Senate Energy & Telecomm.Comm.
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SB-31 14 January 2013

I would respectfully request the members of the Senate Energy & Telecommunications Committee accept my testimony related to SB-31.

In 2011 I authored SB-109 with the support and encouragement of Senator Barrett. The bill passed by the legislature was vetoed by Governor Schweitzer.

Senator Barrett and I decided to reintroduce this common sense bill. Not one person in this room will deny that hydro-power is a renewable resource. The only opposition will be political interference to protect "Politically Correct Renewables". Opponents claimed in 2011 that this bill will cause irreparable harm to the Renewable Energy Credit Market while at the same time upsetting the Renewable Energy Portfolio Standards. Proponents testified in 2011 that every business in Montana had at that time secured sufficient renewable energy credits to meet current demand. If the market demand is satisfied, then there will be no market for the renewable energy credits created by the passage of this bill.

This is not a new concept. Currently nine states and the District of Columbia recognize all hydro-electric generation as renewable energy. Fourteen states have no renewable portfolio standards with regard to hydro-power. The remaining states including Montana have convoluted policy allowing facilities with nameplate rating from five to one hundred megawatts of nameplate rating. SB-31 will allow all energy produced by the PSC regulated dams to be renewable. This, hopefully, will encourage private sector investments in Montana.

The only request I have of the committee is to leave pumped storage hydro development to a separate bill. I like the concept of pumped storage however have concerns about water rights. After far too many years of drought, water is becoming worth more than gold. Where will the initial water come from and whose water right will be affected. Additionally in a 4/20/11 Reuters article by Susan Kraemer, described the slow, cumbersome and very expensive permitting process to build a pumped storage facility. Thank You.

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planned for Los Angeles County to power producer Exelon Corp. The company said in a filing with the Securities and Exchange Commission on Thursday that it has been unable to resolve a construction permit issue at the 230-megawatt Antelope Valley Solar Ranch One plant. That is blocking the distribution of funds from a $646 million federal loan guarantee to help pay for the construction of the project." ("First Solar Says Delay Of Permit Imperils Deal," *The Toledo Blade*, 2/11/12)

"Hydro Projects Can Literally Take Decades." "Because it is a hydro resource, pumped storage is governed by the notoriously slow pace of FERC permitting. Pumped-hydro projects can literally take decades... Vince Lamarra, founder and former CEO of Symbiotics, and now vice president of project development at Riverbank Power, is sanguine about the time it takes to get permitted and built; about a decade. 'In a best-case scenario, you might be able to get a federal license in five years, but then it takes another two years for the engineering and then three more years to build a pumped-storage project, and they cost about $1.5 billion to $2 billion to build, because they are very large facilities,' he said." (Susan Kraemer, "Thought Solar Was Hard to Permit? Try Pumped Storage!" *Reuters*, 4/20/11)

The NRC Has Approved Only Two New Licenses To Build Nuclear Reactors In the Past 30 Years. "The U.S. Nuclear Regulatory Commission approved licenses to build two new nuclear reactors Thursday, the first authorized in over 30 years." (Steve Hargreaves, "First New Nuclear Reactors OK'd In Over 30 Years," *CNN Money*, 2/9/12)

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State Renewable Portfolio Standards (RPS) And Hydropower Provisions

Note: This table gives an overview of the Renewable Portfolio Standards and the hydropower provisions for various states. The information contained here is current as of February 2010

STATE	RPS GOAL	ADOPTED ON	IMPLEMENTING AGENCY	BILL	NOTES	HYDRO PROVISION
Alabama	None					
Alaska	None					
Arizona	15 by 2025 (Mandatory)	Feb-06	Arizona Corporate Commission	AAC R14-2		1. "Eligible Hydropower Facilities" are hydropower generators that were in existence prior to 1997 and that satisfy one of the following two criteria: i) New increased capacity of existing hydropower facilities due to improved technological or operational efficiencies or operational improvements resulting from improved or modified turbine design, improved or modified wicket gate assembly design, improved hydrological flow conditions, improved generator windings, improved electrical excitation systems, increases in transformation capacity, and improved system control and operating limit modifications. The electricity kWh that are eligible to meet the Annual Renewable Energy Requirements shall be limited to the new, incremental kWh output resulting from the capacity increase that is delivere to Arizona customers to meet the Annual Renewable Energy Requirement. ii) Generation from pre-1997 hydropower facilities that is used to firm or regulate the output of other eligible, intermittent renewable resources: The electricity kWh that are eligible to meet the Annual Renewable Energy Requirements shall be limited to the kWh actually generated to firm 2. "New Hydropower Generator of 10 MW or Less" is a generator, installed after January 1,200 i) A low-head, micro hydro run-of-the-river system that does not require any new damming of t ii) An existing dam that adds power generation equipment without requiring a new dam, diversi iii) Generation using canals or other irrigation systems
Arkansas	None					
California	33 by 2020 (Mandatory)	Sep-09	CA Energy Commission; CA Public Utilities Commission	SB107	For California's three major utilities – Pacific Gas & Electric, Southern Edison, and San Diego Gas & Electric	(IV) Renewable Energy Sources" means solar, wind, geotherman, biomass, new hydroelectricity with a nameplate rating of ten megawatts or less, and hydroelectricity in existence on january 1, 2005, with a nameplate rating of thirty megawatts or less.
Colorado	30 by 2020 (Mandatory)	Mar-07; Modified Feb-10	CO Public Utilities Commission	HB-10-1001	For large investor-owned utilities- 30% by 2020, 4 percent of which must come from solar-electric technologies. For municipal utilities and rural electric providers- 10% by 2020.	New hydroelectricity with a nameplate rating of 10 MW or less, and hydroelectricity in existence on January 1, 2005, with a nameplate rating of 30 MW or less. Note: Pumped Storage hydro is excluded

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STATE	RPS GOAL	ADOPTED ON	IMPLEMENTING AGENCY	BILL	NOTES	HYDRO PROVISION
Connecticut	27 by 2020 (Mandatory)	Jun-07	Department of Public Utility	HB7432	Class I- 20 % Class I or II- 3% Class III- 4%	Class I i) Wave or tidal power ii) A run-of-the-river hydropower facility provided such facility has a generating capacity of not more than five megawatts, does not cause an appreciable change in the river flow, and began operation after July 1, 2003 Class II i) A run-of-the-river hydropower facility provided such facility has a generating capacity of not more than five megawatts, does not cause an appreciable change in the riverflow, and began operation prior to July 1, 2003
Delaware	20 by 2019 (Mandatory)	Jul-07	Delaware DNR	SB19	2% has to be solar photovoltaics	Electricity derived from ocean energy including wave or tidal action, currents, or thermal differences Electricity generated by a hydroelectric facility that has a maximum design capacity of 30 megawatts or less from all generating units combined that meet appropriate environmental standards as determined by DNREC
District of Columbia	20 by 2022	Jan-05	DC Public Services Commission	A15-755	In 2022 and later, 11% from Tier 1, 0 % from Tier 2, and at least 0.386 % from solar Tier 1 Solar, wind, biomass, landfill gas, wastewater-treatment gas, geothermal, ocean (mechanical and thermal) and fuel cells fueled by tier one resources. Tier 2 Hydropower (other than pumped-storage generation) and municipal solid waste	Hydropower (other than pumped-storage generation)
Florida	None	To be developed by 2009				
Georgia	None					
Hawaii	20 by 2020 70 by 2030 (Mandatory)		Public Utilities Commission	SB2474		Energy from "falling water" Ocean water, currents and waves & Electrical energy savings brought about by the use of energy efficiency technologies, including heat pump water heating
Idaho	None					
Illinois	25 by 2025 (Mandatory)	Aug-07	Commerce Commission	Public Act 095-0481	75% of the electricity used to meet the renewable standard must come from wind power generation	Hydropower that does not involve new construction or significant expansion of hydropower dams,
Indiana	None					

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Iowa	105 MW by 1999 (~2% of 1999 sales) (Mandatory)	1983 Revised in 2003	Iowa Utilities Board	Iowa Code §476	105 MW by 1999	Small hydro facilities- not specifically defined.
Kansas	20 by 2020	May-09		HB2369		All existing hydropower. All new hydropower <10 MW except new pumped storage.
Kentucky	None	By 2009				
Louisana	None					
Maine	10 by 2017 (Mandatory)	Sep-99	Public Utilities Commission	Title 35-A		Small hydro as defined by FERC 18 CFR 292 Less than 100 MW
Maryland	20 by 2022 (Mandatory)	Apr-07	Public Service Commission	SB595	Tier 1: 20% in 2022 and beyond Tier 2: 2.5% in 2006 through 2018	Tier 1: Small hydroelectric power plant of less than 30 megawatts in capacity that is licensed or exempt from licensing by the Federal Energy Regulatory Commission if it is generated at a dam that existed as of January 1, 2004, even if a system or facility that is capable of generating electricity did not exist on that date. Tier 2: Hydroelectric power other than pump storage generation if it is generated at a system or facility that existed and was operational as of January 1, 2004, even if the facility or system was not capable of generating electricity on that date

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Massachusetts	15 by 2020 25 by 2030	Jul-08	Division of Energy Resources	S 2768	Class I- 4% by 2009 with additional 1 % increase every year with no end-date Class II- 3.6 % by 2009	Class I- 1. Marine and Hydrokinetic Energy 2. Class I Hydroelectric. i) The Unit has a nameplate capacity up to 25 megawatts, or increased capacity installed or efficiency improvements implemented after December 31, 1997 ii) The Unit does not involve pumped storage of water or any dam or water diversion structure constructed after December 31, 1997. iii) The Unit does not generate Marine or Hydrokinetic Energy. iv) The Unit meets appropriate and site-specific standards that address adequate and healthy river flows, water quality standards, fish passage and protection measures and mitigation and enhancement opportunities in the impacted watershed, as determined by the Department in consultation with Relevant Hydroelectric Agencies. The Unit shall demonstrate compliance with such standards by submitting the documentation required in either 225 CMR 14.05(1) (a) 6.d.i or ii. a. LIHI Certification of the Unit; 3. Class II Hydroelectric An Generation Unit that uses Hydroelectric Energy may qualify as an RPS Class II Generation Unit, subject to the limitations in 225 CMR 15.05(1)(a)6. a. The Unit has a nameplate capacity up to 5 MW; b. The Unit does not involve pumped storage of water or any dam or water diversion structure constructed after December 31, 1997. c. The Unit does not generate Marine or Hydrokinetic Energy. d. The Unit meets appropriate and site-specific standards that address adequate and healthy river flows, water quality standards, fish passage and protection measures and mitigation and enhancement opportunities in the impacted watershed, as determined by the Department in consultation with Relevant Hydroelectric Agencies. The Unit shall demonstrate compliance with such standards by submitting the documentation required in either 225 CMR 14.05(1)(a)6.d.i or ii. i. LIHI Certification of the Unit;
Michigan 3	10 by 2015 (Mandatory)	Oct-08	Michigan Public Service Commission	SB213		Kinetic energy of moving water, including all of the following: i) Waves, tides, or currents. ii) Water released through a dam Renewable energy system does not include any of the following: i) A hydroelectric pumped storage facility. ii) A hydroelectric facility that uses a dam constructed after the effective date of this act unless the dam is a repair or replacement of a dam in existence on the effective date of this act or an upgrade of a dam in existence on the effective date of this act that increases its energy efficiency

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Minnesota	25 by 2025 (Mandatory)	Feb-07	Public Utilities Commission	SF4	Xcel Energy, which currently generates about half of the state's electricity, will be required to produce 30 percent of its power from renewable sources by 2020	Hydroelectric with a capacity of less than 100 MW
9 Mississippi	None					
Missouri	15 by 2021 (Mandatory)	Nov-08	Missouri Public Service Commission	SB54	Investor-owned utilities increase renewable electricity generation to 2% by 2011, 5% by 2014, 10% by 2018, and 15% by 2021.	Hydroelectric (not including pump-storage) with a capacity of 10 megawatts (MW) or less and that does not require new water diversions or impoundments
Montana	15 by 2015 (Mandatory)	Apr-05	Public Service Commission	SB415		Water power, in the case of a hydroelectric project that does not require a new appropriation, diversion, or impoundment of water and that has a nameplate rating of 10 megawatts or less
10 Nebraska	None					
Nevada	20 by 2015 (Mandatory)	Jun-05	Public Utilities Commission	AB3	Of the 2%, at least 5% must be generated from solar. Utilities can also earn credit for up to 25% of the standard through energy efficiency measures	3. As used in this section, "waterpower" means power derived from standing, running or falling water which is used for any plant, facility, equipment or system to generate electricity if the generating capacity of the plant, facility, equipment or system is not more than 30 megawatts. Except as otherwise provided in this subsection, the term includes, without limitation, power derived from water that has been pumped from a lower to a higher elevation if the generating capacity of the plant, facility, equipment or system for which the water is used is not more than 30 megawatts. The term does not include power: a. Derived from water stored in a reservoir by a dam or similar device, unless: (1) The water is used exclusively for irrigation; (2) The dam or similar device was in existence on January 1, 2003; and (3) The generating capacity of the plant, facility, equipment or system for which the water is used is not more than 30 megawatts; b. That requires a new or increased appropriation or diversion of water for its creation; or c. That requires the use of any fossil fuel for its creation, unless

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New Hampshire	25 by 2025 (Mandatory)	May-07	New Hampshire Public Utilities Commission	HB873	Class I- 16% Class II- 0.3% Class III- 6.5% Class IV- 1%	Class I The incremental new production of electricity in any year from an eligible biomass or methane source or any hydroelectric generating facility licensed or exempted by Federal Energy Regulatory Commission (FERC), regardless of gross nameplate capacity, over its historical generation baseline, provided the commission certifies demonstrable completion of capital investments attributable to the efficiency improvements, additions of capacity, or increased renewable energy output that are sufficient to, were intended to, and can be demonstrated to increase annual renewable electricity output. The determination of incremental production shall not be based on any operational changes at such facility but rather on capital investments in efficiency improvements or additions of capacity. Class IV (Existing Small Hydroelectric) shall include the production of electricity from hydroelectric energy, provided the source i) began operation prior to January 1, 2006, ii) has a gross nameplate capacity of 5 MW or less, iii) has installed upstream and downstream diadromous fish passages that have been required an iv) when required, has documented applicable state water quality certification pursuant to sectio
New Jersey	22.5 by 2021 (Mandatory)	Apr-06	Board of Public Utilities	N.J. Stat. § 48:3-49	2.12% from solar; 17.88% from Class I; 2.5% from Class II or additional Class I Class I- means electric energy produced from solar technologies, photovoltaic technologies, wind energy, fuel cells, geothermal technologies, wave or tidal action, and methane gas from landfills or a biomass facility, provided that the biomass is cultivated and harvested in a sustainable manner;	Class I- Wave or Tidal and other "Class II renewable energy" means electric energy produced at a resource recovery facility or hydropower facility, provided that such facility is located where retail competition is permitted and provided further that the Commissioner of Environmental Protection has determined that such facility meets the highest environmental standards and minimizes any impacts to the environment and local communities;
New Mexico 4	20 by 2020 (Mandatory)	Mar-07	Public Regulation Commission	SB418		All hydro
New York	25 by 2013 (Mandatory)	Sep-04	Public Service Commission	CASE 03-E-0188	Main tier- Mandatory, 24%; includes biogas, biomass, liquid biofuel, fuel cells, hydroelectric, solar, ocean or tidal power, and wind. Customer-sited tier- 1% from voluntary green market programs.	Hydroelectric upgrades with no new storage impoundments, with eligibility limited to the incremental production associated with the upgrade; new low-impact run-of-river hydroelectric facilities limited to 30 MW or less, with no new storage impoundment; In-State run-of-river hydroelectric facilities of 5MWs or less in commercial operation at any time prior to January 1, 2003 that demonstrate need to receive RPS financial support to operate

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North Carolina	10 by 2018 12.5 by 2021 (Mandatory)	Aug-07	North Carolina Utilities Commission	S.L. 2007-397	Public utilities must meet 12.5% of retail electricity demand through renewable energy or energy efficiency measures, and electric membership corporations and municipalities that sell electric power in the state would have to meet a standard of 10% by 2018.	Less than 10 MW
North Dakota 5	10 by 2015	Mar-07		HB1506	Voluntary RPS	All hydro
Ohio 6	25 by 2025 (Mandatory)	May-08	Public Utilities Commission of Ohio	SB 221	Known as Alternative Energy Portfolio Standards (AEPS) At least 12.5 percent of electricity sold, must be generated by renewable sources such as wind, solar (which must account for at least 0.5 percent of electricity use by 2025), hydropower, geothermal, or biomass. At least half of this renewable energy must be generated in-state. The additional 12.5 percent can also be met through alternative energy resources like third-generation nuclear power plants, fuel cells, energy-efficiency programs, and clean coal technology that can control or prevent carbon dioxide emissions.	"hydroelectric facility" means a hydroelectric generating facility that is located at a dam on a river, or on any water discharged to a river, that is within or bordering this state or within or bordering an adjoining state and meets all of the following standards: i) The facility provides for river flows that are not detrimental for fish, wildlife, and water quality, including seasonal flow fluctuations as defined by the applicable licensing agency for the facility. ii) The facility demonstrates that it complies with the water quality standards of this state, whicl compliance may consist of certification under Section 401 of the "Clean Water Act of 1977," 91 Stat. 1598, 1599, 33 U.S.C. 1341, and demonstrates that it has not contributed to a finding by this state that the river has impaired water quality under Section 303(d) of the "Clean Water Act of 1977," 114 Stat. 870, 33 U.S.C. 1313. iii) The facility complies with mandatory prescriptions regarding fish passage as required by the federal energy regulatory commission license issued for the project, regarding fish protection fo riverine, anadromous, and catadromus fish. iv) The facility complies with the recommendations of the Ohio environmental protection agenc v) The facility complies with provisions of the "Endangered Species Act of 1973," 87 Stat. 884, vi) The facility does not harm cultural resources of the area. This can be shown through compli vii) The facility complies with the terms of its federal energy regulatory commission license or viii) The facility is not recommended for removal by any federal agency or agency of any state,
Oklahoma 7	15% by 2015	May-10	Oklahoma Corporation Commission	HB 3028		All hydro

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Oregon	25 by 2025 (Mandatory)	Jun-07	Oregon Public Utility Commission	SB 838	Sources of energy that count toward the standard include wind, solar, wave, geothermal, biomass, new hydro or efficiency upgrades to existing hydro facilities	Electricity generated by a hydroelectric facility other than a hydroelectric facility, that became operational before January 1, 1995, may be used to comply with a renewable portfolio standard only if: i) The facility is located outside any protected area designated by the Pacific Northwest Electric Power and Conservation Planning Council as of July 23, 1999, or any area protected under the federal Wild and Scenic Rivers Act, Public Law 90-542, or the Oregon Scenic Waterways Act, ORS 390.805 to 390.925; or ii) The electricity is attributable to efficiency upgrades made to the facility on or after January 1 1995. iii) Up to 50 average megawatts of electricity per year generated by an electric utility from certified low-impact hydroelectric facilities described in section 3 (4) of this 2007 Act may be used to comply with a renewable portfolio standard, without regard to the number of certified facilities operated by the electric utility or the generating capacity of those facilities. A hydroelectric facility described in this subsection is not subject to the requirements of subsectio (4) of this section.
Pennsylvania	18 by 2020 (Mandatory)	Dec-04	Public Utility Commission	Senate Bill No. 1030	Tier 1 sources must make up 8% of the portfolio, and include wind, solar, coalmine methane, small hydropower, geothermal, and biomass. Solar sources must provide 0.5 percent of generation by 2020. Tier 2 sources make up the remaining 10% of the portfolio, and include waste coal, demand side management, large hydropower, municipal solid waste, and coal integrated gasification combined cycle	TIER 1 Low-impact hydropower, consisting of any technology that produces less than 50 megawatts of electric power and that harnesses the hydroelectric potential of moving water impoundments, provided such incremental hydroelectric development: i) does not adversely change existing impacts to aquatic systems; ii) meets the certification standards established by the Low Impact Hydropower Institute and American Rivers, Inc., or their successors; iii) provides an adequate water flow for protection of aquatic life and for safe and effective fish passage; iv) protects against erosion; and v) protects cultural and historic resources TIER 2 Large-scale hydropower, which shall mean the production of electric power by harnessing the hydroelectric potential of moving water impoundments, including pumped storage that does not meet the requirements of Low-impact hydropower
Rhode Island	16 by 2020 (Mandatory)	Jun-04	Public Utility Commission	H7375A		Small hydro facility: means a facility employing one or more hydroelectric turbine generators and with an aggregate capacity not exceeding thirty (30) megawatts.
11 South Carolina	None					
South Dakota	10 by 2015	Feb-08		HB1272	Voluntary RPS	Small hydro facility- a facility employing one or more hydroelectric turbine generators and with an aggregate capacity not exceeding thirty megawatts
12 Tennessee	None					
Texas	5,880 MW by 2015 10K MW by 2025 (Mandatory)	Aug-06	Public Utility Commission	SB20	5,880 MW (Approx. 5%) by 2015, 10,000 MW by 2025. 500 MW of the 2025 target with non-wind renewable generation.	All hydro (Renewable sources not specifically defined)

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Utah	20 by 2025	Mar-08		SB202	Voluntary- to the extent that it is cost effective.	Up to 50 average megawatts of electricity per year per municipal electric utility from a certified low-impact hydroelectric facility, without regard to the date upon which the facility becomes operational, if the facility is certified as a low-impact hydroelectric facility on or after January 1 1995, by a national certification organization; Efficiency upgrades to a hydroelectric facility, without regard to the date upon which the facility became operational, if the upgrades become operational on or after January 1, 1995;
Vermont	25 by 2025 (Mandatory)	Jun-05	Public Service Board	Title 30- Chapter 89	Three separate goals: (1) total increase in retail electricity sales between 2005-2012 to be met using qualifying renewables; (2) 20% of total statewide electric retail sales generated by qualifying renewables and CHP by 2017; (3) 25% of all energy consumed within the state produced through the use of renewables by 2025.	For purposes of this chapter, the only energy produced by a hydroelectric facility to be considered renewable shall be from a hydroelectric facility with a generating capacity of 200 MW or less
Virginia 9	12% of base year (2007) by 2022	Apr-07		SB1416	Voluntary RPS	All hydro
Washington	15 by 2020 (Mandatory)	Nov-06	Washington State Utilities and Transportation Commission	Initiative 937	Applicable for all utilities serving at least 25,000 people	Incremental electricity produced as a result of efficiency improvements completed after March 31, 1999, to a hydroelectric generation project owned by one or more qualifying utilities and located in the Pacific Northwest or to hydroelectric generation in irrigation pipes and canals located in the Pacific Northwest, where the additional electricity generated in either case is not a result of new water diversions or impoundments
13 West Virginia	None					
Wisconsin 10	10 by 2015 (Mandatory)	Mar-06	Public Service Commission	SB459		All hydro Tidal or wave
14 Wyoming	None					

DEVELOPED BY:
The Hydropower Reform Coalition

SOURCES:
1. Pew Center for Climate Change at http://www.pewclimate.org/states-regions
2. DSIRE at http://www.dsireusa.org/
3. UCS- Renewable Electricity Standards Toolkit at http://go.ucsusa.org/cgi-bin/RES/state_standards_search.pl?template=main