

*National Association of  
State Energy Officials*

*NASEO Perspective on the CPP*  
Rodney Sobin

**WIRES Annual Meeting**  
**Washington, DC**  
*October 21, 2015*

## + ***About NASEO and State Energy Offices***

- **NASEO represents the 56 governor-designated energy offices from each state and territory. *State Energy Directors:***
  - Advise governors, legislatures, and regulators
  - Advance practical energy policies and support energy technology research, demonstration, and deployment
  - Partner with the private sector to accelerate energy-related economic development and enhance environmental quality
  - Engage in the development of state energy policies and the oversight of billions of dollars in state-based energy funding
  - Lead state energy policy planning in most states

# +NASEO's Affiliates

*A robust and engaged network of +60 private-sector partners, including representatives from business, trade associations, nonprofit organizations, educational institutions, laboratories, and government.*



# + CPP Challenge

- New frontier for Clean Air Act
  - Modest CAA §111(d) experience; little CO<sub>2</sub> regulatory experience
- Complexity of electricity system
  - Interstate flows, changing technologies, reliability and affordability, environmental rules, varied utility regulation and governance (IOUs, co-ops, public power; integrated and deregulated)
- Multi-agency/jurisdiction relevance and responsibilities
  - State Energy Offices, Air Quality Agencies, Public Utility Commissions...and others
  - Relative unfamiliarity with each others' jobs and challenges
- Complexity of the rule
  - Just plain complex!
  - Flexibility and multiple state pathways good but comes with uncertainty
- ...did I mention a bit of political contention?

## + NASEO CPP Approach

- NASEO has not taken a position on the CPP
- Supports inter- and intra-state discussion
  - State Energy Offices, Air Quality Agencies, PUCs
  - NASEO, NACAA, NARUC “3Ns” process
  - ...and wider stakeholder engagement
- Recognizes electricity system’s rapidly changing technological, regulatory, economic environment
- As CPP proceeds NASEO seeks:
  - electricity system reliability and affordability
  - compliance flexibility for states
  - least-cost and “no regrets” compliance opportunities
    - energy efficiency (supply and demand sides), distributed resources, voluntary actions
    - EE multiple benefits (\$, emissions, reliability, jobs) but challenges (awareness, rate structures, split incentives, first cost, quantification)

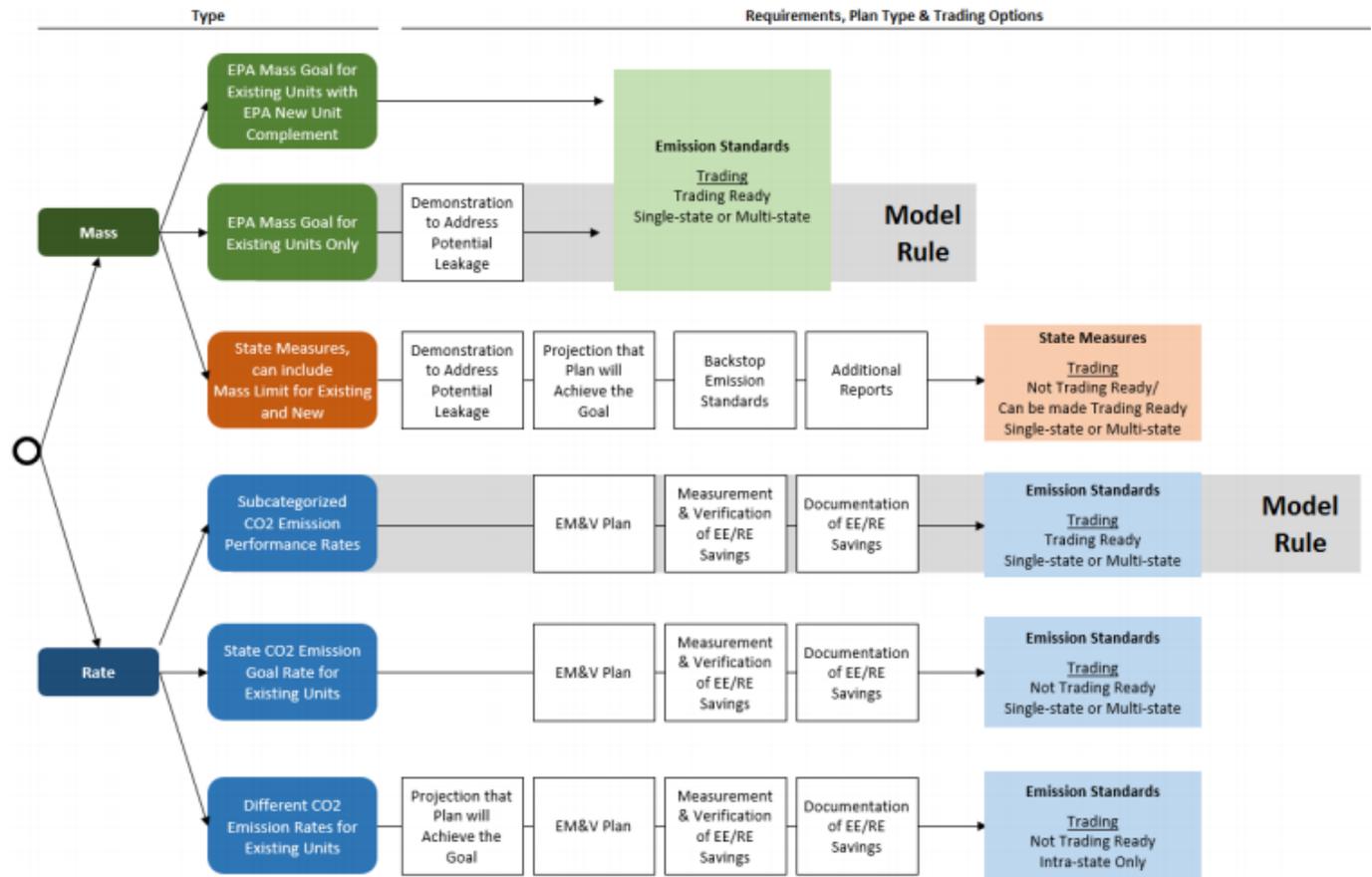
# + CPP State Choices

- States will need to make basic compliance pathway decisions
  - Rate-based v. mass-based targets
  - Electrical generating unit (EGU)-only compliance v. state measures
  - Single-state compliance, multi-state trading of credits or allowances, or multistate plans
- Implications for compliance plan development
  - Who will have compliance obligations?
  - Federal v. state enforceability
  - Role of evaluation, measurement & verification (EM&V)
  - Tracking and trading of credits or allowances—intra-, inter-state
  - State policies—energy efficiency resource standards (EERS), renewable portfolio standards (RPS), trading or allocation of credits/allowances, rate design, energy planning, energy codes, etc.
  - What happens in case of underperformance?
- Many states have many questions

# + CPP State Pathway Options

## State Plans: More State Options, Lower Costs

- This chart shows some of the compliance pathways available to states under the final Clean Power Plan. Ultimately, it is up to the states to choose how they will meet the requirements of the rule.
- EPA's illustrative analysis shows that nationwide, in 2030, a **mass-based approach is less-expensive** than a rate-based approach (\$5.1 billion versus \$8.4 billion).
- Under a mass-based plan, states that anticipate continuing or expanding investments in energy efficiency have unlimited flexibility to leverage those investments to meet their CPP targets. EE programs and projects do not need to be approved as part of a mass-based state plan, and EM&V will not be required.
- For states currently implementing mass-based trading programs, the "state measures" approach offers a ready path forward.
- Demand-side energy efficiency is an important, proven strategy that states are already widely using and that can substantially and cost-effectively lower CO<sub>2</sub> emissions from the power sector.



[EPA graphic]

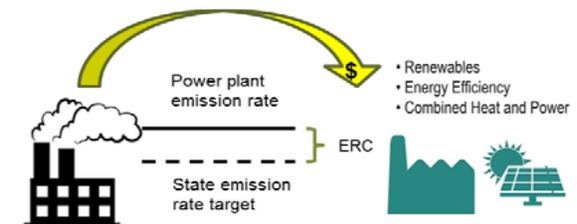
## + Energy Efficiency in CPP

- EE “building block” removed but not relevant to compliance
- EPA encourages EE
  - Supports, recognizes ratepayer and non-ratepayer EE
  - Can work in both rate- and mass-based systems
  - Can be part of state measures approach
  - Simplified accounting—don’t need marginal emission impact nor interstate adjustment
  - Model rule, EM&V guidance, trading-ready
  - Clean Energy Incentive Program—low-income EE
- But
  - EM&V guidance complex—don’t let perfect be enemy of the good
  - EE won’t “happen automatically” under mass
  - EE omitted from proposed federal plan (rate-based)

# + Mass v. Rate-Based Approach:

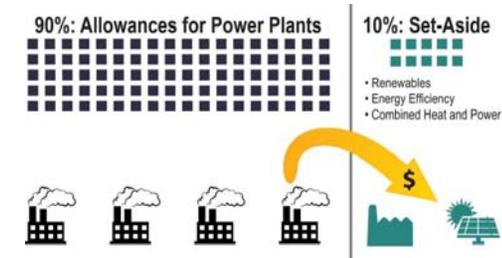
## ■ Rate-Based Approach

- Set emissions-rate target (lbs CO<sub>2</sub>/MWh)
- EE reduces demand from affected EGUs, so lowers emissions
- Receive emission rate credits (ERCs) to sell to EGU
- Need EM&V, ERC tracking system



## ■ Mass-Based Approach

- Set mass target (tons CO<sub>2</sub>)
- EE should reduce emissions—automatically “counts”
- No EE “credit” but could have “set-aside” allowances
- May need underlying EE drivers:  
EERS, codes, perf. contracting, etc.



Adapted from Institute for Industrial Productivity

# + Energy Efficiency Opportunities

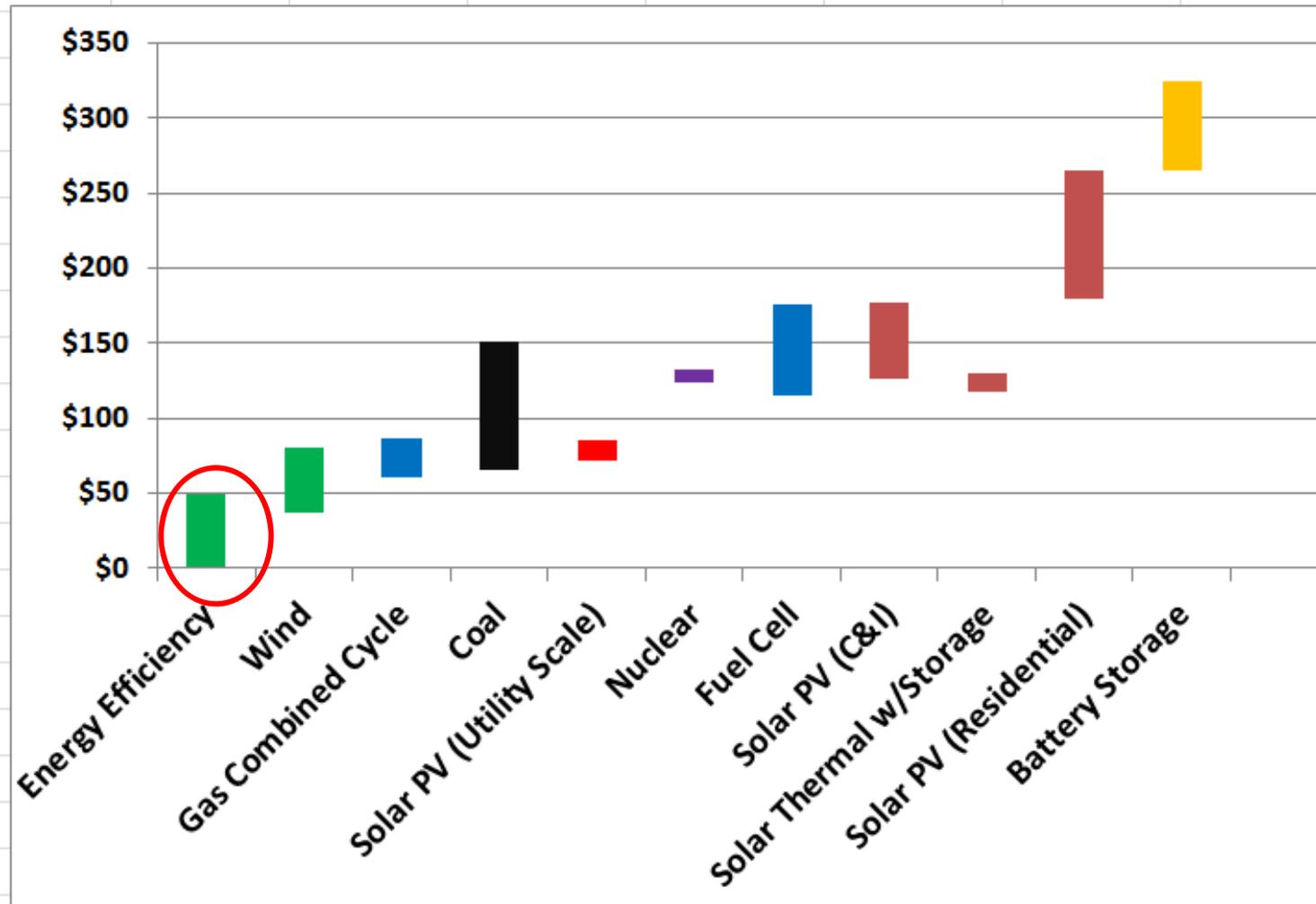
- Electric utility ratepayer programs
  - Investor-owned, public power, and cooperative utilities
  - Avg. 4.6¢/kWh (LBNL)
  - ~\$7B per year (portion of project/measure cost) (CEE)
- Non-ratepayer policies and programs, including voluntary measures—state, local, private, NGO
  - Energy Savings Performance Contracts (ESPC)
    - About \$6B of private investment annually (total project cost) (LBNL)
      - NASEO developed multi-state (VA, GA, KY) ESPC EM&V, tracking project.
  - Building energy codes
    - In 2012 saved \$5B, 500 T Btu, 40 B kWh, 36 M metric t CO<sub>2</sub> (DOE)
      - NASEO manages TX codes field study project, partner SPEER

# + Energy Efficiency Opportunities

- Industrial efficiency (Superior Energy Performance) and combined heat and power (CHP)
  - CHP
    - 12% U.S. generation; 82.7 GW capacity at >4,400 facilities
    - Saves 1.8 Q Btu; 241 million metric t CO<sub>2</sub>
    - 86% of capacity industrial; 70% of capacity natural gas fueled
- Energy financing programs (e.g., WHEEL, C-PACE)
  - States oversee >\$5B in EE and RE financing programs
- Weatherization
  - Above-code construction, renovation, retrofit
  - Benchmarking, disclosure, retrocommissioning  
(...)
- Co-benefits: reliability, criteria pollutants, water, econ., jobs

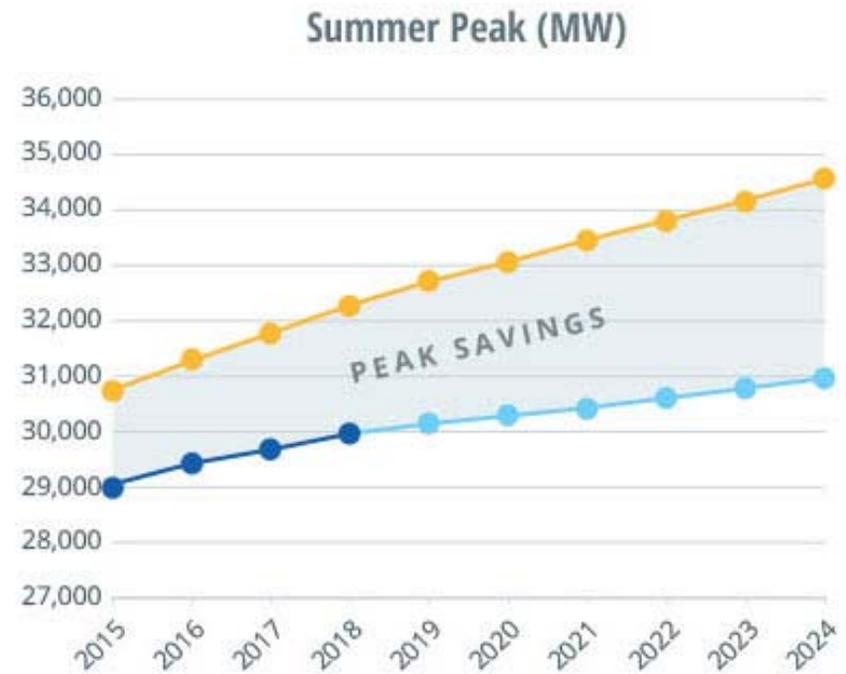
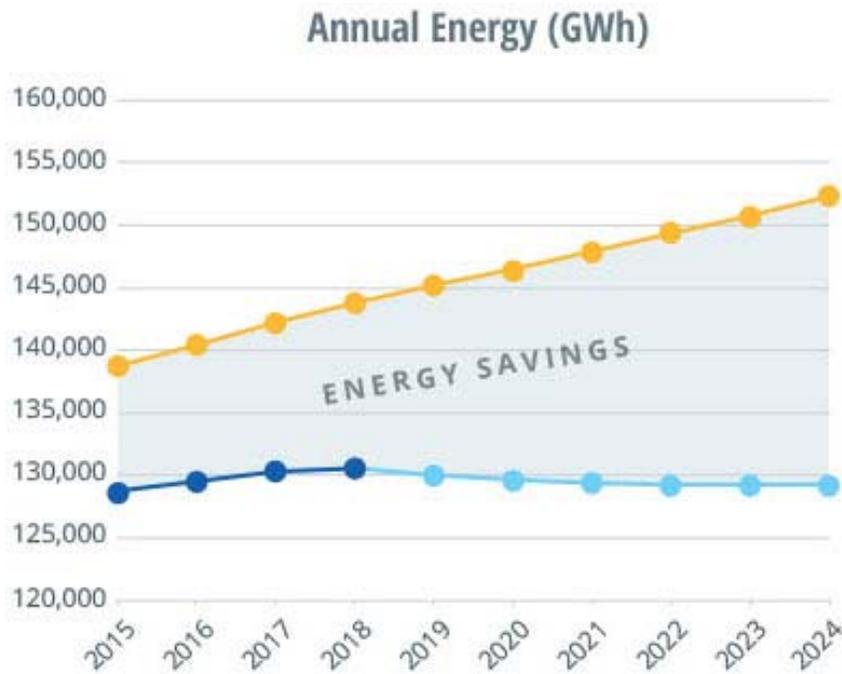


# Energy Efficiency Opportunities



[Levelized Cost of Electricity (\$/MWh), Lazard, Version 8, 2014]

# + Energy Efficiency Works: ISO-NE EE Forecast



■ The gross forecast of energy use for the region

■ The forecast minus the impact of EE resources participating in Forward Capacity Market auctions to date

■ The forecast minus anticipated EE growth

[ISO-NE, Final Energy Efficiency Forecast 2018-2023, May 1, 2014]

# + NASEO CPP Activities and Next Steps

## ■ The 3Ns:

- NASEO, National Association of Clean Air Agencies (NACAA), National Association of Regulatory Utility Commissioners (NARUC) cooperation
- Discussions among SEOs, air regulators, PUCs
- Wider engagement with public, private, and NGO stakeholders
- 3N consensus Energy Efficiency Principles:  
[http://www.naseo.org/Data/Sites/1/principles\\_3n\\_2014.pdf](http://www.naseo.org/Data/Sites/1/principles_3n_2014.pdf)  
(e.g., reliability, national energy efficiency registry, early action)
- 3N Efficiency Case Studies and Plan Language Meetings

## ■ Collateral and related products and efforts:

- NASEO EE Strategies for CPP Compliance Report, example plan language
- CHP, ESCO/ESPC, Industrial EE papers and templates
- Energy Efficient Codes Coalition *CPP Energy Code Emissions Calculator*
- ACEEE templates and calculator

## + NASEO CPP Activities and Next Steps

- Continued 3N collaboration and events
- Broader ongoing engagement with states, utilities, energy industry, NGOs, federal agencies on reliability, cost, and EE compliance
- NASEO-EPA National Call (August 2015)
- NASEO Annual Meeting and CPP Workshop (Sept 2015)
- CPP Resource Hub: [www.111d.naseo.org/](http://www.111d.naseo.org/)
- Planned calls, launching “Answers to State Questions” (“ASQ”) Q&A for SEOs and other state officials
- Collaboration with The Climate Registry, E4TheFuture, states and others on EE registry
- Participation in others’ workshops, events
- Comments and engagement on EPA proposed federal plan, EM&V guidance, Clean Energy Incentive Program

# + Energy Market and Planning (E-MAP)

- NASEO with DOE-OE support
  - Help states develop holistic approaches to advancing electric system modernization, resilience, affordability
  - Interrelated electricity system challenges:
    - T&D and related infrastructure modernization needs
    - Increased demand-side and supply-side efficiency and renewables
    - Distributed energy and smart grid inclusion in planning and system modernization
    - Application of energy storage and two-way power flow opportunities
    - Increased public and private sector priority on resilience, reliability, and affordability
  - Will assist 2-3 State Energy Offices to develop state-led electricity system modernization roadmaps that take comprehensive view
  - Proposal deadline October 22, 2015

**[naseo.org/emap](http://naseo.org/emap)**



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