



Updated Vermont Pathways Baseline Emissions

Presentation to the Vermont Climate
Council

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Outline

- Low Emissions Analysis Platform
 - Description
 - Rationale for selection
- Projected Emissions
 - Baseline Update
- Next Steps

Low Emissions Analysis Platform (LEAP)

- An integrated, scenario-based modeling tool that can be used to create models of different energy systems
- Tracks energy consumption, production and resource extraction in all sectors of an economy
- Can account for both energy sector and non-energy sector greenhouse gas (GHG) emission sources and sinks
- Built-in calculations handle all the energy, emissions and cost-benefit accounting calculations
- Spreadsheet-like expressions can be used to specify time-varying data or to create a wide variety of sophisticated multi-variable models

Low Emissions Analysis Platform (LEAP)

2022 Comprehensive Energy Plan

- Baseline/BAU plus three mitigation scenarios

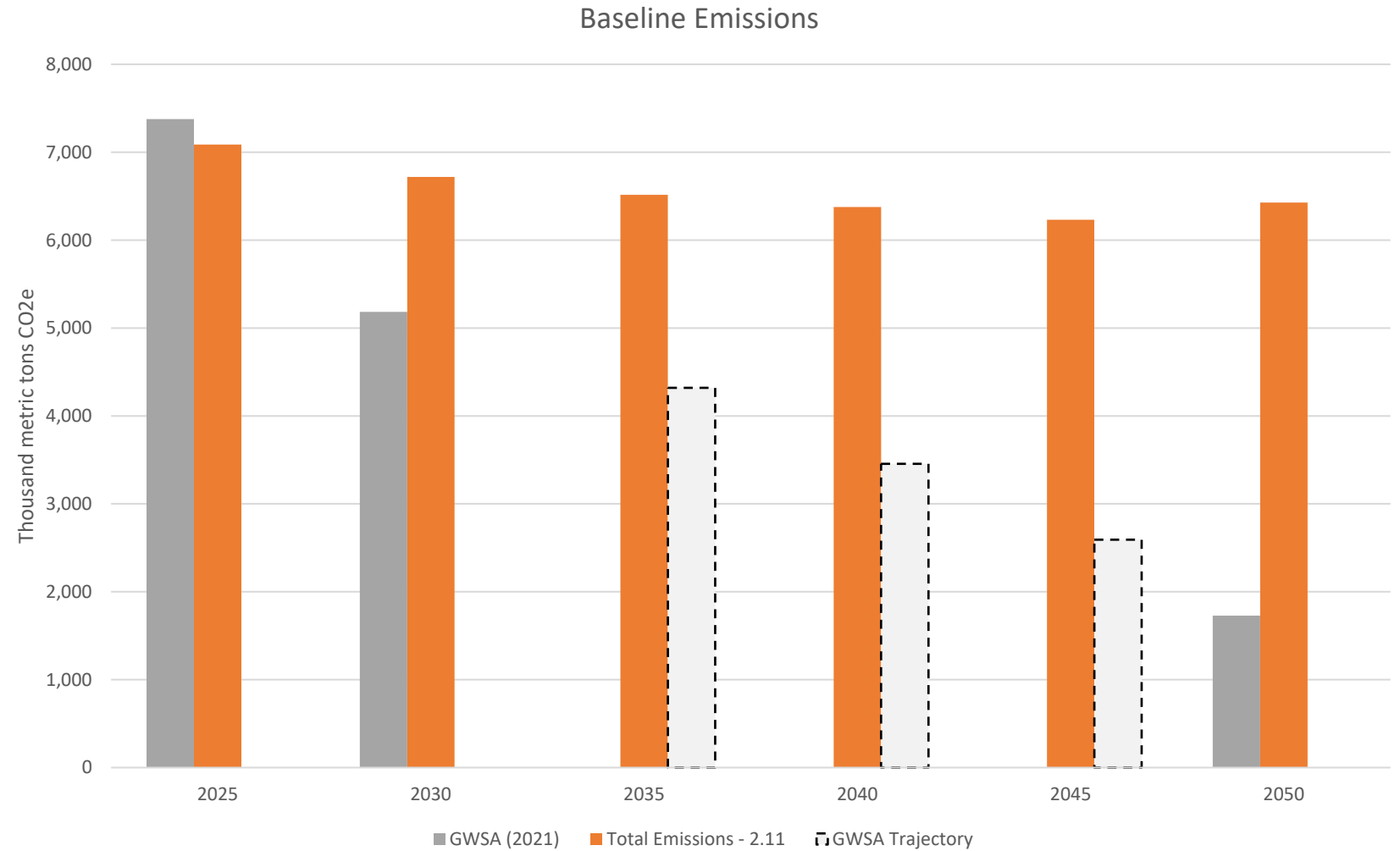
2022 – Vermont Pathways 2.0 Report

- Baseline/BAU and mitigation scenarios

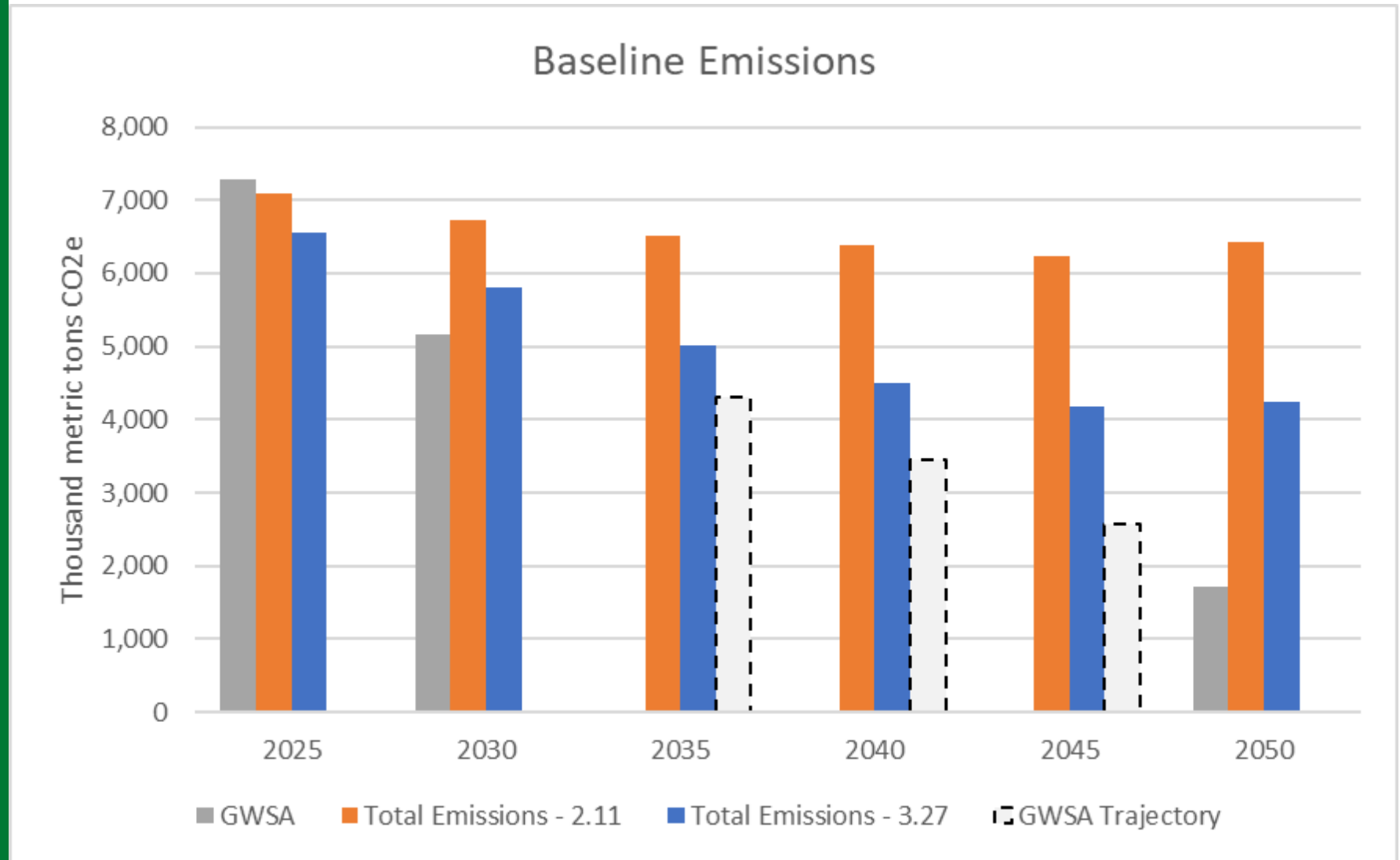
2023 - Analysis of Buildings / Thermal Energy Sector Emissions Reduction Policies for Vermont (Pathways 3.27)

- Updated baseline/BAU and thermal sector policy scenarios

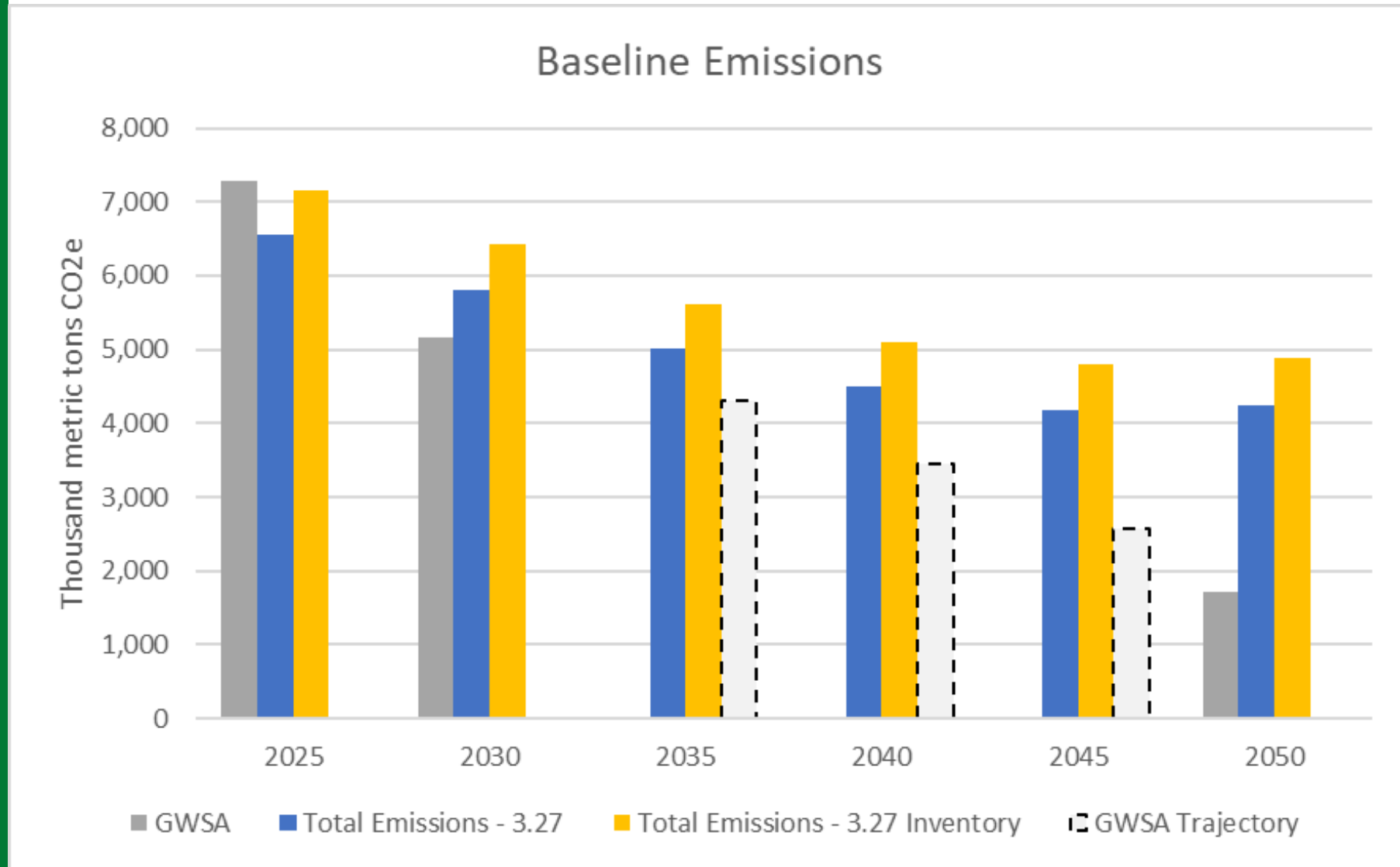
Pathways 2.0 Baseline Emissions



Pathways 2.0 v. 3.27 Baseline Emissions



Pathways 3.27 Ag Unadjusted Emissions



Pathways 3.27 v. GWSA

	Pathways 3.27 2025	GWSA 2025	Pathways 3.27 2030	GWSA 2030
Agriculture	1,203.0	1,153.3	1,220.0	819.1
Electricity Generation	135.4	255.4	134.27	181.4
R/C/I	2,195.5	2,422.0	1,845.5	1,720.0
Residential	947.6	1,301.6	662.9	924.4
Commercial	841.8	757.9	754.4	538.2
Industrial	406.1	362.5	406.5	257.4
Industrial Processes	568.4	486.0	583.4	345.2
Transmission and Distribution	20.3	24.7	18.7	17.6
Transportation	2,912.8	2,800.9	2,510.1	1,989.2
Waste	124.9	131.8	126.3	93.6
TOTAL	7,160.3	7,274.2	6,416.6	5,166.0
		- 113.9		+ 1,250

Next Steps

Continuing Updates

ANR plans contract for continuing updates to and support for Vermont Pathways model

Thank you

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For more information, please go to our
website: <https://climatechange.vermont.gov>

Supplemental Information

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Pathways 3.27 v. Inventory

	Pathways 3.27 2025	VT GHG Inventory	Difference MMT	Difference %
2015	8.53	9.66	-1.13	-11.7
2016	8.32	9.31	-0.99	-10.6
2017	8.23	8.90	-0.67	-7.5
2018	8.24	8.83	-0.59	-6.7
2019	8.39	8.79	-0.40	-4.6
2020	7.67	7.99	-0.32	-4.0

Pathways 3.27 Updates

General

- Fuel/energy prices based on 2023 Annual Energy Outlook
- Added a biofuel blending target for heating oil consistent with NY statute
- Calibrated commercial, industrial and transportation energy use through 2021 with State Energy Data System (SEDS) data

Pathways 3.27 Updates

Buildings

- Increased the number of projected residential weatherization projects based on Efficiency Vermont and DCF's Office of Economic Opportunity forecasts
- Increased projected heat pump shares based on impacts of Efficiency Vermont rebate program and the Inflation Reduction Act

Pathways

3.27 Updates

Buildings

- Reduced the share of heating load met by single and double-headed heat pumps
- Introduced heat pump water heaters, air-to-water heat pumps, and advanced pellet boilers into baseline
- Updated historical space heating, water heating, and cooking technology shares

Pathways

3.27 Updates

Transportation

- Incorporated VT adoption of Advanced Clean Cars II / Advanced Clean Trucks
- Updated Vehicle Distance Travelled estimates for 2020, 2021
- Updated the number of EVs and PHEVs on the road at the beginning of 2023