



Updates from Ohio and Oregon

State-Federal RPS Collaborative Webinar

Hosted by Clean Energy States Alliance

November 5, 2012



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- This webinar is being recorded and will be made available after the call on the CESA website at

www.cleanenergystates.org/projects/state-federal-rps-collaborative



State-Federal RPS Collaborative

- With funding from the Energy Foundation and the US Department of Energy, the Clean Energy States Alliance facilitates the **Collaborative**.
- Includes **state RPS administrators and regulators, federal agency representatives**, and other stakeholders.
- Advances dialogue and learning about RPS programs by **examining the challenges and potential solutions** for successful implementation of state RPS programs, including **identification of best practices**.
- To get the **monthly newsletter** and announcements of **upcoming events**, sign up for the listserv at:
www.cleanenergystates.org/projects/state-federal-rps-collaborative



Reminder to Register

State Federal RPS Collaborative's
National Summit on RPS – December 3-4

- Registrations due Monday, November 12
- Download the latest “States Advancing RPS Newsletter” to learn more at www.cleanenergystates.org

Updates from Ohio and Oregon

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Ohio's alternative energy portfolio standard (AEPS)



RPS COLLABORATIVE WEBINAR

NOVEMBER 5, 2012

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[HTTP://WWW.PUCO.OHIO.GOV/](http://www.puco.ohio.gov/)

Disclaimer



My comments should not be construed as representing the positions of the Commission.

Agenda



- Introduction to Ohio's Alternative Energy Portfolio Standard (AEPS)
- Recent Developments
- Summary of PUCO's certification process for renewable energy resource electric generating facilities
- Compliance Status
- Cases of Note

AEPS



- Alternative Energy Portfolio Standard (AEPS) came out of Senate Bill 221 – effective date of 7/31/2008
- The AEPS includes renewable energy resources (with specific solar carve-out) and advanced energy resources.
- “25% by 2025”
- Applies to Ohio electric distribution utilities and electric service companies (Ohio is an electric choice state)

AEPS



- Compliance obligation is a function of company's Ohio electric retail sales (average of most recent 3 years)
- The AEPS includes specific annual benchmarks for renewable resources and solar, beginning in the year 2009 (with minimum in-state requirement)
- PUCO rules recognize M-RETS and GATS (all facilities certified to date are using GATS)

AEPS



- **Alternative Compliance Payments (or ACPs)**
 - Assigned in the event of noncompliance
 - Cannot be recovered from customers
 - Separate ACP for solar and non-solar
- **Force Majeure**
 - Can excuse compliance if good faith effort is demonstrated
 - Has been used for solar in early years, especially in-state
- **Cost “Cap”**
 - Designed to limit the rate impacts of the AEPS

AEPS



- Advanced Energy Resources =
 - Complete list available at Ohio Revised Code 4928.01(A)(34)
 - Includes such resources as:
 - ✦ Clean coal technologies
 - ✦ Advanced nuclear
 - ✦ Co-gen
 - ✦ DSM and energy efficiency

AEPS



- Renewable Energy Resources =
 - Complete list available at Ohio Revised Code 4928.01(A)(37)
 - Includes such resources as:
 - ✦ Solar
 - ✦ Wind
 - ✦ Hydro
 - ✦ Fuel cells
 - ✦ Biomass
 - ✦ Abandoned coal mine methane
 - ✦ Waste Energy Recovery (WER) systems

AEPS



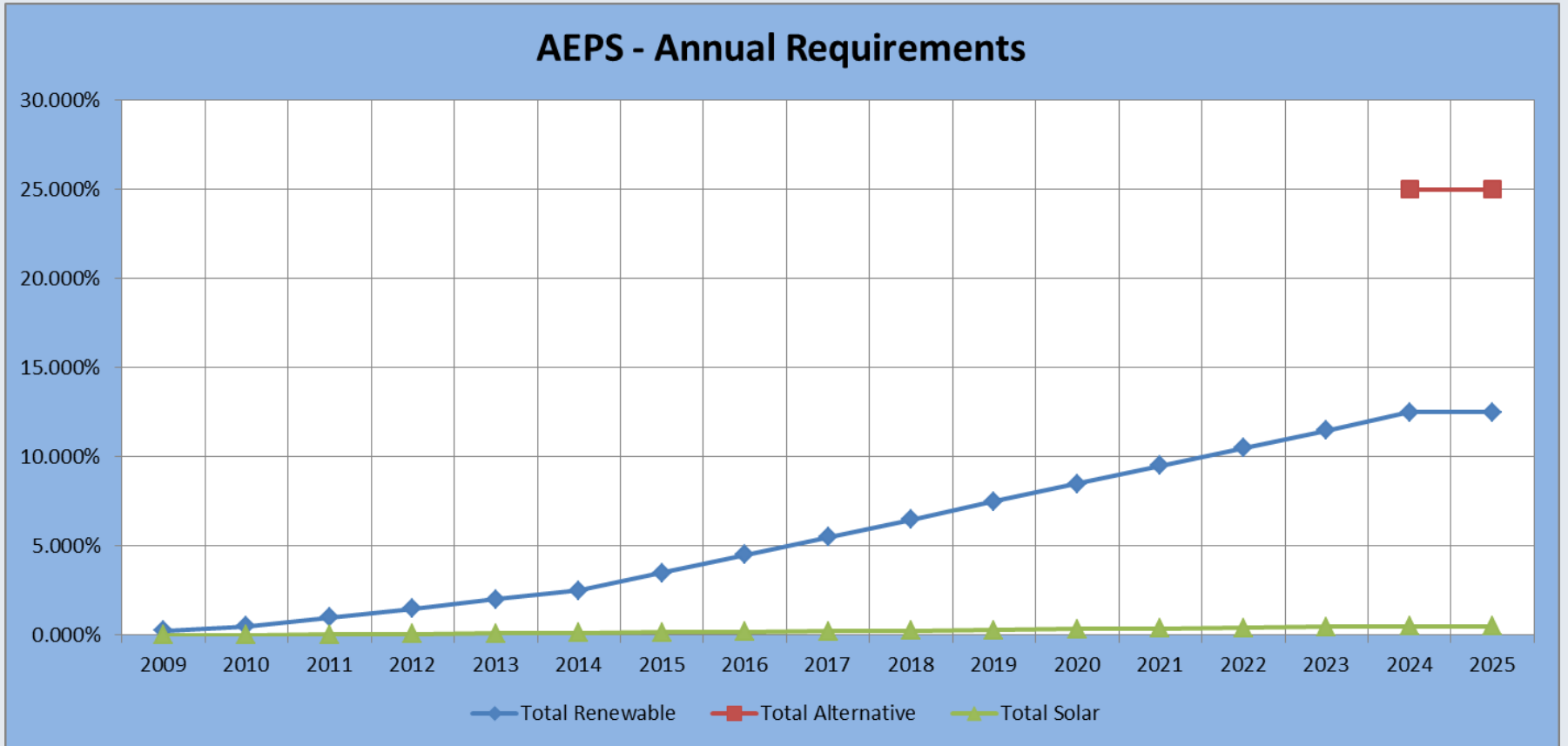
By end of year	Renewable energy resources	Solar energy resources
2009	0.25%	0.004%
2010	0.50%	0.010%
2011	1%	0.030%
2012	1.5%	0.060%
2013	2%	0.090%
2014	2.5%	0.12%
2015	3.5%	0.15%
2016	4.5%	0.18%
2017	5.5%	0.22%
2018	6.5%	0.26%
2019	7.5%	0.3%
2020	8.5%	0.34%
2021	9.5%	0.38%
2022	10.5%	0.42%
2023	11.5%	0.46%
2024 and each calendar year thereafter	12.5%	0.5%

Source: ORC 4928.64(B)(2)

AEPS



AEPS - Annual Requirements



AEPS



NOTE: This document relies on projected sales numbers and is therefore subject to change. It should only be used as a general reference.

Date: 4/16/12 (Version 2.0)

ESTIMATED QUANTIFICATION OF STATEWIDE COMPLIANCE OBLIGATIONS ASSOCIATED WITH RENEWABLE ENERGY COMPONENT OF THE ALTERNATIVE ENERGY PORTFOLIO STANDARD (ORC 4928.64)

Renewable Requirements per ORC 4928.64(B)

	Total Renewable		Non-Solar Renewable
		Solar	
2009	0.2500%	0.004%	0.246%
2010	0.5000%	0.010%	0.490%
2011	1.0000%	0.030%	0.970%
2012	1.5000%	0.060%	1.440%
2013	2.0000%	0.090%	1.910%
2014	2.5000%	0.120%	2.380%
2015	3.5000%	0.150%	3.350%
2016	4.5000%	0.180%	4.320%
2017	5.5000%	0.220%	5.280%
2018	6.5000%	0.260%	6.240%
2019	7.5000%	0.300%	7.200%
2020	8.5000%	0.340%	8.160%
2021	9.5000%	0.380%	9.120%
2022	10.5000%	0.420%	10.080%
2023	11.5000%	0.460%	11.040%
2024	12.5000%	0.500%	12.000%
2025	12.5000%	0.500%	12.000%

Year	Sales (MWHs)	Baseline (MWHs)	Non-Solar Renewables (MWHs)		Solar (MWHs)	
			Totals	Ohio Minimum	Totals	Ohio Minimum
2006	135,788,000	N/A	N/A	N/A	N/A	N/A
2007	143,358,000	N/A	N/A	N/A	N/A	N/A
2008	140,739,000	N/A	N/A	N/A	N/A	N/A
2009	128,938,000	139,961,667	344,305.70	172,152.85	5,598.47	2,799.23
2010	136,246,236	137,678,333	674,623.83	337,311.92	13,767.83	6,883.92
2011	139,959,631	135,307,745	1,312,485.13	656,242.56	40,592.32	20,296.16
2012	140,932,187	135,047,956	1,944,690.56	972,345.28	81,028.77	40,514.39
2013	141,904,743	139,046,018	2,655,778.94	1,327,889.47	125,141.42	62,570.71
2014	143,407,784	140,932,187	3,354,186.05	1,677,093.03	169,118.62	84,559.31
2015	144,910,825	142,081,571	4,759,732.64	2,379,866.32	213,122.36	106,561.18
2016	146,413,866	143,407,784	6,195,216.27	3,097,608.13	258,134.01	129,067.01
2017	147,828,492	144,910,825	7,651,291.56	3,825,645.78	318,803.82	159,401.91
2018	149,243,119	146,384,394	9,134,386.21	4,567,193.10	380,599.43	190,299.71
2019	147,474,836	147,828,492	10,643,651.45	5,321,825.72	443,485.48	221,742.74
2020	145,618,138	148,182,149	12,091,663.36	6,045,831.68	503,819.31	251,909.65
2021	143,584,612	147,445,364	13,447,017.23	6,723,508.61	560,292.38	280,146.19
2022	144,645,582	145,559,195	14,672,366.89	7,336,183.44	611,348.62	305,674.31
2023	145,706,552	144,616,111	15,965,618.62	7,982,809.31	665,234.11	332,617.05
2024	146,767,522	144,645,582	17,357,469.84	8,678,734.92	723,227.91	361,613.96
2025	147,828,492	145,706,552	17,484,786.24	8,742,393.12	728,532.76	364,266.38

Notes:

- (1) The Sales (MWH) for 2006 to 2009 are actual figures. Sales beginning in 2010 are based on PUCO Staff projections, in accordance with ORC 4935.01(A), and are therefore subject to change
- (2) The Sales (MWH) do not include sales attributed to municipals or co-ops, as they are not covered by the portfolio standard requirements.
- (3) The Baseline (MWH) is computed as the average annual sales from the three prior calendar years (i.e., 2009 baseline = the average of 2006, 2007, and 2008 sales)
- (4) The annual requirements (non-solar and solar) do not incorporate any impacts associated with force majeure determinations.
- (5) The non-solar and solar requirements (MWHs) are based on projected sales volumes and will change as a function of actual sales.
- (6) The "Non-Solar Renewables" requirement can be satisfied with any eligible renewable energy resources, including solar.
- (7) The "Ohio Minimum" columns incorporate the 50% in-state requirement per ORC 4928.64(B)(3)

Questions concerning this document can be directed to Stuart Siegfried

Stuart.Siegfried@puc.state.oh.us

AEPS



- Ohio Revised Code: 4928.64 & 4928.65 (statute)

<http://codes.ohio.gov/orc/4928.64>

<http://codes.ohio.gov/orc/4928.65>

<http://codes.ohio.gov/orc/4928.01> (definitions)

- Ohio Administrative Code: 4901:1-40 (rule)

<http://codes.ohio.gov/oac/4901%3A1-40>

Recent Developments



- SB 315, with an effective date of September 10, 2012, required that future annual reports to the General Assembly include average renewable energy credit (REC) costs used for compliance
- SB 315 also changed the statutory definitions of “advanced energy resources” and “renewable energy resources”

Recent Developments



- “Advanced Energy Resources” now include:
 - Any new, retrofitted, refueled, or repowered generating facility located in Ohio, including a simple or combined-cycle natural gas generating facility or a generating facility that uses biomass, coal, modular nuclear, or any other fuel as its input;
 - Any uprated capacity of an existing electric generating facility if the uprated capacity results from the deployment of advanced technology.

Recent Developments



- “Renewable Energy Resources” now include:
 - Waste energy recovery system placed into service or retrofitted on or after the effective date of the amendment of this section by S.B. 315 of the 129th general assembly, except that a waste energy recovery system described in division (A)(38)(b) of this section may be included only if it was placed into service between January 1, 2002, and December 31, 2004

PUCO Certification Process



- Established by OAC 4901:1-40-04(F)
- Only RECs from PUCO-certified facilities are viewed as viable compliance tools for compliance with renewable requirements of AEPS
- PUCO began certifying facilities in second half of 2009

Certification Process



- On-line application form
- No fee
- 60 day auto approval process (but can deviate)
- Fully transparent – everything can be viewed on PUCO website

Certification Process



- Staff focus when reviewing the applications is on the following: (a) the resource or technology used at the facility, (b) the facility's placed in-service date, and (c) if the facility's electrical output is deliverable to the state of Ohio.
- Also looking at metering – for facilities above 6 kW, a utility-grade meter is required (must comply with 2001 ANSI C12.1 standards)

Certification Process



- To date, we have received over 5,500 applications – many for smaller, residential solar facilities
- And we have certified over 5,300 facilities

<http://www.puco.ohio.gov/puco/index.cfm/industry-information/industry-topics/ohioe28099s-renewable-and-advanced-energy-portfolio-standard/>

Certification Process



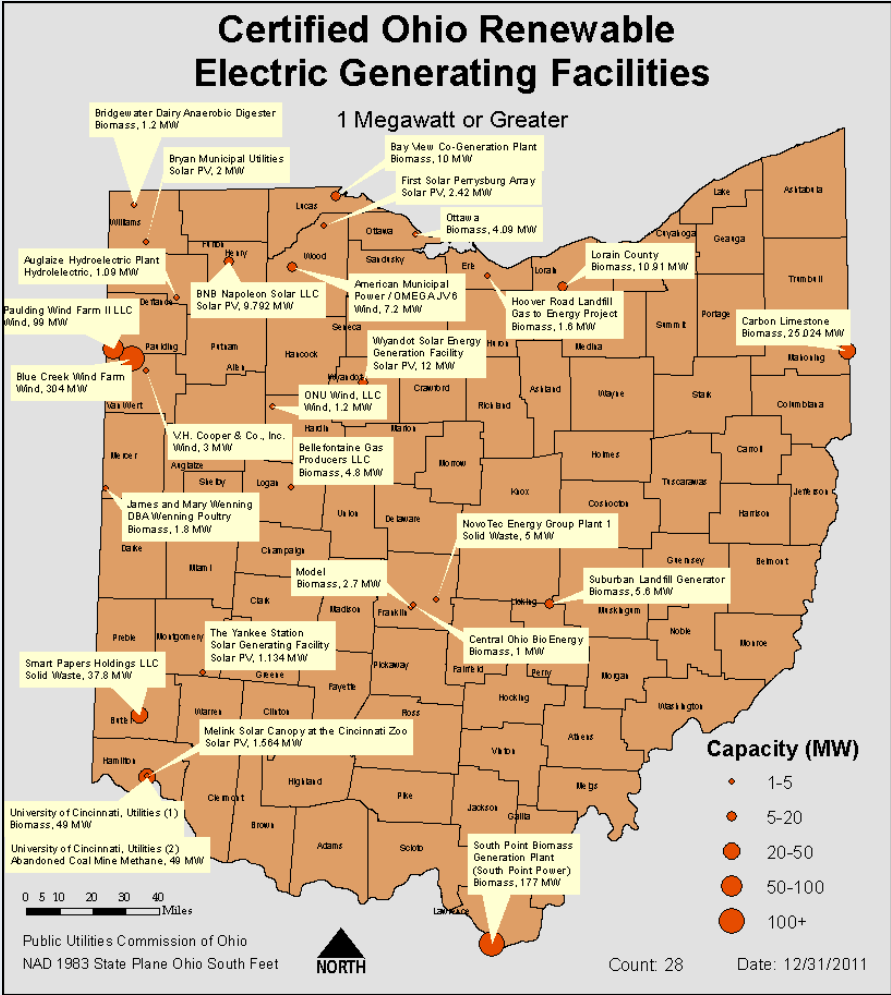
Certified Renewable Energy Generating Facilities

Facilities Certified: 06/26/2009 - 10/31/2012

Renewable Generation Type	FACILITIES CERTIFIED			CAPACITY (megawatts)		
	Count	Ohio	Outside Ohio	Capacity	Ohio	Outside Ohio
Solar Photovoltaic	5,220	872	4,348	174.50	68.05	106.45
Wind	44	24	20	2,690.88	419.63	2,271.25
Hydroelectric	3	1	2	123.09	1.09	122.00
Solid Waste	3	2	1	97.80	42.80	55.00
Abandoned Coal Mine Methane	1	1	-	49.00	49.00	-
FuelCell	1	1	-	1.00	1.00	-
Totals:	5,272	901	4,371	3,136.27	581.56	2,554.70
Biomass/Biogas	Count	Ohio	Outside Ohio	Capacity	Ohio	Outside Ohio
Landfill Gas	33	9	24	358.42	113.72	244.70
Anaerobic Digestion	6	3	3	6.66	3.45	3.21
Food Processing	3	3	-	2.51	2.51	-
Other	2	2	-	2.11	2.11	-
Wastewater Treatment	2	2	-	1.15	1.15	-
Wood Waste	1	1	-	177.00	177.00	-
Biomass/Biogas Totals:	47	20	27	547.85	299.94	247.91
CoFired*	Count	Ohio	Outside Ohio	Capacity	Ohio	Outside Ohio
Biomass	8	7	1	-	-	-
Paper Manufacturing	4	3	1	-	-	-
CoFired Totals:	12	10	2	-	-	-
Grand Totals:	5,331	931	4,400	3,684.12	881.50	2,802.61

* "Co-fired" means simultaneously using multiple fuels in the generation of electricity. For co-fired facilities, the proportion of energy input comprised of a renewable energy resource shall dictate the proportion of electricity output from the facility that can be considered a renewable energy resource. Co-fired renewable sources include woody biomass, biodiesel and switch grass.

Certified Facilities



Compliance Status – 2009 & 2010



- Based on the companies' compliance filings, the 2009 non-solar renewable energy obligations were nearly fully satisfied. However, the solar requirements, and particularly the in-state solar requirement, proved challenging.
- Compliance performance in 2010 was again very high for the non-solar renewable energy component. Performance with the solar requirement, while still short of full compliance, indicated a significant improvement as additional solar generating facilities came on-line.

2009 Compliance Status (DRAFT)



Company	Non-Solar Renewables (MWHs)				Solar Renewables (MWHs)			
	Total Required	In-State Required	Total Obtained	In-State Obtained	Total Required	In-State Required	Total Obtained	In-State Obtained
CEI	42,228	21,114	42,228	21,114	687	344	23	5
Columbus Southern	49,052	24,526	49,052	24,526	798	399	68	68
Dayton Power & Light	28,714	14,357	28,714	14,357	468	234	265	31
Duke Energy – Ohio	42,281	21,141	42,281	21,141	688	344	608	264
Ohio Edison	51,387	25,694	51,387	25,694	836	418	27	6
Ohio Power	63,242	31,621	63,242	31,621	1,028	514	95	82
Toledo Edison	22,314	11,157	22,314	11,157	363	182	11	2
CRES Providers	35,832	17,918	35,444	19,610	584	295	327	157
TOTALS	335,050	167,528	334,662	169,220	5,452	2,729	1,424	615

Source: Companies' annual compliance status report filings

Notes:

- 1) The numbers above are from the companies' annual compliance status report filings. The actual compliance obligations and performances may vary pending Commission review of the filings.
- 2) "Non-solar" is used in this context to represent the total renewable energy requirement net of the solar requirement.
- 3) The "In-State Requirement" is a minimum and is calculated as 50% of the total requirement

2010 Compliance Status (DRAFT)



Company	Non-Solar Renewables (MWHs)				Solar Renewables (MWHs)			
	Total Required	In-State Required	Total Obtained	In-State Obtained	Total Required	In-State Required	Total Obtained	In-State Obtained
CEI	80,052	40,026	80,052	40,026	2,298	1,156	1,729	587
Columbus Southern	95,847	47,923	95,847	47,923	2,687	1,343	2,687	1,343
Dayton Power & Light	58,213	29,107	58,213	29,107	1,391	797	1,391	797
Duke Energy – Ohio	49,502	24,751	49,502	24,751	1,090	585	1,090	585
Ohio Edison	100,350	50,175	100,350	50,175	2,857	1,436	2,151	730
Ohio Power	121,676	60,838	121,676	60,838	3,417	1,708	3,417	1,708
Toledo Edison	42,551	21,276	42,551	21,276	1,220	614	918	312
CRES Providers	65,027	33,515	64,809	34,555	1,536	777	1,401	672
TOTALS	613,218	307,611	613,000	308,651	16,496	8,416	14,784	6,734

Source: Companies' annual compliance status report filings

Notes:

- 1) The numbers above are from the companies' annual compliance status report filings. The actual compliance obligations and performances may vary pending Commission review of the filings.
- 2) "Non-solar" is used in this context to represent the total renewable energy requirement net of the solar requirement.
- 3) The "In-State Requirement" is a minimum and is calculated as 50% of the total requirement.
- 4) The numbers in this table include any volumes carried forward to 2010 by virtue of 2009 *force majeure* decisions.

Compliance Activities



- Numerous compliance options available to companies
- Some of the activities that Ohio companies have pursued include:
 - Issuance of Requests for Proposals (RFPs)
 - Signing Power Purchase Agreements (PPAs)
 - Use of Bilateral Negotiations
 - Participation in Auctions
 - Utilization of REC Brokers
 - Self-Generation (i.e., DP&L's Yankee solar facility)
 - Development of Residential REC Programs

Cases of Note



A few ongoing cases that may be of interest to this audience:

- 10-0501-EL-FOR

- ✦ AEP forecasting case in which a finding of need for proposed Turning Point Solar project (49.9 MW) is being contested
- ✦ [Case 10-0501-EL-FOR Docket](#)

- 11-5201-EL-RDR

- ✦ Review of FirstEnergy's AEPS compliance activities in 2009 – 2011, with specific consideration of statutory 3% cost provision
- ✦ [Case 11-5201-EL-ORD Docket](#)

Cases of Note



○ 12-2156-EL-ORD

- ✦ Case in which Staff will be proposing modifications to its AEPS rule (4901:1-40, OAC)
- ✦ [Case 12-2156-EL-ORD Docket](#)

○ 12-2668-EL-ACP

- ✦ Docket for Staff's report to the Ohio General Assembly re: the 2011 compliance year (also collecting REC costs)
- ✦ [Case 12-2668-EL-ACP Docket](#)

Questions?

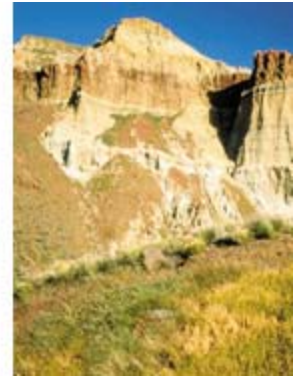


**THE STAFF'S ALTERNATIVE ENERGY
PORTFOLIO STANDARD TEAM CAN BE
REACHED VIA EMAIL AT:**

AEPS@PUC.STATE.OH.US

PUCO'S WEBPAGE DEVOTED TO AEPS:

**[HTTP://WWW.PUCO.OHIO.GOV/PUCO/INDEX
.CFM/INDUSTRY-INFORMATION/INDUSTRY-
TOPICS/OHIOE28099S-RENEWABLE-AND-
ADVANCED-ENERGY-PORTFOLIO-STANDARD/](http://www.puco.ohio.gov/PUCO/INDEX.CFM/INDUSTRY-INFORMATION/INDUSTRY-TOPICS/OHIOE28099S-RENEWABLE-AND-ADVANCED-ENERGY-PORTFOLIO-STANDARD/)**



Oregon's Renewable Portfolio Standard



OREGON
DEPARTMENT OF
ENERGY



PROGRAM

Timeframes

Landmark	Date
Renewable Energy Act law passed, includes Renewable Energy Standard (ORS 469A)	2007
First eligible generation (vintage of RECs)	January 2007
Earliest eligible renewable energy facility operational date	January 1, 1995
Top compliance tier for largest utilities	25% by 2025

Oversight

Divided administration-

- ✓ Oregon Department of Energy is responsible for the “system” of compliance for all utilities (eligibility, WREGIS - Western Renewable Energy Generation Information System)
- ✓ Oregon Public Utilities Commission responsible for assuring investor-owned utility compliance (correct number and type of RECs, cost of compliance, alternative compliance payment rates)

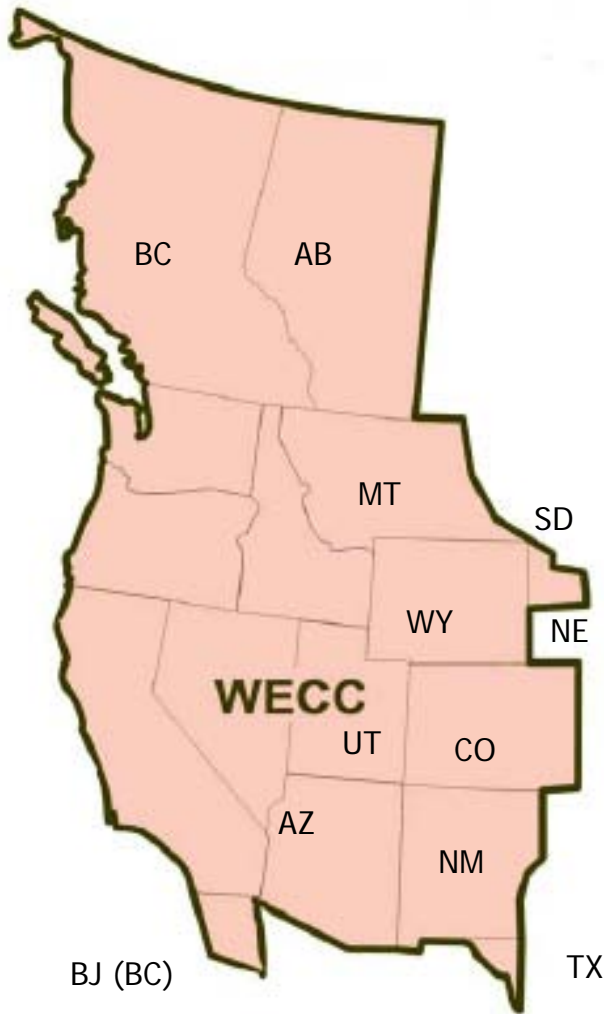
Eligible Resources

Facilities or upgrades after January 1, 1995 and fueled by:

- Wind, solar, biomass, wave, tidal, hydropower, geothermal, MSW, hydrogen.
- Biomass addition: pre-1995 biomass facilities are eligible, but RECs cannot be used until 2026.
- Hydropower addition: efficiency upgrades including federal facilities, and *any* certified low-impact hydropower.



Sphere of Influence



**Western
Electricity
Coordinating
Council**

*WECC manages
the grid via
North American
Electric Reliability
Corporation
(NERC)
via FERC.*

**Western
Renewable
Energy
Generation
Information
System**

*WREGIS tracks
renewable
generation &
operates within
WECC.*

Eligible Resources : Special Features

No “tiers” – flat eligibility.

Facilities may be located anywhere within the Western Electricity Coordinating Council (WECC).

Solar Capacity Standard

A separate standard that requires investor-owned utilities to contract for solar facilities that are 500 kW or greater. RECs associated with these facilities count twice toward the utilities' obligation.

COMPLIANCE

Utility Performance Tiers

RPS Class	Share of Sales	Affected Utilities and Electricity Service Suppliers	Standard as of Year			
			2011	2015	2020	2025
Large Utilities	≥ 3%	Eugene Water & Elec. Board PacifiCorp (Pacific Power) Portland General Electric	5%	15%	20%	25%
Smaller Utilities	< 3% but ≥ 1.5%	Central Lincoln PUD Clatskanie PUD Idaho Power Co. McMinnville Water & Light Springfield Utility Board Umatilla Electric Coop	No Interim Obligations			10%
Smallest Utilities	< 1.5%	All other utilities, i.e. 31 consumer-owned utilities				5%
ESS	Any	Any Electricity Service Supplier (ESS)	An aggregate obligation as if each of the customers served by the ESS were served by that customer's usual host utility.			

Compliance: Special Features

Bundled vs. unbundled

- Bundled means that the REC and the power were purchased and used together; unbundled means that the REC transaction did not include the power.
- Investor-owned utilities may use up to 20% unbundled RECs. Large consumer-owned utilities may use up to 50% unbundled.

Displacement

Utilities do not have to displace non-carbon resources (e.g. federal hydropower) in order to meet the standard.

Banking

There is no explicit statutory limitation on the use of a REC, resulting in unlimited banking of RECs.

First Year of Compliance

By June 2012, PacifiCorp and Portland General Electric were required to retire RECs in a number equivalent to 5% of their 2011 load.

Because of the displacement provision, Eugene Water and Electric Board determined it was not required to retire RECs.

Incremental cost of compliance capped at 4% annual revenue requirement. Estimated cost of compliance in June 2012:

- PacifiCorp indicates negative costs: incremental cost of (\$6,593,000), or (0.60%) of revenue requirement.
- PGE indicates a total cost of \$629,835, or 0.04% of revenue requirement.



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DEPARTMENT OF
ENERGY