The Importance of Data-Driven State Energy Planning: Examples From States

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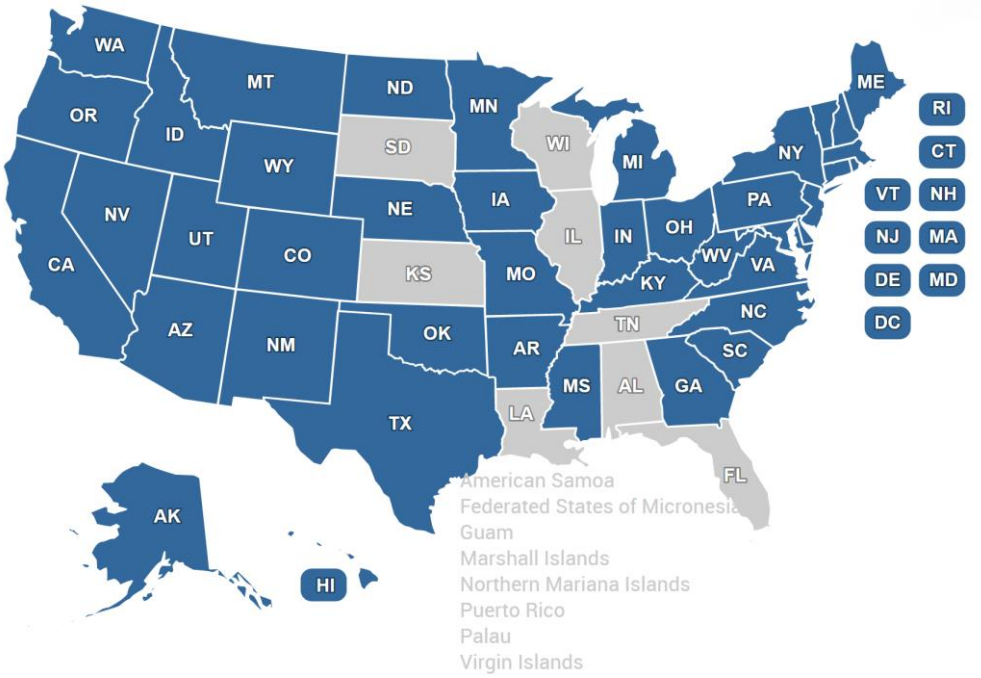
Agenda

- Why do States Develop State Energy Plans?
- Trends in Data Use in State Energy Plans
- Data Sources Used in State Energy Plans
- Case Study: Rhode Island's Energy Plan
- Questions & feedback

Overview of State Energy Plans

- As of 2019, 42 states and the District of Columbia have State Energy Plans
- State Energy Plans identify and design a pathway to a prosperous energy future that capitalizes on a state's resources, infrastructure, and human capital to promote a healthy economy and environment. State Energy Plans provide a policy backing for program and regulatory decisions, and can help catalyze positive, transformative change.



Why is Data and Modeling Use Important to State Energy Plans?

- Data can be used to inform and ground policy development to continue and further accentuate already-occurring trends or to make the case in an energy plan for why a shift in energy trends is warranted
- Analyzing data trends can help reveal opportunities to align the energy-related efforts of different economic sectors
- Data and modeling efforts provide support for why certain policies were included in a State Energy Plan over others, leading to greater support and acceptance of those policies by a larger group of stakeholders
- Modeling can also help states understand the tradeoffs between choosing different policies and how policies impacting different sectors interact

Trends in Data Use in Plans

- Increasing use of modeling to inform policy decisions in plans
  - Models used in plans:
    - Portfolio Optimization Model (POM)
      - a capacity expansion model that emphasizes impacts of environmental policies and focus on renewable generation
    - Haiku
      - RFF's Haiku model is a simulation of regional electricity markets and interregional electricity trade in the continental United States. The model accounts for capacity planning, investment, and retirement over a multi-year horizon and for system operation over seasons of the year and times of day.
    - IPM
      - Integrative model that looks at whole-system energy planning
    - Temoa
      - Open source modeling framework for conducting energy system analysis. Energy economy optimization model.

Trends in Data Use in Plans

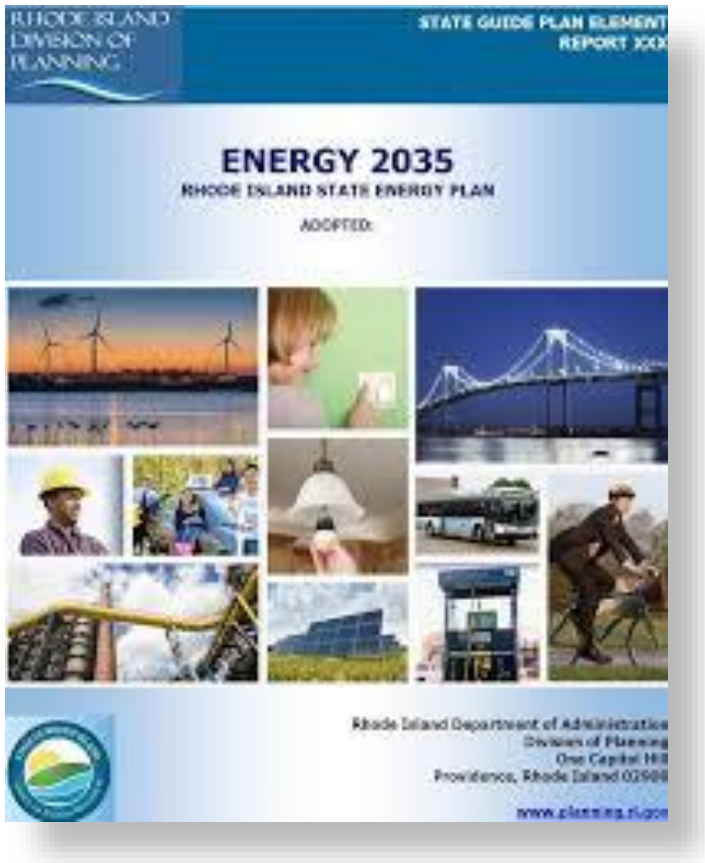
- Key data points displayed by energy plans:
  - Generation mix
  - Electricity prices/natural gas prices
  - Energy consumption (by sector, by fuel type, etc)
  - Key energy employment figures (salaries, employment by industry, etc)
  - Oil and natural gas operations, including data on water usage in the oil and natural gas industry; oil extraction, transportation, and distribution; and crude oil forecasts
  - Energy efficiency, including modeled and actual results of specific projects
  - Information on building stocks and associated energy uses; public facility energy consumption data, including the MUSH (municipalities, universities, schools, and hospitals) market; and information on energy use and billing for all utilities (not just investor-owned utilities--IOUs)
  - Energy-related R&D expenditures

Data Sources Used in State Plans

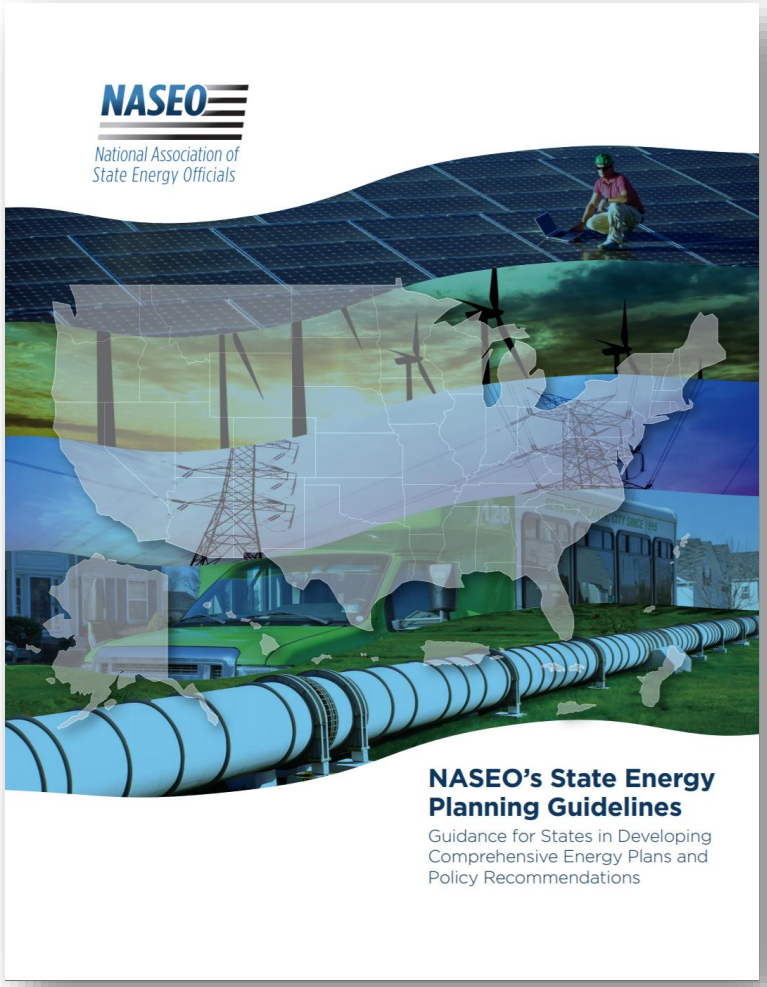
- Energy Information Administration (EIA)
- Public Utility Commission (PUC) data (where possible)
- Independent System Operator (ISO) data (if in ISO/RTO territory)
- U.S. Census Bureau
- U.S. Bureau of Economic Analysis
- U.S. Energy and Employment Report
- U.S. Department of Transportation
- Database of State Incentives for Renewables & Efficiency (DSIRE)
- Alternative Fuels Data Center
- EIA's Crude Oil, Natural Gas, and Natural Gas Liquids Proved Reserves

Case Study: Rhode Island Energy Plan

- Planning team contracted with two consultant firms to model baseline scenario and 4 different policy scenarios
- Parameters considered for modeling scenarios included:
  - Fuel diversity
  - In-state employment impact
  - GHG reductions
  - Criteria pollutant reductions
  - Resiliency
- Modeling determined policy pathways forward for the state planning team in six identified tranches:
  - Maximizing EE in all sectors
  - Promote local and regional RE
  - Develop markets for alt fuels
  - Strategic investments in energy infrastructure
  - Mobilize capital and reduce costs
  - Reduce GHGs



About NASEO's *State Energy Planning Guidelines*



- NASEO's *State Energy Planning Guidelines* are an aid for states that are looking to create or refine their State Energy Plans to perpetuate sound planning processes

- The *Guidelines* provide states with an overview of the State Energy Plan design process, consisting of ten steps that NASEO recommends that states follow in their planning processes.

Contact Us

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