

|  | <b>Bingaman/Specter<br/>Low Carbon Economy Act</b>   | <b>S.280 (Lieberman/McCain)</b>  | <b>S.309 (Sanders/Boxer)</b>   | <b>S.317 (Feinstein)</b>  | <b>S.485 (Kerry/Snowe)</b>   |
|--|--|--|--|---|--|
| <b>Coverage</b>                                  | Economy-wide<br>•Upstream for petroleum, natural gas, and non-CO <sub>2</sub> GHGs<br>•Downstream for coal facilities (that use over 5,000 tons of coal per year)  | Economy-wide<br>•Upstream petroleum and fluorinated gases<br>•Downstream stationary sources (entities that emit over 10,000 metric tons of CO <sub>2</sub> e/year)   | Economy-wide<br>•Regulated entities TBD by EPA   | Sector-specific: Electricity Sector<br>•Fossil fuel fired power plants >25 MW   | Economy-wide<br>•Regulated entities TBD by the EPA.  |
| <b>Emission Targets</b>                          | Beginning in 2012, GHG emissions will gradually decline:<br>•By 2020 - 2006 levels<br>•By 2030 - 1990 levels<br>•The President may set long-term emission targets of at least 60% below 2006 levels by 2050 contingent upon international effort   | Beginning in 2012, GHG emissions will gradually decrease to approximately 1/3 of 2000 levels in 2050.<br>Step-like targets are as follows:<br>•By 2012 - 2004 levels<br>•By 2020 - 1990 levels<br>•By 2030 - 22% below 1990 levels<br>•By 2050 - 60% below 1990 levels | Reduce GHG emissions to 1990 levels by 2020.<br>•From 2010-2020, 2% annual reductions<br>•By 2030, reduce emissions by 1/3 of 80% below 1990 levels<br>•By 2040 2/3 of 80% of 1990 emissions levels<br>•By 2050, emissions must be reduced to 80% below 1990 levels<br>(If CO <sub>2</sub> concentrations exceed 450 ppm or if global average temperatures increase by 2°C, reduction targets would accelerate.) | Lower electricity sector emissions by 25% below projected levels in 2020.<br>•From 2011-2014 - 2006 levels<br>•In 2015 - 2001 levels<br>•From 2016-2019, 1% annual reductions<br>•From 2020 onwards, 1.5% annual reductions                       | Beginning in 2010, GHG emissions will decrease gradually to 65% of 2000 levels.<br>•By 2020 - 1990 levels<br>•From 2021-2030, 2.5% annual reduction<br>•From 2031-2050, 3.5% annual reductions |
| <b>Encouraging Adequate International Action</b> | Ensures comparable action from major trading partners through a specified approach of incentives (i.e., for technology deployment) and countervailing trade measures.  | Not specified.   | Not specified.   | Not specified.  | Not specified.   |
| <b>Cost Containment Mechanism(s)</b>             | •Technology Accelerator Payment: starts at \$12/ton, rising at an annual rate of 5% above inflation<br>•Banking  | •Banking<br>•Borrowing of credits from future years at a discounted rate   | •Allows for a technology-indexed price stop to freeze the cap  | •Can include banking, international credits, and/or borrowing of credits from future years at a discounted rate   | Not specified.   |
| <b>Allowance Allocation</b>                      | Increasing auction. For the first 5 years beginning in 2012:<br>•Auction: 24% (12% for Technology; 8% for Adaptation Assistance; 4% for Low Income Assistance)<br>•Industry: 53% (29% for electric gen.; 10% for carbon-intensive manufacturing; 6% for coal mines; 4% for petroleum refineries; 2% for nat. gas facilities; 2% for nonfuel regulated facilities)<br>•Agricultural Sequestration: 5%<br>•Early Reduction: 1%<br>•Geological Sequestration: 8%<br>•States: 9% | Allowances distributed to covered sectors, a "Climate Change Credit Corporation", and for other purposes with consideration of consumer impact, competitiveness, etc.  | If a cap-and-trade approach is chosen, allowances would be distributed to individuals and entities disproportionately affected by the transition to a low carbon economy and to reward early action.   | Allocations will be based on electricity generation for covered units which includes fossil fuel, nuclear, and renewable generators. Increasing auction: 2011- 15%, 2031 -75%, and 2036+ - 100%. Output-based allocation for electric generators. | TBD by the President.  |

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| <b>Technology, Adaptation, Low Income Assistance, and Miscellaneous</b> | The Energy Technology Deployment Fund will fund RD&D of low-carbon energy technologies (including advanced coal, cellulosic ethanol, and advanced vehicles). Auction revenues will also be used for adaptation assistance, to encourage low-carbon, to assist low income households, and for technology deployment in developing countries. Additional allowances, equivalent to \$35 billion by 2020 will be allocated to support the deployment of carbon capture and sequestration. | The Climate Change Credit Corporation will support deployment of low-carbon technology in addition to adaptation and transition assistance. The Climate Technology Financing Board will work with DOE on public/private partnerships for safe and clean energy projects.   | Establishes a competitive grant program to provide grants for CCS deployment projects. Creates the "Task Force on International Clean, Low-Carbon Energy Cooperation" to support low-carbon and efficiency technologies in developing countries. Includes a Sense of the Senate that federal funding for clean, low-carbon energy RD&D should be increased by at least 100% each year during the 10-year period after enactment. | A "Climate Action Trust Fund" will be established for developing and commercializing new zero- and low-carbon technologies. Also funds adaptation and habitat protection.  | A "Climate Reinvestment Fund" will be established to achieve the stated emission reduction goals. Includes a Sense of the Senate that federal funding for clean, low-carbon energy RD&D should be increased by at least 100% each year during the 10-year period after enactment. Also includes incentives for advanced and alternative fuel vehicles and technologies. Creates a National Climate Change Vulnerability and Resilience Program to assist with impact in short- and long-term climatic variations. |
| <b>Early Action Incentives</b>  | From 2012-2020, 1% of total allowances will be allocated to those who registered GHG reductions under voluntary programs prior to enactment.   | Allowances on a one-to-one basis to entities who have registered their GHG emissions reductions if the entities intend to use the allowance in the same year of allocation, if the reduction was registered prior to 2012, or if an entity enters an accelerated participation agreement with the Administrator. | Not specified.   | Early reductions carried out from 2000-2010 will be awarded on a one-time basis. The aggregate quantity of early reduction credits cannot exceed 10% of total annual allowances.   | Will recognize and reward early reductions of GHGs.   |
| <b>Offsets</b>  | Permits domestic offsets and establishes a streamlined process to credit offsets that meet broadly accepted standards. Offset projects that do not meet the accepted standards could receive credit on less than a one ton reduction to one credit basis. 5% of allowances are set aside for agricultural sequestration. The President can also implement an international offset program, allowing not more than 10% of compliance obligation to be met in this manner.               | In 2012, entities can satisfy up to 30% of their total allowance submission requirement with domestic and international offsets. If an entity uses offsets for more than 15% of its obligation, at least 1.5% of offsets must come from agricultural sequestration projects.                                     | Not specified.   | The Secretary of Agriculture and the EPA will establish an offset credit program for biological sequestration projects as well as GHG reduction projects in waste management, mining, energy distribution, and manufacturing operations. Approved international credits can also be used. There is a 5% limit on forest management offsets and a 25% limit on international offsets. | Not specified.  |
| <b>Other Notable Provisions</b>   | Five-Year Review for participation of major trading partners, climate science, and technology development, at which point the President may adjust the cap, TAP, and requirements for imported carbon-intensive goods.   | None specified.  | Establishes new CAFE standards, sets emission rate limits for new electric generators, mandates reductions in peak electricity demand, establishes a renewable portfolio standard and a renewable fuels standard.  | None specified.  | Establishes new standards on fuel economy, peak electricity demand, renewable generation, and renewable fuels.  |