



Department of Commerce

# Playing Well Together – RPS, Green Power, Conservation and Carbon Regulation

*Glenn Blackmon*  
*Senior Energy Policy Specialist*

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# Four Tools to Reduce Fossil Emissions



- Voluntary green power programs
- Renewable portfolio standards
- Energy efficiency standard
- Carbon emissions regulation



# Voluntary Green Power Programs

- Washington law (2001)
  - “Beginning January 1, 2002, each electric utility must provide to its retail electricity customers a voluntary option to purchase qualified alternative energy resources...”
- NREL 2016 estimate: WA produces 5.2 million MWh for voluntary market
  - 4.5 percent of total generation in WA
  - 29 percent of renewable generation in WA
  - 2.1 metric tons/year of avoided CO2 emissions



# Renewable Portfolio Standard

- Washington Energy Independence Act (2006):
  - “Each qualifying utility shall use eligible renewable resources ... to meet ... at least 15 percent of its load by January 1, 2020... and each year thereafter”
- Assuming all utilities meet this target:
  - 10.8 million MWh of renewable generation
  - 4.4 million metric tons of avoided CO2 emissions



# Energy Efficiency Standard

- Washington Energy Independence Act (2006):
  - Each utility must identify and acquire all feasible and cost-effective energy efficiency
- Projected to reduce load in 2020 by 11 percent
  - 8.5 million MWh of avoided generation
  - 3.5 million metric tons of avoided CO2 emissions
- “Mandavoluntary” program
  - Voluntary for the customer
  - Mandatory that the utility find volunteers

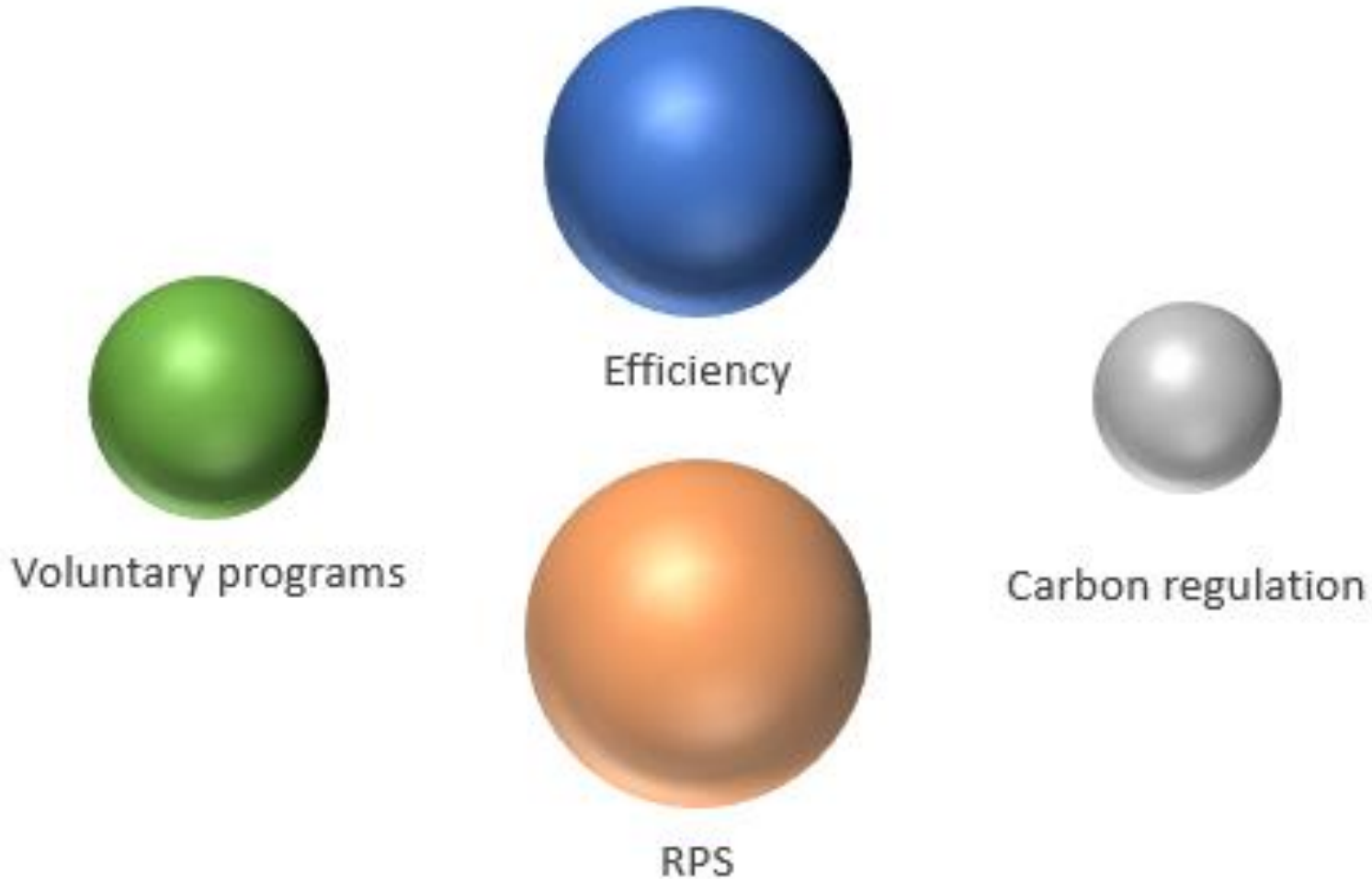


# Carbon Emissions Regulation

- Washington Clean Air Rule (2016):
  - Covered parties assigned an emission reduction pathway decreasing 1.7 percent annually from baseline.
- Not cap & trade
- Small reserve mechanism
- Projected effect from power sector:
  - 0.7 million metric tons CO<sub>2</sub>e/year in 2026
  - 1.3 million metric tons CO<sub>2</sub>e/year in 2036



# Four Tools to Reduce Carbon Emissions



# So Where's the Carbon Reduction?





# When Renewable Generation Increases

- Renewable attributes: +1 REC
  - Count toward RPS compliance
  - Use in voluntary renewable product
  - But not both
- Electricity: -1 MWh fossil generation
  - Not necessarily at an emission-regulated plant



# Carbon Regulation – Options to Reduce CO2

- Improve production efficiency
- Improve end-use efficiency
- Reduce generation, replacing MWh with:
  - Out-of-state fossil fuel plant
  - Small in-state fossil fuel plant
  - Grandfathered coal plant
  - More efficient covered generator
  - Out-of-state renewable
  - In-state renewable
- Use emission credits



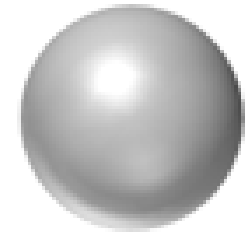
# Green-e Special Rule for WA Renewable Projects

- Based on cap & trade model
- RECs from projects located inside Washington
  - Considered no longer to have zero-emissions attribute
  - RECs must be paired with emissions attributes to be used in a Green-e program
    - Carbon allowances
    - Washington emissions reduction units
  - Projects online before 2017 not affected

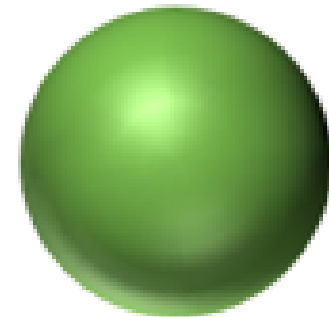


# Overlap of Voluntary and Carbon Regulation

- Carbon regulation interacts with both RPS and voluntary programs
  - Achieves reductions surplus to both
- Voluntary programs
  - Diffuse effect on emissions across the grid
  - May help plug the leaks
  - Provide value in addition to emissions reductions



Carbon regulation



Voluntary programs





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Presented by:

**Glenn Blackmon**

Senior Energy Policy Specialist

(360) 725-3115

[glenn.blackmon@commerce.wa.gov](mailto:glenn.blackmon@commerce.wa.gov)

[commerce.wa.gov/EIA](http://commerce.wa.gov/EIA)

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