WRI Summary of S. 1733, the Clean Energy Jobs and American Power Act (Kerry-Boxer)

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This summary provides a concise overview of the Clean Energy Jobs and American Power Act (herein referred to as the CEJAPA), introduced by Senators Kerry and Boxer on September 30, 2009.[3]

The CEJAPA consists of two divisions:

- Division A: Authorizes new greenhouse gas (GHG) emissions standards, creates new programs for energy, research and development (R&D), adaptation, transition assistance and other purposes
- Division B: Authorizes the establishment of GHG emission caps and directs the investment of allowance value to various programs including those established or revised in Division A.

This summary roughly follows the structure of the bill; it deviates from this structure where we believe grouping related components together facilitates understanding of the bill. The legislation contains some placeholders and undefined sections that are likely to be clarified in subsequent iterations of the bill. For more information on specific components of the CEJAPA, please refer to the actual legislative language as referenced by section and page number in this document.[4]

CLEAN ENERGY

- **Low Carbon Electricity and Natural Gas:**
    - Renewable Energy Grants: Requires EPA to establish a grant program for renewable energy deployment in States with renewable electricity standards and goals (Sec. 161, pg. 168).
    - Incentive Payments (Natural Gas): Requires EPA to establish a program to provide incentive payments for dispatchable low emissions electric power generation, with priority given to the most cost effective projects that integrate intermittent renewable power, provide energy storage or use carbon capture and storage (CCS) (Sec. 181, pg 200).
    - R&D Grants for Advanced Natural Gas Technologies: Requires EPA to provide grants for R&D, demonstration and early deployment for electricity generation and other technologies fueled by natural gas (Sec. 182, pg 202).
- **Clean transportation:**
    - Vehicle Infrastructure: Creates a Clean Vehicle Technology Fund to support broad planning and demonstration of reduced GHG and other emissions from the transportation sector, including the development of electric drive vehicles and related infrastructure (Sec. 201, pg 778).
    - Advanced Biofuel Grants: Requires EPA to establish a grant program for research, development and commercial-scale deployment of advanced biofuels (Sec. 162, pg. 171).

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[2] The authors are grateful to Alex Grais for his substantial assistance in compiling this summary.

[3] This summary applies only to the Clean Energy Jobs and American Power Act as introduced and not subsequent iterations.

[4] Page numbers apply to the Clean Energy Jobs and American Power Act as introduced. Copies of the bill can be found here: http://kerry.senate.gov/cleanenergyjobsandamericanpower/pdf/bill.pdf.

- **State Allowances for Renewable Energy:**
  - o Manufacturing, deployment and production: State funds may be used to support domestic manufacturing and deployment of renewable and energy storage facilities. At least 2.5 percent of the allowances allocated to States for energy efficiency and renewables must be used for production incentives for facilities with greater than 20 MW of generation capacity (Sec. 202, pg. 785).
  - o Transmission Development: State funds may be used for transmission planning and smart-grid and grid security upgrades, plus grants to mitigate transmission-related impacts to lands and ecosystems (Sec. 202, pg 788).
- **Nuclear:** Establishes nuclear worker training programs at DOE and Department of Labor. Also establishes DOE research and development programs regarding aging nuclear facilities and spent nuclear waste disposal (Sec. 131-133, pg 111-115).
- **Research and Development:**
  - o Energy Innovation Hubs: Placeholder language is included for DOE to distribute allowances to consortia that advance commercialization of domestic alternatives to fossil energy sources (Sec. 205, pg, 796).
  - o ARPA-E: To supplement annual appropriations for the same purpose, the ARPA-E Director is required to distribute allowances, as competitive grants, to entities engaged in novel energy technology research (Sec. 206, pg 796).
- **Clean coal:** See "Provisions for Coal" section of this summary.

ENERGY EFFICIENCY

- **Building efficiency:** Requires the federal government to promulgate regulations establishing national energy efficiency building codes for residential and commercial buildings, including specific efficiency targets and provisions for State adoption (Sec. 163, pg. 173).
- **Establishes Retrofits for Energy and Environmental Performance (REEP)** program for residential and non-residential buildings (Sec. 164, pg. 175).
- **Water efficiency:** Establishes a WaterSense program in EPA to identify and promote water efficient products, buildings and landscapes. Also creates new water-efficiency purchase requirements and retrofit programs for Federal facilities, plus incentives to implement residential water conservation programs (Sec. 141, pg. 119).
- **Transportation efficiency:**
  - o Vehicle performance standards: Creates new performance standards for heavy-duty vehicles and other mobile emissions sources. Also allows States to adopt fuel economy and emissions standards for taxicabs. (See "Interaction with EPA Authority" section for more details).
  - o National Emissions Reduction Goals: The EPA and DOT must establish regulations for States, Metropolitan Planning Organizations (MPOs) and air quality agencies to meet transportation-related GHG emissions reduction goals commensurate with the targets of the national cap. Existing MPO transportation planning laws are amended, incorporating strategies such as new public transit, land use and zoning policies. Requires States and large MPOs to develop plans for meeting the national goals and to demonstrate progress toward this end. DOT and EPA review plans to ensure that they are meeting minimum requirements (Sec. 112, [new Sec. 831 of CAA] pg. 24).
  - o Transportation Program Grants: Creates a planning grant program for all States and a competitive grant program for eligible States and MPOs to help implement emissions reduction plans described in Sec. 112 (Sec. 113, [new Sec. 832 of CAA] pg. 62).
  - o SmartWay transport efficiency program: Measures and designates energy-efficient, low-GHG "SmartWay" technologies and strategies as part of EPA's current SmartWay program. Provides incentives for the adoption of SmartWay technologies (Sec. 114 [new Sec. 822 of CAA], pg. 69).
- **State Recycling Programs:** Establishes funding and requirements for GHG reduction through improved recycling programs at state and municipal levels (Sec. 154, pg 148).
- **State Allowances for Efficiency** (Sec. 202, pg 783)**:**

- Buildings: Of the allowances allocated to States for energy efficiency and renewables, States must use at least 35 percent on building efficiency programs. States may also support efficiency retrofits for subsidized housing.
- Thermal Energy: Of the allowances allocated to States for energy efficiency and renewables, States must use at least 2 percent on thermal energy efficiency projects through district heating and combined heat and power projects.

GLOBAL WARMING POLLUTION REDUCTION TARGETS AND TIMETABLES[5]

- **Goals and caps:** Sets both a non-binding economy-wide GHG emission reduction goal (Sec. 702, pg. 384) and a mandatory cap on covered GHGs (Sec. 703, pg. 384; Sec. 721, pg. 430).
- The targets for both the economy-wide emission reduction goals and for the primary cap on covered sources are as follows:
  - 2012: 3 percent below 2005 emission levels (~12 percent above 1990 emission levels)
  - 2020: 20 percent below 2005 (~7 percent below 1990)
  - 2030: 42 percent below 2005 (~33 percent below 1990)
  - 2050: 83 percent below 2005 (~80 percent below 1990)

  The primary cap brings in covered sources in three phases from 2012 through 2016 (see Point of Regulation).
- **A consumption[6] cap on all HFCs:** This cap is established by extending Title VI of the CAA to apply to HFCs and represents the maximum annual allowable amount of consumption. Reduction amounts are relative to average U.S. HFC consumption levels between 2004 and 2006 (Sec. 619, pg. 689) as follows:
  - 2012: 10 percent below
  - 2020: 33 percent below
  - 2030: 75 percent below
  - 2032 and onward: 85 percent below
- **A conditional consumption cap on all Perfluorocarbons (PFCs):** If the Administrator determines that PFCs should be regulated separately from the broader cap and trade program, the EPA is authorized to set a cap on PFC consumption beginning in 2014. The cap would be set at an amount equal to the average level of consumption between 2004 and 2006. This cap would be combined with Best Available Control Technology standards for sources that emit more than 25,000 tons CO_2e of PFCs annually (Sec. 714, pg. 425) (see "Interaction with Clean Air Act Authority").
- **Scientific and programmatic review:** Requires a periodic Inter-agency review of climate science as well as domestic and global efforts to reduce GHG emissions and report to the President. In addition, the National Academies of Science (NAS) are required to conduct a separate review of climate science, technology options, and U.S. progress toward meeting the economy-wide emission reduction goals set by the proposal. The President is authorized to exercise all statutory authority to act on recommendations made by the NAS and recommend to Congress additional actions that may be necessary to meet U.S. and global GHG reduction commitments (Sec. 705-707, pg. 386-401).

POINT OF REGULATION, EMISSIONS REPORTING AND COVERAGE

- **Covered gases:** 5 Kyoto gases (not HFCs, see above) plus NF_3 with EPA authorized to add additional GHGs in the future and to regulate PFCs under a separate program (Sec. 711, pg. 401, Sec. 714, pg.425).
- **Mandatory reporting:** Required by 2011 for all prior years through 2007. Quarterly reporting is required beginning in 2011. All covered entities plus other types of entities are required to report (Sec. 713, pg. 413).
- **Point of regulation:** A hybrid approach is used with sources phased in over a 5-year time frame (see definitions Sec. 700, pg. 552 and Sec. 722, pg. 441).

[5] See WRI's forthcoming analysis of emission reductions under the CEJAPA, available here: http://www.wri.org/publication/usclimatetargets
[6] Consumption = Production + Imports – Exports

- Covered in 2012: The CEJAPA assumes the cap covers 66.2 percent of total U.S. emissions during this phase[7].
    - All electric power generators (downstream).
    - Natural gas liquid-, petroleum-, and coal-based liquid fuel producers/importers (upstream) whose products when combusted emit over 25,000 tons annually.
    - Producers and importers of fluorinated gases (upstream) except HFCs and potentially PFCs.
    - Certified geologic storage sites.
- Added to coverage in 2014: The CEJAPA assumes the cap covers 75.7 percent of total U.S. emissions during this phase[7].
    - Industrial sources (downstream) that annually emit 25,000 tons or more, not including emissions from petroleum and renewable biomass combustion, plus all sources (regardless of size) in select sectors (e.g., cement, petroleum refining and silicon carbide production).
- Added to coverage in 2016: The CEJAPA assumes the cap covers 84.5 percent of total U.S. emissions during this phase[7].
    - Natural gas Local Distribution Companies (LDCs) (midstream) that deliver more than 460,000,000 cubic feet of gas annually to non-covered entities. Emissions that result from sales are regulated with measures to prevent double counting.

CARBON MARKET ASSURANCE AND OVERSIGHT

- **Sense of the Senate:** A resolution calling for a single market oversight program. The resolution calls for effective oversight in order to maintain a liquid, transparent carbon market that minimizes systemic risk, facilitates price discovery and prevents excessive speculation through strong rules, enforcement and penalties (Sec. 131, pg. 753).

ALLOWANCE VALUE DISTRIBUTION

Note to readers: If subsequent iterations provide greater clarity on allowance value distribution, WRI will provide a more comprehensive synopsis of amounts, distribution methods and designated use of allowances.

- **Auction procedure:** Quarterly auctions will be held beginning in March 2011 to sell allowances designated for auction. Auctions will be open to all individuals. A reserve price is established for all regular auctions initially set at $10/tonne increasing at 5 percent above inflation in each subsequent year. Any allowances not sold at auction at the end of each calendar year shall be deposited in the Market Stability Reserve. All entities in possession of allowances may request that the Administrator sell their allowances on consignment (Sec. 778, pg. 639).
- **Distribution of value**: Allowance value is distributed in a number of ways to support various federal, state and local programs (both existing and established under the Act) and to benefit energy consumers as well as giving some value to regulated entities for free. The amount of value directed to various purposes is not defined with three exceptions (Sec. 771-777, pg. 574-638):
    - Deficit reduction: 25 percent of each vintage year's allowances from 2012 through 2050 will be auctioned with the proceeds directed to deficit reduction
    - Incentives for the deployment of carbon capture and storage (CCS): In each vintage year the following amounts of allowances are allocated to support CCS deployment: 2014-2017: 1.75 percent; 2018-2019: 4.75 percent; 2020-2050: 5 percent.
    - Supplemental Reductions from reduced deforestation in developing countries: The program is allocated an amount of allowances necessary to meet the 2020 supplemental emission reduction objective.

[7] Legislative assumptions of emissions coverage are consistent with WRI estimates.

- **Carryover:** If allowances allocated to the deployment of carbon capture and sequestration technology are not all distributed in a vintage year, the Administrator shall use the undistributed allowances to increase, for the same vintage year, the allocation of allowances to be auctioned. In the following vintage year, the allocations to these programs are decreased by the same amount as they were increased the previous year, and those allowances are allocated for the purpose for which the undistributed allowances were originally allocated (Sec. 780, pg. 682).

COST CONTAINMENT (OTHER THAN OFFSETS)

- **Trading:** Unlimited trading of allowances and offsets is permitted by any party (not restricted to owners and operators of covered entities). The Administrator must receive notice of and record any transfers of compliance instruments. All allowances will be tracked in an allowance tracking system (Sec. 724, pg. 461 and Sec.743, pg. 520).
- **Banking and borrowing:**
  - Banking: Banking of allowances is not limited (Sec. 725, pg. 462).
  - Borrowing without interest: Allowances can be used for compliance for emissions in the calendar year preceding the vintage year (e.g., for compliance in 2015 a covered entity could use an allowance from 2016). There is no limit on this type of borrowing (Sec. 725, pg. 464).
  - Borrowing with interest: Up to 15 percent of an entity's compliance obligation can be met through submission of allowances with a vintage year 1-5 years later than that calendar year. For each borrowed allowance at the time of borrowing, the borrower needs to submit additional allowances in advance to meet an 8 percent annual interest fee (Sec. 725, pg. 464).
- **Market Stability Reserve:** In addition to regular auctions, quarterly auctions will be held to auction Market Stability Reserve allowances. Only covered entities are eligible to purchase allowances from this auction (Sec. 726, pg. 465). The draft does not specify the amount of allowances from under the cap to be held by the Administrator in order to initially fill the Market Stability Reserve.
  - Minimum reserve price:
    - 2012: minimum reserve auction price will be $28 per tonne.
    - 2013-2017: the minimum reserve auction price shall be the previous year's reserve auction price, increased by 5 percent plus the rate of inflation.
    - 2018 on: the minimum reserve auction price shall be the previous year's reserve auction price, increased by 7 percent plus the rate of inflation.
  - Quantity of allowances sold at auction:
    - 2012-2016: not more than 15 percent of allowances established for that year can be sold (this limit does not apply to offsets sold on consignment).
    - 2017-2050: not more than 25 percent of allowances established for that year can be sold (this limit does not apply to offsets sold on consignment).
    - The administrator may adjust these limits under certain circumstances.
  - Purchase limits: Not more than 20 percent of a covered entity's compliance obligation may be purchased from the reserve annually. Administrator shall establish a separate purchase limit for new entrants, starting at a minimum of 20 percent.
  - Auction proceeds: Proceeds from auction will be placed in a Market Stability Reserve fund. Auction proceeds from the reserve will be used to purchase offset credits, including domestic offsets and international deforestation offsets generated through section 753 (the emission reductions from reduced deforestation set aside).The Administrator will retire those credits and establish emissions allowances equal to the number of offset credits retired and place them into the Market Stability Reserve to fill it to its original size (Sec. 726, pg. 471).
  - Additional offset sales: Entities may auction on consignment offset credits above and beyond allowances sold at Market Stability Reserve auctions. These offsets are not subject to the purchase limits in place for Market Stability Reserve allowances or use limits in place for offsets (Sec. 726, pg. 473).

- **International emission allowances:** Entities may use an unlimited number of allowances from approved national and supranational emissions trading programs to meet compliance, although the Administrator by rule may restrict their use (Sec. 728, pg. 481).

OFFSETS

- **Program administration:** The President, in consultation with appropriate federal agencies, shall promulgate regulations establishing a program for the issuance of offset credits (Sec. 732, pg. 488).
    - Program Establishment: Not more than 2 years after the date of enactment the President shall promulgate regulations establishing a program for the issuance of offsets; regulations promulgated under sec. 732(a) must include provisions to address additionality and permanence and establish a process to accept and respond to comments from third parties. Directs President to establish an offset registry and fee schedule (Sec. 732, pg. 488).
    - Eligible project types: Not later than 1 year after date of enactment the President shall establish the initial list of eligible project types for which there are well developed methodologies. (Sec. 733, pg. 491) includes list of priority projects for consideration by the President. The President shall add additional project types to the list not later than 2 years after date of enactment and may at any time add to or remove from the list a specific project type. Any person may petition to modify the list (Sec. 733, pg. 495).
    - Advisement: Establishes an independent "Offsets Integrity Advisory Board" to provide guidance to the President on project types, areas of scientific uncertainty and acceptable qualification and quantification methodologies. The Board will also conduct a scientific review of offset program and deforestation reduction programs by 2017 and every 5 years thereafter (Sec. 731, pg. 484).
    - Program review: The program will be reviewed at least once every 5 years and revised if necessary (Sec. 739, pg. 514).
- **Limits on offset use:**
    - System-level offset limit: No more than 2 billion tons of offsets annually may be used for compliance by covered entities (Sec. 722, pg. 448). The President may recommend to Congress whether the 2 billion ton limit should be increased or decreased (Sec. 722, pg. 452).
    - Entity-level offset limits: Covered entities may satisfy a percentage of their compliance obligation with offsets each year. This number is determined by the ratio of an entity's compliance emissions to system-wide compliance emissions in the year two years before the current compliance year multiplied by two billion (Sec. 722, pg.449).
    - Domestic/International offset limits: Of the total offsets allowed, not more than 75 percent can come from domestic or term offsets, and not more than 25 percent can come from international offsets. However, if the Administrator determines that less than 0.9 billion tons of domestic offsets at or below allowance prices are available, the Administrator shall increase the percentage of international offsets allowed to a level that yields a system-wide maximum of 1.25 billion tons, and shall decrease by a corresponding amount the domestic offset percentage limit for that year. (Sec. 722, pg. 451).
    - Compliance requirement: After 2018, regulated entities must surrender 1.25 international offsets in lieu of 1 allowance (Sec. 722, pg. 449 and 452).
- **Term offset credits:** Covered entities may use non-expired term offset credits instead of domestic offset credits for purposes of temporarily demonstrating compliance (Sec. 722, pg. 452).
    - Limitation: The combined quantity of term offset limits and domestic offset credits shall not exceed the quantity of domestic offset credits that a covered entity is entitled to use for that year (Sec. 722, pg. 452).
    - Compliance use: Once a term offset credit has expired, regulated entities must replace it with an allowance, a domestic offset credit or another non-expired term offset credit (Sec. 722, pg. 453).
    - Financial assurance: Term offset credits may only be used if the regulated entity can simultaneously show financial assurance that the term offset credit will be replaced upon

its expiration. Requires retirement of allowances in the event that the replacement requirements and financial assurance provisions fail (Sec. 722, pg. 454).

- **Offset approval, verification, issuance and auditing requirements:** Establishes approval process for offsets credits (Sec. 735, pg. 506) and verification guidelines requiring third party verification of projects by verifiers accredited by the President, potentially to include American National Standards Institute and EPA accreditation (Sec. 736, pg. 510). President shall conduct random audits of offset projects and credits. May delegate audit responsibility to States and develop methodologies for audit (Sec. 738, pg. 512).
- **Early offset supply:** One offset credit shall be issued for each ton of CO_2e registered under a government-established or Administrator-approved program established before Jan 1, 2009 as long as certain requirements are met.
    - Retired and expired credits are not eligible.
    - Credits will only be issued for emission reductions that occur after Jan 1, 2009 and only for 3 years after the date of enactment of the act or the date that regulations are enacted.
    - Projects that were not established by state or tribal law or were established after Jan. 1, 2009 but otherwise meet all other criteria can apply to the Administrator for consideration for early offset credit (Sec. 740, pg. 515).
- **Office of Offsets Integrity:** New department of offsets integrity created within office of Assistant Attorney General of Environment and Natural Resources division in Department of Justice to be headed by an appointed special counsel (Sec.743, pg. 520).

INTERNATIONAL OFFSETS

- **Administration:** The Administrator, in consultation with the Secretary of State and Administrator of USAID, may issue international offset credits based on projects that avoid, reduce or sequester emissions in developing countries. Regulations must be promulgated within 2 years from date of enactment (Sec. 744, pg. 521).
    - Regulation: International offset credits may be issued only if: 1) the U.S. is a party to a bilateral or multilateral agreement that includes the country in which the project has occurred, 2) such a country is a developing country[8] and 3) the agreement ensures all requirements included in the CEJAPA apply and provides for appropriate disposition of offsets (Sec. 744, pg. 521).
- **Project sources:** Offset credits may be issued for projects identified by the Administrator under Sec. 733 through an approved international body, sectoral crediting mechanisms or international reduced deforestation as outlined in the CEJAPA (Sec. 744, pg. 521).
    - Sector-based credits: Approves the issuance of offset credits based on sectoral crediting mechanisms targeted at sectors in any country that: 1) has comparatively high emissions or greater levels of economic development or 2) would be subject to a compliance obligation under Section 722 if it were located in the U.S. (Sec. 744, pg. 525).
    - Recognition of other programs: The Administrator can issue credits in exchange for credits issued by an international body established by the UNFCCC, a protocol to such convention or a treaty that succeeds such a convention as long as those credits were generated through a program that creates equal or greater assurance of the environmental integrity of the U.S. program (Sec. 744, pg. 530).
    - Offsets from reduced deforestation: International offset credits are allowed only if the activity occurs in a country identified by the Administrator pursuant to the country's capacity to participate in such a program according to specific criteria as established by this Act. Offset credits can be issued relative to a national, sub-national or activity basis (in certain instances) (Sec. 744, pg. 532).

OTHER OFFSET RELATED PROVISIONS

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[8] The term 'developing country' means a country eligible to receive official development assistance according to the income guidelines of the Development Assistance Committee of the Organization for Economic Cooperation and Development.

- **Greenhouse gas reduction incentive program:** An unspecified amount of allowances are set aside to provide incentives for additional activities in the agriculture sector to reduce GHG emissions or sequester carbon. These must: 1) be GHG emission reduction or avoidance projects where there are limited recognized opportunities to achieve reductions, 2) not meet the criteria for offsets credits as established by the bill, 3) reward early actors or 4) be activities that prevent conversion of land in ways that would increase GHG emissions (Sec. 155, pg. 157).
- **Early action recognition:** Credits issued by an Administrator-approved offset program under the early offset provisions (Sec. 740) may be exchanged for allowances. The exchange value will be determined by the average monetary value of the credits during the period of Jan 1, 2006 to Jan. 1, 2009. Only credits that have not been retired and were issued between Jan 1, 2001 and Jan 1, 2009 are eligible to receive allowances. Other types of non-offset documented early reductions are also eligible under this section. (Sec. 782, pg. 684).

INTERACTION WITH EPA AUTHORITY UNDER THE CLEAN AIR ACT

- **Extension of CAA Title VI** (stratospheric ozone protection) to include HFCs (Sec. 619, pg. 689):
  - Sets a cap on consumption of HFCs with most allowances auctioned and the rest sold at fixed prices to producers, importers and consumers of HFCs (see targets and timetables section above). This cap is separate from the broader cap-and-trade program. No trading is permitted between programs (Sec. 619, pg. 689).
  - Offsets from the destruction of chlorofluorocarbons (CFCs) may be used for compliance in this program and may also qualify as eligible offset types under the primary cap and trade program.
  - Imposes other requirements restricting the sale and importation of HFCs and HFC containing products (Sec. 619, pg. 714).
- **Standards:** Requires EPA to:
  - Regulate black carbon or decide that any regulations set under the CAA are adequate (Sec. 851, pg. 742).
  - Set emission standards for certain mobile sources based on costs and available technology (Sec. 821, pg. 19). Covered sources include heavy-duty vehicles not covered under existing CAA authority, aircraft and other non-road vehicles (which may include marine vessels and other non-road vehicles and engines).
  - Set standards for geologic storage sites and new coal fired power plants (see "Coal Provisions").
  - Allows but does not require EPA to regulate PFCs under a separate consumption cap beginning in 2014 and to apply best available control technology standards to all stationary sources of PFCs above 25,000 tons (Sec. 714, pg. 425).
- **Prohibits EPA from:** regulating emissions not capped under other provisions of CEJAPA and sources that qualify for offset project status through New Source Performance Standards (NSPS) until after Jan 1, 2020 (Sec. 811, p. 688).

INTERACTION WITH STATE PROGRAMS

- **Temporarily prohibits States from running their own cap-and-trade programs:** This prohibition expires after 2017. The prohibition does not apply to state low carbon fuel standards, vehicle fleet standards such as California cars or most other areas of state authority (Sec. 861, pg. 745).
  - Those who hold California, Regional Greenhouse Gas Initiative or Western Climate Initiative allowances can be compensated with allowances from the federal program. Compensation is based on the cost of obtaining and holding allowances, not on a ton-for-ton basis (Sec. 777, pg. 638).
  - States are permitted to require federal allowances for compliance with state air regulations that reduce GHGs.
- **States receive funds to support existing and new programs** (See "Clean Energy", "Efficiency" and "Adaption")**:**
  - States receive federal funds for renewable energy, energy efficiency, transmission improvement and smart grid development programs (Sec. 202, pg. 783).

  - States receive federal funds for adaptation and GHG reductions via transportation and other programs (Sec 211, pg. 799).
  - Authorizes EPA to use CAA Sec. 105 grant money to support climate programs conducted by state air pollution control agencies (Sec. 862, pg. 746).
- **State Fuel Economy Regulations for Taxicabs:** Allows States to set fuel economy standards for taxicabs that are more stringent than Federal fleet-wide standards (Sec. 172-173, pg 197-200).

INTERNATIONAL ISSUES

- **Forestry:**
  - Supplemental emissions reductions from reduced deforestation: Creates a new program to achieve supplemental emissions reductions of at least 720 million tons in 2020 (cumulative amount of 6 billion tons by 2025) through forestry projects in developing nations. Also builds capacity for international forest credits and preservation of existing forest carbon stocks at risk of international leakage (Sec. 753 pg. 286).
- **Clean technology transfer:**
  - The Board: Establishes a “Strategic Interagency Board on International Climate Investment,” including heads from State, AID, DOE, Treasury, DOC, USDA and EPA to monitor and review US government support for international climate change activities (Sec. 321, pg. 283).
  - International Clean Energy Deployment Program: Establishes a State Department program to financially assist developing countries with low-carbon technology deployment through bilateral and multilateral programs. This program will be funded by an unspecified amount of allowances (Sec. 323, pg. 287).
- **Competitiveness/leakage:**
  - Rebates: Follows Inslee-Doyle Output Based Rebating (OBR) model of providing rebates to carbon-intense manufacturers to offset their cost of compliance. Sectors are presumed eligible if they meet a 5 percent energy or GHG intensity threshold and 15 percent trade intensity, or just a 20 percent energy or GHG intensity threshold. Each sector is rebated at 100 percent of sector average direct and indirect emissions cost. Rebates are phased out beginning in 2025 unless Presidential review determines that other countries have not yet taken substantial action and leakage concerns persist (Sec. 141 [new sections 761-764 of CAA], pg. 755).
  - International Trade: A placeholder section states the sense of the Senate that this Act will include “border measures” to work in conjunction with the above rebate provisions (Sec. 141 [new section 765 of CAA], pg. 778).
- **International adaptation:** Establishes an international climate change adaptation and global security program under State, USAID, Treasury and EPA. Funding is to be distributed through bilateral assistance and/or through multilateral funds pursuant to an international agreement (Sec. 324, pg. 288). This program will receive an unspecified amount of allowances (Sec. 771, pg. 574).

PROVISIONS FOR COAL

- **Legal and regulatory issues around carbon capture and storage (CCS):**
  - Requires interagency national strategy report on legal and regulatory barriers to commercial CCS deployment. The report must provide recommendations to the President and Congress for new legislation and regulations that would address these barriers (Sec. 121, pg. 74). A task force study to design a legal framework for geologic storage sites is also established with a report due within 18 months after enactment (Sec. 123, pg. 80).
  - CO_2 geologic storage site regulations: Amends the CAA and the Safe Drinking Water Act (SDWA) to establish standards within two years after enactment (Sec. 813, pg. 76). Standards must include rules on financial responsibility of injected CO_2, monitoring, record keeping, public participation and certification rules, among other things. Rules must minimize redundancy between CAA and SDWA authority. Certified geologic storage sites are covered entities under the cap-and-trade program (see “Point of Regulation” above).

- **R&D and early deployment of CCS:**
    - Carbon Storage Research Corporation: Established to oversee and direct R&D of CCS technologies by issuing grants and financial assistance (Sec. 125, pg. 87).
    - Funding: Secured through assessments on utility sales of electricity from fossil fuels with annual nationwide limit of $1 billion to $1.1 billion per year for no more than 10 years (Sec. 125, pg. 101).
    - Financial assistance eligibility: Commercial-scale projects undertaken by private, public, academic and non-profit organizations are eligible, with an emphasis on supporting a diversity of technologies and fuels. Projects that receive funding under this program are also eligible for incentives under Section 780 (Sec. 125, pg. 94).
    - Other provisions deal with governance, government oversight, sharing of information and intellectual property.
- **Incentives and standards for commercial deployment of CCS:**
    - Incentives: Provides fixed payments to facilities for tons of CO_2 captured and sequestered. Amount per tonne is set on a sliding scale based on percent captured and the amount of commercial CCS already deployed. Initial amounts are as high as $96/tonne for the highest capture rates. After 10 gigawatts of capacity treated with CCS technology is deployed, bonus allowances are awarded through a reverse auction process. Separate reverse auctions may be held for projects with different characteristics (e.g., coal type, type of applied technology, etc.). Incentive payments last for ten years (Sec. 780, pg. 646).
    - Performance standards: Amends the CAA to require new coal-fired power plants to meet emission performance standards (Sec. 812, pg.83). The Administrator must review standards and may tighten them depending on the performance of commercially available technology. Details include:
        - Standards apply to all plants initially permitted after Jan 1, 2009 where 30 percent or more of their fuel is coal and/or petroleum coke. Standards vary based on the year in which the plant is permitted along with other factors.
        - Plants initially permitted from 2009 through 2019 shall achieve a 50 percent reduction in CO_2 emissions on an annual basis and plants initially permitted from 2020 onward shall achieve a 65 percent reduction in CO_2 emissions on an annual basis by 2025 and potentially earlier if a threshold of 4 GW of commercial CCS deployment is achieved.
        - The Administrator may strengthen the standards but may not relax them.

DOMESTIC ADAPTATION

- **Funding:** Establishes a National Climate Change Adaptation Account with allowances allocated to states and federal agencies to fund adaptation programs (Sec. 370, pg. 341).
- **State Programs:** Requires **State-level Natural Resource Adaptation Plans** detailing each state's current and projected efforts to address the potential impacts of climate change on natural resources and coastal areas (Sec. 369, pg. 330).
- **Federal programs:**
    - Establishes a National Climate Change Adaptation Panel that will include the heads of 11 federal agencies (Sec. 365, pg. 312). Requires the development of climate change adaptation plans by each federal agency on the Climate Change Adaptation Panel (Sec. 368, pg. 323). Establishes a National Climate Change Adaptation Strategy that will develop reports and provide advice to key federal agencies (Sec. 366, pg. 313).
    - Establishes a National Climate Service within NOAA to develop climate information and forecasts at national and regional scales. This service will also distribute information regarding climate impacts to State, local, and tribal governments (Sec. 342, pg. 292).
    - Public health and climate change: Requires establishment of national strategic action plan to assist health professionals in preparing for and responding to the impacts of public health and climate change in the U.S. and other nations, particularly developing nations (Sec. 351, pg. 293). Establishes climate change health protection and promotion fund of an unspecified amount (Sec. 212, pg. 818).
- **Additional Climate Change Adaptation Programs:** Funds programs and partnerships to address climate change impacts on U.S. water systems, impacts on coastal and Great Lakes

states as well as to mitigate and adapt to impacts from wildfires and floods (Sec. 381-384, pg 360-375).

ASSISTANCE DURING THE TRANSITION TO A LOW CARBON ECONOMY

- **Consumer assistance:**
    - Electric and natural gas LDC rate payer assistance: Emission allowances distributed to an electricity or natural gas local distribution company (LDC) shall be used exclusively for the benefit of retail rate payers. The LDC shall ensure that the ratepayer benefit is distributed among ratepayer classes ratably based on deliveries to each class and equally within each class. State utility regulators are required to construct rate cases or other regulations to implement these requirements (Sec. 772, pg. 598 and Sec. 773, pg. 623).
    - Home heating oil and propane consumer assistance: Emission allowances are distributed to states that shall use them exclusively for the benefit of consumers of oil heat fuel, propane or kerosene for residential or commercial purposes by using the proceeds for cost-effective energy efficiency programs, rebates or other direct financial assistance programs (Sec. 774, pg. 632).
    - Additional consumer assistance:
        - *Energy Refund Program*: The President shall provide tax refunds to low- and moderate-income households to offset energy cost impacts from the GHG reduction program (Sec. 776, pg. 637).
        - *Consumer rebate fund*: Beginning in 2026 the President will distribute allowance value to provide relief to consumers and others affected by the CEJAPA (Sec. 776, pg. 636).
- **Green jobs and worker transition:**
    - Competitive grants program: Establishes a competitive grant program within the Department of Education for the development of programs of study in the fields of clean energy, renewable energy, energy efficiency, climate change mitigation and climate change adaptation (Sec. 301, pg. 217).
    - Information and resources clearinghouse: The Secretary of Labor in conjunction with the Secretary of Energy and Education will develop an Internet-based information and resources clearinghouse to aid career, technical education and job training programs for the renewable energy sector (Sec. 302, pg 221).
    - Establishes an Energy Efficiency and Worker Training Fund that will provide climate change adjustment assistance for workers in adversely affected sectors (Sec. 312, pg. 240).