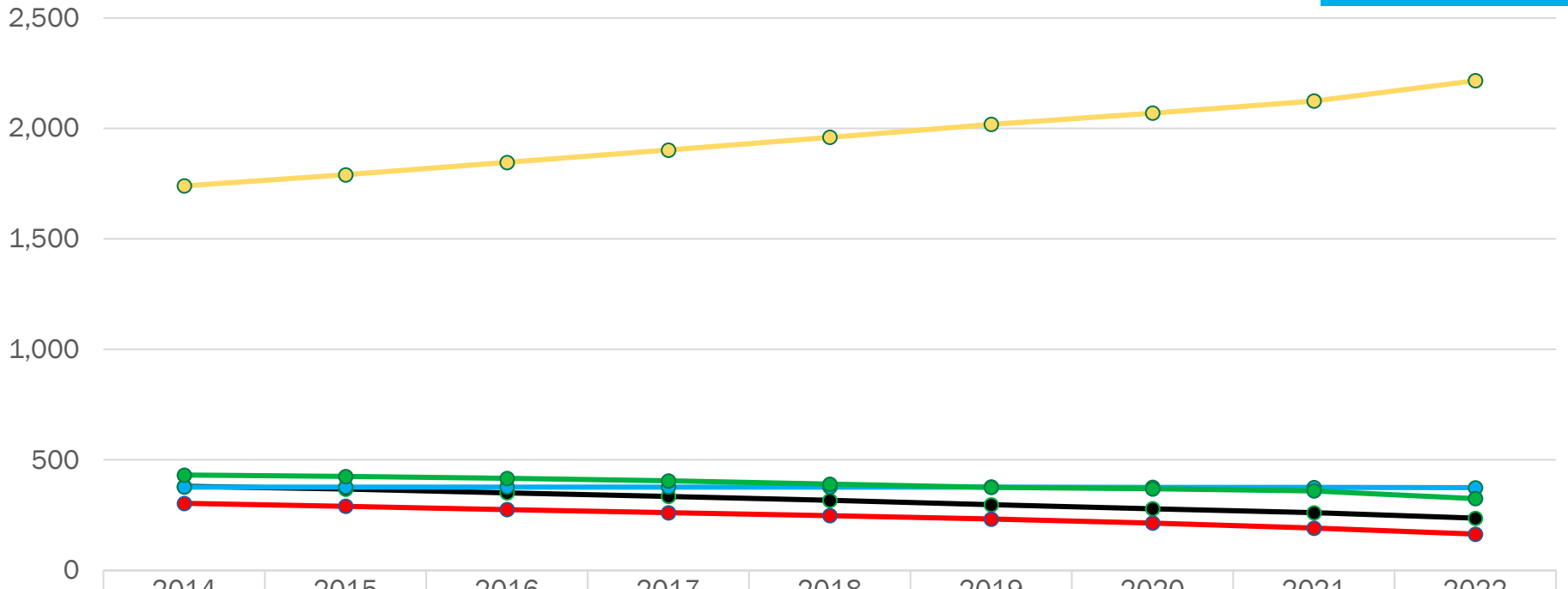
GSEP Working Group

NSTAR and EGMA

11/9/2023

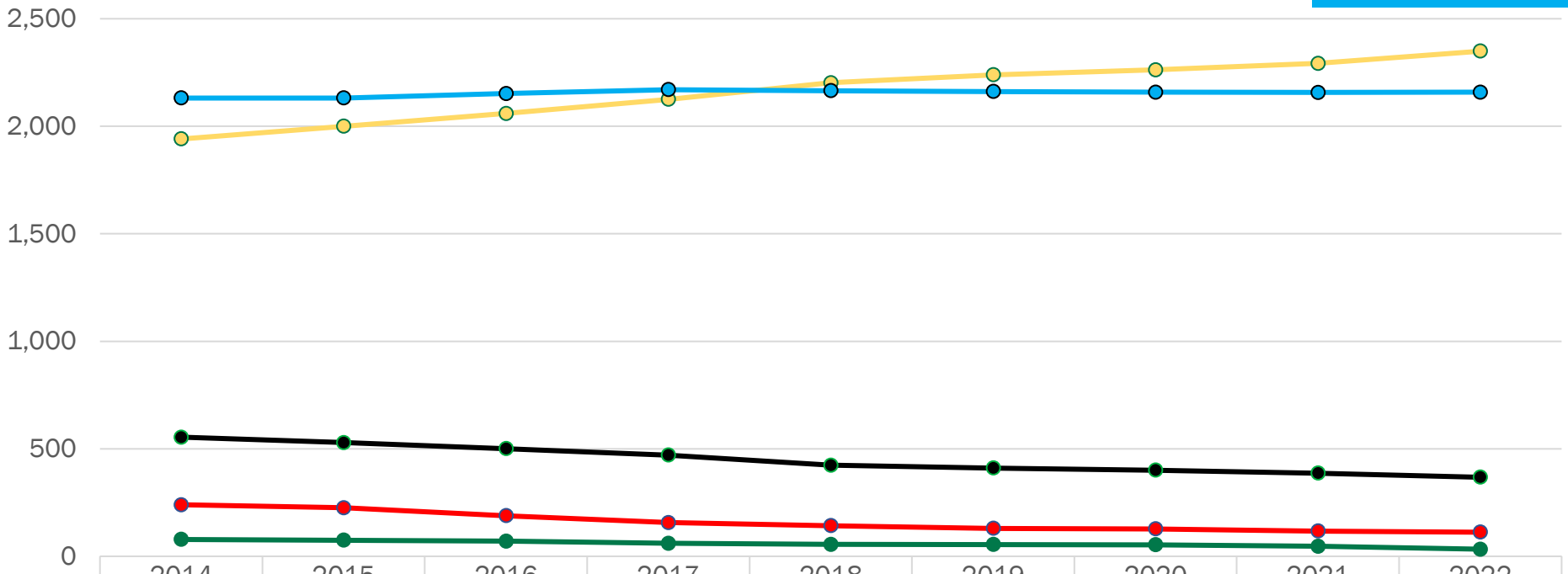
Main Inventory by Material – NSTAR



	2014	2015	2016	2017	2018	2019	2020	2021	2022
Plastic	1,740	1,790	1,846	1,902	1,960	2,018	2,069	2,124	2,216
Cast iron	380	368	351	335	317	297	279	261	236
Coated steel - Protected	377	377	377	377	377	377	376	375	374
Bare Steel	303	290	275	261	248	232	214	191	164
Coated steel - Unprotected	431	425	416	405	390	376	369	360	325

- 389 miles of leak prone pipe (cast iron, unprotected steel) replaced via GSEP through 2022.
- Leak prone mains reduced from 34.5% to 22.0% of total main inventory.
- 725 miles of leak prone main in inventory at YE 2022.
- Projected leak prone main inventory will be 665 miles at the end of 2023.

Main Inventory by Material – EGMA

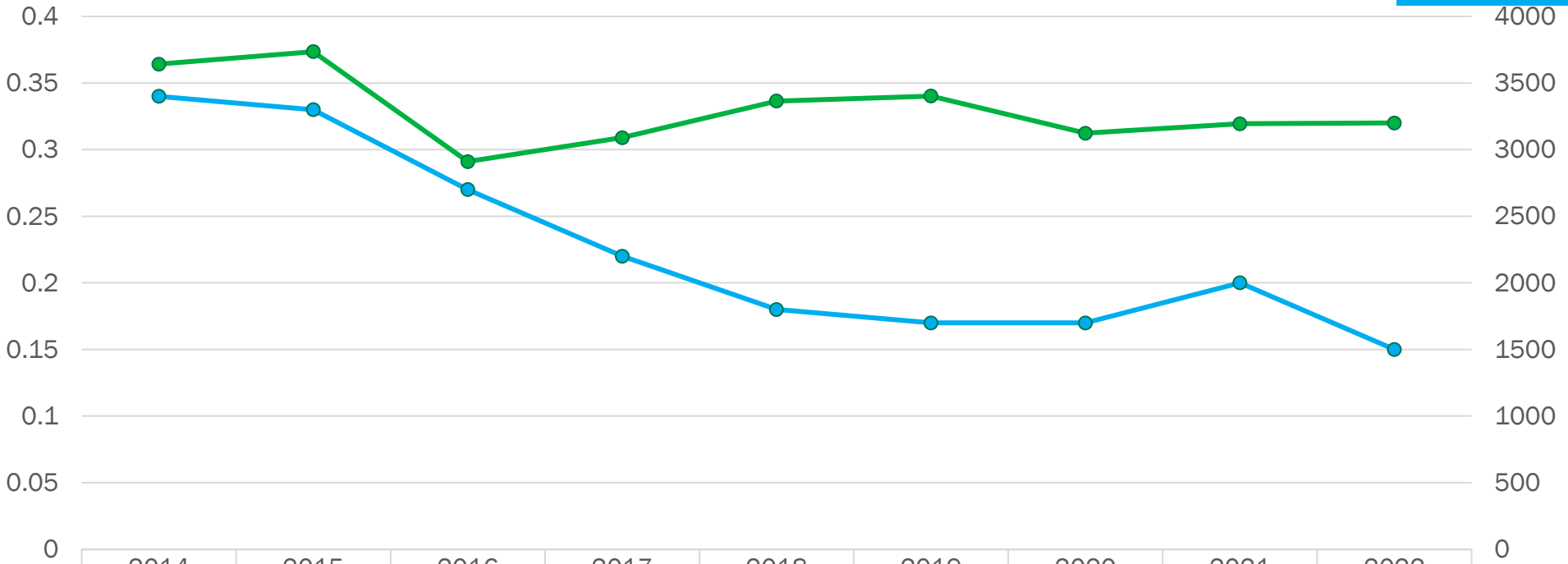


	2014	2015	2016	2017	2018	2019	2020	2021	2022
Plastic	1,941	2,000	2,059	2,125	2,202	2,239	2,262	2,292	2,349
Cast Iron	554	529	501	471	424	411	401	387	368
Coated Steel - Protected	2,131	2,131	2,152	2,170	2,165	2,161	2,158	2,157	2,158
Bare Steel	240	226	189	157	143	130	128	118	113
Coated steel - Unprotected	79	75	71	61	56	55	54	47	33

- 359 miles of leak prone pipe (cast iron, unprotected steel) replaced via GSEP through 2022.
- Leak prone mains reduced from 17.7% to 10.2% of total main inventory.
- 514 miles of leak prone main in inventory at YE 2022.
- Projected leak prone main inventory will be 474 miles at the end of 2023.

Source: Form PHMSA F7100.0-1

Leak Rate – NSTAR



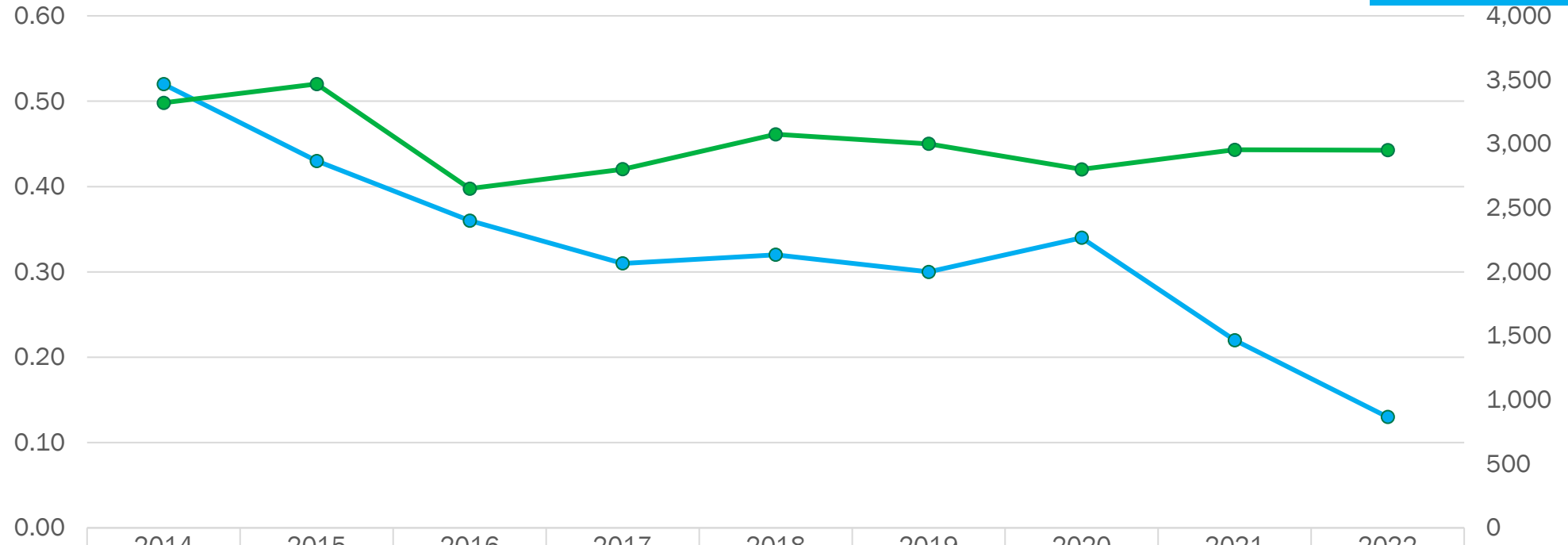
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Leak rate	0.34	0.33	0.27	0.22	0.18	0.17	0.17	0.20	0.15
HDD	3642	3736	2910	3090	3365	3402	3123	3194	3200

- The leak rate reduced by 56% from 2014 to 2022.
- The total number of Class 1 and Class 2 leaks reduced by 52% from 2014 to 2022.

$$\text{Leak rate} = \frac{\text{Main and service leaks excluding damages}}{\text{Total miles of main + miles of services}}$$

Source: Form PHMSA F7100.0-1

Leak Rate – EGMA



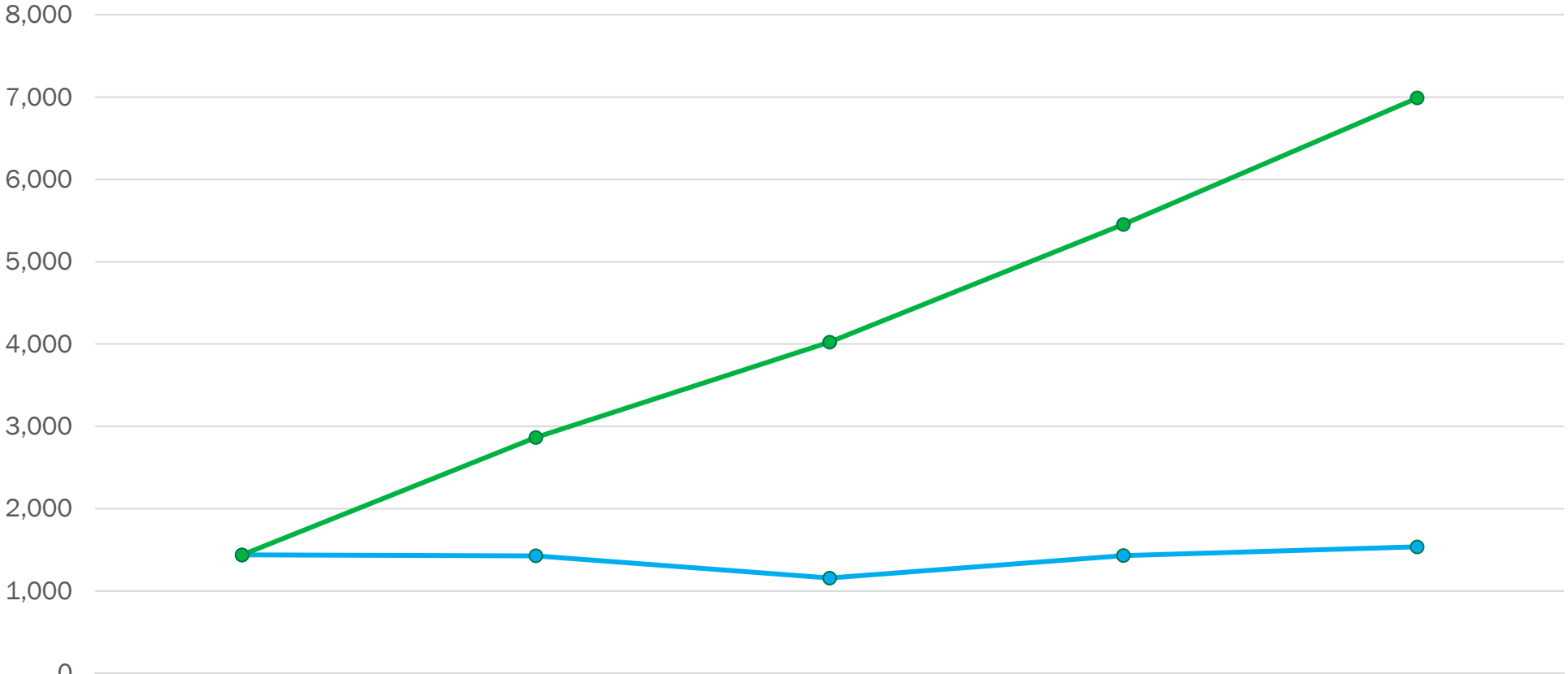
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Leak rate	0.52	0.43	0.36	0.31	0.32	0.30	0.34	0.22	0.13
HDD	3,321	3,467	2,650	2,802	3,075	3,000	2,801	2,954	2,951

- The leak rate reduced by 75% from 2014 to 2022.
- The total number of Class 1 and Class 2 leaks reduced by 65% from 2014 to 2022.

$$\text{Leak rate} = \frac{\text{Main and service leaks excluding damages}}{\text{Total miles of main + miles of services}}$$

Source: Form PHMSA F7100.0-1

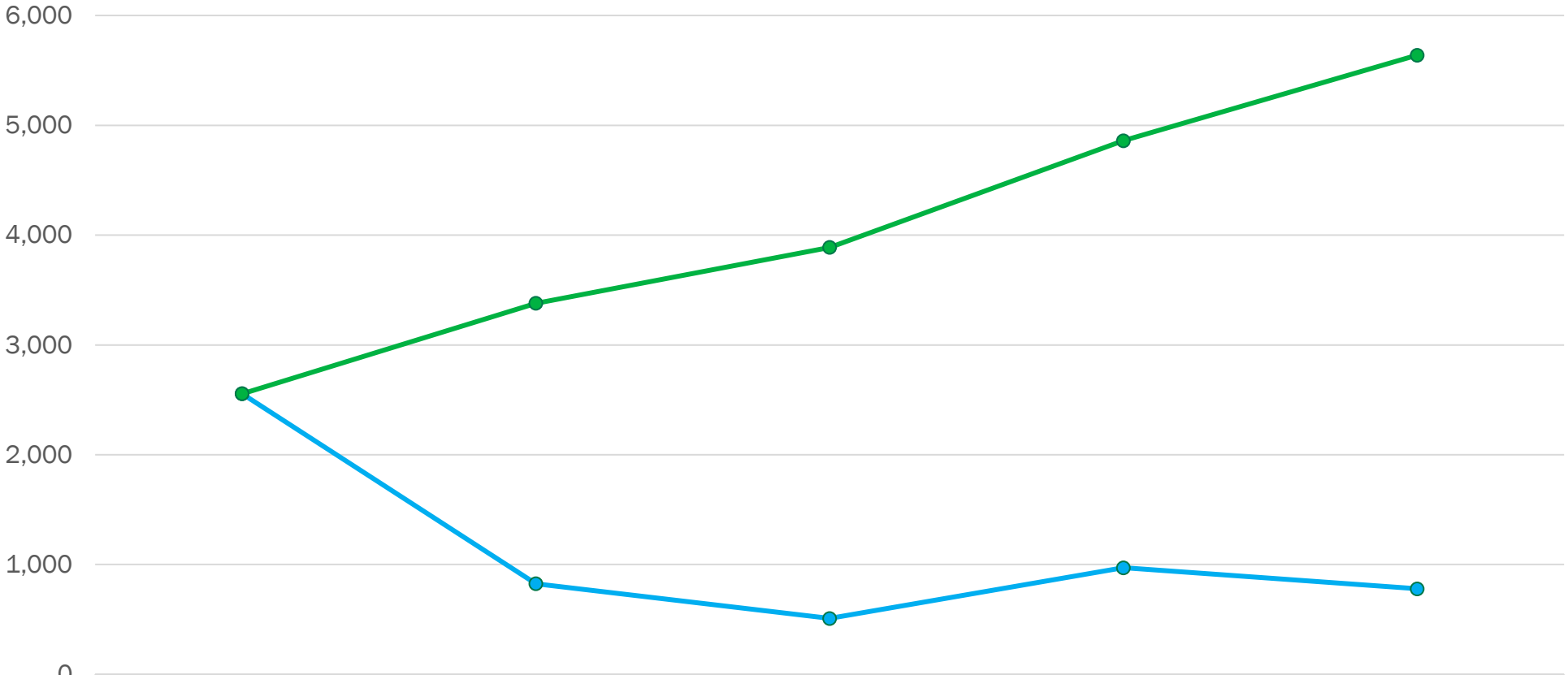
Emission Reductions Through GSEP Program
Last Five Years – NSTAR



	2018	2019	2020	2021	2022
MT of CO2 Reduction	1,438	1,428	1,158	1,430	1,536
Cumulative total	1,438	2,866	4,024	5,454	6,990

Eversource used EPA emission factors up to 2017; switched to DEP in 2018.

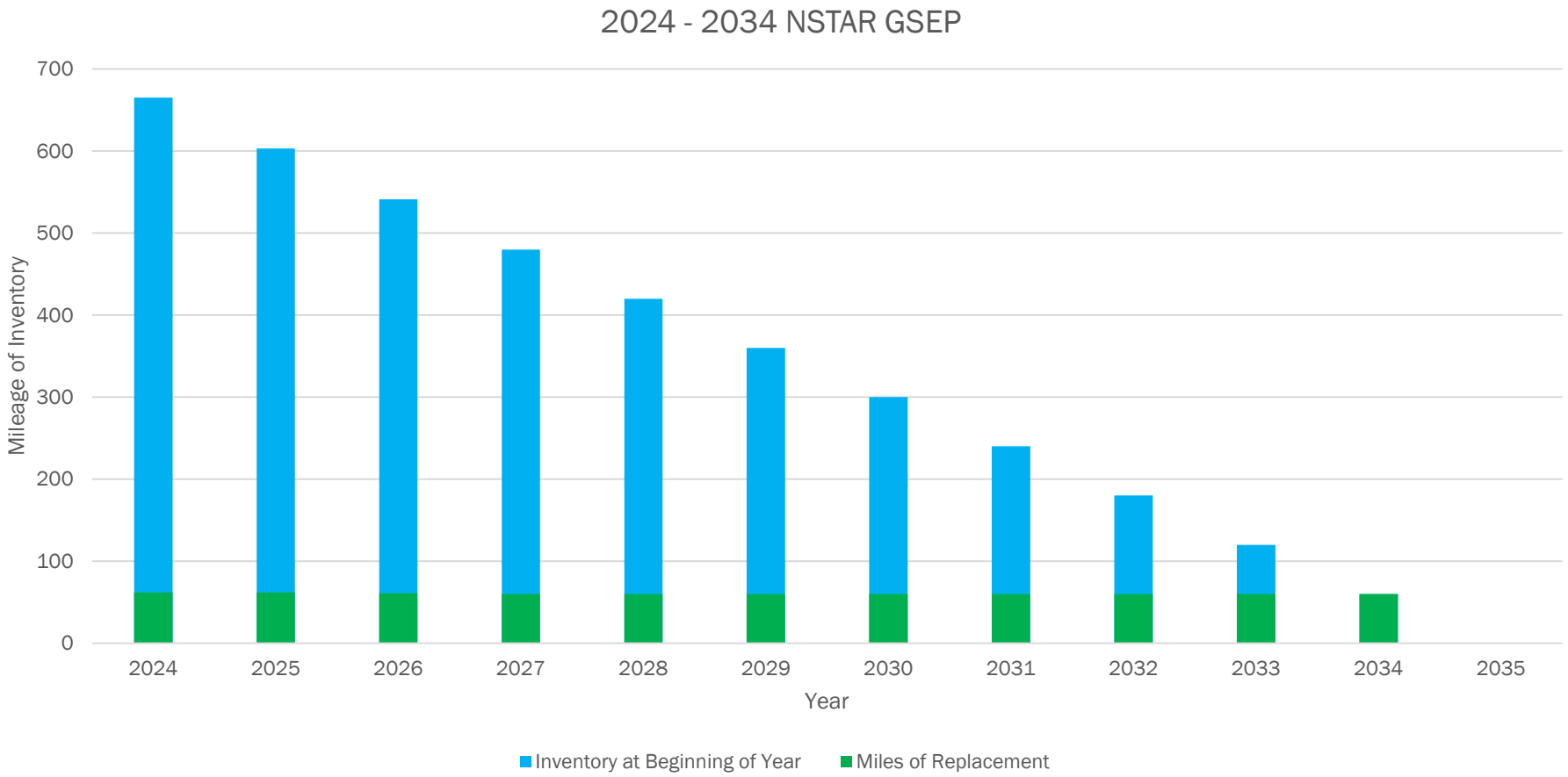
Emission Reductions Through GSEP Program Last Five Years – EGMA



	2018	2019	2020	2021	2022
MT of CO2 Reduction	2,555	825	509	971	779
Cumulative total	2,555	3,380	3,889	4,860	5,639

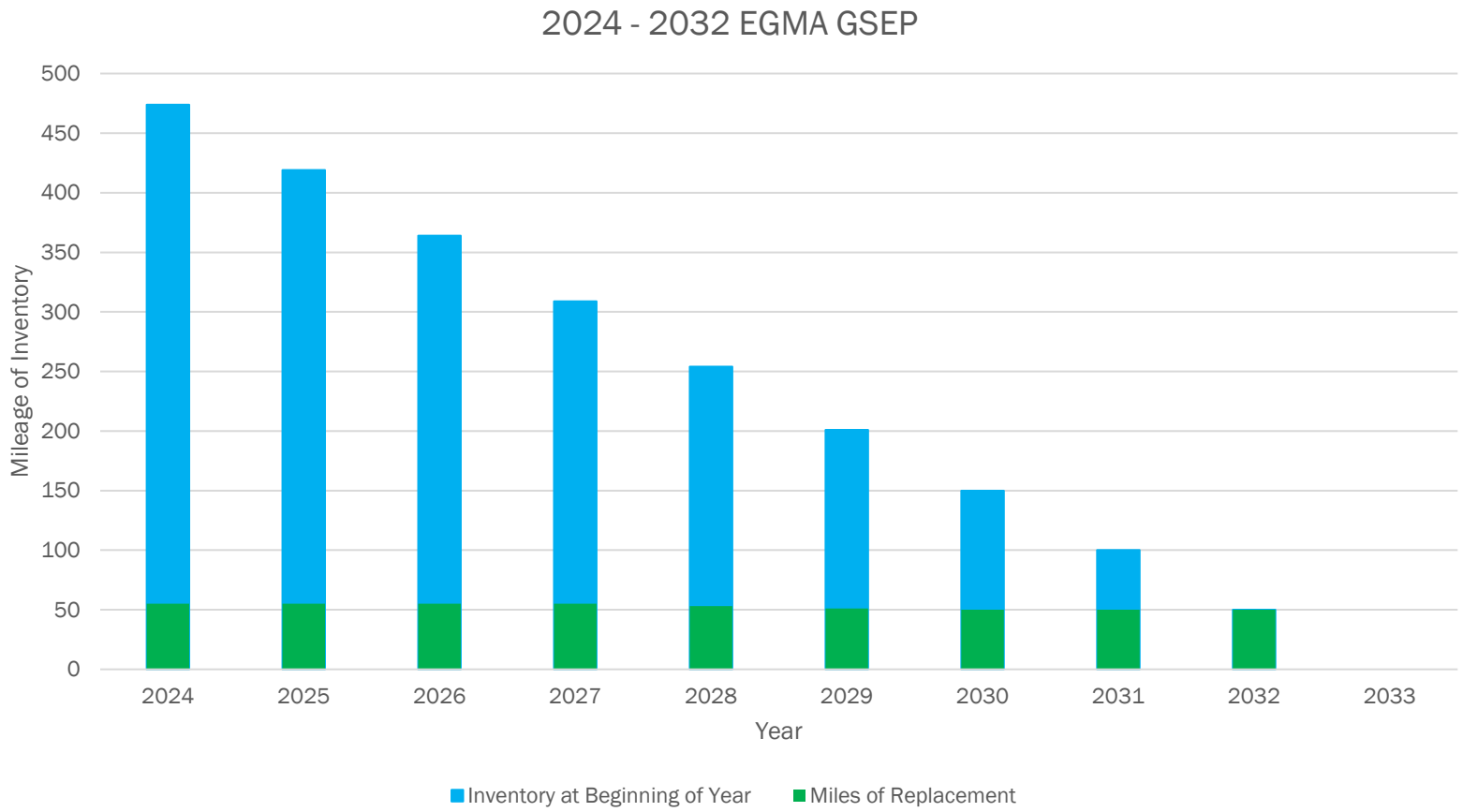
Eversource used EPA emission factors up to 2017; switched to DEP in 2018.

Total Cost GSEP Program – NSTAR



- NSTAR is on pace to replace 665 miles of leak prone inventory from 2024 – 2034, with an approximate total cost of $2.4B.
- This cost was calculated assuming 3% inflation annually.

Total Cost GSEP Program – EGMA



- EGMA is on pace to replace 474 miles of leak prone inventory from 2024 – 2032, with an approximate total cost being of $1.4B.
- This cost was calculated assuming 3% inflation annually.