

## COMPARISON OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 (WAXMAN-MARKEY) AND THE AMERICAN POWER ACT (KERRY-LIEBERMAN)

| Program Category          | Design Element   | H.R. 2454 (House Passage – 6/26/2009)  | KL Draft 5/12/2010   |
|---------------------------|--|--|--|
| Emission reduction levels | Targets and timetables for covered sources under cap-and-trade program | <ul style="list-style-type: none"> <li>97% of 2005 levels by 2012</li> <li>83% of 2005 levels by 2020</li> <li>58% of 2005 levels by 2030</li> <li>17% of 2005 levels by 2050</li> </ul>   | <ul style="list-style-type: none"> <li>95.25% of 2005 levels by 2013</li> <li>83% of 2005 levels by 2020</li> <li>58% of 2005 levels by 2030</li> <li>17% of 2005 levels by 2050</li> </ul>  |
| Emission reduction levels | Economy-wide reduction goals and timetables                            | <ul style="list-style-type: none"> <li>97% of 2005 levels by 2012</li> <li>80% of 2005 levels by 2020</li> <li>58% of 2005 levels by 2030</li> <li>17% of 2005 levels by 2050</li> </ul>   | <ul style="list-style-type: none"> <li>95.25% of 2005 levels by 2013</li> <li>83% of 2005 levels by 2020</li> <li>58% of 2005 levels by 2030</li> <li>17% of 2005 levels by 2050</li> </ul>  |
| Emissions reporting       | National GHG registry  | <ul style="list-style-type: none"> <li>Yes, mandatory reporting no later than 2011</li> </ul>  | <ul style="list-style-type: none"> <li>Yes, mandatory reporting no later than 2011</li> </ul>  |
| Emissions reporting       | National GHG registry reporting threshold                              | <ul style="list-style-type: none"> <li>Large stationary sources emitting &gt;10K tons per year</li> <li>Vehicle fleets (with emissions &gt;25K tons per year) at the Administrator's discretion</li> </ul>   | <ul style="list-style-type: none"> <li>Large stationary sources emitting &gt;25K tons per year, or less at the Administrator's discretion</li> <li>Vehicle fleets (with emissions &gt;25K tons per year) at the Administrator's discretion</li> </ul>  |
| Emissions regulation      | Compliance start date  | <ul style="list-style-type: none"> <li>2012 with some sources phased in later (2014 for large industrial sources; 2016 for natural gas local distribution companies (LDCs))</li> </ul>   | <ul style="list-style-type: none"> <li>2013 for utilities, refineries, transportation fuels; 2016 for industrial stationary sources and natural gas local distribution companies (LDCs)</li> </ul>   |
| Emissions regulation      | Coverage and point of regulation                                       | <ul style="list-style-type: none"> <li>Electricity generators</li> <li>Large stationary sources emitting &gt;25K tons per year (and other specified sources without regard to a threshold)</li> <li>Carbon content of all petroleum fuels produced or imported (refineries and importers)</li> <li>Carbon content of residential and commercial and small industrial natural gas sales (LDCs)</li> <li>Producers of F-gases</li> </ul> | <ul style="list-style-type: none"> <li>Electricity generators</li> <li>Large stationary sources emitting &gt;25K tons per year (and other specified sources without regard to a threshold)</li> <li>Carbon content of all petroleum fuels distributed (refined product providers), through a set aside amount of allowances sold to the sector at the most recent auction allowance price</li> <li>Carbon content of residential and commercial and small industrial natural gas sales (LDCs)</li> <li>Producers of F-gases</li> </ul> |
| Emissions regulation      | Periodic program assessments   | <ul style="list-style-type: none"> <li>Yes</li> </ul>  | <ul style="list-style-type: none"> <li>Yes</li> </ul>  |
| Emissions regulation      | Carbon market function and oversight                                   | <ul style="list-style-type: none"> <li>This section says that anyone can sell, exchange, transfer, or hold for compliance an emission allowance, without restriction</li> <li>FERC is charged with regulating cash market in allowances and offsets</li> <li>CFTC default regulator of carbon allowance derivatives market</li> </ul>  | <ul style="list-style-type: none"> <li>This section says that anyone can sell, exchange, transfer, or hold for compliance an emission allowance, without restriction</li> <li>CFTC is charged with regulating emissions trading</li> <li>Carbon allowance derivatives must be bought and sold on an exchange</li> </ul>  |
| Emissions regulation      | Treatment of non-emissive use of feedstocks                            | <ul style="list-style-type: none"> <li>Compensatory allowances provided for non-emissive use of fossil fuels use as feedstocks</li> </ul>  | <ul style="list-style-type: none"> <li>Compensatory allowances provided for non-emissive use of fossil fuels used as feedstocks</li> </ul>   |
| Emissions regulation      | HFC regulations  | <ul style="list-style-type: none"> <li>HFCs placed under Title VI of CAA (Stratospheric Ozone) and covered under a separate cap with reductions beginning in 2012 at 90% of baseline levels with further reductions of 2.5% annually through 2018 and further reductions to 15% of baseline</li> </ul>   | <ul style="list-style-type: none"> <li>HFCs placed under Title VI of CAA (Stratospheric Ozone) and covered under a separate cap with reductions beginning in 2013 at 87.5% of baseline levels with further reductions of 2.5% annually through 2018 and further</li> </ul>   |

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|                      |   | <ul style="list-style-type: none"> <li>in 2032 and beyond</li> <li>Two pools of allowances are created – one for producers/importers and one for users and importers of products containing HFCs. Combination of auctions phased-in for producers/importers and the sale of allowances to users. Importers of products containing HFCs are required to have allowances until the US and the exporting country are Parties to an international agreement</li> <li>Revenue from allowance auctions and sales are placed in a fund used for incentives for recycling, high efficiency appliances, retooling manufacturers, and U.S. contribution to the Multilateral Fund</li> <li>Allowances are bankable; offsets for destruction of CFCs (and possibly other substances) are allowed</li> </ul> | <ul style="list-style-type: none"> <li>reductions to 15% of baseline in 2033 and beyond.</li> <li>Two pools of allowances are created – one for producers/importers and one for users and importers of products containing HFCs. Combination of auctions phased-in for producers/importers and the sale of allowances to users. Importers of products containing HFCs are required to have allowances until the US and the exporting country are Parties to an international agreement.</li> <li>Revenue from allowance auctions and sales are placed in a fund used for incentives for recycling, high efficiency appliances, retooling manufacturers, and U.S. contribution to the Multilateral Fund</li> <li>Allowances are bankable; offsets for destruction of CFCs (and possibly other substances) are allowed</li> </ul> |
| Emissions regulation | Black carbon regulations  | <ul style="list-style-type: none"> <li>Requires one-year study of international sources of emissions and technologies to reduce them</li> <li>Within 2 yrs of enactment, calls for regulations to limit black carbon in the United States or a finding that existing regulations are adequate</li> </ul>  | <ul style="list-style-type: none"> <li>Requires 3-phased study of black carbon including sources of emissions, technologies to reduce them, and additional research and development.</li> <li>Within 2 yrs of enactment, calls for regulations to limit black carbon in the United States or a finding that existing regulations are adequate</li> <li>Establishes a voluntary grant program to support the cost of purchasing and installing diesel particulate filters on heavy-duty trucks</li> </ul>  |
| Allowance value      | Allowance value distribution to electric power, natural gas, and other home heating sectors | <ul style="list-style-type: none"> <li>Approximately 35.5%<sup>1</sup> to the electricity sector as a whole, with LDCs receiving about 30.5% for consumer benefit and the remaining going to merchant coal generators and long-term power purchase agreements (merchant coal to receive a maximum of 10% and long-term power purchase agreements a maximum of 4.3% of the <i>electricity sector total</i>) transitioning to 0% by 2030</li> <li>9% to natural gas LDCs starting in 2016 with phase down by 2030</li> <li>1.9% to states for home oil and propane heating bills with phase down by 2030</li> <li>1.75% from 2014-2017, 4.75% in 2018-2019, and 5% from 2020-2050 to electric utilities for CCS</li> </ul>  | <ul style="list-style-type: none"> <li>Approximately 35% (51% from 2013-2015) to the electricity sector as a whole, with LDCs receiving about 30% for consumer benefit (merchant coal to receive a maximum of 10% and long-term power purchase agreements a maximum of 4.3% of the <i>electricity sector total</i>) transitioning to 0% by 2030</li> <li>9% to natural gas LDCs starting in 2016 with phase down by 2030</li> <li>1.9% to states for home oil and propane heating bills with phase down by 2030</li> <li>0.8% from 2017-2019, 4.5% in 2020, 5% in 2021, 7.4% from 2022-2025, 8% from 2026-2029, and 10% from 2030-2034 electric utilities for CCS</li> </ul>  |
| Allowance value      | Allowance value distribution to transportation consumers                                    | <ul style="list-style-type: none"> <li>No allocation directly for transportation fuel consumer benefit</li> </ul>   | <ul style="list-style-type: none"> <li>No allocation directly for transportation fuel consumer benefit, but allocation to Highway Trust Fund described below will benefit transportation consumers</li> </ul>   |

<sup>1</sup> All allowance values refer to percentages of the annual total, unless otherwise noted.

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| Allowance Value  | Allowance value distribution to low-income consumers | <ul style="list-style-type: none"> <li>15% of allowances auctioned each year with proceeds use to make cash payments to eligible low-income households to reimburse these households for the estimated loss in their purchasing power resulting from the ACES Act</li> </ul>   | <ul style="list-style-type: none"> <li>Approximately 12% of allowances auctioned each year with proceeds used for the energy refund program and the working families refundable credit</li> </ul>   |
| Allowance value  | Allowance value distribution to others               | <ul style="list-style-type: none"> <li>2% of allowance value to energy-intensive, trade-exposed industries (pulp, paper, cement, steel, etc.) in 2012-2013, increasing to 15% 2014-2025. President assesses whether to continue or phase out (decreasing by 10% per year) after 2025</li> <li>2% for petroleum refiners starting in 2014 and ending in 2026; an additional 0.25% for small business refiners during that same time period</li> <li>9.5% in 2012 declining to 4.5% in 2026 to states for renewable energy and energy efficiency</li> <li>3% from 2012-2017 and 1% from 2018-2025 for investments in advanced automobile technology</li> <li>0.45% for Energy Innovation Hubs and 1.05% for the Advanced Research Project Agency-Energy (ARPA-E)</li> <li>5% for reducing international deforestation through 2025, 3% from 2026-2030, and 2% in 2031-2050</li> <li>2% for domestic adaptation, increasing to 8% in 2027; approximately ½ of these allowances for wildlife and natural resource adaptation, ½ for other domestic adaptation</li> <li>1% for international adaptation, increasing to 4% in 2027</li> <li>1% for clean technology transfer increasing to 4% in 2027</li> <li>0.5% for worker assistance and job training, increasing to 1% in 2022</li> <li>0.28% from 2012-2016 for supplemental agriculture and renewable energy projects</li> <li>1% in 2012 for early action offset credits</li> <li>Remaining unallocated allowances would be auctioned for deficit reduction and a climate change consumer dividend</li> </ul> | <ul style="list-style-type: none"> <li>2% of allowance value to energy-intensive, trade-exposed industries in 2013-2015, increasing to 15% 2016-2025 and phasing to zero by 2030.</li> <li>4.3% for refiners from 2013-2015, 3.75% from 2016-2025, 3% in 2026, 2.25% in 2027, 1.5% in 2028, 0.75% in 2029, reaching zero by 2030</li> <li>2.5% from 2013-2015, 2% from 2016-2018, 1% from 2019-2020, and 0.5% in 2021 to states and tribes for renewable energy and energy efficiency programs (0.5% of this from 2013-2015 for rural energy savings program)</li> <li>Clean Vehicle Technology Fund is funded by auction of 1% of all allowances from 2013 to 2020 and 0.5% for 2021</li> <li>12% from 2013-2015, 9.2% in 2016, 8.2% from 2017-2018, 7.6% in 2019, 6% from 2020-2021, 5.8% from 2022-2029, and 6.7% from 2030-2034 for transportation infrastructure and efficiency (1/3 of this for the Highway Trust Fund, 1/3 for grants for the national surface transportation system, and 1/3 for states and MPOs)</li> <li>8% of allowances starting in 2026 reaching 78% in 2035 for the Universal Trust Fund (of these amounts, 25% will be used for deficit reduction and 75% for the universal refund program)</li> <li>0.5% from 2013-2015 for industrial energy efficiency</li> <li>1% from 2013-2020 and 0.5% in 2021 for low-carbon industrial technologies research and development</li> <li>2% from 2013-2021 to promote the development and deployment of clean energy technology</li> <li>1.5% from 2019-2020; 2.2% in 2021, 3.2% from 2022-2025, 3.5% in 2026, 4.0% in 2027, 5.0% in 2028; 5.5% in 2029, and 6.0% from 2030-2034 for adaptation (½ of allowances for natural resource adaptation and ½ for the international climate change adaptation and global security program)</li> <li>1% from 2013-2015 for early action offset credits (1/3) and state cap and trade programs (2/3)</li> <li>Remaining unallocated allowances would be auctioned for the Deficit Reduction Fund</li> </ul> |
| Allowance value  | Credit for early action                              | <ul style="list-style-type: none"> <li>Provides for compensation for allowances issued by California, RGGI, and WCI</li> <li>Offset credits may be issued for tons from projects started after 1/1/01 and registered under a State, tribal, or other EPA</li> </ul>  | <ul style="list-style-type: none"> <li>1% from 2013-2015 for early action offset credits (1/3) and states with cap and trade programs (2/3)</li> <li>Offset credits may be issued for tons from projects started between 1/1/01 and 1/1/09 and registered under a State,</li> </ul>   |

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|                                    |  | <ul style="list-style-type: none"> <li>approved offset program</li> <li>1% of allowances set aside in 2012 for early action credit</li> </ul>  | local, or other EPA approved offset program   |
| Interaction with existing programs | Interaction with state/regional programs | <ul style="list-style-type: none"> <li>States cannot impose their own cap and trade regulations from 2012-2017</li> <li>Holders of allowances issued by California, Western Climate Initiative or RGGI before 12/31/11 can be compensated through the federal program for the cost of purchase</li> </ul>  | <ul style="list-style-type: none"> <li>Amends the Clean Air Act to prohibit states from implementing or enforcing cap and trade programs for GHGs</li> <li>Holders of allowances issued by California, the Western Climate Initiative, or RGGI before the later of 12/31/12 or January 1<sup>st</sup> of the first year in which the federal system starts will be compensated for the cost of obtaining and holding these allowances</li> </ul>  |
| Interaction with existing programs | Interaction with Clean Air Act           | <ul style="list-style-type: none"> <li>Clarifies EPA authority on GHG regulations; GHGs not regulated as criteria pollutants, HAPS, or under NSR; cannot by itself trigger Title V permitting; and if capped source, cannot be regulated under NSPS</li> <li>Uncapped sources are subject to NSPS with priority given to largest uncapped source categories; uncapped existing sources can also be subject to regulations under the CAA; requires a study of impact of requiring performance standards for uncapped sources on reaching economy wide emissions reduction goals and on supply of offsets</li> </ul>                       | <ul style="list-style-type: none"> <li>Clarifies EPA authority on GHG regulations; GHGs not regulated as criteria pollutants, HAPS, international air pollutants or under NSR; cannot by itself trigger Title V permitting; and if capped source, cannot be regulated under NSPS (except for sources covered under standards contained in this Act.)</li> <li>Uncapped sources are subject to NSPS but source categories established as eligible offsets cannot be subject to standards before 2020.</li> </ul>   |
| Cost containment                   | Compliance periods                       | <ul style="list-style-type: none"> <li>Annual compliance with next year borrowing without interest</li> </ul>  | <ul style="list-style-type: none"> <li>Annual compliance for electricity, industrial, residential, and commercial sectors with next year borrowing without interest</li> <li>Quarterly compliance for refined product providers</li> </ul>  |
| Cost containment                   | Offset sources and quality requirements  | <ul style="list-style-type: none"> <li>Domestic and international</li> <li>EPA Offsets Integrity Advisory Board (OIAB) created and Administrator determines project list based on OIAB recommendations</li> <li>Real, additional, verifiable, permanent, enforceable</li> <li>Administrator to prescribe a mechanism (such as an offset reserve or insurance) to ensure offset permanence</li> <li>Title V establishes domestic agriculture and forestry offset program run by USDA with a positive list of potentially eligible project types</li> </ul>  | <ul style="list-style-type: none"> <li>Domestic and international</li> <li>Greenhouse Gas Emission Reduction and Sequestration Advisory Committee is created to provide advice on the establishment of the offset program</li> <li>Additional, measurable, verifiable, enforceable</li> <li>Administrator to prescribe a mechanism (such as an offset reserve or insurance) to ensure offset permanence</li> <li>Sec. 734 establishes a list of project types that must be included on the initial list of eligible projects.</li> </ul>  |
| Cost containment                   | Annual offset limits                     | <ul style="list-style-type: none"> <li>Up to 2 billion tons of emissions system wide can be used for compliance. (1 billion domestic , 1 billion international)</li> <li>International limit may be increased up to 1.5 billion tons if the Administrator determines domestic supply is insufficient, but 2 billion ton overall limit still applies</li> <li>President may recommend to Congress to increase or decrease total number of offsets</li> <li>Starting in 2018, 5 international offset credits must be submitted for every 4 tons used for emissions compliance</li> <li>No mandated discount on domestic offsets</li> </ul> | <ul style="list-style-type: none"> <li>Up to 2 billion tons of emissions system wide can be used for compliance (25% of which can come from international sources)</li> <li>International limit may be increased up to 1 billion tons if the Administrator determines domestic supply is insufficient, but 2 billion ton overall limit still applies</li> <li>President may recommend to Congress to increase or decrease total number of offsets</li> <li>Starting in 2018, 5 international offset credits must be submitted for every 4 tons used for emissions compliance</li> </ul> |

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|                        |  | <ul style="list-style-type: none"> <li>5-year term offset credits from agriculture and forestry projects may be used to temporarily demonstrate compliance. These credits must be replaced at the end of the period, and are subject to the domestic offset limits</li> </ul>   | <ul style="list-style-type: none"> <li>No mandated discount on domestic offsets</li> <li>Term offset credits are allowed.</li> </ul>   |
| Cost containment       | Cumulative offset limits over the life of the program (through 2050) | <ul style="list-style-type: none"> <li>76 billion tons can be used for compliance (does not include tons in the strategic offset reserve)</li> </ul>  | <ul style="list-style-type: none"> <li>74 billion tons can be used for compliance over the life of the program</li> </ul>  |
| Cost containment       | Banking and borrowing  | <ul style="list-style-type: none"> <li>Unlimited banking</li> <li>Unlimited next year borrowing with no interest</li> <li>Borrowing up to 15% of compliance obligation with vintage years 1-5 beyond calendar year at 8% interest per year</li> </ul>   | <ul style="list-style-type: none"> <li>Unlimited banking allowed for allowances and offsets except if specifically determined by the Administrator</li> <li>Unlimited next year borrowing with no interest</li> <li>Borrowing up to 15% of compliance obligation with vintage years 1-5 beyond calendar year at 8% interest per year</li> </ul>  |
| Cost containment       | Strategic offset and allowance reserve                               | <ul style="list-style-type: none"> <li>Quarterly strategic reserve auction of 2.7 billion allowances over the life of the program stocked with a small percentage of allowances from the cap each year. Reserve is supplemented by all unsold allowances from the regular auction.</li> <li>Initial minimum auction price level set at \$28, with the minimum price increasing by 5% plus inflation for years 2013 and 2014; from 2015 and onward reserve price is 60% above the 3 year rolling average of the daily closing price of allowances</li> <li>In years 2012-2016 up to 5% of total annual allowances may be auctioned from the reserve; in years 2017 and thereafter, up to 10% may be auctioned</li> <li>Covered entities may purchase up to 20% of their emissions</li> <li>Proceeds from strategic reserve auction used to buy international reduced deforestation offset tons, which would then be retired. Emission allowances in the amount of 80% of the purchased tons would be created to restock the reserve</li> </ul> | <ul style="list-style-type: none"> <li>Quarterly strategic reserve pool of 4 billion allowances over the life of the program stocked with a small percentage of allowances from the cap each year. The Reserve is supplemented by all unsold allowances from the regular auction.</li> <li>Initial price of a reserve allowance is \$25/ton (2009 dollars) escalating 5% each year (no auction)</li> <li>Covered entities can purchase reserve allowances up to 90 days before the date of compliance</li> <li>Covered entities may purchase up to 15% of their emissions of compliance obligation in that year and must use strategic allowances within one year</li> <li>Cannot purchase strategic reserve allowances within 90 days of selling an allowance or an offset or if there are banked allowances</li> <li>Revenue from Strategic reserve auction to be used to purchase international avoided deforestation offsets which will be used to replenish the Reserve (and not retired). To the extent that international avoided deforestation offsets are not available, domestic offsets may be purchased with funds from the strategic reserve</li> </ul> |
| Cost containment       | Regular auction floor price  | <ul style="list-style-type: none"> <li>Reserve price for all regular auctions starting at \$10/ton in 2012 and increasing by 5% above inflation annually</li> </ul>   | <ul style="list-style-type: none"> <li>Reserve price for all regular auctions starting at \$12/ton in 2013 and increases by 3 percent per year</li> </ul>  |
| Cost containment       | Carbon Market Board  | <ul style="list-style-type: none"> <li>President has discretion to make recommendations to Congress</li> </ul>  | <ul style="list-style-type: none"> <li>Not specified</li> </ul>  |
| Complementary policies | Technology research, development and                                 | <ul style="list-style-type: none"> <li>Directs allowance value to clean energy and CCS</li> </ul>   | <ul style="list-style-type: none"> <li>Directs allowance value to CCS, renewable electricity generation, and electric vehicles including via a Clean Energy Technology Fund</li> </ul>   |

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|                        | deployment support          |   |  |
| Complementary policies | Measures for coal           | <ul style="list-style-type: none"> <li>Federal agencies to develop national strategy for CCS deployment</li> <li>Administrator to develop regulations for geologic sequestration sites</li> <li>CCS trust fund to finance first ~5 commercial-scale demonstration projects</li> <li>Authorizes bonus allowances for early large scale CCS deployment (first 6 GW at coal power plants and industrial facilities) and specifies formula for bonus allowances</li> <li>Second phase of bonus allowances for subsequent CCS deployment to be awarded via reverse auction to qualified projects unless Administrator finds that this approach will not be effective, in which case a “first-come, first-served” program can be implemented</li> <li>Performance standards for new coal-fueled power plants. New facilities initially permitted after January 1, 2020 subject to a performance standard of a 65% reduction in CO<sub>2</sub> emissions annually compared to operation without CCS. Plants permitted between 2009 and 2019 are subject to an annual CO<sub>2</sub> emission reduction of 50% on an annual basis</li> <li>Compliance date for plants permitted between 2009 and 2019 is the earlier of January 1, 2025 or 4 years after deployment of at least 4 GW of operating CCS in the U.S. with 12 million tons per year of CO<sub>2</sub> captured and injected (including requirements for minimum deployment in the electric power sector)</li> </ul> | <ul style="list-style-type: none"> <li>Federal agencies to develop national strategy for CCS deployment</li> <li>Administrator to legal framework for regulating geologic sequestration sites</li> <li>CCS trust fund to finance first 10 GW of commercial-scale demonstration projects</li> <li>Authorizes bonus allowances for early large scale CCS deployment (first 20 GW at coal power plants and industrial facilities) and specifies formula for bonus allowances</li> <li>Second phase of bonus allowances for subsequent CCS deployment to be awarded via reverse auction to qualified projects unless Administrator finds that this approach will not be effective, in which case a “first-come, first-served” program can be implemented</li> <li>Performance standards for new coal-fueled power plants. New facilities initially permitted after January 1, 2020 subject to a performance standard of a 65% reduction in CO<sub>2</sub> emissions annually compared to operation without CCS. Plants permitted between 2009 and 2019 are subject to an annual CO<sub>2</sub> emission reduction of 50% on an annual basis. Coal plants built before 2009 will be subject to regulation under Sec. 111(d)</li> <li>Compliance date for plants permitted between 2009 and 2019 is the earlier of January 1, 2020 or 4 years after deployment of at least 10 GW of operating CCS in the U.S. with 12 million tons per year of CO<sub>2</sub> captured and injected (including requirements for minimum deployment in the electric power sector)</li> <li>Provides accelerated depreciation and investment tax credits for early replacement or retrofit of existing coal plants not subject to the CO<sub>2</sub> performance standard</li> </ul> |
| Complementary policies | Measures for transportation | <ul style="list-style-type: none"> <li>3% of allowances for automobile RD&amp;D from 2012-2017; 1% from 2018-2025</li> <li>Requires utilities to develop plans for electric vehicle infrastructure deployment</li> <li>Provides financial assistance to manufacturers to produce electric vehicles and consumers to purchase plug-in hybrid electric vehicles</li> <li>Directs EPA to implement GHG standards for on-road heavy-duty vehicles and engines and non-road vehicles and engines</li> <li>Directs EPA, states and metropolitan planning organizations to develop transportation GHG reduction targets and plans</li> </ul>   | <ul style="list-style-type: none"> <li>Directs DOT to develop a plan to determine near- and long-term needs of an electric drive (PEV) refueling infrastructure including identifying standards and pilot programs</li> <li>Directs EPA, states and metropolitan planning organizations to develop transportation GHG reduction targets and plans</li> <li>Directs DOT to set national GHG reduction goals for transportation</li> <li>Create “Clean Vehicle Technology Fund” (CVTF) for EPA to provide grants to advanced vehicle manufacturers and component suppliers for vehicles assembled in the U.S.</li> <li>CVTF is to give at least 25% of funds for PEV development</li> </ul>  |

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|                        |                                | <ul style="list-style-type: none"> <li>• Expands existing EPA SmartWay program to cover all freight modes and improve data collection on GHG emissions from these modes</li> <li>• Allows DOT to set regulations to require automakers to manufacturer tri-fuel vehicles (vehicle that operate on methanol, ethanol and gasoline) after 2015, if fuels are available in sufficient quantities and the mandate is a cost-effective way of achieving energy independence and environmental objectives</li> <li>• Directs the EPA to examine available analysis and submit a report to Congress on natural gas vehicles</li> <li>• Directs EPA to exclude emissions from international indirect land use for determining compliance with the Renewable Fuel Standard Program</li> </ul>               | <p>and manufacturing; no funds for manufacturers that do not comply with CAFE; 20% of funds for deployment support; 5% of funds for PEV pilot program</p> <ul style="list-style-type: none"> <li>• Liquefied or Compressed Natural Gas (NG) vehicle tax credit extended to 2020 and set to \$10,000 for vehicles less than 8,500 pounds, \$20,000 for vehicles between 8,500 and 14,000 pounds, \$50,000 for vehicles between 14,000 and 26,000 pounds, and \$80,000 for vehicles more than 26,000 pounds</li> <li>• For vehicles less than 8,500 pounds, NG credit is available for those that own at least 10 vehicles and purchase at least 3 NG vehicles</li> <li>• Redefine mixed fuel vehicle to be 65% CNG/LNG and 35% of 12% petroleum-based or 75% alternative fuel and 25% petroleum-based</li> <li>• NG vehicle credit is now available for those that qualify for Alternative Minimum Tax</li> <li>• Bond program to finance NG projects for state and local governments for up to \$3 billion nationally through 2019</li> <li>• NG vehicle production facilities built before 1/1/2015 can have 100% of the cost be tax deductible; 50% if built before 1/1/2020</li> <li>• Conduct a study of how to increase number of light-, medium-, and heavy-duty vehicles powered by NG or liquefied petroleum gas in federal fleet</li> <li>• Require EPA to set GHG standards for heavy-duty vehicles by 12/31/2010.</li> </ul> |
| Complementary policies | Measures for energy efficiency | <ul style="list-style-type: none"> <li>• National building energy efficiency targets</li> <li>• Building efficiency programs administered by the Department of Housing and Urban Development</li> <li>• National Building codes updates</li> <li>• Building retrofit program</li> <li>• Energy efficiency manufactured homes program</li> <li>• Building energy performance labeling program</li> <li>• Amended lighting and appliance energy efficiency standards</li> <li>• Reforms DOE appliance efficiency program Best-in-class appliances deployment program</li> <li>• Establishes State Energy and Environment Development (SEED) Funds with allowances allocated to SEED to support efficiency and renewable energy programs</li> <li>• Smart grid and transmission provisions</li> </ul> | <ul style="list-style-type: none"> <li>• Finds that additional measures on energy efficiency beyond those included in the Act are needed, including improved building codes and stronger appliance standards.</li> <li>• Establishes a low-interest loan program for rural communities to finance energy efficiency projects.</li> <li>• Establishes a "National Industrial Innovation Institute" to carry out R&amp;D projects that lead to improved energy efficiency, lower GHG emissions, and increased competitiveness of U.S. manufacturers.</li> </ul>   |
| Complementary policies | Clean energy standard          | <ul style="list-style-type: none"> <li>• Electricity generated from renewable energy resources includes: wind; solar; geothermal; renewable biomass, biogas, or biofuels;</li> </ul>   | <ul style="list-style-type: none"> <li>• Not specified</li> </ul>   |

## COMPARISON OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 (WAXMAN-MARKEY) AND THE AMERICAN POWER ACT (KERRY-LIEBERMAN)

| Program Category         | Design Element                                | H.R. 2454 (House Passage – 6/26/2009)  | KL Draft 5/12/2010   |
|--------------------------|---|--|--|
|                          |   | <p>qualified hydropower; marine and hydrokinetic renewable energy; landfill gas, wastewater treatment gas, coal-mine methane, and qualified waste-to-energy.</p> <ul style="list-style-type: none"> <li>From 2012 through 2039, electric utilities that sold at least 4 million megawatt hours of electricity energy during the preceding calendar year are required to produce a set percentage from renewable.</li> <li>The percentage starts at 6% for 2012-2013, increases to 9.5% for 2014-2015, increases to 13.0% for 2016-2017, increases to 16.5% for 2017-2018, and stays at 20% from 2020-2039</li> </ul>   |  |
| Complementary policies   | Measures for nuclear power                    | <ul style="list-style-type: none"> <li>Not specified</li> </ul>  | <ul style="list-style-type: none"> <li>Increases nuclear loan guarantee funding to \$54 billion (from \$18.5 billion)</li> <li>Expands standby support regulatory risk insurance to cover up to 12 reactors (rather than 6)</li> <li>Includes provisions to expedite nuclear licensing</li> <li>Expands tax credits for nuclear power investments and generation</li> </ul>  |
| Complementary policies   | Measures for offshore oil and gas exploration | <ul style="list-style-type: none"> <li>Not specified</li> </ul>  | <ul style="list-style-type: none"> <li>Provides states with 37.5 percent of government revenue from drilling in offshore areas previously subject to drilling moratoria</li> <li>Allows states to prohibit offshore drilling within 75 miles of their coasts</li> <li>Subject to Department of Interior impact analysis, any states directly impacted by potential oil spills in newly opened offshore areas can prevent leasing from proceeding</li> </ul>  |
| International components | Linking of emissions trading systems          | <ul style="list-style-type: none"> <li>Allows unlimited use of allowances from approved, comparable national or sectoral trading systems (applying absolute tonnage limit) for compliance.</li> <li>The Administrator may, by rule, change the percentage of a firm's compliance obligation that can be met with international allowances</li> </ul>   | <ul style="list-style-type: none"> <li>Allows use of international allowances from a qualifying international program (run by a national or supranational foreign government, imposes a mandatory absolute tonnage limit and is at least as stringent as the U.S. program) for compliance.</li> </ul>  |
| International components | Developing country engagement                 | <ul style="list-style-type: none"> <li>5% of allowances through 2025, 3% from 2026 through 2030 and 2% onward will be used to undertake reduced deforestation and degradation, capacity building and forest conservation (where vulnerable to international leakage) activities in developing countries</li> <li>1 billion tons of international offsets from developing countries (limit may be increased up to 1.5 billion tons with Administrator determination)</li> <li>Sectoral crediting for absolute sector-wide reductions, avoidance or sequestration in eligible countries/sectors identified by the Administrator as having high emissions, a relatively high GDP, and the comparable sector is covered under US compliance</li> </ul> | <ul style="list-style-type: none"> <li>Sectoral crediting for absolute sector-wide reductions in sectors/countries identified by the Administrator as having comparatively high GHG emissions, comparatively greater levels of economic development and of that sector has been in the United States, it would be subject to a compliance obligation.</li> <li>Administrator may allow international offset credits issued by an international body established under the UNFCCC that meet certain conditions. After 2016, for sectors in countries identified by the Administrator mentioned as above, only sectoral crediting will be allowed</li> <li>Establishes an International Climate Change Adaptation and</li> </ul> |

## COMPARISON OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 (WAXMAN-MARKEY) AND THE AMERICAN POWER ACT (KERRY-LIEBERMAN)

| Program Category         | Design Element                        | H.R. 2454 (House Passage – 6/26/2009)  | KL Draft 5/12/2010  |
|--------------------------|---------------------------------------|--|---|
|                          |                                       | <p>obligation</p> <ul style="list-style-type: none"> <li>• Administrator may allow offset credits from developing countries issued by an international body established under the UNFCCC. After 2016, for sectors in countries identified by the Administrator mentioned as above, only sectoral crediting will be allowed</li> <li>• International adaptation provision establishes International Climate Change Adaptation Program within USAID; 1% of allowances from 2012-2021; 2% from 2022-2026; and 4% from 2027</li> <li>• Establishes International Clean Technology Fund, 1% of allowances from 2012-2021; 2% from 2022-2026; and 4% from 2027-2050</li> </ul>   | <p>Global Security Program within USAID; 0.75% of emission allowances allocated to international adaptation in 2019, increasing to 3% in 2034.</p> <ul style="list-style-type: none"> <li>• If the President determines that a multilateral agreement has been reached, he may direct the Administrator to allocate not more than 5% of allowances to undertake capacity-building, clean-energy deployment activities among others.</li> </ul>  |
| International components | Competitiveness and emissions leakage | <ul style="list-style-type: none"> <li>• 2% of allowance value to eligible energy-intensive, trade-exposed industries in 2012-2013, increasing to 15% 2014-2025. President assesses whether to continue or phase out (decreasing by 10% per year) after 2025. Allowances will be used to provide compensation for both direct and indirect compliance costs, on a product output basis</li> <li>• Beginning in 2020, importers would have to purchase international reserve allowances to cover emissions associated with imported covered goods in energy-intensive, trade-exposed sectors (unless a binding international agreement is in effect that requires all major emitters to contribute equitably to reducing GHGs and addresses imbalances in competitiveness).</li> <li>• The reserve program would be established automatically unless the President determines that it is not in the national interest and Congress concurs.</li> <li>• It would not apply if at least 85 percent of imports in a given sector are from countries that: have emission targets as stringent as the US; are parties to a sectoral agreement; or have energy or GHG intensities in that sector not higher than in the US. It would also not apply to imports from LDC</li> <li>• State Department and U.S. Trade Representative required to prepare, publish, and publicize a yearly report on whether China and India have enacted GHG emission standards at least as strict as the Act</li> </ul> | <ul style="list-style-type: none"> <li>• 2% of allowance value to eligible energy-intensive, trade-exposed industries in 2013-2015, increasing to 15%/year for 2016-2025, after which it decreases by 3%/year before phasing out completely at the end of 2029.</li> <li>• Allowances compensate for both direct and indirect costs, on a product output basis.</li> <li>• In 2020, unless a binding international agreement is in effect that requires all major emitters to contribute equitably to reducing GHGs and addresses imbalances in competitiveness, importers may be required to purchase international reserve allowances to cover emissions associated with imported covered goods in energy-intensive, trade-exposed sectors.</li> <li>• The International Reserve Allowance Program would be established unless the President determines that it is not in the national interest (the President may elect to grant more allowances to these sectors). Reserve allowance requirements would also be adjusted based on the effectiveness of allowance compensation to affected sectors (if the allowance value received by a particular sector is greater than or equal to its compliance costs, the reserve allowance program would not apply to that sector).</li> <li>• The program would not apply if more than 70 percent of global production in a given sector is in countries that: have emission targets as stringent as the US; are parties to a sectoral agreement with the U.S.; or have energy or GHG intensities in that sector not higher than in the US. It would also not apply to imports from least developed countries or those emitting less than 0.5% of global emissions and less than 5% of production in a given sector.</li> </ul> |

## COMPARISON OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 (WAXMAN-MARKEY) AND THE AMERICAN POWER ACT (KERRY-LIEBERMAN)

| Program Category         | Design Element                         | H.R. 2454 (House Passage – 6/26/2009)  | KL Draft 5/12/2010  |
|--------------------------|--|--|---|
| International components | Adaptation support                     | <ul style="list-style-type: none"> <li>• International adaptation provision establishes International Climate Change Adaptation Program within USAID</li> <li>• 1% of allowance value for international adaptation, increasing to 4% in 2027</li> </ul>  | <ul style="list-style-type: none"> <li>• Establishes an International Climate Change Adaptation and Global Security Program within USAID</li> <li>• 0.75% of emission allowances allocated to international adaptation in 2019, increasing to 3% in 2034. President can adjust the division of allowances between domestic and international adaptation based on a determination that it would be in the interest of the United States.</li> </ul>  |
| International components | Multilateral agreements and the UNFCCC | <ul style="list-style-type: none"> <li>• Calls for constructive engagement within the UNFCCC to get all major emitters to contribute equitably to global GHG reductions</li> <li>• International offset credits and REDD tons must come from countries with which the United States has either a bi-lateral or multi-lateral agreement or arrangement on these issues</li> <li>• Administrator may allow offset credits from developing countries issued by an international body established under the UNFCCC</li> </ul>  | <ul style="list-style-type: none"> <li>• Calls on the United States to lead the global community in combating the threat of climate change and reach a robust international agreement under the UN Convention or a successor agreement – critical to engaging other countries in an international effort to mitigate climate change</li> <li>• Establishes a Strategic Interagency Board on International Climate Investment</li> <li>• International offset credits must come from developing countries with which the United States has either a bi-lateral or multi-lateral agreement or arrangement on these issues</li> <li>• To the extent possible ensure that the use of offset credits would be eligible to satisfy emission reduction commitments made by the US in multilateral agreements</li> <li>• Administrator may allow offset credits from developing countries issued by an international body established under the UNFCCC</li> </ul> |
| International components | REDD support                           | <ul style="list-style-type: none"> <li>• 5% of allowance value dedicated to undertake reduced deforestation and degradation, capacity building, and forest conservation activities in developing countries.</li> <li>• Goal of achieving supplemental reductions of at least 720 million tons in 2020, and at least 6 billion tons cumulatively by 2025</li> <li>• Administrator shall modify allowance value (5%) as necessary to achieve the supplemental reductions goal</li> <li>• Proceeds from strategic reserve auctions used to buy forest carbon tons</li> <li>• Forest carbon tons eligible as international offset credits</li> <li>• National and sub-national crediting (at the state, province, or project level where appropriate). Sub-national crediting phased out in 2017, except for activities in least developed countries, where sub-national crediting may be extended up to 8 years</li> <li>• Administrator has discretion to include forest soil carbon and degradation of forested wetlands and peatlands</li> </ul> | <ul style="list-style-type: none"> <li>• Establishes a program to provide assistance to reduce greenhouse gas emissions from deforestation, build capacity, preserve existing forest carbon stocks, and reduce vulnerability and increase resilience in forest dependent communities in developing countries.</li> <li>• Funds made available to achieve goal of supplemental reductions of at least 720 million tons in 2020, and at least 6 billion tons cumulatively by 2025 and additional reductions in subsequent years</li> </ul>  |