



**Proposed Rule: Federal Plan Requirements for Greenhouse Gas Emissions from Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations**

Presentation at US EPA Workshop for Environmental Justice Communities on the Clean Power Plan

November 5, 2015



# Outline

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- Overview of the Proposal
- Timeline
- Mass-based Approach
- Rate-based Approach
- Information and Resources
- Next Steps



# Overview of the Proposal

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- The EPA has proposed federal plans that also serve as model rules for Clean Power Plan (CPP) implementation
- The federal plan and model rule proposal contains four key actions:
  - A rate-based model trading rule
  - A mass-based model trading rule
  - A rate-based federal plan
  - A mass-based federal plan
- EPA intends to finalize a single federal plan approach (i.e., either the mass-based or rate-based approach)



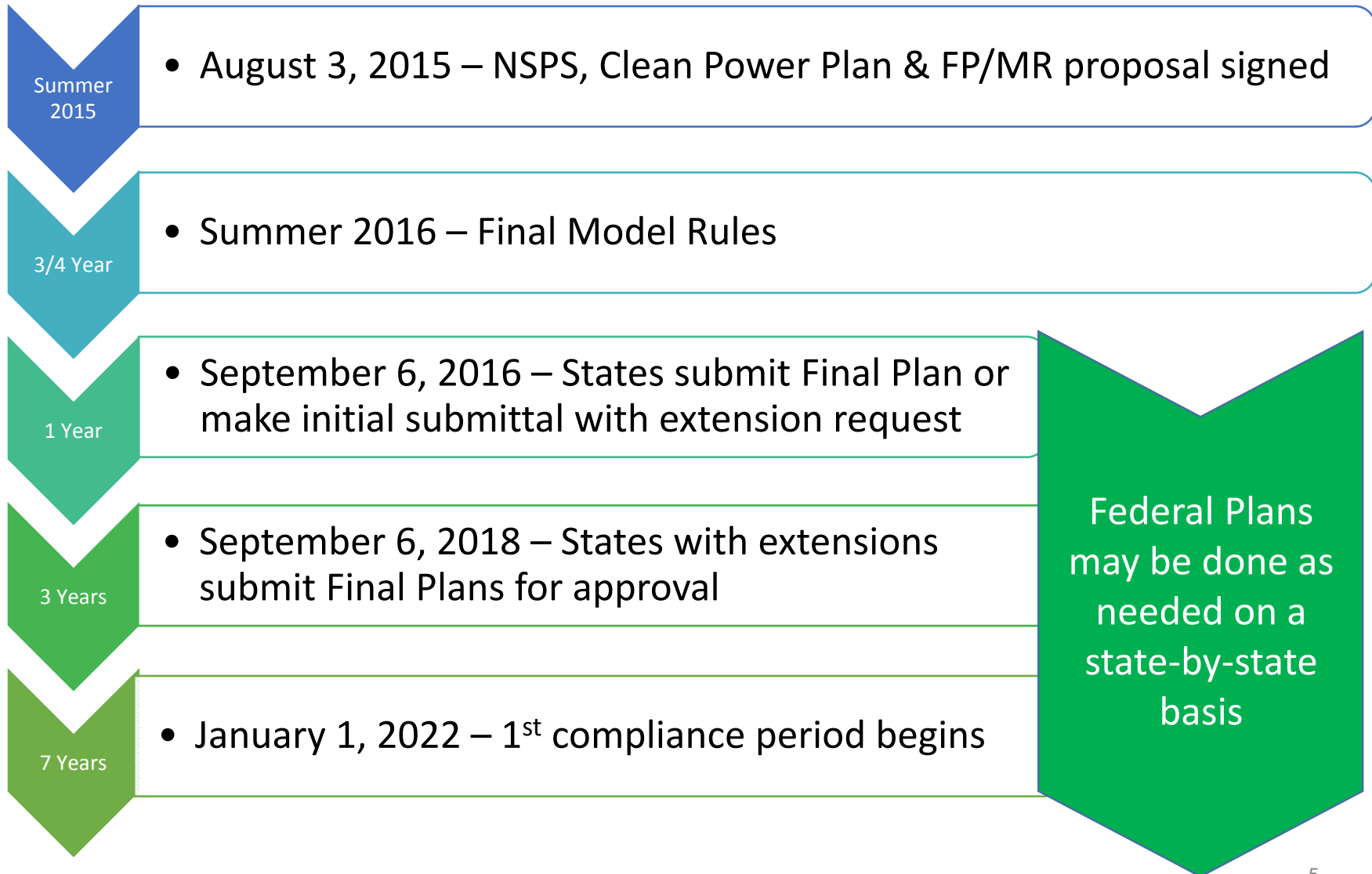
# Overview of the Proposal - cont.

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- Both the proposed federal plan and model rules:
  - Satisfy the requirements of the CPP Final Emission Guidelines
  - Ensure the carbon dioxide (CO<sub>2</sub>) emission performance levels set in the final CPP are achieved
  - Ensure reliability
- The model rules, when finalized, will be presumptively approvable state plans
  - Different in some aspects from the FP: for example, Demand Side-Energy Efficiency is included
  - Procedural requirements must still be met: e.g., letter from governor, demonstration of legal authority, demonstration that public participation requirements have been met, etc.



# Clean Power Plan and FP/MR Timeline





# Mass-Based Approach

How does it work?

- State emissions budgets equal the mass goals finalized in CPP
  - Interim period glide path and final goals as finalized in CPP
  - Multi-year compliance periods same as in CPP
- Emission standard on affected units is the requirement to hold allowances equal to reported emissions
- Each allowance would authorize emissions of one short ton of CO<sub>2</sub>
- Proposing to distribute allowances (minus three set-asides) to affected EGUs based on historical generation data
- Proposing three allowance set-asides
  - Clean Energy Incentive Program (CEIP) early action set-aside
  - Output-based allocation set-aside
  - Renewable energy set-aside



## Mass-Based Approach - cont.

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- States can also choose their own allocation approaches
- Unlimited banking of allowances
- Allowance tracking and compliance system similar to system used for existing EPA-administered trading programs
- Interstate allowance trading across federal plan states and with sources in states with approved mass-based plans that
  - Are “trading ready”
  - Use same compliance instrument (short tons)
  - Use EPA-administered tracking system



# Mass-Based: Allowance Set-Asides

Interim period			Final period
<b>1<sup>st</sup> Compliance Period 2022-2024</b>	<b>2<sup>nd</sup> Compliance Period 2025-2027</b>	<b>3<sup>rd</sup> Compliance Period 2028-2029</b>	<b>2030-2031 and thereafter</b>
Clean Energy Incentive Program and Renewable Energy	Output-Based Allocation and Renewable Energy	Output-Based Allocation and Renewable Energy	Output-Based Allocation and Renewable Energy





# Mass-Based: CEIP Early Action Set-Aside

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- Propose to implement CEIP on behalf of any state where we issue final federal plan
- In mass-based approach, we would create CEIP allowance set-asides
  - Up to a total of 300 million allowances (same total size as matching pool)
  - 100 million from each year's budget in the 2022-2024 compliance period
  - Size based on each state's share of total difference between 2012 baseline and 2030 mass goal
  - Would distribute any unused set-aside allowances back to affected EGUs in state from which set-aside was drawn
- Propose that a state that chooses its own allocation approach must include CEIP set-asides
- States that do so have flexibility on size of set-asides



# Mass-Based: Output-Based Allocation Set-Aside

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- Propose to include output-based allocation set-aside to address leakage
  - Would target some allowances to existing NGCC units based on their generation
  - Same approach proposed for federal plan and model rule
- Size of set-aside based on capacity of NGCC in 2012 baseline; varies by state
- Implement set-aside starting with second compliance period (2025-2027)
- Distribution of set-aside allowances to NGCC units
  - NGCC unit receives set-aside allowances if its average capacity factor in prior period is above 50% -- it gets more allowances if generates more
  - Would distribute any unused set-aside allowances back to affected EGUs in state from which set-aside was drawn
  - NGCC units also receive allocations from general historical data approach



# Mass-Based: RE Set-Aside

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- In addition to output-based set-asides, RE set-aside also included to address leakage
- 5% of total allowances in all years are reserved in a separate set-aside for each state
  - Distinct from the CEIP; incents generation during compliance periods
- Eligible measures limited to specific RE types (wind, solar, geothermal, hydropower)
  - Must be able to quantify and verify generation through revenue quality meter
  - Request comment on including other RE, demand-side EE, and any other non-BSER measures eligible under the final guidelines
- Set-aside Distribution
  - RE projects apply for eligibility (process similar to first step in the ERC issuance)
  - Allowances are awarded in advance of each vintage year according to projections
    - Allowance distribution is based on % of eligible generation in state that provider represents
  - Measurement and Verification (M&V) report must be submitted on the back-end
    - If projections are more than 10% off, additional reporting requirements apply
    - If it happens repeatedly the provider can be temporarily excluded from program



# Rate-based Approach

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- EGUs emission standards are based on emission guidelines subcategorized CO<sub>2</sub> emission performance rates for fossil steam and NGCC units
  - Follows the emission guidelines glide path with progressively more stringent standards through the interim period; the final period standard reoccurs
- Compliance is achieved using Emission Rate Credits (ERCs) representing clean megawatt hours (MWhs)
- Tracking would be done using an EPA-administered system similar to what is currently used in other EPA trading programs
- EPA proposes that EGUs subject to a federal plan may trade with EGUs subject to rate-based state plans that are deemed to be “ready for interstate trading” and that use the EPA-administered tracking system



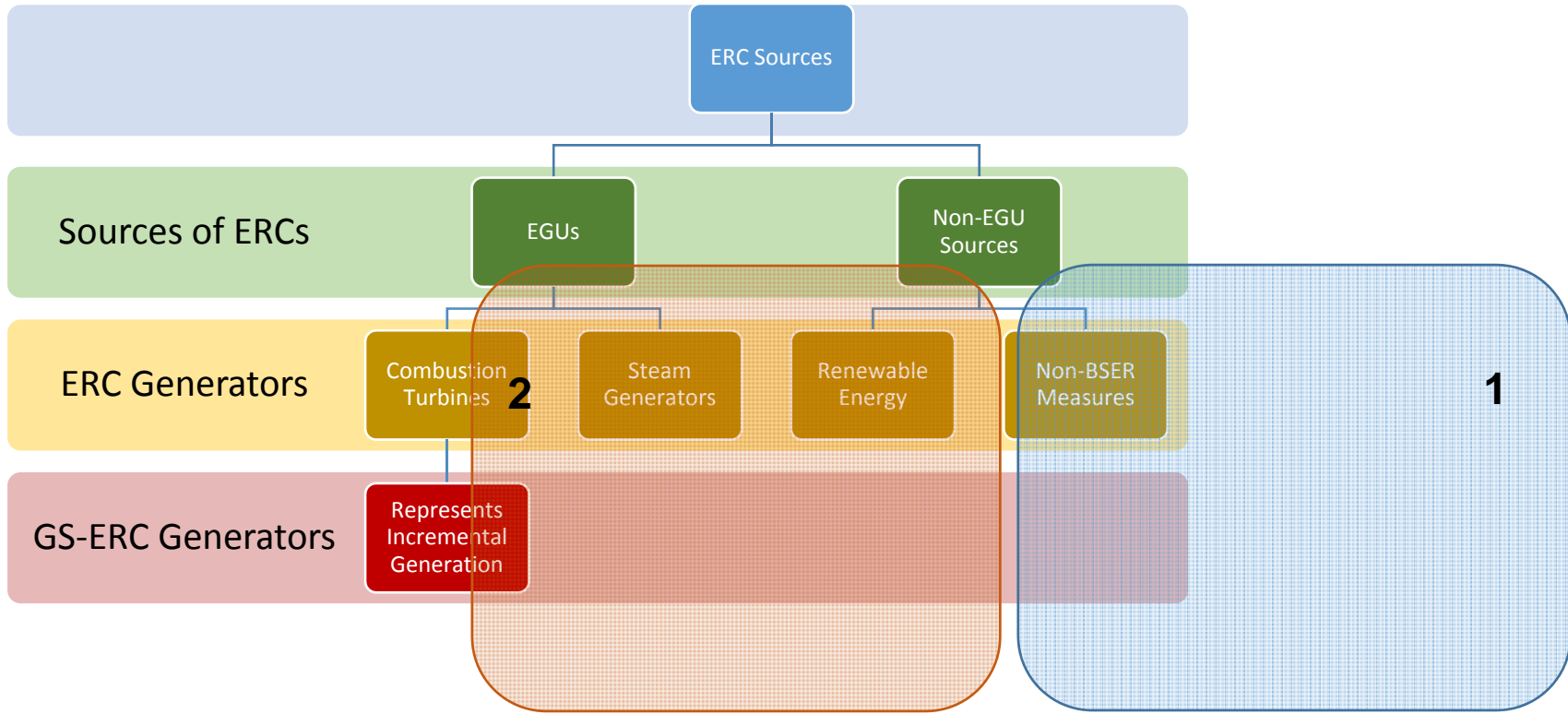
# Rate-based Trading: Types of ERCs

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- ERCs are the instruments that can be generated, traded, and used to demonstrate compliance in a rate-based trading system
- ERCs represent 1 MWh with zero deemed emissions (0 lbs CO<sub>2</sub> / 1 MWh)
- ERCs are generated by:
  1. RE measures (wind, solar, geothermal, hydro) and nuclear
    - EPA proposes to include in model rules (and requests comment for the FP) other RE and DS-EE as eligible resources for ERC generation
    - ERCs are generated for every MWh generated or avoided
  2. An EGU operating below its applicable sub-category emission standard
    - ERCs are generated or owed by EGUs based on the degree that the EGU is below or above its standard
  3. NGCC operation to reflect incremental increases in existing NGCC generation
    - Generates a more specific form of ERC – a GS-ERC – that may only be used only by fossil steam EGUs for compliance purposes
    - GS-ERCs are a subcategory of ERC that represent a shift in generation from steam generators to combustion turbines
    - May only be used by steam generators for compliance



# Rate-based Trading: Types of ERCs



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# Information and Resources

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After two years of unprecedented outreach, the EPA remains committed to engaging with all stakeholders as states implement the final Clean Power Plan.

- For more information and to access a copy of the rule, visit the **Clean Power Plan website**: <http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants>
- Through graphics and interactive maps, the **Story Map** presents key information about the final Clean Power Plan. See: <http://www2.epa.gov/cleanpowerplan>
- For community-specific information and engagement opportunities, see the **Clean Power Plan Community Page**: <http://www2.epa.gov/cleanpowerplan/clean-power-plan-community-page>
- For a graphical and detailed walk through of the EGU category-specific CO<sub>2</sub> emission performance rate and state goals, see **State Goal Visualizer**: <http://www2.epa.gov/cleanpowerplantoolbox>
- EPA provides **webinars** and **training** on CPP related topics at the air pollution control learning website. See: <http://www.apti-learn.net/lms/cpp/plan/>



# Next Steps

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- October 23, 2015 Publication
- 90-day comment period
- Public hearings
- EPA trainings, webinars, and additional outreach efforts





# FPMR Contacts

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We welcome your feedback and questions!

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