



GSEP Working Group

Unitil Presentation

September 19, 2023

ABOUT UNITIL

An investor owned utility

**We provide energy for life,
safely and reliably delivering
natural gas and electricity in
New England.**

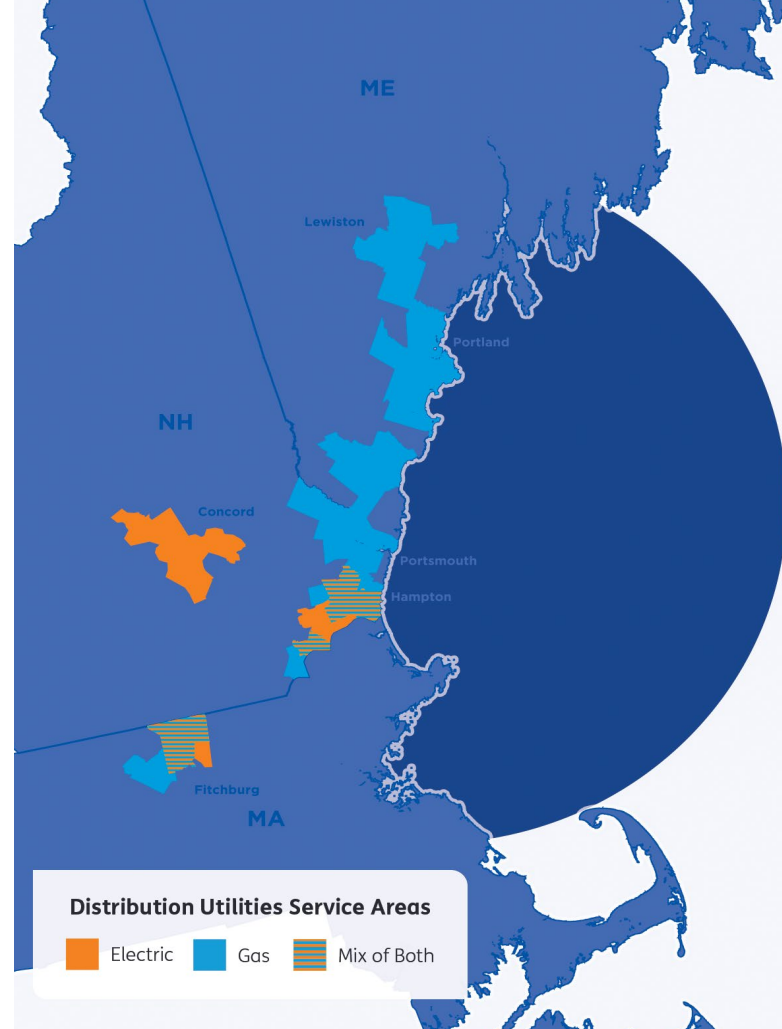
- Natural gas and electric distribution utility with operations in three states serving ~195,000 customers
 - Electric: ~107,700 customers
 - Gas: ~86,600 customers
- Growing operations and customer base
 - Robust natural gas system expansion
 - 500+ full-time employees with dual storm roles

107,700

Electric Customers

86,600

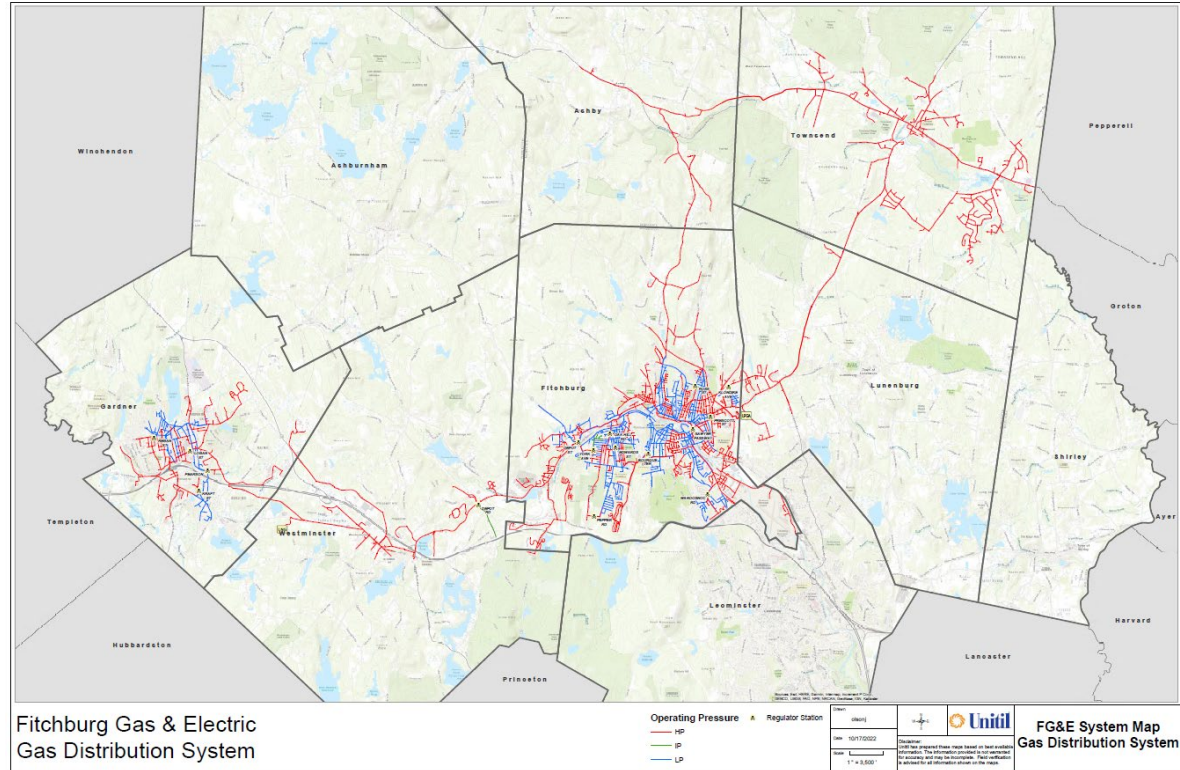
Natural Gas Customers



Unitil - Massachusetts Service Territory (Gas)

- Ashby*
- Fitchburg*
- Gardner
- Lunenburg*
- Townsend*
- Westminster

* Unitil Provides Electric Service



Gas Distribution System – Gas Mains (MA)

PHMSA F.7100 1-1 Annual Report

GSEP Reduced LPP
Main Inventory by
~30 miles or ~ 44%
2015 - 2022

Material (Gas Mains)	2014	2015	2016	2017	2018	2019	2020	2021	2022
Unprotected Bare Steel	7.20	6.51	5.78	5.40	5.53	5.42	4.68	3.79	3.3
Unprotected Coated Steel	0	0	0	0	0	0	6.66	5.49	4.66
C.P Bare Steel	0	0	0	0	.19	.19	.19	0	0
C.P. Coated Steel	123.58	123.33	124.30	123.35	123.27	122.6	115.38	114.24	114.28
Plastic	81.94	86.74	89.32	95.04	98.57	102.23	107.46	112.83	117.85
Cast/Wrought Iron	60.84	56.73	53.75	48.73	44.41	40.8	37.58	34.47	30.41
Ductile Iron	1.54	1.80	1.80	1.37	1.36	1.47	1.1	1.07	.74
Total Miles	275.1	275.11	274.95	273.89	273.33	272.71	273.05	271.89	271.24
Leak Prone Pipe Miles	69.6	65.04	61.33	55.55	51.49	47.88	50.21	44.82	39.11
% of System Leak Prone	25.29%	23.64%	22.31%	20.26%	18.84%	17.56%	18.38%	16.83%	14.42%

Gas Distribution System – Gas Services (MA)

PHMSA F.7100 1-1 Annual Report

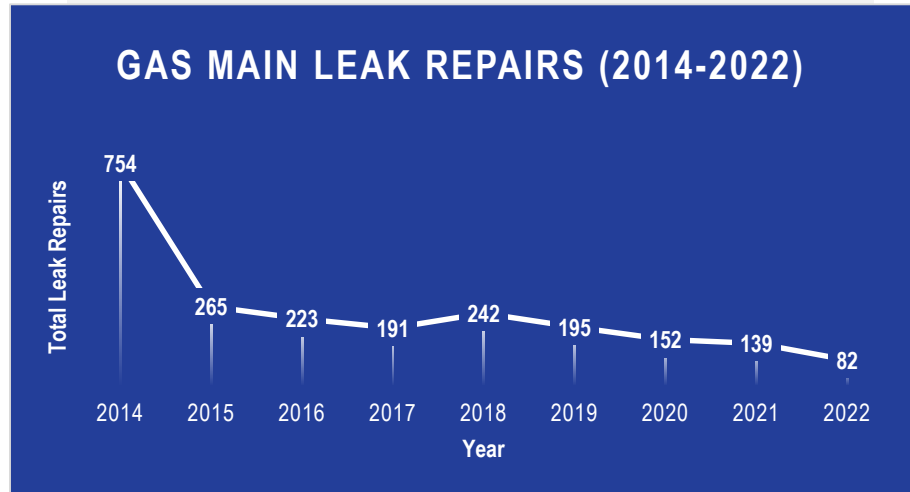
GSEP Reduced LPP
Service Inventory by
~ 65% 2015 – 2022

Material (Gas Services)	2014	2015	2016	2017	2018	2019	2020	2021	2022
Unprotected Bare Steel	2,549	2,308	2,124	1,850	1,684	1,493	1,310	1,212	1,044
Unprotected Coated Steel	519	452	451	466	295	272	210	71	58
C.P Bare Steel	39	0	0	0	0	0	0	0	0
C.P. Coated Steel	1,906	1,974	1,965	1,886	2,041	2,049	2,113	2,166	2,142
Plastic	5,9114	6,219	6,432	6,844	7,050	7,306	7,551	7,762	7,998
Total Services	10,924	10,953	10,972	11,046	11,070	11,120	11,184	11,211	11,242
Leak Prone Services	3,107	2,760	2,575	2,316	1,979	1,765	1,520	1,283	1,102
% of Services Leak Prone	28%	25%	23%	21%	18%	16%	14%	11%	10%

Gas Main Leaks 2014 – 2022 (MA)

PHMSA F7100.1-1 Annual Report

Year	Main Leaks	Miles of Main	Leaks Per Mile
2014	754	275.1	2.74
2015	265	275.11	0.96
2016	223	274.95	0.81
2017	191	273.89	0.70
2018	242	273.33	0.89
2019	195	272.11	0.72
2020	152	273.05	0.56
2021	139	271.89	0.51
2022	82	271.24	0.30



Reduced gas main leak repairs 89% from 2014 vs. 2022

Reduced gas main leak repairs 69% from 2015 vs. 2022

85% - 90% of all gas main leak repairs are on GSEP facilities

Gas Service Leaks 2014 – 2022 (MA)

PHMSA F7100.1-1 Annual Report

Year	Service Leaks
2014	203
2015	235
2016	294
2017	172
2018	135
2019	109
2020	122
2021	147
2022	156



Reduced gas service leak repairs 23% from 2014 vs. 2022

Methane Emissions (MA)

310 CMR 7.73

From 2017 – 2022 the GSEP Program Reduced Methane Emissions by 640 mTCO₂e or 29%

Gas Mains	2017 (Year End)	2018 (Year End)	2019 (Year End)	2020 (Year End)	2021 (Year End)	2022 (Year End)	2017 -2022 Reduction (mTCO ₂ e)
Cast or Wrought Iron	1,397	1,273	1,169	1,077	988	872	-525
Ductile Iron	39	39	42	32	31	21	-18
Copper	0	0	0	0	0	0	0
Steel, cathodically unprotected and uncoated	110	112	110	95	77	67	-43
Steel, cathodically unprotected and coated	0	0	0	135	111	95	95
Other	0	0	0	0	0	0	0
Steel, cathodically protected and uncoated	0	0	0	0	0	0	0
Steel, cathodically protected and coated	223	222	221	208	206	206	-17
Plastic	20	21	22	23	24	25	5
Total Gas Main mTCO ₂ e	1,789	1,668	1,565	1,570	1,437	1,286	-503
Gas Services	2017 (Year End)	2018 (Year End)	2019 (Year End)	2020 (Year End)	2021 (Year End)	2022 (Year End)	2017 -2022 Reduction (mTCO ₂ e)
Steel, Cathodically Unprotected and Uncoated	240	218	193	170	157	135	-104
Steel, Cathodically Unprotected and Coated	60	38	35	27	9	8	-53
Cast Iron or Wrought Iron	0	0	0	0	0	0	0
Ductile Iron	0	0	0	0	0	0	0
Steel, Cathodically Protected and Uncoated	0	0	0	0	0	0	0
Steel, Cathodically Protected and Coated	106	114	115	118	121	120	14
Plastic	35	36	38	39	40	41	6
Total Service mTCO ₂ e	441	407	381	354	327	304	-137
Total mTCO ₂ e	2,230	2,075	1,946	1,924	1,765	1,590	-640

The Benefits of the GSEP Program



Improved Safety

The GSEP program has had a significant impact on Safety by reducing gas main leak repairs by 89% (2014 vs. 2022).



Risk Reduction

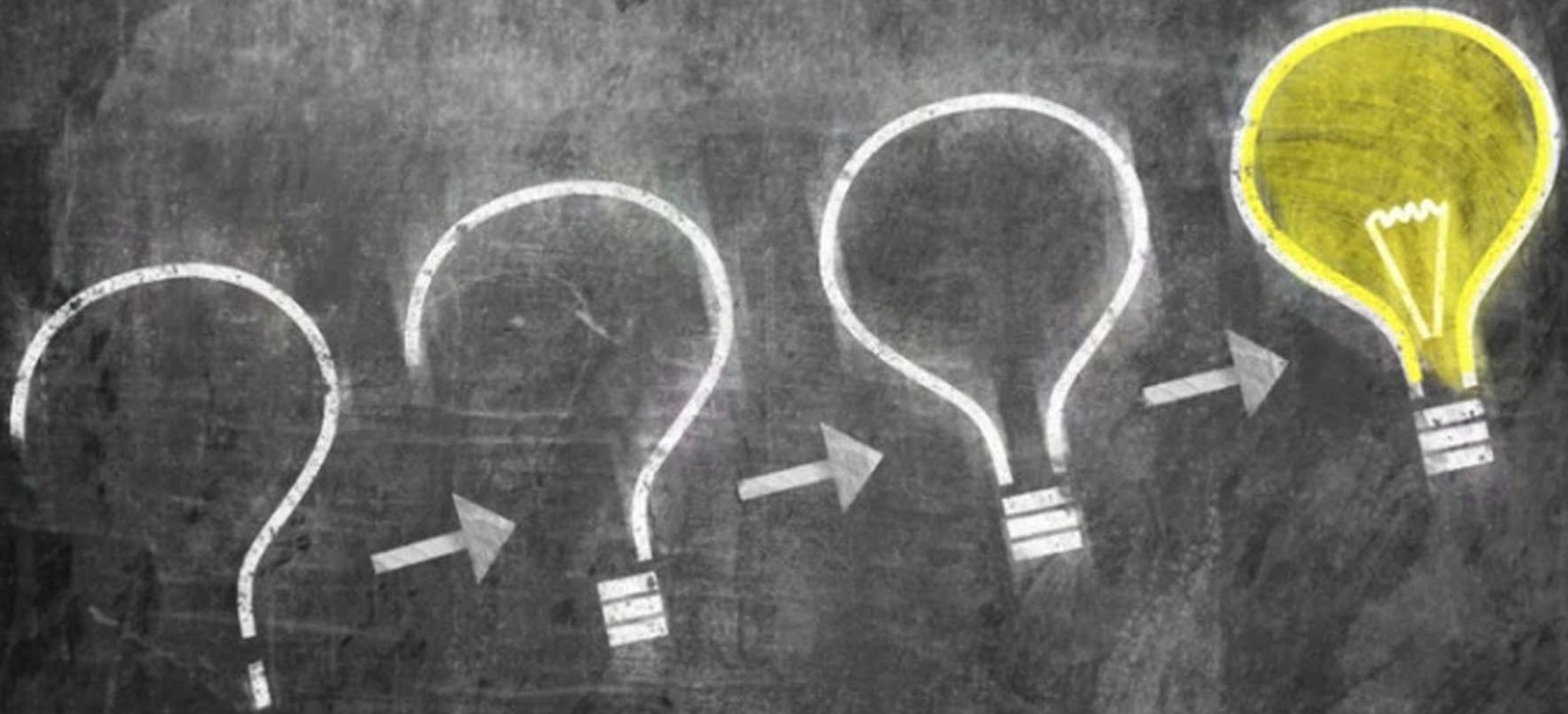
Over 90% of the Grade 1 leaks on gas mains are on leak prone pipe. The majority of these leaks are a result of material or joint failure. Repairing Grade 1 Leaks does not remove the immediate hazard to people or property



Less Emissions

The GSEP Program has Reduced Unitil's MA Methane Emissions by 29% (2017 – 2022)





QUESTIONS