

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|---|--|--|
| | Div. B, Subtitle B – Disposition of Allowances | Title III, Subtitle B – Disposition of Allowances |
| Allocation and Auction of Allowances | <p>(Sec. 771, pp. 651-655)</p> <p>Domestic Adaptation <u>State programs for Greenhouse Gas Reduction and Climate Adaptation</u></p> <ul style="list-style-type: none"> - 2012-2013 – 1.34% - 2014-2021 – 0.50% - 2022-2026 – 1.06% - 2027-2050 – 2.18% <p>Allowances to be allocated for state and local greenhouse gas reduction and climate adaptation programs. See <i>Program Allocations</i> below.³</p> <p><u>State programs for Natural Resources Adaptation</u></p> <ul style="list-style-type: none"> - 2012-2021 – .39% - 2022-2026 – .77% - 2027-2050 – 1.54% <p>Allowances to be allocated for state programs for adaptation activities. See <i>Program Allocations</i> below.</p> <p><u>Public Health</u> 0.1% of allowances to be auctioned annually for calendar years 2012-2050. Proceeds from the auction of allowances to be deposited in the Climate Change Health Protection and Promotion Fund established by the bill. See <i>Program Allocations</i> below.</p> <p><u>Natural Resources</u></p> <ul style="list-style-type: none"> - 2012-2021– 0.62% - 2022-2026 – 1.23% - 2027-2050 – 2.46% <p>Proceeds from the auction of allowances to be deposited in the Natural Resources Climate Change Account created by the bill. See <i>Program Allocations</i> below.</p> | <p>(Sec. 705, pp. 876-879)</p> <p>Domestic Adaptation <u>State Programs</u></p> <ul style="list-style-type: none"> - 2012-2021– 0.9% - 2022-2026 – 1.9% - 2027-2050 – 3.9% <p>Allowances to be distributed to states in accordance with Subpart A, Section 453- <i>State Programs to Build Resilience to Climate Change Impacts</i> (see below).</p> <p><u>Public Health</u> 0.1% of allowances to be auctioned annually for calendar years 2012-2050. Proceeds from the auction of allowances to be deposited in the Climate Change Health Protection and Promotion Fund established by the bill for purposes defined in <i>Subpart B – Public Health and Climate Change</i> (see below).</p> <p><u>Wildlife and Natural Resources</u> States:</p> <ul style="list-style-type: none"> - 2012-2021 – 0.385% - 2022-2026 – 0.77% - 2027-2050 – 1.54% <p>Allowances to be distributed to state agencies in accordance with Section 480 of <i>Subpart C – Natural Resources Adaptation</i> (see below).</p> <p>Federal Agencies:</p> <ul style="list-style-type: none"> - 2012-2021– 0.615% - 2022-2026 – 1.23% - 2027-2050 – 2.46% <p>Proceeds from the auction of allowances to be deposited in the Natural Resources Climate Change Adaptation Fund, established in the bill, for distribution to federal agencies in accordance with</p> |

¹ S. 1733 as passed by the Senate Environment and Public Works Committee on November 5, 2009.

² HR. 2454 as passed by the U.S. House of Representatives on June 26, 2009.

³ S. 1733 combines mitigation and adaptation in the Disposition of Allowances, using the term Climate Change Response instead of Adaptation throughout these sections.

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|----------------------------|--|---|
| | <p>International Adaptation 0.25% of allowances are reserved for the International climate change adaptation and Global Security program for years 2012-2025.</p> <p>In addition, allowances are allocated as follows:</p> <ul style="list-style-type: none"> - 2012-2021 – 1% - 2022-2026 – 2% - 2027-2050 – 5% <p>And distributed pursuant to section 324 of division A.</p> | <p>Section 480 of <i>Subpart C – Natural Resources Adaptation</i> (see below).</p> <p>International Adaptation</p> <ul style="list-style-type: none"> - 2012-2021- 1% - 2022-2026 – 2% - 2027-2050 – 4% <p>Allowances are allocated for the purposes of international adaptation and distributed in accordance with Subtitle E, part 2.</p> |
| | Div. B, Title II – Program Allocations (pp. 933-954) | |
| Program Allocations | <p><u>State Programs</u> Sec. 210. Distributes proceeds from the auction of allowances to a State Climate Change Response and Transportation Fund (for both mitigation and adaptation purposes), established by the bill in the U.S. Treasury. Annual allocation of proceeds are as follows:</p> <ul style="list-style-type: none"> • 10% is reserved for distribution among coastal and Great Lakes states for purposes of adaptation: <i>Subpart D – Additional Climate Change Adaptation Programs</i>, Section 384 below. • A minimum of 1% is reserved for distribution to Indian tribes (for adaptation purposes), of which at least 18% is reserved for Alaskan Native Villages. To receive funds tribes must complete, and have approved, tribal climate change response plans (defined in subsection i) and comply with the specific uses of allowances proceeds (defined in subsection h).⁴ • Remaining proceeds (approximately 89%) are divided equally among: <ul style="list-style-type: none"> - Transportation grant programs for GHG reduction purposes | <p><u>State Programs</u> Refer to Subpart A, Section 453- <i>State Programs to Build Resilience to Climate Change Impacts</i> below.</p> |

⁴ S. 1733 removes the requirement for the distribution of allowances to tribes to be on a competitive basis. It also requires a complete response plan in order to receive funding, whereas HR. 2454 allows funding regardless of a completed plan and only gives a funding priority to tribes with a completed plan as of 2015.

⁵ S. 1733 adds to the list of impacts for which states may receive funding relative to HR. 2454. It also does not prohibit a state from using the funds for mitigation activities, except for the 10% allocated to coastal states and the 1% allocated to tribes.

⁶ HR. 2454 does not include any such list of required activities and leaves it to the states and tribes to determine appropriate sectors and impacts to address.

⁷ Division A, Sec. 101 identifies Sections 381, 382, 383 and 384 under Subpart D below as programs which are eligible to receive an allocation under Title VII of the Clean Air Act.

⁸ HR. 2454 gives states until 2015 to create an adaptation plan (see below Sec. 453).

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|-------|---|--|
| | <ul style="list-style-type: none"> - Other programs administered by states through State Climate Change Response (SCCR) Accounts, created by states per the bill. Not less than 12.5% of the proceeds deposited into SCCR accounts shall be distributed to local governments. <p>Requires each state to create State Climate Change Response Accounts in order to receive and distribute proceeds from the auction of allowances. Amounts distributed to state governments from SCCR Accounts are determined based upon state population and state per capita income relative to the U.S. [Calculation: the product of each state's population and the state's "allocation factor" (Allocation Factor = Per capita income of all individuals in the U.S. divided by the per capita income of all individuals in the state, with minimum of .8 and max of 1.2)]</p> <p>The bill includes a provision to account for revenues provided to states resulting from a Presidentially declared major disaster, to eliminate the risk of excess funds from multiple sources that can be attributable to the need for climate change adaptation.</p> <p>The bill indicates that states may use the proceeds deposited in their SCCR accounts for the development and implementation of projects, programs or measures to reduce greenhouse gas emissions or to build resilience to climate change impacts such as: extreme weather events, frequent heavy precipitation, water scarcity, decreased water quality, more severe heat waves, more droughts, sea level rise, increased air pollution, effects on public health, and ecosystem disruption, increased wildfire risk, impaired transportation systems infrastructure, and reduced productivity of agricultural or ranching operations.⁵</p> <p>Requires state and local governments to ensure the consideration of impacts to vulnerable populations (defined in the bill) in the distribution of proceeds.</p> <p>Funds are intended to supplement, not replace, existing sources of funding to address climate change impacts.</p> <p>States must:</p> <ul style="list-style-type: none"> • report every 3 years on the use of allowance proceeds; • include a third-party performance evaluation report; and | |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|-------|---|--|
| | <ul style="list-style-type: none"> • identify the use of allowances for the reduction of flood and storm damage and include the effects of climate change on water and flood protection infrastructure. <p>The bill also stipulates that state and local governments may only use allowance proceeds deposited in the state SCCR accounts for the following mitigation and adaptation activities prescribed in more detail in the bill:</p> <ul style="list-style-type: none"> • Water system mitigation and adaptation partnership grants (Sec 381 below) • Flood control, protection, prevention, and response programs (Sec 382 below) • Water quality, supply or reliability projects (Sec 381 d below) • Recycling programs to reduce GHG emissions. • Agriculture or ranching adaptation projects (not defined). • Air pollution or air quality projects (not defined). • GHG emission reduction projects that reduce other air pollutants.⁶ • Abandoned mine lands • Risks of wildfires (Sec 383 e 2 below)⁷ <p>Requires states and tribes to create, and have approved, a State Climate Change Response Plan beginning 2012, and every 5 years thereafter, in order to receive proceeds from SCCR Accounts.⁸</p> <p>Requirements for plans include:</p> <ul style="list-style-type: none"> • Assessment and prioritization of vulnerabilities • Assessment of potential for carbon reduction through changes to land management policies • Identification and prioritization of cost-effective projects, programs and measures to build resilience • Full consideration of initiatives to protect or enhance natural ecosystem functions, use non-structural approaches, and protect forested land • Consider impacts to vulnerable populations. • Use pre-disaster mitigation, emergency response and public insurance programs to mitigate the impacts of climate change • Be consistent with federal conservation and environmental laws, and avoid environmental degradation to maximum extent possible. | |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|-------|--|--|
| | <p><u>Climate Change Health Protection and Promotion Fund</u> Sec. 211. Proceeds from the auction of allowances are deposited in the Climate Change Health Protection and Promotion Fund established by this section, and made available to the Secretary of HHS without further appropriation or fiscal year limitation for the purposes defined in <i>Subpart B – Public Health and Climate Change</i> (see below). Funds made available should be used to supplement and not replace existing funding for public health.</p> <p><u>Climate Change Safeguards for Natural Resources Conservation</u> Sec. 212. Proceeds from the sale of allowances are deposited in the Natural Resources Climate Change Adaptation Account established by this section, and are available without further appropriation or fiscal year limitation for the purposes defined in <i>Subpart C – Climate Change Safeguards for Natural Resources Adaptation</i> (see below).</p> <p><u>State programs for Natural Resources Adaptation Activity</u> Sec. 216. Distributes allowances to states in accordance with <i>Subpart C – Climate Change Safeguards for Natural Resources Adaptation</i> Sec. 370 below, to carry out natural resources adaptation activities, subject to an approved adaptation plan defined in Sec. 369 (see below).</p> <p>International Adaptation Sec. 207. Allocates emission allowances for the <i>International Climate Change Adaptation and Global Security Program</i> defined under Sec. 324 of Subtitle B (see pg 349).</p> | |
| | Div. A, Title I, Subtitle E – Miscellaneous (pp. 185-186) | |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|---|---|---|
| Assessment of Federal risk programs and policies | <p>Sec. 157. <i>Study of risk-based programs addressing vulnerable areas.</i> Requires preparation of a report within 2 years reviewing and assessing federal pre-disaster mitigation, emergency response, and flood insurance policies and programs that affect areas vulnerable to climate change impacts. The report must:</p> <ul style="list-style-type: none"> • include strategies to address vulnerabilities and implementation plans; • assess whether the federal policies and programs support state response and adaptation goals and objectives defined in the bill; • identify and make recommendations to address inconsistencies across federal policies and programs that address areas vulnerable to climate change; and • identify annual cost savings to the federal government associated with the strategies and recommendations. | No such provision exists in HR. 2454. |
| | Div. A, Title II, Subtitle B – Drinking Water Adaptation, Technology, Education and Research (pp. 266-276) | |
| Drinking Water Utilities Research | <p>Sec. 211. <i>Effects of Climate Change on Drinking Water Utilities</i> Requires the EPA, in cooperation with the Department of Commerce, Department of Energy, and Department of Interior, to establish and provide funding for a program of directed and applied research, including the full range of impacts on drinking water utilities in the U.S. including impacts to water supplies, water quality, infrastructure and facilities, and customers, to assist utilities in adapting to the effects of climate change. The program shall be conducted through an already identified non-profit drinking water research foundation, and shall be sponsored by water utilities.</p> <p>Specific research areas are defined in the bill and include both adaptation and greenhouse gas emission reduction topics.</p> <p>Appropriations of \$25 million are authorized for fiscal years 2010 through 2020.</p> | No such provision exists in HR. 2454. |
| | Div. A, Title III - Subtitle C - Adapting to Climate Change, Part 1 -Domestic Adaptation | Title IV – Subtitle E – Adapting to Climate Change, Part 1 – Domestic Adaptation |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733)¹ | American Clean Energy and Security Act (HR. 2454)² |
|---|---|--|
| Subpart A – National Climate Change Adaptation Program | p. 353 | pp. 1230-1301 |
| Funding | Allowance allocations for State programs are defined in Div. B, Title II – Program Allocations (pg 933-954). See Program Allocations above. | Allowance allocation to states for section 453 only. |
| Governance | Sec.341 <i>National Climate Change Adaptation Program</i> Establishes a National Climate Change Adaptation Program within the United States Global Change Research Program (USGCRP). | No National Climate Change Program was established in the final version of HR. 2454. |
| Research | No such provision exists in S. 1733. | Sec. 451. <i>Global Change Research and Data Management</i> <ul style="list-style-type: none"> • Directs the President to establish and Interagency Committee to ensure coordination and cooperation of federal research activities, including working with states. • Establishes an Interagency U.S. Global Change Research Program led by OSTP. • Directs the President to create a National Global Change Research and Assessment Plan for the Program that addresses information needs of federal, state, regional and local authorities. • Requires a Policy Assessment every 4 years by the National Academy of Public Administration (NAPA) and the National Academy of Sciences (NAS) focused on identifying and evaluating policy options used at federal, state and local levels to adapt to climate change. • Establishes a Global Change Research Information Exchange for the purpose of making research and information accessible to states and others electronically. |
| Vulnerability Assessments | No such provision exists in S. 1733. | Sec. 451. Requires USGCRP to complete vulnerability assessments every 5 years. |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|--|--|--|
| Climate Services | <p>Sec. 342. <i>Climate Services</i></p> <p>Directs the Secretary of Commerce through NOAA to establish a National Climate Service within NOAA to 1) develop climate information, data, forecasts, and warnings at national and regional scales, and 2) distribute climate impact information to State, local and tribal governments and the public.</p> | <p>Sec. 452. <i>National Climate Service</i></p> <p>Directs the President to initiate a 3-year process to evaluate options for and to create a National Climate Service, to support 1) collaborative interagency research (USGCRP program created in Section 451) and 2) an operational program to meet the needs of decision makers in federal agencies, state, local and tribal governments, regional entities, and other stakeholders and users (which would include the Climate Service Program created in this same section). The process is to be conducted by the National Science and Technology Council and led by the Director of OSTP.</p> <p>Establishes a Climate Service Program within NOAA to advance understanding of climate change, provide information to the public, and to support development of adaptation and response plans.</p> <ul style="list-style-type: none"> Analyze the effects of weather and climate on sectors; provide technical support for state, tribal and local governments; manage and disseminate information; and facilitate the use of climate information by users. Establishes 6 Regional Climate Centers to work with State Climate Offices to facilitate the collection and exchange of data and information between states and the federal government and to support state and local adaptation and response planning. Expands and clarifies the role of RISAs to include working with State Climate Offices, users and stakeholders on models, tools and other climate products, to facilitate development of regional and local adaptation plans. Other provisions included. |
| Federal Agency Adaptation Plans | There is no requirement for federal agency adaptation plans (except as defined in Subpart C for Natural Resources). | There is no requirement for federal agency adaptation plans (except as defined in Subpart C for Natural Resources). |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|----------------------------------|---|---|
| State Adaptation Programs | See Program Allocations above. | <p><i>Sec. 453. State Programs to Build Resilience to Climate Change Impacts</i></p> <p>Distributes allowances to state governments, where amounts are determined on population and per capita income relative to the U.S. Distribution of allowances must begin no later than September 30 of each of calendar years 2011 through 2049. 1% of these allowances are reserved for distribution to Indian tribes.</p> <p>Calculation: the product of each state's population and the state's "allocation factor" (Allocation Factor = Per capita income of all individuals in the U.S. divided by the per capita income of all individuals in the state, with minimum of .8 and max of 1.2).</p> <p>Funds are intended to supplement, not replace, existing sources of funding for climate change adaptation. However, calculations must also account for revenues provided to states resulting from a Presidentially declared major disaster, to eliminate the risk of excess funds from multiple sources attributable to the need for climate change adaptation.</p> <p>Requires states to create, and have approved, a State Adaptation Plan every 5 years in order to receive allowances for projects, beginning in 2015.</p> <p>Funding must be used for the implementation of projects, programs or measures to build resilience to climate change impacts including: extreme weather, water scarcity, decreased water quality, heat waves, droughts, sea level rise, increased air pollution, effects on public health, and ecosystem disruption. States should consider prioritizing projects that reduce flood events.</p> <p>Requirements for state and tribal adaptation plans include:</p> <ul style="list-style-type: none"> • Assessment and prioritization of vulnerabilities • Assessment of potential for carbon reduction through changes to land management policies • Identification and prioritization of cost-effective projects, programs and measures to build resilience • Full consideration of initiatives to protect or enhance natural ecosystem functions or the use of non-structural approaches. • Be consistent with federal conservation and environmental laws, and avoid environmental degradation to maximum extent |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|---|---|--|
| | | <p>possible.</p> <p>States must report every 3 years on:</p> <ul style="list-style-type: none"> • the use of allowance proceeds, • include a third-party performance evaluation report, and • identify the use of allowances for the reduction of flood and storm damage and include the effects of climate change on water and flood protection infrastructure. |
| Subpart B – Public Health and Climate Change | pp. 354-366 | pp. 1302-1316 |
| Intent of Federal Government | Sec. 351. No substantive changes from HR. 2454 Section 461. | <p>Sec. 461. States that it is the sense of the Congress that the federal government, in cooperation with international, state, tribal and local governments, should use all practical means and measures –</p> <ul style="list-style-type: none"> • to assist efforts of public health and health care professionals, first responders, states, tribes, municipalities, and local communities to...prepare health systems to respond to impacts • to ensure: <ul style="list-style-type: none"> - Nation’s health professionals have sufficient information to prepare for and respond to adverse health impacts of climate change - The utility and value of scientific research for health impacts and for strategies to prepare for and respond to impacts - Identification of vulnerable communities and development of response plans - Improvement of health status and health equity - Inclusion of health policy in development of climate change responses. • to encourage further research, interdisciplinary partnership, and collaboration between stakeholders <ul style="list-style-type: none"> - to understand and monitor health impacts of climate change - improve public health knowledge and response strategies - to enhance preparedness activities and public health infrastructure - to encourage Americans to learn about impacts of climate change on health. • to assist efforts of developing nations to prepare to respond to impacts of climate change. |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|-----------------------------------|--|---|
| Relationship to Other Laws | Sec. 352. No changes from HR. 2454, Sec. 462. | Sec. 462. Clarifies that nothing in subpart B limits authorities or responsibilities conferred by other laws. |
| National Strategy / Plan | <p data-bbox="443 415 1226 472">Sec. 353. No substantive changes from HR. 2454, Sec. 463, except as noted below:</p> <p data-bbox="443 695 1226 816">Requires the Secretary of HHS to assist health professionals to prepare and respond to the health impacts of climate change through detailed measures defined in the contents of the strategic plan, including the following topic areas: (see HR. 2454 Sec 463).</p> | <p data-bbox="1255 415 2037 537">Sec. 463. Requires the Sect of HHS to issue a national strategic action plan to assist health professionals in preparing for and responding to the impacts of climate change on public health in the U.S. and other nations, particularly developing countries.</p> <p data-bbox="1255 557 2037 678">Requires consultation with relevant federal agencies (including CDC, EPA, NIH, DOE, and others as appropriate), Indian tribes, state and local governments, public health organizations, scientists and other stakeholders, and opportunity for public comment.</p> <p data-bbox="1255 698 2037 849">Requires the Secretary of HHS, acting through the CDC and other federal agencies, to assist health professionals to prepare and respond to the health impacts of climate change through detailed measures defined in the contents of the strategic plan, including the following topic areas:</p> <ul data-bbox="1276 852 2037 1382" style="list-style-type: none"> • Disease surveillance and monitoring • Creating predicting and monitoring tools for international, national, regional, state and local levels, and providing technical support • Developing communication strategies and interventions for extreme weather and disaster response • Identifying and prioritizing vulnerable communities and populations • Health communication, public education and outreach • Academic and regional centers of excellence • Assessing international, national, regional, state and local climate change health preparedness and response strategies • Providing state, regional and tribal preparedness, communication, and response planning and implementation support • Research • Technical assistance to developing nations <p data-bbox="1255 1401 2037 1430">Requires updates to the national plan every 4 years.</p> <p data-bbox="1255 1450 2037 1507">Assigns authority to HHS for this Subpart to achieve the goals and measures of the national action plan.</p> |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733)¹ | American Clean Energy and Security Act (HR. 2454)² |
|---------------------------------------|---|--|
| | | <p>Calls for other relevant federal agencies to incorporate the goals and measures of the national action plan into the administration of public health programs and initiatives.</p> <p>Defines specific activities for HHS in furtherance of the national strategic action plan including research regarding the impacts of climate change on public health and associated funding.</p> |
| Advisory Board | Sec. 354. No changes from HR. 2454, Sec. 464. | Sec. 464. Establishes a permanent science advisory board to provide scientific and technical advice and recommendations on domestic and international impacts of climate change on public health, vulnerable populations and regions, and strategies and response mechanisms. |
| Reports | Sec. 355. No changes from HR. 2454, Sec 465. | <p>Sec. 465. Calls for the submission of new reports: Needs Assessment Report – by the National Research Council and the Institute of Medicine to assess the needs for health professionals to prepare for and respond to climate change impacts on public health and recommendations.</p> <p>Climate Change Health Protection and Promotion Reports – requires the Sect to ensure issuance of reports to help health professionals in preparing for and responding to adverse health effects of climate change. Report objectives are provided in the bill. Updates are required every 4 years.</p> |
| Funding | See Allowances and Program Allocations above. | Sec. 467. Creates a Climate Change Health Protection and Promotion Fund in the Treasury to carry out this subpart. Funds made available are intended to supplement existing sources of funds for public health. Part H, Sec 782 provides for the proceeds from .1% of total allowances to be deposited in this fund annually. |
| Sub-part C – Natural Resources | Climate Change Safeguards for Natural Resources Conservation (pp. 367-421) | Natural Resources Adaptation (pp. 1316-1364) |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|--------------------------|--|--|
| Adaptation Policy | Sec. 362. It is the policy of the federal government, in cooperation with state and local governments, Indian tribes, and other interested stakeholders to use all practical means and measures to protect, restore and conserve natural resources to enable them to become more resilient, adapt to, and withstand the impacts of climate change and, where applicable ocean acidification, drought, flooding and wildfire . [Note: This change of language to add drought, flooding and wildfire is carried out throughout each remaining section of this sub-part in this bill, however, it is not highlighted as a change in each section below.] | Sec. 472. It is the policy of the federal government, in cooperation with state and local governments, Indian tribes, and other interested stakeholders to use all practical means and measures to protect, restore and conserve natural resources to enable them to become more resilient, adapt to, and withstand the impacts of climate change and ocean acidification |
| CEQ | Sec. 364. No changes from HR. 2454 Sec. 474. | Sec. 474. Assigns CEQ the oversight role of: <ul style="list-style-type: none"> • Advising the President on the Natural Resources Climate Change Adaptation Strategy (Sec. 476) and federal agency natural resources adaptation plans (Sec. 478) • Chairing the Natural Resources Climate Change Adaptation Panel (Sec. 475); and Coordinating federal agency strategies, plans, programs, etc. as it pertains to natural resources adaptation. |
| Adaptation Panel | Sec. 365. Adds CEQ and FEMA to the list of panel members defined in HR. 2454. | Sec. 475. Establishes a Natural Resources Climate Change Adaptation Panel, chaired by CEQ, with members from: <ul style="list-style-type: none"> • NOAA • Forest Service • National Park Service • U.S. F&W • BLM • USGS • Bureau of Reclamation • Bureau of Indian Affairs • EPA • Army Corp of Engineers • Others as appropriate |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|----------------------------|---|---|
| Adaptation Strategy | <p>Sec. 366. Substantively the same as HR. 2454 Sec. 476 except where noted below:⁹</p> <p>Requires the Panel, to create a Natural Resources Climate Change Adaptation Strategy.</p> <p>Adds one additional provisions for the content of the Strategy:</p> <ul style="list-style-type: none"> • Identification and prioritization of research and data needs <p>Modifies one provision for the content of the Strategy:</p> <ul style="list-style-type: none"> • Procedure for the development of detailed agency and department-specific adaptation plans (Sec 368) to address impacts of climate change on natural resources in the jurisdiction of each agency. <p>Modifies the requirement for federal departments or agencies with representation on the Panel:</p> | <p>Sec. 476.</p> <p>Requires the President, acting through the Panel, to create a Natural Resources Climate Change Adaptation Strategy:</p> <ul style="list-style-type: none"> • based in best available science; • in close cooperation with states and Indian tribes; • coordinate with other federal agencies as appropriate • consulting with local governments, conservation organizations, scientists and other interested stakeholders; and • provide public notice and opportunity for comment. <p>Review and revise every 5 years.</p> <p>Detailed provisions for the content of the Strategy include:</p> <ul style="list-style-type: none"> • Vulnerability assessments of natural resources to climate change • Current research, observation, and monitoring activities at federal, state, tribal and local levels • Identification of natural resources with the greatest need for protection, restoration and conservation • Protocols for integrating adaptation strategies and activities into conservation and management of natural resources by federal departments and agencies to ensure consistency across jurisdictions and resources • Actions federal departments and agencies shall take and timelines for actions. • Mechanisms for communication and coordination among federal departments and agencies, between federal departments and agencies and state agencies, U.S. territories, Indian tribes, private landowners, conservation organizations, and other nations that share jurisdiction over natural resources with the United States • Actions to develop a Natural Resources inventory and monitoring protocols through interagency coordination and collaboration • Process for the development of detailed agency and department-specific adaptation plans (Sec 478). |

⁹ S. 1733 Subpart C uses “ongoing and expected impacts of climate change” to replace “impacts of climate change and ocean acidification” used in HR. 2454 Subpart C.

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|---|--|--|
| | Federal departments or agencies with representation on the Panel shall integrate the elements of the Strategy into agency plans, environmental reviews, programs, and activities related to conservation, restoration, and management of natural resources. | Federal departments or agencies with representation on the Panel shall consider the impacts of climate change and ocean acidification and integrate the elements of the Strategy into agency plans, environmental reviews, programs, and activities related to conservation, restoration, and management of natural resources. |
| Adaptation Science and Information Program | <p>Sec. 367. No substantive changes from HR. 2454 except where noted below:</p> <p>Adds one item to the list of functions NOAA and the Center shall provide:</p> <ul style="list-style-type: none"> • Assess and synthesize current physical and biological knowledge. | <p>Sec. 477. Directs NOAA and USGS to establish a coordinated process (within 90 days of enactment) for developing and providing science and information needed to assess and address the impacts of climate change and ocean acidification on natural resources. The process shall be led by the National Climate Change and Wildlife Science Center, established within the USGS (below), and the National Climate Service of NOAA.</p> <p>Detailed provisions of the functions NOAA and the Center shall provide include:</p> <ul style="list-style-type: none"> • Providing technical assistance to federal departments and agencies, state and local governments, Indian tribes and interested private landowners in their efforts to assess and address impacts of climate change; • Conducting and sponsoring research and providing federal departments and agencies, state and local governments, Indian tribes and interested private landowners with research products, decision and monitoring tools and information to develop strategies for assisting natural resources; and • Assisting federal departments and agencies in the development of adaptation plans. <p>Climate Change Impacts Survey required every 5 years.</p> <p>Establishes a National Climate Change and Wildlife Science Center within the USGS to perform specified functions, in collaboration with federal and state natural resources agencies and departments, Indian tribes, universities and other partner organizations.</p> |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|--|--|---|
| Federal Agency Adaptation Plans | <p>Sec. 368.</p> <p>Requires federal departments and agencies with representation on the Panel to create an adaptation plan within 1 year of enactment that implements the Strategy under Sec. 366 and consistent with the Policy in Sec. 362. Plans should detail ongoing and expanded actions of the department or agency; changes in decision making processes necessary to increase the ability of resources under the jurisdiction of the department or agency, or where relevant, resources under different departments or agencies jurisdiction, to become more resilient or adapt to the impacts of climate change; and timelines for implementation.</p> <p>Numerous requirements for the content of the plans are detailed in the bill, for which only minor changes in substance occur from HR. 2454, except for the following added requirement:</p> <ul style="list-style-type: none"> Consider strategies that engage youth and young adults to provide opportunities for meaningful conservation and community service, and to encourage opportunities for employment in the private sector through employer partnerships. <p>As it pertains to the implementation of adaptation plans and the consideration of impacts:</p> <ul style="list-style-type: none"> Each federal agency or department with representation on | <p>Sec. 478.</p> <p>Requires federal departments and agencies with representation on the Panel to create an adaptation plan within 1 year of enactment that implements the Strategy under Sec. 476 and is consistent with the Policy in Sec. 472. Plans should detail current and projected efforts to address projected impacts on natural resources within the agency's jurisdiction; necessary additional actions and implementation timelines for such actions.</p> <p>Numerous requirements for the content of the plans are detailed in the bill within the following topic areas:</p> <ul style="list-style-type: none"> Establish programs to assess the impacts of climate change on natural resources within the department or agency's jurisdiction. Identify and prioritize strategies and actions to address such impacts. Describe how these strategies and actions will be integrated into the operations of the department or agency. Establish methods for assessing the effectiveness of strategies. Describe current and proposed mechanisms to enhance cooperation and coordination of natural resources adaptation efforts with state and local government, Indian tribes and non-governmental stakeholders; Specific guidance to resource managers on how to address effects of climate change and ocean acidification, how to obtain site-specific information, and to reflect best practices shared among agencies, and to identify and assess data and information gaps and needs. Identify and assess data and information gaps necessary to develop agency strategies and plans. <p>As it pertains to the implementation of adaptation plans and the consideration of impacts:</p> <p>"To the maximum extent practicable and consistent with applicable law, every natural resource management decision</p> |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|--------------------------------------|---|--|
| | <p>the Panel shall implement their plan.</p> <ul style="list-style-type: none"> Additionally, the bill provides that “To the maximum extent practicable and consistent with applicable law, every natural resource management decision made by the department or agency shall consider the ongoing and expected impacts of climate change, including where applicable, ocean acidification, drought, flooding, and wildfire on natural resources and choose alternatives that will avoid and minimize those impacts and promote resilience.” <p>CEQ is required to issue guidance for federal departments and agencies for considering those impacts and choosing alternatives that will avoid and minimize those impacts and promote resilience.</p> | <p>made by the department or agency shall consider the impacts of climate change and ocean acidification on those natural resources.”</p> <p>CEQ is required to issue guidance for federal departments and agencies for considering those impacts.</p> |
| <p>State Adaptation Plans</p> | <p>Sec. 369 No substantive changes from HR. 2454 except where noted below:</p> <p>Detailed provisions for what the plans must include are the same topic areas as HR. 2454 except Two provisions are added:</p> <ul style="list-style-type: none"> Consider strategies that engage youth and young adults Integrate resource resilience into agency decision making and conservation actions <p>It removes the requirement to include strategies and conservation actions:</p> <ul style="list-style-type: none"> Include timeframes for implementing actions | <p>Sec. 479. In order to be eligible for state adaptation funds, within 1 year of the development of the Natural Resources Climate Change Adaptation Strategy, states must create a state natural resource adaptation plan for review by the Secretary of Interior and, if applicable, the Secretary of Commerce.</p> <p>Plans must include a strategy for addressing impacts of climate change and ocean acidification on fish, wildlife, plants, habitats, ecosystems, wildlife health, and ecological processes</p> <p>Detailed provisions for what the plans must include are provided in the following topic areas:</p> <ul style="list-style-type: none"> Description of the impacts Establish impact monitoring programs Describe and prioritize proposed conservation actions Include strategies, conservation actions and timeframes for implementing actions Establish methods for assessing the effectiveness of, and for updating, strategies and actions Incorporate the plan into a revision of the state’s wildlife action plan Parties who should participate in the planning effort ((e.g. state fish and wildlife agencies, State coastal agencies, State agency responsible for Land and Water Conservation Fund |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|----------------|---|--|
| | | <p>grants, etc)</p> <ul style="list-style-type: none"> Parties with whom the plan should be coordinated, including the Sect of the Interior, and where applicable, the Sect of Commerce and other states that share jurisdiction over natural resources with the state. <p>For coastal states, plans must also include a strategy to address impacts to the coastal zone that are prescribed in detail in the following areas:</p> <ul style="list-style-type: none"> Identifies natural resources likely to be impacted; Identifies continuing research and data needs to address those impacts; Identifies adaptation strategies; Establishes monitoring programs; Establishes performance measures to assess effectiveness of adaptation strategies; and Is developed with state coastal and other agencies, and in coordination with the Sect of Commerce and other relevant federal agencies. <p>States must provide for public and independent scientific input.</p> <p>Plans must consider the research and information that already exists in other plans (e.g. plans approved under the Coastal Zone Management Act). See bill for details.</p> <p>Plans must be updated no less than every 5 years.</p> |
| Funding | <p>Sec. 369. No changes from HR. 2454 Sec. 479.</p> <p>Sec. 370. Of the amounts made available for this subpart annually, distribution is as follows: <u>States 38.5%</u> - 32.5 % to state wildlife agencies in accordance with the Pittman-Robertson Wildlife Restoration Act apportionment</p> | <p>Sec. 479. Provides conditions under which funding established in Sec. 480 may be provided to states prior to the approval of a State Plan.</p> <p>Sec. 480.¹⁰ Allocates to states amounts from the sale of allowances on an annual basis, to be distributed as follows: <u>States 100%</u> - 84.4% to state wildlife agencies in accordance with the Pittman-Robertson Wildlife Restoration Act apportionment</p> |

¹⁰ Amended by Manager's amendment on May 21, 2009. The Manager's amendment separated out allocations for natural resources adaptation to states from allocation for federal agencies for natural resources adaptation. The amendment preserved the allocation disposition amounts, however, with states receiving 0.385% of the total natural resources allocation and federal agencies receiving the remaining portion through the Natural Resources Climate Change Adaptation Fund.

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|-------|---|--|
| | <p>formula.</p> <ul style="list-style-type: none"> - 6.0 % to state coastal agencies under the Coastal Management Act apportionment formula. <p><u>Federal Agencies 61.5%</u></p> <ul style="list-style-type: none"> • Natural Resources Adaptation Department of Interior - 25% <ul style="list-style-type: none"> - 17% for agency adaptation activities(departments added in the language include National Park Service, U.S. Fish and Wildlife Services, Bureau of Indian Affairs, and Bureau of Land Management) - 5% for cooperative grant programs - 3% for Indian tribe financial assistance • Land and Water Conservation – 12% for the acquisition of lands and land interests. • Natural Forest and Grassland Adaptation Forest Service – 5% • Coastal and Marine System Adaptation Dept of Commerce – 7% • Estuarine and Freshwater Ecosystem Adaptation EPA – 7.5% Corp of Engineers – 5% <p>10% cost sharing provision for states receiving funds under this section, including funds to federal agencies which are made available to states.</p> <p>Federal departments and agencies must use funds only for activities consistent with their approved adaptation plans.</p> | <p>formula.</p> <ul style="list-style-type: none"> - 15.6% to state coastal agencies under the Coastal Management Act apportionment formula. <p>Establishes the Natural Resources Climate Change Adaptation Fund in the Treasury for the deposit of auction proceeds established in Part H, Sec. 782. Congress must appropriate to federal agencies at least as much as the estimated annual deposits into the Fund. Appropriations are offset by the amounts deposited in the Fund.</p> <p><u>Allocation to Federal Agencies:</u></p> <ul style="list-style-type: none"> • Dept of Interior 40.6% <ul style="list-style-type: none"> - 27.6% for agency adaptation activities(departments added in the language include National Park Service, Bureau of Indian Affairs and Bureau of Land Management) - 8.1 % for cooperative grant programs - 4.9% for Indian tribe financial assistance • Land and Water Conservation Fund – 19.5% for acquisition of lands and land interests • Forest Service – 8.1% • Dept of Commerce – 11.5% • EPA – 12.2% • Corp of Engineers – 8.1% <p>10% cost sharing provision for states receiving funds under this section, including funds to federal agencies which are made available to states.</p> <p>Federal departments and agencies must use funds only for activities consistent with their approved adaptation plans.</p> |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|--|---|--|
| Habitat and Corridors Information Program | Sec. 371. No substantive changes from HR. 2454. | <p>Sec. 481. Requires the Sect of Interior in coordination with states and Indian tribes to establish a National Fish and Wildlife Habitat and Corridors Information Program.</p> <p>Funds the development and support of a Geographic Information System database of fish and wildlife habitats and corridors to enhance and improve state and federal plans that affect fish and wildlife including adaptation plans, land management plans, and so on. Detailed provisions for the GIS database and its use are provided in the bill.</p> |
| Sub-part D – Additional Climate Change Programs | pp. 421-444 | Sub-part D for Adaptation does not exist in HR. 2454 |
| Water System Mitigation and Adaptation Partnerships | <p>Sec. 381. Requires the EPA Administrator to establish a water system mitigation and adaptation partnership program to provide funds to states for water system adaptation projects, where water systems include: community water systems, treatment works, decentralized wastewater treatment system, groundwater storage and replenishment system, irrigation or conservation transportation and delivery systems.</p> <p>States shall issue funds to water system owners (defined in the bill), based on an annual competitive grant process. Grants shall prioritize those systems facing great and immediate risk of climate-related negative impacts on water quality or quantity and which meet one or more of the goals outlined in the bill.</p> <p>Cost sharing by the federal government cannot exceed 50%. Calculations for the non-federal share of the cost shall include the value of any in-kind services, and shall not include any other amounts the water system receives from a federal agency.</p> | No such provision exists in HR. 2454. |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|--|--|--|
| Flood Control, Protection, Prevention, and Response | <p>Sec. 382. Requires the EPA to establish a Flood Control, Protection, Prevention and Response Program to provide funds to states for these purposes. Identifies the objectives the programs or projects should mitigate or adapt to as it pertains to the impacts of climate change such as reducing flood damage, risk and vulnerability; and identifying, maintaining and restoring ecosystems and natural barriers.</p> <p>Gives priority to projects that directly assist local governments and communities in flood control, protection, prevention and response activities.</p> | No such provision exists in HR. 2454. |
| Wildfire | <p>Sec. 383. Authorizes a program to reduce the risk of wildfires in fire-ready communities (defined in the bill).</p> <p>Requires the Secretaries of Agriculture and Interior to develop regional maps of communities with the highest risk of wildfire and in need of hazardous fuels reduction projects.</p> <p>Provides for grants from the Secretaries of Agriculture and Interior to fire-ready communities for eligible programs and investments as defined in the bill.</p> | No such provision exists in HR. 2454. |
| Coastal and Great Lakes State Adaptation Program | <p>Sec. 384. Requires the EPA Administrator to distribute funding for coastal states on an annual basis to plan for and address the impacts of climate change in the coastal watershed (defined in the bill), including if needed, the relocation of public facilities and infrastructure, coastal resources of national significance, public energy facilities, or other public water uses. It also allows such funding for research and data collection including the acquisition of high resolution topography and bathymetry, models, maps, studies, and so forth.</p> <p>Funding shall be distributed based upon:</p> <ul style="list-style-type: none"> - 25% based upon the proportion of shoreline miles for the state - 25% based upon the population of the state - 50% divided equally among all coastal states <p>Coordination with other statewide climate change efforts is required.</p> <p>A report is required by the state after 1 year and every 2 years thereafter that provides an accounting of the state's use of funds.</p> | No such provision exists in HR. 2454. |

Comparison of Adaptation Provisions: American Clean Energy and Security Act (HR. 2454) and Clean Energy Jobs and American Power Act (S. 1733)

| Topic | Clean Energy Jobs and American Power Act (S. 1733) ¹ | American Clean Energy and Security Act (HR. 2454) ² |
|---------------------------------|--|--|
| | Title VII, Part A – Global Warming Pollution Reduction Goals and Targets, pp. 450-457 | Title VII, Part A – Global Warming Pollution Reduction Goals and Targets, pp. 684-691 |
| Impact Assessment Report | <p>Sec. 705. Same as HR. 2454, except:</p> <ul style="list-style-type: none"> • assessment of impacts to tribal cultures is removed • erosion is added as a viable cause when assessing human displacement or relocation | <p>Sec. 705. Requires the Administrator (the Environmental Protection Agency), with the support of federal agencies, to report on the status of greenhouse gas reduction efforts, including efforts to reduce the vulnerability to impacts of climate change, by 2013 and every 4 years thereafter:</p> <p>The report shall include:</p> <p>An analysis of key findings of latest scientific information, including findings from the Natural Resources Adaptation Panel defined in this bill.</p> <p>An assessment of current and potential impacts of climate change on</p> <ul style="list-style-type: none"> • human populations (public health, economic livelihoods, subsistence, human infrastructure, and displacement or permanent relocation) • fresh water systems (water resources, flood and drought risk, relative humidity) • the carbon cycle (permafrost, wildfires, carbon sinks) • ecosystems and animal and plant populations • oceans and ocean ecosystems (sea-level, acidity, temperatures, reefs, circulation, fisheries, etc.) • severe weather events • agriculture and forest systems, <p>Summarize significant socio economic impacts in the U.S. A list of specific categories (e.g. human infrastructure) subject areas is provided in the bill.</p> <p>Calls for the use of a risk management framework, with both quantitative and qualitative measures, in conducting the assessments. Provides specific measures for inclusion.</p> <p>Requires the report to describe increased risks due to a 2 degree Celsius increase in global atmospheric temperatures, and an assessment against these and other thresholds.</p> |