YOUR MARKET METRICS

INDEX OF PRICES PAID BY GROWERS 2007–2024

YOURMARKETMETRICS.COM

By Dr. Charlie Hall

AmericanHort

Chief Economist
AmericanHort

TEXAS A&M UNIVERSITY

Ellison Chair in
International Floriculture
Texas A&M University

EAGL
EXECUTIVE ACADEMY FOR GROWTH & LEADERSHIP

Lead Faculty Member
The EAGL Network

PUBLISHED MARCH 1, 2025

Dr. Charlie Hall, Professor and Ellison Chair in International Floriculture, Texas A&M University

A native of North Carolina, Dr. Charlie Hall received a B.S. in Agricultural Economics from the University of Tennessee in 1984, a Master's Degree in Ornamental Horticulture and Landscape Design from the University of Tennessee in 1986, and his Ph.D. from Mississippi State University. He began his academic career at Texas A&M University in 1988, where he spent 13 years on the faculty before joining the faculty at the University of Tennessee in 2002. In August 2007, Dr. Hall returned to Texas A&M University as **Professor and Ellison Chair in International Floriculture**.

Dr. Hall's expertise is in the production and marketing of Green Industry crops is **nationally recognized** in academia and among the horticultural clientele he serves. His major research, teaching, & extension areas of specialization include strategic management, market situation/outlook, cost accounting, and financial analysis for Green Industry firms.

Dr. Hall currently serves as the **Chief Economist** for AmericanHort and Co-Chair of the **Advisory Council** of Seed Your Future. He is the **lead faculty member** for the certification program and grower executive network he co-founded, the Executive Academy for Growth & Leadership (EAGL). He is former **President** and Past-President of the board of directors for America in Bloom. He received the **Paul Ecke, Jr. award** from the Society of American Florists for professional contributions to the floral industry and the **Porter Henegar Memorial Award** from the Southern Nursery Association for significant contributions to ornamental horticulture research and to the Southern Nursery Association.

He is an **Honorary Lifetime Member** of the Texas Nursery and Landscape Association and has received TNLA's **Award for Outstanding Service to the Nursery Industry**. He is also a member of the **Hall of Fame** and **Honorary Lifetime Member** of the Tennessee Nursery and Landscape Association. Dr. Hall has received Texas A&M University's A**ssociation of Former Students' Distinguished Achievement Award in Teaching** and the **Vice Chancellor's Award in Excellence for Student Counseling and Relations**.

For more information, contact: c-hall@tamu.edu

Contents

Executive Summary

Before the recent global pandemic, the green industry had reached the mature stage of its industry life cycle. Consequently, margin compression was evident, with prices slow to increase due to both real and perceived competitive forces. Concurrently, the costs of production inputs were rising, leading to margin squeezing across the entire industry.

The pandemic exacerbated the situation, bringing significant supply chain challenges while also sparking unprecedented increases in final demand. This surge created exceptionally high inflationary pressures. Thus, it became essential for growers to possess accurate information about their cost structure to facilitate managerial decision-making. This included SKU rationalization, customer profitability analyses, and determining appropriate price increases. Armed with such data, growers could better comprehend inflationary pressures on their production costs and make more informed pricing decisions, recognizing that total costs set the price floor while customer willingness-to-pay establishes the price ceiling.

The ***Index of Prices Paid by Growers***, initiated in 2017 as part of the **Your MarketMetrics** industry benchmarking program, annually documents these inflationary pressures on the critical inputs used by green industry growers. Each cost-related line item is weighted by its relative share of the total assortment of goods and services purchased for plant production, marketing, and shipping. Through this methodology, a weighted average inflation rate in input prices is estimated.

The weighted Index of Prices Paid by Growers ranged from 100 in the base year (2007) to a peak of 165.0 by the end of 2024. **This implies that the overall costs of producing nursery and greenhouse crops in 2024 were 65% more than they were in 2007**, with labor experiencing the largest increase among these inputs. Year-over-year increases reflect the magnitude of ongoing inflationary cost pressures. **Since the beginning of the pandemic, tracked expenses rose by about 8.1% in 2021 than they were in 2020, increased 9.5% from 2021 to 2022, were 0.5% higher in 2023 than in 2022, and were 2.5% higher in 2024 than in 2023**. In total, since the onset of the pandemic, input costs have surged by 22.5% compared to 2019 levels, just before the pandemic.

An Index of Prices Paid by Growers in the Green Industry

Introduction

This white paper focuses on the grower sector of the green industry and the costs incurred in the propagation, production, and shipping of plants to retail and landscape customers. While there are already-existing indices that are available that reflect general inflationary pressures in the economy, the use of standard measures such as the *Producers Price Index* (PPI) and *Consumer Price Index* (CPI) for this purpose is insufficient because wholesale growers in the green industry purchase different goods and services from those used for calculating these indexes. The USDA National Agricultural Statistics Service also calculates an *Index of Prices Received by Farmers* for their crops and livestock and an *Index of Prices Paid by Farmers* for the inputs they use during production. However, these indices also fall short in that they contain many items that are not applicable to nursery and greenhouse growers or exclude items that are applicable.

This ***Index of Prices Paid by Growers*** overcomes these challenges and includes major production inputs (e.g., containers, soil mixes, propagation stock, plant protection products, fertilizers, and fuel), along with the costs of labor, maintenance supplies, packaging materials, labels and other signage, freight, and other shipping-related expenses.

Indexing Methodology

In calculating the index, the relative importance of each of the aforementioned input costs were determined by collecting income statement data from leading growers in the industry for multiple years and using the averages of these data to calculate a weight for each line item relative to the collective total. The weighting scheme from 2017 was **updated this year** for each of the line items and is found in the following table.

Relative weighting of items included in the Index of Prices Paid by Growers.

COST CATEGORY	% OF SALES	% OF TRACKED EXPENSES
Containers & other plastics	6.035%	8.90%
Media (soilless potting mix)	2.961%	4.37%
Propagative materials	12.855%	18.97%
Plant protection products	1.104%	1.629%
Fertilizers	1.102%	1.626%
Labor (wages)	29.134%	42.99%
Fuel/Energy	3.095%	4.57%
Supplies & repairs	1.998%	2.95%
Freight and trucking	9.489%	14.00%
TOTAL	67.773%	100.00%
Other expenses	32.227%	---
	100.0%	100.00%

Altogether, the production-related line items included in the calculation of the index represented 67.8% of sales. The remaining 32.2% were either SG&A expenses or non-allocable expenses that could not be attributed to specific production-related categories. Thus, these were not included in the calculation of the index.

Once the weights were established, then an econometric model was built to estimate the index for each cost line item to reflect the relative changes in price for these expense line items through time. The base year for calculation of the index was 2007, so that year is set to 100 since it reflects the most recent pre-Great Recession time frame. The costs of each line item in each subsequent year can then be compared to the same line item costs in 2007 to determine how much the cost has increased since then. Multiplying the weight of each line item times the index for that line item each year and then summing all of the line items yields the summary weighted index. It is the YOY comparisons that are perhaps of most concern to industry participants since these data are useful for setting future pricing strategies each year.

The 2024 Index of Prices Paid by Growers

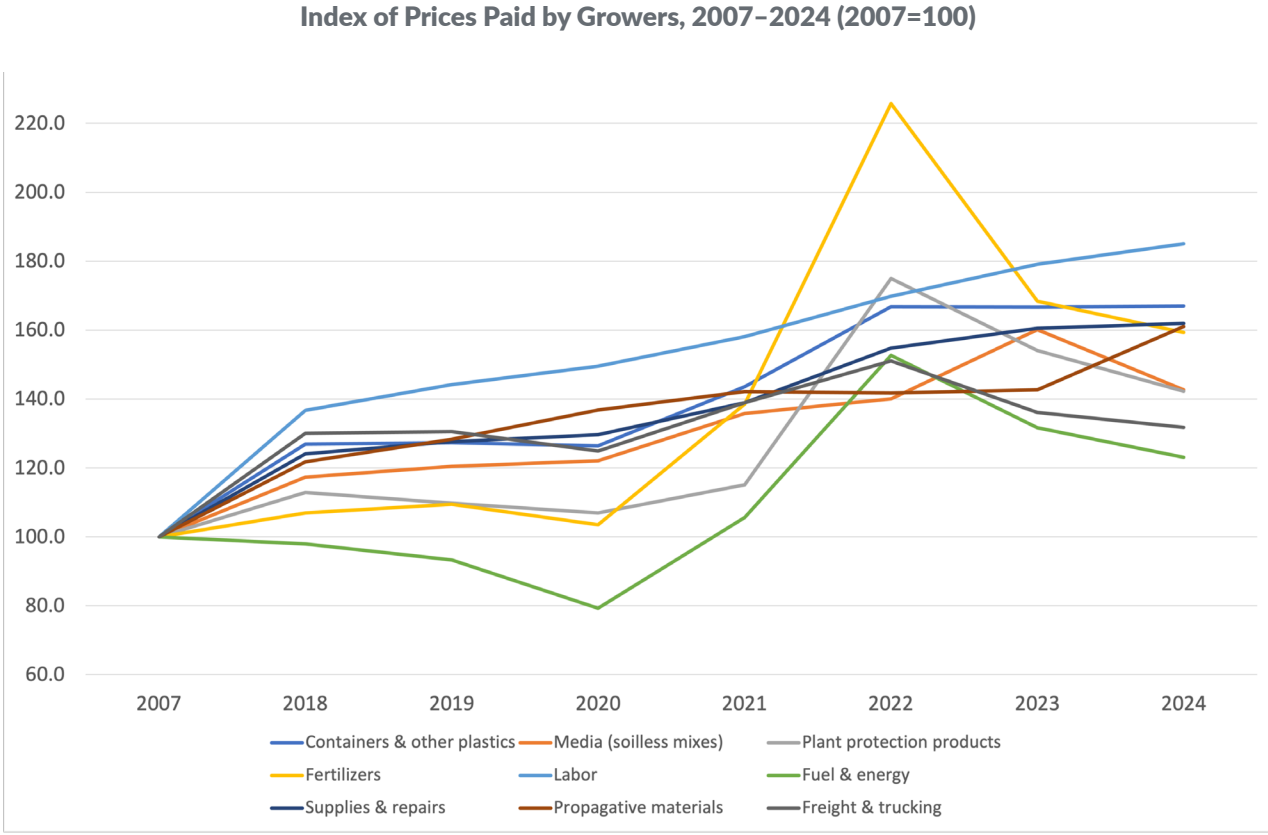
The 2024 index is 165.0, which means the **overall cost of inputs used in producing nursery and greenhouse crops is about 65% higher in 2024 than it was in 2007**. The year-over-year (YOY) increases are also presented, reflecting the annual inflationary pressures of costs over time. For example, the tracked costs in 2024 increased about 2.5% over what they were in 2023. *(Please note that the results for 2008-2017 are hidden in the table to enhance readability and maintain focus on most recent years.)*

Index of Prices Paid by Growers in the Green Industry, (2007=100).

COST CATEGORY	WEIGHT	2007	2018	2019	2020	2021	2022	2023	2024	2025f
Containers & other plastics	8.90%	100.0	126.9	127.3	126.4	143.5	166.8	166.7	167.0	167.8
Media (soilless mixes)	4.37%	100.0	117.3	120.5	122.0	135.8	140.1	160.1	142.7	145.5
Propagative materials	18.97%	100.0	121.8	128.3	136.8	142.1	141.8	142.7	161.0	161.8
Plant protection products	1.629%	100.0	112.9	109.8	107.0	115.1	175.0	154.0	142.3	143.5
Fertilizers	1.626%	100.0	106.9	109.5	103.5	138.6	225.8	168.4	159.3	160.1
Labor	42.99%	100.0	136.7	144.2	149.6	158.1	169.8	179.1	185.1	194.8
Fuel & energy	4.57%	100.0	97.9	93.3	79.3	105.6	152.7	131.7	123.0	123.5
Supplies & repairs	2.95%	100.0	124.1	127.6	129.6	138.9	154.7	160.5	162.0	166.9
Freight & trucking	14.00%	100.0	130.0	130.5	124.9	138.9	151.1	136.1	131.8	134.4
Weighted index (2007=100)		100.0	128.2	132.8	135.2	146.1	160.1	160.9	165.0	170.1
YOY increase/decrease		---	5.7%	3.6%	1.8%	8.1%	9.5%	0.5%	2.5%	3.1%

f=EOY forecast

Recent data for growers and retailers that participate in the Your MarketMetrics benchmarking program indicate margins improved during the pandemic because plant prices increased at a much faster rate than they had historically. However, while survey data indicated that most growers raised their prices, slightly less than half of them raised them enough to cover the entirety of their input cost increases. **On top of this, it is anticipated that input costs will continue to rise slightly in the coming year, mainly due to increases in labor costs (that more than offset the prices of other inputs whose price increases have slowed)**.



The top three individual components of the index that experienced the largest cost increases since 2007 included labor, the cost of containers, and freight and trucking costs, which are 95%, 68%, and 67% more expensive, respectively, than they were in 2007. Labor has been a two-fold dilemma for growers with both the cost and availability of labor being a severe limitation for nursery and greenhouse growers alike. Search and acquisition costs for labor have also increased, on top of the increased wages and associated burden of labor. All other categories of costs have also experienced increases since 2007.

Forecast for 2026

Last year, in my March report, I included a forecast for the coming year based on the available market research data across the green industry sectors and "ground-truthing" conversations with allied trade pundits associated with manufacturing and distributing these inputs. However, the confidence interval around this forecast was fairly large because of data limitations in the early part of the year. **Thus, I have decided to delay my forecasts for future time periods until my Summer Supplement is released in late June**, which is right before the summer trade show season kicks off and growers are formulating their pricing strategies and negotiating input prices with allied trade firms for 2026.

Implications

The purpose of this white paper is to provide an updated Index of Prices Paid by Growers, documenting historical costs incurred for major inputs used in the production of nursery and greenhouse crops. It's essential to recognize that this is a national index, and factors such as labor costs may vary by region. Therefore, it's advisable for growers to develop their own index by adjusting the weights of individual line items based on the proportion of expenses in their relative COGS. (A customizable spreadsheet is made available for subscribers to the Your MarketMetrics project.)

This index also highlights the cost-price squeeze faced by the green industry, particularly due to increasing input costs. Equipped with this information, growers can better understand inflationary pressures on production costs, aiding in more informed pricing decisions. Total costs set a price floor, while customer willingness to pay determines the price ceiling.

The findings reveal ongoing inflationary pressures that could diminish margins for green industry growers unless they adjust plant prices accordingly. Cost increases, especially for labor, are anticipated, albeit at a slower rate compared to recent years.

Although beyond the scope of this analysis, the industry must continually adjust price levels to keep pace with inflation and ensure growers' long-term financial sustainability. While supply-side dynamics drive the need for price increases to offset rising input costs, uncertainties remain regarding demand-side dynamics and the elasticity of consumer demand in response to higher plant prices resulting from these cost hikes being passed downstream in the supply chain.

APPENDIX A Labor Situation & Outlook

The U.S. labor market demonstrated continued resilience throughout 2024, and attention now shifts toward the possibility of achieving an economic soft landing in 2025.

- Current economic indicators suggest that labor market stability will persist in 2025.
- While an economic soft landing appears increasingly feasible, its realization will require careful management of emerging challenges, including a deceleration in hiring and potential labor shortages.
- Structural factors, such as slowing labor force growth, an aging population, and a projected decline in immigration, are expected to place increasing constraints on labor supply in the coming years.
- Wage growth has stabilized at a sustainable yet competitive rate, indicating ongoing strong demand for workers, particularly in lower-wage and in-person roles.
- The widespread adoption of generative AI (GenAI) has the potential to enhance productivity; however, its full impact will depend on its expansion beyond a limited number of high-usage sectors, such as software development and mathematics.
- The labor market experienced a gradual cooling in 2024, continuing a trend that began in 2022. Although employers moderated their hiring activity, they largely retained existing staff, which kept unemployment low and mitigated the risk of widespread layoffs. As a result, wage growth slowed to a strong but sustainable level, and hiring practices evolved to include greater emphasis on benefits, pay transparency, and skills-based hiring to attract talent.

After years of speculation and unfulfilled recessionary fears, the conditions for a long-anticipated soft landing—wherein economic activity and inflation moderate without significant job losses or other adverse consequences—are increasingly taking shape for 2025. As the labor market transitions into this phase, it will be critical to assess key economic indicators to determine whether the economy remains on a stable trajectory, encounters turbulence, experiences a harder-than-expected landing, or, alternatively, fails to slow down altogether, leading to a scenario where economic activity and inflation re-accelerate. While the labor market has been gradually softening, it has done so from a position of considerable strength. That strength provided a buffer against economic headwinds, but as these challenges persist, the margin for error has narrowed considerably.

As 2025 unfolds, several economic trends will provide insights into the labor market's trajectory:

- **Stabilization in Hiring and Job Turnover:** Hiring and voluntary job departures (quitting) must cease their decline and ideally show signs of stabilization or gradual improvement. Concurrently, unemployment and layoffs must remain near their current historically low levels.
- **Sustained Job Growth Supported by Employer Demand:** A recovery in job growth will hinge on an increase in job openings. Any substantial decline in employer demand, as reflected in job postings and payroll expansion, could signal a broader economic slowdown.

- **Enhanced Productivity Amid Labor Supply Constraints:** Employers must adapt to a shrinking labor force due to demographic shifts and immigration trends. Addressing these constraints will be essential for sustaining economic growth.
- **Balancing Wage Growth and Inflation:** Wage growth must remain at or near current levels to protect real income gains for workers. However, ongoing labor shortages may place upward pressure on wages, potentially fueling inflationary pressures.
- **Strategic Integration of Artificial Intelligence:** Broader adoption of GenAI and other technological advancements could serve as a key driver of productivity, particularly in industries that have yet to fully embrace digital innovation.
- **Continued Emphasis on Workforce Flexibility:** Expanding skills-based hiring practices and reducing reliance on traditional degree and experience requirements may help mitigate labor supply challenges and support workforce adaptability.

As the economy navigates this transitional period, policymakers and business leaders must remain vigilant in assessing economic conditions and implementing strategies that support labor market stability while mitigating potential risks. The path to a soft landing remains within reach but achieving it will require careful coordination and responsiveness to evolving economic dynamics.

General Farm Labor Wage Rates

As of February 2025, agricultural wages in the United States are projected to continue their upward trajectory, influenced by several key factors. The U.S. Department of Labor has announced the 2025 AEWR for H-2A visa program workers, reflecting significant regional increases. Nationally, labor expenses in the agricultural sector are expected to grow by $1.8 billion (3.6%) in 2025, reaching a record $53.1 billion. This surge is driven by wage hikes and persistent labor shortages. Between 2019 and 2024, agricultural wages have risen by approximately 35%, nearly double the 18% increase observed in non-agricultural sectors. The projected 29.5% increase in net farm income for 2025, largely due to a substantial rise in government payments, may provide some financial relief to farmers. However, ongoing labor shortages and wage pressures are expected to persist, potentially leading to higher production costs and influencing commodity prices. Agricultural wages in 2025 are anticipated to rise across various regions, influenced by regulatory adjustments, labor market dynamics, and broader economic factors. Farm operators should prepare for these changes by implementing strategic financial planning and exploring innovative labor solutions to maintain operational efficiency.

Published once a year by the DOL with the assistance of the USDA, the AEWR sets a separate minimum wage rate (i.e., a rate that will not adversely affect the employment opportunities of U.S. workers) for each state. The employer must pay all covered workers at least the highest of the following applicable wage rates in effect at the time work is performed: the adverse effect wage rate (AEWR), the applicable prevailing wage, the agreed-upon collective bargaining rate, or the Federal or State statutory minimum wage. Essentially, the AEWR is a minimum wage that provides a floor below which the wages of H-2A workers cannot fall. This wage rate has, anecdotally, had the effect of raising the existing wage rates

for non-H2A workers. The U.S. national average wage rate has increased every year for the last 20 years. In fact it has more than doubled since 2005. However, the rate of that year-over-year change has varied considerably. Between 2005 and 2018, the year-over-year increase averaged 2.9%, but has increased significantly since. Since 2019, the yearly increases have averaged 5.9%, nearly double the rate of change in the earlier period and are 37.3% higher in 2025 than they were just before the pandemic. **With labor costs accounting for an average of 35-40% of total COGS, this increase is no small part of the typical grower's budget**.

Adverse Effect Wage Rates by State 2019-2025

State	2019 AEWR	2020 AEWR	2021 AEWR	2022 AEWR	2023 AEWR	2024 AEWR	2025 AEWR	YOY increase 2024 to 2025	Percent increase from 2019 to 2025
(effective date)	1/9/19	1/1/20	2/23/21	12/29/21	1/1/23	1/1/24	1/1/25		
Alabama	11.13	11.71	11.81	11.99	13.37	14.68	16.08	9.5%	44.5%
Arizona	12.00	12.91	13.67	14.79	15.62	16.32	17.04	4.4%	42.0%
Arkansas	11.33	11.83	11.88	12.45	13.67	14.53	14.83	2.1%	30.9%
California	13.92	14.77	16.05	17.51	18.65	19.75	19.97	1.1%	43.5%
Colorado	13.13	14.26	14.82	15.58	16.34	16.63	17.84	7.3%	35.9%
Connecticut	13.25	14.29	14.99	15.66	16.95	17.80	18.83	5.8%	42.1%
Delaware	13.15	13.34	14.05	15.54	16.55	17.20	17.96	4.4%	36.6%
Florida	11.24	11.71	12.08	12.41	14.33	14.77	16.23	9.9%	44.4%
Georgia	11.13	11.71	11.81	11.99	13.67	14.68	16.08	9.5%	44.5%
Hawaii	14.73	14.90	15.56	16.54	17.25	18.74	20.08	7.2%	36.3%
Idaho	13.48	13.62	14.55	14.68	15.68	16.54	16.83	1.8%	24.9%
Illinois	13.26	14.52	15.31	15.89	17.17	18.18	19.57	7.6%	47.6%
Indiana	13.26	14.52	15.31	15.89	17.17	18.18	19.57	7.6%	47.6%
Iowa	13.34	14.58	15.37	16.19	17.54	17.79	18.65	4.8%	39.8%
Kansas	14.38	14.99	15.89	16.47	17.33	18.32	19.21	4.9%	33.6%
Kentucky	11.63	12.40	12.96	13.89	14.26	15.14	15.87	4.8%	36.5%
Louisiana	11.33	11.83	11.88	12.45	13.67	14.53	14.83	2.1%	30.9%
Maine	13.25	14.29	14.99	15.66	16.95	17.80	18.83	5.8%	42.1%
Maryland	13.15	13.34	14.05	15.54	16.55	17.20	17.96	4.4%	36.6%
Massachusetts	13.25	14.29	14.99	15.66	16.95	17.80	18.83	5.8%	42.1%
Michigan	13.54	14.40	14.72	15.37	17.34	18.50	18.15	-1.9%	34.0%
Minnesota	13.54	14.40	14.72	15.37	17.34	18.50	18.15	-1.9%	34.0%
Mississippi	11.33	11.83	11.88	12.45	13.67	14.53	14.83	2.1%	30.9%
Missouri	13.34	14.58	15.37	16.19	17.54	17.79	18.65	4.8%	39.8%
Montana	13.48	13.62	14.55	14.68	15.68	16.54	16.83	1.8%	24.9%
Nebraska	14.38	14.99	15.89	16.47	17.33	18.32	19.21	4.9%	33.6%
Nevada	13.13	14.26	14.82	15.58	16.34	16.63	17.84	7.3%	35.9%
New Hampshire	13.25	14.29	14.99	15.66	16.95	17.80	18.83	5.8%	42.1%
New Jersey	13.15	13.34	14.05	15.54	16.55	17.20	17.96	4.4%	36.6%
New Mexico	12.00	12.91	13.67	14.79	15.62	16.32	17.04	4.4%	42.0%

New York	13.25	14.29	14.99	15.66	16.95	17.80	18.83	5.8%	42.1%
North Carolina	12.25	12.67	13.15	14.16	14.91	15.81	17.96	13.6%	46.6%
North Dakota	14.38	14.99	15.89	16.47	17.33	18.32	19.21	4.9%	33.6%
Ohio	13.26	14.52	15.31	15.89	17.17	18.18	19.57	7.6%	47.6%
Oklahoma	12.23	12.67	13.03	13.88	14.87	15.55	15.79	1.5%	29.1%
Oregon	15.03	15.83	16.34	17.41	17.97	19.25	19.82	3.0%	31.9%
Pennsylvania	13.15	13.34	14.05	15.54	16.55	17.20	17.96	4.4%	36.6%
Rhode Island	13.25	14.29	14.99	15.66	16.95	17.80	18.83	5.8%	42.1%
South Carolina	11.13	11.71	11.81	11.99	13.67	14.68	16.08	9.5%	44.5%
South Dakota	14.38	14.99	15.89	16.47	17.33	18.32	19.21	4.9%	33.6%
Tennessee	11.63	12.40	12.96	13.89	14.26	15.14	15.87	4.8%	36.5%
Texas	12.23	12.67	13.03	13.88	14.87	15.55	15.79	1.5%	29.1%
Utah	13.13	14.26	14.82	15.58	16.34	16.63	17.84	7.3%	35.9%
Vermont	13.25	14.29	14.99	15.66	16.95	17.80	18.83	5.8%	42.1%
Virginia	12.25	12.67	13.15	14.16	14.91	15.81	16.16	2.2%	31.9%
Washington	15.03	15.83	16.34	17.41	17.97	19.25	19.82	3.0%	31.9%
West Virginia	11.63	12.40	12.96	13.89	14.26	15.14	15.87	4.8%	36.5%
Wisconsin	13.54	14.40	14.72	15.37	17.34	18.50	18.15	-1.9%	34.0%
Wyoming	13.48	13.62	14.55	14.68	15.68	16.54	16.83	1.8%	24.9%
National Average	**$12.96**	**$13.68**	**$14.28**	**$15.03**	**$16.13**	**$16.98**	**$17.78**	**4.7%**	**37.27%**
YOY increase	-----	**5.6%**	**4.4%**	**5.3%**	**7.3%**	**5.3%**	**4.7%**		
	2019	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**		

APPENDIX B Energy Situation & Outlook

Global Oil Inventories

OPEC+ production cuts are expected to reduce global oil inventories, maintaining crude oil prices near current levels through the first quarter of 2025. Gradual increases in production, combined with relatively weak global oil demand growth, are projected to raise global oil inventories in the second half of 2025 through 2026, exerting downward pressure on prices. As a result, Brent crude oil prices are forecasted to average $74 per barrel (b) in 2025 before declining to $66/b in 2026.

Global Oil Production

Global liquid fuel production is projected to increase by 1.9 million barrels per day (b/d) in 2025 and 1.6 million b/d in 2026, driven by supply growth from non-OPEC+ countries and the easing of OPEC+ production cuts. Sanctions on Russia's oil and shipping sectors, announced on January 10, are not anticipated to significantly impact the oil production forecast.

U.S. Petroleum Products Consumption

U.S. distillate fuel oil consumption is expected to increase by 4% in 2025 and remain steady in 2026, supported by GDP growth and increased industrial activity. Motor gasoline consumption in the United States is projected to remain stable in 2025 as fuel efficiency gains offset increases in driving. In 2026, continued efficiency improvements and slower employment growth are expected to contribute to a slight decline in gasoline consumption.

Overview

	2023	2024	2025	2026
Brent crude oil (dollars per barrel)	82	81	*74*	*66*
Gasoline retail price (dollars per gallon)	3.50	3.30	*3.20*	*3.10*
U.S. crude oil production (million barrels per day)	12.9	13.2	*13.6*	*13.7*
Natural gas spot price (dollars per million BTU)	2.50	2.20	*3.80*	*4.20*
U.S. LNG exports (billion cubic feet per day)	12	12	*14*	*16*
Shares of U.S. electricity generation (percentage)				
Natural gas	42	43	*40*	*39*
Coal	17	16	*16*	*15*
Renewables	22	23	*25*	*27*
Nuclear	19	19	*19*	*19*

Natural Gas Prices

The Henry Hub spot price averaged $4.13 per million British thermal units (MMBtu) in January, reaching a daily high of $9.86/MMBtu on January 17 due to a cold snap that led to above-average inventory withdrawals. The spot price is expected to rise through 2026, averaging nearly $3.80/MMBtu in 2025—an increase of 65 cents from the January 2025 Short-Term Energy Outlook—and reaching approximately $4.20/MMBtu in 2026.

Electricity Generation

Electricity generation in the U.S. electric power sector is projected to increase by 2% in 2025 and by 1% in 2026, following a 3% growth rate in the previous year, driven primarily by expansion in renewable energy sources. If generation increases in both years, it will mark the first three consecutive years of growth since 2005–2007. The share of U.S. electricity generation from solar is expected to rise from 5% in 2024 to 8% in 2026, supported by a 45% increase in solar generating capacity between 2024 and 2026. Conversely, the share of electricity generation from natural gas is forecasted to decline from 43% in 2024 to 39% in 2026 as natural gas prices increase.

APPENDIX C Freight and Trucking Situation & Outlook

The freight and trucking industry is currently navigating a complex environment characterized by gradual recovery and ongoing challenges. Here's an in-depth look at the current landscape and projections for the year:

- **Moderate Economic Growth:** The U.S. economy is projected to grow at a rate of 2.1% in 2025, reflecting the lingering effects of high borrowing costs, tempered consumer spending, and cautious business investments.
- **Freight Volume Trends:** After experiencing declines in previous years, truck freight volumes are anticipated to increase by 1.6% in 2025. Total truck tonnage is expected to rise from approximately 11.27 billion tons in 2024 to 13.99 billion tons by 2035, indicating a steady long-term growth trajectory.
- **Persistent Overcapacity:** The industry continues to face an oversupply of trucks, a residual effect from the pandemic-induced demand surge. This overcapacity has led to suppressed freight rates and heightened competition among carriers.
- **Escalating Operational Costs:** Carriers are contending with rising expenses, including maintenance, insurance, and compliance with evolving regulations. These increasing costs have compressed profit margins, particularly for smaller operators.
- **Rate Adjustments:** Spot freight rates are projected to gradually rise throughout 2025, driven by improvements in inventory levels and a modest uptick in demand from e-commerce and retail sectors towards the end of the year. Contract rates are also expected to see slight increases as the market works towards rebalancing capacity.
- **Regulatory Influences:** The implementation of environmental regulations, such as the EPA 2027 standards, is prompting carriers to adjust their fleet acquisition strategies. Some are engaging in pre-buy activities to procure equipment before the new standards take effect, influencing equipment demand and pricing dynamics.
- **Autonomous and Electric Vehicles:** The industry is witnessing increased interest in autonomous trucking technologies and a shift towards electric and alternative-fuel vehicles. While widespread adoption is gradual, these advancements promise to enhance efficiency and reduce environmental impact in the long term.

In 2025, the freight industry will likely experience varied rate adjustments across different transportation modes. Here's a detailed forecast for freight rates by mode of transportation:

Trucking

- **Dry Van Truckload:** After a 4% decline in 2024 compared to 2023, dry van linehaul rates are projected to increase by approximately 9% year-over-year in 2025. This anticipated rise is attributed to tightening capacity and a gradual rebound in demand.
- **Refrigerated (Reefer) Truckload:** Similarly, refrigerated linehaul rates, which saw a 4% decrease in 2024, are expected to climb by about 7% in 2025. Factors such as seasonal produce demands and capacity adjustments contribute to this forecasted increase.
- **Less-than-Truckload (LTL):** The LTL sector is projected to experience rate increases ranging from 5% to 15% in 2025. This surge is driven by steady capacity and service levels, alongside carriers adjusting pricing strategies to navigate economic uncertainties.

Ocean Freight

- **Container Shipping:** Container volumes are anticipated to grow by 3-4% in 2025. However, with capacity expected to rise by 8%, an oversupply situation may emerge, potentially stabilizing or even reducing freight rates. Geopolitical events, such as attacks in the Red Sea, have previously disrupted shipping routes, leading to increased costs. Should these threats diminish, sea freight prices could decrease by 20-25% within two to three months as vessels return to shorter routes.

Air Freight

- **Rate Trends:** As of early 2025, air freight rates have been on a downward trajectory, especially on transpacific and transatlantic routes, coinciding with the conclusion of peak season. For instance, China–North America rates decreased by 9%, settling at $5.09 per kilogram. This decline is influenced by factors such as reduced demand and adjustments in global trade dynamics.

Rail Freight

- **High-Speed Rail Charges:** In efforts to promote competition and reduce costs, regulatory bodies have mandated reductions in charges for certain rail lines. For example, the UK's Office of Rail and Road has required High Speed 1 to cut its charges by £5 million annually until 2030. Such measures aim to attract new operators and could lead to more competitive freight rates in the rail sector.

In summary, the 2025 freight rate landscape is shaped by a combination of capacity dynamics, geopolitical influences, regulatory interventions, and shifts in demand across various transportation modes. Stakeholders are advised to stay informed and adapt to these evolving conditions to effectively manage logistics costs.

APPENDIX D Potential Tariff Impacts

The situation regarding potential tariffs remains fluid, with frequent changes over the past several days. These tariffs involve trade between the U.S., Mexico, Canada, and China. As of now, the tariffs on Mexico and Canada have been delayed by a month, creating uncertainty about whether they will ultimately be implemented. This uncertainty poses challenges for supply managers, particularly due to the scale of the proposed tariffs.

A 25% tariff on Mexico and Canada would significantly impact trade with the U.S.'s two largest partners, which accounted for $1.475 trillion in goods trade in 2024. Of this, $843.8 billion consisted of imports, meaning a 25% tariff on all incoming goods—excluding a 10% carve-out for Canadian oil—would result in approximately $185 billion in additional costs for importers. When factoring in the existing 10% tariffs on $400 billion in Chinese imports, the total additional cost rises to approximately $225–$230 billion.

These tariffs would have widespread effects across multiple industries, including automotive, oil and gas production, electronics, medical equipment, and food. The additional costs for oil and petroleum imports from Canada alone could reach $11 billion, assuming import volumes remain stable. This would lead to higher fuel costs for both consumers and transportation fleets. Moreover, this figure only reflects direct costs, without accounting for the broader impact on supply chains in industries such as steel production and oil refining.

The administration is also considering imposing additional tariffs on various products, including computer chips, steel, oil and gas, and pharmaceuticals, possibly by mid-February. President Trump has stated that these tariffs "could be temporary," making it difficult for businesses to formulate long-term strategies. Some companies are even pausing orders in the hope that the tariffs will be short-lived.

Another concern is the risk of retaliatory tariffs, which could negatively impact U.S. exporters. A recent study on Brexit's five-year impact found that increased trade costs led to a 6–30% decline in Britain's exports, particularly in goods. However, service exports—which the U.S. dominates globally—have grown over the past five years. In response to the proposed U.S. tariffs, Canadian Prime Minister Trudeau has vowed a "forceful" reaction, and Mexican President Sheinbaum has expressed similar sentiments.

For now, the delay in implementing tariffs offers some relief, but even the uncertainty surrounding them has already affected inventory management and investment decisions. Regardless of the outcome, establishing greater trade stability with the U.S.'s largest partners would be beneficial.

These tariff uncertainties are unfolding against the backdrop of a U.S. economy that remains strong but is still stabilizing in certain areas. U.S. GDP grew at a rate of 2.3% in Q4, down from 3.1% in Q3—a 0.8% decline. This figure also falls slightly below the 2.5% growth analysts had predicted. The primary driver of growth was a 4.2% increase in consumer spending.

Consumer spending trends will be crucial to monitor, especially as consumer sentiment declined in January for the first time in six months. The sentiment index registered at 71.1—still relatively high, but a 2.9% decrease from December's 74.0 and 8.9% lower than the reading from a year ago. Expectations for future inflation also rose, climbing from 2.8% to 3.3%—the highest level since May 2024.

Inflation concerns are reflected in the Federal Reserve's recent decisions. The Fed held interest rates steady in January, a shift from the three consecutive rate cuts made in late 2024. Chairman Powell explained that this pause was intended to maintain stability in the job market while keeping inflation under control, though inflation remains "somewhat elevated." Analysts speculate that the Fed is unlikely to cut rates again until mid-2025.

The proposed tariffs on Mexico and Canada could significantly affect economic growth, inflation, and monetary policy. Mexico and Canada together account for nearly 30% of U.S. imports, with Mexico leading as the largest single source of U.S. goods imports after the EU. Key sectors like auto parts and crude oil depend heavily on these neighbors. While trade with the U.S. is crucial for Mexico and Canada—constituting 25% and 20% of their GDP, respectively—the U.S. economy is less reliant, with exports to these nations accounting for just 2.5% of its GDP.

If 25% tariffs were imposed, retaliatory measures by Canada and Mexico would exacerbate economic challenges for all three nations. U.S. GDP could likely decline by one percentage point, with inflation rising by 0.5%. Canadian growth could drop by 2.5 points, with inflation up four points, while Mexican growth could decline by one point, with inflation up two points. The interconnected supply chains would make production disentanglement costly.

A stronger U.S. dollar could mitigate some tariff-related costs. However, monetary policy responses in Canada and Mexico may diverge. The Bank of Canada (BoC) might adopt aggressive rate cuts to prevent a recession, while Mexico's Banxico may prioritize defending the peso, limiting its ability to ease policy. These shifts would likely strengthen the U.S. dollar further. The Canadian dollar could depreciate to CAD 1.50 per USD by early 2026 due to dovish BoC policies and weakening investor sentiment. Mexico's peso, potentially overvalued, might experience a significant selloff due to domestic risks and tariff-induced pressures, possibly reaching MXN 22.50 per USD by year-end 2025.

The Fed's cautious stance is partly influenced by core PCE inflation, which increased by 0.3% in December—up from 0.1% in November. Overall, core PCE rose by 2.6% in 2024. While this exceeds the Fed's 2.0% target, it is significantly lower than the inflation rates of the previous two years.