

## 2023 Greenhouse Gas Emissions Inventory

Unitil's 2023 greenhouse gas emissions inventory compares results with the 2022, 2021, 2020, and 2019 baseline inventory to show year-to-year changes across scopes and measure progress against the company's 2030 emissions target (50% reduction of Scope 1 emissions by 2030). All emissions figures are in metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e).

### 2019-2023 Emissions Summary Table

Some historical data was recalculated and changed in several categories as some errors were uncovered while reviewing the inventory. The most material revisions to note include the scope 1 data for fuel facilities and the scope 2 data for consumed electricity and T&D losses. Historical data contained duplicate consumption data for fuel and electricity in 2021 and 2022 that was corrected. The T&D data had a minor calculation error that was corrected for 2020, 2021, and 2022.

*Table 1: Total annual emissions (MTCO<sub>2</sub>e) from 2019 to 2023 by source. Percent change 2023 emissions compared to 2019 baseline year included.*

<i>Emissions Source</i>	<i>Scope</i>	<i>2019 Total Emissions</i>	<i>2020 Total Emissions</i>	<i>2021 Total Emissions</i>	<i>2022 Total Emissions</i>	<i>2023 Total Emissions</i>	<i>% Change from 2019 to 2023</i>
<i>Fuel Facilities</i>	1	<b>599</b>	622	431	447	361	-40%
<i>Fugitives</i>	1	<b>21636</b>	21066	19321	18197	17350	-20%
<i>Fleet</i>	1	<b>2750</b>	2759	2767	2746	2714	-1%
<i>Consumed Electricity</i>	2	<b>789</b>	808	737	743	762	-3%
<i>T&amp;D Losses</i>	2	<b>20486</b>	17586	18616	19248	15165	-26%
<i>Delivered Gas</i>	3	<b>1237987</b>	1130604	1181178	1193901	1169624	-6%
<i>Delivered Electricity</i>	3	<b>384311</b>	384347	367788	393043	385899	0%
<i>Waste</i>	3	<b>124</b>	111	116	110	123	-1%
<i>Water</i>	3	<b>3.1</b>	2.1	0.8	0.7	0.2	-93%
<i>Commuting</i>	3	<b>1683</b>	691	761	1007	988	-41%
<i>Total Scope 1</i>	1	<b>24984</b>	24447	22520	21390	20424	-18%
<i>Total Scope 2</i>	2	<b>21275</b>	18394	19353	19991	15926	-25%
<i>Total Scope 3</i>	3	<b>1624108</b>	1515756	1549844	1588062	1556634	-4%
<b>All Scopes</b>		<b>1670367</b>	<b>1558597</b>	<b>1591717</b>	<b>1629443</b>	<b>1592984</b>	<b>-5%</b>

# Scope 1 Emissions

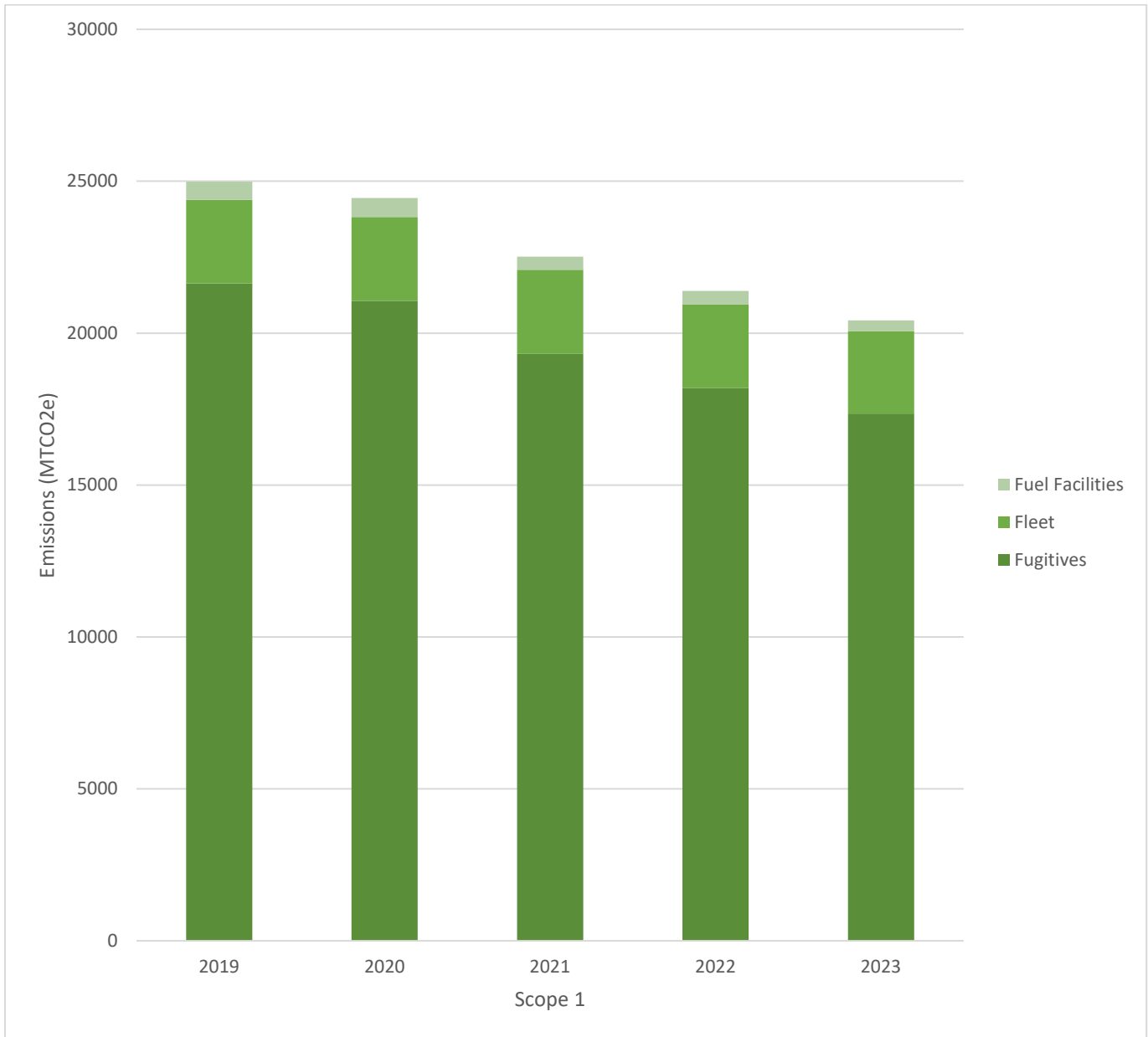


Figure 1: Scope 1 total emissions compared annually.

## Fuel Use at Company Facilities

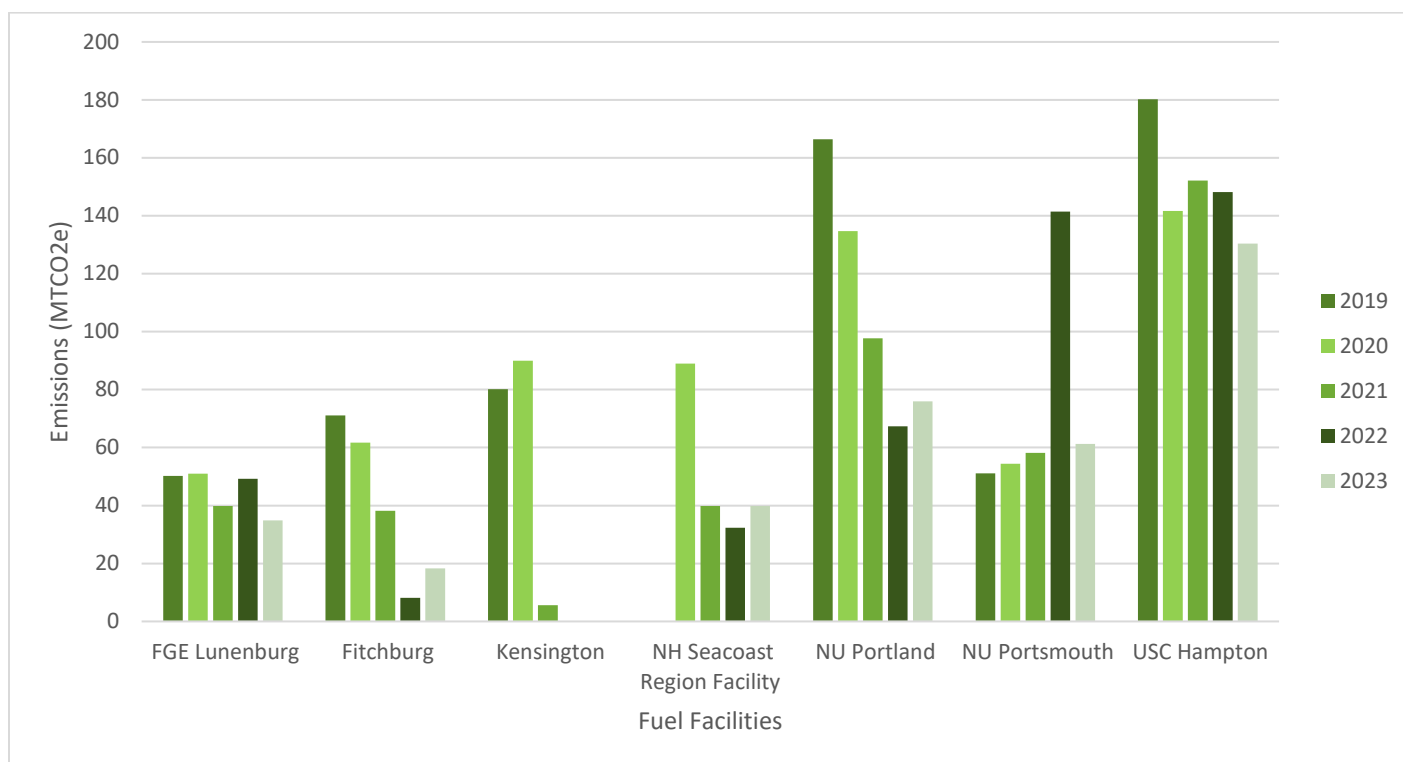


Figure 2: Total annual emissions from fuel consumption across all Unitil facilities

Table 2: Total annual emissions from fuel consumption across all Unitil facilities

Year	FGE Lunenburg	Fitchburg	Kensington	NH Seacoast Region Facility	NU Portland	NU Portsmouth	USC Hampton
2019	50.2	71.1	80.1	0.0	166.4	51.0	180.3
2020	51.0	61.7	89.9	88.9	134.7	54.4	141.7
2021	39.8	38.1	5.6	39.8	97.7	58.1	152.2
2022	49.2	8.1	0.0	32.3	67.3	141.5	148.1
2023	34.9	18.3	0.0	39.8	76.0	61.2	130.4
<b>Grand Total</b>	<b>225.0</b>	<b>197.4</b>	<b>175.7</b>	<b>200.8</b>	<b>542.0</b>	<b>366.3</b>	<b>752.7</b>

## Fugitives

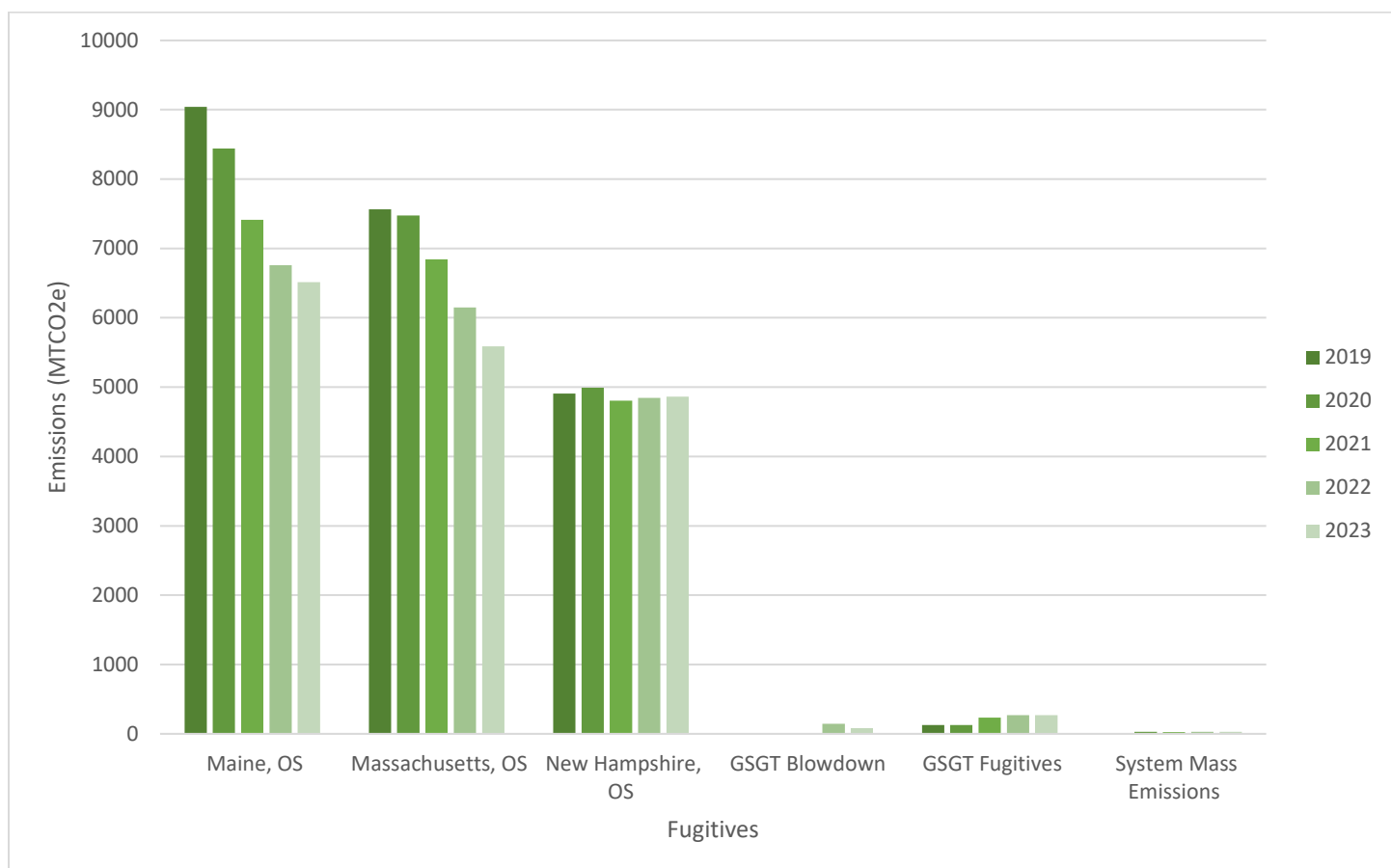


Figure 3: Total annual emissions from fugitives across all operational states and from transmission and distribution

Table 3: Total annual emissions from fugitives across all operational states from transmission and distribution

Year	Maine, OS	Massachusetts, OS	New Hampshire, OS	GSGT Blowdown	GSGT Fugitives	System Mass Emissions
2019	9040.4	7563.2	4906.1	0.0	125.9	0.0
2020	8442.8	7474.6	4993.3	0.0	125.9	28.9
2021	7412.5	6842.0	4806.4	0.0	234.3	26.3
2022	6760.2	6150.4	4845.4	143.4	270.0	27.6
2023	6516.2	5589.1	4863.6	83.5	270.0	27.6
<b>Grand Total</b>	<b>38172.2</b>	<b>33619.2</b>	<b>24414.8</b>	<b>226.9</b>	<b>1026.0</b>	<b>110.4</b>

## Fleet (Company-Owned Vehicles)

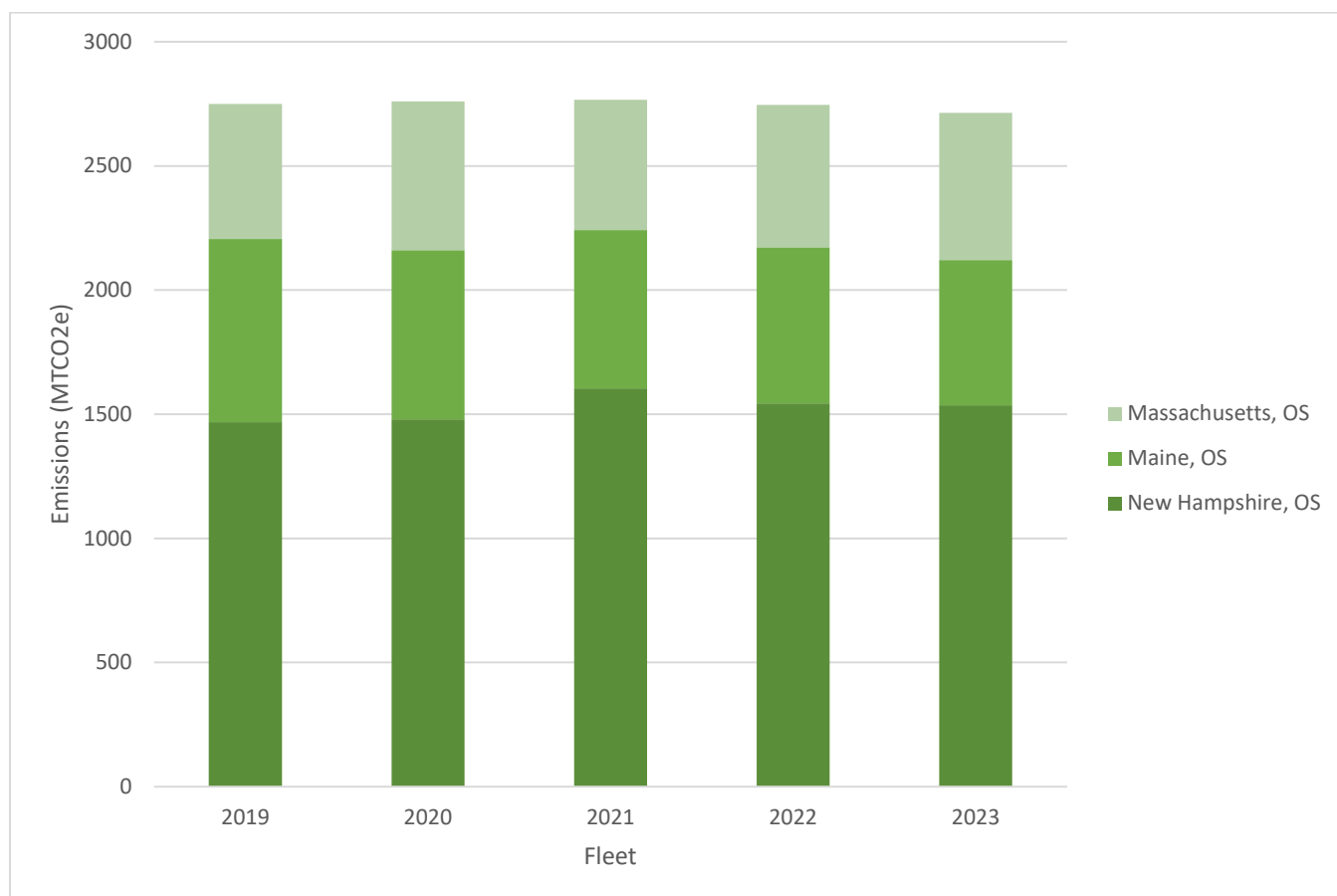


Figure 4: Total annual emissions from company-owned fleet vehicles.

Table 4: Total annual emissions from company-owned fleet vehicles.

Year	Maine, OS	Massachusetts, OS	New Hampshire, OS
2019	738	544	1468
2020	682	598	1480
2021	637	526	1604
2022	629	573	1543
2023	585	593	1536
<b>Grand Total</b>	<b>3271</b>	<b>2835</b>	<b>7630</b>

## Scope 2 Emissions

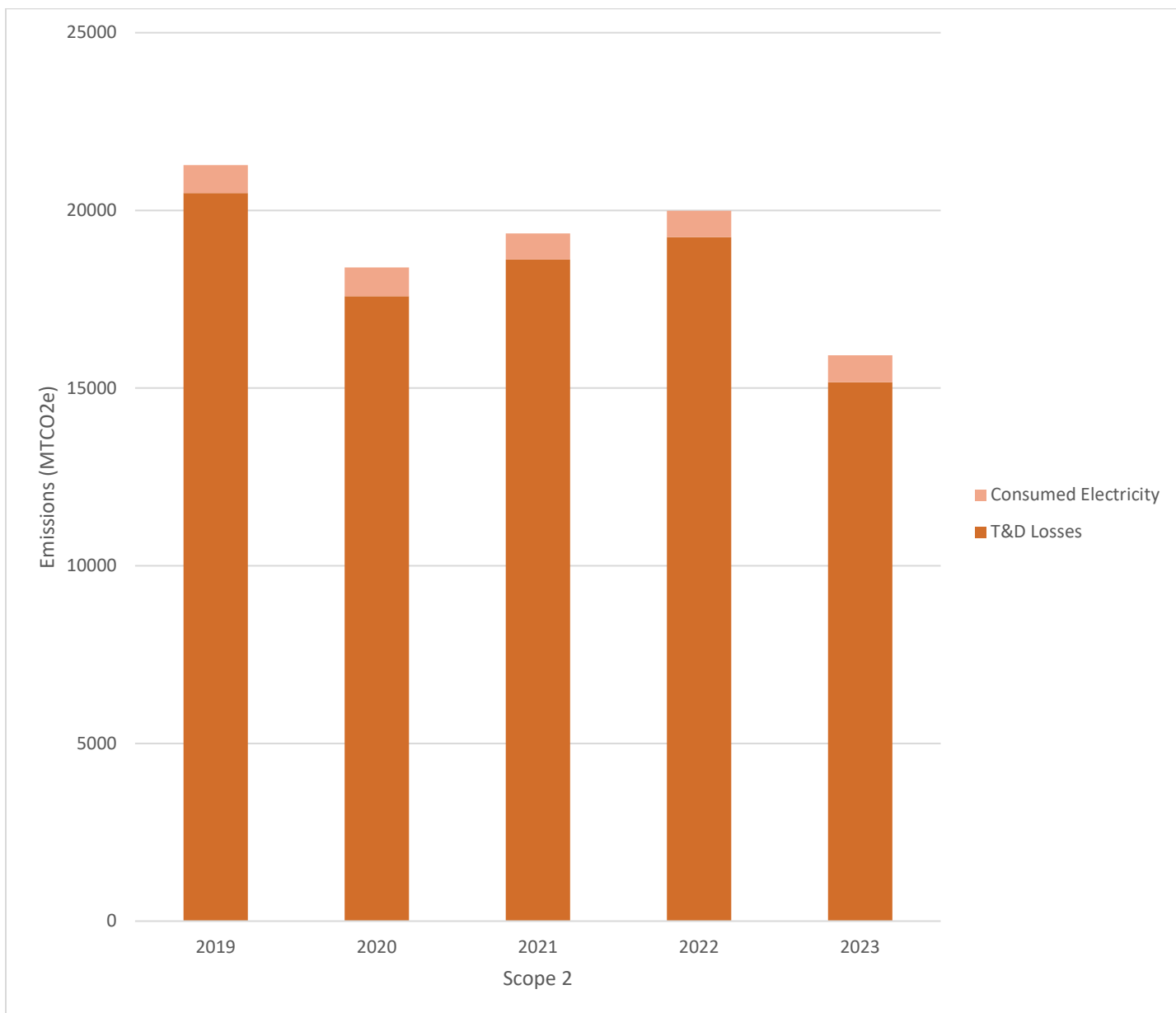


Figure 5: Scope 2 total emissions compared annually.

## Consumed Electricity at Company Facilities

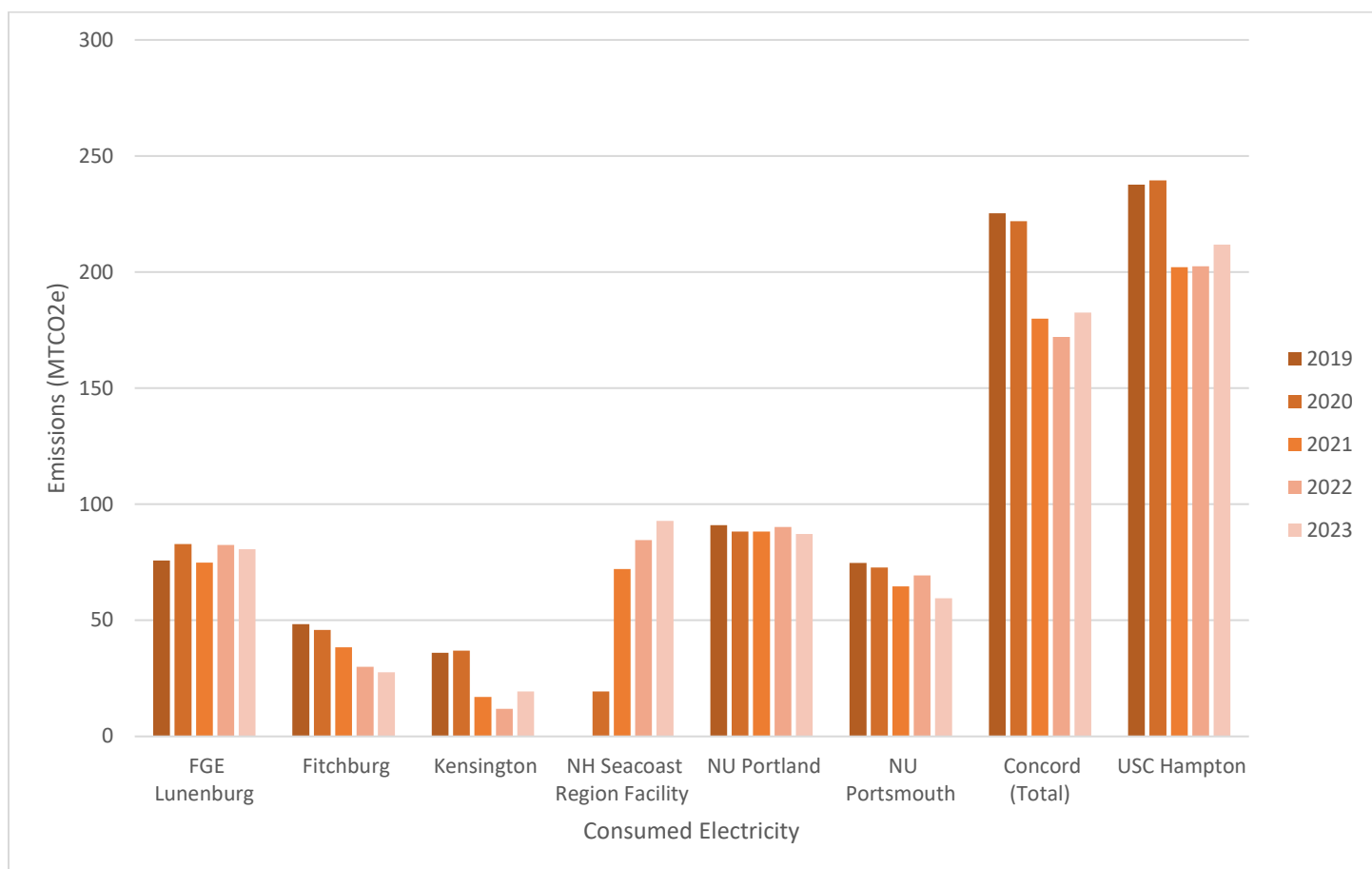


Figure 6: Total annual emissions from electricity consumption across all Unitil facilities

Table 5: Total annual emissions from electricity consumption across all Unitil facilities

Year	FGE Lunenburg	Fitchburg	Kensington	NH Seacoast	NU Portland	NU Portsmouth	Concord Total	USC Hampton
2019	75.7	48.4	36.1	0.0	91.0	74.8	225.3	237.7
2020	82.8	45.9	36.9	19.4	88.3	72.8	222.0	239.5
2021	74.8	38.4	17.0	72.1	88.2	64.7	179.9	202.1
2022	82.4	30.0	11.9	84.6	90.2	69.3	172.1	202.6
2023	80.7	27.7	19.3	92.8	87.2	59.5	182.6	211.9
<b>Grand Total</b>	<b>396.4</b>	<b>190.3</b>	<b>121.3</b>	<b>268.9</b>	<b>444.9</b>	<b>341.1</b>	<b>981.9</b>	<b>1093.6</b>

## T&D (Transmission & Distribution) Losses

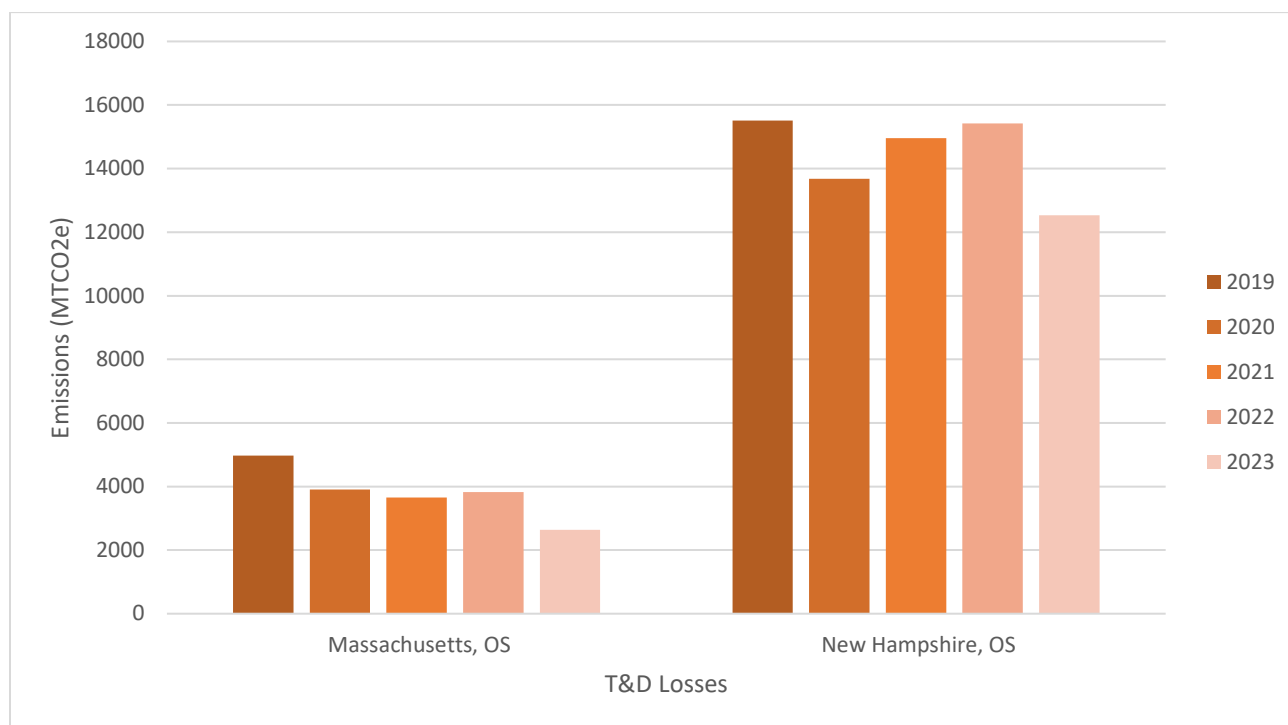


Figure 7: Total annual emissions from T&D losses across all operational states

Table 6: Total annual emissions from T&D losses across all operational states

Year	Massachusetts, OS	New Hampshire, OS
2019	4974	15511
2020	3910	13676
2021	3658	14958
2022	3829	15419
2023	2633	12532
<b>Grand Total</b>	<b>19005</b>	<b>72096</b>



## Scope 3 Emissions

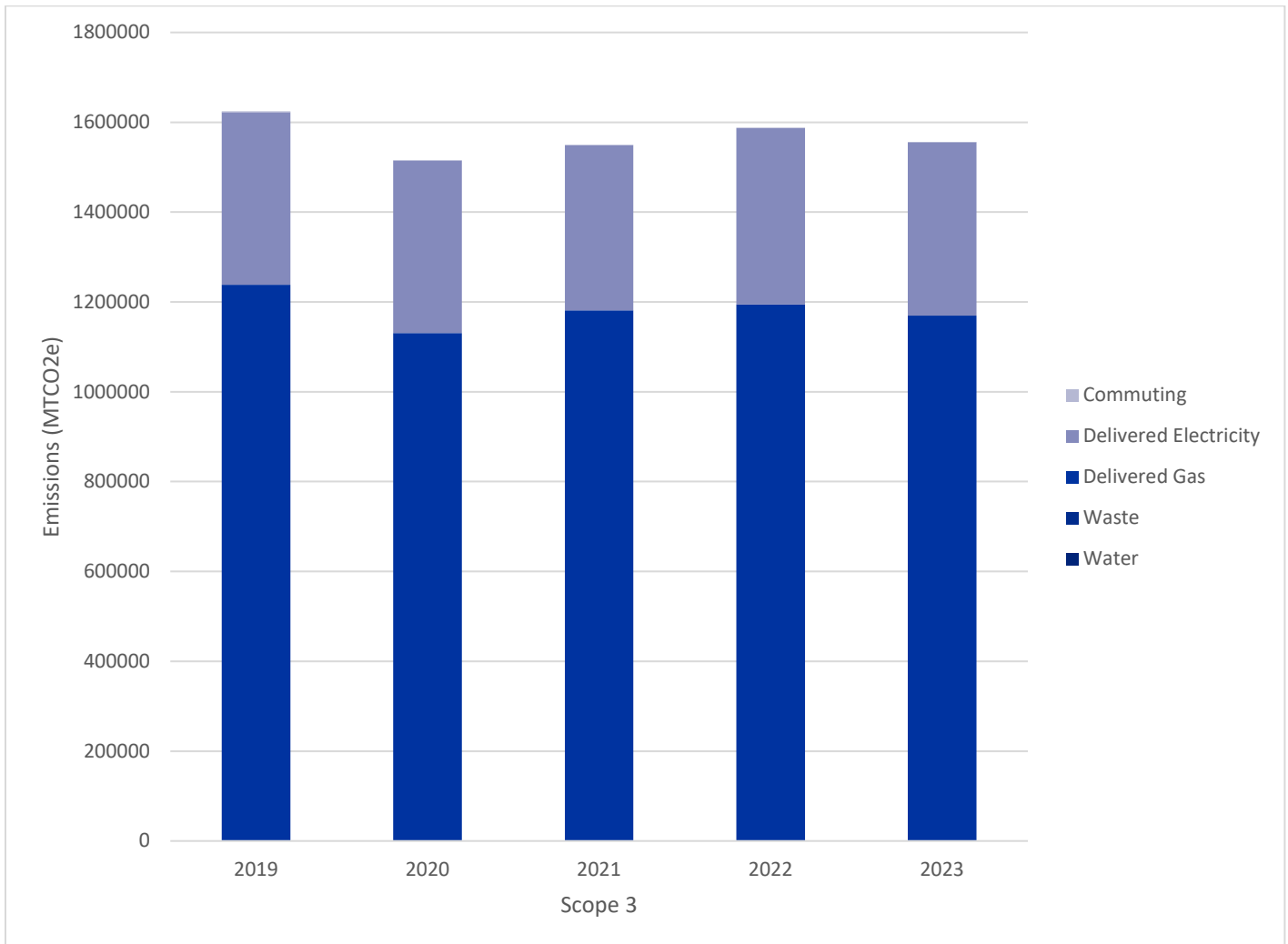


Figure 8: Scope 3 total emissions compared annually.

## Delivered Gas

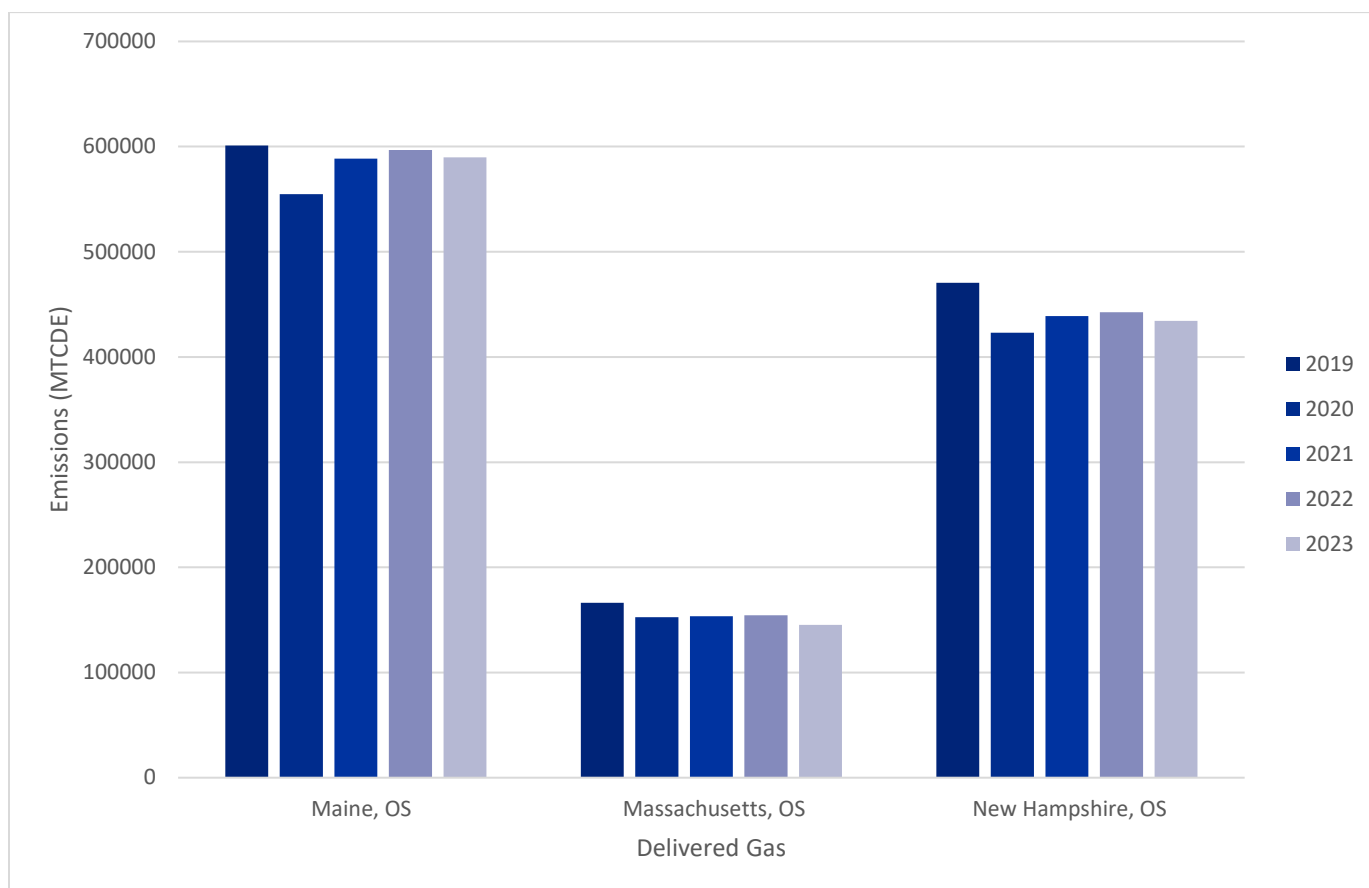


Figure 9: Total annual emissions from delivered gas across all operational states

Table 7: Total annual emissions from delivered gas across all operational states

Year	Maine, OS	Massachusetts, OS	New Hampshire, OS
2019	601006	166426	470554
2020	554849	152588	423167
2021	588649	153541	438989
2022	596914	154472	442515
2023	589803	145417	434403
<b>Grand Total</b>	<b>2931221</b>	<b>772445</b>	<b>2209628</b>

## Delivered Electricity

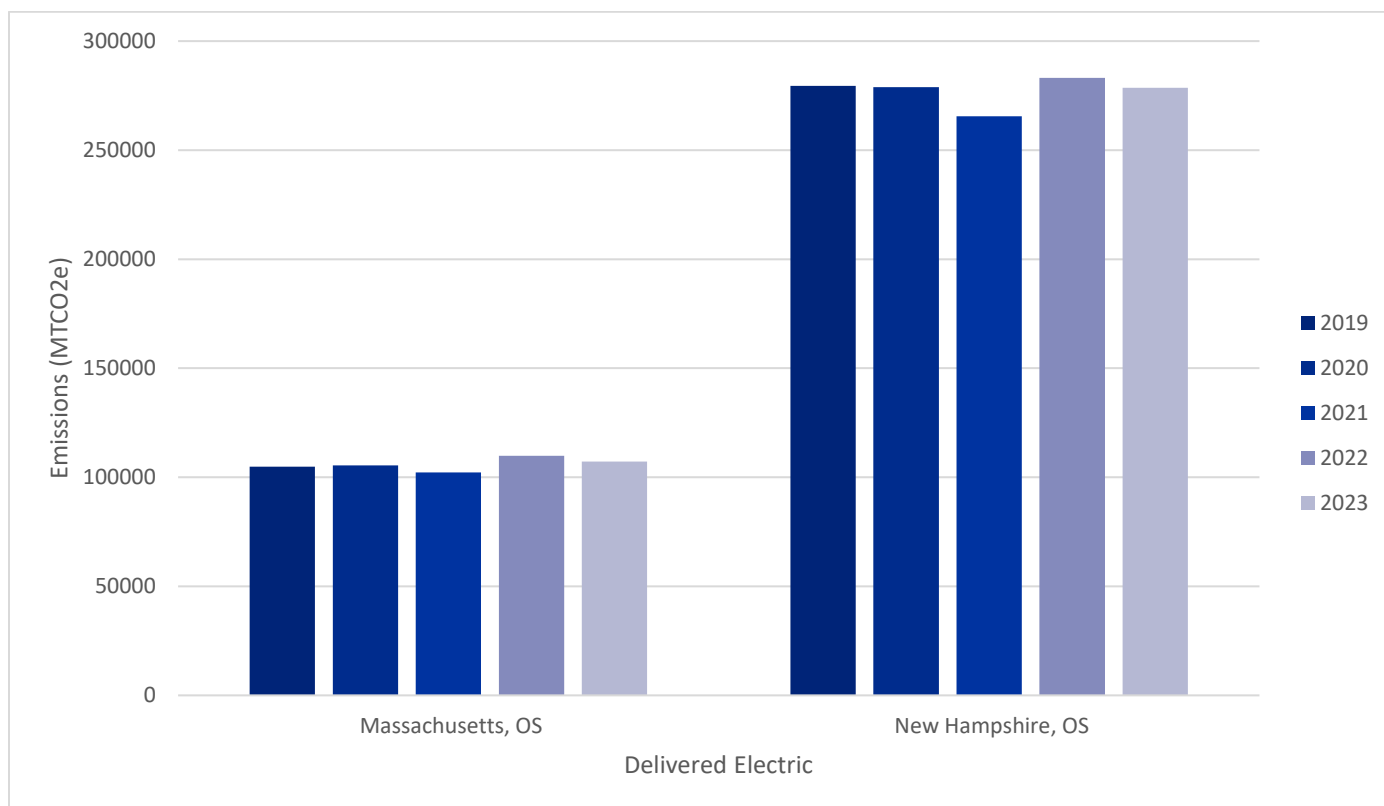


Figure 10: Total annual emissions from delivered electricity across all operational states

Table 8: Total annual emissions from delivered electricity across all operational states

<b>Values</b>	<b>Massachusetts, OS</b>	<b>New Hampshire, OS</b>
2019	104880	279431
2020	105420	278928
2021	102188	265600
2022	109885	283158
2023	107270	278628
<b>Grand Total</b>	<b>529644</b>	<b>1385744</b>

## Waste

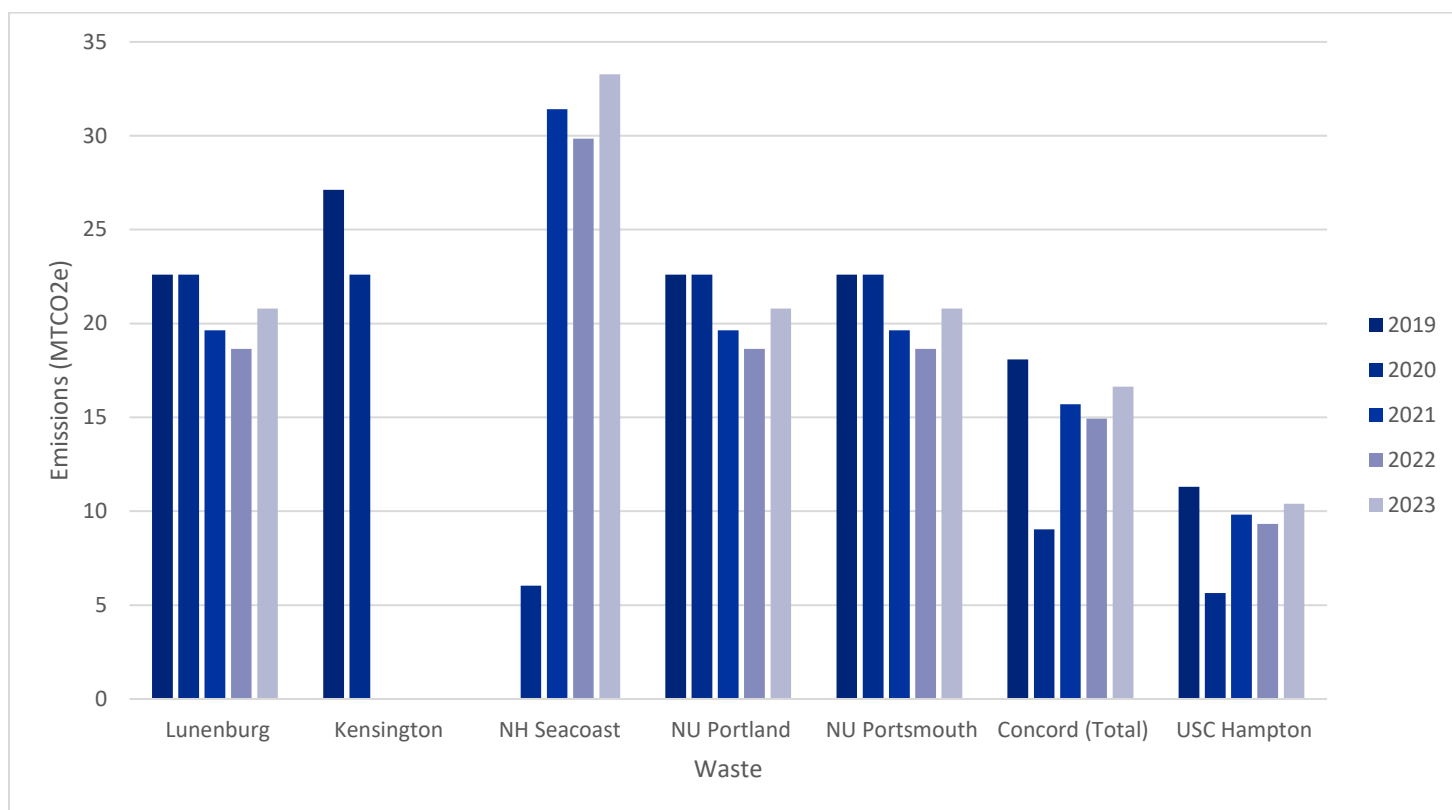


Figure 11: Total annual emissions from waste generation across all Unitil facilities

Table 9: Total annual emissions from waste generation across all Unitil facilities

Year	FGE Lunenburg	Kensington	NH Seacoast	NU Portland	NU Portsmouth	Concord Total	USC Hampton
2019	22.6	27.1	0.0	22.6	22.6	18.1	11.3
2020	22.6	22.6	6.0	22.6	22.6	9.0	5.7
2021	19.6	0.0	31.4	19.6	19.6	15.7	9.8
2022	18.7	0.0	29.9	18.7	18.7	14.9	9.3
2023	20.8	0.0	33.3	20.8	20.8	16.6	10.4
<b>Grand Total</b>	<b>104.3</b>	<b>49.7</b>	<b>100.6</b>	<b>104.3</b>	<b>104.3</b>	<b>74.4</b>	<b>46.5</b>

## Water

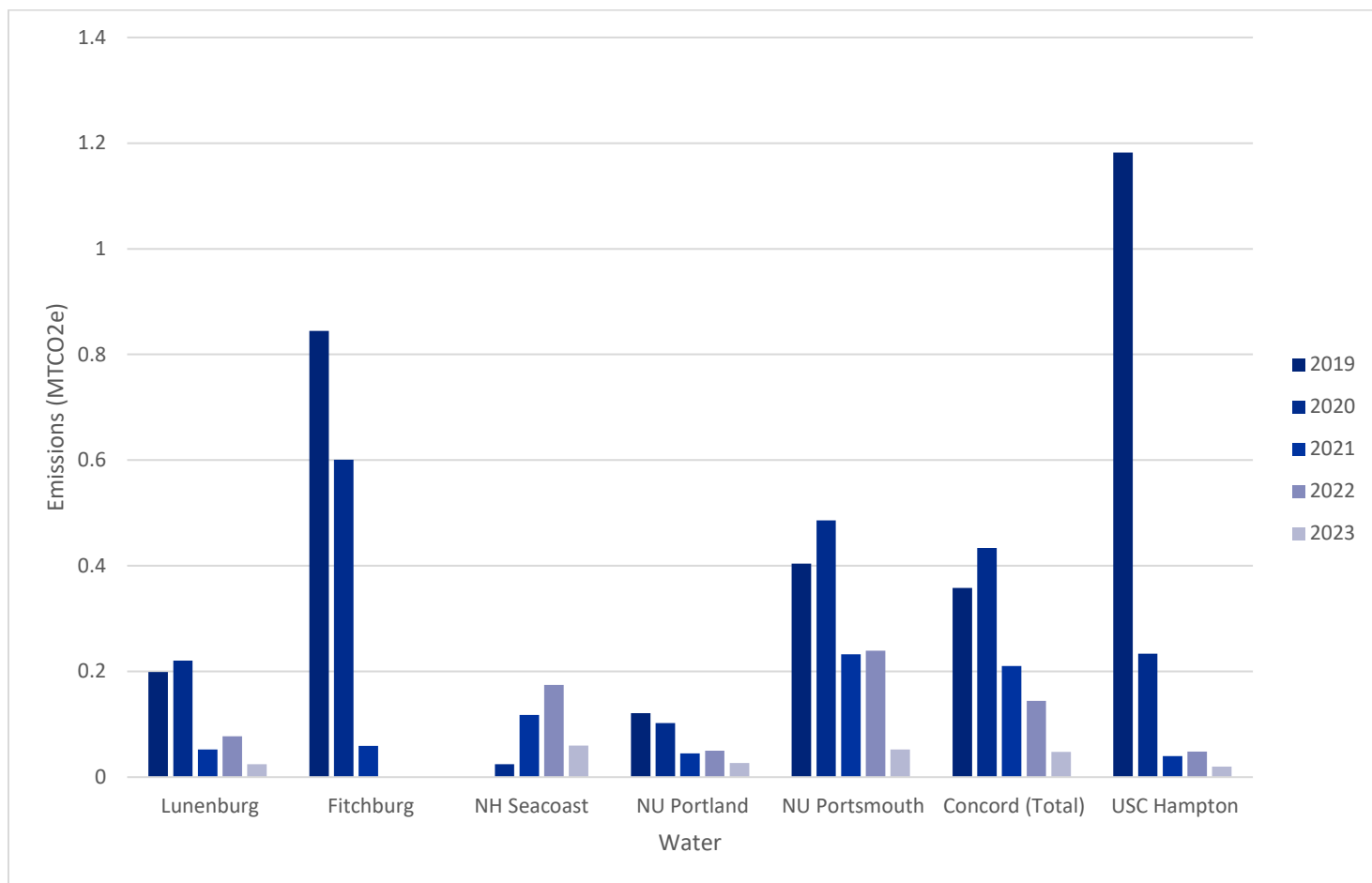


Figure 12: Total annual emissions from water consumption across all Unitil facilities

Table 10: Total annual emissions from water consumption across all Unitil facilities

Year	FGE Lunenburg	Fitchburg	NH Seacoast	NU Portland	NU Portsmouth	Concord Total	USC Hampton
2019	0.20	0.84	0.00	0.12	0.40	0.36	1.18
2020	0.22	0.60	0.02	0.10	0.49	0.43	0.23
2021	0.05	0.06	0.12	0.04	0.23	0.21	0.04
2022	0.08	0.00	0.17	0.05	0.24	0.14	0.05
2023	0.02	0.00	0.06	0.03	0.05	0.05	0.02
<b>Grand Total</b>	<b>0.57</b>	<b>1.50</b>	<b>0.38</b>	<b>0.34</b>	<b>1.41</b>	<b>1.19</b>	<b>1.52</b>

## Commuting

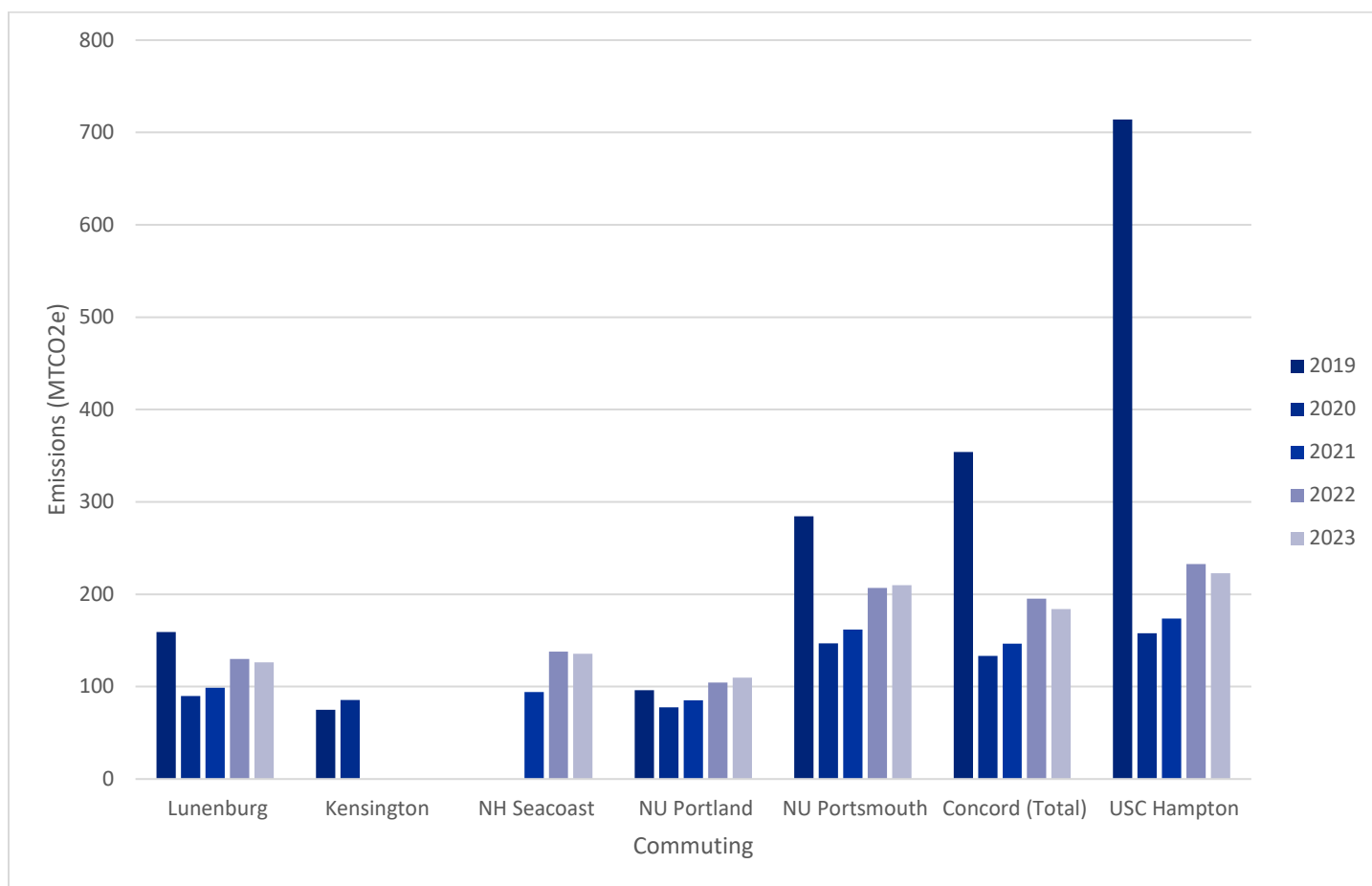


Figure 13: Total annual emissions from commuting across all Unitil facilities

Table 11: Total annual emissions from commuting across all Unitil facilities

Year	FGE Lunenburg	Kensington	NH Seacoast	NU Portland	NU Portsmouth	Concord Total	USC Hampton
2019	159.1	74.9	0.0	96.2	284.4	354.2	714.1
2020	89.8	85.7	0.0	77.5	146.9	133.3	157.8
2021	98.8	0.0	94.3	85.3	161.7	146.7	173.7
2022	130.1	0.0	138.0	104.5	207.0	195.2	232.6
2023	126.3	0.0	135.6	109.6	209.9	183.9	222.9
<b>Grand Total</b>	<b>604.1</b>	<b>160.6</b>	<b>367.9</b>	<b>473.2</b>	<b>1009.9</b>	<b>1013.3</b>	<b>1501.1</b>