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

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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

  • “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

  • 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 CO2e/year in 2026
  - 1.3 million metric tons CO2e/year in 2036
Four Tools to Reduce Carbon Emissions

- Voluntary programs
- Efficiency
- RPS
- Carbon regulation
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
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