



DEPARTMENT OF  
**ECOLOGY**  
State of Washington

**The Proposed EPA Clean Power Plan  
CO<sub>2</sub> Rule for Existing Power Plants  
(Section 111d)**

October 27, 2014

# Outline of EPA Proposed Rule



- Sets state specific emission rate limits
- Limits based on 4 universal building blocks
- Covers entire electricity system: from electricity generation to end use
- State develops plan to comply with standards
- Considerable flexibility in how to comply

# EPA Proposal



- Two main elements
  - State-specific CO<sub>2</sub> emission rate limits
  - Guidelines for development, submission and implementation of state plan to meet standard
- State limit set from a baseline/base year
- Building blocks are applied sequentially to the baseline to develop state limits
- Interim standard for 2020 through 2029
- Final standard in 2030

# Building Blocks

Building Block	Value Allocated in Goal-Setting Formula
<p><b>Make fossil fuel power plants more efficient</b></p> <ul style="list-style-type: none"> <li>Improve equipment and processes to get as much electricity as possible from each unit of fuel</li> <li>Using less fossil fuel to create the same amount of electricity means less carbon pollution.</li> </ul>	<p>Average heat rate improvement of 6% for coal steam electric generating units (EGUs)</p>
<p><b>Use low-emitting power sources more</b></p> <ul style="list-style-type: none"> <li>Using lower-emitting power plants more frequently to meet demand means less carbon pollution.</li> </ul>	<p>Dispatch to existing and under-construction natural gas combined cycle (NGCC) units to up to 70% capacity factor</p>
<p><b>Use more zero- and low-emitting power sources</b></p> <ul style="list-style-type: none"> <li>Expand renewable generating capacity, which is consistent with current trends.</li> <li>Using more renewable sources, including solar and wind, and low-emitting nuclear facilities, means less carbon pollution.</li> </ul>	<p>Dispatch to new clean generation, including new nuclear generation under construction, moderate deployment of new renewable generation, and continued use of existing nuclear generation</p>
<p><b>Use electricity more efficiently</b></p> <ul style="list-style-type: none"> <li>Reducing demand on power plants is a proven, low-cost way to reduce emissions, which will save consumers and businesses money and mean less carbon pollution.</li> </ul>	<p>Increase demand-side energy efficiency to 1.5% annually</p>

# How EPA Used Building Blocks to Set Washington State Standard

## Washington Standard

4% Rate Reduction

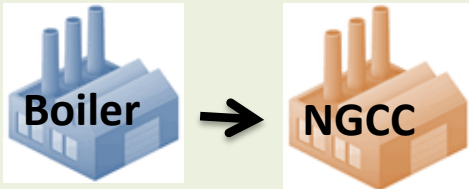
1.



- Improve coal EGU heat rate

37% Rate Reduction

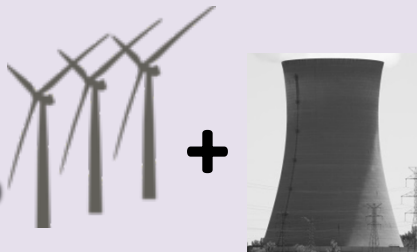
2.



- Increase average NGCC utilization to 70%

20% Rate Reduction

3.



- Achieve average regional renewable energy growth targets
- Avoid retirement of nuclear fleet

11% Rate Reduction

4.

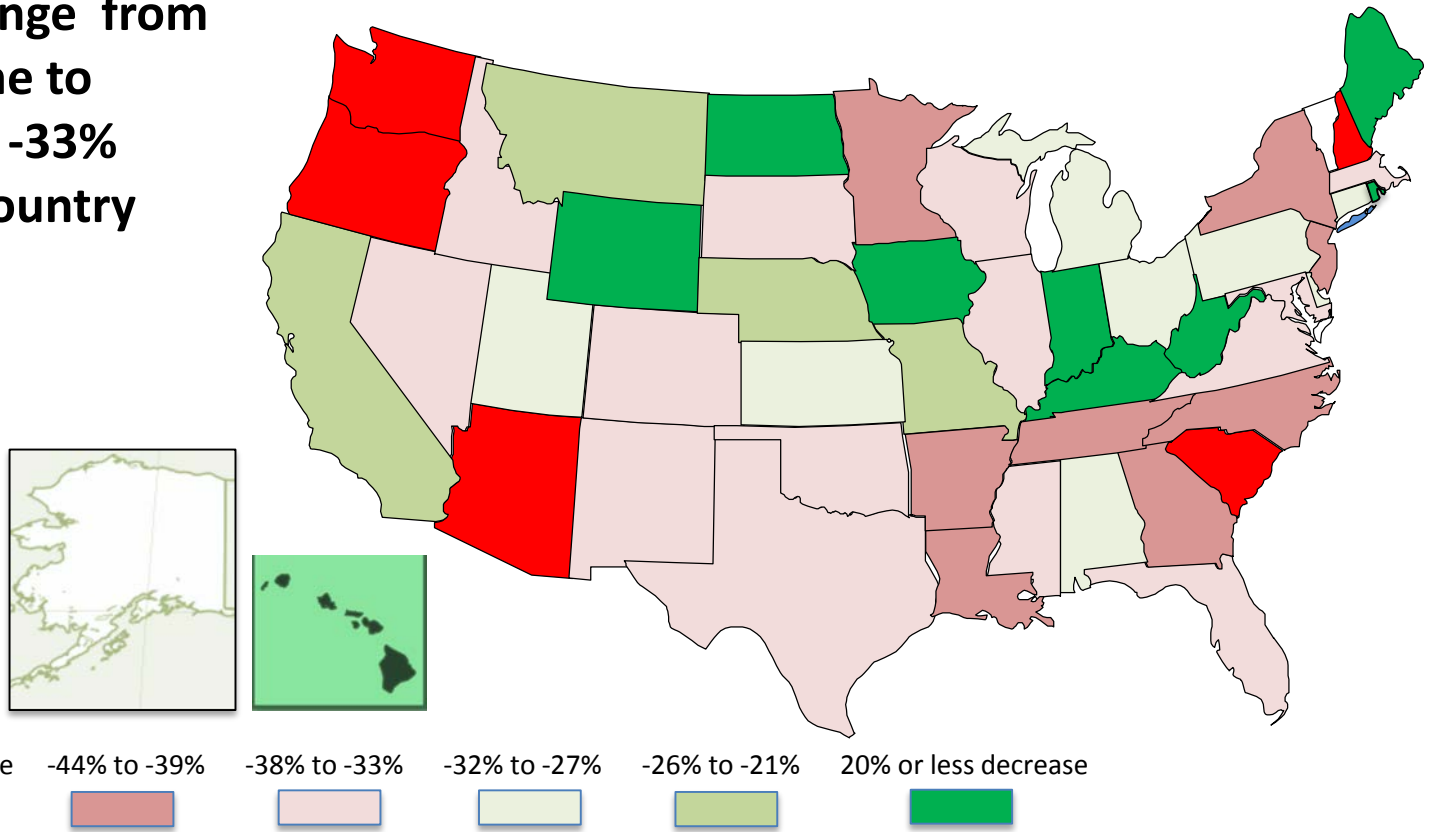


- Annual incremental electricity savings rate of 1.5 percent (energy efficiency)

**Total: 72% Reduction**

# Proposed State Rate Based Standards

Average change from  
2012 baseline to  
2030 limit is -33%  
across the country



# State Plans

- State must develop compliance plan
  - Like a state implementation plan, but not a SIP
- Plan demonstrates how emission reduction measures achieve standard
- Emission reduction measures:
  - not required to match “building blocks”
  - must be measurable, tracked and reported to EPA
  - must be enforceable

# Key State Plan Decisions

- Where should enforceability lie?
  - with the state (“portfolio approach”)
  - with the power plants
- How should standard be implemented?
  - rate-based
  - converted to total emissions (“mass based”)
- Should WA join with other states?
  - EPA allows for multi-state plans and compliance



# Affected EGUs in Washington



Plant	Number of units
Centralia Power Plant	2
PSE Sumas	1
PSE Ferndale	2
PSE Encogen	3
Shell/March Point Cogeneration	3
Fredrickson Power	1
Grays Harbor Energy Center	2
Chehalis Generating Station	2
PSE Mint Farm	1
Clark PUD River Road Generating Station	1
PSE Goldendale	1



# Proposed Implementation Timeline

