



Electrification and a Federal Clean Energy Standard (CES)

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Presentation to

CIBO Environmental, Energy & Sustainability Working Group (SWG)

June 9, 2021



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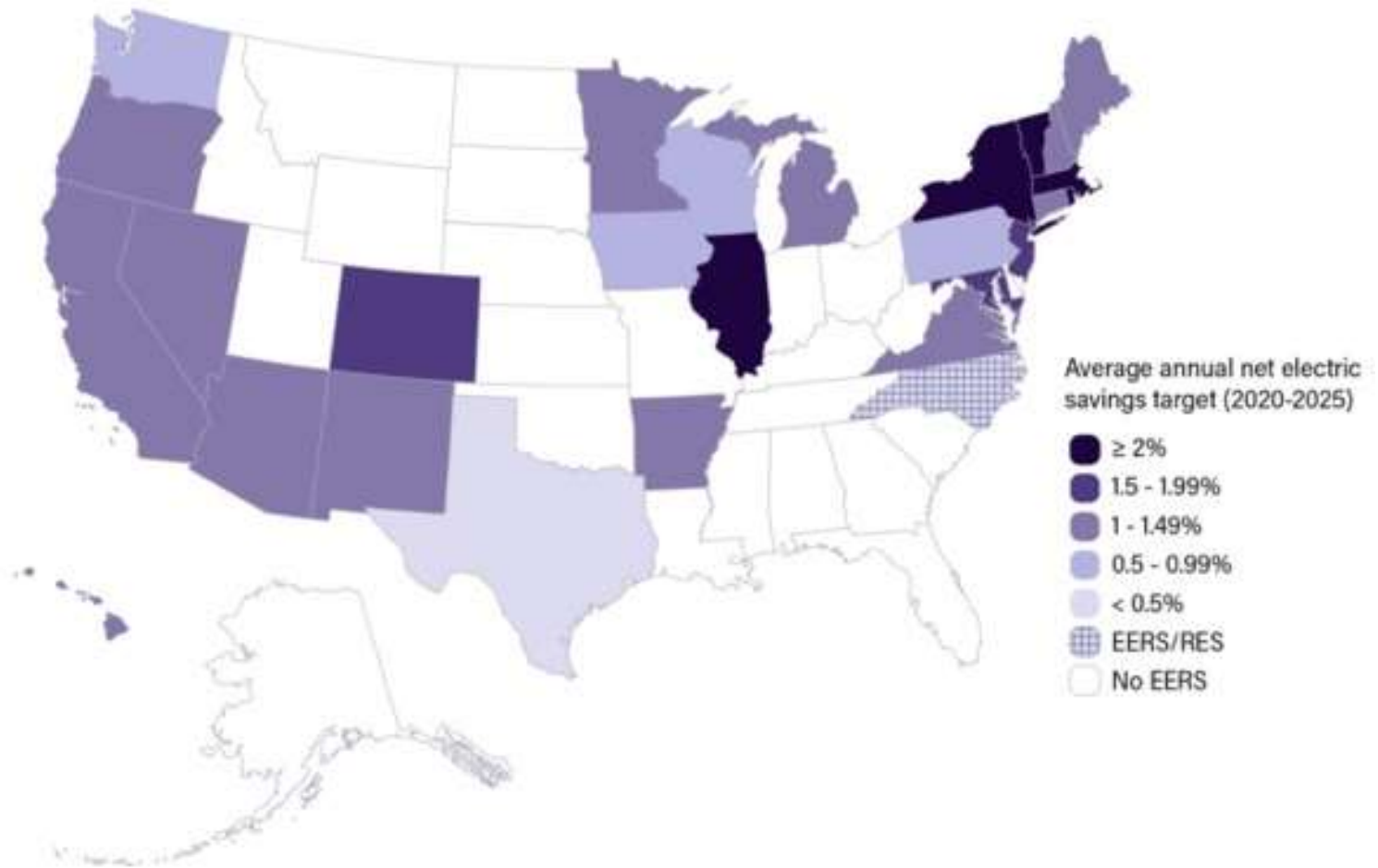
RPS, EERS and CES

Renewable Portfolio Standard (RPS)—specifies a share of electric generation that must come from renewable energy resource.

Energy Efficiency Resource Standard (EERS)—specifies a share of electric power delivery that must come from energy efficiency sources, which in some states may come from CHP

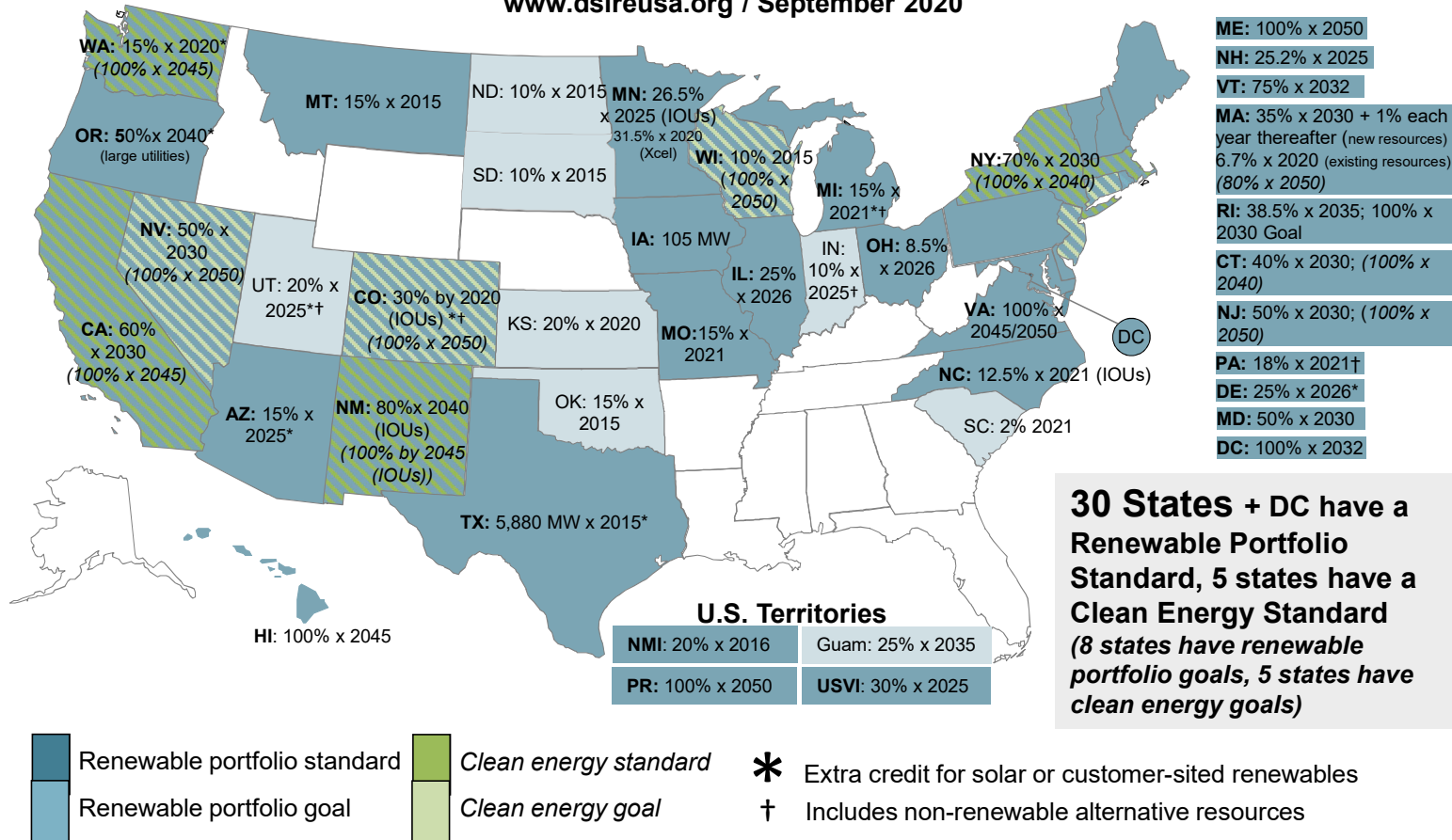
Clean Energy Standard (CES)—a technology-neutral portfolio standard that specifies that a share of electricity sales that must come from non- or low-emitting sources

State EERS



Renewable & Clean Energy Standards

www.dsireusa.org / September 2020



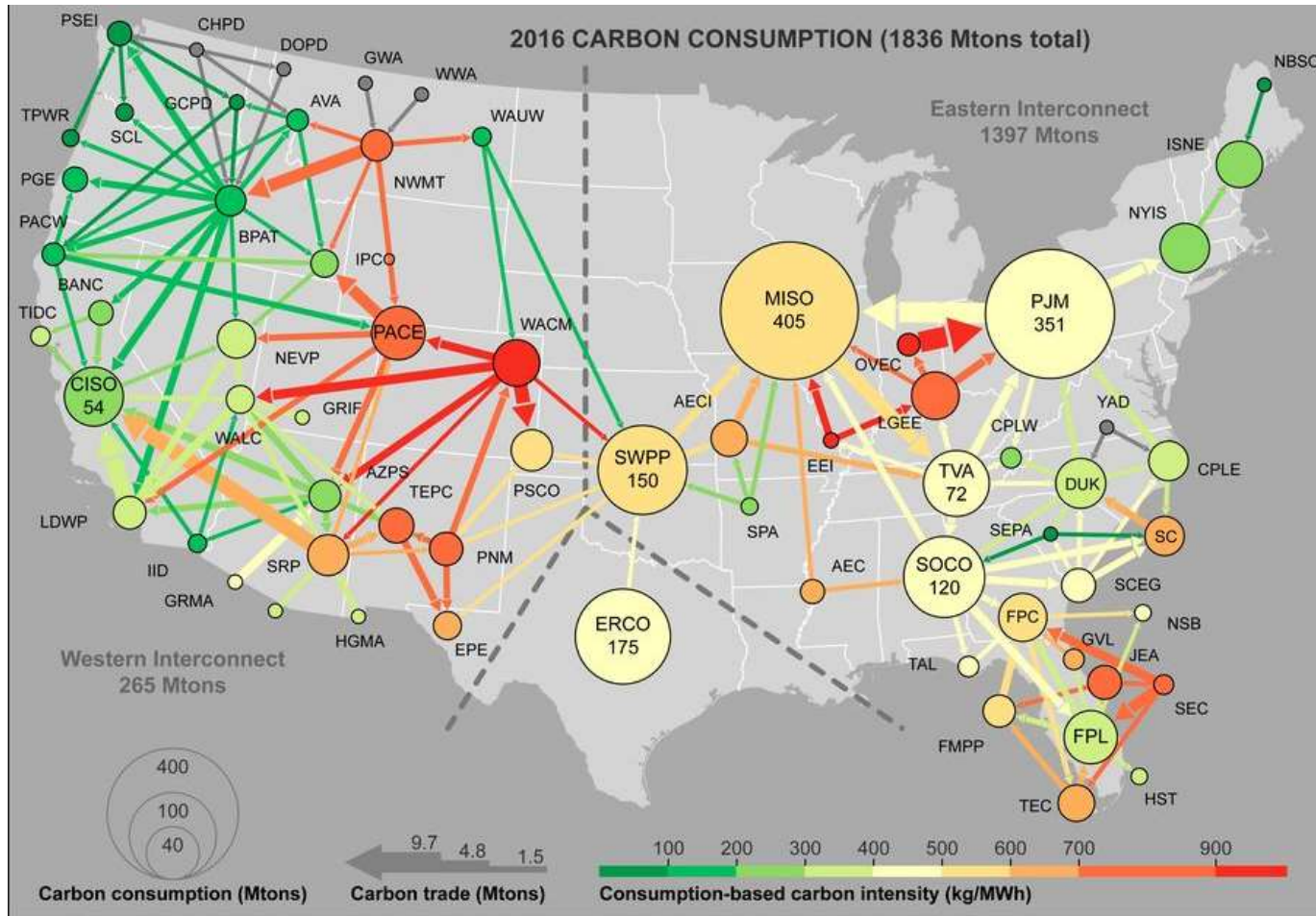
Federal Portfolio Standards

- Numerous proposals have been advanced at the Federal level for electric portfolio standards over the years
- Portfolio standards positioned as a policy alternative to carbon taxes or cap-and-trade
- No proposals have been enacted at the Federal Level
- Current CES proposal is a strategy to drive decarbonization of the electricity grid as part of overall climate legislation
- Current proposals focus on electricity

CES and Electrification

- Many climate advocates are pushing electrification of fossil fuel stationary loads as a policy path to GHG reductions
- Policies include restrictions on expansion of fossil fuel use, which means natural gas for the most part
- Incentives for replacement of fossil fuels with electric loads
- Codes restricting the use of fossil fuels in new construction and renovations of buildings
- Climate benefits from electrification depend on decarbonization of electric grid
- Significant regional variations in current grid carbon content

Carbon footprint of the US electricity system



Federal CES implications for industrial boilers & CHP

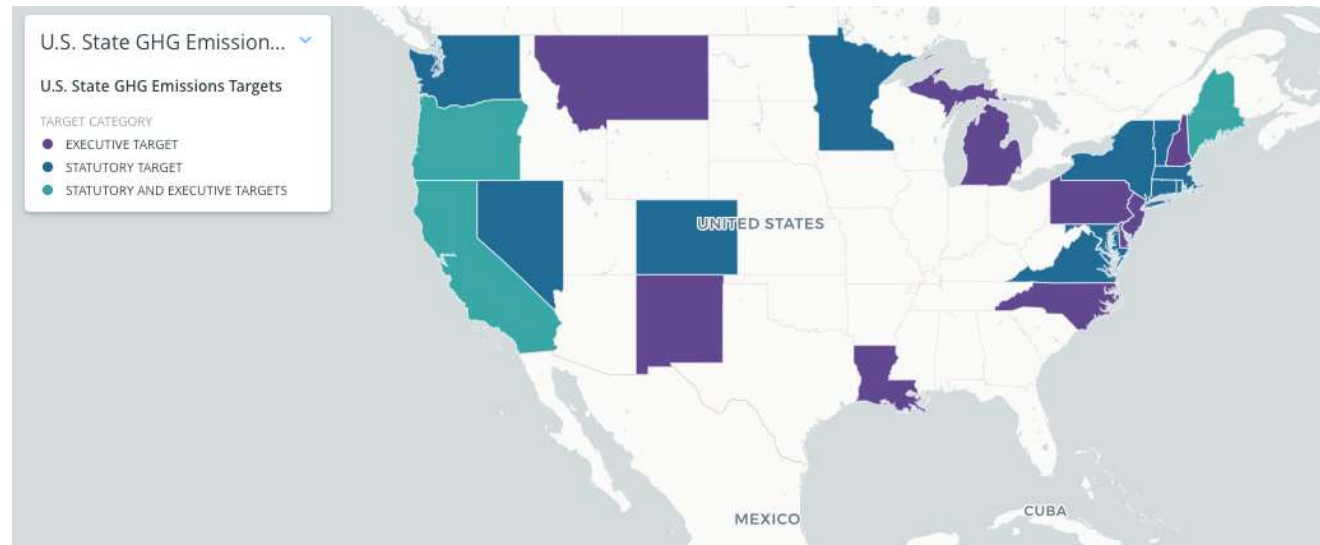
- CES passage unlikely this Congress
- Federal CES is focused on buildings and transportation, not industry
- Impact on industrial boiler and CHP systems indirect and modest at most
- Current proposal for industrial decarbonization focus on incentives rather than mandates (e.g., RD&D, tax credits, grants and financing)
- House Select Committee on Climate Crisis identified expansion of industrial CHP as industrial decarbonization strategy

Federal CES implications (continued)

- DOE research beginning to focus on strategies for decarbonizing industrial process heating through:
 - Enhanced assessments of thermal integration and optimization opportunities
 - Electrification of processes (coupled with modularization of processes)
 - Low- and zero-carbon fuels including renewable natural gas, hydrogen and by-product fuels
- Federal policy focused on ensuring the global competitiveness of US manufacturing and growing employment (including reshoring of supply chains)
- Increased focus on GHG emissions disclosure in financial reporting with particular focus on Scope 3 emissions

State CES implications

- States increasingly looking at GHG targets as part of climate plans
- Industrial sectors critical in most states, but concerns about unintended impacts on firms
- Engagement with sector is just starting
- Future, TBD



Source: C2ES 2021



Questions

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UPCOMING CONFERENCES

Summer Study on Energy Efficiency in Industry	July 12-15, 2021	Virtual
National Conference on Energy Efficiency as a Resource	October 19-21 & 26-27, 2021	Virtual
Behavior, Energy, and Climate Change Conference	November 8-10, 2021	Virtual
Hot Water Forum	March 21-23, 2022	Atlanta, GA
Energy Efficiency Finance Forum	May 23-25, 2022	White Plains, NY
Summer Study on Energy Efficiency in Buildings	August 20-26, 2022	Pacific Grove, CA
Behavior, Energy, and Climate Change Conference	November 13-16, 2022	Washington, DC

