

# Potential State Options for Complying with GHG Standards for Existing Power Plants

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Regulation of CO<sub>2</sub> Emissions from Power Plants:  
Flexibility and the Path Forward for Coal Dependent States

# Background: GCC's Work with States

- **Founded as a resource for states**
- **Works with states and other stakeholders on Sec. 111(d) through convenings, facilitation, and research**
- **Worked with officials from 15 states to submit comments to EPA**



# CAA § 111(d) Provides Major Role to States

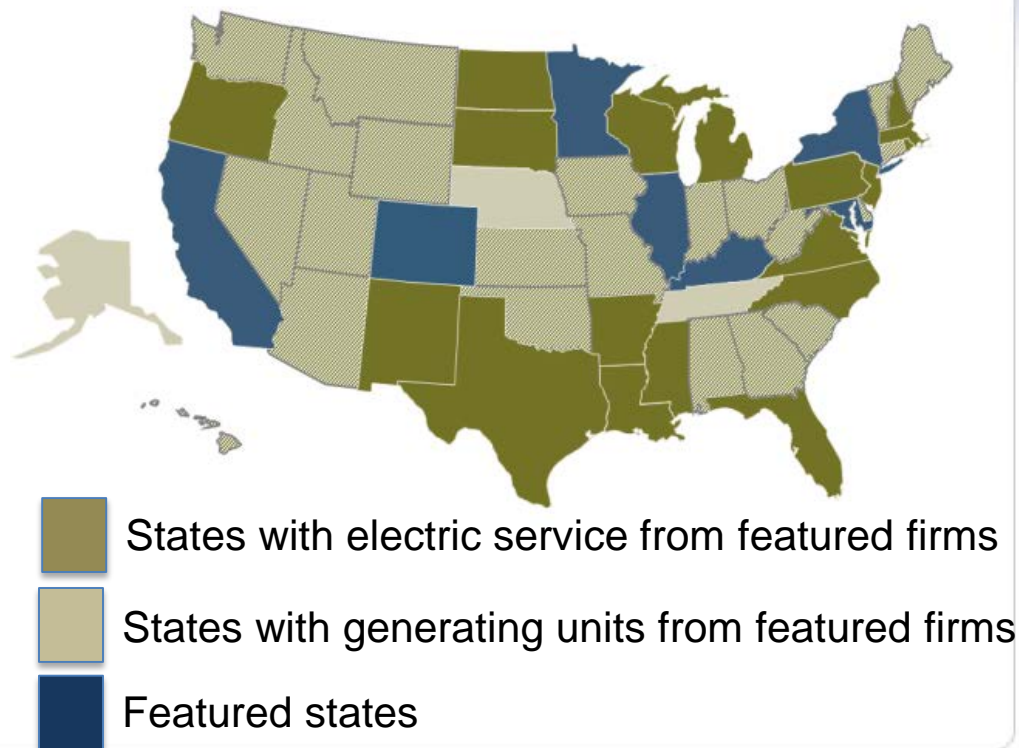
## For existing sources:

- EPA does not establish standards directly
- EPA establishes procedure similar to § 110 state implementation plans
- States submit plans to EPA for approval
- States likely have significant flexibility in how to design plans, but must generally establish standards that meet EPA minimum guidelines

# Flexibility Provides Opportunity to Learn from Successes of States and Firms

- GCC case studies of successes in reducing GHGs
- 14 firms, 7 states
- Success through a variety of options
  - Efficiency programs
  - Shifts in generation
  - Renewables

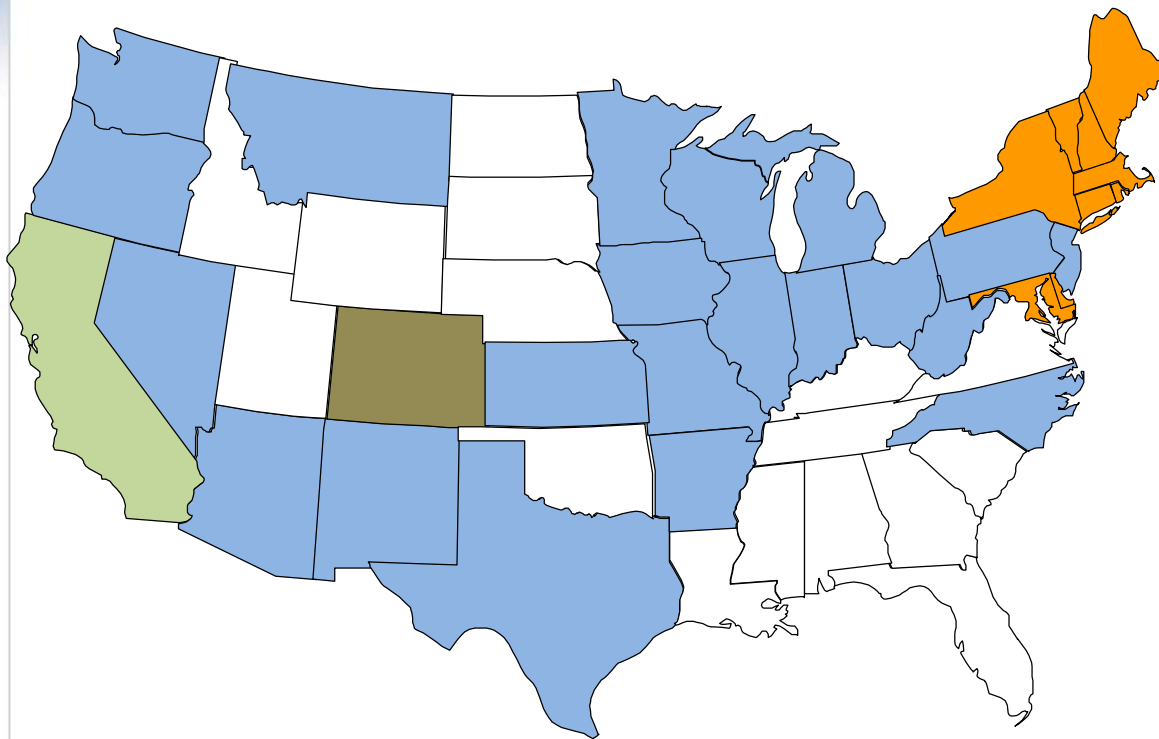
Geographic Representation of Featured States and Firms



# States, Firms Consider how Flexible Compliance Could Work



# Potential State Programs to Build on, Learn From



Renewable & Alternate Energy, Efficiency Standards

## Clean Energy Planning

- Colorado Clean Air, Clean Jobs

## RGGI

- Electric-sector C&T

## California Suite of Programs

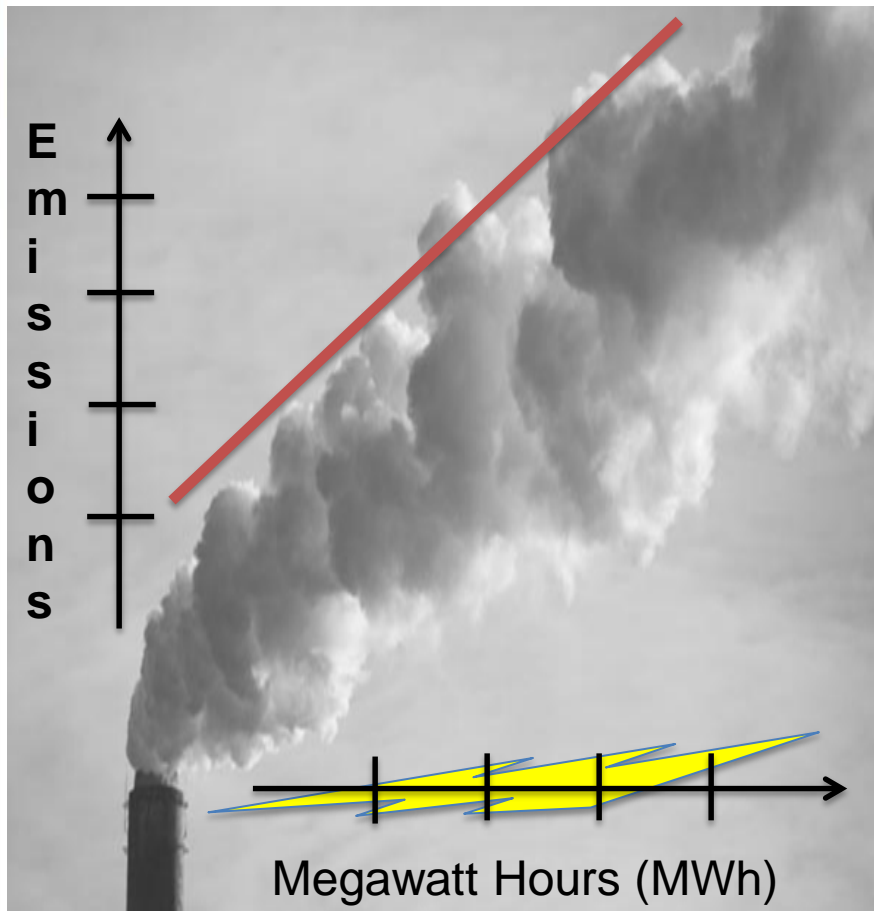
- Stringent RPS
- Multi-sector C&T



# Potential Compliance Options for States

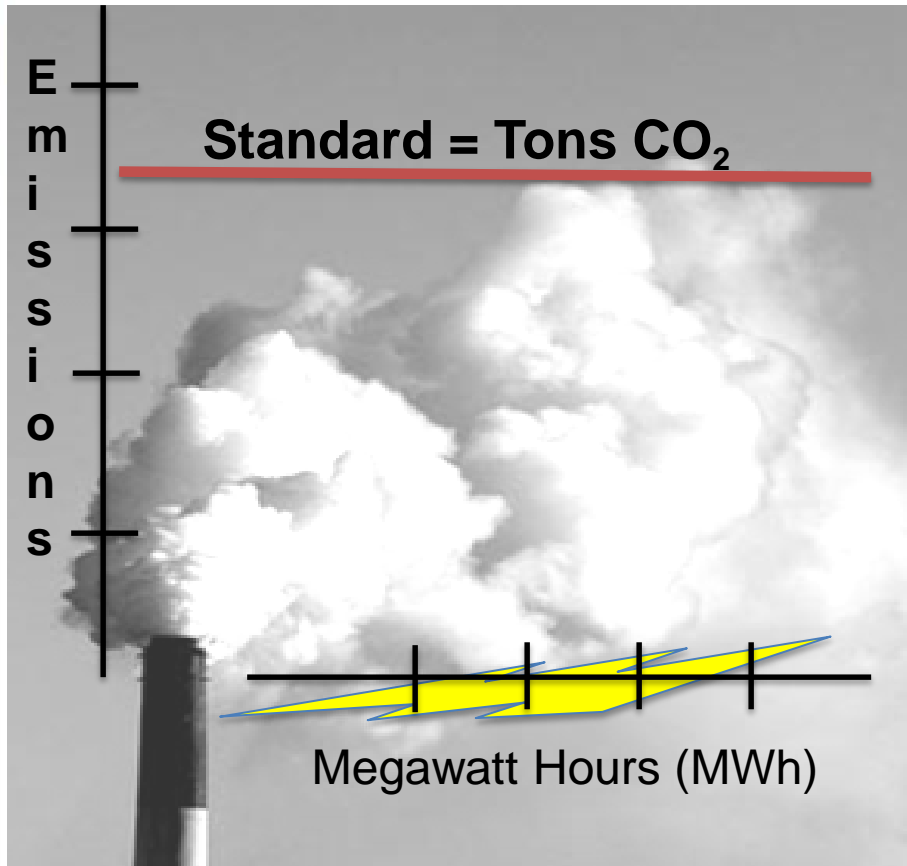


# Rate-Based Standards



- **Traditional:** rate-based standard applied to individual source
- **Option: Averaging Rates**
  - Generation fleet must achieve an average rate
  - Could potentially incorporate renewables, energy efficiency
  - Example, NRDC proposal

# Option: Emission Budgets



- Absolute limit on emissions
- EPA can offer methodology to translate to emission budget
- Simplest way to integrate offsite efficiency, renewables

# Budget Example: Emission Budget & Trading Program



Or Similar

- Regional Greenhouse Gas Initiative is one model; other states could develop others
- Benefits:
  - Proven success, economic benefits (RGGI: \$1.6 billion)
  - “Plug and Play” approach
  - Easy to incorporate energy efficiency, renewables

# Budget Example: State “Portfolio” of Strategies

- Many states already familiar with:
  - Renewable Portfolio Standards
  - Demand-side Efficiency Standards
  - Adjusting Dispatch
- Rigorous “portfolio” approach would allow states to build on what is already working
- Backstop likely required to guarantee reductions
  - Legal and policy design questions remain

## Adjust “Portfolio” to Meet Standards



**RPS  
Level**



**Efficiency  
Standards**

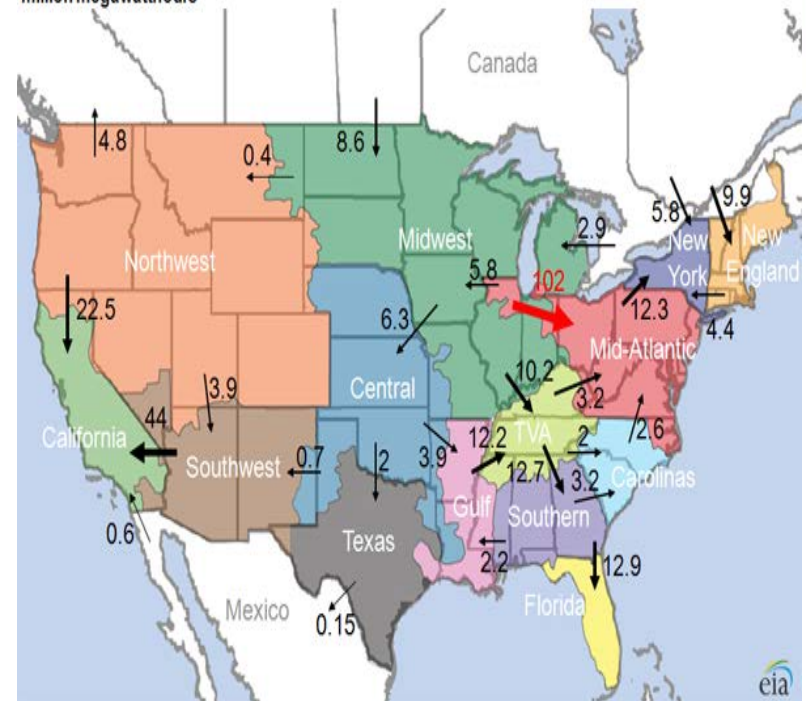


**Resource  
Planning or  
Dispatch**

# Option: Allow Multi-State Approaches

- Electricity system is interconnected
- Multi-state collaborations provide benefits
  - Avoid complication due to interstate flows
  - Can lower compliance costs
  - Lower administrative burden
- One option: collaborate with Regional Transmission Organizations

Annual net power flows among regions in North America, 2010  
million megawatthours



# Thank You

**For questions or comments, please contact:**

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## **Resources:**

### **State and Power Company “Successes”:**

[http://www.georgetownclimate.org/sites/default/files/Reducing\\_Carbon\\_Emissions\\_in\\_the\\_Power\\_Sector-Success-Stories.pdf](http://www.georgetownclimate.org/sites/default/files/Reducing_Carbon_Emissions_in_the_Power_Sector-Success-Stories.pdf).

**15-State Letter:** <http://www.georgetownclimate.org/states-provide-epa-with-a-road-map-for-cutting-carbon-pollution>.

**2 Page Backgrounder:** <http://www.georgetownclimate.org/fact-sheet-opportunities-for-states-under-epa-carbon-pollution-standards#node-4870>.