

High Impact Action Analysis Summary Report: Olympia, WA 2019

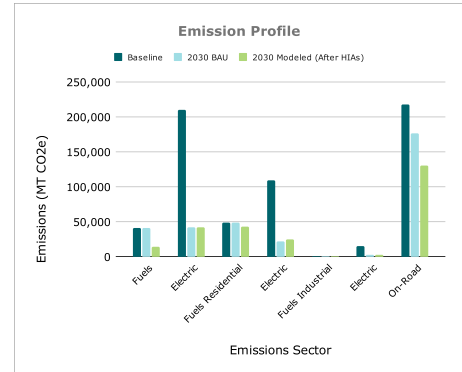


SBTs and Emissions Goals	2030 Per Capita	2030 Absolute	Baseline Scope 1 & 2 (MT CO2e)	2030 Scope 1 & 2 (MT CO2e)
	62.8%	59.0%	645,456	264,418

Growth Rates	Commercial	Residential	Industrial	On-Road Transportation	Grid Decarbonization
	Population Growth	Population Growth	Population Growth	Population Growth	CES
	10.19%	10.19%	10.19%	10.19%	-80.00%

Abbreviation Key	
SBT	Science-Based Target
HIA	High Impact Actions
VMT	Vehicle Miles Traveled
EV	Electric Vehicles
SF	Square Feet (ft ²)
EB	Existing Buildings

	Baseline & Forecasted Emissions			Modeled Emissions (After HIAs)	
	Baseline Emissions (MT CO2e)	% of total (Adjusted)	2030 Forecasted Emissions (MT CO2e)	2030 Modeled Emissions (MT CO2e)	Percent Change
Fuels Commercial	40,490	6%	40,847	13,767	-66.3%
Electric Commercial	209,750	32%	42,320	42,325	0.0%
Fuels Residential	48,207	7%	48,632	42,904	-11.8%
Electric Residential	109,009	16%	21,994	24,317	10.6%
Fuels Industrial	675	0%	681	681	0.0%
Electric Industrial	14,836	2%	2,993	2,993	0.0%
On-Road Transportation	218,017	33%	176,773	130,149	-26.4%
Sum of Primary Sectors	640,984	97%	334,241	257,137	-23.1%
Inventory Total	660,731	-	-	-	-



HIA Overview				
Type	Name	Net Reduction (MT CO2e)	Description	Explanation/Source
Grid Decarbonization	CES	294,071	Clean Energy Standard: 80% Reduction in carbon intensity (kg CO2/MWH) by 2030.	General Clean Energy Standard Goal
	High Level VMT Reduction	8,839	5% Reduction in total VMT	Reduction from grid decarbonization occurs within the 2030 forecast, before other High-Impact Actions are modeled. Generic moderate baseline
On-Road Electric Vehicles Adoption	Moderate (4.5% Annual Growth)	33,971	22.5% of VMT is EV by 2030. This action influences an increase in Residential & Commercial buildings electricity emissions.	Middleground of BAU and aggressive approaches, https://evadoption.com/ev-sales/ev-sales-forecasts/
Commercial Building Efficiency	IECC 2018	1,842	All new buildings including 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (36.95% reduction in building EUI)	https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-28125.pdf https://www.eia.gov/consumption/commercial/data/2012/cse/pdf/e2.pdf
Residential Building Efficiency	IECC 2018	957	All new buildings including 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (36.95% reduction in building EUI)	https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-28125.pdf https://www.eia.gov/consumption/commercial/data/2012/cse/pdf/e2.pdf
Commercial Building Electrification	New + 6% EB Electrified	25,996	All new buildings & 6% Existing Sq FT per year are electrified. This action influences an increase in Commercial buildings electricity emissions.	Based on a combination of other scenarios: 1. All new buildings & 1% Existing Sq FT per year are electrified. Based on % of building stock experiencing major retrofit or replacement each year. https://www.schroders.com/en/syglobalassets/digital/real-estate-de/publications/2-pages-from-property-chronicle-q6_online-2.pdf 2. 5% of existing SF per year is electrified. Because heating systems are replaced at a minimum of 10 years, this scenario represents half replacement with all electric heating systems. https://www.energystar.gov/campaign/heating_cooling/replace
Residential Building Electrification	New Buildings, All Electric	5,499	All new buildings & 1% Existing Sq FT per year are electrified. This action influences an increase in Residential buildings electricity emissions.	Based on % of building stock experiencing major retrofit or replacement each year. https://www.schroders.com/en/syglobalassets/digital/real-estate-de/publications/2-pages-from-property-chronicle-q6_online-2.pdf

2030 Outlook	2030 Absolute SBT	59.0%	2030 Per Capita SBT	62.8%
	Reduction Achieved (Absolute)	59.9%	Reduction Achieved (Per Capita)	63.6%
	Percent To Go (Absolute)	-0.9%	Percent To Go (Per Capita)	-0.8%

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