

Operation 2030: Scaling Building Decarbonization in Washington State

Washington state has set aggressive carbon emissions limits to stave off the worst effects of climate change. To achieve 2050 economy-wide emissions limits between 2020 to 2050, building sector emissions must decrease by approximately **96% below 2020 levels**. To meet that target, the state must decarbonize, maximize efficiency, and increase demand flexibility in more than three million buildings and homes.

Every year that we wait, the more costly and disruptive the transition will be. If we do not start rapidly replacing fossil fuel-powered equipment with clean electric appliances, we commit to decades of fossil fuel use that will not be easy to unwind.

We **must transform the market** by building a policy platform and the necessary institutional and market capacity no later than 2030, while also decarbonizing as many buildings and housing units as possible.

Market transformation by 2030 delivers building decarbonization by 2050.



An analysis of the scenarios modeled in the Washington 2021

State Energy Strategy suggests **this ambitious goal is achievable** if state policymakers, market actors, advocates, implementers, and other stakeholders unite behind shared strategies. *Operation 2030* offers the interconnected and precise timing of various **steps required to implement a building decarbonization strategy** from now until 2030.

Three Key Phases to Decarbonize Buildings



With such a short timeframe, it is imperative **to quickly build an actionable consensus** around the lowest cost, most strategic approach to building decarbonization and start operationalizing it as soon as possible.

Decarbonization requires **market innovation** at all levels to dramatically reduce the cost and pace of zero net carbon construction and retrofits. Our success will be gauged against four fundamental and interconnected outcomes that **must be achieved by 2030**:

1. Building sector emissions are **60% less** than 2020.
2. New and replacement **space and water heating** equipment produce **zero emissions**.
3. The transformation is strategically designed, managed, and tracked to support **equitable outcomes**.
4. The market is capable of decarbonizing the building stock at the **target retrofit rate**.¹

Proposed Targets for Decarbonizing Washington’s Building Stock

Targets	2025	2030	2035	2040	2045	2050
Total Building Sector Emissions Reduction	18%	60%	72%	82%	89%	96%
Commercial Zero Net Carbon New Construction	50%	75%	100%	100%	100%	100%
Commercial Zero Net Carbon Retrofits (% sq. ft. per year)	1.2%	1.8%	1.7%	1.7%	1.6%	1.6%
Commercial Zero Net Carbon Retrofits (million sq. ft. per year)	24M	38M	38M	39M	40M	40M
Residential Zero Net Carbon New Construction	74%	100%	100%	100%	100%	100%
Residential Zero Net Carbon Retrofits (% units per year)	1.3%	3.1%	3.0%	2.8%	2.7%	2.3%
Residential Zero Net Carbon Retrofits (units per year)	42,000	110,000	110,000	110,000	110,000	99,000

Source: 2050 Institute analysis using building population forecasts from the 2021 Northwest Power Plan https://www.nwcouncil.org/2021powerplan_forecast-housing-stock and https://www.nwcouncil.org/2021powerplan_forecast-commercial-floor-space-requirements#_ftnref1 and projected energy use and sales shares from the deep decarbonization modeling performed for the Washington 2021 State Energy Strategy <https://www.cleanenergytransition.org/files/wa-ddp-building-sector-energy-use-and-sales-shares>.

The data show that **electrification is the most efficient and cost-effective** building decarbonization strategy for Washington state. Under an electrification scenario, energy-efficient buildings become a critical resource for a rapidly decarbonizing grid.

While challenging, these circumstances **offer an opportunity** for deep investment in market innovation, economic growth, and community resilience, as well as bold shifts in how Washington regulates, incentivizes, and funds building performance and decarbonization. Operation 2030 is intended to help chart this path with a specific emphasis on **time-critical strategic decisions and actions** that must take place between now and 2030 to set the state up to achieve its 2050 emission targets.

Learn more and get involved here: [Operation 2030: Scaling Building Decarbonization in Washington](#)

¹ Retrofit rates must increase rapidly this decade, ultimately reaching 3.1% of residential units and 1.8% of existing commercial building stock square footage by 2030.