

Ohio's Alternative Energy Portfolio Standard

Anne Goodge



The Public Utilities
Commission of Ohio

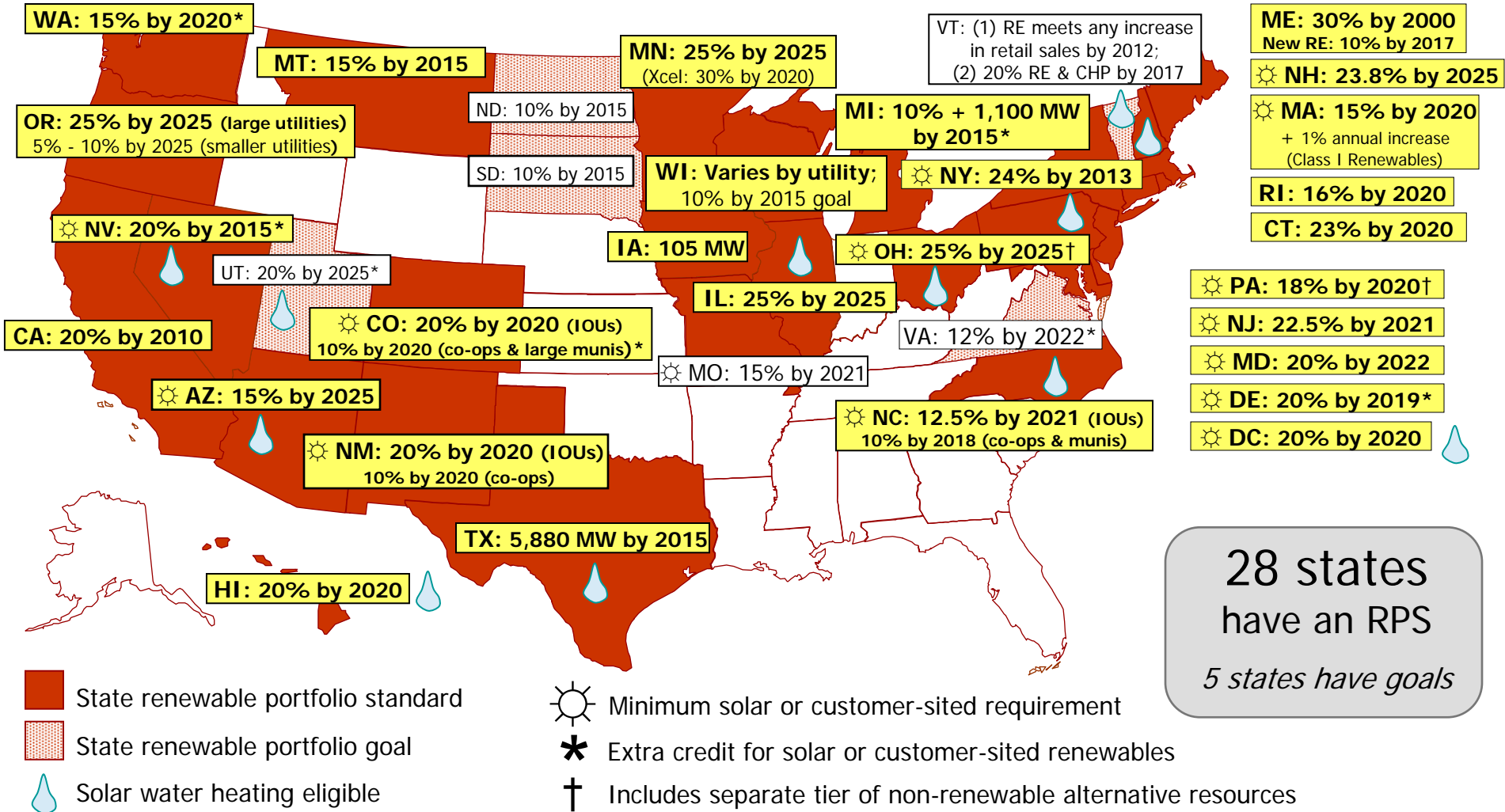


The Ohio Alternative Energy Portfolio Standard (AEPS)

- Portfolio standards require percentages of utilities' electric generation portfolio to be derived from renewable or cleaner technologies
- Ohio was about the 26th state to adopt a portfolio standard
- Ohio AEPS was created in Sub. S.B. 221, signed by Governor Strickland in May 2008

Renewable Portfolio Standards

www.dsireusa.org / March 2009



28 states have an RPS
5 states have goals

Ohio AEPS

- By 2025, 25% of retail electricity sold by Ohio's electric distribution utilities, AEP, DP&L, Duke Energy and First Energy, or electric service companies, must be generated from alternative energy sources, including both renewable and advanced energy technology sources.

AEPS Requirements

- A minimum of one-half of the energy must come from renewable sources
- A minimum of one-half percent from solar resources
- At least one-half of renewable sources must be located in Ohio
- Out of state resources must be shown to be deliverable to Ohio
- Facilities placed-in service date of 1/1/98 or later

Qualified Renewable Resources

- Solar
- Wind
- hydroelectric
- Geothermal
- Fuel cells
- Certain energy storage facilities
- Biomass

Qualified Biomass Resources

- Agricultural crops, tree crops, crop by-products and residues
- Wood and paper manufacturing waste
- Forestry or vegetation waste
- Algae
- Food waste, solid waste
- Animal waste and by-products

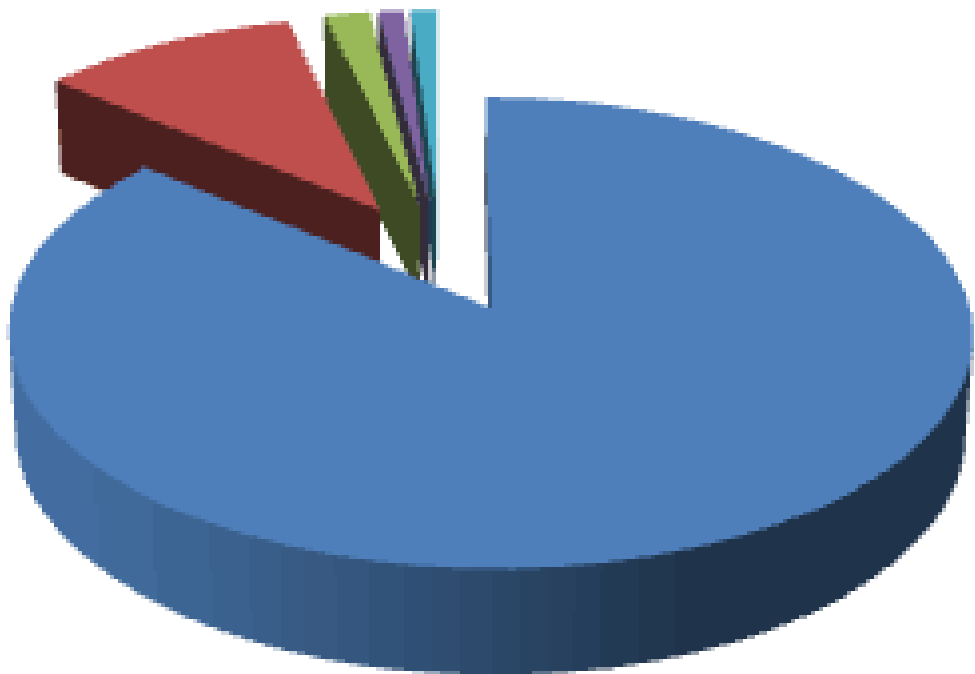
Qualified Biogas Sources

- Landfill methane
- Anaerobic Digester gas derived from:
 - animal waste
 - municipal wastewater
 - food waste
 - vegetation waste
 - agricultural crops and residues

Advanced Energy Resources

- Clean coal
- Nuclear
- Fuel cells
- Customer Co-generation
- Advanced solid waste conversion
- Utility generation plant or demand-side management efficiency measures

Ohio Electric Generation by Fuel Source

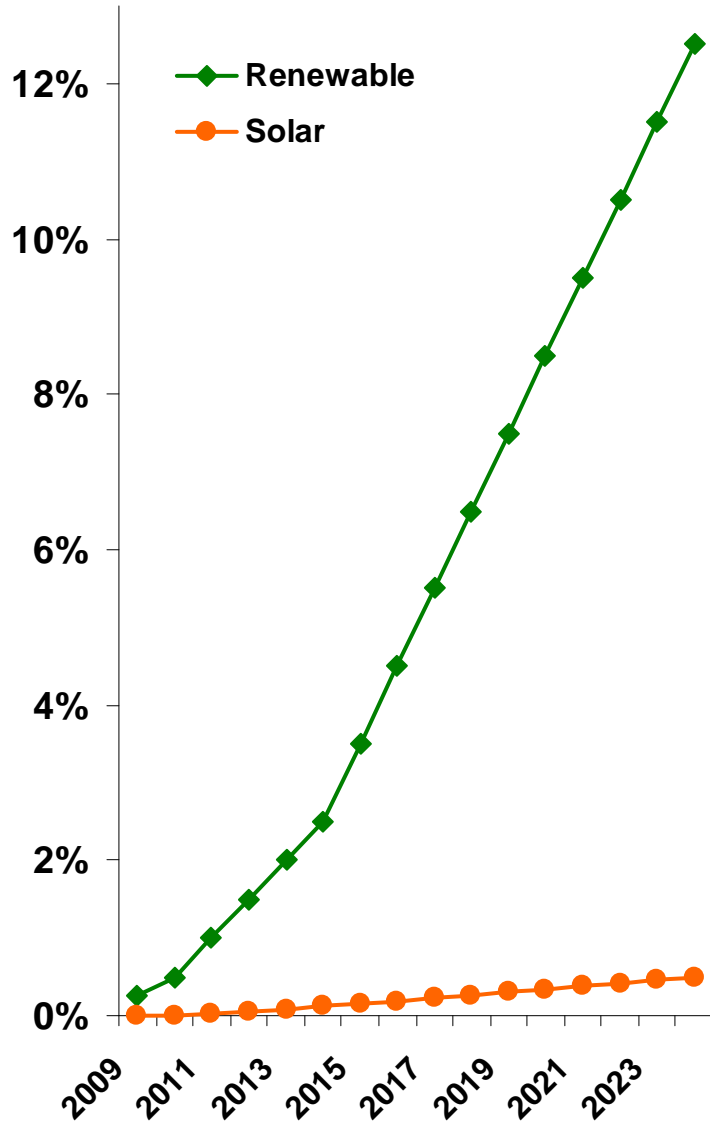


- Coal - 86%
- Nuclear - 10%
- Natural gas and other gases - 2%
- Petroleum - 1%
- Hydroelectric and renewables - 1%

Impact

- Ohio ranks 4th among states in retail electric sales and 6th in net generation
- Ohio's emissions from electric generation, including, SO₂, NO_x and CO₂, rank highly among states
- As the nation moves toward a lower carbon future, Ohio will need to incorporate low emission alternatives in its resource portfolio

Benchmarks



By end of year	Renewable Energy	Solar Energy
2009	0.25%	0.004%
2010	0.5%	0.01%
2011	1%	0.03%
2012	1.5%	0.06%
2013	2%	0.09%
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 +	12.5%	0.5%

Penalties

- Utilities and electric service companies subject to compliance payments if annual renewable and solar benchmarks are not met
- \$45/MWh
- Solar \$450/MWh in 2009 and declines over time
- Exceptions: force majeure; 3% cost cap

Renewable Energy Credits

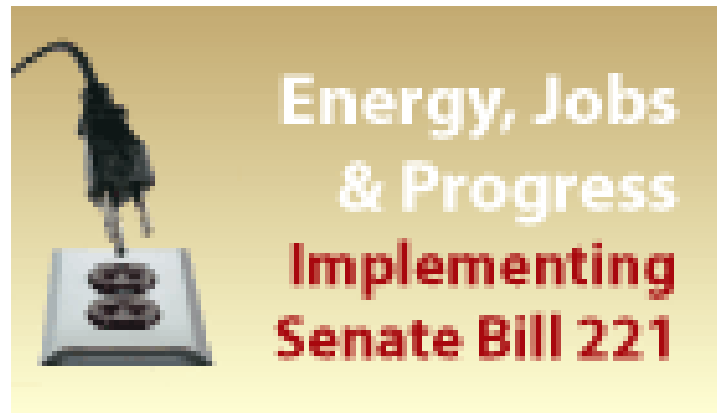
- New Ohio renewable energy credit (REC) trading market will be created in 2009
- Utilities may purchase RECs to meet the renewable portion of the standard
- PUCO will certify resources
- Established tracking systems will issue RECs and track their use
- RECs have a 5-year lifetime following their acquisition

PUCO Rules

- PUCO has issued draft rules and the comment period has ended
- PUCO will issue final rules
- Rules must be approved by JCARR

For more information

- To follow the progress of AEPS implementation , to the PUCO website:
- <http://www.puco.ohio.gov/> and click on:



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