



## Policy Approaches to Support CHP in State Energy Plans July 13, 2018

### Menu of Policy Options

Source: EPA, CHP Policies and Incentives Database, <https://bit.ly/2iLnszC>

**Recognition of Development Potential:** The state has concluded that CHP would be a financially viable energy option but has not deployed many CHP facilities.

*Examples: Michigan, New Hampshire, Arkansas, Pennsylvania, Minnesota, and Montana*

**CHP Goals:** Goals set by the state government to procure a certain amount of energy from CHP.

*Examples: California, Rhode Island, and New Jersey*

- California (6,500 MW of new CHP capacity by 2030)
- Rhode Island (400 MW of CHP in the state by 2035)
- New Jersey (1,500 MW of new DG and CHP resources over the next decade)

### **General Support for CHP:**

- **Further Exploration** *Iowa, Missouri, Delaware, and Maine*
- **Recognition of Developmental Potential** *Arkansas, Delaware, Michigan, Minnesota, Montana, Pennsylvania, and West Virginia*
- **Remove Barriers to CHP** *California, Iowa, Vermont, Connecticut, Maryland, and New York*

**Portfolio Standards:** Expand existing portfolio standard to include CHP

- **Energy Efficiency Resource Standards** *Rhode Island, Missouri, and Ohio*
- **Renewable Energy Standards** *Missouri, Vermont,\* Connecticut,\* Rhode Island, New Hampshire,\* and Hawaii\** (\*encourage use of renewable CHP)

**Financial Assistance:** Incentives designed to improve CHP economics by reducing up-front costs or guaranteeing a market for energy produced.

- **Feed-in Tariffs** *Oklahoma*
- **Investments/Grants** *New Jersey and Maryland*
- **Loans** *Iowa, Ohio, and New York*
- **Net Metering** *Washington, Oklahoma, Vermont, Hawaii, and Michigan*
- **Standby Rates** *Missouri, Oklahoma, New York*

**Regulatory Incentives:** Policies or programs designed to ease the regulatory burden of implementing a CHP project

- **Develop Regulations** *Delaware*
- **Streamlining Permits/Exemptions** *New Jersey and Washington*

**Communication:** Encourages utilities and CHP stakeholders to communicate to expand the use of CHP.

- **Collaboration** *Iowa, Missouri, Oklahoma, and New Hampshire*



## **Specific Policy Approaches from Existing State Energy Plans**

***Tier 1 States:*** States with comprehensive recommendations and plans in place to promote CHP and provide multiple ways for CHP deployment.

[California](#) (2015): While not recommended by the energy plan itself, the plan recognizes the importance of the goal the Governor set of 6,500 MW of new CHP capacity by 2030. The plan recommends that the state overcome barriers to the use of biogas as a fuel for CHP. The plan also reaffirmed the importance of Assembly Bill 1613, which established a feed-in tariff for CHP installations of no more than 20 MW as well as the Self-Generation Incentive Program, which offers monetary incentives to encourage customer adoption of eligible distributed generation technologies. The plan notes that evaluating the potential of small CHP (less than 20 MW) is important to understanding the potential environmental and grid system benefits of CHP. California also supports the valuation of CHP through the development of frameworks, markets, and analyses that accurately value the costs and benefits of CHP systems. **(Remove barriers, CHP goal)**

[Iowa](#) (2016): The plan suggests establishing a collaboration between CHP stakeholders and Iowa's utilities to further explore the potential opportunities and barriers associated with CHP in Iowa. This should include an exploration of the resiliency value of CHP and current challenges associated with interconnection of these technologies to the grid and result in the identification of best practices and program models that would allow for expanded CHP development. **(Collaboration between CHP and utilities, remove barriers, further exploration, loans)**

[Missouri](#) (2015): The Comprehensive State Energy Plan recommends that Missouri examine the potential for CHP at all current and planned state facilities; promote collaboration to develop CHP; include renewably-fueled CHP in the state RES; develop a state CHP technical and economic potential study; establish cost-based standby rates and interconnection practices that reflect best practices; and allow electric utilities to treat combined heat and power in the same manner as other energy efficiency measures. **(Further exploration, promote collaboration, included in renewable energy standards, cost-based standby rates, eligible technology)**

[New Jersey](#) (2011): The Energy Master Plan (EMP) sets a target to develop 1,500 MW of new distributed generation and CHP resources by 2021. The plan notes that financing programs through the Energy Resilience Bank (ERB) along with policy changes and other incentives will advance CHP in the state. The plan reaffirms the state's intent to expand use of CHP by reducing financial, regulatory, and technical barriers and notes that the state should evaluate CHP and fuel cell incentives to promote local energy resiliency. The EMP also lists CHP as a technology that is eligible to receive grants or loans from the ERB. **(CHP goal, promoting investment, streamlining permit process)**

[Ohio](#) (2014): The Ohio Energy Plan makes four recommendations relating to CHP: allow CHP to qualify as a renewable energy source; allow all Ohio electric utilities to use CHP to meet alternative efficiency standards; revamp the Energy Loan Fund to place more focus on energy efficiency and alternative fuels;



and require the Ohio Dept. of Administrative Services (DAS) to review CHP as part of new construction and major renovations in state facilities. **(Eligible technology, loans)**

[Oklahoma](#) (2011): There are several recommendations made by the Energy Plan: encourage coordination between industry and utilities; explore upgrading boilers and process heat applications with modern efficient equipment; encourage load-leveling and peak-shaving practices through DSM and favorable structured rates; encourage utilities to allow reduced back-up capacity requirements or reduced standby rates; employ emissions standards that account for efficiencies and evaluate industrial emissions based on the total useful energy actually produced, not simply the fuel put into the system; and evaluate the feasibility of providing feed-in tariffs or net-metering that allow compensation (based on the time of generation) for companies that put power back into the grid. **(Collaboration, reduced stand by fees, feed in tariffs, net metering)**

[Rhode Island](#) (2015): The plan sets a strategy for improving the combined heat and power market, with a goal of 400 MW of CHP in the state by 2035. The plan recommends the state evaluate how to speed the development of CHP in Rhode Island, including adding CHP as an eligible technology under an expansion and carve-out in the state renewable energy standard. The plan highlights current incentives for CHP funding in the state's general energy efficiency program budget. **(CHP goal, eligible technology, renewable energy standard, energy efficiency resource standard)**

[Vermont](#) (2016): The plan recommends that Vermont identify barriers for biomass CHP systems, provide recommendations for deployment of this technology, and address the large upfront cost of construction. Incentives should be made for CHP plants that do not initially meet the 50% efficiency threshold to qualify for the Standard Offer Program. The plan reaffirms a commitment to its net metering program because of its benefits for distributed generation, such as CHP. The plan identifies CHP as a perfect candidate for biomass fuel (especially wood chips) and anaerobic digester use. **(Renewable energy, net metering, remove barriers)**

[Washington](#) (2012): The plan's near-term recommendations to advance distributed energy, including CHP, touch on interconnection, net-metering, and streamlining permitting. Longer-term recommendations involve distributed energy-compliant purchase power agreements, potential changes to Initiative 937 (the Energy Independence Act), and rationalizing state distributed energy incentives. **(Net metering, streamline permitting)**

***Tier 2 States:*** States with some recommendations in place to promote CHP but no concrete plan for deployment on a large scale.

[Connecticut](#) (2013): The plan endorses fuel switching to cheaper and cleaner fuels (including natural gas CHP) and removing known barriers to encourage additional deployment of CHP. The plan also includes recommendations pertaining to microgrids and system reliability, such as the promotion of distributed generation and the expansion of virtual net metering and submetering, which would benefit CHP. **(Renewable fuels, remove barriers, investments)**



[Hawaii](#) (2000): The plan suggests encouraging distributed generation and cogeneration technologies through net-metering. Utilities are also encouraged to evaluate the potential for distributed generation technologies as an alternative to future central power station generation. The plan also recommends encouraging facilities to examine using gas as a fuel for cogeneration systems where cost effective (**Net metering, alternative/renewable fuels**)

[Michigan](#) (2007) The Plan recommends that net metering tariffs be made available for all qualifying renewable and CHP facilities <150 kW. Modeling indicates there is a potential for 180 MW of additional CHP in the state (**Net metering, potential for development**)

[New Hampshire](#) (2014): The plan recommends developing a collaborative approach to provide certainty to lenders and help coordinate lending options; providing consumers and businesses access to clean energy financing; encouraging development of distributed generation and CHP facilities; and promoting the use of biomass as a fuel for CHP. (**Collaboration, renewable fuel**)

[New York](#) (2015): The plan reiterates the need to encourage distributed generation through additional technical and financial support, and removal of any interconnection barriers. CHP is listed as one of these distributed technologies for both individual buildings and as a possible "heart of a community microgrid." The Plan states that the PSC is investigating standby fee policies that are beneficial to CHP. The plan also notes that NYSEDA will support CHP by vetting equipment and developers. (**Remove barriers, loans, standby fee**)

[Oregon](#) (2013): The plan notes that CHP projects may be exempt from siting standards if certain criteria are met. (**Exemptions**)

**Tier 3 States:** *States with few or no recommendations in place for CHP deployment.*

[Arkansas](#) (2013): In regards to energy reliability, CHP is listed as a technology that can provide relief to the natural gas industry, be used for back-up power, and reduce vulnerability for the industrial sector. (**Potential for development, energy offset**)

[Delaware](#) (2009): The plan recommends adoption of output based emission standards for boilers/ power plants. It does not identify specific incentives for further CHP deployment. (**Further exploration, develop regulations**)

[Idaho](#) (2012): The plan encourages the development of customer and community-owned renewable energy and distributed generation facilities. (**Encourage development**)

[Kentucky](#) (2008): CHP is identified as a method for meeting the energy efficiency goals and strategies outlined in the energy plan. (**Energy efficiency measure**)

[Maine](#) (2015): Although the former (2009) plan identified increased development and use of CHP and the strategic siting of district heating clusters, the 2015 plan notes that no significant progress has been made



in this area. The 2015 plan reaffirms the state's interest in encouraging development of CHP and district heating clusters. **(Further exploration)**

[Maryland](#) (2012): The plan notes the ability of CHP to provide continuous electricity in times of emergency. The plan recommends the State examine which of the existing CHP facilities in Maryland are capable of meeting the needs of specific facilities during an emergency. It is also recommended that the State look into the cost of modifying existing units to meet grid reliability and energy assurance needs. **(CHP for resiliency)**

[Massachusetts](#) (2015): The state energy plan does not mention CHP or distributed generation technologies.

[Minnesota](#) (2012): The plan acknowledges that the state has significant potential to incorporate CHP technology in the industrial sector using waste heat for small to medium scale (up to 1 MW) power generation, though it does not discuss specific policies or incentives to encourage deployment. **(Potential for development)**

[Montana](#) (2016): The plan promotes CHP in the biomass section and identifies 105 to 140 MW of renewable CHP potential at 7 sawmills, according to a 2010 study of biomass energy potential in Montana. **(Potential for development)**

[North Carolina](#) (2016): The plan identifies CHP as a major energy efficiency measure for the state, but does not specify any policy measures to encourage its use. **(Energy efficiency measure)**

[North Dakota](#) (2010): The plan highlights the use of biomass co-firing at lignite cogeneration power plants. **(Renewable fuel)**

[Pennsylvania](#) (2014): There are approximately 135 CHP installations in Pennsylvania. No specific incentives or policies are discussed in the energy plan, although Pennsylvania has issued a separate CHP Policy Statement. **(Potential for further development)**

[West Virginia](#) (2013): West Virginia's market for CHP is deemed as unfavorable due to the poor spark spread from widely available coal power. West Virginia does not offer CHP incentives. **(Limited potential for development)**