CAP2.0 Large-Lever Shareholder Meeting #2

Vehicles & Fuels

Agenda

1. Welcome and Introductions
2. Mitigation Analysis: Process, Results, and Questions
3. Break
4. Chapter Specific Data, Q&A
5. Equity Panel and Public Outreach
6. Closing Thoughts

CAP2.0

PROJECT TIMELINE

2016
CRO UPDATED

2017
MAYOR'S CRO AD HOC WORK GROUP

LATE 2017
CITY COUNCIL FUNDS CAP 2.0

EARLY 2018
MEETING WITH LLS
SIGNING CONTRACTS
HIRE CRO ANALYST

SUMMER 2018
LLS MEETINGS FIRST ROUND

FALL 2018
COMMUNITY OUTREACH
CAP 2.0 EQUITY PANEL

NOVEMBER 2018
LLS MEETINGS SECOND ROUND

WINTER 2019
COMMUNITY REVIEW PROCESS

MARCH 2019
LLS MEETINGS THIRD ROUND

SPRING 2019
COMPLETED CAP 2.0 PLAN

CRO - Climate Recovery Ordinance
CAP - Climate Action Plan
LLS - Large Lever Shareholder

Eugene

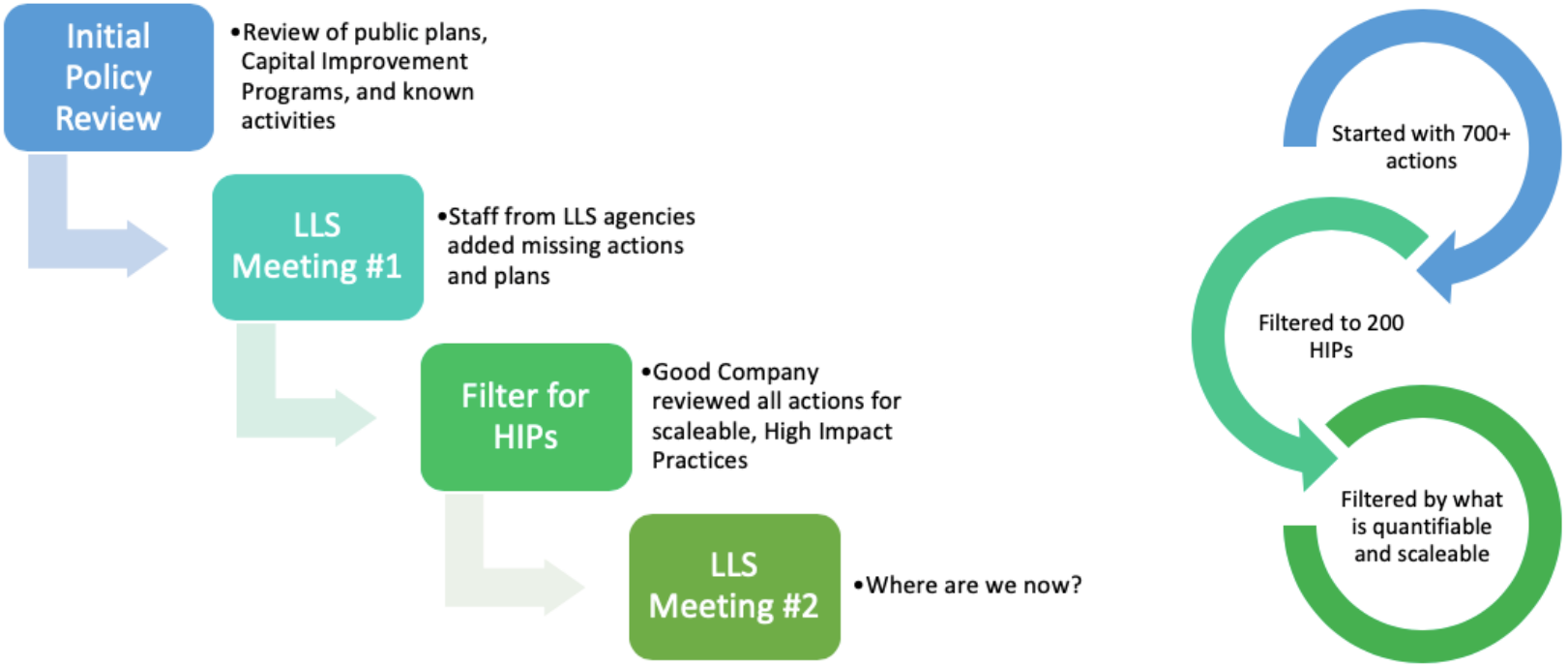
Eugene

Introductions

Mitigation Analysis – Draft Results

* All results presented in this section are draft findings. While we are confident in our analysis, final numbers may change, primarily for two reasons:
  * Large-Lever Shareholder partners may edit and/or add actions
  * More information about existing actions becomes available

Mitigation Analysis: Process



CRO Goals & Targets

Section 6.675 Climate Recovery – **Climate Action Goals**

* (3) By the year 2030, all businesses, individuals, and others living or working in the city collectively shall **reduce the total (not per capita) use of fossil fuels by 50%** compared to 2010 usage.
* (4) By the year 2100, total community greenhouse gas emissions shall be average share of a global atmospheric greenhouse gas level of 350ppm, which is estimated in 2016 to require an **annual average emission reduction level of 7.6%.**

Section 6.685 Climate Recovery - **Targets & Benchmarks**

Reduce fossil fuels 50% (from 2010 levels by 2030)

2020: 25% reduction from 2010

2025: 38% reduction from 2010

2030: 50% reduction from 2010

Annual Average, 2010 - 2030: 2.5% reduction

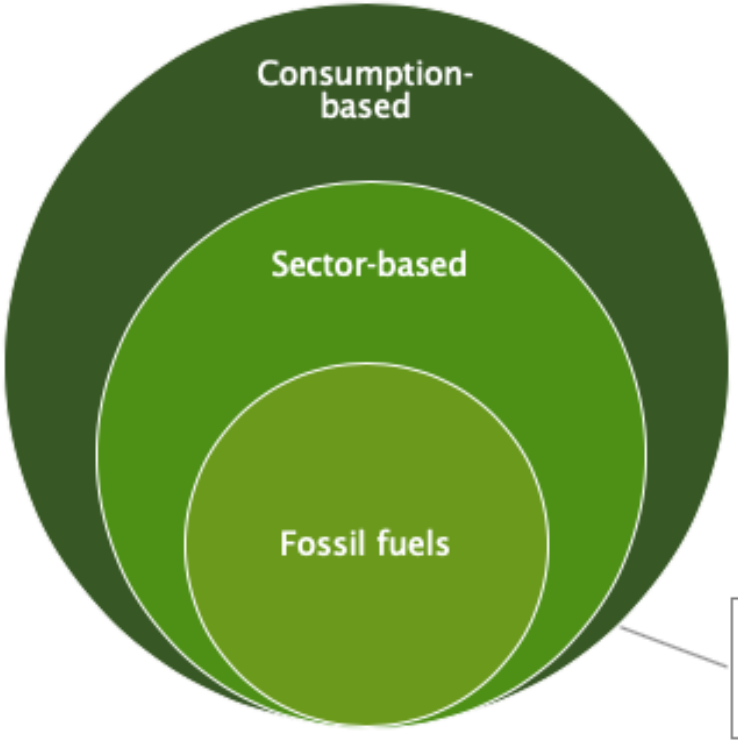
Relationship Between GHG Inventories and CRO Fossil Fuel Target

Eugene 2013 CBEI GHGs
2.75 million MT CO_2e

Eugene 2017 SBEI GHGs
1.0 million MT CO_2e

Eugene 2017
Fossil Fuel Use
9 million MMBTU

CRO 2030
Fossil Fuel Target
5 million MMBTU



Note: In a consumption-based inventory, a fraction of sector-based emissions is excluded to account for local production exported to other communities.

Mitigation Analysis: Results

Fossil Fuels

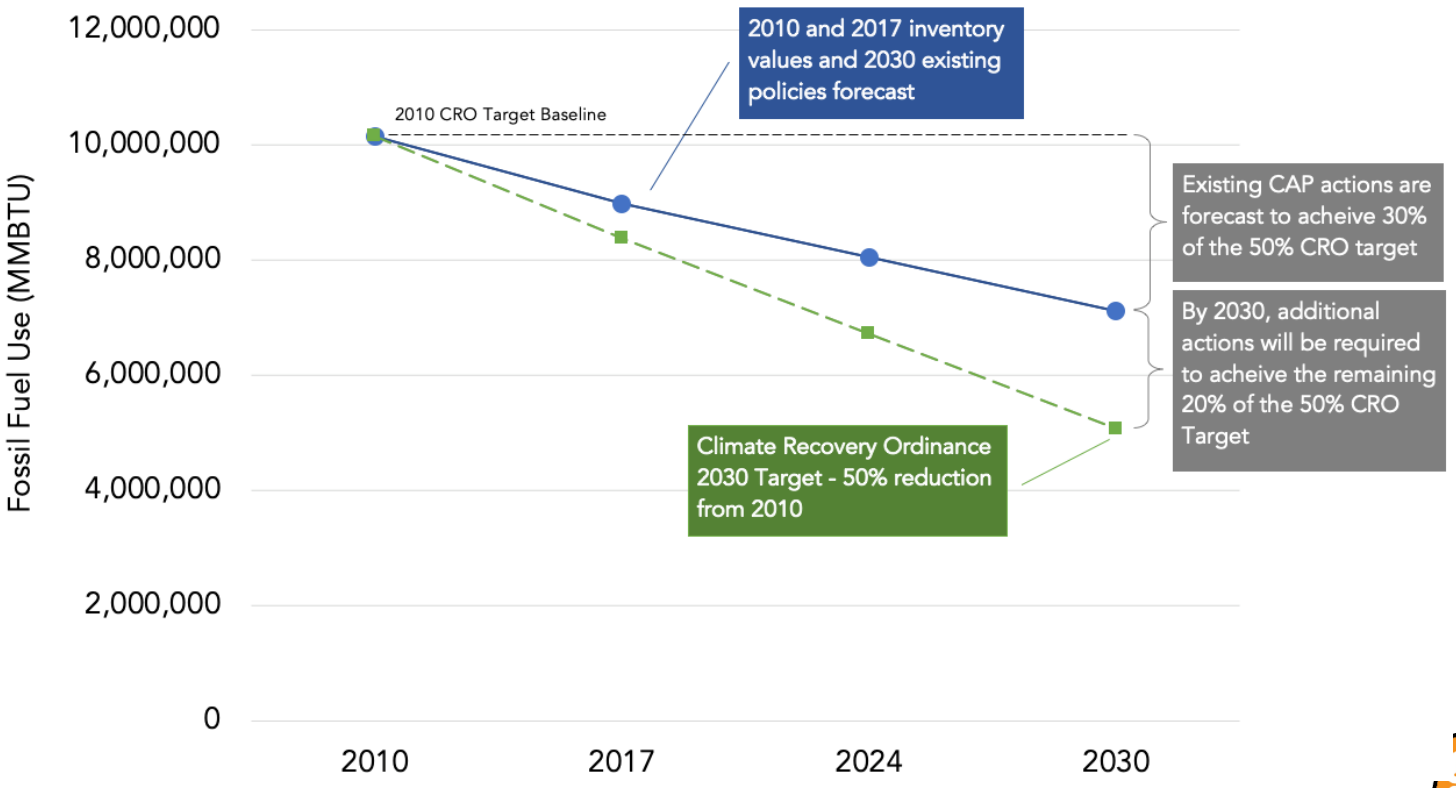
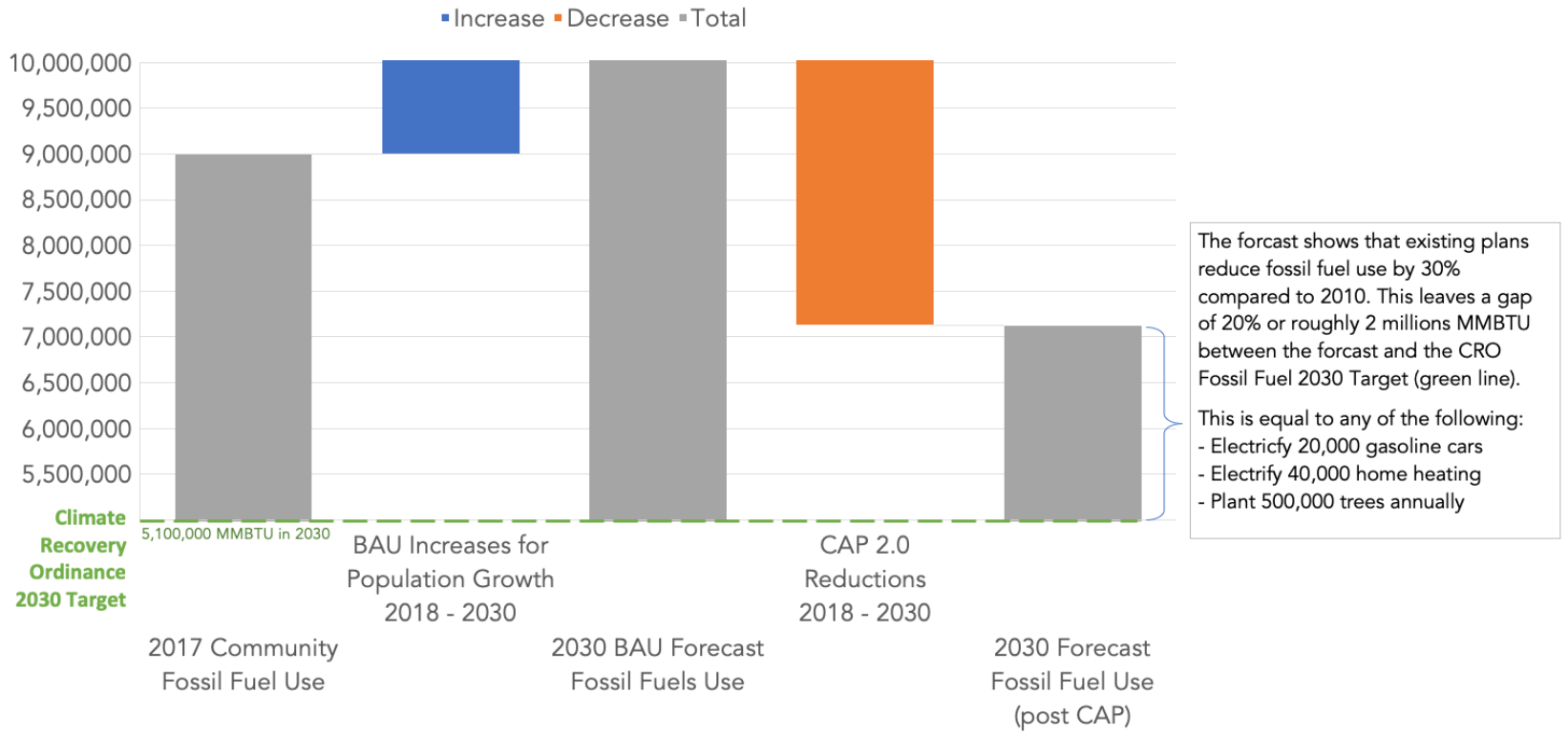


Figure 1: Comparison of actual and forecast fossil fuel use to CRO targets

Mitigation Analysis: Results

Fossil Fuels



The forcast shows that existing plans reduce fossil fuel use by 30% compared to 2010. This leaves a gap of 20% or roughly 2 millions MMBTU between the forcast and the CRO Fossil Fuel 2030 Target (green line).

This is equal to any of the following:
- Electricfy 20,000 gasoline cars
- Electrify 40,000 home heating
- Plant 500,000 trees annually

Note: The equivalency for home electrification is provided as a sense of scale comparison only as Northwest Natural has about 30,000 residential customers in Eugene.

Figure 2: Comparison of actual and forecast fossil fuel use to CRO targets

Mitigation Analysis: Results

GHG Emissions

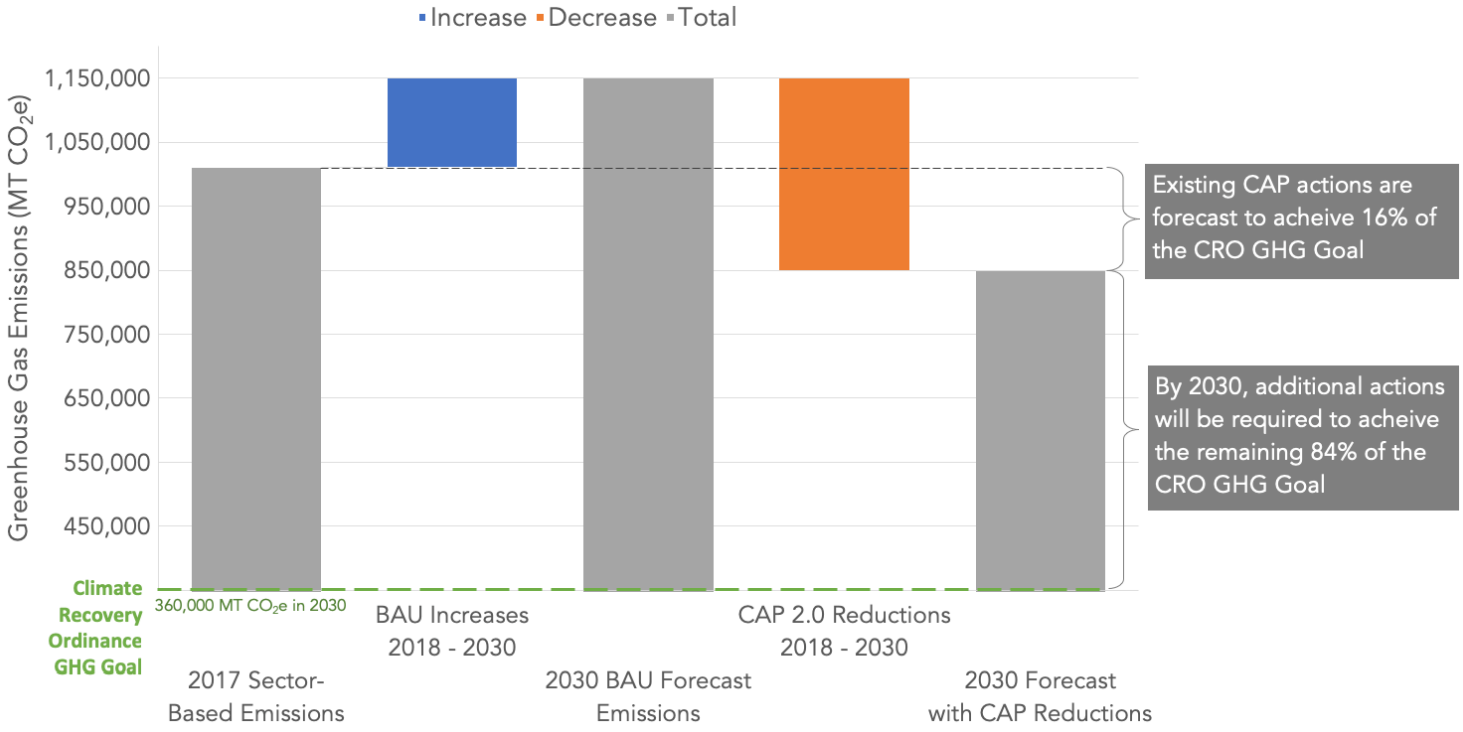


Figure 3: Sector-based emissions and existing policy forecast

Mitigation Analysis: Results

GHG Emissions

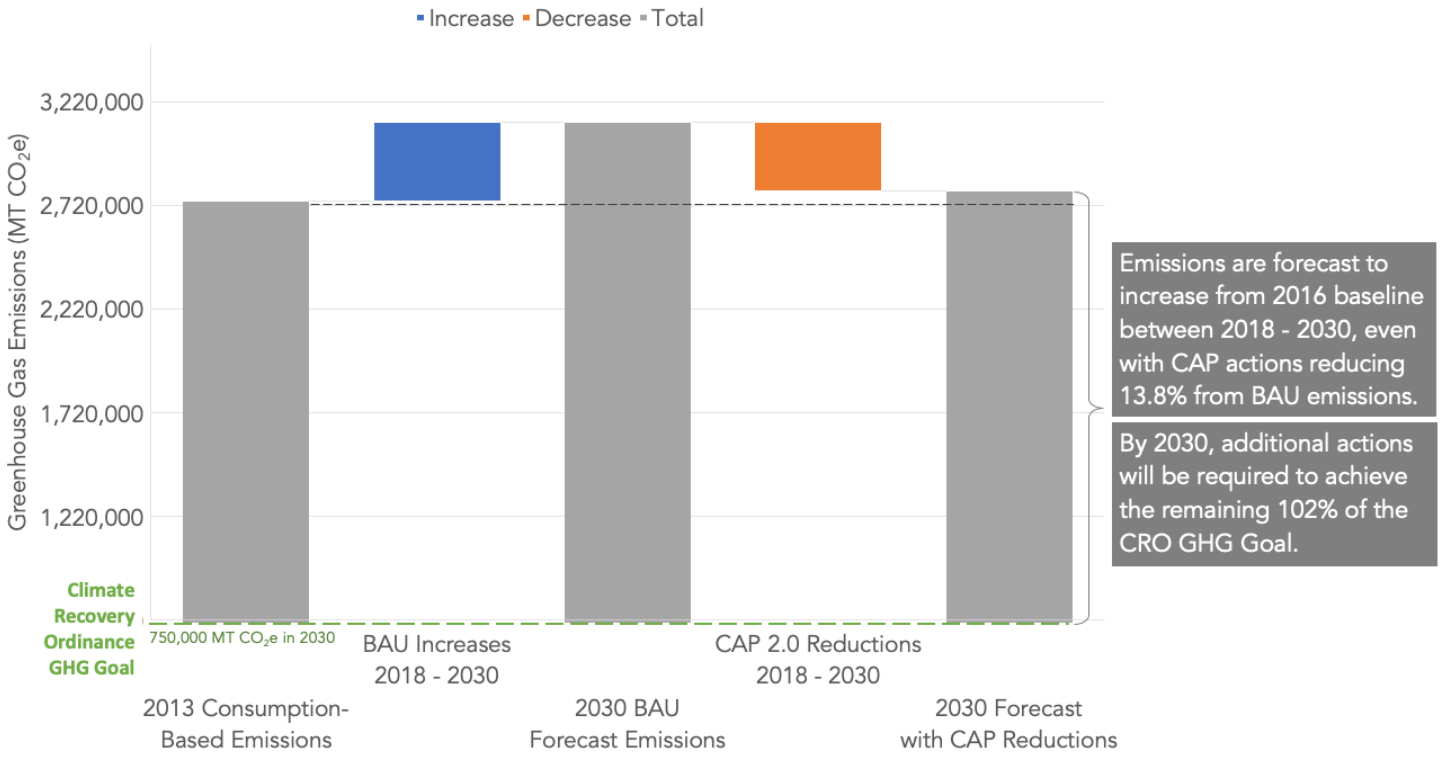


Figure 4: Emissions from community consumption and existing policy actions forecast

Mitigation Analysis: Results

Reduction potential over time

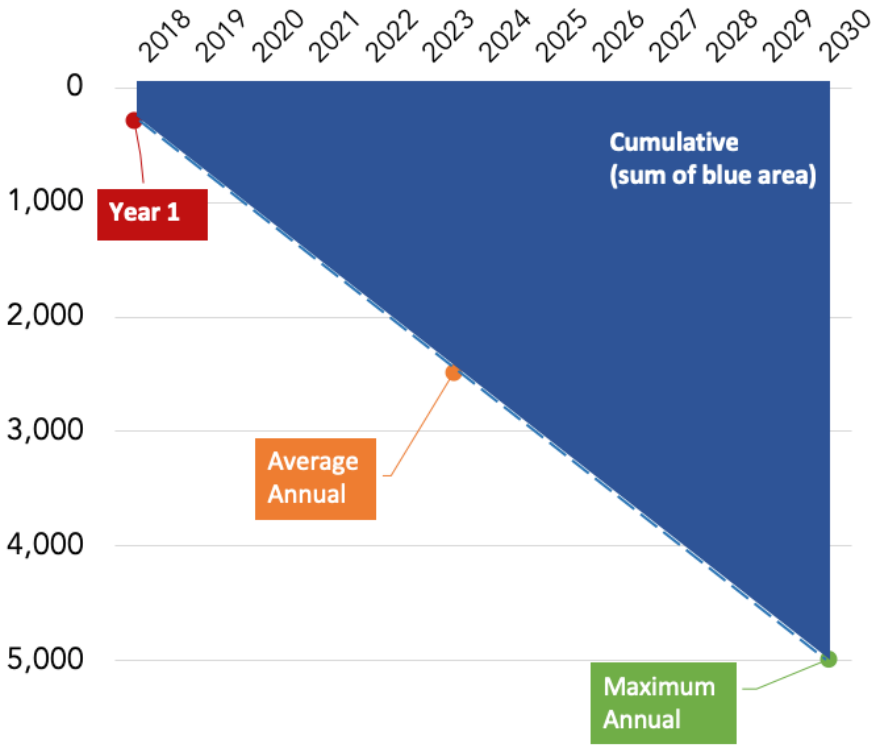


Figure 5: Visual description of reduction potential (unitless; both GHG emissions and Fossil Fuels)

Mitigation Analysis: Results

Fossil Fuels

Large Lever Shareholder Plans and Strategy Bundles	Year 1 Potential	Average Annual 2018 - 2030	Maximum Potential 2030	Cummulative Potential 2018 - 2030
Eugene 2035 Transportation System Plan (active transport, electric vehicles, etc.)	(140,000)	(1,000,000)	(2,550,000)	(24,100,000)
MWMC / NWN Biomethane to natural gas pipeline	(81,600)	(85,800)	(90,200)	(945,000)
LCC Climate Action Plan	(9,900)	(104,000)	(129,000)	(900,000)
NWN Future Conservation (cost effective resources only)	(57,900)	(59,700)	(61,600)	(775,000)
City Operations Climate Action Plan	(23,400)	(40,400)	(57,000)	(520,000)
Oregon Net-Zero Residential Building Code	(19,500)	(22,500)	(98,000)	(295,000)
Oregon Net-Zero Commercial Building Code	(18,900)	(22,000)	(94,000)	(28,300)
City Materials Management - Road Construction	(5,100)	(5,100)	(5,100)	(66,000)
EWEB Future Energy Conservation (market-based)	(2,000)	(3,500)	(6,100)	(45,000)
NWN Smart Energy Program (5% participation rate)	0	0	0	0
Lane County Materials Management - 63% Recovery by 2035	0	0	0	0
City / County Materials Management - Food Waste	0	0	0	0
NWN Upstream Emissions Reductions	0	0	0	0
INFORMATION ONLY: Lane County Food Waste Digestion (25% additional beyond plans)	0	0	0	0
City Urban Forest Management	0	0	0	0
TOTALS	(358,300)	(1,343,000)	(3,091,000)	(27,674,300)

Figure 6: Existing plans sorted by cumulative fossil fuel reduction potential (MMBTU)

Mitigation Analysis: Results

GHG Emissions

Large Lever Shareholder Plans and Strategy Bundles	Year 1 Potential	Average Annual 2018 - 2030	Maximum Potential 2030	Cummulative Potential 2018 - 2030
Eugene 2035 Transportation System Plan (active transport, electric vehicles, etc.)	(13,500)	(95,000)	(240,000)	(1,250,000)
Lane County Materials Management - 63% Recovery by 2035	(86,600)	(88,300)	(90,000)	(440,000)
NWN Smart Energy Program (5% participation rate)	(2,800)	(12,300)	(15,300)	(160,000)
City / County Materials Management - Food Waste	(5,300)	(5,900)	(6,100)	(74,200)
MWMC / NWN Biomethane to natural gas pipeline	(6,000)	(6,300)	(6,600)	(69,000)
LCC Climate Action Plan	(610)	(6,400)	(7,900)	(55,000)
Oregon Net-Zero Commercial Building Code	(2,500)	(2,800)	(12,300)	(36,800)
NWN Future Conservation (cost effective resources only)	(310)	(3,200)	(4,000)	(27,900)
City Urban Forest Management	(340)	(2,100)	(3,700)	(27,500)
NWN Upstream Emissions Reductions	(200)	(1,600)	(2,900)	(20,000)
Oregon Net-Zero Residential Building Code	(1,300)	(1,500)	(6,400)	(19,300)
INFORMATION ONLY: Lane County Food Waste Digestion (25% additional beyond plans)	(2,900)	(3,000)	(3,000)	(18,000)
City Materials Management - Road Construction	(1,300)	(1,300)	(1,300)	(16,700)
City Operations Climate Action Plan	(1,100)	(1,200)	(1,200)	(14,900)
EWEB Future Energy Conservation (market-based)	(110)	(180)	(330)	(2,400)
TOTALS	(124,870)	(231,080)	(401,030)	(2,231,700)

Figure 7: Existing plans sorted by cumulative GHG reduction potential (MT CO_2e)

Mitigation Analysis: Questions

Break

Vehicles & Fuels: Results

GHG Emissions

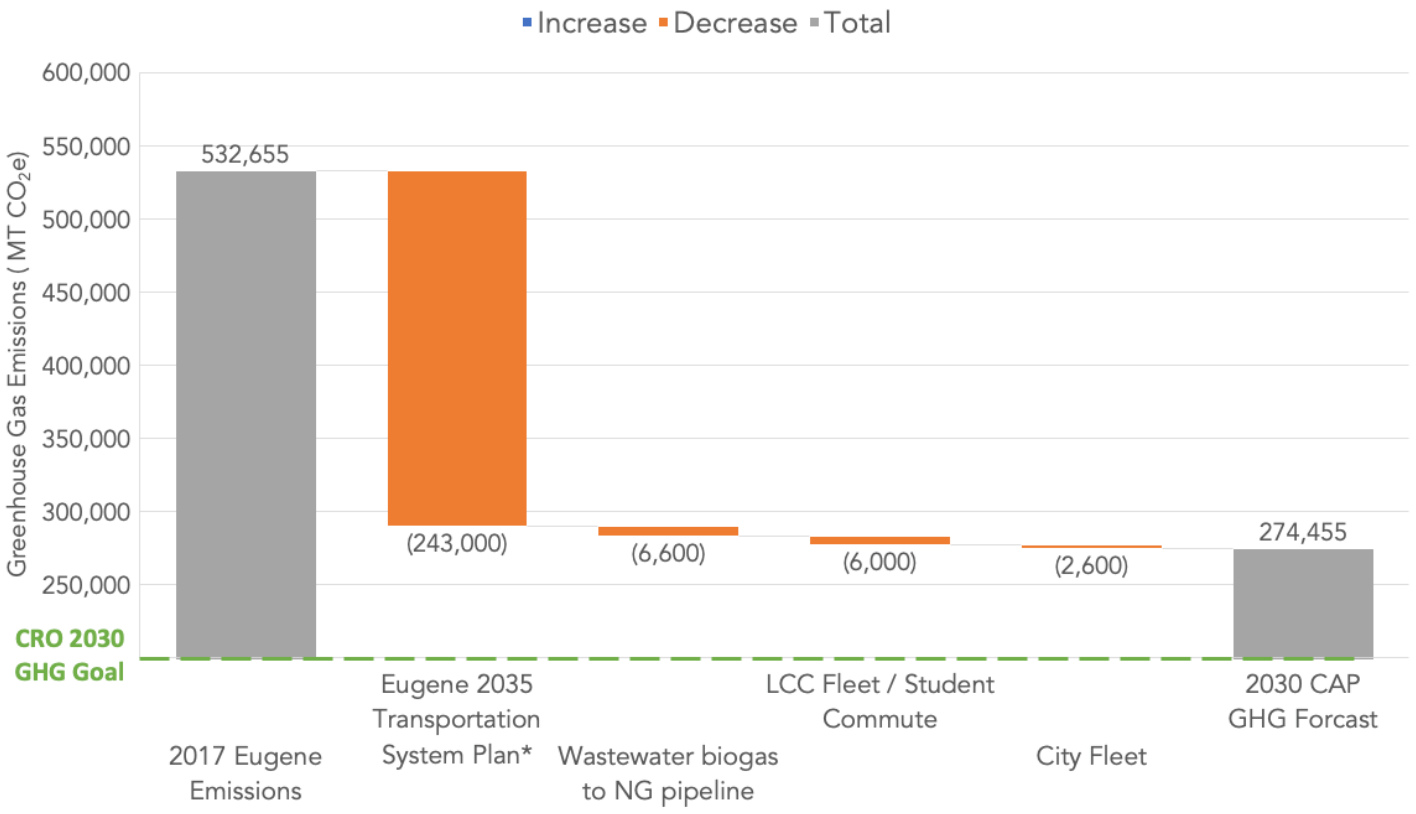


Figure 8: 2017 transportation-related GHGs and emissions reductions for planned actions

Vehicles & Fuels: Context

Fossil Fuels

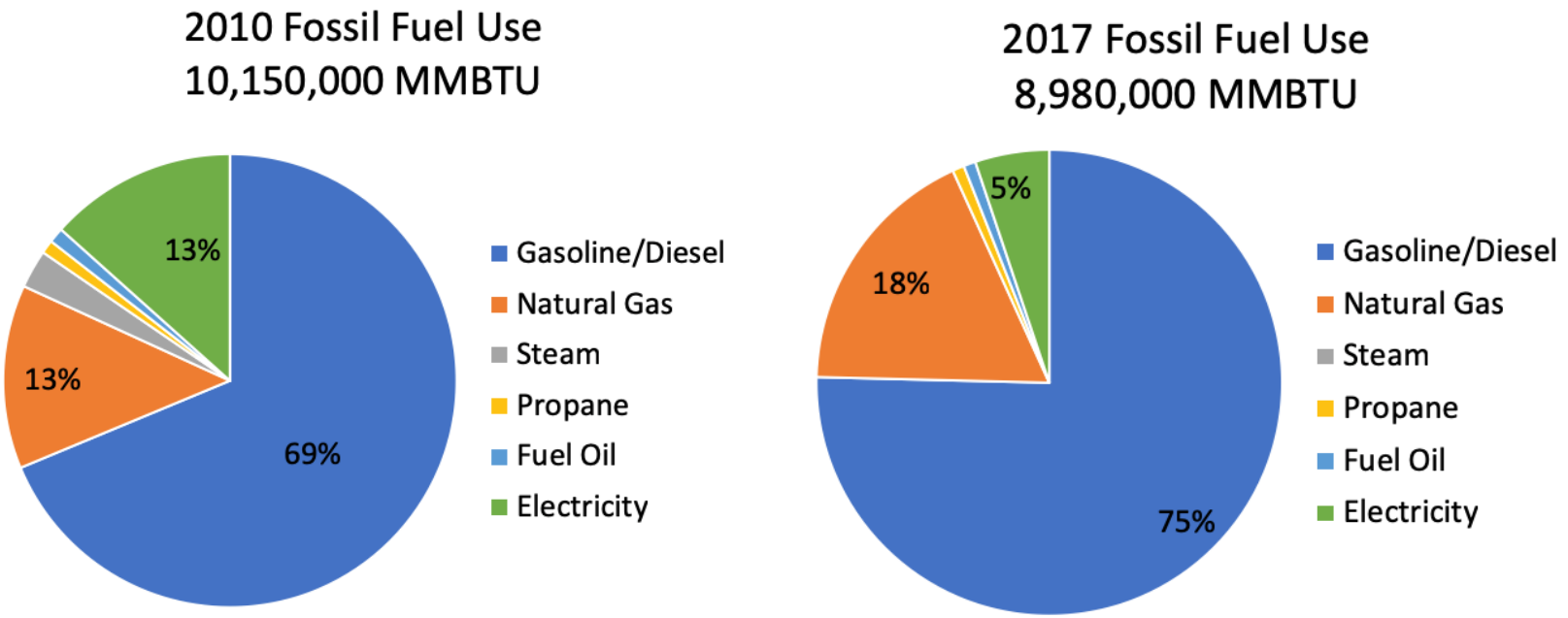


Figure 9 & 10: Eugene community fossil fuel use by type, 2010 versus 2017

Vehicles & Fuels: Context

Fossil Fuels

Fossil Fuels	2010 Fossil Fuel Use (MMBTU)	2017 Fossil Fuel Use (MMBTU)	2030 BAU Forecast
Gasoline	4,533,422	4,529,846	5,155,387
Diesel	2,438,575	2,241,432	2,550,959
Natural Gas	1,331,175	1,599,635	1,820,534
Electricity (market-based)	1,356,586	462,578	526,457
Fuel Oil	110,082	75,043	85,406
Propane	97,753	72,928	82,999
Steam	277,449	0	0
TOTAL	**10,145,042**	**8,981,462**	**10,221,741**

Figure 11: Eugene community fossil fuel use by type, 2010 versus 2017

Vehicles & Fuels: Questions

Equity Panel and Community Outreach

Equity Panel

CAP Social Equity Lens

Guiding Questions:

- Who are the most vulnerable and underserved communities impacted by this decision? How will our decision impact these communities?
- Does the decision being made ignore or worsen existing disparities or produce other unintended consequences?
- If there is an investment or resource allocation, how does that advance the social equity leg of the Triple Bottom Line?
- What are the opportunities and barriers to more equitable outcomes? (e.g. mandated, political, emotional, financial, programmatic or managerial)
- How have we intentionally involved stakeholders, impacted communities, technical experts, and other community members affected by this decision? Who else do we need to invite?
- What's the mechanism for including more voices throughout the process?
- How will we modify or enhance our strategies to ensure impacted and vulnerable communities' individual and cultural needs are met?
- Do we have the data we need to understand which communities might be impacted? Can we effectively collect data on impacted or vulnerable communities for this decision or investment?

Eugene

good COMPANY

Community Outreach

Closing Thoughts