



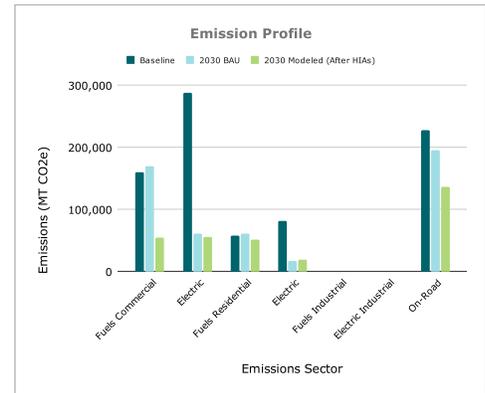
### High Impact Action Analysis Summary Report: La Crosse, WI 2019

SBTs and Emissions Goals	2030 Per Capita	2030 Absolute	Baseline Scope 1 & 2 (MT CO2e)	2030 Scope 1 & 2 (MT CO2e)
	62.8%	60.8%	835,861	328,073

Growth Rates	Commercial	Residential	Industrial	On-Road Transportation	Grid Decarbonization
	Population Growth	Population Growth	Population Growth	Population Growth	CES
	5.57%	5.57%	5.57%	5.57%	-80.00%

Abbreviation Key	
SBT	Science-Based Target
HIA	High Impact Actions
VMT	Vehicle Miles Traveled
EV	Electric Vehicles
SF	Square Feet (ft <sup>2</sup> )
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
<b>Fuels Commercial</b>	160,449	8%	169,391	54,553	-67.8%
<b>Electric Commercial</b>	287,686	15%	60,744	55,603	-8.5%
<b>Fuels Residential</b>	57,810	3%	61,032	51,451	-15.7%
<b>Electric Residential</b>	81,331	4%	17,173	19,531	13.7%
<b>Fuels Industrial</b>	-	0%	0	0	0.0%
<b>Electric Industrial</b>	-	0%	0	0	0.0%
<b>On-Road Transportation</b>	227,430	12%	195,074	136,064	-30.3%
<b>Sum of Primary Sectors</b>	814,706	43%	503,414	317,202	-37.0%
<b>Inventory Total</b>	1,888,926	-	-	-	-



HIA Overview				
Type	Name	Net Reduction (MT CO2e)	Description	Explanation/Source
<b>Grid Decarbonization</b>	CES	311,666	Clean Energy Standard: 80% Reduction in carbon intensity (kg CO2/MWh) by 2030.	General Clean Energy Standard Goal
	Aggressive (10% VMT Reduction)	19,507	10% Reduction in total VMT	Reduction from grid decarbonization occurs within the 2030 forecast, before other High-Impact Actions are modeled. Generic aggressive baseline
<b>On-Road Electric Vehicles Adoption</b>	Moderate (4.5% Annual Growth)	35,759	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, <a href="https://evadoption.com/ev-sales/ev-sales-forecasts/">https://evadoption.com/ev-sales/ev-sales-forecasts/</a>
<b>Commercial Building Efficiency</b>	IECC New + 5% Existing	10,205	All new buildings and 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (36.95% reduction in building EUI) & 5% Existing Sq FT (renovations and turnover) EUI is reduced by 20%.	<a href="https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-28125.pdf">https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-28125.pdf</a> <a href="https://www.eia.gov/consumption/commercial/data/2017/cse/pdf/e2.pdf">https://www.eia.gov/consumption/commercial/data/2017/cse/pdf/e2.pdf</a>
<b>Residential Building Efficiency</b>	IECC 2018	996	All new buildings including 1% of existing Sq FT (renovations and turnover) will meet IECC 2018 (36.95% reduction in building EUI)	<a href="https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-28125.pdf">https://www.pnnl.gov/main/publications/external/technical_reports/PNNL-28125.pdf</a> <a href="https://www.eia.gov/consumption/commercial/data/2017/cse/pdf/e2.pdf">https://www.eia.gov/consumption/commercial/data/2017/cse/pdf/e2.pdf</a>
<b>Commercial Building Electrification</b>	New + 6% EB Electrified	110,522	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. <a href="https://www.schroders.com/en/ny/globalassets/digital/real-estate-de/publications/2_-_pages-from-property-chronicle-q6_online-2.pdf">https://www.schroders.com/en/ny/globalassets/digital/real-estate-de/publications/2_-_pages-from-property-chronicle-q6_online-2.pdf</a> 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. <a href="https://www.energystar.gov/campaign/heating_cooling/replace">https://www.energystar.gov/campaign/heating_cooling/replace</a>
<b>Residential Building Electrification</b>	New Buildings, All Electric	9,221	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. <a href="https://www.schroders.com/en/ny/globalassets/digital/real-estate-de/publications/2_-_pages-from-property-chronicle-q6_online-2.pdf">https://www.schroders.com/en/ny/globalassets/digital/real-estate-de/publications/2_-_pages-from-property-chronicle-q6_online-2.pdf</a>

2030 Outlook	2030 Absolute SBT	60.8%	2030 Per Capita SBT	62.8%
	Reduction Achieved (Absolute)	61.1%	Reduction Achieved (Per Capita)	63.1%
	Percent To Go (Absolute)	-0.32%	Percent To Go (Per Capita)	-0.30%

