COMPARISON OF ELECTRICITY PORTFOLIO STANDARD PROVISIONS IN CLIMATE AND ENERGY LEGISLATION IN THE 111TH CONGRESS

The following table compares the electricity portfolio standards included in the House-passed American Clean Energy and Security Act (ACES, Waxman-Markey) and three Senate bills from the 111th Congress: the American Clean Energy Leadership Act of 2009 (ACELA, Bingaman); the Practical Energy and Climate Plan Act (PECPA, Lugar); and the Clean Energy Standard Act of 2009 (Graham). Both ACES and ACELA have a Renewable Energy Standard (RES), while the proposals from Senator Lugar and Senator Graham include electricity portfolio standards that provide credit for both renewable and lower-emitting, non-renewable energy sources. In general, these bills establish requirements that electric utilities meet specified percentages of their electricity demand with generation from qualified energy sources or demonstrated electricity savings from energy efficiency. These electricity portfolio standards are market-oriented programs that allow utilities to comply via tradable credits and are very similar in nature to electricity portfolio standards already adopted by 31 states and the District of Columbia. The bills vary in terms of the standards' quantitative targets and the types of energy sources and efficiency savings that qualify toward compliance. While Congress did not enact any of these bills, they might inform future congressional proposals.

Program Category	American Clean Energy and Security Act (H.R. 2454, as passed by the House)	American Clean Energy Leadership Act of 2009 (S. 1462, as reported by the Senate Energy Natural Resources Committee)	Practical Energy and Climate Plan Act (S.3464, as introduced)	Clean Energy Standard Act of 2010 (S. 20, as introduced)
Energy Standard Name	Combined Efficiency and Renewable Electricity Standard (CERES)	Renewable Electricity Standard (RES)	Diversified Energy Standard (DES)	Clean Energy Standard (CES)
Compliance Threshold	• Electric utilities that sold at least 4 million megawatt hours of electricity during the preceding calendar year are required to comply with the standard	• Electric utilities that sold at least 4 million megawatt hours of electricity during the preceding calendar year are required to comply with the standard	• No threshold for electric utilities facing the compliance requirement	• Electric utilities that sold at least 4 million megawatt hours of electricity during the preceding calendar year are required to comply with the standard • Excludes Hawaii
Energy Standard Targets (as % of Base Quantity of Sales)	• Federal CERES targets: 2012-2013……..6.0% 2014-2015……..9.5% 2016-2017……..13.0% 2018-2019……..16.5% 2020-2039……..20.0%	• Federal RES targets: 2011-2013……..3.0% 2014-2016……..6.0% 2017-2018……..9.0% 2019-2020……..12.0% 2021-2039……..15.0%	• Federal DES targets: 2015-2019……..15.0% 2020-2024……..20.0% 2025-2029……..25.0% 2030-2049……..30.0% 2050……..50.0%	• Federal CES targets: 2013-2014……..13.0% 2015-2019……..15.0% 2020-2024……..20.0% 2025-2029……..25.0% 2030-2034……..30.0% 2035-2039……..35.0% 2040-2044……..40.0% 2045-2049……..45.0% 2050……..50.0%
Compliance Program Design	• The Federal Energy Regulatory Commission (FERC) is required to establish a program to implement and enforced the CERES • Utilities are required to submit Federal credits equal the their annual compliance obligations, or make alternative compliance	• The Secretary of Energy is required to establish a Federal renewable energy credit trading program, and a Federal energy efficiency credit trading program • Utilities are required to submit to the Secretary, Federal credits equal to their compliance obligations, or make alternative	• The Secretary of Energy is required to establish a Federal diverse energy credit trading program by January 1, 2011 • Utilities are required to submit to the Secretary, Federal credits equal to their compliance obligations, or make alternative compliance payments	• The Secretary of Energy is required to establish a Federal clean energy credit trading program and a Federal energy efficiency credit trading program • Utilities are required to submit to the Secretary Federal credits equal to their compliance obligation, or make alternative

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	payments	compliance payments		compliance payments
Calculation of Base Quantity of Electricity	The base quantity of electricity does not include electricity from: • Hydropower (excluding qualified hydro); • Nuclear generating units placed in service after the date of enactment the standard; and • Fossil-fueled generation coupled with carbon capture and storage (CCS) technology	The base quantity of electricity does not include electricity from: • Hydropower (excluding qualified hydro); • Incineration of municipal solid waste; • New nuclear facilities or additional generation from existing nuclear facilities due to efficiency upgrades or capacity additions; and • Fossil-fueled generation coupled with carbon capture and storage (CCS) technology	The base quantity of electricity does not include electricity from: • Hydropower (excluding qualified hydro)	The base quantity of electricity does not include electricity from: • Hydropower (excluding qualified hydro); and • Incineration of municipal solid waste
Types of Energy Included in Standard	• Solar; • Wind; • Geothermal; • Qualified hydropower; • Marine and hydrokinetic renewable energy; • Renewable biogas, or biofuels, biomass (Biomass definition is similar to that in the EISA of 2007, in which there are limitations placed on extraction from federal and state-protected lands); and • Landfill gas, wastewater treatment gas, coal-mine methane, and qualified waste-to-energy	• Solar; • Wind; • Geothermal and incremental geothermal • Qualified incremental hydropower; • Marine and hydrokinetic renewable energy; • Ocean (including tidal, wave, current, and thermal); • Biomass (Biomass definition is the same as in the Energy Policy Act of 2005, in which there are no constraints on the extraction of defined biomass from federal lands); • Landfill gas; and • Coal-mined methane, or qualified waste-to-energy sources or other innovative sources as determined through rulemaking	• Solar; • Wind; • Geothermal; • Qualified hydropower; • Marine and hydrokinetic renewable energy; • Biomass (no definition); • Landfill and biogas; • Coal mine methane; • Waste-to-energy; • Coal-fueled generation coupled with CCS (at least 65 percent capture required for partial credit through 2029 and at least 80 percent capture required thereafter); • Qualified nuclear energy (nuclear generating units placed in service after enactment of this bill); and • Any other energy source that will result in at least an 80 percent reduction in GHG emissions compared to average emissions of freely emitting sources in the	• Solar; • Wind; • Geothermal and incremental geothermal; • Qualified hydropower; • Marine and hydrokinetic renewable energy; • Ocean energy; • Biomass (defined with limited constraints on extraction from federal lands); • Landfill gas; • Coal-mined methane; • Qualified waste-to-energy; • Advanced coal generation (i.e., coal-fueled generation coupled with carbon capture and storage [at least 65% capture]); • Qualified nuclear energy (i.e., generation from reactors placed in service after enactment); • Eligible retired fossil fuel generation (i.e., avoided generation from carbon-intensive

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			calendar year prior to certification of the Secretary, as determined by the Secretary through rulemaking	generators permanently retired from the date of enactment through 2014) ; or • Another clean energy source based on innovative technology, as determined by the Secretary through rulemaking

Treatment of Energy Efficiency	• Energy efficiency credit can be used for up to 25% of compliance, and state governors may petition to have this increased to 40%.	• Energy efficiency credits can be used for up to 26.67% of compliance	• No limit specified on compliance via electricity efficiency savings, but credits for efficiency savings cannot be transferred or sold to entities outside of the state where the electricity savings occurred
			• Qualified energy efficiency includes:
			  • End-user efficiency savings;
			  • Efficiency savings in power generation
				• Energy efficiency can be used for up to 25% of compliance upon petition by state governors
				• Qualified energy efficiency includes:
				  • End-user efficiency savings;
				  • Efficiency savings in power generation;
				  • Energy savings due to the higher system efficiency of Combined Heat and Power

Trading & Banking	• A credit can be sold, exchanged, transferred, or submitted for retirement • Banking of credits for up to 3 years is allowed	• A credit can be sold or transferred • A credit issued for electricity savings may not be sold or transferred outside the State where the electricity savings occurred • Banking of credits for up to 3 years is allowed	• A credit can be sold or transferred • Credits for efficiency savings cannot be transferred or sold to entities outside of the state where the electricity savings occurred • No limit on banking specified	• A credit may be sold or transferred • Banking of credits for any subsequent year is allowed
Alternative Compliance Payment	• Instead of submitting a credit for compliance, a utility can make a alternative compliance payment equal to 2.5 cents/kWh (adjusted for inflation), directly to the state(s) where the utility is located • States are required to use the payment exclusively for the purpose of deploying renewable technologies or implementing cost-effective energy efficiency programs	• Instead of submitting a credit for compliance, a utility can make an alternative compliance payment of 2.1 cents/kWh (adjusted for inflation), directly to the state(s) where the utility is located • States are required to use the payment exclusively for the purpose of deploying renewable, nuclear, advanced coal technologies, as well as the promotion and deployment of electric vehicles and offsetting costs to consumers	• Instead of submitting a credit for compliance, a utility can make an alternative compliance payment determined by the Secretary, but not less than 5 cents/kWh (adjusted for inflation), directly to the state(s) where the utility is located • States are required to use the payment exclusively for increasing the quantity of diversified energy or offsetting costs to consumers through energy efficiency improvements	• Instead of submitting a credit for compliance, a utility can make an alternative compliance payment of 3.5 cents/kWh (adjusted for inflation), directly to the state(s) where the utility is located • States are required to use the payment exclusively for the purpose of deploying clean energy technologies as well as the promotion and deployment of electric vehicles and offsetting costs to consumers

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Penalties	• Utilities failing to meet the requirements are subject to civil penalties equal to the product of the number of kilowatt-hours sold in violation of the requirements and 200 percent of the value of the inflation-adjusted alternative compliance payment	• Utilities failing to meet the requirements are subject to civil penalties equal to the product of the number of kilowatt-hours sold in violation of the requirements and 200 percent of the value of the inflation-adjusted alternative compliance payment • The Secretary may mitigate or waive the penalty if the utility is unable to comply due to a reason outside the reasonable control of the utility	• Utilities failing to meet the requirements are subject to civil penalties equal to the product of the number of kilowatt-hours sold in violation of the requirements and 200 percent of the value of the inflation-adjusted alternative compliance payment	• Utilities failing to meet the requirements are subject to civil penalties equal to the product of the number of kilowatt-hours sold in violation of the requirements and 200 percent of the value of the inflation-adjusted alternative compliance payment • The Secretary may mitigate or waive the penalty if the utility is unable to comply due to a reason outside the reasonable control of the utility
Waiver(s)	• Not specified	• The Secretary may waive the energy standard requirements for up to 5 years due to natural disasters • A utility can petition for a waiver in order to limit the incremental cost of compliance to consumers to 4 percent per year • A state public utility commission or utility may request a variance for one or more years on the basis of transmission constraints preventing delivery qualified electricity	• The Secretary may waive the energy standard requirements for up to 5 years due to natural disasters • The Secretary may defer compliance for up to 3 years if a state submits a plan demonstrating that its program will achieve equivalent levels of diverse energy deployment, or a utility submits a plan demonstrating that it will achieve the required levels of deployment through facilities under construction	• The Secretary may waive the energy standard requirements for up to 5 years due to natural disasters • A utility can petition for a waiver in order to limit the incremental cost of compliance to consumers to 4 percent per year
Review & Reporting	• Not specified	• The Secretary is directed to review the program and make recommendations to Congress by January 15, 2017 and every five years thereafter	• The Secretary is directed to review the program and make recommendations to Congress by January 15, 2017 and every five years thereafter	• The Secretary is directed to review the program and make recommendations to Congress by January 15, 2017 and every five years thereafter
Federal Energy Purchases	• If feasible, the President shall ensure that a specified percentages of electricity consumed by federal agencies in the U.S. comes from renewable sources starting at 6 percent, increasing to 20 percent by 2020, and thereafter through 2039	• Not specified	• Not specified	• Not specified

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State Programs	• Does not preempt state programs • States with existing programs that entail centralized state procurement of renewable electricity can assume compliance responsibility for their utilities • Through regulation, a utility will, in specified cases, receive federal credits for compliance with relevant state programs • Amends Sec. 201 of the Public Utility Regulatory Policies Act of 1978 to clarify that a state legislature or regulatory authority can enact a feed-in tariff	• Does not preempt state programs • Through regulation, a utility will, in specified cases, receive federal credits for compliance with relevant state programs	• Does not preempt state programs • The Secretary is directed to consult and coordinate with state programs • Through regulation, a utility will, in specified cases, receive federal credits for compliance with relevant state programs	• Does not preempt state programs • The Secretary is directed to consult and coordinate with state programs • Through regulation, a utility will, in specified cases, receive federal credits for compliance with relevant state programs