

TESTIMONY  
Senate Bill 623  
By Renewables 100 Policy Institute  
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## **Introduction**

The Renewables 100 Policy Institute is a 501(c)3 non-profit organization with a mission to study and accelerate the global transition to 100% renewable energy in all sectors. The organization identifies and advocates for best practices based on a balance of criteria, including efficiency, ecological sustainability, and economic benefits for the maximum number of citizens.

The Institute's Go 100% Renewable Energy project has so far mapped more than 50 regions, in addition to approximately 50 municipalities, 8 countries and dozens of utilities and institutions that have committed to, achieved, or even surpassed 100% renewable energy targets at least in the electricity sector.<sup>1</sup>

By adopting the 100% renewable portfolio standard and interim milestones set by SB 623, Hawaii would be a pioneer in the United States that could set an example, promote its economic security, protect the environment and public health, as well as be on the vanguard of a growing global movement to transition to renewable energy systems.

## **Why setting a 100% renewable renewable portfolio standard target is good policy**

Transitioning to 100% renewable energy sources is not a question of if it will be necessary. Non-renewable fuels, by definition, will only deplete, and in the meantime, dependence on these fuels is causing mounting economic, security and environmental difficulties, as recoverable supplies decrease. The real, practical questions are when, how, and who will lead and profit. The sooner that leaders hammer out thoughtful answers, the greater the chances of technical and economic success.

Although transitioning the entire energy system needs to be ultimately be considered by policymakers, the electricity sector makes sense to focus on particularly at this time because renewable electricity technology markets (e.g. solar panels and wind turbines) are mature, because renewable energy based systems increase the role of electricity (e.g. think electric mobility), and because electricity represents a major source of Hawaii's consumption and emissions. According to the U.S. Energy Information Administration, electricity generation accounted for nearly a third of the energy consumed in Hawaii<sup>2</sup> and nearly 40 percent of the state's carbon emissions.<sup>3</sup> Meanwhile, although customer owned electricity generation such as rooftop solar has been rising dramatically, the vast majority of electricity use still stems from utility sales, further underscoring the major impact of raising the state renewable portfolio standard.

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<sup>1</sup> See [www.go100percent.org](http://www.go100percent.org)

<sup>2</sup> <http://www.eia.gov/state/analysis.cfm?sid=HI>

<sup>3</sup> <http://www.eia.gov/environment/emissions/state/analysis/pdf/table3.pdf>

Why 100% and not a lesser goal like 75% or 80%? By setting the renewable portfolio standard end goal to 100% renewable with interim milestones, policymakers give planners and regulators the clarity needed to avoid less efficient, piecemeal approaches. Plus it gives financial and industry stakeholders the long-term framework necessary to encourage sustained investment.

### **Why is now the time to set a 100% renewable RPS in Hawaii.**

1. *Climate protection* – With such a large portion of the state’s greenhouse gas emissions coming from electricity generation, the targets laid out in SB 623 help ensure that Hawaii achieves its climate policy goals. It also sets an important example for others, whose greenhouse gas reductions are critical to protecting Hawaii’s habitability and vulnerable island and marine ecosystems.

2. *Local pollution mitigation* – The vast majority of Hawaii’s electricity is currently generated by the dirtiest, petroleum derived fuels, which negatively impact public and ecological health. By transitioning to clean renewable sources like sun, wind, water, geothermal energy, and biomass from organic waste, Hawaii will better be able to preserve the state’s natural treasures and healthy way of life.

3. *Economic security* – Nearly 90 percent of Hawaii’s electricity is generated by imported oil, which is subject to price volatility as supplies deplete.<sup>4</sup> Renewable sources are a strong hedge against such volatility. Renewable fuels in which Hawaii is abundant, like sunshine, wind, wave energy, water, and organic waste are free, and the technologies needed to generate electricity with these fuels have been dropping steadily in price, as they scale up. For example, getting electricity from rooftop solar photovoltaics, historically the most expensive renewable power technology, is widely reported to have become cheaper in Hawaii than buying retail electricity.

There have been, however, barriers to adoption of these technologies, such as permitting issues and grid integration concerns. Setting a 100% renewable electricity target sends a strong signal to all stakeholders to come up with solutions to overcome such barriers, so that Hawaii’s citizens can more fully reap the benefits of the rich renewable energy resources in their state.

Setting the first 100% renewable portfolio standard in the U.S. also sends a signal to renewable energy related industries and researchers to bring their business to Hawaii.

Moreover, legislating a 100% renewable electricity sales target can help to avoid stranded assets by laying out clear parameters for energy industries and investors regarding the long term future of Hawaii’s electricity system, which are being planned today.

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<sup>4</sup> See: <http://www.macrotrends.net/chart/1369/crude-oil-price-history-chart>

Lastly, SB 623 also wisely gives direction to protect ratepayers from artificial price increases by renewable developers, helping to ensure that private profit seeking does not diminish the public good renewable energy has to offer.

4. *Being a leader in a global trend* – Whereas 100% renewable energy targets may have been considered radical as recently as a decade ago, it has become cutting edge. Nowhere is this more true than among island nations and regions. It is no wonder that UNESCO chose an island off the coast of Spain – El Hierro - to recently sign a declaration calling for the global transition to 100% renewable energy.<sup>5</sup> Hawaii will be the most populated island with an independent grid to set a 100% renewable electricity target and as such, will become a global leader.

But Hawaii will not be entirely alone as a frontrunner. Countries and regions in Europe, along with counties and cities across the U.S., Australia, Asia, and elsewhere are pursuing targets of up to 100% renewable power and beyond, and a wealth of information on best practices is becoming available, along with numerous potential allies with whom Hawaii stands to benefit from collaboration and knowledge exchange.

5. *Supporting the state's clean energy development in other sectors* – By transitioning electricity generation to renewables, Hawaii can also help advance clean energy adoption in other sectors. For example, electric vehicles can become truly emissions free. Excess renewable power generation may also be used to make hydrogen or synthetic methane, which can, in turn, be used to power fuel cells or be injected into the natural gas grid.

## **Conclusion**

The targets set forth in SB 623 to adopt a renewable portfolio standard in Hawaii of up to 100% by 2045 are groundbreaking, achievable, and make sound economic sense. They should be adopted as part of a comprehensive climate and energy policy that lays out parallel targets and roadmaps for all the critical components of transitioning to a sustainable future, including distributed generation of renewable electricity, renewable heating and cooling, meaningful greenhouse gas reduction, efficiency improvements, energy storage, load management upgrades, clean transportation, zero waste, sustainable and petroleum-free agriculture, protecting Hawaii's carbon sinks, and climate adaptation strategies. SB 623 is a critical step in this process and stands to be a cornerstone of Hawaii's climate and energy leadership in the 21<sup>st</sup> century.

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<sup>5</sup> The declaration was signed at the 2014 Renisla Forum on the Island of El Hierro off the coast of Spain. El Hierro is on track to achieve 100% renewable electricity. See: [http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0CDAQFjAD&url=http%3A%2F%2Fwww.go100percent.org%2Fcms%2Findex.php%3Fid%3D120%26tx\\_ttnews%255Btt\\_news%255D%3D350%26cHash%3D8fe9ed4bd272c3c57b3989054164e4b2&ei=jscDVZyYEtXnoASTg4CgCw&usq=AFQjCNGBmM8kebTtYocr9vEqq4SyhVIRLQ&bvm=bv.88198703.d.cGU](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0CDAQFjAD&url=http%3A%2F%2Fwww.go100percent.org%2Fcms%2Findex.php%3Fid%3D120%26tx_ttnews%255Btt_news%255D%3D350%26cHash%3D8fe9ed4bd272c3c57b3989054164e4b2&ei=jscDVZyYEtXnoASTg4CgCw&usq=AFQjCNGBmM8kebTtYocr9vEqq4SyhVIRLQ&bvm=bv.88198703.d.cGU)