



21 April 2021

Before the Oregon House Committee on Energy and Environment

HB 2021 Clean Energy Amendments, 22 March 2021

Chair Pam Marsh and Members of the Committee

Urgency to take action with a transition to clean energy in Oregon stems from

- a) Utility cost savings as the cost of renewable and zero carbon energy continues to decline,
- b) Inaction in reducing carbon emissions in Oregon since 1990,
- c) Acknowledgment that carbon emissions in the energy sector must be displaced roughly 5% per year by 2030, as established by best available science
- d) A sense of undeclared emergency expressed by math predictions that explain the consequences of continued policy procrastination.

<https://grist.org/climate/flatten-the-curve-coronavirus-climate-emissions/>

The two amendments offered, -3 and -1, are by no means comparable.

Amendment -3

As we have learned to regret, renewable energy as incited by the Renewable Portfolio Standard (RPS) includes many kinds of carbon-sourced energy that produce carbon from combustion. There is no stated exclusion of carbon emitting energy, so for this reason alone, Amendment -3 is inconsistent with the call for a 100% Clean Energy Bill. The percent goals set by the standard were laudable in the early years but will not serve the risky future we now understand.

In Oregon the RPS is set by Oregon Revised Statute 469A.052 and looks like this (paraphrased):

- a. At least 5% of electricity sold by 2014 must be from an electric utility renewable source,
- b. At least 15% of electricity sold 2015 – 2019 must be from an electric utility renewable source,
- c. At least 15% of electricity sold 2020 – 2024 must be from an electric utility renewable source,
- d. At least 25% of electricity sold after 2025 from a consumer-owned utility must be renewable,
- e. At least 27% of retail electricity sold from 2026 to 2029 must be renewable,
- f. At least 35% of retail electricity sold from 2030 to 2034 must be renewable,
- g. At least 45 of retail electricity sold from 2035 to 2039 must be renewable,
- h. At least 50% of retail electricity sold from 2040 and on must be renewable.

These goals have been overcome by more urgent goals in 2021, by Oregon policy and the UN Environmental Programme.



This Amendment defines “carbon-free,” not to exclude counterproductive carbon renewables but rather to reframe nuclear energy within a new Clean Energy Standard. Nuclear energy is problematic due to the forever-unsolved need to secure waste products safely. Nevertheless, given the undeclared climate emergency, existing nuclear sourcing can provide much needed zero-carbon energy as fossil and other carbon energy sources draw down during the transition to affordable nonemitting energy.

Progress in reducing emissions is measured in millions of metric tons of CO2 equivalent (mmt CO2e) reduced. Neither the RPS nor Amendment -3 have been characterized by the expected quantity of emissions to be reduced. This leaves the advantages of this Amendment to speculation. In California, the effectiveness of the RPS program in reducing emissions appears to be slight (please see Appendix).

It’s difficult to see why Amendment -3 would produce 100% Clean Energy in a beneficial timeframe.

Amendment -1

This Amendment has a better chance.

- a) Charters the Oregon Public Utilities Commission to call for clean energy targets (Section 3) and plans (Section 4), for formal acknowledgment of compliance with this bill,
- b) Charters the Environmental Quality Commission to report utility compliance with targets and plans,
- c) Charters the PUC (Section 4) to task the EQC (Section 4) and DOE (Section 15) to require utilities to transition to “nonemitting” electricity by target dates.
- d) Defines “nonemitting” energy to exclude carbon energy otherwise allowed by RPS,
- e) Takes the existing Oregon RPS program as-is without modification,
- f) Establishes better and sooner clean energy goals.

The mandated goals of HB 2021-1 are better and sooner than the goals from the Greenhouse Gas Executive Order (20-04).

	Goal		Target
1	EO 20-04	Compared to 1990 baseline	
		Cut all emissions 45%	By 2035
		Cut all emissions 80%	By 2050
2	HB 2021-1	‘Baseline emissions level’ means the average annual emissions of greenhouse gas for the years 2010, 2011 and 2012 associated with the electricity sold to retail electricity consumers ...	
		Cut electricity emissions 40%	By 2025
		Cut electricity emissions 80%	By 2030
		Cut electricity emissions 90%	By 2035
		100% nonemitting energy	By 2040
3	UNEP	Compared to 2010	
		Cut all emissions 45%	By 2030



Amendment -1 calls for submittal by utilities of clean energy targets (Section 3) and plans (Section 4), to the Oregon PUC for formal acknowledgment of compliance with this bill.

Compliance will be determined by the Environmental Quality Commission and reported by the EQC to the OPUC (Section 5). Reduction in power quality or reliability invalidates compliance.

Amendment -1 clearly defines responsibilities, authorities, targets and plans that assure 100% Clean Energy on time.

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APPENDIX

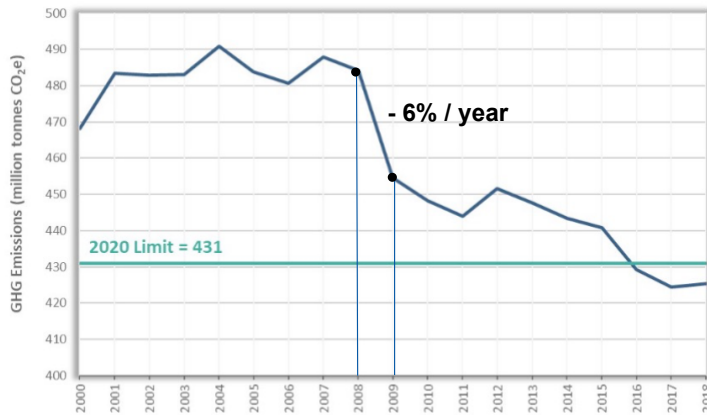
By how much have California emissions been reduced by their Renewable Portfolio Standards (RPS) carbon offset trading and other emission reduction efforts ?

Compute historical emissions reductions in California since 2000

Ref: California Greenhouse Gas Emissions for 2000 to 2018, 2020 Edition

https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf

A historical record is given in Figure 1.



Best emissions reduction apparently followed the Bush / Greenspan sub-prime mortgage crisis in 2009, with carbon emissions cut by 6% that year.

Figure 1. California's GHG emissions, 2000-2018. This graph shows California's annual GHG emissions from 2000 to 2018 in relation to the 2020 GHG Limit required by the California Global Warming Solutions Act (Assembly Bill 32). In 2016, California's GHG emissions dropped below the 2020 GHG Limit and have remained below the 2020 GHG Limit since that time.

GHG Emissions in 2000: 468 mmt CO₂e
 GHG Emissions in 2018: 426 mmt CO₂e
 Decline in 18 years: 42 mmt CO₂e

Annual emissions reduction per year = 42 / 18 = 2.3 mmt CO₂e



Expressed as a % we get $42 / 468 = 0.09 = 9\%$ over 18 years

California GHG emissions reduction programs average 0.5% per year.

Considering other emissions reductions programs like Low Carbon Fuel Standards and Cap and trade, RPS program effectiveness would be way under 0.5%. Results from RPS policy engaged in Oregon, once made available, would not likely exceed the California numbers.

[Best annual carbon reduction followed the 2009 Bush Sub-prime Mortgage Crisis, resulting in a CA emissions cut by 6%.]