

# EPA's Proposed Carbon Pollution Standards

Presentation to the Joint Meeting of the Southern Ute Indian Tribe/State of Colorado Environmental Commission and the Colorado Air Quality Control Commission

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Mike Silverstein  
Colorado Department of Public  
Health and Environment



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- Goal: reduce CO<sub>2</sub> from Electric Generating Units (EGUs) by 30% nationally by 2030 (35% in Colorado)
  - Large boilers
  - Large turbines
  - Steam generating units, and
  - Integrated gasification combined cycle (IGCC) units
- 3 separate proposals
  - New EGUs (1/8/14)
  - Modified/Reconstructed EGUs (6/18/14)
  - Existing EGUs (6/18/14 & 10/30/14)
- 1 final rule this summer



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# CAA § 111 Comparison

## 111(b)

- New, Modified, Reconstructed Stationary Sources from Listed Categories
- Establishes Emission Standards
  - Addresses any air pollutant
  - Best System of Emission Reduction (BSER)
- Applies Directly to Sources

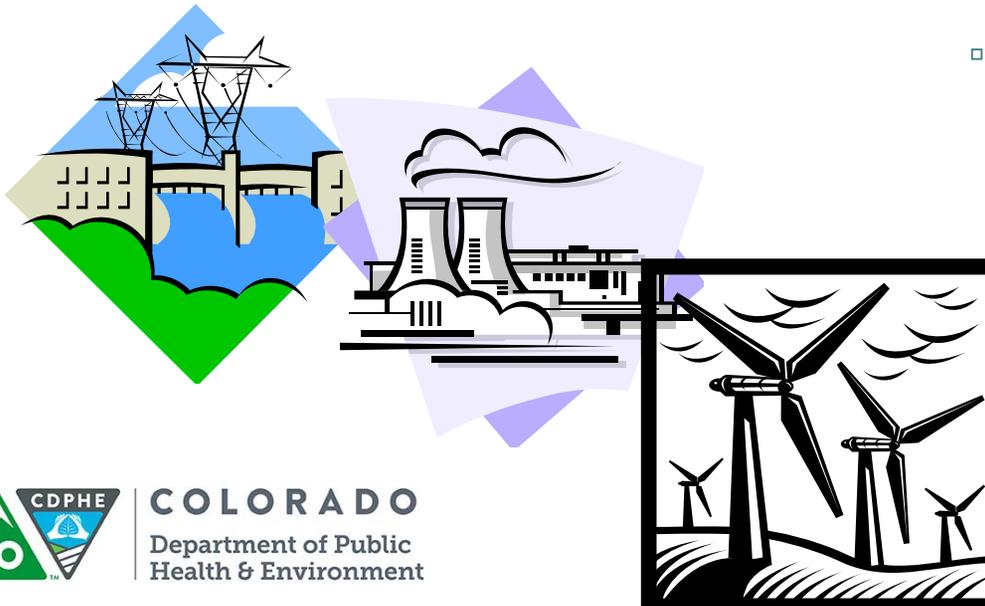
## 111(d)

- Existing Stationary Sources from Listed Categories (existing source performance standards or ESPS)
- Establishes Emission Standards
  - Addresses any air pollutant:
  - BSER
- Applies Directly to Agency via:
  - State Plan, or
  - Federal Plan



# 2014 Proposal: Existing Units

- Applies to
  - States
    - Affected units
    - Other affected entities
- Establishes
  - State CO2 Emission Goals
    - 4 Building Blocks
    - Interim vs. Final
    - Alternative
  - State Plan Requirements
    - Meet state CO2 goals
      - Interim
      - Final
    - Annual Reporting



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# EPA's Building Blocks

- BB1: Heat Rate Improvement (HRI)
  - Coal-fired EGUs only
  - On-site project improvements
  - National goal: 6%
- BB2: Redispatch to Natural Gas Generation
  - Coal & oil to natural gas-fired generation
  - National goal:  $\leq 70\%$  of capacity
- BB3: Redispatch to Renewable Energy (RE)
  - Coal, oil and/or natural gas-fired generation to RE generation
  - National goal: 13% (by 2030)
- BB4: Demand Side Management/Energy Efficiency (DSM/EE)
  - Off-site reductions that translate to demand reductions at EGU
  - National goal: 11%



# Existing Units: Colorado Affected Facilities

- EGUs
  - Total facilities: 23
  - Total units: 78
    - Coal-fired: 23
    - Natural gas combined cycle turbines: 37
    - Oil-fired: 1
    - Other: 1
    - Additional turbines following RE: 16
- Other Affected Entities
  - Other agencies
  - Other third parties



# Schedule and Timing Considerations

- Schedule:
  - 12/1/14 Comments on Existing EGU Proposal Due
  - 6/1/15 Final Rule
  - 6/16/16 State Plan Due
    - 1 yr extension
    - 2 yr extension
  - 1/1/20 Compliance Date (interim goal)
  - 1/1/30 Compliance Date (final goal)
- Timing Considerations:
  - State Plan Development
    - Internal state agency coordination
    - Multi-state agency coordination
    - Other external entity coordination (i.e. trading)
  - Rulemaking
  - Legislative Process/Plan Submittal
  - EPA Plan Approval
  - EGU Planning
  - Realized Measures



# Some Issues for Consideration

- Credit for early efforts (RE, DSM, CACJA, etc.)
- Timeline
- Mass vs. rate-based standard
- Multi-state plan
- Out-of-state generation apportionment
- Trading Program participation
- New and/or modified unit inclusion
- Differences between utilities
- Changes in fleet
- Jurisdictional authority/multiple agency involvement
- Calculation assumptions/methodologies (renewables projections, demand projections, model limitations, etc.)
- Other reduction options beyond building blocks
- Other limitations (transmission, Endangered Species Act requirements, regional boundaries, population demographics, etc.)
- Litigation

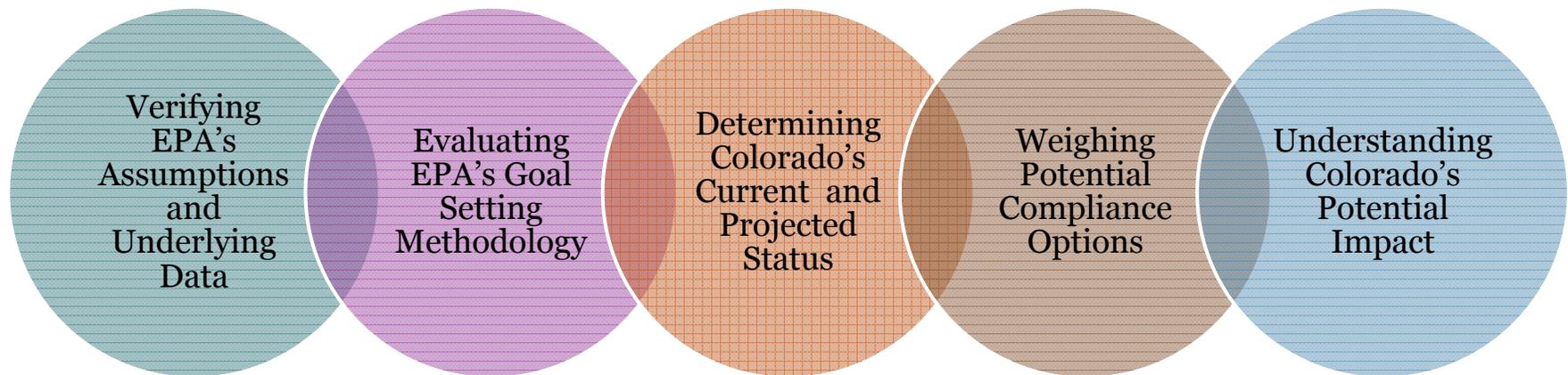
# Potential Impacts on Criteria Pollutants

- Direct Impacts
  - Reduced fossil fuel-fired generation will reduce criteria pollutants (PM10, NOx, SO2, CO, and VOC)
    - Redispatch
    - DSM
  - Increased RE may require additional NGCC turbines to follow
- Indirect Impacts
  - Increased natural gas production



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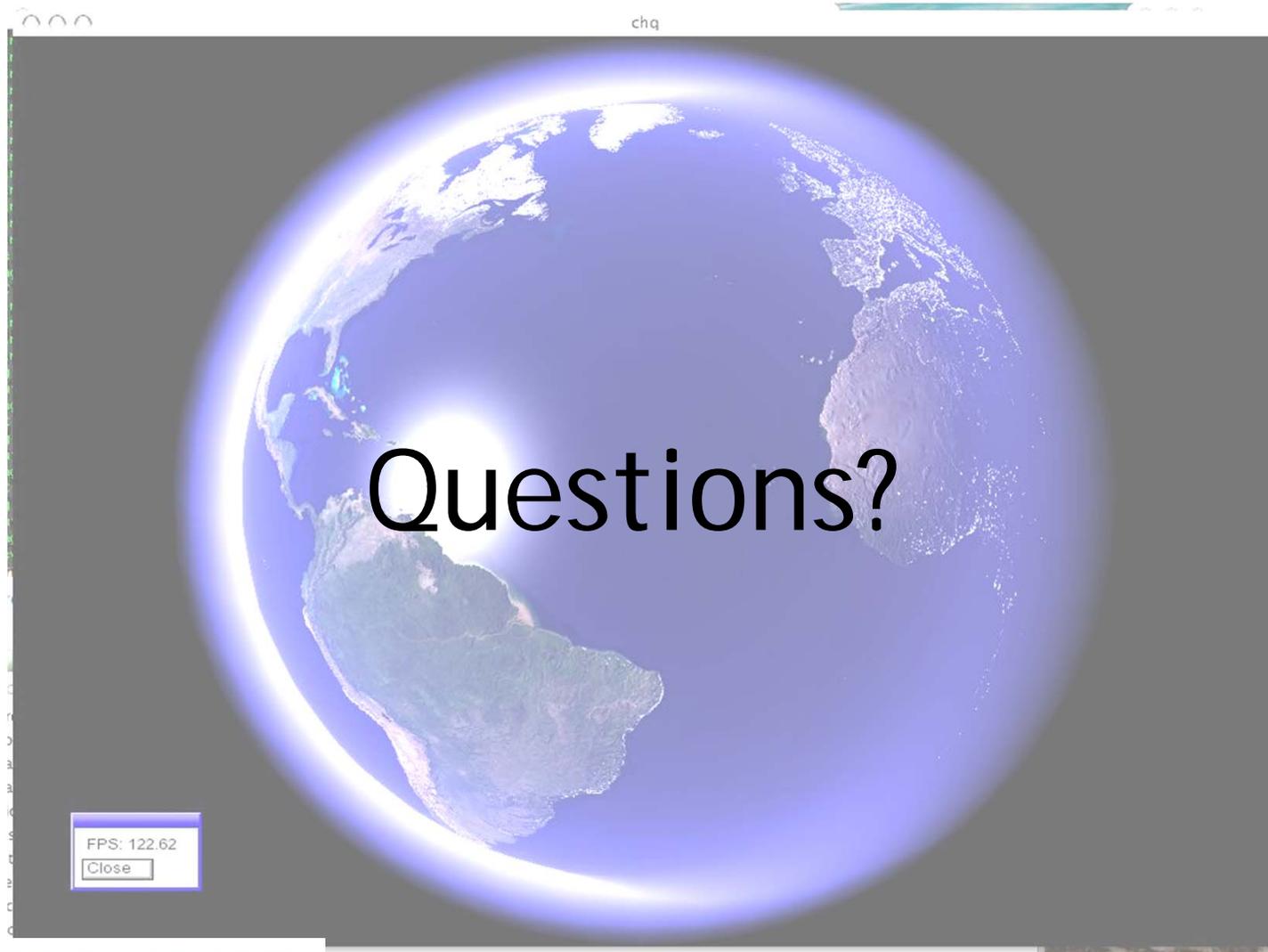
# Current Activities

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# Next Steps



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