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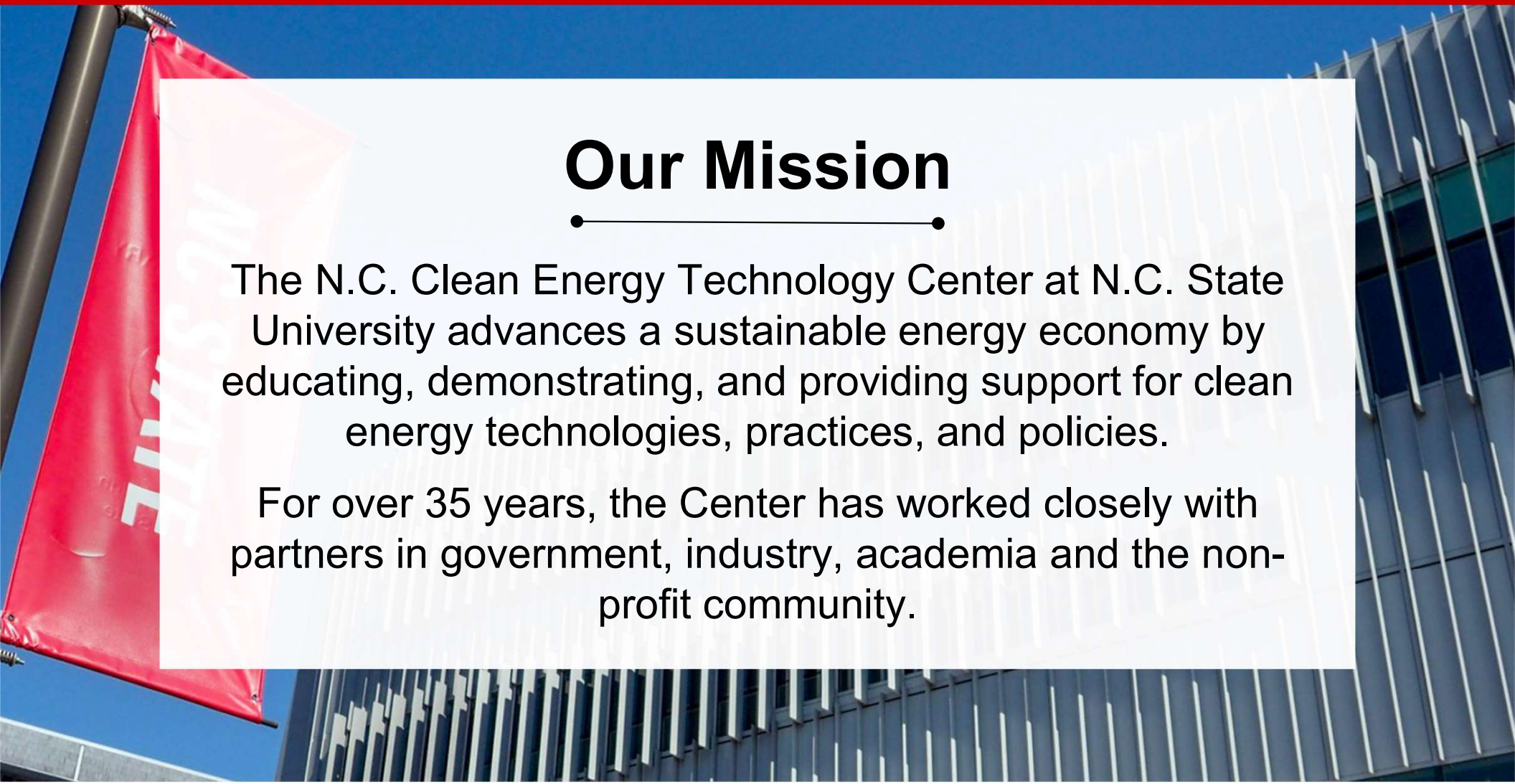
National Market Overview

Maintaining Impactful State Renewable Energy Markets

September 18, 2024

Rebekah de la Mora

Database of State Incentives for Renewables and Efficiency



Our Mission

The N.C. Clean Energy Technology Center at N.C. State University advances a sustainable energy economy by educating, demonstrating, and providing support for clean energy technologies, practices, and policies.

For over 35 years, the Center has worked closely with partners in government, industry, academia and the non-profit community.

Our Work

- Energy Policy
- Clean Energy Training
- Clean Transportation
- Clean Power & Industrial Efficiency
- Renewable Energy

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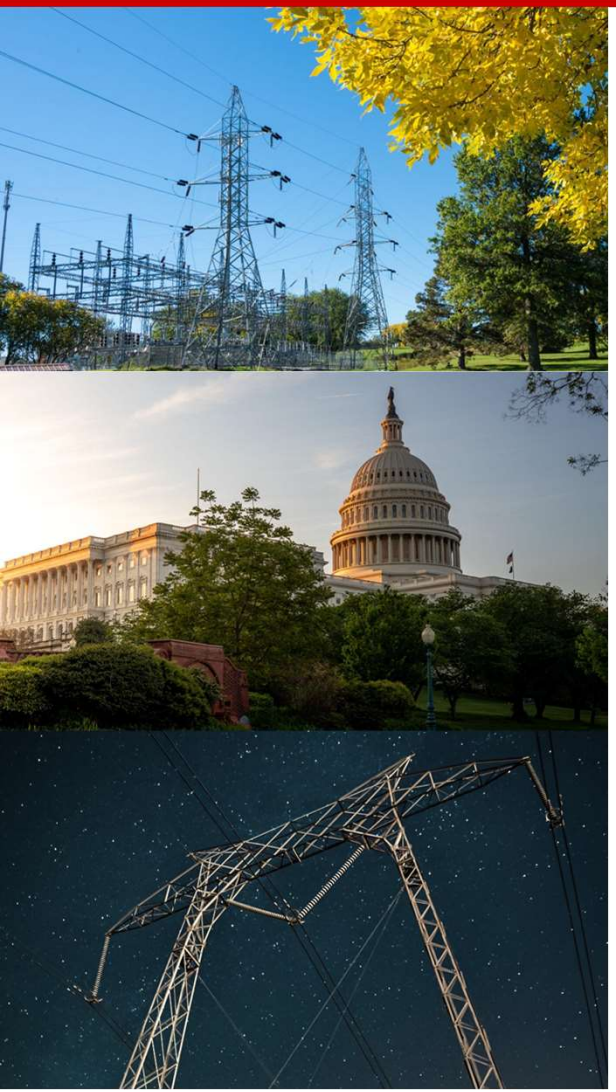

Energy Policy & Markets

The Center conducts objective research and analysis and provides education and technical assistance on energy policy issues nationwide. Our Policy Team tracks developments and examines the impacts on clean energy technologies. Projects include:

- Database of State Incentives for Renewables & Efficiency (DSIRE)
- DSIRE Insight
- The 50 States Reports
- Customized research & analysis

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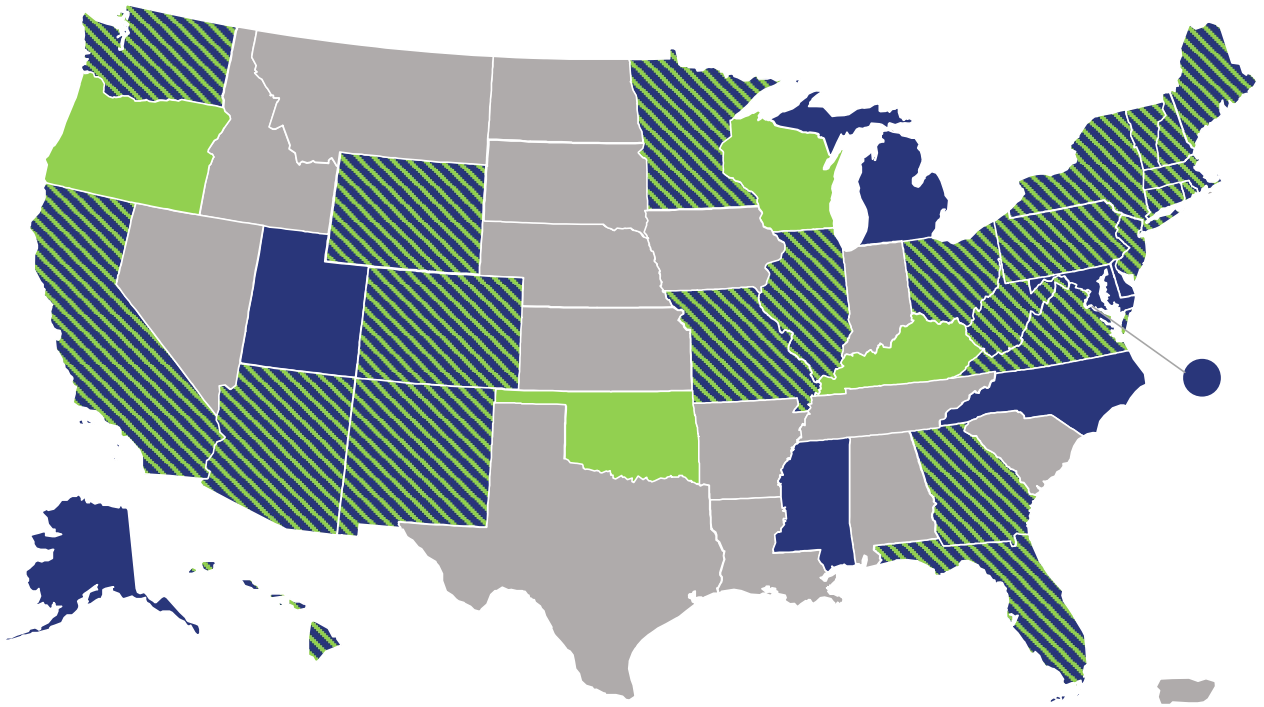
H1 2024 Action on Power Decarbonization Requirements



31 States + DC took action on Clean Energy Targets
28 States took action on Emission Targets and Carbon Polices

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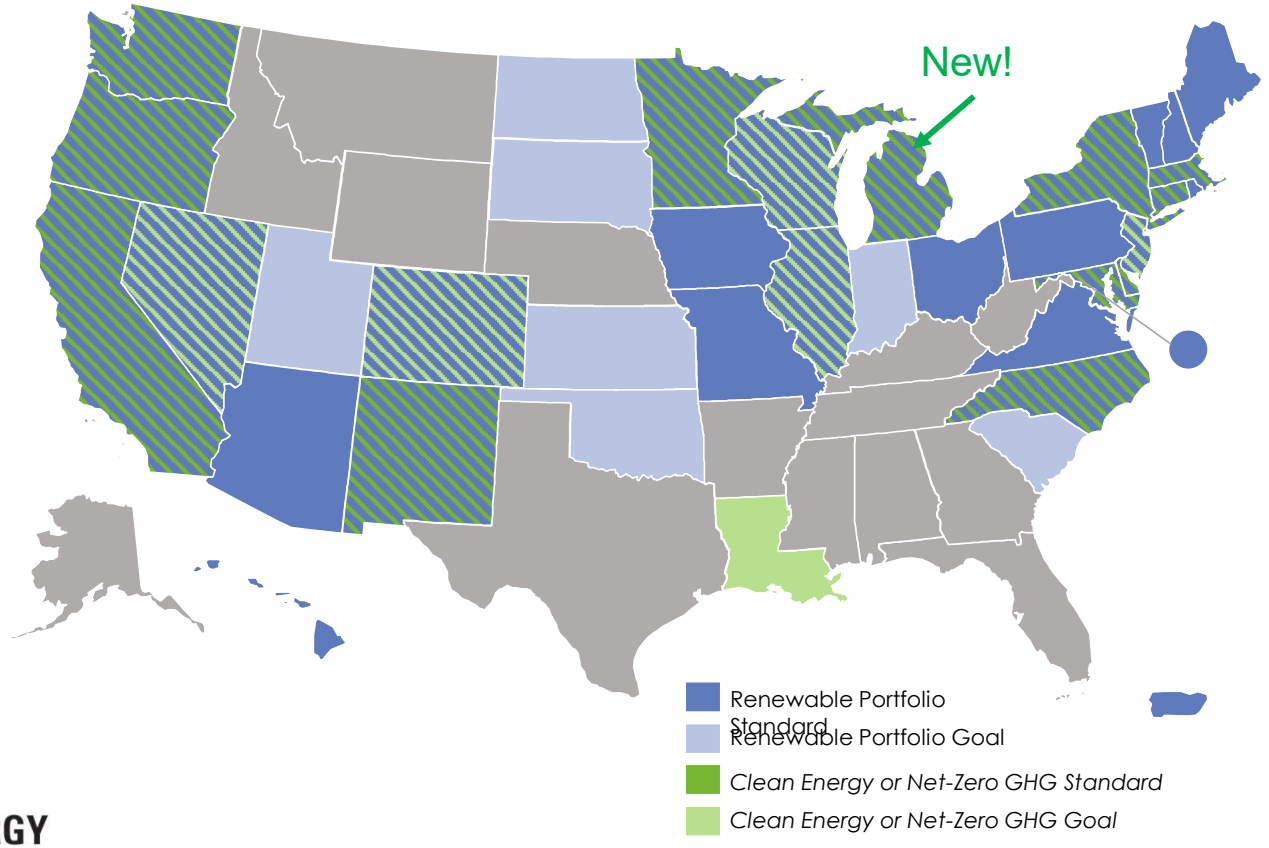
H1 2024 Major Actions on Power Decarbonization Requirements

- AZ considering repeal of RPS
- CO limited eligible technologies
  - Governor vetoed bill
- CT, MI, VT changed existing RPS targets
- DC, VT made changes to RPS compliance rules
- MI established CES
- NC settlement agreement for proposed Duke green tariff
- NJ changed solar targets
- NM began rulemaking on emission reduction ambiguities
- NY, RI changed storage targets
- OH resolution encouraged federal EPA to withdraw new coal/gas emission rules
- VA, VT expanded eligible technologies
- WA amended carbon market rules, linked with California-Quebec market
  - Pending ballot initiative would prohibit carbon cap & trade

State Clean and Renewable Energy Targets (August 2024)



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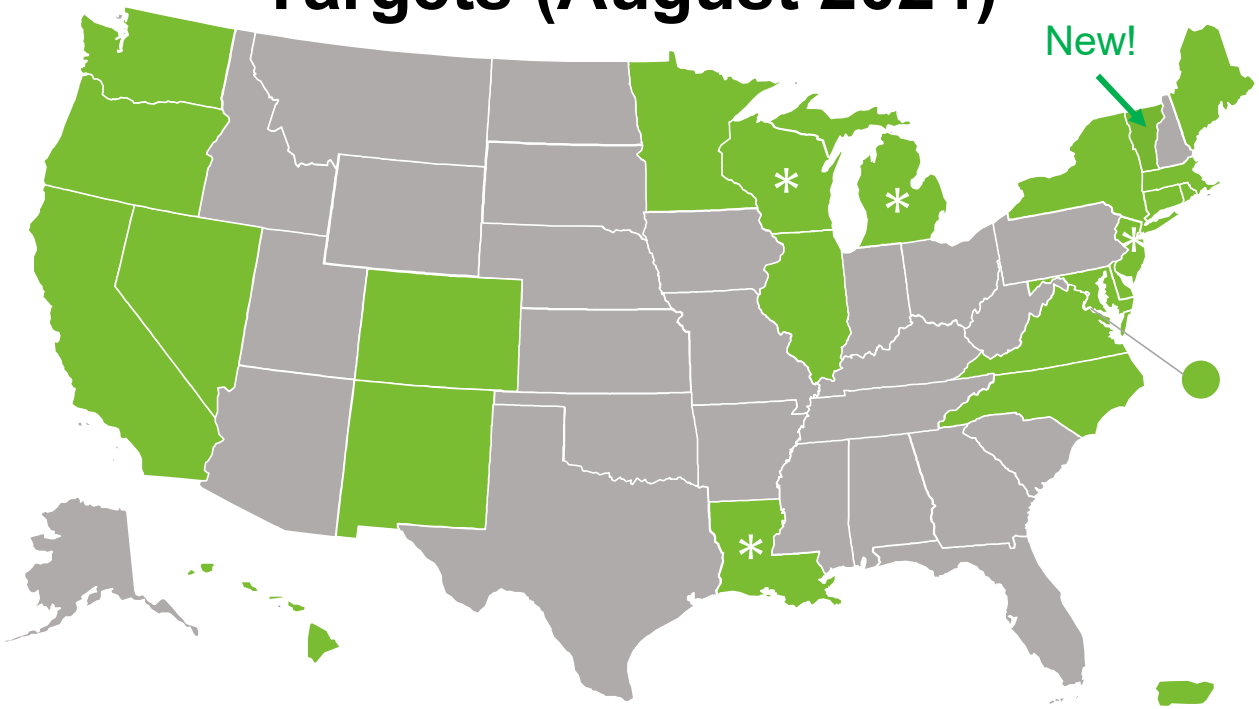
100% Clean Energy or Net-Zero Electricity Sector Emissions Targets (August 2024)



100% Clean Energy/Net-Zero Electricity Emissions Target

* Target Established by Executive Order

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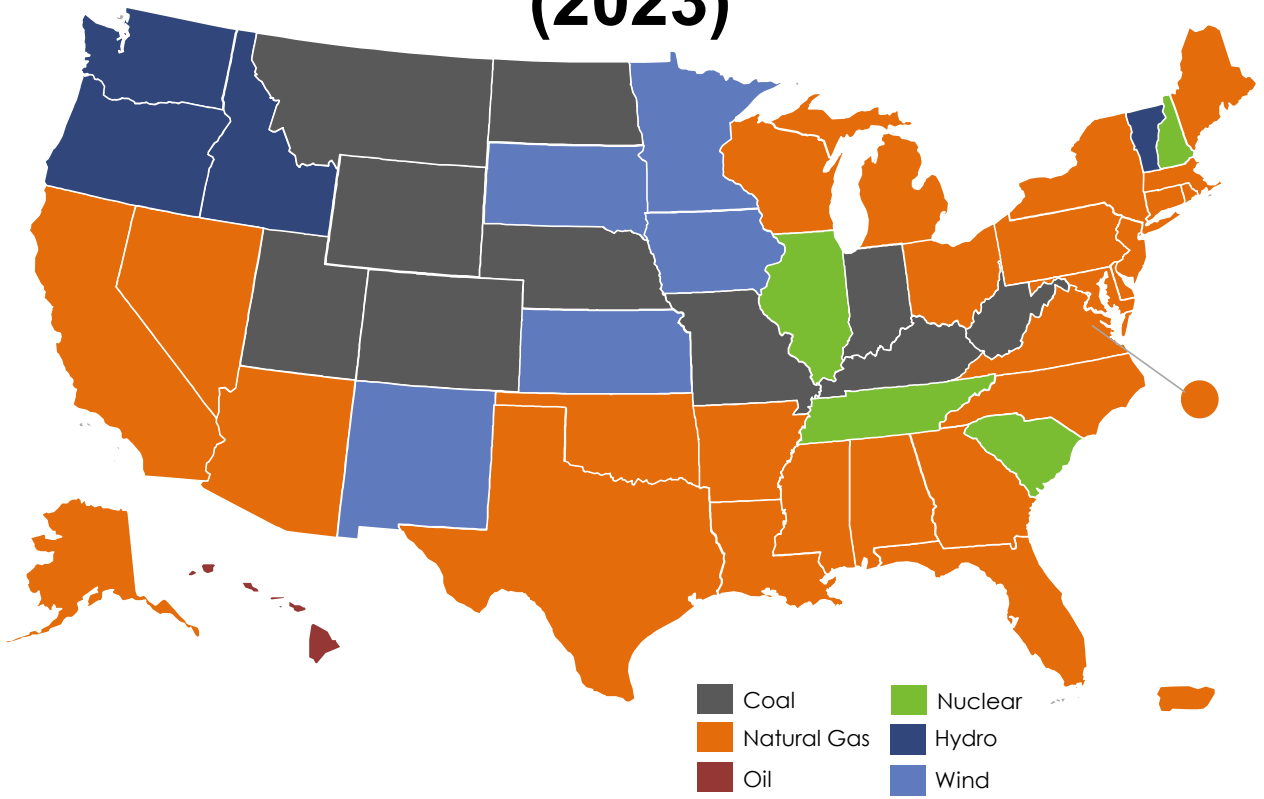
23 States + DC, PR have 100% clean energy or net-zero electricity emissions targets

Greatest Contributing Resource to State Generation Mix (2023)



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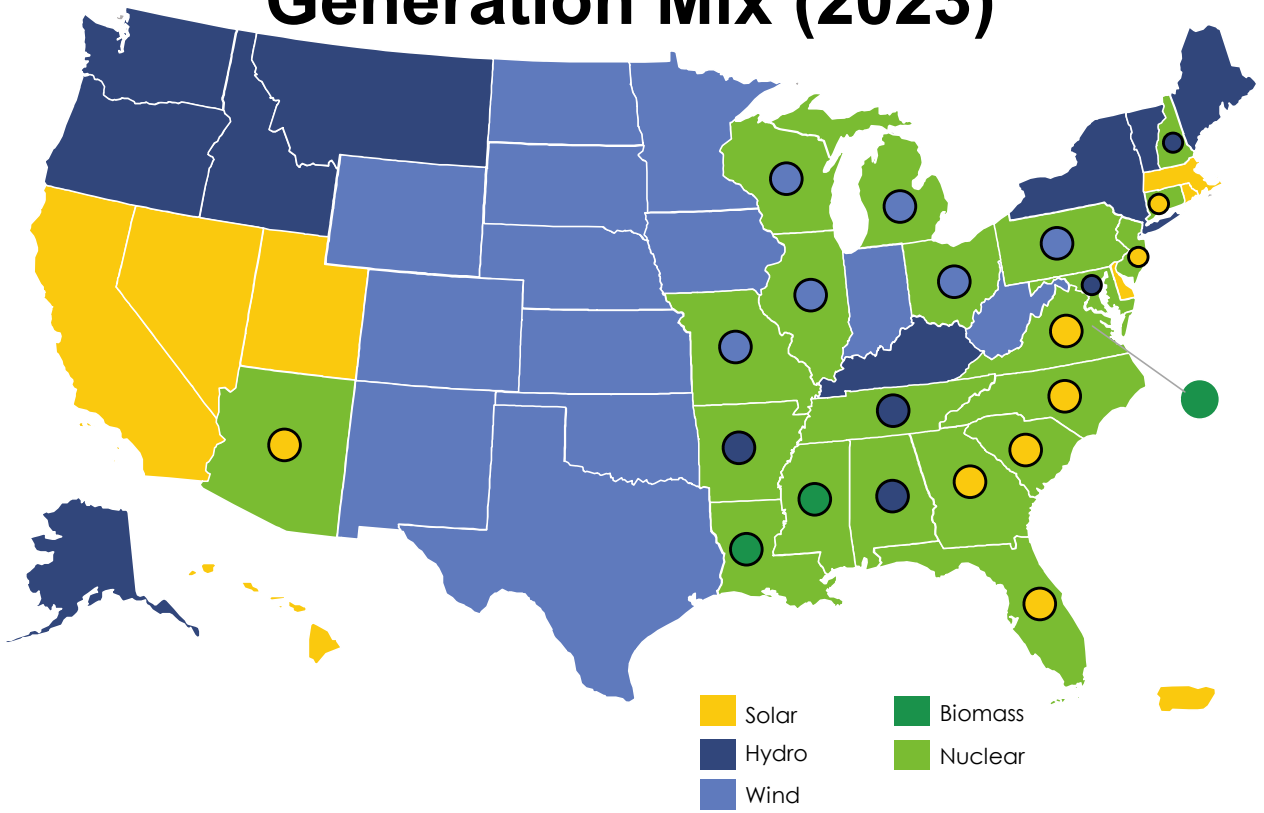
Data Source: U.S. EIA – Electric Power Monthly, Net Generation by State by Type of Producer by Energy Source (Jan. – Dec. 2023).

Greatest Contributing Clean/Renewable Resource to State Generation Mix (2023)



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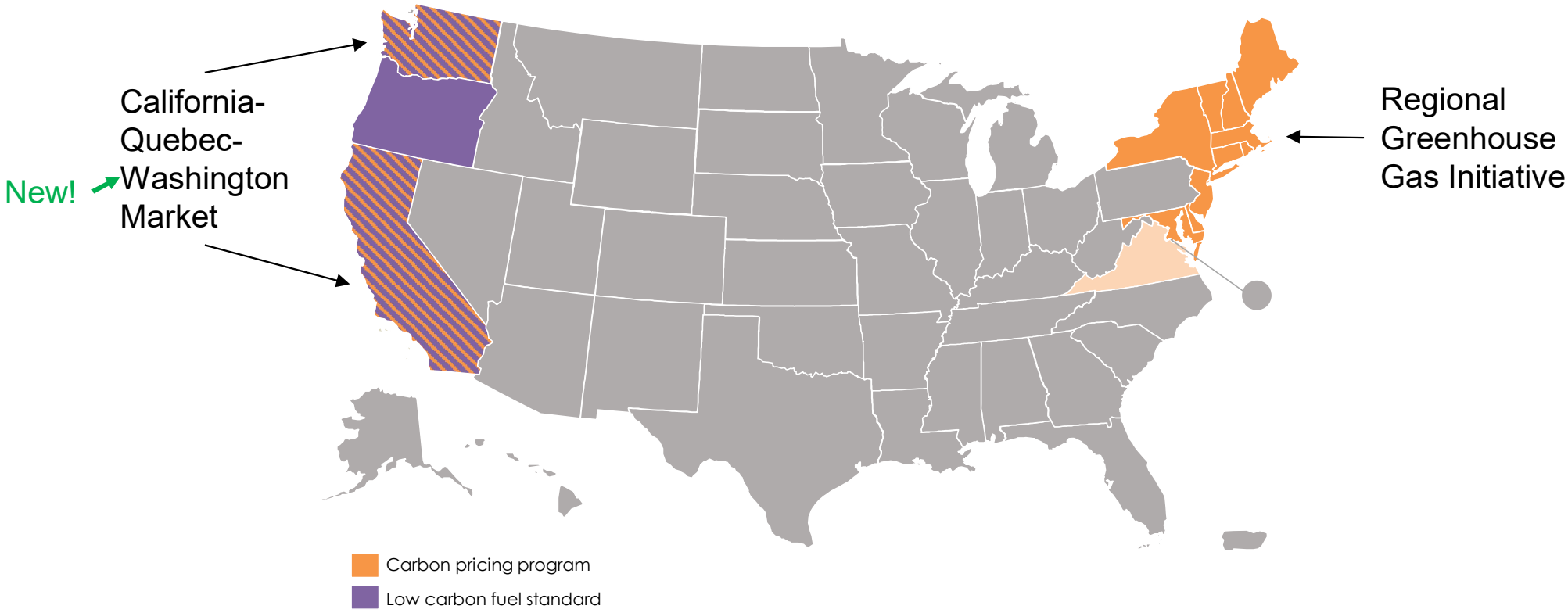
Data Source: U.S. EIA – Electric Power Monthly, Net Generation by State by Type of Producer by Energy Source (Jan. – Dec. 2023). Map represents percent of total MWh generated in each state from clean energy sources (nuclear, hydroelectric, solar, wind, biomass, geothermal).

Carbon Pricing and Low Carbon Fuel Standards



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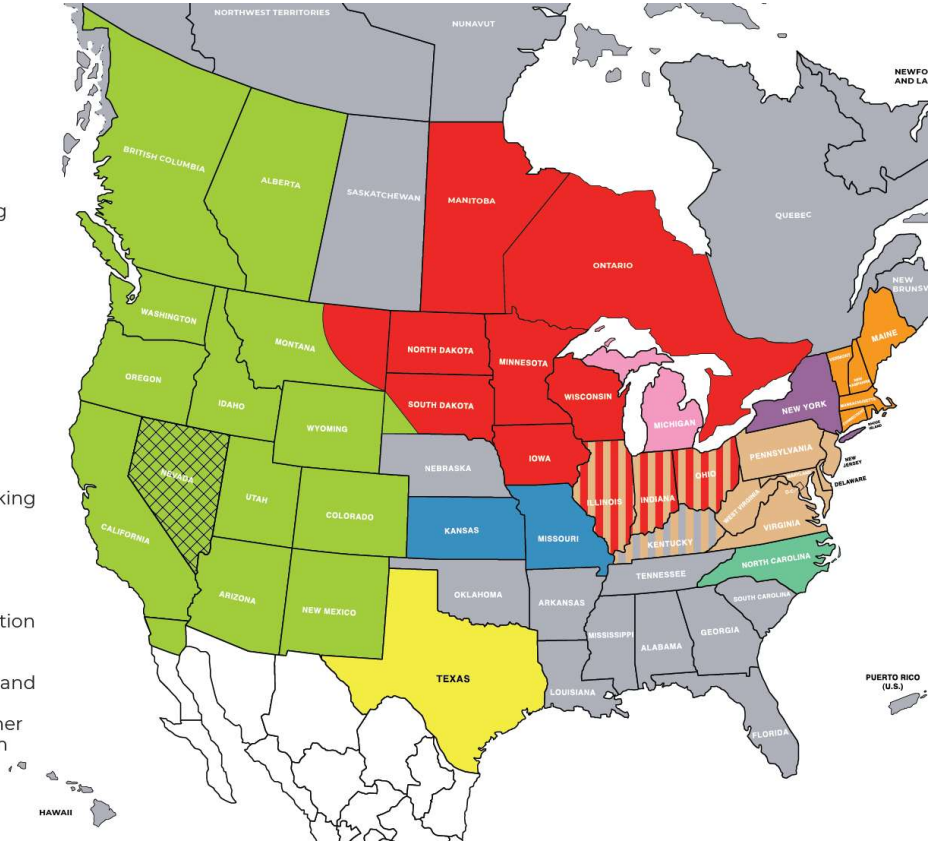
REC Tracking Systems in North America

KEY

- **ERCOT**: Electric Reliability Council of Texas
- **MIRECS**: Michigan Renewable Energy Certification System
- **M-RETS**: Midwest Renewable Energy Tracking System
- **NAR**: North American Renewables Registry
- **NC-RETS**:North Carolina Renewable Energy Tracking System
- **NEPOOL-GIS**: New England Power Pool Generation Information System
- **NVTREC**: Nevada Tracks Renewable Energy Credits
- **NYGATS**: New York Generation Attribute Tracking System
- **PJM-GATS**: PJM EIS's Generation Attribute Tracking System
- **WREGIS**: Western Renewable Energy Generation Information System
- **No tracking system formally adopted.** NAR and M-RETS allow registration from generators located anywhere in the U.S. and Canada. Other tracking systems may allow registrations from outside their geographic territory.



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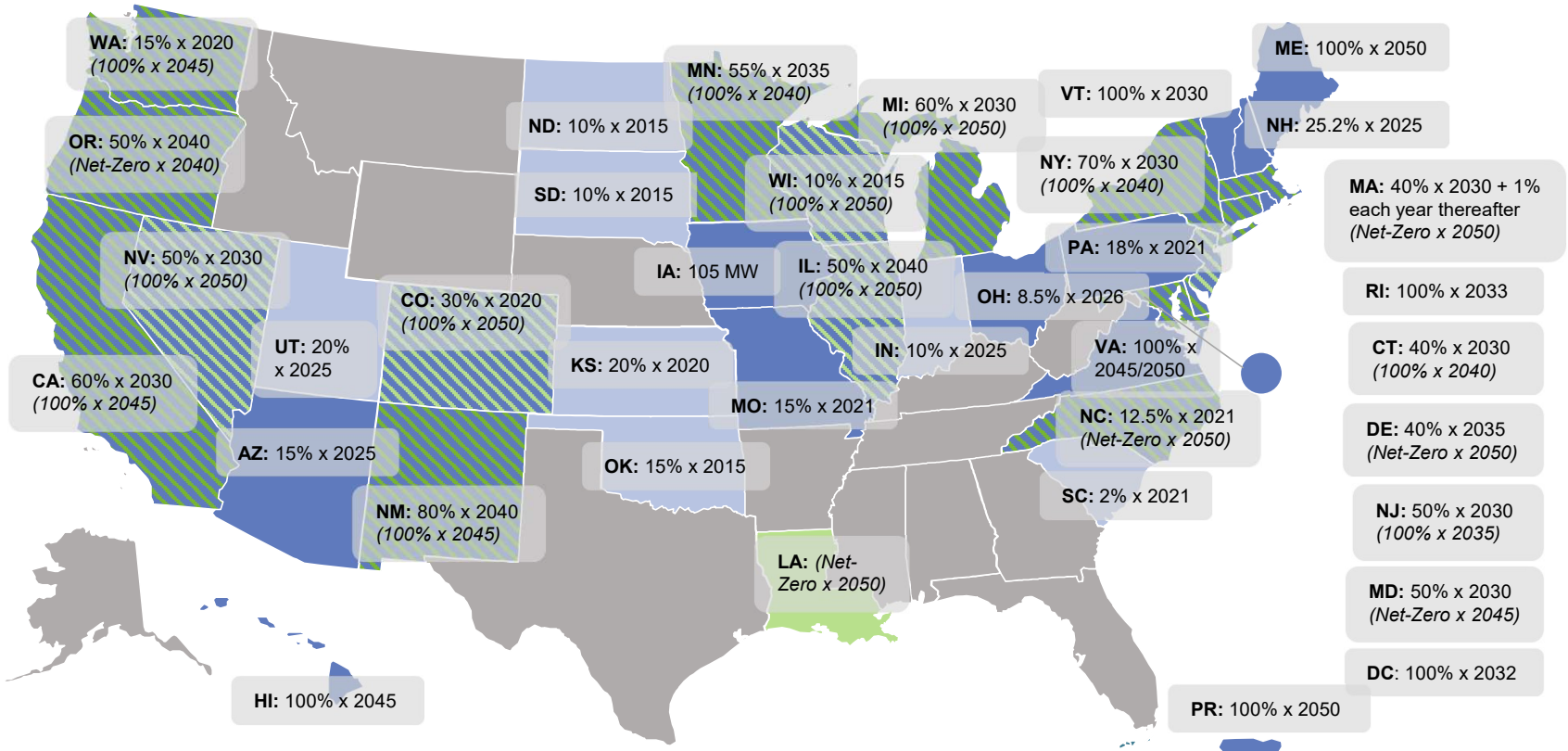
Map Source: Center for Resource Solutions, Renewable Energy Certificate Tracking Systems in North America. Last updated February 2024.

State Clean and Renewable Energy Targets (August 2024)



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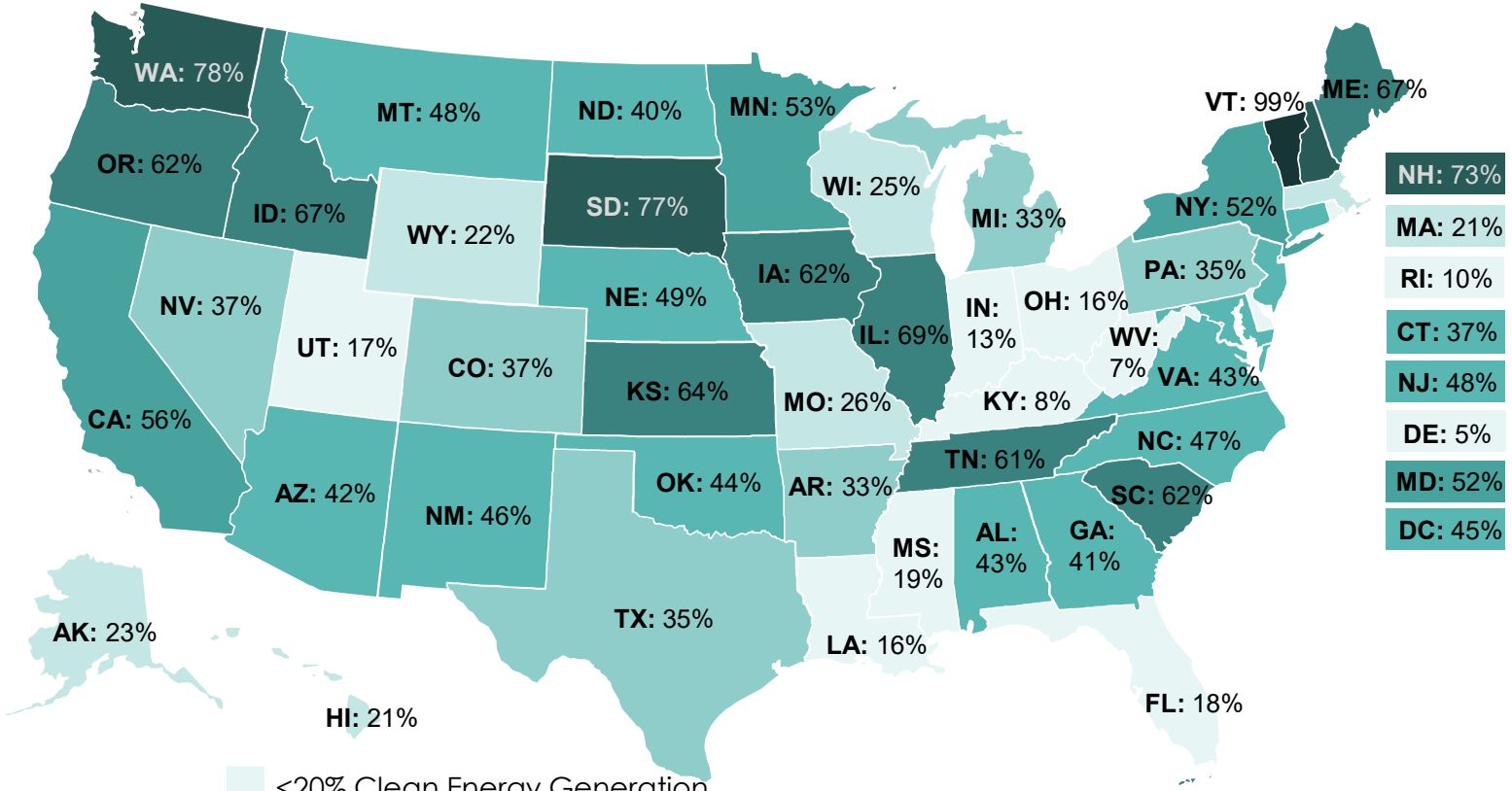
Percentage of Clean Electricity Generated by State (2023)



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Example: Colorado

- Renewable Portfolio Standard: 30% x 2020 for IOUs
  - 10% - 20% x 2020 for municipals + cooperatives
- Emission Target: 100% of 2005 levels x 2050
- Largest Resource in 2023: Coal
- Largest Clean Resource in 2023: Wind
- Percentage Clean Electricity Generated in 2023: 36%
  - Percentage Renewable (excluding Nuclear): 36%

does NOT! include nuclear

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