

The American Clean Energy and Security Act of 2009



Summary & Preliminary Recommendations

April 10, 2009

The *American Clean Energy and Security Act of 2009* (“ACES” or the “Act”) discussion draft was released on March 31st by Rep. Waxman (Chairman, Energy & Commerce) and Rep. Markey (Chairman, Subcommittee on Energy & Environment)¹. ACES sets forth an ambitious and comprehensive reform of U.S. climate and energy policy. The Act would build the foundation of a sustainable and efficient economy that will power our nation’s future and create millions of energy efficiency and clean energy jobs.

The following document provides: (1) a brief summary of the Act; (2) initial ENE (Environment Northeast) reactions and suggestions; and (3) detailed section-by-section summaries.

In addition to this document, ENE is preparing a separate explanation and analysis of the differences and similarities between cap and trade, cap and dividend, and carbon taxes.

1. General ACES Act Summary

GHG Cap & 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 (>25,000 tons of carbon dioxide equivalent or CO₂e). 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 included in later years. From a 2005 baseline, emissions decline 20% 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.

Covered entities may use offsets (emissions reductions from outside of the cap) to comply with the cap. Offsets in early years can be used for approximately 30% of an entities compliance obligation. Offsets are split equally between domestic and international offsets and discounted by 20%.

Two critical policies, the distribution and auction of allowances, are not elaborated in the bill. Decisions about how to distribute allowance value are expected to be made in the coming weeks through the House Energy and Commerce Committee process.

The Act pre-empts state and regional GHG cap and trade programs such as the Regional Greenhouse Gas Initiative (RGGI) in the period 2012-2017. Fleet-wide motor vehicle emissions standards, emissions standards for fuels, and other policies would not be pre-empted.

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

- Significant quantities of offsets can be used allowing emissions from regulated entities to exceed the cap by approximately 30%, assuming they are offset by emissions reductions paid for in other sectors;
- International Emission Allowances from systems deemed eligible by the EPA may be used for domestic compliance;

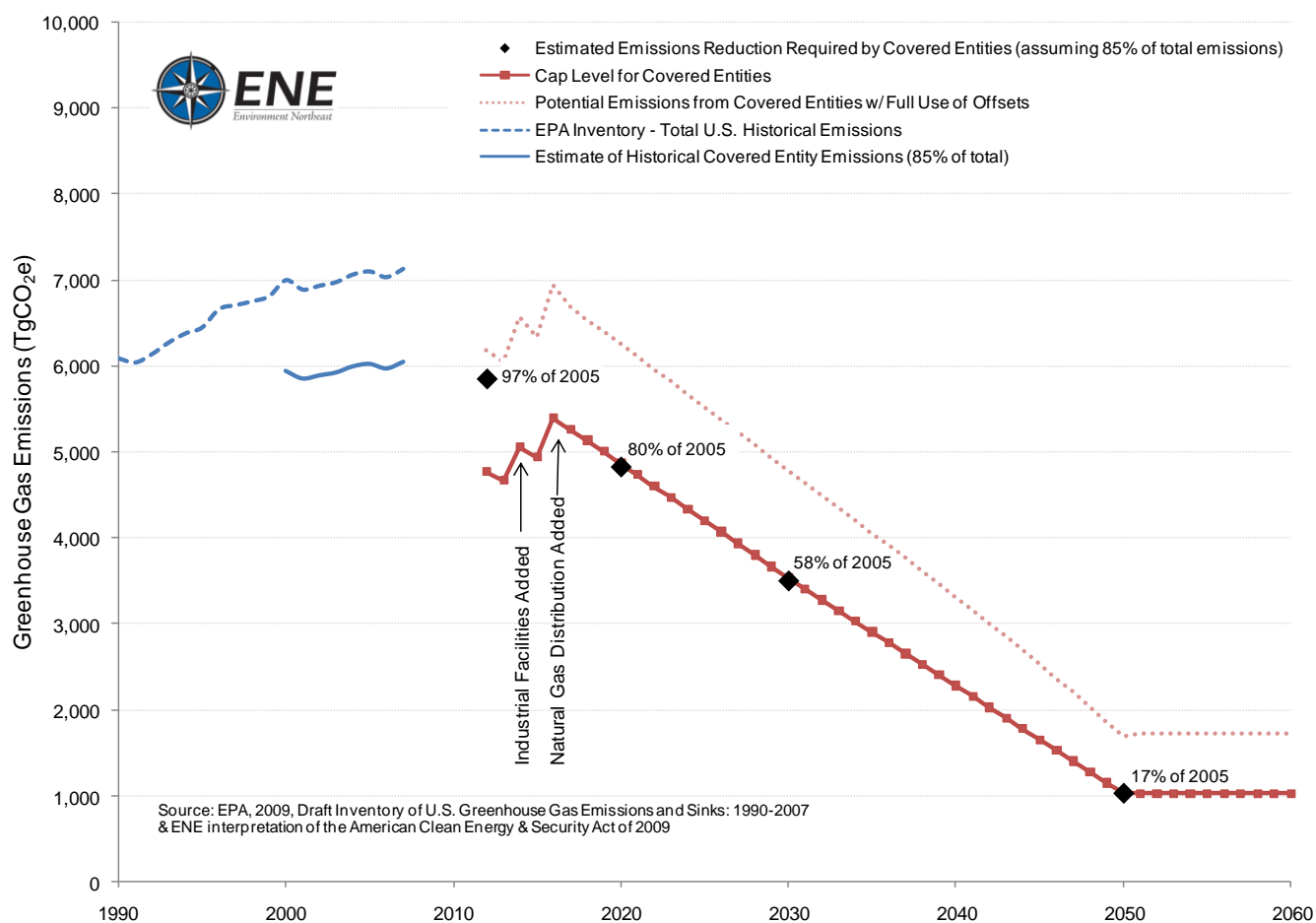
¹ Complete text available at: http://energycommerce.house.gov/Press_111/20090331/acesa_discussiondraft.pdf

- 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 additionally 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 are sold for double anticipated market prices (first few years) and then double average market prices (later years); 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.

The ACES Act authorizes funding for energy- and emission-intensive domestic industries susceptible to competition from foreign producers 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.

Figure 1 below describes the cap level in relation to historic emissions from covered sectors. It also shows the significant quantity of offsets allowed.

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

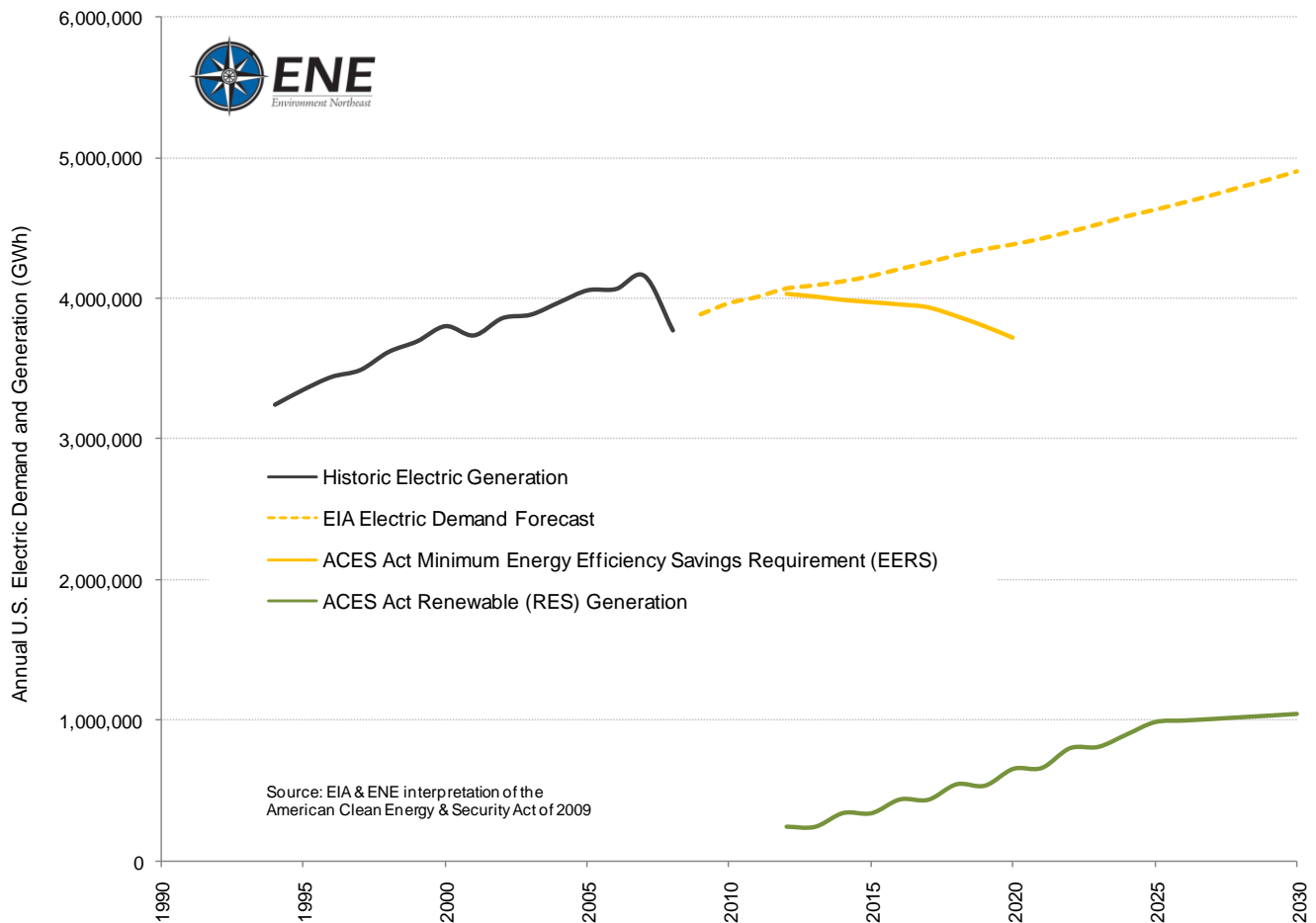


Energy

The Act establishes an **Energy Efficiency Resource Standard (EERS)** that requires electricity and natural gas distributors to meet energy savings targets through efficiency improvements. By 2020 electricity distributors must achieve 15% cumulative energy savings through investments in efficiency resources and natural gas distributors must achieve 10% cumulative energy savings.

Also included is a **Renewable Electricity Standard (RES)** that requires retail electricity suppliers with annual sales over 1 million megawatt hours (MWh) to supply 25% of electricity from renewable sources by 2025. If electricity suppliers meet the requirements of the EERS, the renewable energy requirement may be reduced to 20% by 2025.

Figure 2: Projected Benefits of Electric Efficiency & Renewable Standards in the ACES Act



Complementary to the EERS and RES, **Performance Standards** are established to increase the efficiency of and reduce emissions from coal plants, industrial plants, buildings and appliances.

Other Programs

A **Low Carbon Fuel Standard** limits lifecycle GHG emissions per unit of energy at a 2005 baseline level through 2022. Lifecycle GHG emissions per unit of energy drop at least 5% by 2023, and 10% by 2030.

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).

The act 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.

2. Preliminary Comments & Recommendations from ENE

ENE believes the ACES is a very well developed framework for a comprehensive climate and energy bill. Specifically, ENE is encouraged by the following provisions:

- A comprehensive, market-based GHG cap and trade program requiring substantial emissions reductions by mid-century, and driving new investments in the clean energy sector;
- A requirement to increase energy efficiency investments while promoting consumer cost savings and job creation through the Energy Efficiency Resource Standard and other efficiency elements;
- Requirements to supply more electricity from new renewable energy through a renewable energy standard and to improve electric transmission planning to deliver renewable energy to consumers;
- A requirement to significantly reduce emissions from coal-fired power plants;
- Requirements to decrease emissions from motor vehicles, decrease the carbon content of transportation fuels, and incorporate GHG emissions in transportation planning; and,
- A commitment to plan for and fund adaptation activities both domestically and in the developing world.

Based on our initial review of the bill, some key design elements have not been addressed or need to be improved. The following are ENE's priority issues, for which we are developing detailed recommendations:

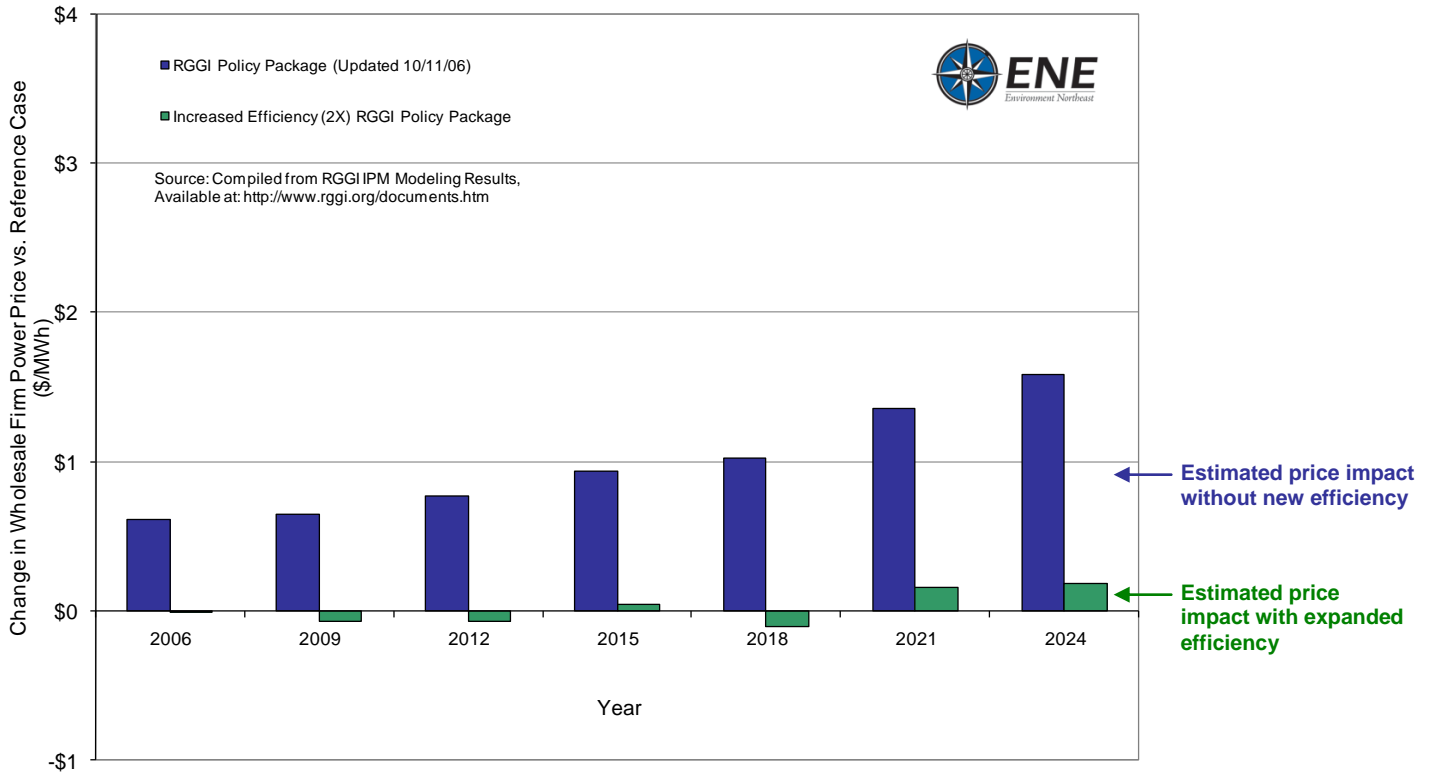
- ***Energy Efficiency as the Primary Cost-Containment Mechanism:***

Investing cap and trade proceeds in energy efficiency lowers energy consumption, which reduces GHG emissions and the demand for carbon allowances. The result is a lower price for carbon allowances and lower overall cost of the cap and trade program.

The ACES Act provides important support for efficiency programs, but it authorizes funding to existing and new federal efficiency programs and not to the far more extensive efficiency efforts under state jurisdiction. The core efficiency infrastructure in the United States exists at the state level, where programs are administered by utilities and third party entities under state regulatory oversight. Allocating allowance value to these ratepayer-funded, public utility commission (PUC)-regulated efficiency programs would deliver significant cost savings for all consumers. Member states of the Regional Greenhouse Gas Initiative (RGGI) recognized that investing in expansion of existing programs was the best way to reduce program costs (see Figure 3 below), and the RGGI region is investing over 70% of allowance value in efficiency. **In order to minimize the cost of a federal cap and trade program, a similar investment in comprehensive state efficiency programs for all fuels is required.**

In an economy-wide federal program, the total annual allocation of allowance value for energy efficiency programs should be **at least 30% of total allowances**. State level comprehensive efficiency programs should receive on the order of \$25-30 billion annually to fund cost-effective electric, natural gas, fuel oil, propane, and other fuel efficiency programs under PUC and other state oversight. This would deliver approximately \$60 billion in savings, excluding benefits from reduced carbon costs.

Figure 3: RGGI Region Wholesale Electric Prices With and Without Expanded Efficiency Investments



- Pre-emption of State Cap and Trade Programs:** ACES attempts to strike a balance between permanently pre-empting programs like RGGI and allowing them to continue. The Act requires existing cap programs to phase out but allows for state programs that impose more stringent emission requirements in later years. We believe states will choose to fold programs like RGGI into the federal program if the federal program achieves similar levels of emissions reductions (no one wants overlapping programs), but states should be allowed to adopt more stringent emissions limits. We note that decisions about how to allocate auction revenue have not yet been made; however, it is important to consider that RGGI states are already using significant allowance value to fund efficiency and other clean energy investments. Federal pre-emption without replacement of RGGI revenue could generate significant opposition to the federal program by policy makers and business leaders in the region.
- Offsets:** The Act allows for a significant quantity of offsets to be used in the early years of the program (see Figure 1). This limit should be reduced significantly (by at least 1/2) to ensure that emissions reductions occur within the regulated sectors. The Act’s description of the offset limit needs clarification to better explain the underlying methodology and its application to individual entities. Finally, the Act should clarify that offsets must be generated outside of the sectors of the economy regulated by the cap. In an economy-wide program, domestic offsets will be limited primarily to the land-use, forestry, and agricultural sectors.
- Electricity Imports:** For most sectors of the economy an energy source or industrial gas is regulated whether produced or imported, but this is not the case for the electric sector. Electricity produced in countries without an equivalent cap and trade program should be regulated in order to: avoid emissions “leakage;” avoid unfairly disadvantaging domestic generators; and, encourage other jurisdictions to move forward with comparable emission reduction programs. To address this issue the importer of electricity should be required to hold and retire allowance equal to associated emissions.
- Federal Efficiency Programs:** Two new federal programs are created to fund building retrofits and improvements to old manufactured housing. In order to avoid duplication of efforts, these programs

should be implemented by state efficiency program administrators where they exist, rather than creating administrative complexity by housing programs at state energy offices. Designation of program administrators should be determined by the state.

- ***Strategic Reserve Allowances:*** While ENE would prefer that this mechanism not be included, we understand the objective of limiting potential price spikes with a mechanism that would essentially be used to buy international offsets. However the proposed mechanism needs to be improved. The 3-year price averaging is too long and could lead to significant over-use of this mechanism. The mechanism should only be used during short periods of high prices; thus the reference price should be changed from a 3-year average to a 6-month average to avoid significant market distortion and expanded use of international offsets.
- ***Supplemental Emissions Reductions from Reduced Deforestation:*** The Act establishes a program to use allowance value to achieve additional emissions reductions (beyond the cap) through support for reducing international deforestation. A parallel program targeting deforestation in the United States should be created as well, focusing on tracking and reducing forest loss on a state-by-state basis, and ensuring no net loss of forest carbon nationally and by state over time.

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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.

3. Detailed ACES Act Summary

TITLE 1	CLEAN ENERGY
Subtitle A	Renewable Electricity Standard
SEC. 610	<p><i>Federal Renewable Electricity Standard:</i></p> <ul style="list-style-type: none">• Qualified resources: wind, solar, geothermal, biomass or landfill gas, hydropower (new or incremental after 2001), marine and hydro kinetic• Regulated entity: any electric supplier that sells over 1 million MWh annually• State RPSs: regulations shall seek to preserve the integrity of existing RPSs• Tracking and compliance: uses a credit tracking and trading system that builds on existing reporting systems; annual compliance; achieve the following percentages from renewables:<ul style="list-style-type: none">○ 2012 – 6.0%○ 2013 – 6.0%○ 2014 – 8.5%○ 2015 – 8.5%○ 2016 – 11.0%○ 2017 – 11.0%○ 2018 – 14.0%○ 2019 – 14.0%○ 2020 – 17.5%○ 2021 – 17.5%○ 2022 – 21.0%○ 2023 – 21.0%○ 2024 – 23.0%○ 2025 through 2039 – 25.0%• Alternative compliance: alternative compliance payment is the lesser of 2X the market value of credits or \$50/credit adjusted for inflation• If provisions of EERS are met, annual savings targets may be reduced by 20%• Distributed renewables: receive 3 credits for every MWh of generation (3X payment)
Subtitle B	Carbon Capture and Sequestration (CCS)
SEC. 111	<p><i>National Strategy:</i> 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</p>
SEC. 112	<p><i>Regulations for Geologic Sequestration Sites:</i> EPA shall develop a coordinated and streamlined approach to CCS permitting, with details laid out on data collection, public processes, and other elements</p>
SEC. 113	<p><i>Studies and Reports:</i> requires CCS reports and task forces on existing legal frameworks and CO₂ transportation</p>
SEC. 114	<p><i>CCS Demonstration and Early Deployment Program:</i> 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</p>
SEC. 115	<p><i>Commercial Deployment of CCS Technologies:</i> directs EPA to develop regulations to fund large electric and industrial CCS facilities (>250MW); funding will be first-come-first-served with higher levels of funding for higher levels of sequestration</p>

SEC. 116	<i>Performance Standards for Coal-fueled Power Plants:</i> new coal fired power plants permitted after 2015 shall emit no more than 1,100 lbs of CO ₂ /MWh, declining to 800 lbs of CO ₂ /MWh in 2020; plants permitted between 2009 and 2015 may have to meet these standards if progress is made in commercializing CCS
Subtitle C	Clean Transportation
SEC. 121	<i>Low Carbon Fuel Standard:</i> <ul style="list-style-type: none"> • Regulated entity: refiners, blenders, and importers as determined by EPA • Baseline: average lifecycle GHG emissions per unit of energy for transportation fuels sold in the U.S. (on-road, off-road, aircraft) in 2005 • Average lifecycle GHG emissions per unit of energy may not exceed baseline for 2014-2022. Reduction in emissions: 2023 to 2029– 5%; 2030 and later – 10% • Credits may be issued by the regulator for trading if an entity exceeds the requirements • Regulations may be developed to allow electricity used in transportation to qualify • Studies of environmental and resource conservation, energy security, and leakage impacts of the regulations are required
SEC. 122	<i>Electric Vehicle Infrastructure:</i> 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 2 years of enactment
SEC. 123	<i>Large-Scale Vehicle Electrification Program:</i> 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
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 a State Energy & Environment Development Fund (SEED Fund) into which Weatherization Assistance Program, LIHEAP, Energy Efficiency and Conservation Block Grant, recovery act, and energy act funding can be deposited • Funds to be used for the purposes originally intended or dedicated, but undedicated funds may be used for loans, grants or other forms of support for clean energy, energy efficiency or climate change programs • Placeholder language for appropriation of funds
Subtitle E	Smart Grid Advancement
SEC. 142	<i>Incorporation of Smart Grid Capability into Energy Star:</i> 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	<i>Smart Grid Peak Demand Reduction Goals:</i> states or load-serving 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
SEC. 144	<i>Reauthorization of Energy Efficiency Public Information Program to Include Smart Grid Information:</i> adds reporting on smart grid benefits to the energy efficiency public

	information initiative of the Energy Policy Act of 2005
SEC. 145	<i>Inclusion of Smart Grid Features in Appliance Rebate Program:</i> allows Smart Grid technology to be funded through the Energy Star program
Subtitle F	Transmission Planning
SEC. 151	<p><i>Transmission Planning:</i></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 • FERC to adopt new transmission planning principles that all utilities, states, and regional organizations are to follow • Regional planning entities to submit plans for review and approval by FERC • Placeholder language for appropriation of funds
Subtitle G	Federal Purchases of Electricity Generated by Renewable Energy
	Not Summarized
Subtitle H	Technical Corrections to Energy Laws
	Not Summarized – Contains Appliance and Equipment Efficiency Standard Changes
Title II	Energy Efficiency
Subtitle A	Building Energy Efficiency Programs
SEC. 201	<i>Greater Energy Efficiency in Building Codes:</i> the national model building energy codes and standards shall be updated to achieve 30% energy savings from the time of enactment and 50% by 2016; subsequent 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 to be made available to the states
SEC. 202	<p><i>Building Retrofit Program:</i></p> <ul style="list-style-type: none"> • EPA in collaboration with DOE shall develop a cost-effective program to retrofit single and multi-family residences; DOE in collaboration with EPA shall develop a cost-effective program for commercial buildings; both in consultation with HUD • Funding from the federal government to the SEED Fund with administration by state energy offices; over time funding is performance based • Specific award levels have been written into the legislation
SEC. 203	<i>Energy Efficient Manufactured Housing:</i> supports upgrading units constructed before 1976 to Energy Star; funding through the State Energy Offices for rebates and destruction/recycling of old units; placeholder language for appropriation of funds
SEC. 204	<i>Building Energy Performance Labeling Program:</i> 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; placeholder language for appropriation of funds
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
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; placeholder language for appropriation of funds
SEC. 215	<i>Purpose of Energy Star:</i> adds a new/additional purpose to the Energy Star program that products will be deemed cost-effective based on a payback of not more than 3-5 years
Subtitle C	Transportation Efficiency
SEC. 221	<i>Emissions Standards:</i> requires new vehicle emissions standards that are achievable and reduce emissions at least as much as the CA standards; standards are 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; competitive grants may be available to implement the plans; placeholder language for appropriation of funds
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	Utilities Energy Efficiency
SEC. 231	<p><i>Energy Efficiency Resource Standard for Retail Electricity and Natural Gas Distributors:</i></p> <ul style="list-style-type: none"> • Establishes a national energy efficiency performance standard: <ul style="list-style-type: none"> ○ It should be the goal of states and utilities to consider energy efficiency as a resource in all utility planning and procurement activities and should seek to achieve all energy efficiency that is available at lower cost than energy supply options ○ Electric distribution utilities: requires increasing levels of energy savings from the utility's current sales levels to achieve a minimum of 15% cumulative savings by 2020 ○ Natural gas distribution utilities: requires increasing levels of energy savings from the utility's current sales levels to achieve a minimum of 10% cumulative savings by 2020 • Qualifying activities include: efficiency programs, combined heat and power energy savings, new advanced appliance and equipment efficiency standards and building energy codes • Administration may be delegated to the state regulators (PUC) at the request of the state as long as the performance standard is met or exceeded • Consistency in evaluation, monitoring, verification, and reporting is required

Subtitle E	Industrial Energy Efficiency Programs
SEC. 241	Industrial Plant Energy Efficiency Standards: DOE to develop industrial plant energy efficiency certification standards for American National Standards Institute (ANSI) standards and benchmarking
SEC. 242	Electric and Thermal Energy Efficiency Award Programs: 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
Subtitle F	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 G	Public Institutions
SEC. 261	<i>Public Institutions:</i> technical changes to the 339A of the Energy Policy and Conservation Act, to add non-profit hospitals and health care facilities, and increase potential funding levels
Title III	Reducing Global Warming Pollution (Cap and Trade)
Subtitle A	Reducing Global Warming Pollution
SEC. 311	<p><i>Reducing Global Warming Pollution:</i> Amends the Clean Air Act with the following:</p> <ul style="list-style-type: none"> • Emission reduction requirements: <ul style="list-style-type: none"> ○ National greenhouse gas emissions shall achieve the following levels(S. 702): <ul style="list-style-type: none"> ▪ In 2012 emissions shall not exceed 97% of 2005 emissions levels ▪ In 2020 emissions shall not exceed 80% 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 (S. 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 (S. 704) ○ Scientific Review: every 4 years the National Academy of Sciences shall undertake a review of the latest scientific and technological information, status of GHG reduction efforts, and make broad recommendations, including increasing the quantity of additional reductions needed to achieve the goals of this Act (S. 705); the President is then directed to take appropriate action based on the report (S. 706) • Greenhouse Gases Regulated: carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons emitted as byproduct, perflouorocarbon, nitrogen trifluoride, and any other gas EPA determines is a greenhouse gas (S. 711); initial carbon dioxide equivalent values for GHGs are listed in the bill (S. 712) • Greenhouse Gas Registry (S. 713): <ul style="list-style-type: none"> ○ Entities that must report: any entity covered by the cap and trade program and entities that emitted over 25,000 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, and other entities if EPA determines it would help achieve the purpose of the act ○ 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
- 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 & Covered Entities (S. 722 & 700):
 - Each year (April) covered entities must hold a quantity of emissions allowance 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 S. 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 2013
 - 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 fair market value of the allowances they should have submitted to EPA and shall have to retire allowances equal to the emissions in the following year(s) (S. 723)
- Trading: allowances may be traded among any entity or person (S. 724) and qualified international emissions allowances may be used for compliance
- Banking: allowances may be banked for use in subsequent years (S. 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
- Offsets (S. 722 & 731-743):

- Offsets may be used for compliance but 1.25 offsets must be used for every ton of emissions
- The quantity of offsets used for compliance is limited to approximately 30% of the cap level in the early years
- An Offsets Integrity Advisory Board is established to make recommendations to EPA on all elements of offsets design including types of offsets to include and methodologies for addressing additionality, leakage, permanence, and other issues
- Within 2 years of passage of this Act, EPA will issue regulations for 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 offsets project types which can be revised at any time; suggestions for additions or removal of offset types can be made through public petition
- 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 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 (S. 728):
 - EPA will reserve 1% of allowances for strategic reserve (percent increases to 3% by 2030) and auction reserve allowances quarterly to regulated entities only
 - A minimum auction price will be set at twice the initial modeled price for allowances in 2012 (increasing at 5% plus inflation); starting in 2015 the minimum price will be indexed to twice 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 10% 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 (S. 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 (S. 751-756): a program will be established by EPA using allowance value (of a TBD amount) 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

- Carbon Market Assurance (S. 761): 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.
- Disbursement of Allowances and Proceeds from Auction of Allowances (S. 782):
 - Allocation – THIS SECTION IS TO BE SUPPLIED
 - Auction – THIS SECTION IS TO BE SUPPLIED
 - Funds established:
 - Strategic Reserve Fund
 - Other funds: – THIS SECTION IS TO BE SUPPLIED
- Exchange for State Issued Allowances: CA and RGGI allowances may be exchanged for federal allowances at a quantity sufficient to compensate for the cost of purchasing the state allowances, with the quantity of federal allowances auctioned reduced by the number of federal allowances exchanged
- Auction Procedures:
 - 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
 - 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
 - Allowances held by other entities may be auctioned on their behalf on consignment with proceeds returned directly to consigning entities

Subtitle C	Additional Greenhouse Gas Standards
SEC. 331	<p><i>Greenhouse Gas standards:</i></p> <ul style="list-style-type: none"> • EPA will establish performance standards for uncapped stationary sources of over 10,000 ton of CO₂Eq. per year, which cover at least 20% of the remaining uncapped emissions • The standards will be designed to achieve the emissions reductions targets of the act 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 the act
SEC. 332	<p><i>HFC Regulation:</i></p> <ul style="list-style-type: none"> • EPA is 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 72% of the baseline established, 42% by 2030, and 15% after 2038 • An offset program is established for the destruction of HFCs

	<ul style="list-style-type: none"> 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; But, for the first five years of the federal cap and trade program, states shall not be permitted to have a cap and trade program (i.e. RGGI); policies like Pavley and LCFS are not pre-empted
SEC. 336	<i>Enforcement:</i> not summarized
SEC. 337	<i>Conforming Amendments:</i> not summarized
Title IV	Transitioning to a Clean Energy Economy
Subtitle A	Ensuring Domestic Competitiveness
Part 1	<p><i>Preserving Domestic Competitiveness (SEC. 401-407):</i></p> <ul style="list-style-type: none"> Purposes: to avoid significant additional emissions from sources in other countries due to a price on carbon being imposed in the U.S. and resulting out-migration of energy- and emissions-intensive industries; to provided limited compensation to eligible industrial sources who are subject to significant international competition through rebates; 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/cancelation possible depending on progress in other countries toward limiting emissions Appropriation: placeholder language for appropriation of funds
Part 2	<p><i>International Reserve Allowance Program (SEC. 411-415):</i></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 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 would not be implemented before ~2018)
Subtitle B	Green Jobs and Worker Transition
SEC. 421	<i>Clean Energy Curriculum Development Grants:</i> the Dept. of Labor is to provide grants on a competitive basis to fund programs of study in energy efficiency, renewables, and climate change mitigation
SEC. 422	<i>Workforce Training and Education in Clean Energy, Energy Efficiency, Climate Change Mitigation, and Sustainable Environmental Practices:</i> the Dept. of Labor is to provide grants to institutions of higher learning for work force training and development; placeholder language for appropriation of funds
SEC. 423	<i>Wage Rate Requirements:</i> all wages related to this subtitle and Subtitle J of Title I of the

	National and Community Service Act of 1990 shall be not less than those prevailing for similar work in the locality
SEC. 424	Worker Transition: TO BE SUPPLIED
Subtitle C	Consumer Assistance
SEC. 431	TO BE SUPPLIED
Subtitle D	Exporting Clean Technology (SEC. 421-456): 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 and are adopting mitigation strategies to reduce emissions; funding can be distributed in a number of ways including through the World Banks 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>National Climate Change Adaptation Program (SEC. 461-467):</p> <ul style="list-style-type: none"> • Establishes an interagency adaptation council to better coordinate agencies and policy, with National Oceanic and Atmospheric Administration (NOAA) as the Chair • An adaptation program is established at NOAA to develop national assessments and provide technical support across levels of government • NOAA is 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; placeholder language for appropriation of funds
Subpart B	<p>Natural Resource Adaptation (SEC. 781-790):</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>International Climate Change Adaptation Program (SEC. 491-496):</p> <ul style="list-style-type: none"> • Establishes an international climate change adaptation program within USAID to provide assistance to the most vulnerable developing countries to assist in development and

implementation of 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
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