Lake Forest Park Wedge Analysis

Wedge Analysis Overview

This City of Lake Forest Park Wedge Analysis Summary Report summarizes the findings from a greenhouse gas (GHG) emissions forecast—or wedge analysis—and illustrates emissions reduction scenarios for Lake Forest Park's communitywide GHG emissions. Communitywide GHG emissions include quantified emissions from the city's residents, visitors, businesses, and municipal operations, often focusing on the emissions produced within the city's geographic boundaries. For more information on Lake Forest Park's communitywide and municipal operations GHG emissions, see the 2025 Lake Forest Park Greenhouse Gas Inventory Report.

A wedge analysis can help a community understand its expected future emissions, anticipated emissions reductions from federal, state, and regional policy, and potential emissions reductions from local climate policy—which can help inform local planning. This customized wedge analysis was created for Lake Forest Park, adapted from an analysis completed for King County and all cities within King County.

The wedge analyses forecasted the following scenarios:

- **Business-as-usual (BAU**) scenario, which forecasts emissions based on Lake Forest Park's 2023 GHG emissions profile and growth assumptions, assuming no climate action at the local, state, or federal level.
- **Adjusted business-as-usual (ABAU)** scenario, which accounts for the expected emissions impacts of key federal and state policies (still assuming no climate action at the local level).
- **Local action** scenario, which models the expected impact of key Climate Element policies and actions on the remaining emissions.

This model visualizes the following **emissions reduction targets** (compared to a 2019 baseline):[1]

- 50% by 2030
- 75% by 2040
- 95% and net zero by 2050

[1] With the development of the City's Climate Element, it was recommended to the City to update its GHG emissions reductions targets to compare against a 2019 baseline, rather than 2007, to have a baseline year for which the City has actual GHG inventory data.

FUNDED BY WASHINGTON'S CLIMATE COMMITMENT ACT

The City of Lake Forest Park Climate Element is supported with funding from Washington's Climate Commitment Act. The CCA supports Washington's climate action efforts by putting cap-and-invest dollars to work reducing climate pollution, creating jobs, and improving public health. Information about the CCA is available at www.climate.wa.gov.

This memo details the results from the three scenarios described above for **two sets of GHG emissions sources**: "core" and "all." The table below illustrates the emissions sources included in each category.

Emissions Source	Core Emissions	All Emissions
Electricity	**X**	**X**
Natural Gas	**X**	**X**
Fuel Oil	-	**X**
Propane	-	**X**
On-Road Vehicles	**X**	**X**
Air Travel	-	**X**
Off-Road Equipment	-	**X**
Landfill	**X**	**X**
Compost	**X**	**X**
Tree Loss	-	**X**
Refrigerants	-	**X**

In the Washington State Department of Commerce ("Commerce") 11-county GHG emissions inventory (which is currently underway and the Lake Forest Park project builds upon), "core emissions" are defined as emissions produced by sectors most commonly included in community greenhouse gas inventories and over which local governments often have the most influence (e.g., through local policy mechanisms such as local codes/regulations). While tree loss, air travel, and some other emissions sources are not included in the core emissions scenario, Commerce still strongly encourages local jurisdictions to consider Comprehensive Plan policies to address emissions from these sources. Such policies will support co-benefits such as clean air and water and improve resilience. Tree canopy and tree loss are especially important topics for the Lake Forest Park community; policies that protect and expand tree canopy can support carbon sequestration, stormwater management, and public health.

This summary report includes sections for both the "core" and "all" emissions forecasts.

Wedge Analysis: Core Emissions

The City and community have more direct control over Lake Forest Park's "core" emissions, which include the following sources:

- Electricity
- Natural gas
- On-road vehicles
- Landfill generation and disposal
- Compost generation and disposal

Key takeaways from the wedge analysis (core emissions), presented in Figure 1 and Table 1, include the following:

- **BAU:** Without federal, state, or local climate action, Lake Forest Park's total GHG emissions are expected to increase 26% by 2050, compared to a 2019 baseline.
- **ABAU:** When considering the anticipated impacts of federal, state, and regional policies, Lake Forest Park's total GHG emissions are expected to decrease 56% by 2050, compared to a 2019 baseline.
- **Local action:** When considering the anticipated impacts of seven key Climate Element strategies, Lake Forest Park's total GHG emissions are expected to decrease 65% by 2050, compared to a 2019 baseline.[2]
- **Remaining emissions:** By 2050, natural gas is expected to be the largest source of remaining emissions.

[2] Note that some Climate Element policies are derived from Lake Forest Park's Climate Action Plan strategies and actions.

Figure 1. Lake Forest Park's wedge analysis through 2050 (core emissions; $MTCO_2e$).

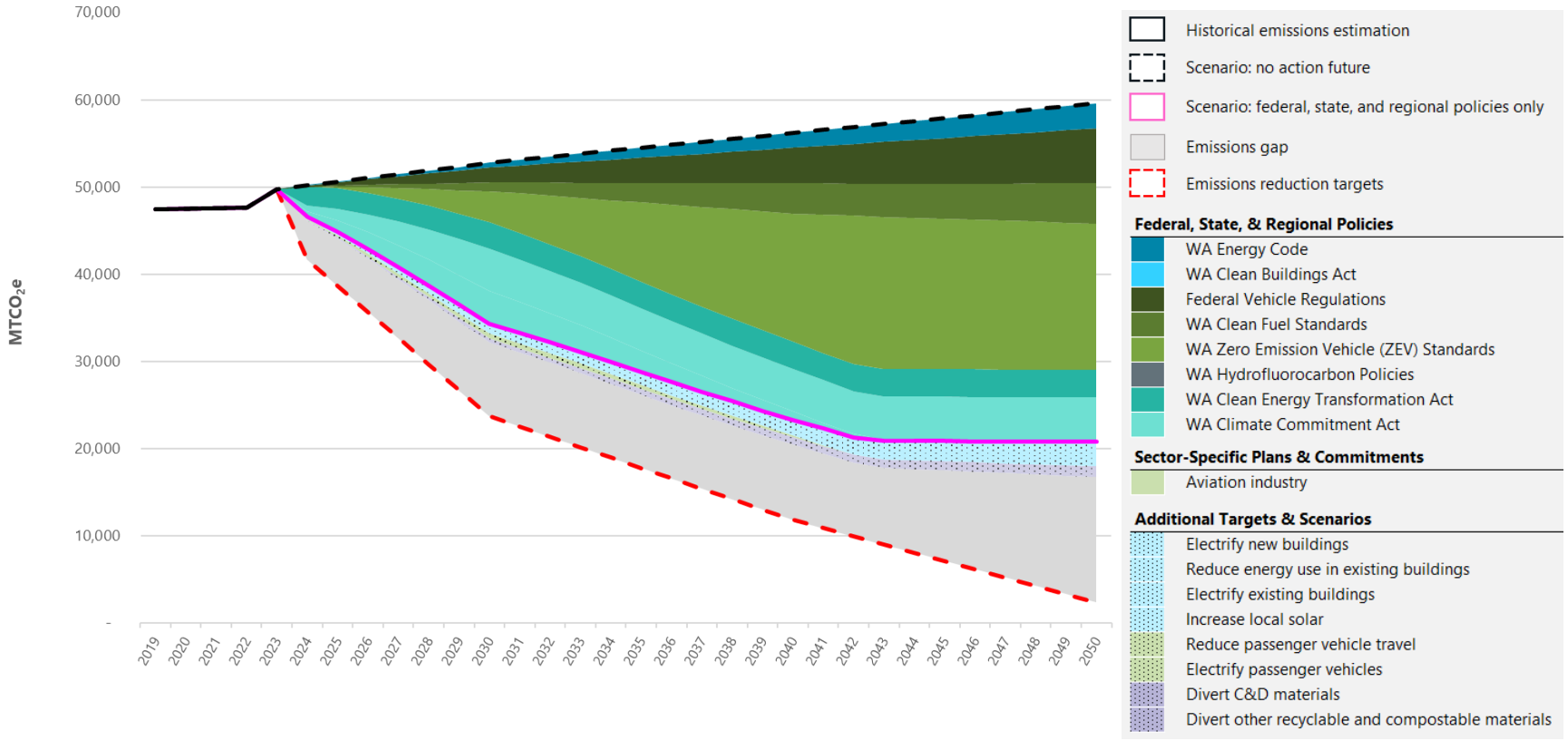

Table 1. Summary of emissions forecast estimates through 2050 (core emissions; $MTCO_2e$).

Description	2019	2030	2040	2050
Business-as-usual (BAU) emissions – emissions forecast based on Lake Forest Park's 2023 GHG emissions profile, assuming no climate action (programs, policies, standards) at the local, state, or federal level.	47,427	52,807	56,206	59,605
Adjusted business-as-usual (ABAU) emissions – adjusted BAU forecast to account for the impacts of key adopted federal, state, and regional policies (still assuming no climate action at the local level). See below for emissions reductions associated with each policy.	47,427	34,268	23,308	20,795
WA Clean Energy Transformation Act	-	*3,044*	*3,113*	*3,182*
WA Energy Code	-	*580*	*1,723*	*2,866*
WA Clean Buildings Act	-	-	-	-
Federal Vehicle Regulations	-	*1,696*	*4,085*	*6,338*
WA Clean Fuel Standards	-	*1,016*	*3,472*	*4,587*
WA Zero Emission Vehicle (ZEV) Standards	-	*3,576*	*14,688*	*16,770*
WA Climate Commitment Act	-	*8,627*	*5,817*	*5,067*
Difference between BAU and ABAU scenario (emissions reductions from BAU)	**-**	***18,539***	***32,898***	***38,809***
Action scenario – adjusted ABAU forecast which accounts for the forecasted impacts of Climate Element policies. See below for emissions reductions associated with each policy.	47,427	32,150	20,490	16,732
Reduce energy use in existing buildings	-	*473*	*788*	*1,261*
Electrify existing buildings	-	*613*	*1,001*	*1,555*
Increase local solar	-	-	-	-
Reduce passenger vehicle travel	-	*546*	*206*	-
Divert other recyclable and compostable materials	-	*486*	*823*	*1,248*
Difference between ABAU and local action scenario (emissions reductions from ABAU)	**-**	***2,117***	***2,818***	***4,064***

Some key findings from this analysis include the following:

- Electricity emissions are expected to be reduced to zero by 2030, assuming that electric utilities fully comply with the WA Clean Energy Transformation Act (CETA).
    - Because of the impact of CETA, "increase local solar" shows zero emissions savings in Table 1; local solar has other benefits, but it would be replacing another source of electricity that also produces no GHG emissions so does not show a net change in emissions.
- There are no projected emissions reductions from the Clean Buildings Act beyond what is projected from the WA Energy Code.
- On-road vehicle emissions are expected to be reduced significantly through the modeled federal and state transportation policies.
    - Because of the impact of federal and state transportation policies, "reduce passenger vehicle travel" at the local level shows no emissions reductions in 2050 (but does show an impact in earlier milestone years), as it does not exceed the emissions reductions already captured by federal and state policy.
- By 2050, building natural gas[3] is expected to be the highest source of remaining emissions in Lake Forest Park (approximately 15,358 $MTCO_2e$ or 92% of remaining emissions). Total remaining emissions are estimated to be 16,732 $MTCO_2e$.

[3] Natural gas emissions from buildings stem from natural gas used to heat and power homes and buildings in the community.

Wedge Analysis: All Emissions

This section presents the wedge analysis results when including at "all" emissions, which include the following sources:

- Electricity
- Natural Gas
- Fuel Oil
- Propane
- On-Road Vehicles
- Air travel
- Off-Road Equipment
- Landfill generation and disposal
- Compost generation and disposal
- Tree loss
- Refrigerants

Key takeaways from the **wedge analysis (all emissions)**, presented in Figure 2 and Table 2, include the following:

- **BAU:** Without federal, state, or local climate action, Lake Forest Park's total GHG emissions are expected to increase 19% by 2050, compared to a 2019 baseline.
- **ABAU:** When considering the anticipated impacts of federal, state, and regional policies, Lake Forest Park's total GHG emissions are expected to decrease 32% by 2050, compared to a 2019 baseline.
- **Local action:** When considering the anticipated impacts of key Climate Element strategies, Lake Forest Park's total GHG emissions are expected to decrease 56% by 2050, compared to a 2019 baseline.[4]
- **Remaining emissions:** By 2050, aviation is expected to be the largest source of remaining emissions, followed by natural gas.

[4] Note that some Climate Element policies are derived from Lake Forest Park's Climate Action Plan strategies and actions.

Figure 2. Lake Forest Park's wedge analysis through 2050 (all emissions; $MTCO_2e$).

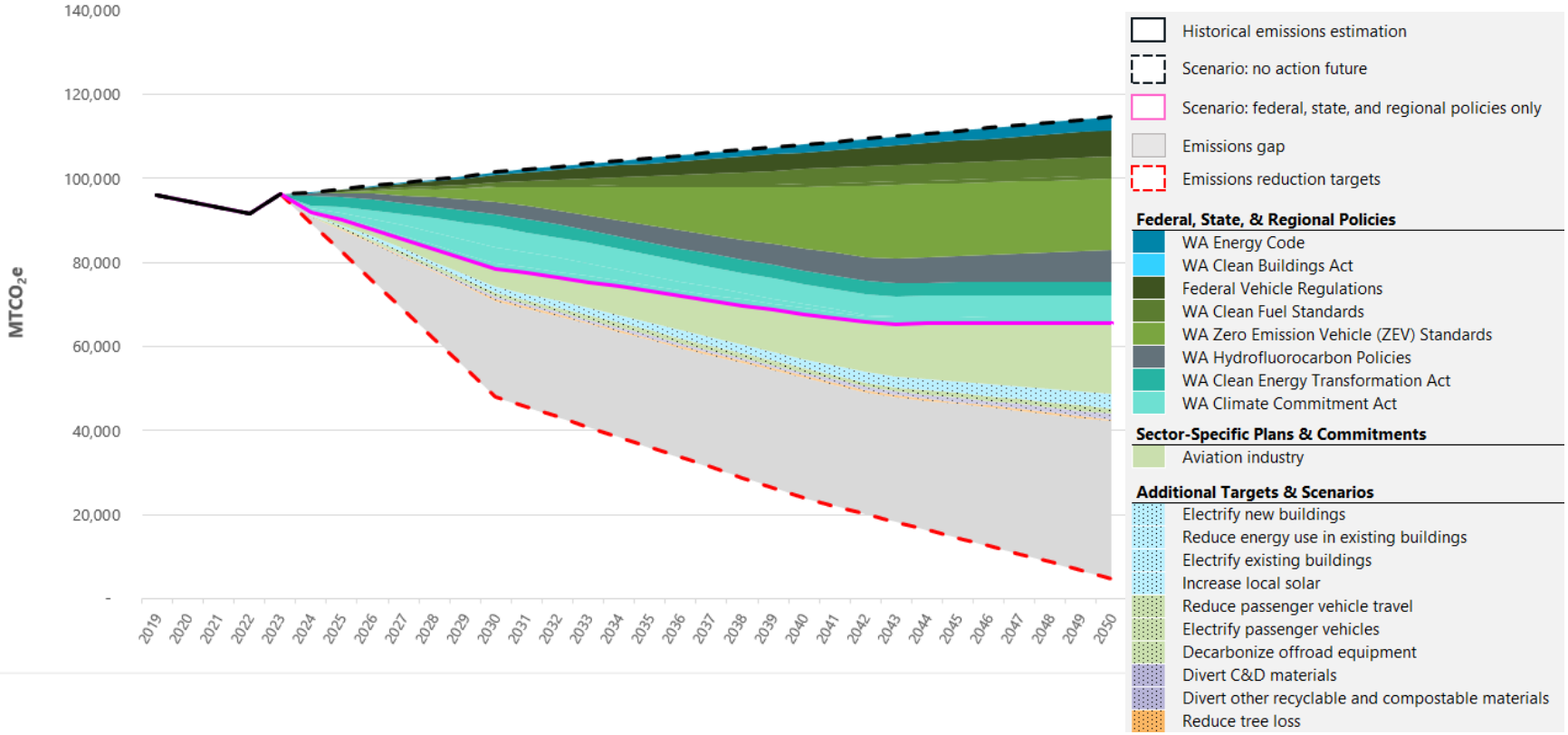

Table 2. Summary of emissions forecast estimates through 2050 (all emissions; $MTCO_2e$).

Description	2019	2030	2040	2050
Business-as-usual (BAU) emissions – emissions forecast based on Lake Forest Park's 2023 GHG emissions profile, assuming no climate action (programs, policies, standards) at the local, state, or federal level.	95,996	101,539	108,073	114,607
Adjusted business-as-usual (ABAU) emissions – adjusted BAU forecast to account for the impacts of key adopted federal, state, and regional policies (still assuming no climate action at the local level). See below for emissions reductions associated with each policy.	95,996	78,449	67,660	65,696
WA Clean Energy Transformation Act	-	*3,044*	*3,113*	*3,182*
WA Energy Code	-	*639*	*1,832*	*3,085*
WA Clean Buildings Act	-	-	-	-
Federal Vehicle Regulations	-	*1,696*	*4,085*	*6,338*
WA Clean Fuel Standards	-	*1,252*	*4,190*	*5,348*
WA Zero Emission Vehicle (ZEV) Standards	-	*3,576*	*14,688*	*16,770*
WA Hydrofluorocarbon Policies	-	*2,906*	*5,252*	*7,599*
WA Climate Commitment Act	-	*9,977*	*7,254*	*6,590*
Difference between BAU and ABAU scenario (emissions reductions from BAU)	**-**	***23,090***	***40,414***	***48,912***
Action scenario – adjusted ABAU forecast which accounts for the forecasted impacts of Climate Element policies and aviation industry commitments. See below for emissions reductions associated with each policy.	95,996	70,762	52,514	42,164
Aviation industry	-	*4,303*	*10,582*	*16,914*
Reduce energy use in existing buildings	-	*584*	*973*	*1,558*
Electrify existing buildings	-	*757*	*1,237*	*1,921*
Increase local solar	-	-	-	-
Reduce passenger vehicle travel	-	*546*	*206*	-
Decarbonize offroad equipment	-	*502*	*814*	*1,381*
Divert other recyclable and compostable materials	-	*486*	*823*	*1,248*
Reduce tree loss	-	*510*	*510*	*510*
Difference between ABAU and local action scenario (emissions reductions from ABAU)	**-**	***7,687***	***15,146***	***23,532***

Some key findings from this analysis include the following:

- Electricity emissions are expected to be reduced to zero by 2030, assuming that electric utilities fully comply with the WA Clean Energy Transformation Act (CETA).
    - Because of the impact of CETA, "increase local solar" shows zero emissions savings in Table 2Table 1; local solar has other benefits, but it would be replacing another source of electricity that also produces no GHG emissions so does not show a net change in emissions.
- There are no projected emissions reductions from the Clean Buildings Act beyond what is projected from the WA Energy Code.
- On-road vehicle emissions are expected to be reduced significantly through the modeled federal and state transportation policies.
    - Because of the impact of federal and state transportation policies, "reduce passenger vehicle travel" at the local level shows no emissions reductions in 2050 (but does show an impact in earlier milestone years), as it does not exceed the emissions reductions already captured by federal and state policy.
- By 2050, aviation and building natural gas[5] are expected to be the highest sources of remaining emissions in Lake Forest Park (aviation accounts for an estimated 17,064 $MTCO_2e$ or 40% of remaining emissions, and natural gas accounts for an estimated 15,358 $MTCO_2e$ or 36% of remaining emissions). Total remaining emissions are estimated to be 42,164 $MTCO_2e$.

[5] Natural gas emissions from buildings stem from natural gas used to heat and power homes and buildings in the community.

Wedge Analysis Details & Assumptions

BAU Forecast Growth Rates

The model forecasted Lake Forest Park's future emissions using projected changes in the following demographics from PSRC, alongside King County growth targets and the American Community Survey (ACS) estimates from the U.S. Census:

- The number of people who live in Lake Forest Park (Population)
- The number of people who work in Lake Forest Park (Employment)
- The number of people who live and/or work in Lake Forest Park (Service Population)

Table 3. Projected changes in Lake Forest Park's demographics.

	2023	2030	2040	2050
Population	13,356	13,994	14,906	15,818
Employment	1,990	2,360	2,500	2,640
Service Population	15,456	16,354	17,406	18,458

ABAU Policy Assumptions

The ABAU forecast adjusts the BAU forecast to account for the impacts of adopted federal and state policies (still assuming no climate action at the local level). The emission reductions associated with these policies count toward Lake Forest Park's overall emission reductions and progress towards targets.

The ABAU scenario included consideration of the following federal, state, and regional policies:

- Washington State Energy Code (SB 5854)
- Washington Clean Buildings Act (HB 1257)
- Federal Vehicle Regulations (CAFE)
- WA Clean Fuel Standard (HB 1091)
- WA Zero Emission Vehicle (ZEV) Standards
- WA Hydrofluorocarbon Policies (HB 1112 & HB 1050)
- WA Clean Energy Transformation Act (CETA)
- WA Climate Commitment Act (E2SSB 5126)

See below for additional information regarding policy interpretation and assumptions.

WA ENERGY CODE (SB 5854)

Overview: SB 5854 requires residential and nonresidential construction permitted under the 2031 state energy code to achieve a 70% reduction in annual net energy consumption (compared to a

2006 baseline). State energy codes will be adopted from 2013-2031 to incrementally move towards achieving the 70% reduction by 2031.

Modeling Assumptions: New construction in 2031 and beyond will consume 70% less energy than the 2006 baseline. Scaled 2022 data to 2006 to use a 2006 baseline for this policy analysis. Assumed this baseline applies to all jurisdictions. Using 2022 energy consumption rates, modeled a straight-line reduction in energy consumption rate from 2022 to 2031 to achieve the 70% reduction from baseline (in new buildings only). Assume that any additional energy consumption under BAU compared to 2022 is from "new buildings. All new commercial buildings must use electric heat pumps for space heating and electric water heating for 50% of water (reflects updates to the 2021 WA State Energy Code).

- Assume commercial water heating accounts for 9% of building energy use; assume space heating accounts for 23% of building energy use (total = 32%; Source: EIA 2015).
- Assume 75% of current commercial buildings use fossil fuel space/water heating.

WA CLEAN BUILDINGS ACT (HB 1257)

Overview: The WA Clean Buildings Act requires all new and existing commercial buildings over 50,000 square feet to reduce their energy use intensity by 15%, compared to the 2009–2018 average.

- Buildings greater than 220,000 square feet must comply by June 1, 2026
- Buildings greater than 90,000 square feet must comply by June 1, 2027
- Buildings greater than 50,000 square feet must comply by June 1, 2028

Modeling Assumptions: Using 2022 county level commercial energy consumption data, calculated energy consumed per sq ft of commercial building space to arrive at average energy use intensity (EUI: energy consumed per sq ft). Scaled 2022 data to 2019 as a proxy for 2009-2018 baseline. Modeled a straight-line reduction in energy use intensity (up to 15%) for Bins 1–3 below for 2023 through respective compliance dates.

- Bin 1: >220K sq ft
- Bin 2: > 90K sq ft
- Bin 3: > 50K sq ft
- Bin 4: 50K sq ft and under (rule does not apply)

FEDERAL VEHICLE REGULATIONS (CAFE)

Overview: Corporate Average Fuel Economy (CAFE) standards are regulated by the DOT and supported by the EPA, calculates average fuel economy levels for manufacturers and sets related GHG standards. Passenger Cars and Light Trucks require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, increasing fuel efficiency 8% annually for model years 2024–2025 and 10% annually for model year 2026. This will also increase the estimated fleetwide average by nearly 10 miles per gallon for model year 2026, relative to model year 2021.

Modeling Assumptions: Based on PSRC Vision 2050 modeling, scaling 2022 data to 2018 for these assumptions, assumed the following changes in vehicle emissions intensity (g CO2e/mile):

- Light duty vehicles: 33% reduction from 2018 to 2050.
- Heavy duty vehicles: 26% reduction from 2018 to 2050.

WA CLEAN FUEL STANDARD (HB 1091)

Overview: The Clean Fuel Standard requires a 20% reduction in the carbon intensity of transportation fuels by 2038, compared to a 2017 baseline level. Reductions in carbon intensity may be achieved through cleaner fuels or by purchasing clean fuel credits from cleaner producers such as those providing electricity as fuel. Boats, trains, aircraft, and military vehicles & equipment are excluded.

Modeling Assumptions: Model assumes the 2022 transportation fuel emissions factors are applicable for 2017–2023 (2017 is policy baseline year). Overall, policy calls for 20% reduction in carbon intensity of transportation fuels by 2038.

EV/fuel contributions: Since there are concerns with WA's short-term ability to scale up low carbon fuels, for 2030 the split of clean fuel/EV is closer to 35%/65%, compared to 50%/50% by 2038

Therefore, compared to baseline, we modeled the following for fuel carbon intensities:

- 3.5% reduction in per-gallon gasoline & diesel vehicle (passenger, heavy duty, transit) emissions from cleaner fuels (NOT EVs) by 2030.
- 10% reduction in per-gallon gasoline & diesel vehicle (passenger, heavy duty, transit) emissions from cleaner fuels (NOT EVs) by 2040.
- Maintain 10% reduction levels to 2050.

Given ICE ban, compared to baseline, we will model the following for EV use:

- 6.5% transition of gasoline/diesel passenger vehicles to EV by 2030.
- 10% transition of gasoline/diesel passenger vehicles to EV by 2040.
- Maintain 10% reduction levels to 2050.

WA ZERO EMISSION VEHICLE (ZEV) STANDARDS

Overview: Establishes a target that all publicly owned and privately owned passenger and light duty vehicles of model year 2030 or later that are sold, purchased, or registered in Washington state be electric vehicles. For new light-duty (i.e., passenger) vehicles (LDVs), the Advanced Clean Cars I regulations, which require a progressively stringent zero-emissions vehicle (ZEV) sales share, culminate in a 100% sales requirement by 2035.

Modeling Assumptions: Manufacturers must sell enough clean vehicles to meet the credit requirement for each model year, as shown in Table 4.

Table 4. WA ZEV Standards.

Year	% New EVs (Passenger)	% New EVs (Freight)
2025	9%	8%
2026	35%	11%
2027	43%	17%
2028	51%	23%
2029	59%	30%
2030	68%	37%
2031	76%	42%
2032	82%	47%
2033	88%	50%
2034	94%	53%
2035 and beyond	100%	57%

WA HYDROFLUOROCARBON POLICIES (HB 1112 & HB 1050)

Overview: HB 1112 requires that new equipment be manufactured without HFCs or using refrigerants with a lower global warming potential (GWP) in a phased approach through 2024. Equipment covered by the law are being phased in each year, starting with 2020, and penalties apply for non-compliance. In 2021, HB 1050 applied Clean Air Act provisions for ozone depleting substances to HFCs and extended restrictions on higher GWP HFCs to new equipment such as ice rinks and stationary air conditioning.

Modeling Assumptions: Aligned model assumptions with state modeling, scaling 2022 data to 2019 to align with modeling.

WA CLEAN ENERGY TRANSFORMATION ACT (CETA)

Overview: CETA applies to all electric utilities serving retail customers in Washington and sets specific milestones: By 2025, utilities must eliminate coal-fired electricity from their state portfolios; By 2030, utilities must be greenhouse gas neutral, with flexibility to use limited amounts of electricity from natural gas if it is offset by other actions; By 2045, utilities must supply Washington customers with electricity that is 100% renewable or non-emitting, with no provision for offsets.

Modeling Assumptions: Electricity will be GHG neutral (electricity emissions factor equals zero) in 2030 and beyond with a straight-line emissions factor reduction from 2022 to 2030. For utilities that rely on coal for electricity generation, additionally model straight-line reduction to 0% coal by 12/31/2025. Assume coal is replaced by renewables. This action impacts electricity emissions factors (reduces emissions per unit of energy consumed).

WA CLIMATE COMMITMENT ACT (E2SSB 5126)

Overview: The Climate Commitment Act (known as Cap and Invest) places an economy-wide cap on carbon to meet state GHG reduction targets and remain consistent with best available science, while minimizing the use of offsets to meet those targets. Every polluting facility covered under the program needs to hold one allowance for every ton of greenhouse gas that it emits. Based on an environmental justice review, 35–40% of investments must be made in overburdened communities

to reduce health disparities and create environmental benefits, with an additional 10% allocated for tribal programs and projects.

Modeling Assumptions: State estimates that CCA will account for 26.2 million MTCO2e in statewide reductions by 2030. 2018 total emissions = 99.57 million MTCO2e. Scaled 2022 data to 2018 to obtain a proxy baseline.

Key regulated CCA sectors relevant to the geographic inventory include:

- Natural gas (however, this sector will receive directly allocated no-cost allowances).
- Industrial processes (however, Emissions-Intensive Trade-Exposed facilities will receive directly allocated no-cost allowances).
- Transportation fuels (however, already covered to some extent by Clean Fuels Standard).

Therefore, assume the following for CCA:

- Assume CETA addresses emissions reductions in electricity sector.
- Apply -10% emissions factor adjustment to natural gas (assuming increase in hydrogen or RNG in fuel mix) to 2030.
- Apply -15% emissions reduction estimate (consider applying a reduction factor) to industrial process emissions to 2030.
- Apply -23.5% fuel emissions factor reduction estimate (consider applying a reduction factor) to transportation emissions to 2030 and -30% to 2040 (includes reductions from CFS).

Local Action Scenario

The action forecast adjusts the ABAU forecast to identify expected changes to Lake Forest Park's emissions based on the implementation of key Climate Element strategies, which encompass specific policies, intended to reduce GHG emissions. Table 5 summarizes the strategies and associated policies included in the model, in addition to aviation industry assumptions made in this analysis.

Table 5. Local action scenario strategies, associated Climate Element policies (policy numbers as of the time of this report in June 2025), and analysis assumptions with units.

Strategy	Climate Element Policy IDs	2030	2040	2050	Units
Reduce energy use in existing buildings	C-E5.1, CE-5.2, CE-5.4, CE-5.5, CE-5.6	2.8%	4.7%	7.5%	% reduction in energy use
Electrify existing buildings	CE-5.5, CE-5.6	3.8%	6.3%	10.0%	% fossil fuel use converted to electricity
Increase local solar	CE-5.2, CE-5.6	1.7	2.8	4.5	total new MW

Strategy	Climate Element Policy IDs	2030	2040	2050	Units
Reduce passenger vehicle travel	CE-6.1, CE-6.2, CE-6.3, CE-6.4, CE-6.5, CE-6.6, CE-8.1, CE-8.2, CE-8.3	-1.4%	-2.9%	-4.7%	% reduction in VMT[6]
Electrify passenger vehicles	CE-7.1, CE-7.2	3.7%	6.2%	9.9%	% new vehicles sold that are EV[7]
Decarbonize offroad equipment	CE-7.3	9.7%	16.2%	25.9%	% reduction in emissions
Divert C&D materials	CE-9.4	2.8%	4.7%	7.5%	% of C&D waste diverted
Divert other recyclable and compostable materials	CE-9.1, CE-9.2, CE-9.3, CE-9.5	26.3%	43.8%	70.0%	% reduction in waste to landfill
Reduce tree loss	CE-1.1, CE-1.2, CE-2.1	100.0%	100.0%	100.0%	% reduction in tree loss

The local action scenario (all emissions) also included plans and commitments from the aviation industry. See below for additional information regarding policy interpretation and assumptions.

AVIATION INDUSTRY

Overview: Modeling is based on the Air Transport Action Group (ATAG) 2050 Plan. ATAG is made up of representatives of the world's major aviation industry associations and largest aircraft and engine makers. In 2021, ATAG committed to a goal of net zero by 2050 for global civil aviation operations. This will be supported by accelerated efficiency measures, energy transition and innovation across the aviation sector and in partnership with Governments around the world.

Modeling Assumptions: Using assumptions from Air Transport Action Group's (ATAG) net zero 2050 plan (Scenario 0, page 23):[8]

- 10% reduction of 2050 BAU from technology advancements.
- 9% reduction of 2050 BAU from operations and infrastructure improvements.
- 38% reduction of 2050 BAU from sustainable aviation fuels (adjusted from 31% in published graph to account for action sequencing).
- Total reduction = 50% of 2050 BAU.

[6] Note that the "percentage reduction in VMT" is shown as negative, because total VMT is expected to increase, though at a lower rate than without the VMT reduction policies. While total VMT is expected to increase, per-capita VMT is expected to decrease. See Fehr & Peers' VMT Reduction Target & Strategies report for more information.

[7] These inputs do not result in a modeled reduction in emissions because they do not exceed anticipated changes from federal, state, & regional policies.

[8] Waypoint 2050 | Air Transport Action Group