

CRS Report for Congress

Side-by-Side Comparison of Climate Change Provisions in House-Passed H.R. 3221, Senate-Passed H.R. 6, and House-Passed H.R. 6

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Prepared for Members and
Committees of Congress

Side-by-Side Comparison of Climate Change Provisions in House-Passed H.R. 3221, Senate-Passed H.R. 6, and House-Passed H.R. 6

Summary

In the 110th Congress, the House and the Senate have passed different versions of omnibus energy legislation. The House originally passed H.R. 6 in January 2007. The Senate passed an amended version in June 2007. In August 2007, the House passed a new and broader-ranging omnibus energy bill, H.R. 3221. On December 6, 2007, the House substituted the Senate's text of H.R. 6 with an amendment containing many provisions from H.R. 3221 and some from Senate-passed H.R. 6. This report compares climate-related provisions in the current energy legislation.

Most provisions of H.R. 3221 that specifically addressed climate change were omitted from the House's substitute. However, a few climate-related provisions in the latest House-passed H.R. 6 are: development of carbon sequestration technologies, international programs to promote efficient and clean energy, and an Office of Climate Change and Environment in the Department of Transportation. Key differences remain between the House-passed and Senate-passed bills. In addition, the Administration has threatened to veto legislation, such as House-passed H.R. 6, that includes a requirement for minimum content of renewable energy in electricity production and reduction of existing tax incentives for oil production. This report compares provisions specifically directed at climate change topics in recently passed omnibus energy legislation.

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Side-by-Side Comparison of Climate Change Provisions in House-Passed H.R. 3221, Senate-Passed H.R. 6, and House-Passed H.R. 6

Introduction

In the first session of the 110th Congress, the House and the Senate passed very different versions of omnibus energy legislation. The House originally passed H.R. 6 in January 2007. The Senate passed an amended version in June 2007. In August 2007, the House passed a new and broader-ranging omnibus energy bill, H.R. 3221. On December 6, 2007, the House substituted the Senate's text of H.R. 6 with an amendment containing many provisions from H.R. 3221 and some from Senate-passed H.R. 6. This report compares climate-related provisions in the current energy legislation.

When the House took up H.R. 6 to resolve differences, most provisions of H.R. 3221 that specifically addressed climate change or greenhouse gas emissions were omitted from the House substitute language. Provisions previously passed by the House but now omitted from H.R. 6 include: statements of federal climate change policy; repeal and replacement of the U.S. Global Change Research Program; assessment of climate change impacts and adaptation strategies; and required reductions of greenhouse gases (GHG) by federal agencies.

While virtually all energy provisions have implications for GHG emissions or technology development, H.R. 6, as passed by the House on December 6, 2007, includes several provisions that specifically address climate change issues. These climate-specific provisions include:

- measures to promote GHG reducing technologies¹ overseas,
- assessments of geological and terrestrial carbon sequestration,
- establishment of an Office of Climate Change and Environment in the Department of Transportation, and
- an audit of the U.S. tax code to estimate the magnitude of impacts of its provisions on GHG emissions.

¹ The term "clean and efficient energy" is defined in House-passed H.R. 6 Title IX as technology that will, inter alia, reduce GHG emissions compared to technologies in widespread commercial use in a recipient country.

Key legislative challenges remain because of the differences between the House-passed and Senate-passed bills. Even where similar provisions exist in both, there are significant variations yet to be resolved. In addition, the Administration has threatened to veto legislation, such as House-passed H.R. 6, that requires renewable energy production for electricity supply and reduces tax incentives for the oil industry.

This report compares provisions specifically directed at climate change topics in recently passed omnibus energy legislation. (For legislation on energy efficiency and renewable energy, see CRS Report *RL33831 — Energy Efficiency and Renewable Energy Legislation in the 110th Congress*, by Fred Sissine, Lynn J. Cunningham and Mark Gurevitz.) A side-by-side comparison of House-passed H.R. 3221 with Senate-passed H.R. 6 and House-passed H.R. 6 follows.

Table 1. Climate Change Provisions in House-Passed H.R. 3221, Senate-Passed H.R. 6, and House-Passed H.R. 6

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
|--|-------------------------------------|---|--|
| ENERGY INDEPENDENCE AND SECURITY ACT OF 2007² | | | |
| CRS Experts: Susan Fletcher (sfletcher@crs.loc.gov; 7-7231); Jane Leggett (jaleggett@crs.loc.gov; 7-9525) | | | |
| <p>TITLE II, United States Policy on Global Climate Change, Subtitle A, Sec. 2102 contains Congressional Statement of Policy. The United States will take a leadership role, participating more actively and constructively in the intergovernmental climate change process, and seek to obtain mitigation commitments from all major greenhouse gas (GHG) emitting countries under the United Nations Framework Convention on Climate Change (UNFCCC). The United States is to serve this goal by engaging in high level dialogue on climate change with the Group of 8 (G-8), China, India, Brazil, and others. While protecting U.S. national and economic interests and U.S. competitiveness, the United States is to participate in negotiation of a new agreement under the UNFCCC that would include binding mitigation commitments from all major emitting countries, and address the need for adaptation.</p> | <p>No comparable provision.</p> | <p>Like the Senate-passed H.R. 6, House-passed H.R. 6 omitted this provision.</p> | <p>The United States rejected the Kyoto Protocol, with commitments by industrialized countries to reduce GHG emissions, because it did not contain commitments by large developing country emitters (e.g., China) and it was perceived to be too costly.</p> <p>The United States continues to participate in UNFCCC negotiations (parent treaty of the Protocol), but insists that negotiations towards a post-2012 treaty should not include binding commitments to reduce GHG. President Bush initiated a high-level dialogue on climate change with major GHG-emitting nations, parallel to the UNFCCC negotiations, beginning September 2007 in Washington DC, to run through 2008. Both President Bush's policy and the U.N. have a goal of reaching agreement on a global treaty in 2009.</p> |

² The headings used in the table are those in the latest-passed bill, H.R. 6 as passed by the House on December 6, 2007.

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
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| <p>Sec. 2103 establishes an Office on Global Climate Change within the Dept. of State, headed by an Ambassador-at-Large to advance U.S. goals concerning reducing emissions of GHGs and serve as a principal adviser to the President and Secretary of State on climate change policy.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | |
| <p>Assistance to Promote Clean and Efficient Energy Technologies in Foreign Countries</p> | | | |
| <p>CRS Experts: Susan Fletcher (sfletcher@crs.loc.gov; 7-7231); Jane Leggett (jaleggett@crs.loc.gov; 7-9525)</p> | | | |
| <p>Subtitle B, Sec. 2201, Congressional Findings, reviews existing authorities and notes inadequate funding. It recognizes the U.S. Government's Asia-Pacific Partnership on Clean Development and Climate, but as a non-binding framework that does not require GHG emissions reductions from the six partnership countries.</p> <p>Sec. 2202, United States Assistance for Developing Countries, authorizes \$200 million annually for the U.S. Agency for International Development (AID) over the fiscal years 2008 - 2012 to support policies and programs in developing countries that promote clean and efficient energy technologies, and to promote the use of American-made clean and efficient energy technologies products, and energy and environmental management services. The Administrator of U.S. AID is to submit an annual report on the implementation.</p> | <p>No comparable provision.</p> | <p>Title IX omits the Congressional Findings of H.R. 3221 and references to the Asia-Pacific Partnership on Clean Development and Climate. It defines "clean and efficient energy technology" as technology that will, <i>inter alia</i>, reduce greenhouse gas emissions compared to technologies in widespread commercial use in a recipient country.</p> <p>Sec. 911 is the same as H.R. 3221 Sec. 2202.</p> | <p>The U.S. Government's Asia-Pacific Partnership on Clean Development and Climate (APP) was launched by President G.W. Bush as a major initiative to address climate change internationally, outside of the UN FCCC and Kyoto Protocol framework. It currently includes the United States, Australia, Canada, China, India, Japan and South Korea. Its website describes the APP's focus as "expanding investment and trade in cleaner energy technologies, goods and services in key market sectors." [http://www.asiapacificpartnership.org]</p> |

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| <p>Sections 2203-2206 outline steps to be taken by (1) the Secretary of Commerce through the U.S. Foreign Commercial Service and the International Trade Administration, (2) the Overseas Private Investment Corporation (OPIC), and (3) the U.S. Trade and Development Agency to promote the use of clean and efficient energy technologies, and to give preferential treatment to projects promoting these goals and U.S. exports to meet them. The Secretary shall submit annual reports in 2008-2012. Authorizes sums as may be necessary in each fiscal year of 2008-2012.</p> | <p>No comparable provision.</p> | <p>Secs. 912-913 are the same as H.R. 3221's section 2203-2204.</p> <p>Sec. 914 omits the Congressional Findings but includes H.R. 3221's Sense of the Congress that OPIC should promote greater investment in clean and efficient energy technologies, and related actions.</p> <p>Sec. 915 is nearly the same as Sec. 2206 of H.R. 3221, but softens the preference to be given to clean and efficient technologies by the Trade and Development Agency.</p> | |

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|---|-------------------------------------|---|----------|
| <p>Sec. 2208 requires the President to provide assistance to the Interagency Working Group to Support a Clean Energy Technology Exports Initiative, in accord with its five-year strategic plan (2002). Requires an annual report to Congress on implementation. Authorizes \$5 million for each fiscal year 2008-2012.</p> | <p>No comparable provision.</p> | <p>Sec. 916 requires the President to establish within 90 days a Task Force on International Cooperation for Clean and Efficient Energy Technologies. Within 1 year, the Task Force shall submit a strategy to promote adoption, and to facilitate the export, of clean and efficient energy technologies in major developing countries, and to develop related financial instruments and mechanisms, consistent with the rules of the World Trade Organization. The strategy shall be updated every 3 years. The Task Force shall also establish an Interagency Working Group, which shall establish an Interagency Center on the Export of Clean and Efficient Energy Technologies. The Task Force shall terminate in 12 years. Requires a triennial report to Congress. Authorizes \$5 million for each fiscal year 2008 - 2020.</p> | |

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
|--|-------------------------------------|------------------------------------|----------|
| <p>Sec. 2207, the Global Climate Change Exchange Program, authorizes the Secretary of State to establish a program to strengthen research and educational exchange, and international cooperation to reduce GHG emissions and address challenges posed by climate change. An annual report is required on implementation of this program, and \$3 million annually is authorized for each fiscal year 2008 - 2012.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | |
| <p>Sec. 2209 requires a report within 180 days after enactment on the impact of global climate change on developing countries. It must contain an assessment of current and anticipated needs of developing countries to adapt, and a strategy to meet those needs, including U.S. assistance, and identifying funding sources.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | |

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
|---|-------------------------------------|---|----------|
| International Clean Energy Foundation | | | |
| CRS Experts: Jane Leggett (jaleggett@crs.loc.gov; 7-9525) | | | |
| <p>Subtitle C establishes an International Clean Energy Foundation as a government corporation, to serve foreign policy and energy goals of reducing GHG emissions. The Foundation shall, <i>inter alia</i>, make grants to projects demonstrating technologies, processes and services to reduce GHG emissions; solicit additional funding from other governments; create a repository of information on best practices; and promote American-made energy technologies. An annual report to Congress is required regarding implementation in the prior fiscal year. Authorizes \$20 million in each fiscal year 2008-2012.</p> | <p>No comparable provision.</p> | <p>Subtitle B establishes an International Clean Energy Foundation as a government corporation, to serve foreign policy and energy goals of reducing GHG emissions. It is nearly identical to Subtitle C of H.R. 3221. In Sec. 923(6), the Foundation shall give preferences to entities incorporated in the United States and whose technologies will be substantially manufactured in the United States. Authorizes \$20 million in each fiscal year 2009-2013.</p> | |

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
|---|-------------------------------------|------------------------------------|----------|
| SCIENCE AND TECHNOLOGY Advanced Research Projects Agency-Energy | | | |
| CRS Expert: Jane Leggett (jaleggett@crs.loc.gov; 7-9525) | | | |
| <p>Title IV, Subtitle A establishes the Advanced Research Projects Agency-Energy (ARPA-E), reporting to the Secretary of the Department of Energy (DOE), to conduct long-term and high risk research on novel energy technologies. Goals include reducing greenhouse gases.</p> <p>Establishes in the Department of the Treasury an Energy Transformation Acceleration Fund with authorization for \$3 million for FY2008, rising to \$1.3 billion in 2012. ARPA-E is to be evaluated within 6.5 years.</p> | No comparable provision. | Omitted. | |

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|---|---|--|--|
| Carbon Capture and Storage | | | |
| CRS Expert: Peter Folger (pfolger@crs.loc.gov; 7-1517) | | | |
| <p>Title IV, Subtitle F expands the DOE program for carbon capture to include R&D for carbon storage and demonstration. DOE would conduct 7 initial large-volume sequestration tests, preferably using carbon dioxide from large industrial or electricity-generating sources, and would conduct at least 3 large-scale carbon capture demonstration tests from industrial sources of CO₂. Beginning in 2011, the National Academy of Sciences (NAS) would review the large-scale sequestration and capture programs. The Environmental Protection Agency (EPA) would conduct a research program to assess potential impacts of CO₂ storage on the environment, public health, and safety associated with capture and sequestration. A grant program for graduate degrees in geological sequestration science would be established.</p> | <p>Title III of H.R. 6 is similar to Title IV, Subtitle F of H.R. 3221. It expands the DOE program to include carbon storage and carbon capture demonstration projects.</p> | <p>Title VII, Subtitle A is similar to Title IV, Subtitle F of H.R. 3221, but it specifically excludes tests conducted for the FutureGen project. Also, it does not set a limit for the number of large-scale carbon capture demonstration tests. Title VII also states that nothing in Subtitle A authorizes promulgation of any requirement that conflicts with or is inconsistent with the Safe Drinking Water Act. H.R. 6 authorizes slightly higher appropriations for Subtitle A compared to the similar provision in H.R. 3221. Authorizes \$240 million in each fiscal year 2008-2012 for Sec. 702 demonstration and testing, and \$200 million for Sec. 703, large scale carbon capture for each fiscal year 2009-2013. Another \$1 million is authorized for Sec. 705 training and research, and \$5 million “in each fiscal year” for safety research. Sec. 708 authorizes \$10 million for a grant program to universities for research and development.</p> | <p>H.R. 6 does not include an NAS review of the DOE programs, or establish a university-based grant program for geological sequestration science. H.R. 6 does not require that the EPA Administrator conduct research that determines procedures necessary to assess impacts of CO₂ capture and sequestration on public health and safety and on the environment. H.R. 3221 authorizes a higher level of appropriations for programs under Title IV, Subtitle F than H.R. 6.</p> <p>See also provisions on geological and terrestrial sequestration assessment and activities, below.</p> |

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|---|--|------------------------------------|---|
| Global Change Research | | | |
| CRS Expert: Jane Leggett (jaleggett@crs.loc.gov; 7-9525) | | | |
| <p>Subtitle G repeals and replaces P.L.101-606, the Global Change Research Act of 1990. Continues existing U.S. Global Change Research Program (USGCRP), but under lead of the White House Office of Science and Technology Policy, with authority to “allocate” funds. Directs the President to establish an “interagency committee” and develop the National Global Change Research Plan (“the Plan”). The Global Change Research Program (“the Program”) implements the Plan. Requires that the research program (1) respond to information needs of communities and decision-makers [Sec. 4614(a)], (2) periodically assess vulnerabilities to global change [Sec. 4617]; (3) periodically assess policy options to mitigate or adapt to the effects of global change [Sec. 4618] and (4) report annually to Congress [Sec. 4619]. Widens the scope of “research” by adding economic and demographic research. Establishes Climate and Other Global Data Management, including an interagency working group [Sec. 4633], and a Global Change Research Information Exchange [Sec. 4622].</p> | <p>No comparable provision.</p> <p>Sec. 306, Assessment of Carbon Sequestration and Methane and Nitrous Oxide Emissions from Terrestrial Ecosystem, and Sec. 307, Abrupt Climate Change Research Program, are related but narrower provisions regarding specific research tasks in H.R. 6.</p> | <p>Omitted.</p> | <p>“Global change” in H.R. 3221 includes climate change and other environmental changes that are global in scope. Compared to existing law, H.R. 3221 makes the USGCRP more operational and policy-oriented. Increases the role of potential decision-makers in program design. Adds data management to federal agency missions and establishes federal global change data policies. Includes functions that may not be considered “research” under the existing program, such as: operational data acquisition and management; user or client services; and policy assessment. H.R. 6 moves budget coordination and reporting from the interagency committee to the President.</p> |

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| Subtitle G requires studies and reports to Congress on Ice Sheets [Sec. 4623] and on Hurricane Frequency and Intensity [Sec. 4624], within 18 months after enactment. | No comparable provision. | Omitted. | |
| Subtitle H, Sec. 4701, establishes competitive, cash “H-Prizes” for advancing hydrogen power [Sec. 4701], with reporting to Congress on awards given. Funding comes from appropriations and sums to be raised from private entities and individuals by the private, non-profit entity administering the competitions. The authority to announce prize competitions ends on Sept. 30, 2018. | No comparable provision. | Sec. 654 is similar to provisions in H.R. 3221. | The H-Prize program was under Global Change Research in H.R. 3221 but appears under Title VI — Accelerated Research and Development of House-passed H.R. 6. |
| CARBON-NEUTRAL GOVERNMENT Federal Government Inventory and Management of Greenhouse Gas Emissions | | | |
| CRS Expert: Jane Leggett (jaleggett@crs.loc.gov; 7-9525) | | | |
| Title VI Subtitle A requires each federal agency to annually report its GHG emissions for the preceding year, including those due to work performed by contractors, and all air travel [Sec. 6101]. The Administrator of the EPA shall promulgate annual GHG reduction targets for each agency for 2010-2050, to achieve zero net GHG emissions by FY2050 [Sec. 6102]. Each agency submits plans and manages its GHG emissions to achieve its targets [Sec. 6102(d) and (e)], and submits annual efficiency status reports to the Director of OMB [Sec. 6209]. | No comparable provision. | Omitted. | See separate, related provisions in both bills on modifications to the U.S. Capitol power plant to reduce its GHG emissions, described elsewhere in this matrix. |

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
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| <p>Title VI Subtitle A allows agencies to achieve their targets in part through GHG offsets in FY2015 if no national mandatory economy-wide cap-and-trade program has been enacted by 2010. Authorizes agencies to purchase qualified GHG offsets or renewable energy certificates [Sec. 6102(e)(3) and Sec. 6103]. The President may exempt an agency for periods of one year. Authorizes such sums as may be necessary, but limited in each Executive agency or Legislative branch office to no more than 0.01% of discretionary appropriations in FY2009 and 2010 for purchase of offsets and certificates. Section 6103 directs the Comptroller General to issue a report on markets for GHG emission offsets by April 1, 2008, and evaluate the pilot offsets exchange by April 1, 2011. The pilot offsets and certificates project ceases by FY2011.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | |
| <p>Sec. 6102(f) provides for the federal resource management agencies — the Forest Service, the Bureau of Land Management, the National Park Service and the Fish and Wildlife Service — to study management strategies that would enhance carbon sequestration and reduce negative impacts of “global warming,” to test selected strategies, and to report to Congress on results within 4 years of enactment.</p> | <p>No comparable provision. See related provisions regarding terrestrial sequestration [Title VII, Subtitle D, Chapter 2, Sec. 7421].</p> | <p>Under Sec. 712(c)(3)(C) the Secretary of the Interior... shall “develop near-term and long-term adaptation strategies or mitigation strategies that can be employed... to adapt to climate change.”</p> | <p>This provision in House-passed H.R. 6 has a narrower definition and scope than the provision in H.R. 3221, by defining adaptation as measures to increase sequestration or reduce emissions of named greenhouse gases.</p> <p>See Natural Resources and Wildlife Programs provisions, below.</p> |

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
|--|-------------------------------------|------------------------------------|--|
| Federal Government Energy Efficiency — Judicial review | | | |
| CRS Experts: Robert Meltz (rmeltz@crs.loc.gov; 7-7891) | | | |
| <p>Title VI, Subtitle B, Sec. 6212 defines any nondiscretionary act or duty by a federal agency under Title VI (or under any amendment made by Title VI) as a “final agency action” for purposes of the Administrative Procedure Act (APA), a statute that limits judicial review of federal agency action to final agency action. A person would be considered “aggrieved,” as also required by the APA, if he/she alleges harm attributable to a federal agency’s failure to reduce its greenhouse gas emissions as required — both “harm” and “attributable” being broadly defined. In addition to APA remedies, a court would be authorized to award a payment for a beneficial mitigation project or for compensating the plaintiff for global warming impacts. Limits on the amount of such payments are stated. Costs of litigation could be awarded to a substantially prevailing plaintiff.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | <p>In H.R. 3221, the broad definitions of “harm” and “attributable” presumably seek to assure that persons suing federal agencies for violations of Title VI are not thwarted by scientific uncertainty as to whether a federal agency’s failure to reduce GHGs caused specific harm to the plaintiff. However, the section’s statement of physical causation — that a federal agency’s emission of more greenhouse gases than if Title VI’s requirements had been met will exacerbate global warming — may raise constitutional issues under standing doctrine.</p> |

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
|---|--|--|---|
| NATURAL RESOURCES COMMITTEE PROVISIONS Carbon Capture and Climate Change Mitigation | | | |
| Geological Sequestration Assessment | | | |
| CRS Experts: Peter Folger (pfolger@crs.loc.gov; 7-1517) | | | |
| Title VII, Subtitle D, Chapter 1 establishes a program in the Department of the Interior (DOI) to be carried out by the U.S. Geological Survey that would develop a methodology for, and conduct (within 2 years of publication of the methodology) a national assessment of the CO ₂ storage capacity of the United States. Authorizes \$30 million total for fiscal years 2008-2012. | Title III, Sec. 303 establishes the same program as Title VII, Subtitle D of H.R. 3221. Authorizes \$30 million over five years for the program. | Sec. 711 is the same as in H.R. 3221 Title VII, Subtitle D, Chapter 1. Also authorizes \$30 million total for fiscal years 2008-2012. | House-passed H.R. 6 establishes the same program as similar provisions in H.R. 3221 and the Senate-passed version of H.R. 6. |
| Terrestrial Sequestration Assessment | | | |
| CRS Experts: Ross Gorte (rgorte@crs.loc.gov; 7-7266) | | | |
| Title VII, Subtitle D, Chapter 2, Sec. 7421. Secretary of the Interior must, in consultation with federal agency heads, assess terrestrial carbon storage amounts and processes (following public comment on methodology) and develop strategies to enhance sequestration, emphasizing native plant species. Sec. 7424 authorizes \$15 million total for fiscal years 2008-2012 to carry out the assessment and strategies. | Sec. 306. Secretary of the Interior must, in consultation with federal agency heads and others, (1) assess terrestrial carbon storage amounts and annual fluxes of carbon (with public comment on methodology), (2) develop strategies to enhance storage, emphasizing native plant species, and (3) estimate carbon sequestration capacity under a range of policies. | Sec. 712 is very similar to H.R. 3221 and Senate-passed H.R. 6. Extends provisions to include methane and nitrous oxide emissions, as well as carbon fluxes. The Secretary shall develop strategies both to enhance sequestration and to reduce GHG emissions, as well as to adapt to climate change. Includes Subsection (e) covering ocean and coastal ecosystems. Authorizes \$20 million total for fiscal years 2008-2012. | Programs are quite similar. More detail in Senate-passed bill on methodology and its review, with whom to consult, and on what to assess. House-passed bills contain funding authorization but at different levels. |

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|---|-------------------------------------|--|--|
| Sequestration Activities | | | |
| CRS Experts: Peter Folger (pfolger@crs.loc.gov; 7-1517) | | | |
| Chapter 3, Sec.7431 requires the Department of the Interior to maintain records, and an inventory, on the amount of CO ₂ stored from federal energy leases. | No comparable provision. | Sec. 713 is substantially similar to H.R. 3221 Sec. 7431. | Minor text modifications appear intended to clarify the provision. |
| Sec. 7432 requires the Secretary of the Interior to report on a recommended regulatory and certification framework for conducting geological carbon sequestration activities on federal lands. | | Sec. 714 requires a report within one year from the Secretary to the Congressional natural resources committees recommending a framework to manage geological carbon sequestration activities on public lands. Requires the Secretary to ensure that all recommendations comply with all federal environmental laws, including the Safe Drinking Water Act (42 U.S.C. 300F et seq.). | Provisions in House-passed H.R. 6 provision is more extensive and detailed than in H.R. 3221. |
| Natural Resources and Wildlife Programs | | | |
| CRS Experts: Pervaze Sheikh (psheikh@crs.loc.gov; 7-6070); Lynne Corn (lcorn@crs.loc.gov; 7-7267); Gene Buck (gbuck@crs.loc.gov; 7-7262). | | | |
| Division A, Chapter 4, Subchapter A, Sec. 7441 requires the Secretary of the Interior to establish a National Resources Management Council on Climate Change to address impacts of climate change on federal lands, the ocean environment, and federal water infrastructure. Members are heads of specified federal agencies. | No comparable provision. | Omitted. | Under H.R. 3221, the Council does not cover impacts to all natural resources, nor to private or state lands. "Natural" and "National" are both used in naming the Council. In both Senate and House-passed H.R. 6, a Natural Resources Management Council is not authorized. |

| House-Passed H.R. 3221 (8/4/2007) | Senate-Passed H.R. 6 (6/21/2007) | House-Passed H.R. 6 (12/6/2007) | Comments |
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| <p>Division A, Chapter 4, Subchapter A, Sec. 7441 requires the Secretary of Interior to submit a plan to Congress within 1 year describing how federal agencies shall (1) develop a database of vulnerabilities to climate change; (2) manage resources taking into account climate change; (3) develop protocols to implement management changes; and (4) incorporate science in decision-making.</p> | <p>Requires the Secretary of the Interior to develop adaptation or mitigation strategies to help terrestrial ecosystems adapt to climate change [§306(c)(3)(C)].</p> | <p>Directs the Secretary of the Interior to develop adaptation and mitigation strategies for climate change [§712]. Ecosystems under this bill include any terrestrial, freshwater aquatic, or coastal ecosystem, including an estuary. Requires restoration and adaptation strategies to emphasize native plant species.</p> <p>Directs the Secretary to consult with specified federal agencies. Secretary to prepare national assessment of carbon storage; methodology for assessment to be published and subject to peer review and public comment. Authorizes \$20 million for FY2008-FY2012.</p> | <p>The provision authorizing adaptation or mitigation strategies in Senate and House-passed H.R. 6 is a component of a national assessment of carbon, nitrous oxide, and methane emissions from terrestrial ecosystems.</p> <p>Under House-passed H.R. 6, the Secretary appears to have broad authority to develop adaptation and mitigation strategies (narrowly defined to increase sequestration capacities or reduce GHG emissions), not just for ecosystems. The term <i>ecosystem</i> applies to any terrestrial, freshwater or marine ecosystem. For ocean, coastal, and estuarine ecosystems, the Secretary is to “work jointly with the Secretary of Commerce.”</p> |
| <p>Subchapter B, Sec. 7452, states the policy of the federal government, cooperating with stakeholders, to assist wildlife and their habitats to survive and adapt to global warming.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | |
| <p>Sec. 7454 requires a National Strategy within two years to assist wildlife and habitats to adapt to climate changes. Requires consultation with federal agencies and other stakeholders, and consideration of other federal resource plans, goals and measures. Requires agencies to exercise existing authorities to achieve the goals of the Strategy to the maximum extent possible.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | <p>Under H.R. 3221, the National Strategy appears to include both government and private lands, but specifically will include measures to address climate change on federal lands. Further, it is unclear how conflicts between the Strategy and other goals, plans or agency practices may be resolved.</p> |

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| Sec. 7455 establishes a science advisory board, a National Global Warming and Wildlife Science Center in the U.S. Geological Survey to conduct research, and to monitor to detect climate-related changes in wildlife and habitat. | No comparable provision. | Omitted. | |
| Sec. 7456 allocates appropriations: 45% to implement the Strategy, 25% for the National Policy on Wildlife and Global Warming, and 30% for grants to States and Indian tribes. | No comparable provision. | Omitted. | |
| Subchapter C, Sec. 7461 authorizes a State and Tribal Wildlife Grants Program to benefit wildlife and habitat. Specifies funding allocations and cost-sharing. Requires a Wildlife Conservation Plan for eligibility. Authorizes such sums that are necessary. | No comparable provision. | Omitted. | H.R. 3221 does not specify that grants are solely to address impacts of climate change on wildlife and habitat. Codifies an existing program included in appropriations for DOI. Primary change in H.R. 3221 is greater emphasis on global warming in program. |

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| Coastal Zone Issues | | | |
| CRS Experts: Nicole Carter (ncarter@crs.loc.gov; 7-0854); Jeffrey Zinn (jzinn@crs.loc.gov; 7-7257) | | | |
| <p>Sec. 7472 requires the Secretary of Commerce to establish a coastal climate change resiliency planning and response program. Authorizes the Secretary to make grants to assist coastal states in developing plans to minimize contributions to climate change and to prepare for consequences of climate change in the coastal zone. Authorizes the Secretary to make grants to enable coastal states to implement state plans that have been approved by the Secretary. The provision lists specific stress factors and activities that funded projects may address. Authorizes “such sums as are necessary.”</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | |

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| Enhancing climate change predictions in the oceans | | | |
| CRS Experts: Wayne Morrissey (wmorrissey@crs.loc.gov; 7-7072); Gene Buck (gbuck@crs.loc.gov; 7-7262) | | | |
| <p>Sec. 7473 establishes a National Integrated Coastal and Ocean Observation System (hereafter, System) to gather and disseminate data used to measure, track, explain, and predict events related to weather and climate change, natural climate variability, and oceanic and atmospheric environment interactions, including the Great Lakes. The provision lays out responsibilities for federal and non-federal entities, including a National Ocean Research Leadership Council, Regional Information Coordination Entities, a federal Interagency Working Group (IWG), a Lead Agency (NOAA), a System Advisory Committee and Joint Centers for environmental observation partnerships to support and maintain the System. No contract or agreements to develop or procure new federal assets exceeding \$250 million in life cycle costs may be agreed without prior congressional review. A report to Congress is due within two years of enactment, and every two years thereafter. An independent cost estimate report for existing and planned elements of the System is required within one year after enactment, and shall be submitted to Congress without revision.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | |

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| TITLE VIII — TRANSPORTATION AND INFRASTRUCTURE Subtitle A — Department of Transportation | | | |
| CRS Experts: Linda Luther (lluther@crs.loc.gov; 7-6852); Brent Yacobucci (byacobucci@crs.loc.gov; 7-9662) | | | |
| Title VIII — Establishes a Center for Climate Change and Environment within the Department of Transportation that will, in coordination with EPA, study major transportation projects to identify low-cost solutions to reduce congestion and transportation-related energy use. | No comparable provision. | Title XI — Establishes an Office of Climate Change and Environment within DOT. | House-passed H.R. 6 provisions are similar to H.R. 3221 except that, in addition to EPA, the Office is directed to consult with the U.S. Global Change Research Program in conducting its study into the impact of U.S. transportation systems on climate change. Also, the specific reference to identifying and establishing a clearinghouse of “low-cost” solutions is eliminated in favor of simply “solutions.” |

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| Architect of the Capitol — Capitol Power Plant | | | |
| CRS Experts: Fred Sissine (fsissine@crs.loc.gov; 7-7039); Amy Abel (aabel@crs.loc.gov; 7-7239) | | | |
| <p>Title VIII, Subtitle F, Part 3 directs the Architect of the Capitol (AOC) to operate the Capitol Power Plant in an energy efficient manner, include energy efficiency measures in the Capitol Complex Master Plan, and encourage the use of E85 fuel and solar photovoltaic equipment. In Sec. 8654, for the purpose of reducing carbon dioxide emissions, the AOC is directed to install technologies to capture and store or use carbon dioxide from coal combustion in the Capitol power plant, and to operate the steam boilers and chiller plant to maximized energy efficiency and minimize carbon dioxide emissions and operating costs.</p> | <p>Title III, Sec. 305 (carbon sequestration) requires the Architect of the Capitol to complete a feasibility study and to establish a competitive grant program to demonstrate the capture and storage or use of carbon dioxide emitted from the Capitol power plant as a result of burning coal.</p> | <p>Title V contains a variety of provisions to study options to increase the energy efficiency and use of renewable energy in, and to reduce greenhouse gas emissions from, the Capitol Complex. Within 6 months of enactment, the Architect of the Capitol shall submit a report on measures taken and incorporated into the Capitol plan. Architect of the Capitol is required to conduct a feasibility study evaluating methods to capture, store, and use carbon dioxide emitted from the Capitol Power Plant. The Architect may conduct a demonstration project if the study shows that carbon capture and storage or use is technologically feasible and economically justified. Authorizes \$3 million for the study.</p> | <p>House-passed H.R. 6 contains more of H.R. 3221's provisions on efficiency and renewable energy in the Capitol Complex, and contains the Senate-passed provisions for studying carbon capture and storage or use of carbon dioxide.</p> |

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| Water Resources and Emergency Management Preparedness | | | |
| CRS Experts: Nicole Carter (ncarter@crs.loc.gov; 7-0854); Betsy Cody (bcody@crs.loc.gov; 7-7229) | | | |
| <p>Subtitle G-Part 1 establishes a national policy for water resources projects that includes consideration of climate-change related weather events among other priorities. It creates a 21st Century Water Commission to evaluate and report on water resources issues, including the effects of climate change, and to make policy recommendations. It would direct the EPA Administrator to enter into an agreement with the National Academy of Sciences to study the impacts of climate change on watersheds, water resources, and water quality and to make policy recommendations. It would direct the Secretary of the Army to ensure that Army Corps of Engineers' water resources studies and projects account for the effect of climate change on its projects.</p> | <p>No comparable provision.</p> | <p>Omitted.</p> | |

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| Part 2 — Emergency Management | | | |
| CRS Experts: Nicole Carter (ncarter@crs.loc.gov; 7-0854) | | | |
| Part 2 directs the Administrator of the Federal Emergency Management Agency to study the increased demand for the agency's programs and services resulting from the increased number and intensity of natural disasters affected by climate change, and to report the results including policy recommendations. | No comparable provision. | Omitted. | |
| TITLE XIV — OTHER PROVISIONS Carbon audit of the tax code. | | | |
| CRS Experts: Jane Leggett (jaleggett@crs.loc.gov; 7-9525); Larry Parker (lparker@crs.loc.gov; 7-7238) | | | |
| Title XIV, Subtitle A, Sec. 14001 requires the Secretary of the Treasury to contract with the National Academy of Sciences to produce a comprehensive review of the Internal Revenue Code of 1986, to identify the types of tax provisions that have the largest effects on carbon and other greenhouse gas emissions, and to estimate the magnitude of those effects. A report is due to Congress within two years after enactment. Authorizes \$1.5 million for FY2008 and FY2009. | No comparable provision. | Sec. 1512 is identical to H.R. 3221 Title XIV, Subtitle A., Sec. 14001. | |