulted in a substantial improvement in the ability of automobile manufacturers to produce light duty vehicles with improved fuel economy, the Secretary shall continue to make awards to facilities and equipment placed in service before January 1, 2021; and engineering integration costs incurred during the period beginning on January 1, 2016, and ending on December 31, 2020.

International technology deployment. 20% of the Energy Technology Fund shall be used by the Secretary of State to carry out international technology development targeted toward specific countries, technologies, and sectors. Components of a strategy for international technology deployment may include (i) loan guarantees and other funding mechanisms; (ii) cost sharing for demonstration projects; (iii) information sharing and capacity building; (iv) cooperative benchmarking efforts; (v) joint research and development initiatives; (vi) elimination of financing and market barriers; and (vii) pursuing carbon reduction strategies that align with general development plans (such as using nuclear power, employing efficiency or fuel switching to reduce conventional pollution, or avoiding deforestation).

Section 402—Adaptation Programs

Adaptation Assistance. Subsection (a) directs the President to establish procedures for distributing the proceeds from auctioning the adaptation allowances that have been deposited in the Climate Adaptation Fund. In particular, the President is required to: (i) use 25% of the funds to address climate change impacts on coastal regions of the United States; (ii) use 25% of the funds to address the impacts of global climate change on United States regions at high latitudes; (iii) use 20% of the funds to address the impacts of global climate change on natural resources in the contiguous United States (other than in areas described in (i) and (ii)); and (iv) use 30% of the funds for fish and wildlife conservation programs.

Section 403—Assistance Programs

Provides that the proceeds from auctioning low income assistance allowances under section 201 that have been deposited into the Energy Assistance Fund, be used to: (i) fund the Low Income Home Energy Assistance Program; (ii) fund weatherization; and (iii) provide financial assistance to promote the availability of reasonably-priced electricity in off-grid rural regions where electricity prices exceed 150% of the national average.

Title V—Periodic Review and International Leadership

Section 501—Executive Branch and Congressional Review of Program

Interagency Review. Subsection (a) provides that, not later than January 15, 2016, and every 5 years thereafter, an interagency group shall conduct a review, including: (i) an analysis of whether each of the five largest trading partners of the United States has taken comparable action to reduce GHG emissions; (ii) an analysis of whether the programs established under this Act have led to an increase in electricity imports; (iii) an analysis of the status of the best available science and technology related to this issue, provided by the National Academy of Sciences. The interagency review may also include an analysis of possible modifications to programs under the Act, including: (i) whether nonregulated entities should be regulated under this program; (ii) modification of the percentage of allowances that are auctioned should be modified; (iii) whether regulated entities should be allowed to submit credits issued under foreign greenhouse gas regulatory programs in lieu of allowances; (iv) whether the President should distribute credits for offset projects carried out outside the United States; and (v) whether and how the value of allowances or credits banked for use during a future calendar year should be discounted if the TAP provision is triggered.

Presidential Recommendations to Congress. Subsection (b) provides that, during a period between April 15, 2017 and May 31, 2017, and every 5 years thereafter, the President shall submit to the House of Representatives and the Senate a report describing any recommendation of the President with respect to changes in the Act. The President shall make recommendations with respect to—

- Whether the U.S. should change the allowance amounts for future allocation periods as necessary to ensure that the United States is undertaking its equitable share of the responsibility for reducing greenhouse gas emissions, and in any case will reasonably lead the United States to reduce its annual emissions to levels at least 60 percent below current emission levels by 2050; and

- Whether the TAP levels should be adjusted or the TAP mechanism should be eliminated.

Expedited Congressional Action on the Presidential Recommendations. Under subsection (c), not later than September 30 of any calendar year during which the President submits a report, the House of Representatives and the Senate may consider a joint resolution amending the Act to: (A) modify the number of allowances to be issued, as specifically recommended by the President; or (B) modify the TAP price as specifically recommended by the President. Subsection (c) outlines a particular form and requirements for the joint resolution.

International Emissions Trading. Subsection (d) provides that, after taking into consideration the initial interagency review, the President may promulgate regulations that authorize regulated entities to submit credits issued under foreign greenhouse gas regulatory programs in lieu of allowances so long as: (1) the President determines that the foreign regulatory programs have a level of environmental integrity that is not less than the level of environmental integrity of the Act; and (2) the foreign credits are not also submitted under any foreign regulatory program, i.e., double-counted.

Subsection (e) authorizes the President, after taking into consideration the results of the initial interagency review, to establish a program to distribute credits to entities that carry out offset projects outside the United States, provided that the credits are not double-counted in any foreign regulatory program. A regulated entity would not be permitted to use international offset projects for more than 10% of its compliance obligations.

Section 502—International Reserve Allowance Requirement

Subsection (b) describes the purpose of this section, which is to ensure an adequate global effort in stabilizing our climate. On January 1, 2019 and each year thereafter, if the President determines that a major trading partner is not undertaking comparable action, he may require that greenhouse gas intensive goods and primary products imported from that country carry sufficient allowances, purchased through a special international reserve allowance pool at the current market price for U.S. allowances in the subsequent year. All proceeds from the sale of international reserve allowances will be deposited into a special fund for expenditure on international technology development. Foreign allowances may be submitted in lieu of international reserve allowances, as determined by the President. Under subsection (g), the President shall review the effectiveness of this section in meeting its purposes and shall adjust it accordingly.

Title VI—General Provisions

Section 601—Monitoring and Reporting

Subsection (a) authorizes the President to require any regulated entity to perform such monitoring and submit such reports as necessary to carry out the provisions of the Act.

Subsection (b) authorizes the President to establish, by rule, any procedure necessary to ensure the accuracy of reports under this section, including accounting and reporting standards and methods to avoid double-counting of emissions.

Subsection (c) outlines certain information submission requirements for entities seeking credits or allowances for geologic sequestration, offset projects, or early reductions.

Subsection (d) states that the President shall make an effort to harmonize rules and procedures with other countries that have market-based GHG regulatory programs.

Section 602—Enforcement

Subsection (a) of this section provides that if any person fails to submit required allowances (or fails to make technology accelerator payments in lieu of submitting such allowances) by the March 31st deadline, such person is liable for an excess emissions penalty for each allowance such person failed to submit equal to three times the technology accelerator payment price for that year. Subsections (b) and (c) provide for civil and criminal enforcement respectively.

Section 603—Administrative Provisions

This section authorizes the President to prescribe rules and issue orders as necessary or appropriate to carry out the provisions of the Act. The President is also authorized to use any information-gathering authority under section 11 of the Energy Supply and Environmental Coordination Act of 1974 to carry out functions under the Act.

Section 604—Judicial Review

This section provides that any rules prescribed under the Act be subject to the procedures for judicial review under Section 336(b) of the Energy Policy and Conservation Act, except that any petition for review of a rule must be filed with the United States Court of Appeals for the District of Columbia Circuit.

Section 605—Savings Provision

This section preserves the authority of Congress to change the statute in the future.