



Combined Heat and Power and the Washington Energy Independence Act (I-937)

Policy Description

The Washington Energy Independence Act (EIA, also I-937) requires that electric utilities serving 25,000 or more retail customers use renewable energy and pursue all cost-effective, reliable, and feasible energy conservation measures. The EIA set a final renewable energy target of 15% by 2020.

There are 18 utilities subject to the EIA; together, they provide 80% of the electricity sold to Washington retail customers. Under the EIA, combined heat and power (CHP) may be categorized as either energy conservation or renewable energy. As conservation, the CHP system must qualify as “high-efficiency cogeneration,” which requires that the useful thermal energy output be at least 33% of the total energy output. If a utility’s retail electric customer company owns and uses a CHP system for the business’s own needs, the utility may count that system toward the conservation provision, but only the first 12 months of CHP operation qualify toward the end-use conservation targets.

CHP projects may be categorized as renewable energy if they use a qualifying fuel type, commonly biogas or biomass. Qualifying renewable energy either must be sourced from within the Pacific Northwest or delivered into Washington on a firm transmission path, in real time, without storage or integration services. A utility may also meet its renewable energy targets using renewable energy certificates (RECs) registered by the Western Renewable Energy Generation Information System.

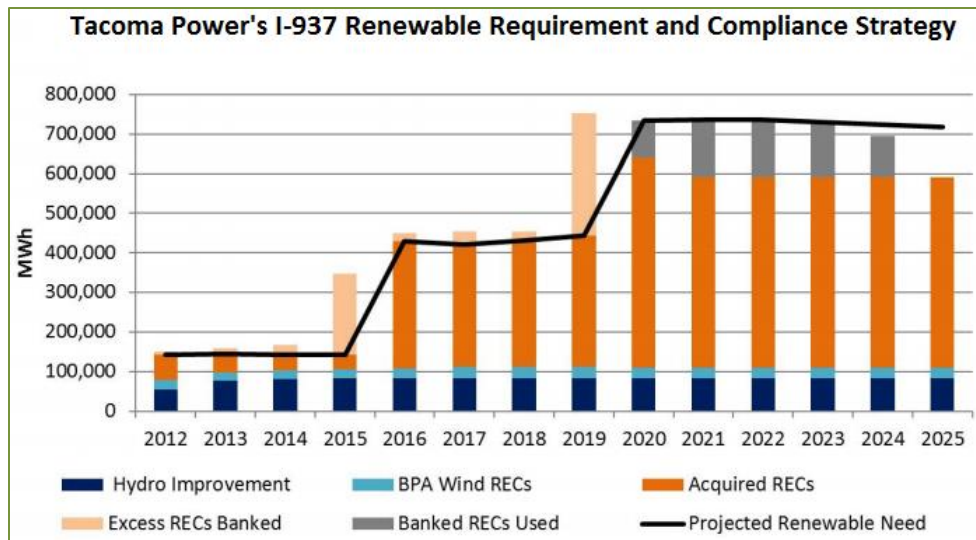
The EIA gives special treatment to renewably fueled distributed generation resources with a capacity of not more than 5 MW, allowing utilities to count distributed generation at double the facility’s electrical output if the utility owns or has contracted for the distributed energy and associated RECs or has contracted to purchase the associated RECs.

Quick Facts

- Location:** Washington
- Market Sector:** Utility Resource Acquisition
- Policy Type:** Energy Conservation and Renewable Energy Targets
- Geography:** Pacific Northwest
- Program Start:** 2010

Policy Outcomes

With the passage of I-937 in 2006, Washington became the 22nd state to enact a renewable portfolio standard and the 2nd state (after Colorado) to pass a renewable portfolio standard by ballot initiative. According to the annual performance reports that utilities submit to the Washington State Department of Commerce, every utility exceeded its energy



conservation targets in every two-year performance period since the law took effect in 2010. In the period covering 2016–2017, overall achievement exceeded targets by an average of 36%. As with the conservation standard, utilities have consistently reported compliance with the renewable energy requirements. In 2018, the 9% renewable target was 6.6 million MWh, and the 17 utilities covered by the EIA reported plans to use 7.9 million MWh.

Project Success Stories

Both within Washington and regionally, I-937 can encourage CHP projects as renewable energy, energy efficiency, or both. The three projects described below illustrate different aspects of the law.

King County West Point Treatment Plant CHP Project

The West Point wastewater treatment plant at Discovery Park in Seattle, Washington, uses two biogas-fired Caterpillar Model G3612 engines (one duty and one standby) to generate up to 2.45 MW of electricity and 10.4 MMBtu/hour of heat for digester heating and space heating. Electricity is purchased by Seattle City Light (SCL) under a 20-year power purchase agreement (PPA) with King County to help meet SCL's 15% renewable energy goal. This project was initially slated for cancellation, as it was not deemed cost-effective. The analysis was revisited considering the EIA's provision for granting double credit against utility renewable energy obligations for systems rated at 5 MW or less. The double credit resulted in a starting wholesale price of around 8 cents per kWh from SCL to King County, improving the project's financials.

Stolze Land & Lumber Biomass Facility

This CHP plant near Columbia Falls, Montana, uses sawmill waste consisting of bark, sawdust, planer shavings, and hog fuel to generate up to 2.5 MW of power and up to 30,000 lbs./hour of 50 psi steam for use in the plant. RECs from this plant are certified in the State of Washington, and the sawmill waste is an approved renewable energy resource under the EIA. Electricity is purchased under a 20-year PPA with Flathead Electric Co-op at an initial average wholesale rate of 9 cents per kWh. The plant has been in operation since 2013, and since 2015 it has generated almost 22 million kWh per year. It is estimated that this region in Montana has biomass resource sufficient to support up to 25 MW of electricity generation that could be sold to states with renewable energy portfolios. The Stoltze plant was limited to 2.5 MW, however, because there is no transmission capacity for a larger project.¹

Nucor Steel

In 2011, a 2.8 MW organic Rankine cycle waste-heat-to-power (WHP) CHP system was proposed at the Nucor Steel plant in Seattle, Washington. This system was the first CHP project considered for meeting the EIA's energy conservation criteria. SCL considered the project to meet its EIA energy conservation obligations and offered \$3,930,000 in funding. SCL would have purchased its electricity at a wholesale price of 2 cents per kWh for 12 years. Nucor Steel applied for and was awarded State Energy Program stimulus funds but decided not to proceed with the project owing to financing conditions.

Lessons to Share

- **Improving Certainty:** In 2012, state legislation amended I-937 to create a pre-approval process, removing uncertainty that was hampering progress on the proposed Nucor Steel project. As originally written, investor-owned utilities could receive binding decisions on whether a project would qualify prior to construction, while public utilities received decisions only after project completion.
- **Valuing WHP:** WHP is considered energy conservation under the EIA and is not eligible for the double credit for renewable energy projects under 5 MW. As an energy conservation project, Nucor Steel negotiated a PPA with SCL to sell its power at 2 cents per kWh, far less than the 9 cents per kWh received by the West Point biogas CHP renewable energy project. A renewable energy portfolio that values WHP projects in the same manner as renewable distributed generation could encourage capturing this large resource for clean, emission-free distributed generation.

Resources:

- [Energy Independence Act, RCW 19.285](#)
- [Washington Department of Commerce, Energy Independence Act website](#)
- [State Renewable Portfolio Standards and Goals, NCSL](#)
- [Stoltze Land & Lumber, Profile](#)

For More Information

U.S. DOE NORTHWEST CHP TECHNICAL
ASSISTANCE PARTNERSHIP (CHP TAP)
www.nwchptap.org

WASHINGTON STATE
DEPARTMENT OF COMMERCE
www.commerce.wa.gov/growing-the-economy/energy/energy-independence-act

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¹ <https://leg.mt.gov/content/Committees/Interim/2015-2016/Energy-and-Telecommunications/Meetings/May-2016/STOLTZE%20Project%20ProfileFinal.pdf>