

F R O S T  S U L L I V A N

Annual Retail Propane Sales Report
U.S. odorized propane sales by state and end-use sector
Reporting year: 2024

Conducted by
Frost & Sullivan

on behalf of the
Propane Education & Research Council

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Frost & Sullivan worked with PERC to define the parameters of the data collection process and estimation of the U.S. total retail propane sales covering the calendar year 2024. This information was collected from participating retail propane companies between March 2025 and June 2025. Frost & Sullivan determined and developed the annual retail propane sales report data verification, quality control, and estimation methodology based on the best practices of the industry and Frost & Sullivan's internal expertise to minimize any bias or estimation errors arising from the collected information. Frost & Sullivan makes no assurances as to the accuracy of any such information or any conclusions based thereon.

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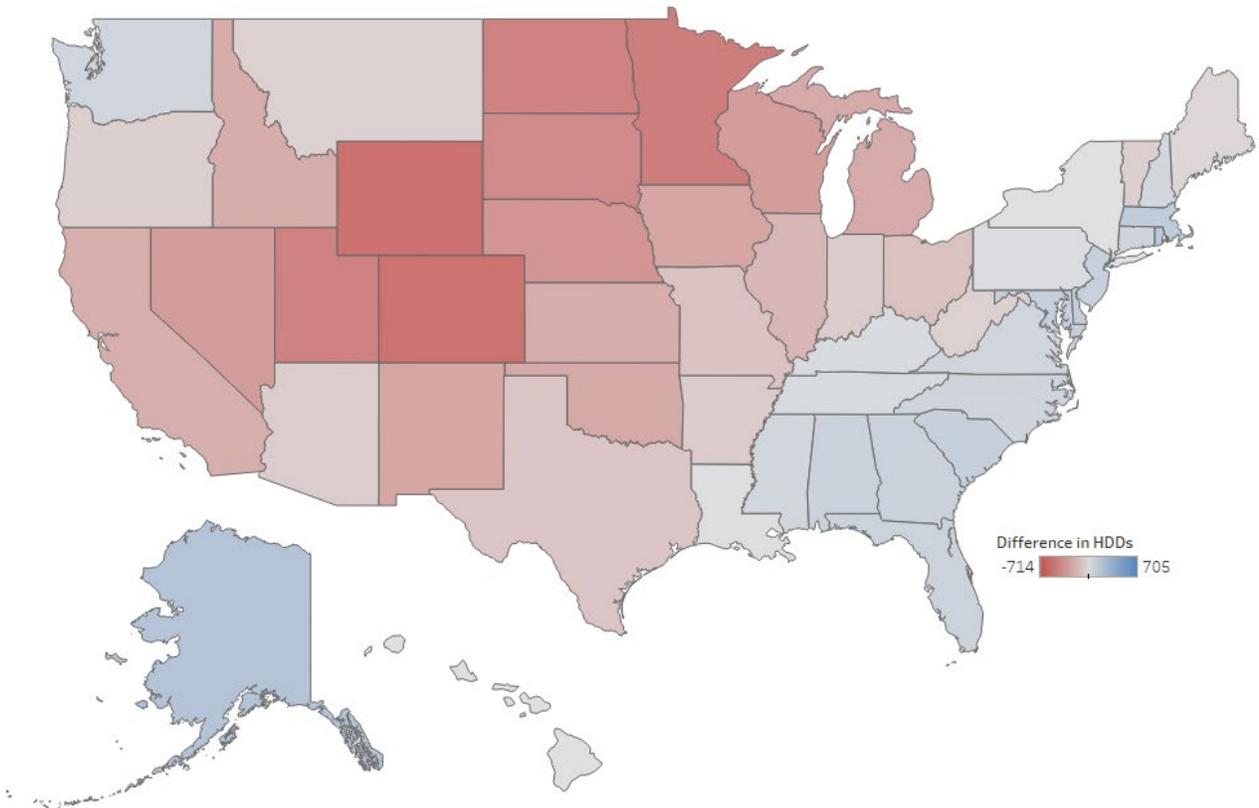
Executive Summary

In 2024, U.S. retail sales of odorized propane totaled 8.810 billion gallons, a 2.1% decline from 8.995 billion gallons in 2023. This downturn was driven primarily by record-warm winter months, which reduced heating degree days (HDDs) and cut into the largest driver of propane demand, residential space heating.

This decline parallels a broader contraction in fossil fuel use within residential and commercial markets, which saw a 2% drop in volumes year over year. Propane accounted for 5% of hydrocarbon-based fuels consumed in these markets. Overall, hydrocarbon energy sources continued to dominate, representing 82% of total U.S. energy consumption, with propane and propylene contributing 1.3% of that share¹.

Weather remained the single most influential factor. According to the National Oceanic and Atmospheric Administration (NOAA), 2024 was the warmest year on record for the contiguous United States, averaging 3.5 °F above the 20th-century norm. The milder conditions led to a sharp reduction in HDDs, with the Midwest and West experiencing the steepest declines in propane sales.

The difference in heating degree days (HDDs) in the U.S. from 2023 to 2024



In 2024, the Northeast region recorded a 4.6% increase in gallons compared to 2023, while the South experienced a 5% rise. These changes indicate slightly higher heating demand across both regions, even as the U.S. overall experienced its warmest year on record.

¹ U.S. Energy Information Administration, <https://www.eia.gov/totalenergy/data/monthly/pdf/mer.pdf>

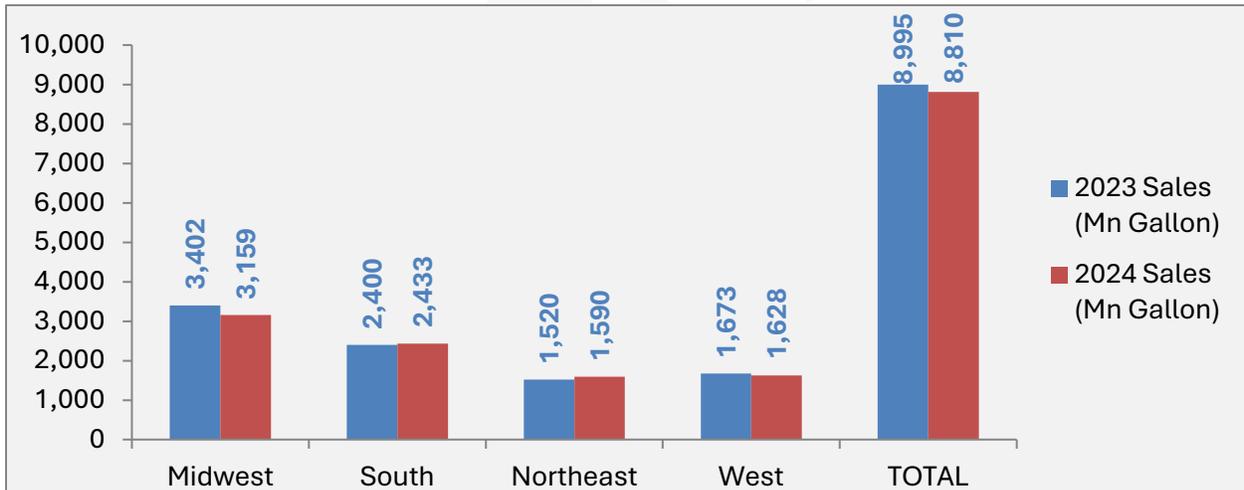
The modest rise in HDD in the Northeast suggests that colder spells, particularly in late fall and early winter, contributed to increased space-heating requirements. In contrast, the sharper 5% increase in the South reflects the region’s greater sensitivity to temperature variability, where even small drops below seasonal norms can drive noticeable increases in energy used for heating in the residential and commercial markets, as well as propane used for structure heating in the agriculture market.

In contrast, the warmer weather had the greatest effect on gallon sales in the Midwest, a region traditionally propane-heavy for residential and agricultural heating. Fewer HDDs lowered household consumption, while commercial and rural segments such as schools and farms used less fuel. Since more than half of propane sales in the Midwest are tied to home heating, warmer conditions had an outsized effect on demand. Additionally, low precipitation, reduced grain-drying demand to a record low in 2024, resulting in a 7.1% reduction in gallon sales.

The West region recorded 2.6% lower propane sales in 2024 primarily because of warmer-than-average temperatures and fewer cold days, which sharply reduced heating requirements. Fewer cold days translated into lower HDDs, directly reducing the volume of propane consumed in residential and commercial heating.

Despite the year’s volatility, total odorized propane sales remained close to the ten-year average of 9.0 billion gallons, underscoring propane’s continued role as a reliable fuel across residential, commercial, agricultural, and industrial markets.

Exhibit 1: 2024 U.S. Retail Propane Sales by Region



In 2024, new account growth was driven primarily by policy and code developments, with a potentially lasting impact on future demand. Propane marketer interviews confirm this trend, though it is not fully reflected in the calendar-year account numbers—particularly outside the internal combustion market, where emissions controls have constrained both account growth and consumption.

The U.S. policy environment showed a widening divide: some regions pushed electrification mandates, while others reinforced fuel-choice protections. This policy tension created headwinds not only for residential markets, but also for agriculture, commercial, and industrial sectors that depend on propane.

2024 U.S. Retail Propane Markets

The residential sector accounted for 53.2% of propane sales in 2024. Residential propane sales declined by 3.4%, from 4.85 billion gallons in 2023 to 4.69 billion gallons in 2024.

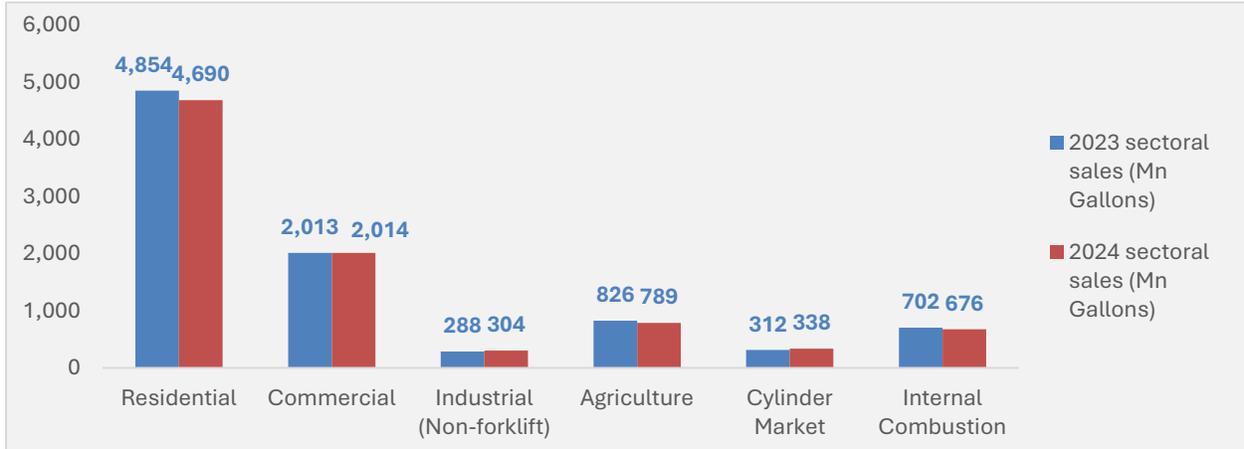
Agriculture sales overall saw a decline of 4.5% compared to 2023. Grain drying demand, the single largest contributor to agriculture demand, especially in the Midwest states, declined to record lows in 2024 due to dryer than average harvests, while irrigation-related propane usage held flat or grew nominally across the South and in portions of the Midwest where extreme summer heat drove higher irrigation requirements. Agriculture structure heating, driven by the decrease in HDDs, mirrored the declines seen for residential and commercial markets. Overall, these patterns show that weather extremes can dampen heating-related consumption while at the same time creating localized gains in agricultural use.

In 2024, the industrial and cylinder propane markets in the United States recorded notable year-over-year growth, with sales rising 5.5% and 8.3%, respectively. The industrial sector growth reflects greater use of propane in manufacturing processes, metal cutting, drying applications, power generation, and in natural gas blends. Resilient industrial production activity, combined with propane's role as a flexible onsite energy source, supported steady growth despite broader economic uncertainties.

The cylinder markets, serving residential grilling, small businesses, and recreational uses such as recreational vehicles (RVs) and camping, recorded notable year-over-year growth. This expansion was supported by rising consumer demand for portable and off-grid energy solutions, as well as recovery in the commercial hospitality and outdoor recreation sectors. Additionally, demand was temporarily boosted by severe weather events, including Hurricane Beryl in Texas and Hurricane Helene in the Southeast, which drove increased reliance on portable fuel for emergency response and recovery efforts.

In 2024, the internal combustion segment, which covers material handling, propane Autogas, and non-road mobile equipment, saw a slight overall decline. The slowdown was driven mainly by weakening forklift sales, a trend widely linked to California's Zero-Emission Forklift regulation set to take effect on January 1, 2025. Anticipation of the rule prompted many operators to delay or reconsider purchases, softening demand across the segment. Growing adoption of propane for port and terminal vehicles provided a boost, and Autogas sales continued to increase year over year as more fleets chose propane over diesel or gasoline. These gains helped cushion the effect of slowing forklift sales, keeping the overall internal combustion propane market steadier than it might otherwise have been.

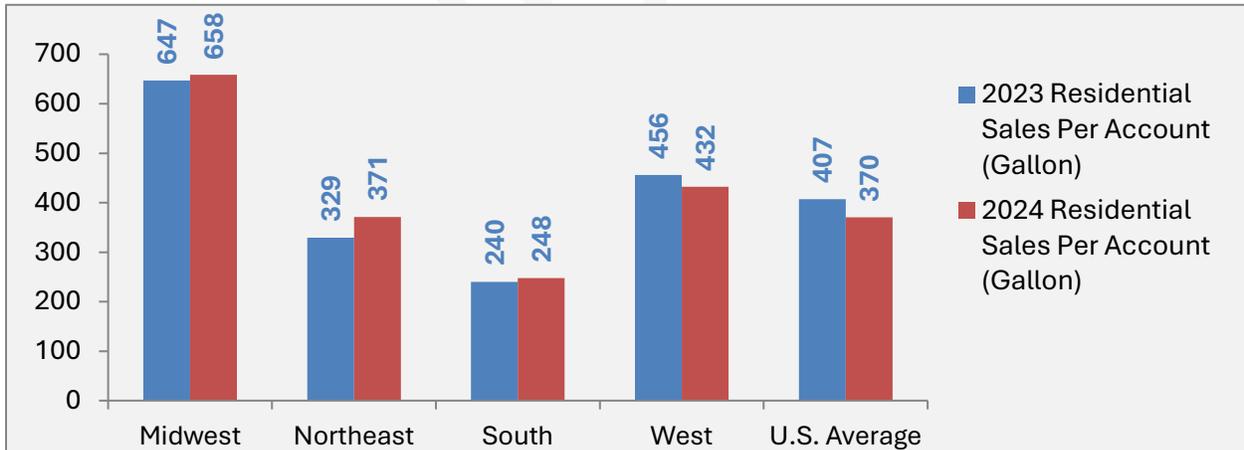
Exhibit 2: 2023 vs 2024 U.S. Propane Sales Volume by End-use Sectors



The number of residential retail propane accounts rose 6.3%, from 11.91 million in 2023 to 12.66 million in 2024. This figure represents all active accounts within a year, not unique locations—meaning home sales within the same year can artificially inflate totals, particularly in regions with high existing-home sales activity such as the Northeast, South, and portions of the Midwest.²

At the same time, average residential propane sales per account fell 9.1%, declining from 407 gallons in 2023 to 370 gallons in 2024.

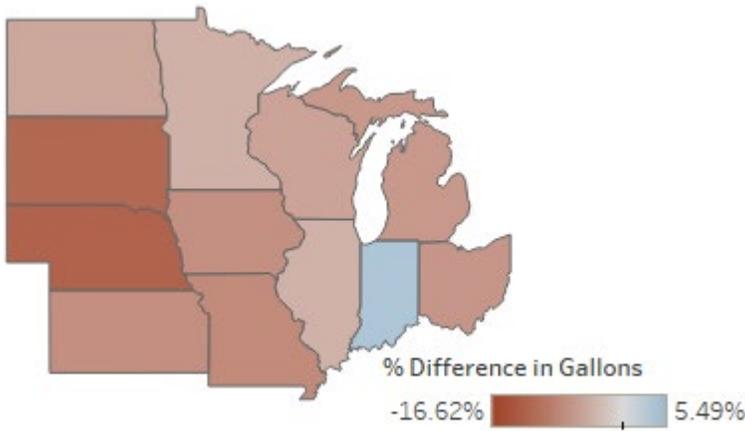
Exhibit 3: Change in Residential Sales per Account from 2023 to 2024



² National Association of REALTORS®, <https://www.nar.realtor/research-and-statistics/housing-statistics/existing-home-sales>

2024 U.S. Retail Propane Sales by Region

2024 Propane Sales Growth from 2023

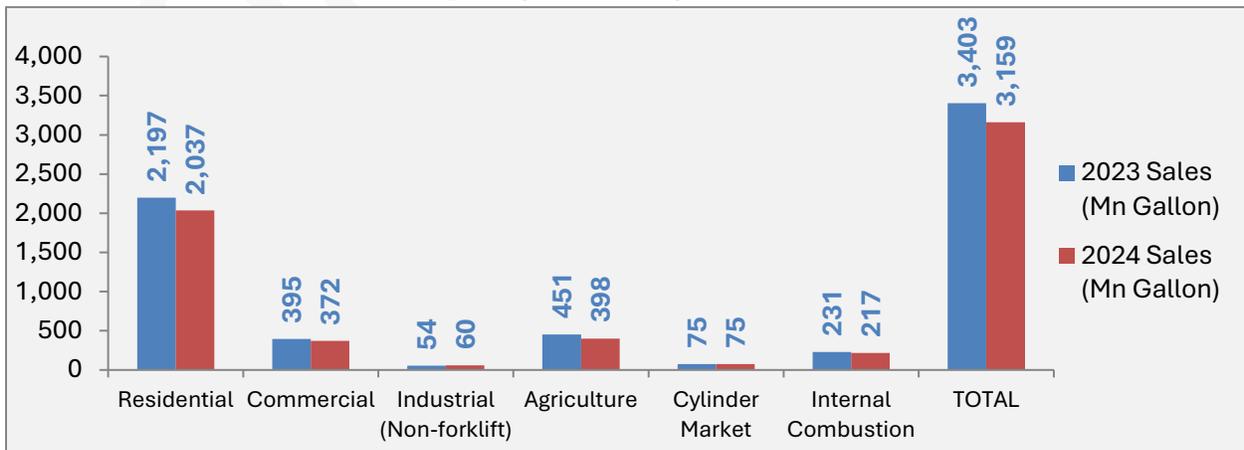


Midwest:

The Midwest region accounted for 35.9% of total U.S. propane sales in 2024, a slight decline from the 37.8% share of U.S. propane sales in 2023. Total propane sales in the region decreased from 3.40 billion gallons in 2023 to 3.16 billion gallons in 2024. Annual HDDs in the Midwest decreased by 6%, leading to a reduction in propane demand for space heating.

- Propane sales in the residential segment decreased from 2.20 billion gallons in 2023 to 2.04 billion gallons in 2024, a decline of 7.3%.
- Propane sales in the commercial segment also experienced decline in 2024 from 395 million gallons in 2023 to 372 million gallons in 2024.
- Agriculture sales also decreased by 11.6% to 398 million gallons, representing 12.6% of total propane sales in the Midwest, impacted by both the decline in HDDs leading to declines in structure heat, and reduced precipitation leading to a decline in grain drying demand.
- Propane sales to the cylinder and industrial segments in the Midwest showed increase over 2023, at 0.3% and 11.3% respectively. The growth in the industrial segment is a return to average after tumultuous years in 2022 and 2023,
- Internal combustion markets declined by 6.2% with much of the decline coming from the Material Handling market. While Autogas showed growth of 26.4%, the volume was not large enough to cover the demand loss from Material Handling.

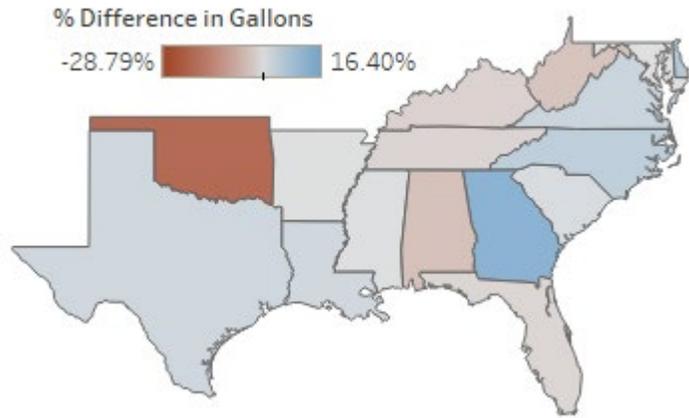
Exhibit 4: Propane Sales by Sector, Midwest



South:

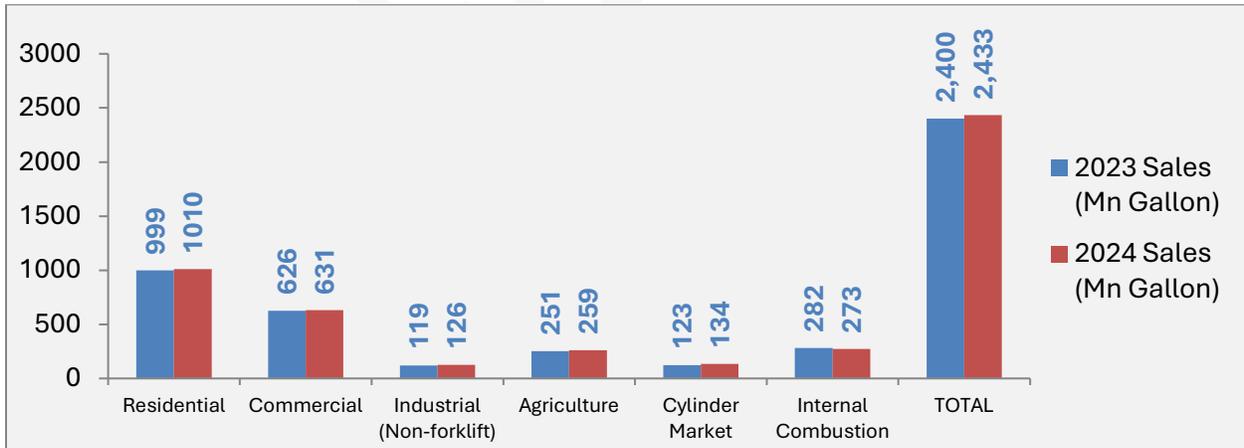
The South region accounted for 27.6% of total U.S. propane sales in 2024, a 1.3% increase in market share from 2023. Total propane sales in the region increased from 2.40 billion gallons in 2023 to 2.43 billion gallons in 2024. Annual HDDs in the South increased by 4.3%, leading to an increase in propane demand for space heating.

2024 Propane Sales Growth from 2023



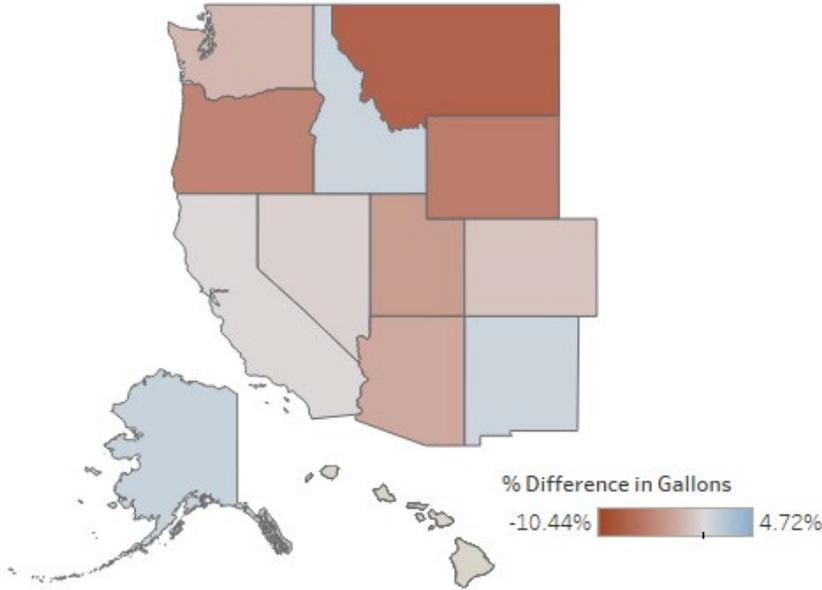
- Propane sales in the residential segment increased from 1 billion gallons in 2023 to 1.01 billion gallons in 2024, an increase of 1% attributed to an increase in HDD-driven demand, as well as new home growth in Georgia and South Carolina.
- Propane sales in commercial and industrial segments also experienced rises in 2024, at 0.7% and 5.7% respectively. Much of the industrial growth was driven by an increase in demand in Texas. Where the commercial growth was most experienced in Texas and Virginia.
- The internal combustion segment registered a 3.1% decrease in propane sales in 2024, led by downturns in the material handling and non-road mobile uses. Propane Autogas demand grew by 3.23 million gallons.
- Oklahoma, a relative outlier in the region, experienced declines in the residential and commercial markets more consistent with its neighbouring states in the Midwest region.

Exhibit 5: Propane Sales by Sector, South



West:

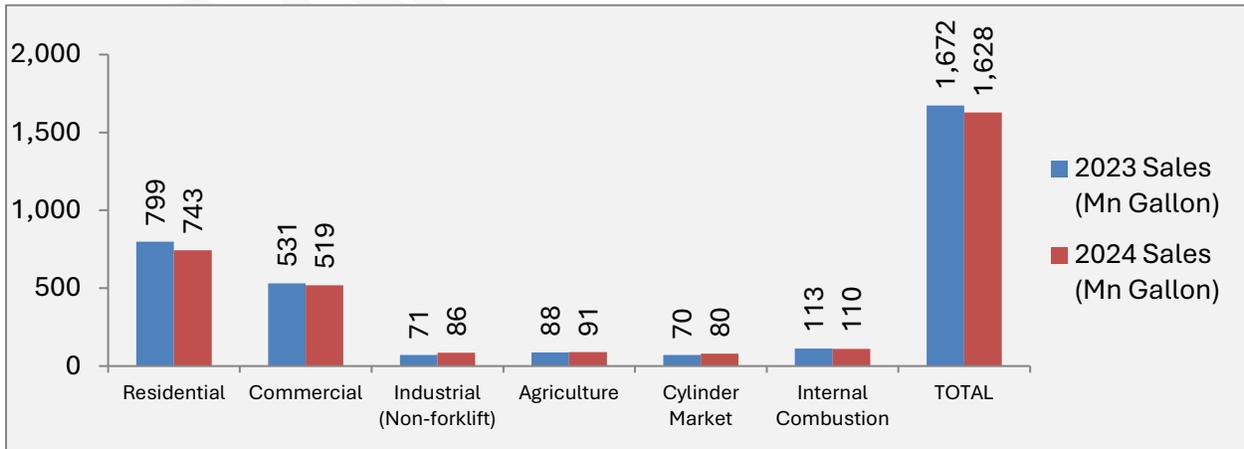
2024 Propane Sales Growth from 2023



The West region accounted for 18.5% of total U.S. propane sales in 2024, a slight decrease from its 18.6% share of U.S. propane sales in 2023. Total propane sales in the region decreased from 1.67 billion gallons in 2023 to 1.63 billion gallons in 2024. Annual HDDs in the West decreased by 5.2%, leading to a slight decrease in propane demand for space heating in the residential and commercial segments.

- Propane sales in the residential segment decreased from 798 million gallons in 2023 to 743 million gallons in 2024, a decrease of 6.9%.
- Propane sales to the commercial segment experienced a decline of 2.2%, whereas; the industrial segment experienced a rise of 21.5% in 2024.
- Agriculture sales increased by 2.4% to 91 million gallons as the west region is less impacted by grain drying consumption, and irrigation engine use was strong throughout the southwest.
- Internal combustion sales showed a decline of 3.2% compared to 2023, with much of the decline coming from Material Handling.

Exhibit 6: Propane Sales by Sector, West

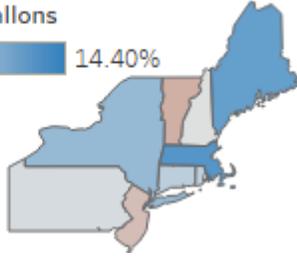


Northeast:

2024 Propane Sales Growth from 2023

% Difference in Gallons

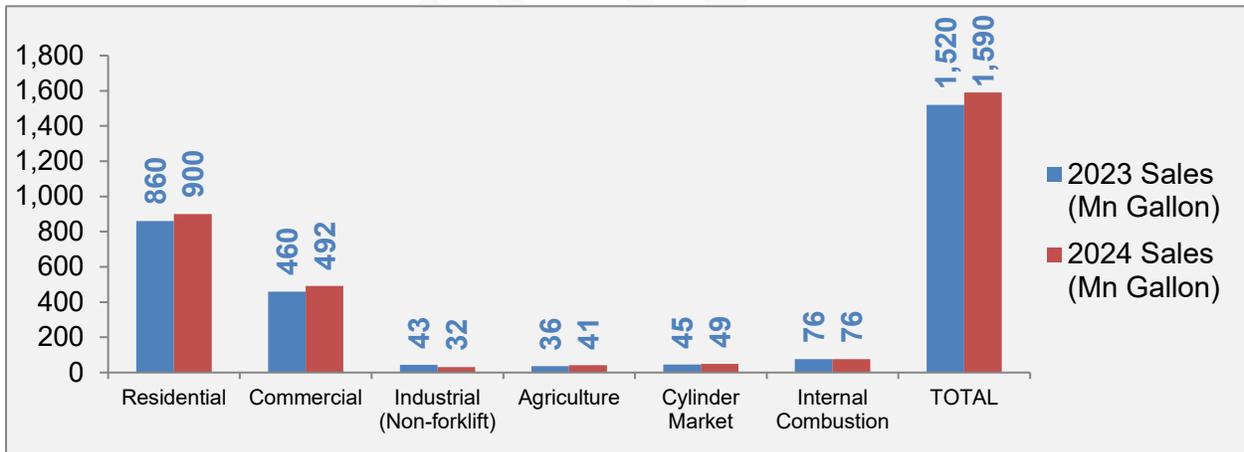
-4.88% 14.40%



The Northeast region accounted for 18.0% of total U.S. propane sales in 2024, a slight increase from the 16.9% share of U.S. propane sales in 2023. Total propane sales in the region increased from 1.52 billion gallons in 2023 to 1.59 billion gallons in 2024. Annual HDDs in the Northeast increased by 1.4%, leading to an increase in propane demand for space heating in residential and commercial markets.

- Propane sales to the residential sector increased from 860 million gallons in 2023 to 901 million gallons in 2024, an increase of 4.7%.
- Propane sales to the commercial segment experienced an increase of 6.8%.
- The industrial segment experienced a year-on-year decline of 27%, much of which came from declining demand in New York and New Jersey.
- Internal combustion decreased by 0.3%, where strong gains in Autogas demand were balanced with slight declines in material handling.
- Sales to the cylinder segment increased by 9.1% with the strongest growth coming from New Hampshire and Vermont.
- Agriculture sector sales increased by 15.1% to 41 million gallons in 2024 where New York and Massachusetts drove increases in demand by 112% and 39% respectively.

Exhibit 7: Propane Sales by Sector, Northeast



Top-ranked States by Retail Propane Sales

In 2024, the top 10 states by total retail sales accounted for 46.5% of total U.S. propane sales, while the remaining 40 states and the District of Columbia contributed the remaining 53.5% of gallon sales.

Exhibit 8: Top 10 States by Total 2024 Retail Propane Sales (millions of gallons)

State	Rank	2024 Propane Sales (Mn Gallon)	Share	Residential Sales Per Account (Gallon)	Commercial Sales Per Account (Gallon)
California	1	532	6.0%	327	3,099
Michigan	2	450	5.1%	549	2,045
New York	3	430	4.9%	410	2,666
Texas	4	428	4.9%	230	2,865
Minnesota	5	426	4.8%	232	1,798
Illinois	6	411	4.7%	692	3,927
North Carolina	7	374	4.3%	203	1,201
Wisconsin	8	373	4.2%	595	2,125
Iowa	9	344	3.9%	839	2,251
Pennsylvania	10	340	3.9%	327	2,176
Other States		4,703	53.4%	361	2,440
Total U.S.		8,810		370	2,362

- California** retained its No. 1 position as the top-ranked state in total propane sales with 532 million gallons in sales in 2024. It was the top-ranked state in commercial sales, with 153 million gallons for 2024. California ranked second in the industrial sector and second in the internal combustion sector with total sales of 21 million gallons and 62 million gallons respectively. California also ranked second in cylinder sales with total sales of 31 million gallons.
- Michigan** was the second-ranked state by total sales in 2024, with 450 million gallons. Michigan was the top-ranked state for the residential market with 317 million gallons and ranked fifth in internal combustion with total sales of 42 million gallons.
- New York** was the third-ranked state in total sales in 2024 with 430 million gallons and was the second-ranked state for the commercial sector with 127 million gallons. It ranked fifth in residential sales with total propane sales of 249 million gallons.
- Texas** was the fourth-ranked state in total sales in 2024 with 428 million gallons. Texas was the top ranked state in industrial, cylinder markets, and internal combustion sales with 52 million gallons, 14 million, and 71 million gallons respectively. It ranked third in the commercial sector with 124 million gallons.
- Minnesota** was the fifth-ranked state by total sales in 2024 and was ranked fourth in the residential sector with 271 million gallons. Minnesota ranked second in agriculture sales with total sales of 78 million gallons.

2024 U.S. Retail Propane Sales by End-use Sectors

The table below shows total U.S. propane retail sales, and the corresponding number of retail accounts and the average gallons sold per account. In 2024, the survey indicated about 12.67 million total residential accounts and about 2 million propane accounts in the other sectors.

Exhibit 9: Summary information of total U.S. 2024 retail propane sales by end-use sectors

Category	Residential	Commercial	Industrial (Non-forklift)	Agriculture	Cylinder Market	Internal Combustion	Total Sales
Propane Sold (Mn Gallons)	4,690	2,014	304	789	338	676	8,810
Total Accounts	12,669,412	852,518	83,414	281,101	462,598	327,031	14,676,074
Gallons Per Account	370	2,362	3,643	2,807	731	2,066	600
Sector share of total sales	53%	23%	3%	9%	4%	8%	100%

- The **residential** sector accounted for 53% of total sales, or 4,690 million gallons. The sector averaged sales of 370 gallons per account.
- The **commercial** sector accounted for 23% of total sales, or 2,014 million gallons. The sector averaged sales of 2,362 gallons per account.
- The **industrial** sector accounted for 3% of total sales, or 304 million gallons. The sector averaged sales of 3,643 gallons per account.
- The **agriculture** sector accounted for 9% of total sales, or 789 million gallons. The sector averaged sales of 2,807 gallons per account.
- The **cylinder market** sector accounted for 4% of total sales, or 338 million gallons. The sector averaged sales of 731 gallons per account.
- The **internal combustion** sector accounted for 8% of total sales, or 676 million gallons. The sector averaged sales of 2,066 gallons per account.

2024 U.S. Retail Propane Sales

National Retail Propane Sales

Exhibit 10: 2024 Total U.S. Retail Propane Accounts by Sector

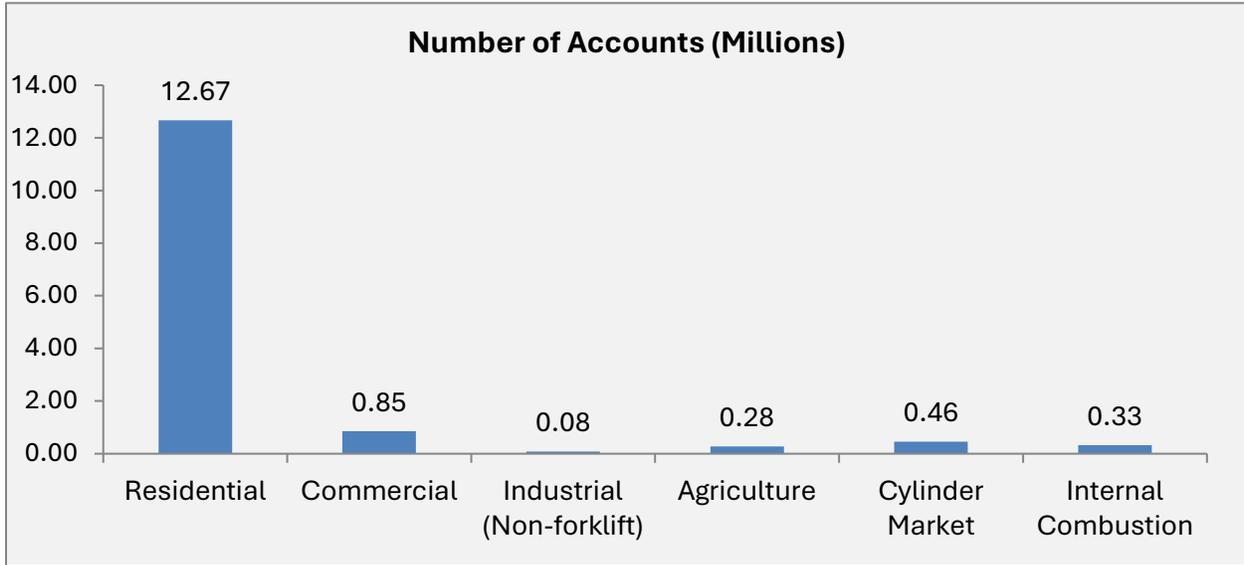


Exhibit 11: 2024 average U.S. retail propane gallon sales per account

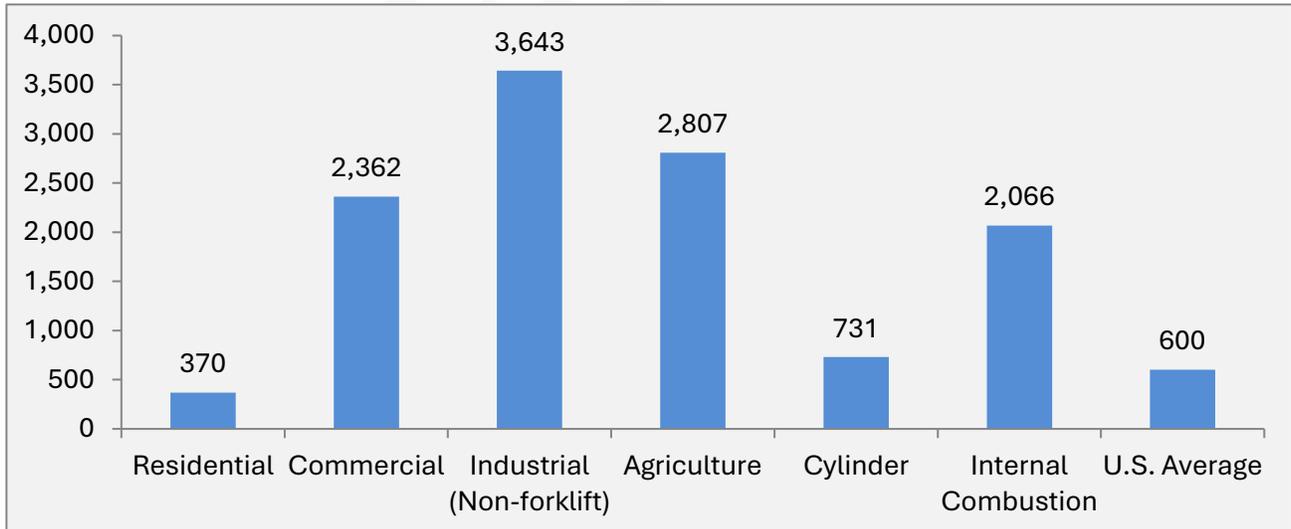


Exhibit 12: 2024 U.S. Retail Propane Sales by Census Division and Sector (millions of gallons)

Census Division	Residential	Commercial	Industrial (Non-forklift)	Agriculture	Cylinder Market	Internal Combustion	Total
East North Central	1,175	218	28	165	50	161	1,796
East South Central	216	89	10	59	14	41	429
Middle Atlantic	456	225	23	38	34	59	835
Mountain	419	230	49	14	34	30	776
New England	445	267	9	3	15	17	755
Pacific	324	289	37	77	46	80	853
South Atlantic	555	375	58	157	65	138	1,348
West North Central	862	154	33	233	25	56	1,362
West South Central	240	167	58	43	55	93	656
U.S. TOTAL	4,690	2,014	304	789	338	676	8,810

Exhibit 13: 2024 U.S. Retail Propane Sales by PADD and Sector (millions of gallons)

PADD	Residential	Commercial	Industrial (Non-forklift)	Agriculture	Cylinder Market	Internal Combustion	Total
PADD1	1,455	867	90	198	114	214	2,938
PADD2	2,222	436	69	418	89	251	3,484
PADD3	314	218	62	82	60	102	839
PADD4	314	143	29	11	19	17	533
PADD5	384	349	55	79	57	92	1,016
U.S. TOTAL	4,690	2,014	304	789	338	676	8,810

Exhibit 14: Share of 2024 Total U.S. Retail Propane Sales by Sector

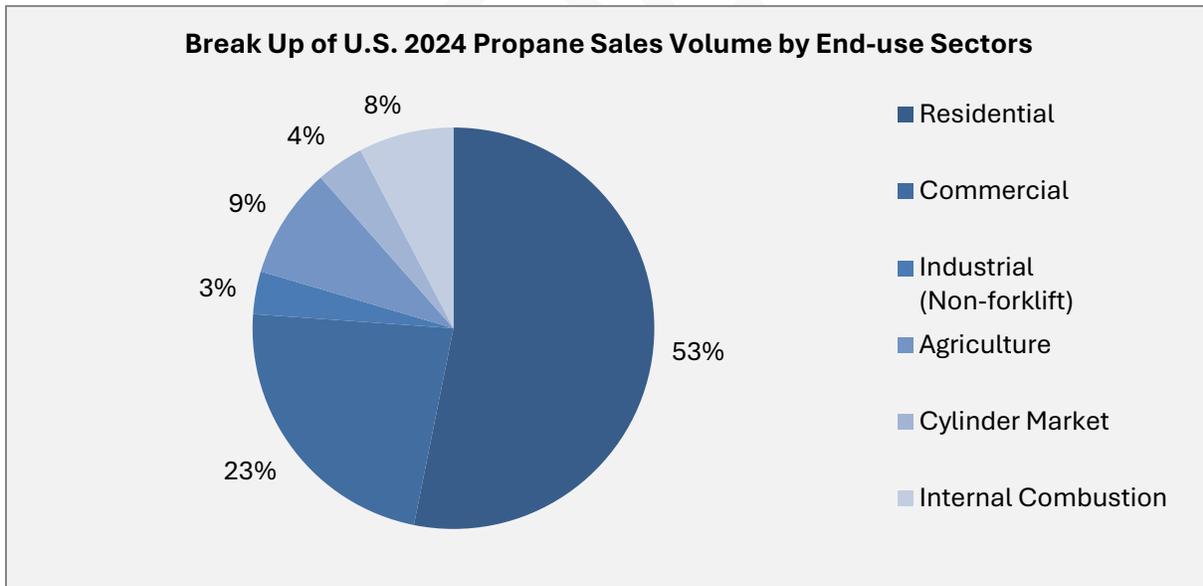


Exhibit 15: Share of 2024 Total U.S. Retail Propane Sales by Census Division

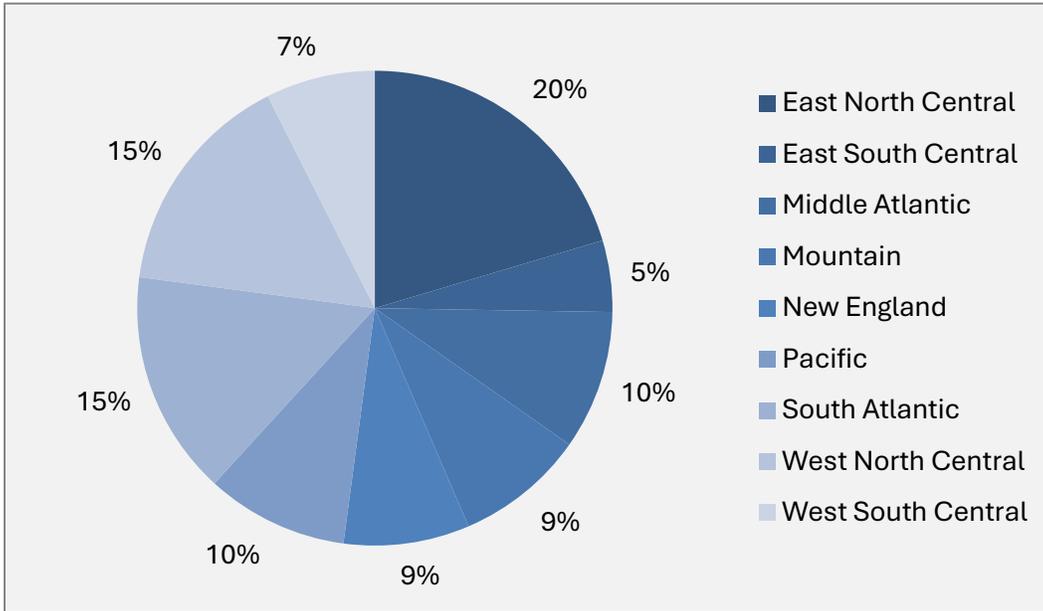
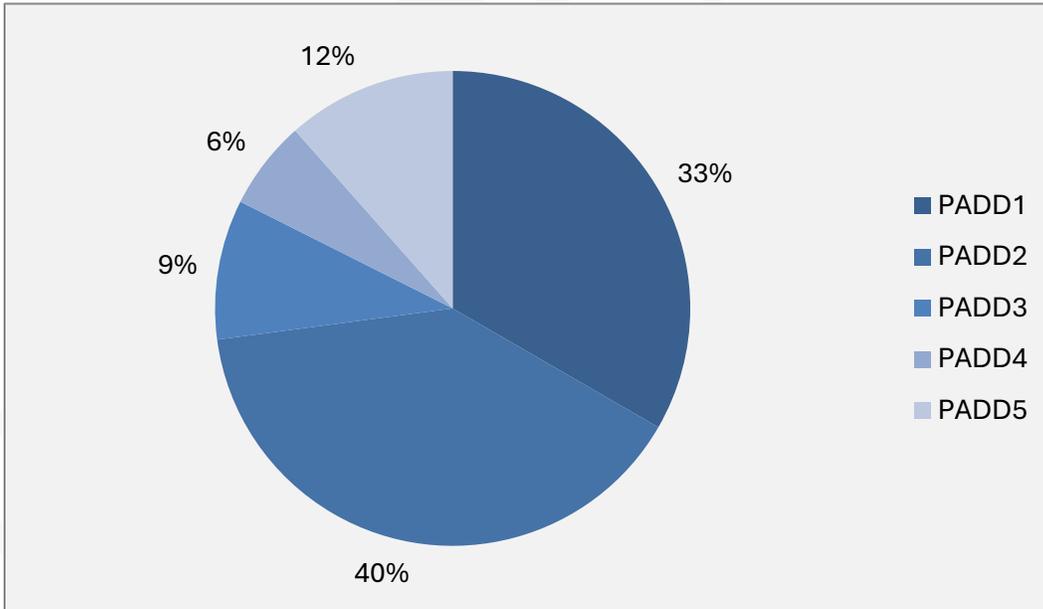


Exhibit 16: Share of 2024 Total U.S. Retail Propane Sales by PADD



State Rankings by Retail Propane Sales

Exhibit 17: Top 10 States: 2024 Residential and Commercial Propane Sales

State	2024 Residential & Commercial Propane Sales (Mn Gallons)	Share
New York	376	5.6%
Michigan	368	5.5%
California	362	5.4%
Minnesota	322	4.8%
Wisconsin	318	4.7%
Illinois	316	4.7%
Pennsylvania	262	3.9%
North Carolina	250	3.7%
Texas	248	3.7%
Iowa	236	3.5%
Other States	3,645	54.4%
U.S. TOTAL	6,703	

Exhibit 18: 2024 State Rankings: Retail Propane Sales (millions of gallons)

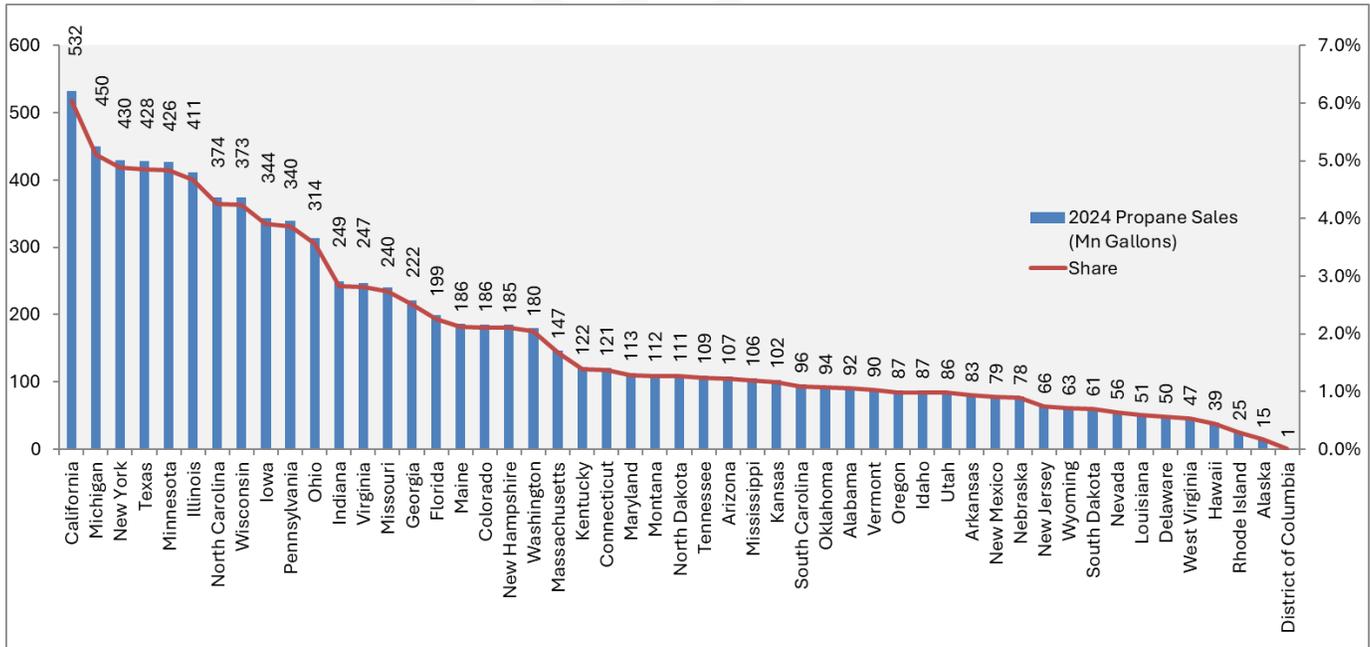


Exhibit 19: Total Retail Propane Sales by State; alphabetical

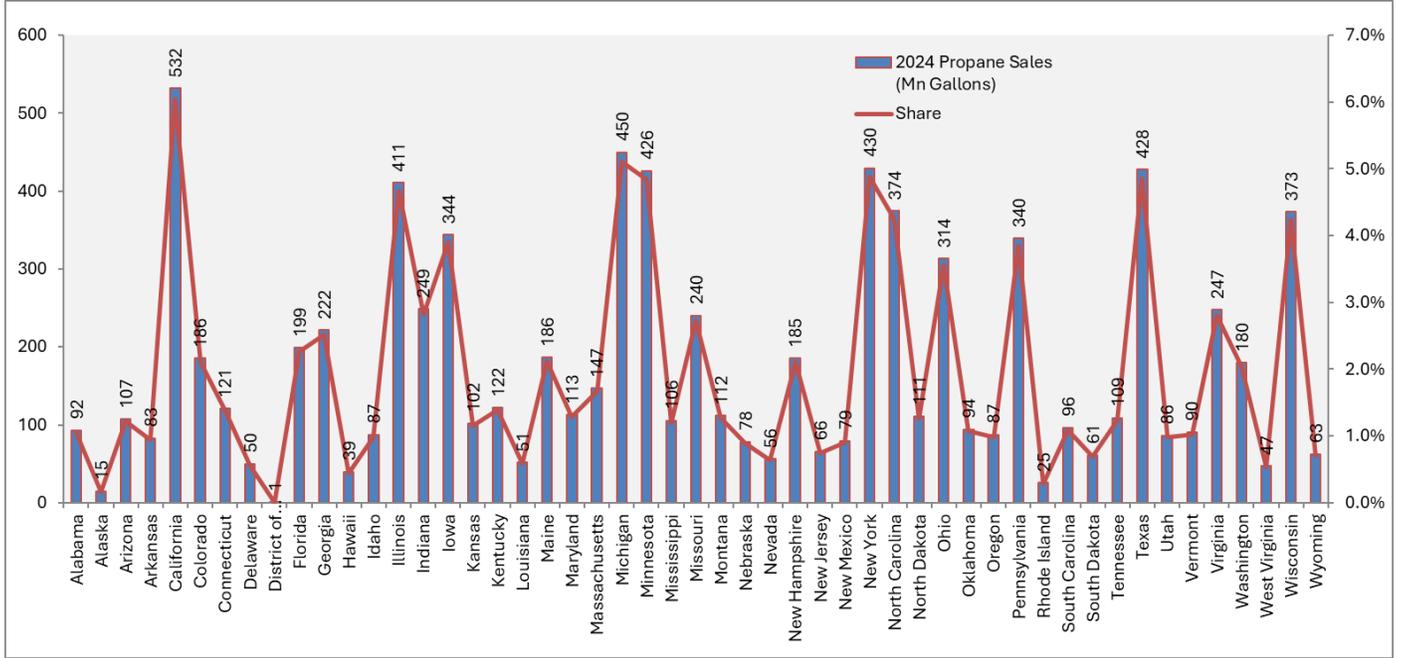


Exhibit 20: 2024 U.S. Retail Propane Gallons per Account by State

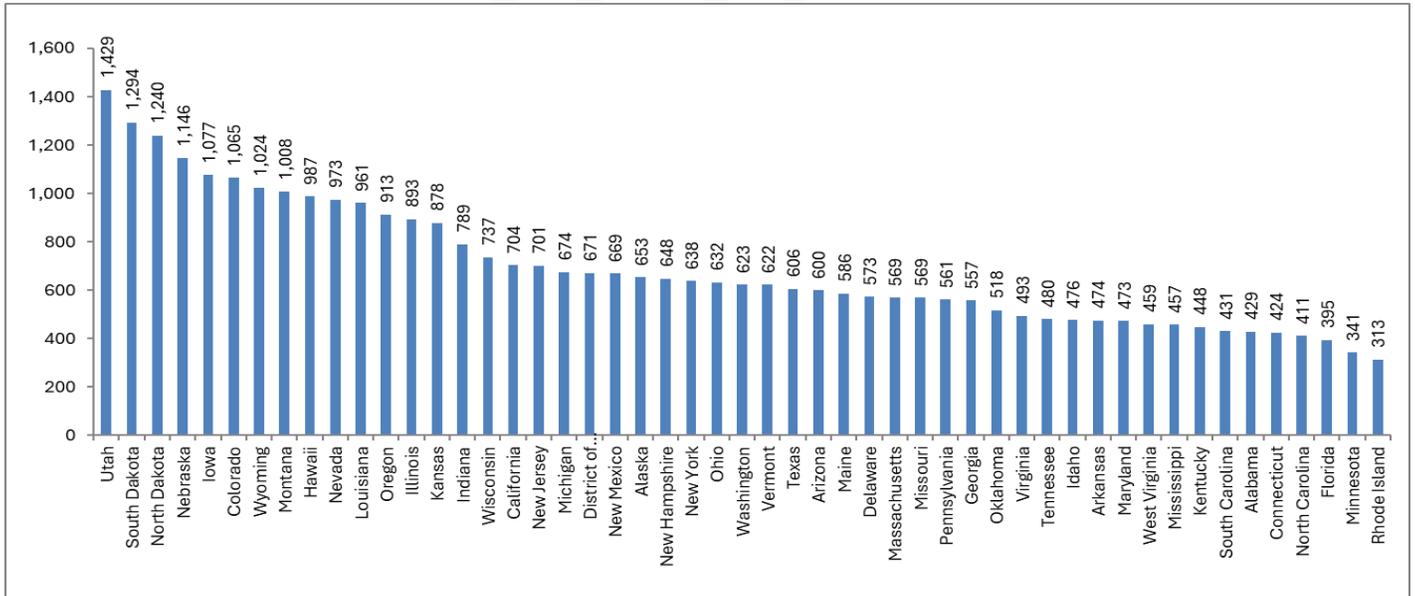


Exhibit 21: 2024 U.S. Retail Propane Gallons per Residential Account by State

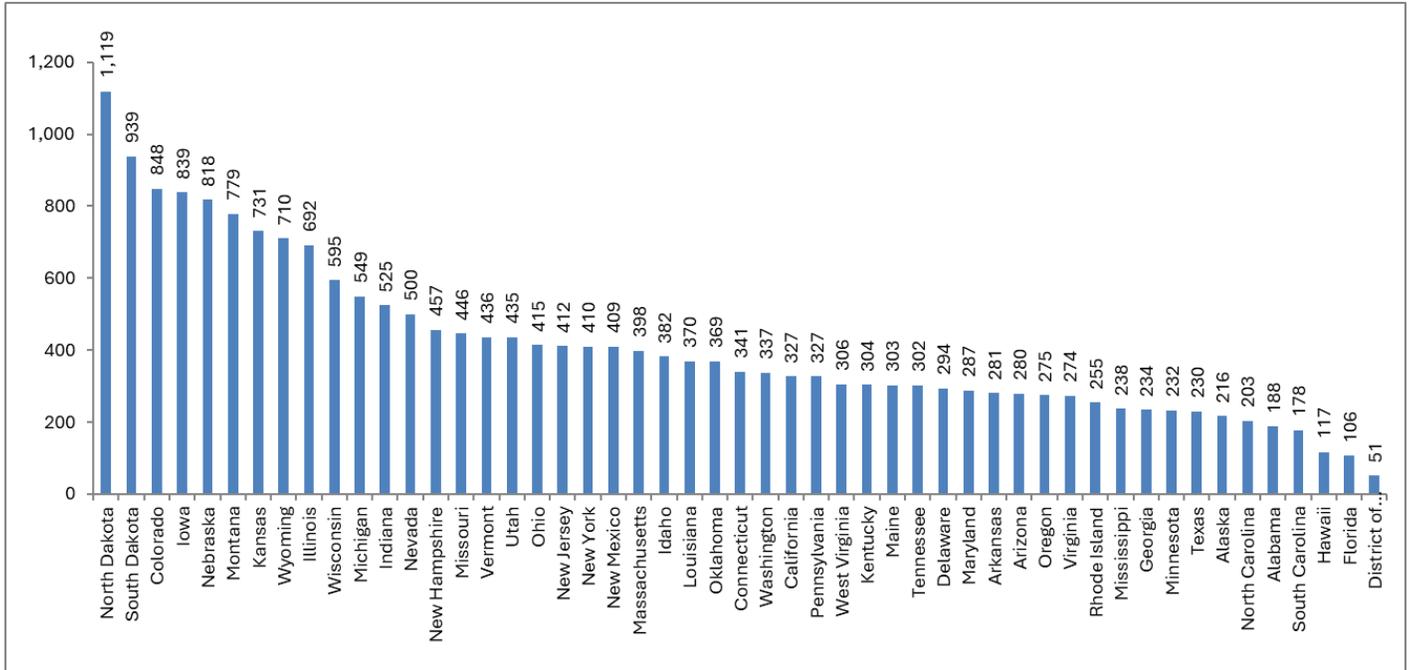
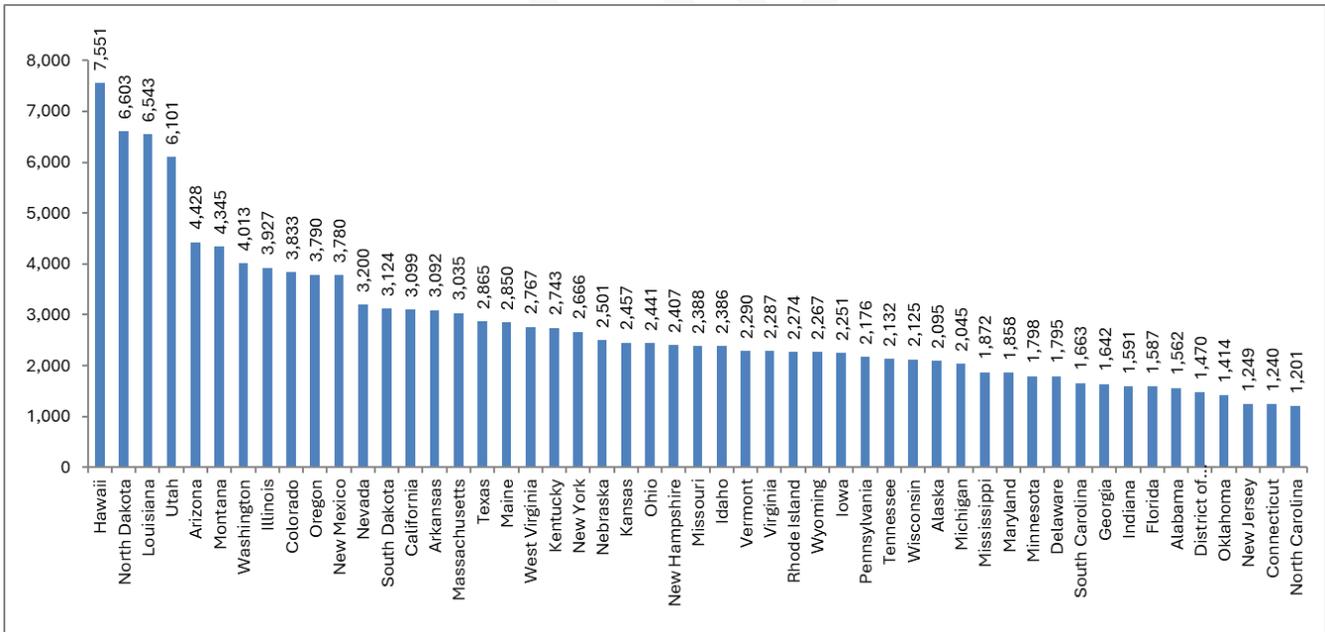


Exhibit 22: 2024 U.S. Retail Propane Gallons per Commercial Account by State



Detailed State Level Information

Exhibit 23: 2024 U.S. Retail Propane Sales Summary by State and Sector (millions of gallons)

State	Residential	Commercial	Industrial (Non-forklift)	Agriculture	Cylinder Market	Internal Combustion	Total Sales
Alabama	35	21	3	16	4	13	92
Alaska	4	9	1	0	1	0	15
Arizona	42	40	8	1	8	8	107
Arkansas	45	13	1	16	2	5	83
California	208	153	21	57	31	62	532
Colorado	122	35	5	4	10	8	186
Connecticut	83	27	1	1	4	6	121
Delaware	23	11	1	10	1	3	50
District of Columbia	0	0	0	0	0	0	1
Florida	44	83	21	5	18	28	199
Georgia	80	48	11	26	9	48	222
Hawaii	4	33	1	0	1	0	39
Idaho	66	16	1	1	1	2	87
Illinois	280	36	5	46	13	31	411
Indiana	134	27	7	52	6	22	249
Iowa	210	26	2	92	4	10	344
Kansas	73	12	2	4	4	6	102
Kentucky	71	23	3	12	4	9	122
Louisiana	16	13	2	8	5	8	51
Maine	85	94	2	0	2	3	186
Maryland	62	25	3	13	4	5	113
Massachusetts	88	46	1	1	5	6	147
Michigan	317	51	4	22	14	42	450
Minnesota	271	51	7	78	5	14	426
Mississippi	50	20	1	28	2	4	106
Missouri	173	32	5	12	6	14	240
Montana	73	31	3	2	2	1	112
Nebraska	40	8	2	16	4	8	78
Nevada	18	20	9	1	3	5	56
New Hampshire	118	60	3	0	2	1	185
New Jersey	31	11	2	1	6	14	66
New Mexico	44	27	3	0	4	1	79
New York	249	127	4	16	16	16	430
North Carolina	159	91	8	74	16	26	374
North Dakota	60	18	14	16	1	2	111
Ohio	171	57	7	24	12	43	314
Oklahoma	55	16	3	5	5	9	94
Oregon	21	46	4	6	4	7	87
Pennsylvania	176	87	17	21	11	29	340
Rhode Island	14	9	0	0	1	1	25
South Carolina	34	28	5	6	9	14	96
South Dakota	36	7	1	15	1	2	61
Tennessee	59	25	3	3	5	15	109
Texas	124	124	52	14	43	71	428
Utah	20	41	12	3	5	6	86
Vermont	57	31	1	0	1	0	90
Virginia	124	80	7	18	6	11	247
Washington	87	49	10	15	9	10	180
West Virginia	30	8	1	5	1	2	47
Wisconsin	273	46	4	22	6	23	373
Wyoming	32	20	8	1	1	0	63
U.S. TOTAL	4,690	2,014	304	789	338	676	8,810

Exhibit 24: 2024 U.S. Retail Propane Sales Summary by State and Sector (number of accounts)

State	Residential	Commercial	Industrial (Non-forklift)	Agriculture	Cylinder Market	Internal Combustion	Total Accounts
Alabama	187,534	13,597	514	4,338	6,096	3,315	215,394
Alaska	16,693	4,168	353	11	595	479	22,299
Arizona	150,580	8,922	1,074	835	13,542	3,810	178,763
Arkansas	160,899	4,168	263	4,501	2,206	2,016	174,053
California	636,421	49,497	6,157	20,383	15,167	28,385	756,010
Colorado	144,284	9,247	701	1,829	13,102	5,097	174,260
Connecticut	242,217	21,923	330	315	2,160	18,521	285,466
Delaware	78,184	6,143	526	922	411	401	86,587
District of Columbia	33	50	238	0	256	213	790
Florida	411,212	52,357	8,990	1,996	12,712	16,765	504,032
Georgia	341,868	29,123	1,401	4,728	10,844	9,656	397,620
Hawaii	34,748	4,312	439	6	75	155	39,735
Idaho	172,994	6,660	395	542	1,063	833	182,487
Illinois	404,274	9,157	1,473	16,949	15,978	12,234	460,065
Indiana	255,122	17,026	4,378	22,519	6,475	9,743	315,263
Iowa	250,750	11,370	546	36,105	16,216	4,226	319,213
Kansas	100,193	4,988	672	1,937	4,744	3,800	116,334
Kentucky	233,810	8,430	569	3,332	23,938	2,583	272,662
Louisiana	42,349	2,021	1,074	1,226	3,464	3,397	53,531
Maine	282,115	33,001	415	56	1,205	1,256	318,048
Maryland	215,977	13,586	2,065	1,893	1,998	3,226	238,745
Massachusetts	221,064	15,088	601	15,459	2,936	2,560	257,708
Michigan	577,571	25,055	1,493	8,622	40,994	13,896	667,631
Minnesota	1,167,871	28,617	3,626	30,591	10,599	6,561	1,247,865
Mississippi	212,519	10,535	199	3,954	2,516	1,264	230,987
Missouri	386,755	13,308	940	8,395	8,096	4,969	422,463
Montana	94,068	7,105	1,394	212	5,771	2,460	111,010
Nebraska	48,344	3,294	881	2,379	8,305	4,857	68,060
Nevada	36,524	6,286	981	390	10,879	2,344	57,404
New Hampshire	258,360	25,016	712	29	1,134	971	286,222
New Jersey	75,702	8,629	1,722	387	1,317	5,672	93,429
New Mexico	108,002	7,183	310	159	2,155	693	118,502
New York	606,618	47,822	1,462	4,064	5,907	7,601	673,474
North Carolina	781,616	75,944	6,948	18,767	18,609	9,537	911,421
North Dakota	53,662	2,663	473	6,356	20,259	6,140	89,553
Ohio	413,359	23,491	3,123	12,215	10,064	34,169	496,421
Oklahoma	148,746	11,656	265	3,140	13,982	4,233	182,022
Oregon	74,679	12,041	919	2,135	3,009	2,496	95,279
Pennsylvania	537,915	39,751	4,277	7,173	6,099	10,234	605,449
Rhode Island	55,696	3,852	77	66	574	20,568	80,833
South Carolina	189,238	16,973	1,783	1,099	9,259	4,673	223,025
South Dakota	37,988	2,231	163	3,633	2,356	818	47,189
Tennessee	194,213	11,808	702	1,439	14,682	4,299	227,143
Texas	538,769	43,306	6,056	5,197	88,605	23,968	705,901
Utah	46,789	6,672	793	503	2,574	3,050	60,381
Vermont	129,838	13,605	509	312	524	209	144,997
Virginia	451,399	35,049	1,950	3,718	4,569	4,642	501,327
Washington	259,825	12,212	5,208	4,433	3,284	3,639	288,601
West Virginia	96,528	2,968	313	602	1,204	602	102,217
Wisconsin	458,579	21,598	1,049	10,149	6,259	9,378	507,012
Wyoming	44,918	9,014	1,912	1,100	3,830	417	61,191
U.S. TOTAL	12,669,412	852,518	83,414	281,101	462,598	327,031	14,676,074

Exhibit 25: 2024 U.S. Retail Propane Sales Summary by State and Sector (average gallons per account)

State	Residential	Commercial	Industrial (Non-forklift)	Agriculture	Cylinder Market	Internal Combustion	Retail Sales Per Account
Alabama	188	1,562	6,717	3,626	691	3,787	429
Alaska	216	2,095	1,832	1,110	1,860	932	653
Arizona	280	4,428	7,606	1,450	597	2,140	600
Arkansas	281	3,092	4,198	3,536	1,095	2,486	474
California	327	3,099	3,446	2,785	2,042	2,167	704
Colorado	848	3,833	7,527	2,226	796	1,574	1,065
Connecticut	341	1,240	2,324	2,973	1,892	299	424
Delaware	294	1,795	2,505	10,844	2,078	8,443	573
District of Columbia	51	1,470	351	0	1,263	224	671
Florida	106	1,587	2,305	2,566	1,408	1,694	395
Georgia	234	1,642	7,760	5,408	853	4,979	557
Hawaii	117	7,551	2,842	726	14,491	1,605	987
Idaho	382	2,386	1,693	2,183	1,255	2,130	476
Illinois	692	3,927	3,583	2,706	788	2,568	893
Indiana	525	1,591	1,645	2,302	981	2,291	789
Iowa	839	2,251	3,347	2,551	237	2,393	1,077
Kansas	731	2,457	3,603	1,912	856	1,706	878
Kentucky	304	2,743	4,646	3,602	155	3,641	448
Louisiana	370	6,543	1,748	6,551	1,343	2,359	961
Maine	303	2,850	4,371	1,863	1,394	2,505	586
Maryland	287	1,858	1,561	6,740	2,025	1,703	473
Massachusetts	398	3,035	2,301	60	1,666	2,222	569
Michigan	549	2,045	2,953	2,524	337	3,011	674
Minnesota	232	1,798	1,833	2,539	477	2,188	341
Mississippi	238	1,872	5,717	7,134	774	3,195	457
Missouri	446	2,388	5,018	1,442	685	2,731	569
Montana	779	4,345	1,959	9,474	346	400	1,008
Nebraska	818	2,501	2,279	6,933	501	1,560	1,146
Nevada	500	3,200	9,600	1,883	260	1,930	973
New Hampshire	457	2,407	4,493	1,740	2,136	1,535	648
New Jersey	412	1,249	1,065	3,537	4,926	2,451	701
New Mexico	409	3,780	8,199	2,093	1,868	1,533	669
New York	410	2,666	2,889	4,027	2,789	2,151	638
North Carolina	203	1,201	1,196	3,952	863	2,696	411
North Dakota	1,119	6,603	30,059	2,517	58	327	1,240
Ohio	415	2,441	2,134	1,935	1,177	1,248	632
Oklahoma	369	1,414	12,297	1,632	359	2,221	518
Oregon	275	3,790	4,535	2,631	1,274	2,902	913
Pennsylvania	327	2,176	4,002	2,888	1,793	2,792	561
Rhode Island	255	2,274	3,061	3,723	1,668	44	313
South Carolina	178	1,663	2,807	5,839	946	2,993	431
South Dakota	939	3,124	4,652	4,112	451	2,014	1,294
Tennessee	302	2,132	3,573	2,143	308	3,518	480
Texas	230	2,865	8,601	2,692	482	2,959	606
Utah	435	6,101	15,133	5,995	1,767	1,838	1,429
Vermont	436	2,290	2,175	778	1,413	1,613	622
Virginia	274	2,287	3,768	4,927	1,403	2,457	493
Washington	337	4,013	1,916	3,282	2,618	2,807	623
West Virginia	306	2,767	3,099	8,208	1,100	3,155	459
Wisconsin	595	2,125	3,911	2,183	925	2,430	737
Wyoming	710	2,267	4,164	922	255	811	1,024
U.S. Total	370	2,362	3,643	2,807	731	2,066	600

Exhibit 26: 2020-2024 U.S. Retail Propane Sales Summary by State (millions of gallons)

State	2020	2021	2022	2023	2024
Alabama	111	112	109	98	92
Alaska	14	15	15	14	15
Arizona	109	115	120	112	107
Arkansas	89	88	84	82	83
California	519	546	539	535	532
Colorado	193	196	216	189	186
Connecticut	126	128	112	117	121
Delaware	47	50	54	46	50
District of Columbia	0	1	1	0	1
Florida	216	225	219	202	199
Georgia	207	205	219	190	222
Hawaii	37	46	43	40	39
Idaho	78	77	87	86	87
Illinois	486	492	408	434	411
Indiana	245	232	245	235	249
Iowa	467	409	449	380	344
Kansas	130	123	132	113	102
Kentucky	108	117	160	125	122
Louisiana	57	56	55	51	51
Maine	149	154	154	166	186
Maryland	132	136	133	113	113
Massachusetts	143	141	137	128	147
Michigan	535	522	531	491	450
Minnesota	512	484	501	450	426
Mississippi	106	116	116	105	106
Missouri	283	276	306	269	240
Montana	119	116	147	125	112
Nebraska	113	108	107	94	78
Nevada	50	54	61	56	56
New Hampshire	165	165	188	185	185
New Jersey	78	83	79	68	66
New Mexico	75	81	88	78	79
New York	417	437	428	401	430
North Carolina	372	375	382	352	374
North Dakota	131	123	123	119	111
Ohio	332	346	390	344	314
Oklahoma	141	141	141	128	94
Oregon	87	98	110	94	87
Pennsylvania	357	373	371	335	340
Rhode Island	27	28	27	25	25
South Carolina	99	107	109	94	96
South Dakota	80	81	80	72	61
Tennessee	123	123	130	112	109
Texas	432	443	493	414	428
Utah	59	64	85	91	86
Vermont	107	109	105	95	90
Virginia	243	258	268	238	247
Washington	188	207	208	184	180
West Virginia	52	52	58	50	47
Wisconsin	435	452	452	402	373
Wyoming	59	60	65	68	63
U.S. TOTAL	9,440	9,546	9,840	8,995	8,810

Exhibit 27: Annual Heating Degree Days³ (HDDs) by State: 2020 to 2024

State	2020	2021	2022	2023	2024	Five Year Average (2020 to 2024)	Percent Change from 2023 to 2024	Percent Change from Five Year Average to 2024
Alabama	2,129	2,255	2,581	2,111	2,242	2,264	6.2%	-1.0%
Alaska	10,781	10,977	10,035	10,902	11,164	10,772	2.4%	3.6%
Arizona	2,079	1,985	2,304	2,449	2,342	2,232	-4.4%	4.9%
Arkansas	3,130	3,106	3,469	2,932	2,815	3,090	-4.0%	-8.9%
California	2,374	2,567	2,521	2,956	2,655	2,615	-10.2%	1.5%
Colorado	6,607	6,533	7,133	7,101	6,398	6,754	-9.9%	-5.3%
Connecticut	5,315	5,312	5,546	5,125	5,230	5,306	2.0%	-1.4%
Delaware	3,862	4,121	4,615	3,931	4,104	4,127	4.4%	-0.5%
District of Columbia	3,317	3,435	3,736	3,272	3,977	3,547	21.5%	12.1%
Florida	425	413	506	377	506	445	34.2%	13.6%
Georgia	2,366	2,371	2,630	2,270	2,404	2,408	5.9%	-0.2%
Hawaii	2	13	0	0	0	3	NA	-100.0%
Idaho	6,612	6,575	7,531	7,129	6,817	6,933	-4.4%	-1.7%
Illinois	5,749	5,590	6,233	5,259	5,017	5,570	-4.6%	-9.9%
Indiana	5,325	5,209	5,704	4,840	4,726	5,161	-2.4%	-8.4%
Iowa	6,720	6,327	7,235	6,121	5,764	6,433	-5.8%	-10.4%
Kansas	4,810	4,579	5,218	4,642	4,333	4,716	-6.7%	-8.1%
Kentucky	4,001	4,092	4,472	3,709	3,761	4,007	1.4%	-6.1%
Louisiana	1,393	1,543	1,880	1,616	1,637	1,614	1.3%	1.4%
Maine	7,266	7,082	7,315	6,944	6,890	7,099	-0.8%	-2.9%
Maryland	4,114	4,109	4,539	3,868	4,020	4,130	3.9%	-2.7%
Massachusetts	5,626	5,591	5,837	5,510	5,695	5,652	3.4%	0.8%
Michigan	6,336	6,109	6,787	6,042	5,720	6,199	-5.3%	-7.7%
Minnesota	8,164	7,781	9,086	7,848	7,226	8,021	-7.9%	-9.9%
Mississippi	2,014	2,111	2,374	1,942	2,030	2,094	4.5%	-3.1%
Missouri	4,874	4,651	5,288	4,344	4,169	4,665	-4.0%	-10.6%
Montana	7,865	7,847	8,507	7,902	7,814	7,987	-1.1%	-2.2%
Nebraska	6,039	5,690	6,452	5,894	5,439	5,903	-7.7%	-7.9%
Nevada	3,682	3,620	3,844	4,174	3,759	3,816	-9.9%	-1.5%
New Hampshire	6,737	6,529	6,902	6,382	6,470	6,604	1.4%	-2.0%
New Jersey	4,713	4,760	5,123	4,521	4,664	4,756	3.2%	-1.9%
New Mexico	4,362	4,294	4,853	4,771	4,419	4,540	-7.4%	-2.7%
New York	5,240	5,605	5,942	5,416	5,419	5,524	0.1%	-1.9%
North Carolina	3,005	3,050	3,267	2,859	2,965	3,029	3.7%	-2.1%
North Dakota	8,799	8,207	9,610	8,726	8,135	8,695	-6.8%	-6.4%
Ohio	5,230	5,119	5,662	5,014	4,835	5,172	-3.6%	-6.5%
Oklahoma	3,574	3,412	3,863	3,347	3,017	3,443	-9.9%	-12.4%
Oregon	5,155	5,351	5,527	5,505	5,404	5,388	-1.8%	0.3%
Pennsylvania	5,174	5,162	5,723	5,026	5,060	5,229	0.7%	-3.2%
Rhode Island	5,258	5,233	5,488	5,131	5,340	5,290	4.1%	0.9%
South Carolina	2,361	2,398	2,506	2,153	2,311	2,346	7.3%	-1.5%
South Dakota	7,270	6,888	7,882	7,296	6,764	7,220	-7.3%	-6.3%
Tennessee	3,618	3,549	3,878	3,208	3,259	3,502	1.6%	-6.9%
Texas	1,533	1,610	2,031	1,624	1,468	1,653	-9.6%	-11.2%
Utah	6,279	6,542	7,191	7,190	6,598	6,760	-8.2%	-2.4%
Vermont	7,454	7,142	7,452	7,074	6,985	7,221	-1.3%	-3.3%
Virginia	3,724	3,879	4,238	3,665	3,761	3,853	2.6%	-2.4%
Washington	5,338	5,752	6,055	5,821	5,921	5,777	1.7%	2.5%
West Virginia	4,683	4,755	5,122	4,469	4,383	4,682	-1.9%	-6.4%
Wisconsin	7,180	6,781	7,676	6,643	6,235	6,903	-6.1%	-9.7%
Wyoming	7,787	7,703	8,352	8,235	7,521	7,920	-8.7%	-5.0%

³ A heating degree day (HDD) is the difference between 65°F and the daily mean temperature at that location. It is primarily a measure used to estimate heating requirements.

Renewable Propane Sales

For 2024, Propane marketers reported retail sales of nearly 195 million gallons of renewable propane and renewable propane blends, resulting in a CO₂ equivalent emissions reduction of between 3,281⁴ and 5,182⁵ metric tons over traditional fossil-based propane.

Non-odorized Propane Sales

Propane can be used in a variety of manners within the petrochemical and refining sectors. The below table shows 2024 non-odorized propane sales in the U.S. for the petrochemical sector only. Within the petrochemical sector, propane is used as a feedstock in steam cracking facilities and Propane Dehydrogenation (PDH) facilities. In 2024, sales to the petrochemical sector totaled 4.24 billion gallons of propane, roughly 48 of total U.S. retail propane sales for the year.

In 2024, total propane sales to ethylene plants in Texas, Louisiana, and Iowa were 2.866 billion gallons. Sales in 2023 were 0.06 billion gallons or 2.0% higher than in 2023.

Total sales to US chemical feedstock markets declined 28,499 thousand gallons (-0.67%). Chemical feedstock demand for propane in 2024 was lower in Texas, Iowa and Illinois but demand in Louisiana increased in 9.5%. (+57,948 thousand gallons).

Total ethylene production (all US plants) increased 7.2% in 2024. Ethylene production was 58.7 billion lb from plants in Texas and 20.1 billion lb in Louisiana. Texas plants increased production by 5.14 billion lb (+9.6%) but production from Louisiana plants declined by 0.81 billion lb (-3.9%).

In the United States, the combined capacity of all “ethane only” plants is 41.2 billion lb/year and accounts for 41% of total capacity. In Texas, “ethane only” plants account for 54% of light feed capacity and 28% of all capacity. In Louisiana, “ethane only” plants account for 92% of light feed capacity and 53% of all capacity. Before the boom in construction of purity ethane plants, various ethylene producers also expanded the ethane cracking capability of their multi-feed plants.

Exhibit 28: 2024 U.S. Chemical Sector Non-odorized Sales Volumes (millions of gallons)

Year	Ethylene Feedstock	PDH Feedstock	Total Chemical Sales
Texas	2,171	1,373	3,545
Louisiana	669	0	669
Iowa	26	0	26
U.S. Total	2,866	1,373	4,239

Source: Petral Consulting

⁴ CO₂ emissions calculated based on a carbon intensity of 43.5 gCO₂eq/MJ

⁵ CO₂ emissions calculated based on a carbon intensity of 20.5 gCO₂eq/MJ

Review of Annual Retail Propane Sales Report Methodology

End-use Sector Definitions

Residential sector:

Residential propane sales include odorized propane delivered to and used by residential consumers at their place of residence for fixed applications. Uses include space heating, water heating, cooking, spa/pool use, and other household uses. Residential sector sales include delivery and replacement of 100-pound cylinders attached at fixed locations. Residential sales do not include household use of propane from 20-pound (or similar) cylinders used for portable appliances and applications.

Commercial sector:

Commercial sector propane sales include odorized propane delivered to and used by commercial entities, such as schools, hospitals, retail outlets, office buildings, and other types of non-industrial outlets. Commercial sales do not include propane-used forklifts or engine use. Commercial sales do include propane used in on-site standby or backup electric generation at the facility.

Industrial (non-forklift) sector:

Industrial (non-forklift) sector propane sales include odorized propane delivered to and used by industrial or manufacturing facilities for process heating, large-scale combined heat and power systems, distributed generation, or as a fuel for furnaces. Propane used by industrial customers in forklifts or other internal combustion engines is reported as Internal Combustion and is not included in the industrial (non-forklift) sector.

Agricultural sector:

Agricultural sector propane sales include odorized propane delivered to and used by agricultural entities that are primarily engaged in growing crops, raising animals, or other agricultural products. Agricultural sector sales include propane used for grain drying, agricultural harvesting activities, weed control, radiant heating systems, crop irrigation engines, and other related agricultural applications. Propane used by agricultural customers in other internal combustion engine applications is reported in the Internal Combustion category.

Cylinder markets:

The cylinder market is defined as propane that is delivered in a 20-pound (or similar) cylinder. The definition of propane cylinder markets does not include wholesale or bulk propane sales to other propane retailers, fixed 100-pound (or similar) cylinders attached at fixed residential locations, or cylinders used by forklifts, commercial mowers, or other internal combustion engines. Information on cylinder market sales volumes was reported by participating companies using the following two sub-categories:

Consumer bottle refill & exchange: Residential or individual use bottle exchange programs. This includes bottle-filling programs at grocery stores, gas stations, campgrounds, and other individual-use sites.

Rental yards / RV refill stations / other: Direct sales to large direct consumer cylinder program managers. This does not include propane sales for use in public autogas fueling infrastructure to companies such as Pilot, Menards, and U-Haul, which should be reported in the autogas section.

These two sub-categories have been added together for the total cylinder market sales.

Internal combustion:

The internal combustion sector includes odorized propane sales for use in internal combustion engines (other than agricultural irrigation engines). Information on internal combustion sales volumes was reported by participating companies for the following three sub-categories:

Propane Autogas: All other odorized propane use by internal combustion engines for on-road vehicles.

Material handling: Only includes odorized propane use by forklifts at commercial and industrial sites, as well as airport and port equipment. This can either be consumed in cylinders or directly.

Non-road: Only includes propane used by commercial mowers, outdoor power equipment, golf equipment, ATVs, or other non-road vehicles. This can either be consumed in cylinders or can be supplied directly.

These three sub-categories have been added together for the total internal combustion sales.

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Classification of the State by Region, Census Division, and PADD

State	Region	Census Divison	PADD Classification
Alabama	South	East South Central	PADD3
Alaska	West	Pacific	PADD5
Arizona	West	Mountain	PADD5
Arkansas	South	West South Central	PADD3
California	West	Pacific	PADD5
Colorado	West	Mountain	PADD4
Connecticut	Northeast	New England	PADD1
Delaware	South	South Atlantic	PADD1
District of Columbia	South	South Atlantic	PADD1
Florida	South	South Atlantic	PADD1
Georgia	South	South Atlantic	PADD1
Hawaii	West	Pacific	PADD5
Idaho	West	Mountain	PADD4
Illinois	Midwest	East North Central	PADD2
Indiana	Midwest	East North Central	PADD2
Iowa	Midwest	West North Central	PADD2
Kansas	Midwest	West North Central	PADD2
Kentucky	South	East South Central	PADD2
Louisiana	South	West South Central	PADD3
Maine	Northeast	New England	PADD1
Maryland	South	South Atlantic	PADD1
Massachusetts	Northeast	New England	PADD1
Michigan	Midwest	East North Central	PADD2
Minnesota	Midwest	West North Central	PADD2
Mississippi	South	East South Central	PADD3
Missouri	Midwest	West North Central	PADD2
Montana	West	Mountain	PADD4
Nebraska	Midwest	West North Central	PADD2
Nevada	West	Mountain	PADD5
New Hampshire	Northeast	New England	PADD1
New Jersey	Northeast	Middle Atlantic	PADD1
New Mexico	West	Mountain	PADD3
New York	Northeast	Middle Atlantic	PADD1
North Carolina	South	South Atlantic	PADD1
North Dakota	Midwest	West North Central	PADD2
Ohio	Midwest	East North Central	PADD2
Oklahoma	South	West South Central	PADD2
Oregon	West	Pacific	PADD5
Pennsylvania	Northeast	Middle Atlantic	PADD1
Rhode Island	Northeast	New England	PADD1
South Carolina	South	South Atlantic	PADD1
South Dakota	Midwest	West North Central	PADD2
Tennessee	South	East South Central	PADD2
Texas	South	West South Central	PADD3
Utah	West	Mountain	PADD4
Vermont	Northeast	New England	PADD1
Virginia	South	South Atlantic	PADD1
Washington	West	Pacific	PADD5
West Virginia	South	South Atlantic	PADD1
Wisconsin	Midwest	East North Central	PADD2
Wyoming	West	Mountain	PADD4

Outreach and Data Collection

Data sources

The primary source of information used in the creation of 2024 retail propane sales report has been provided directly by the participating propane retail companies and PERC. All sales and customer account information provided by participants is reflective of the calendar year 2024 totals.

Additional data sources have also been used during the research in order to ensure the highest degree of accuracy in reporting. These additional data sources include, but are not limited to the following:

- Energy Information Agency (EIA)
- Industry trade press and publications
- National Oceanic and Atmospheric Administration
- Information reported by State associations and foundations
- NASA GISS

Research Methodology

Survey coverage

Propane Education & Research Council (PERC) conducted a web-based survey of U.S. propane retailers between March and June 2025. Out of a universe of 3,949 U.S. retailers, 1,731 retailers undertook the survey. These retailers reported a total of 6.112 billion gallons or 69% of the assessed propane sales for 2024, demonstrating that most of the large and multi-state retailers participated in the survey. With a gap of 2.698 billion gallons between the assessment total and the sales reported through a web survey, Frost & Sullivan adopted three extrapolation methodologies to determine sales by states and sectors.

Data quality

To ensure the quality of the data, Frost and Sullivan crosschecked the reported data through multiple dimensions – 2024 vs 2023 reported data for the leading 50 retailers, gallons per state, and gallons per account comparison for different category retailers, etc. While the reported data was consistent in most of the cases, there were a few cases where there were some inconsistencies and retailers made some reporting errors in the survey form. Those retailers were contacted to validate the reported data before proceeding with the analysis. As for the number of propane accounts, there were a significant number of respondents that chose not to report this information. On follow-up, to obtain this information supplemental reporting was not provided in most cases.

The following are the three methodologies used for extrapolating the survey findings and determining the 2024 U.S. propane retail sales estimates:

1. Methodology 1: through change in reported propane sales per retailer and share of states
2. Methodology 2: retailer universe estimation and extrapolation of the survey data
3. Methodology 3: establishing the correlation between state HDD and propane sales

Explanation of the Propane Sales Estimation and Extrapolation Methodologies

A. Methodology 1: through change in reported propane sales per retailer and share of states

In this methodology, state-wise percentage change in propane sales has been derived using two factors:

- a. Change in Propane sales reported per retailer
- b. Change in historical share of the states

Change in Propane sales reported per retailer

In this methodology, total Propane sales reported for a state has been divided by the no. of reporting to derive the state-wise average Propane sales reported per retailer. The 2023 and 2024 values have been compared to compute the state-wise change.

Change in historical share of the states

In this methodology, percentage share of the states in the country's overall Propane sales for a five-year period (2019-2023) has been used to compute the historical average share of the state in the country's overall propane sales.

The first factor has been assigned a 65% weightage as it considers the 2024 reported data. The second factor has contributed 35% weightage as the methodology is limited till 2023 data. The weighted average change thus derived has been applied on the 2023 Propane sales to derive the 2024 Propane sales for a state. The total sales are then rationalized to 8.810 billion gallons to derive the propane sales in all 50 states and the District of Columbia.

B. Methodology 2: Retailer universe estimation and extrapolation of the survey data

The second methodology was based on a 'Bottoms Up' approach. First, Frost & Sullivan split the retailers who participated in the survey into six categories, then derived state propane sales norms for each category, and finally used extrapolation to arrive at 2024 state propane sales. Using the geographic spread as the categorization parameter, retailers were split into the following six categories:

- a. Retailers present only in one state
- b. Retailers present in 2 to 5 states
- c. Retailers present in 6 to 10 states
- d. Retailers present in 11 to 15 states
- e. Retailers present in 16 to 30 states
- f. Retailers present in more than 30 states

In this methodology, if a retailer is present across 10 states, the retailer was considered as 10 retailers (i.e., each state entity was considered as one retailer). This new definition of retailers created a total of 3,949 state entities present in the U.S., of which 1,731 (947 retailers) were survey participants. Out of these 1,731 state entities, 39% entities belonged to the first category, 35% were in the second category, 5% were in the third category, 2% were in the fourth category, 7% were in the fifth category, and the remaining 13% were in the last category.

Once the above was established, state cumulative gallon sales for each category were computed and then used to derive averages/norms for state propane sales for each category. Ideally, the same norm would then be used for extrapolation to the universe. However, in this specific case, the following observations were made:

- 1,731 retailers who participated in the survey accounted for 69% of sales, while the remaining 2,218 retailers accounted for only 31% sales.
- Average Propane sales for the reported retailers were 3.5 million gallons against the national average of 2.2 million gallons. The average sales for the non-reported retailers were 1.2 million gallons, 55% less than the national average.

Hence, it was necessary to conduct a rationalization of the propane sales norm for extrapolation. To derive the overall propane sales figure of 8.810 billion gallons, extrapolation norms for each category were reduced by the following percentages:

- Category 1: 52% of the propane sales norm
- Category 2: 64% of the propane sales norm
- Category 3: 74% of the propane sales norm
- Category 4: 100% of the propane sales norm
- Category 5: 100% of the propane sales norm
- Category 5: 100% of the propane sales norm

The total sales thus derived is then rationalized to 8.810 billion gallons to derive the propane sales in all 50 states and the District of Columbia.

C. Methodology 3: establishing a correlation between state HDD and propane sales

The fourth methodology was based on a 'Top Down' approach. In this methodology, Frost & Sullivan tried to identify a specific macro variable that could be strongly correlated with propane sales in the states. After much discussion, HDD was shortlisted for analysis as propane is primarily used for space heating and grain drying applications, and thus HDD bears a strong correlation with propane sales.

An analysis of HDD and propane sales data between 2019 and 2024 showed a strong degree of correlation (coefficient of correlation of 0.85) between U.S. HDD and national-level propane sales. Hence, 2024 U.S. national and state-level HDD data was considered to estimate 2024 propane sales for all U.S. states. This method estimated 2024 overall U.S. propane sales at 9.052 billion gallons – approximately 242 million gallons higher than the actual data. However, to compare the output from all four methodologies, propane sales numbers for each state were rationalized and decreased in the same ratio to achieve an overall sales total of 8.810 billion gallons.

Rationalization Among Methodologies and Finalization of Propane Sales and Account Number Estimates

A. State Propane sales finalization

As a first step, the pros and cons of the four methodologies were deliberated at length.

Methodology	Pros	Cons
Methodology 1	<ul style="list-style-type: none"> Quantitative methodology Based on ground level facts and survey data Rigid methodology as it considers historical shares of the states 	<ul style="list-style-type: none"> Assignment of weightages is based on subjective assessment of impact of individual factors on the state / national level propane sales
Methodology 2	<ul style="list-style-type: none"> This method fully utilizes the data collected through the survey Since most of the large retailers participated in the survey, this method provided visibility to a significant portion of a state’s propane sales. 	<ul style="list-style-type: none"> Accuracy of state-wise retailer universe is an area of concern. There are a significant number of retailers whose sales are extremely low or some of them may have started operations only in 2024, however their contribution could become significant due to extrapolation Iterative methods have been used to decide the reduction factors. Multiple combinations were possible, and each combination showed different propane sales estimates for the states; however, the differences were not significant.
Methodology 3	<ul style="list-style-type: none"> HDD is an important parameter that indicates changes in temperature which in turn indicates an increase/decrease in space heating requirements Moderate correlation between HDD and national propane sales 	<ul style="list-style-type: none"> Difficult to explain the reasons for the poor / negative coefficient of correlations for certain states

After weighing the Pros and Cons of the above three methodologies, joint decision has been taken to assign the following weightages to estimates the Propane sales for each state.

- Methodology 1: 40% weightage

- Methodology 2: 20% weightage
- Methodology 3: 40% weightage

By applying these weightages, state and national level Propane sales estimates were established for 2024. Wherever applicable, propane sales estimates were then verified with the sales figures provided by the states themselves.

B. Sector Propane sales finalization for each state

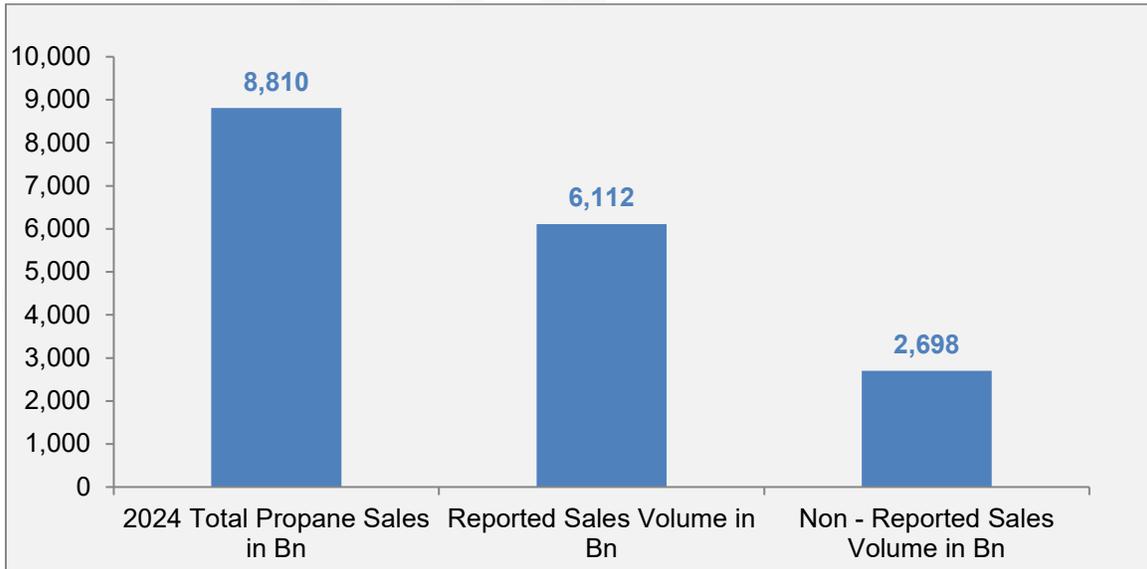
Once the state-level propane sales estimates were finalized, 2024 survey data was used to derive the sector splits and subsequently, sector propane sales. As approximately 70% of the propane sales volume was covered through the survey, reported data represented a true and fair assessment of sector-level propane consumption for each state.

C. Market sector account number finalization for each state

Average propane sales per account were calculated for each state and sector, and retailers who did not report their accounts during the survey were not considered for this calculation. Average propane sales norms were then used to divide the state and sector-level propane sales to derive the market sector account numbers for each state.

Differences in Sales Volume Reporting and Assessment Totals

For the 2024 retail propane sales report, the total U.S. sales volume was 8,810 million gallons of propane. The companies that participated in the study reported 6,112 million gallons in 2024, a decrease from 6,483 million gallons of propane sales reported in 2023. Both 2023 and 2024 reported gallons were around 70% of the overall final gallons. Frost & Sullivan attributed the remaining volume of 2,698 million gallons to the companies that did not report sales volumes.



2024 Retail Propane Sales Report

The annual retail propane sales report is a joint initiative between the Propane Education & Research Council (PERC) and Frost & Sullivan. The 2024 retail propane sales report has been used to determine the odorized propane sales to end-use sectors for the calendar year 2024. This report is the only source of state-level end-use sector sales information for odorized propane.

Reason for the retail propane sales report

Information for state level and end-use odorized propane sales is required by PERC to fulfil specific requirements of the 1996 Propane Education and Research Act (PERA). Under PERA, 20% of assessment collections are eligible for rebate back to the states. The allocation of the rebate between the states is determined by the percentage of the total odorized propane sales in each state. PERA also places limits on the share of total PERC investment in the on-road market to no more than the share of the total propane market used for motor vehicle combustion and sets a minimum of 5% of total assessments that must be allocated to the agricultural sector. This report is the only available source of retail propane sales by state and end-use sector.

The allocation of odorized propane sales between the states has a significant impact on the PERC allocation of expenditures. Each state's allocation of rebate funds is based on the latest retail sales data for residential, commercial, industrial, and internal combustion engine fuel, agricultural uses, and sales to retail dispensers that are compiled using the responses to this report. As a result, the reporting of sales volumes from propane retailers is a critical component of the PERC budgeting process.

Confidentiality guidelines for participant responses

PERC and Frost & Sullivan understand that the U.S. retail propane market is a highly competitive market. All company and contact information that is collected as part of this annual report will be held under Frost & Sullivan's confidential information data handling guidelines.

Proprietary or confidential information provided by respondents and developed by Frost & Sullivan as part of the 2024 retail propane sales report has been clearly labelled and identified as 'confidential information and stored in a manner consistent with Frost & Sullivan's standard practices. Confidential information shall not be disclosed by Frost & Sullivan to third parties or used for anything other than the stated purpose of completing the annual retail propane sales report.

State-level total and end-use sector sales information has been published only where sales and account information were provided by three or more participant respondents. For state-level end-use sector information without three or more respondents, sector and state information has not been provided.

Data Ownership

The annual retail propane sales report was prepared for PERC by Frost & Sullivan. As the contractor of this report, Frost & Sullivan will keep all proprietary company information shared by PERC during the data collection process in accordance with the company's confidentiality guidelines. PERC retains all ownership rights to this publication and its underlying data.



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