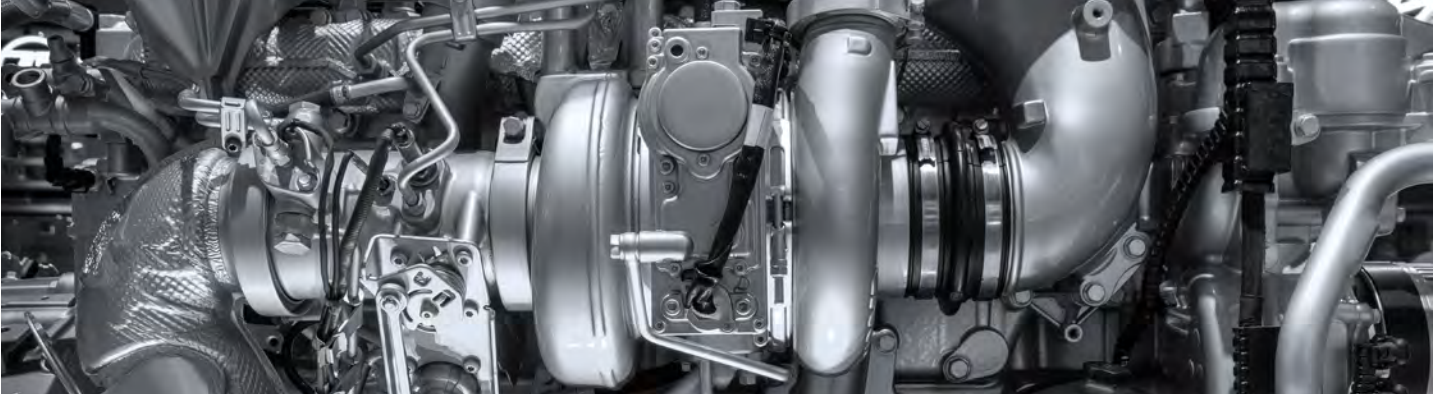


RHEIN REPORT



December 2023 Monthly Newsletter



Rhein Associates Forecasts



HIGHLIGHTS

Q4 2023 Forecast Summary
Page 2

ACT Highlights for December
Page 6

Monthly News Report
Page 7

Monthly Economic Indicators
Page 14

Alternative Fueling Strategies

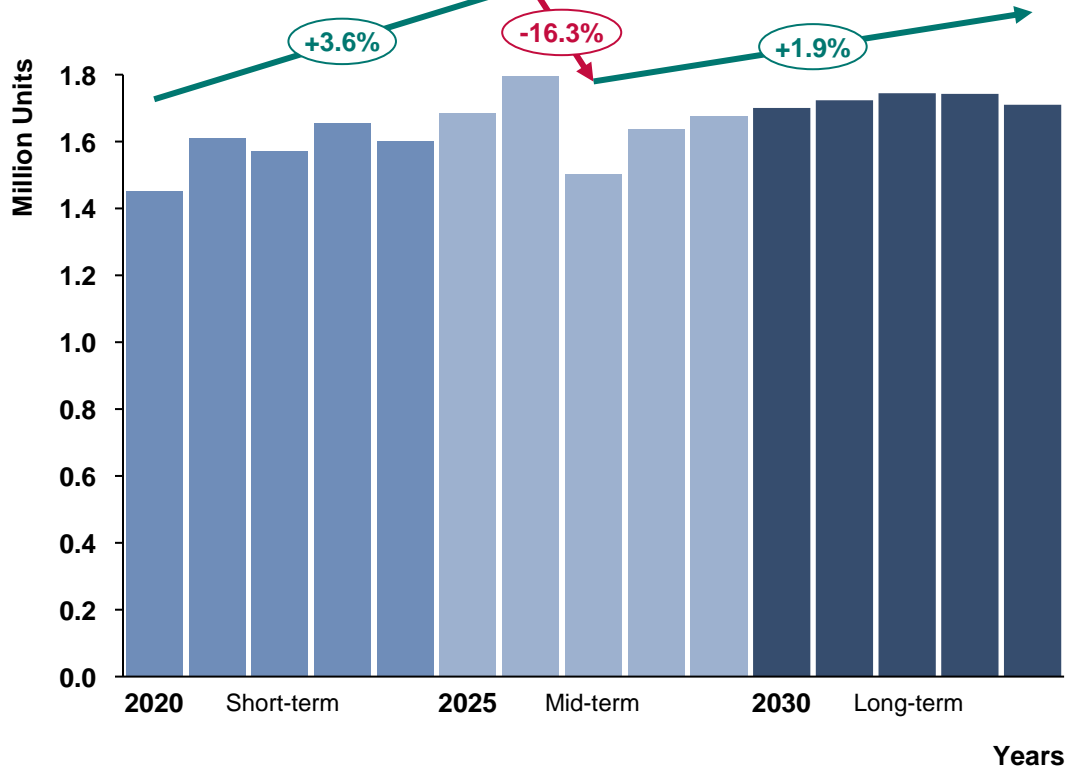
Fueling both on- and off-highway powertrains in the future will not be from a single solution. Zero-emission powertrains will mix with internal combustion engines as low or near-zero emission options. Use case, geography and cost will all play a part in the future fueling strategies of the industry.

If the solution works, it will grow; the good solutions will work. However, not all solutions will work for all use cases.

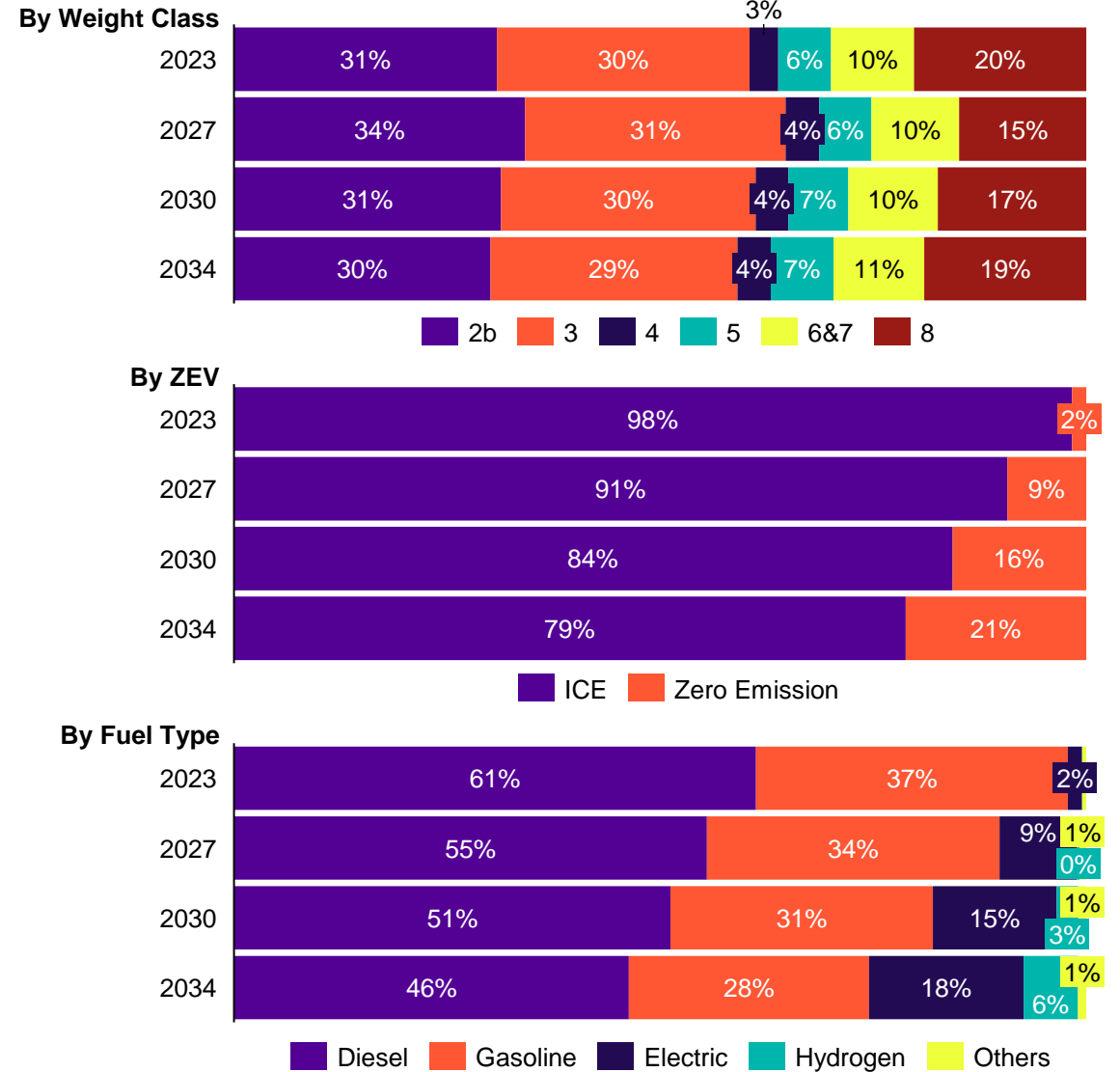
The Road ahead

The 2027 emission regulation change will induce a pre-buy effect, propelling North American CV production to a new peak of 1.8 million units in 2026, post which the industry is expected to decline sharply in 2027. Following a quick recovery in the mid-term, the industry will stabilize around the 1.7 million units mark in the long-term

North American Class 2b-8 CV Production, 2023-34 (Million Units)



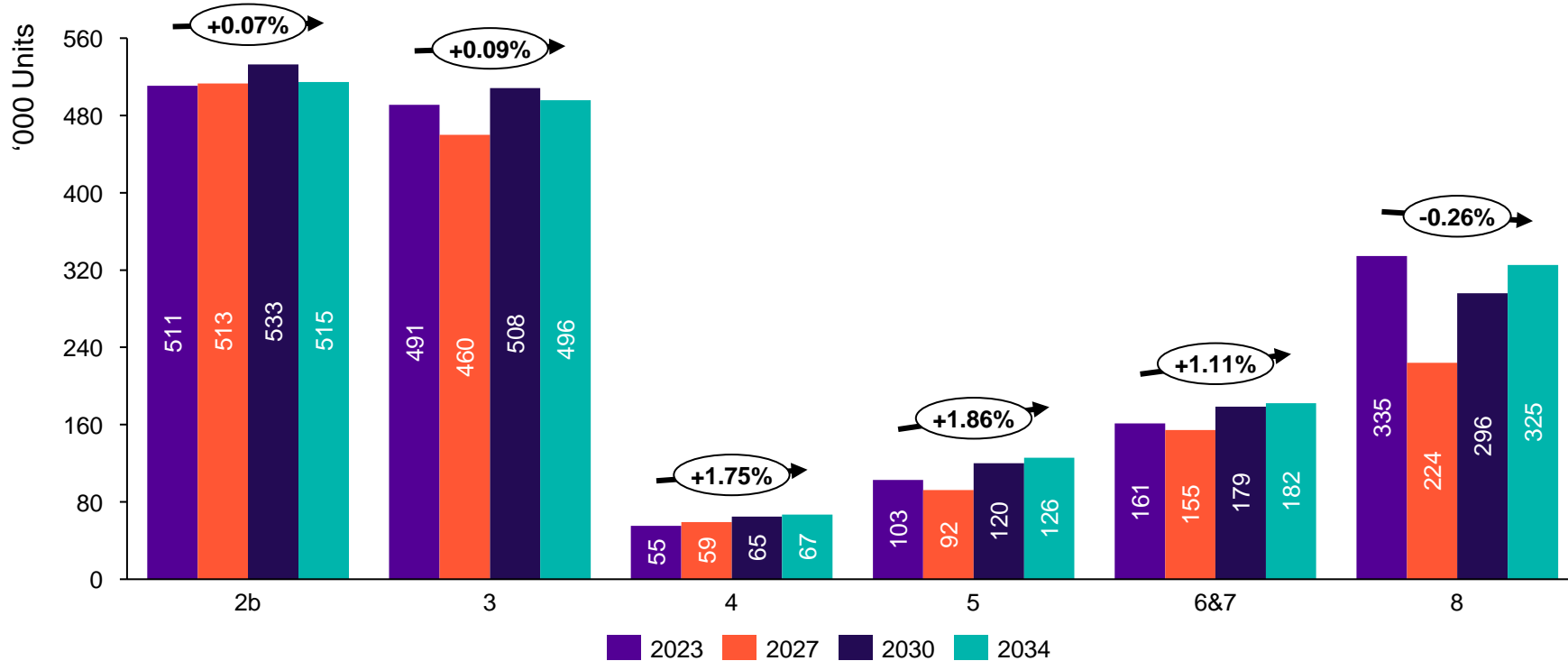
North American Class 2b-8 CV Production, 2023-34 (% Share of Production)



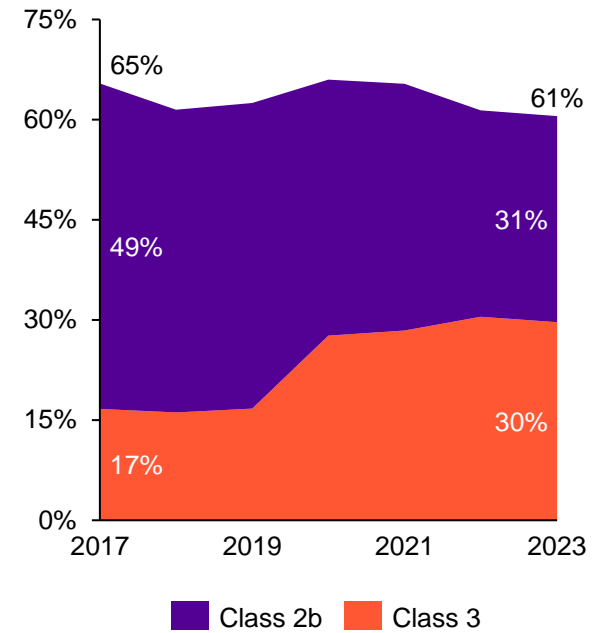
Weight Class Analysis

Class 2b's transition into Class 3 continues, driven largely by Ford F250 and GM 2500 nameplates. With the introduction of more EV nameplates, this transition will extend further into the future, as was the case with Hummer and Rivian in the light duty space. Class 4 and Class 5, the smallest classes volume wise, offer higher growth opportunities due to new entrants and higher incentives in the space

North American Class 2b-8 CV Production, by Weight Class, 2023-34 ('000 Units)



Class 2b & Class 3, Share of Class 2b-8 Production, 2017-2023

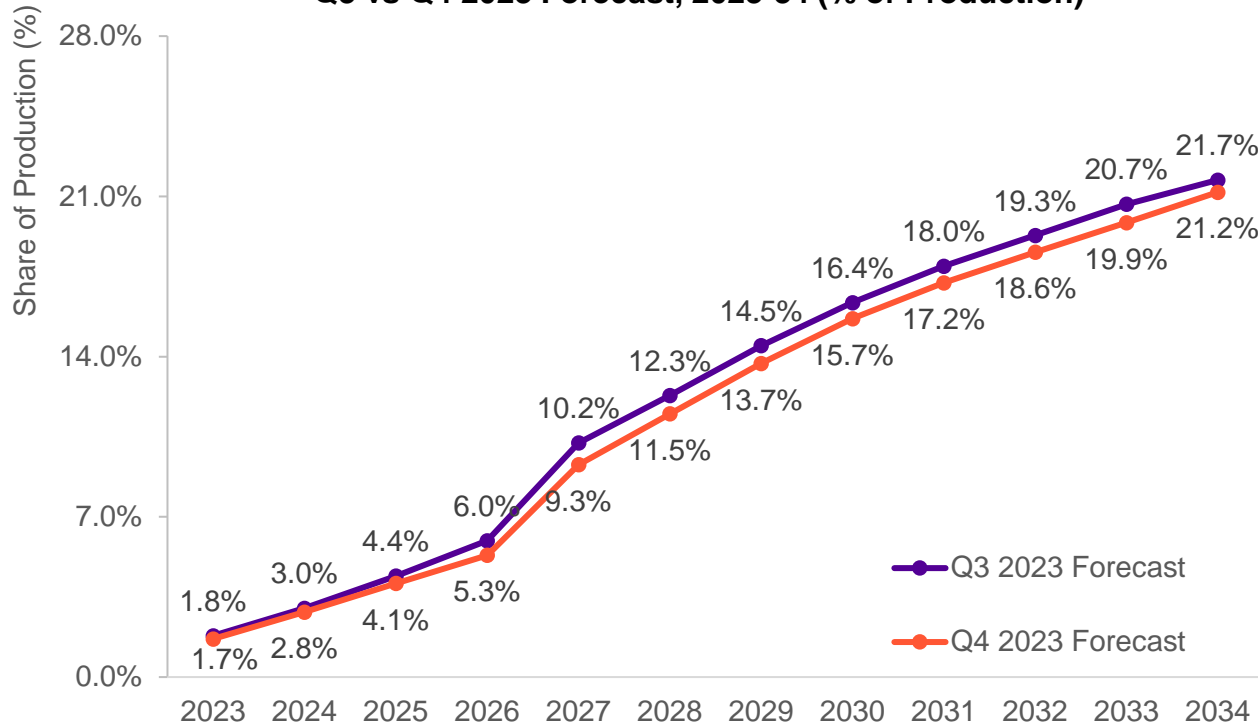


Powertrain Analysis

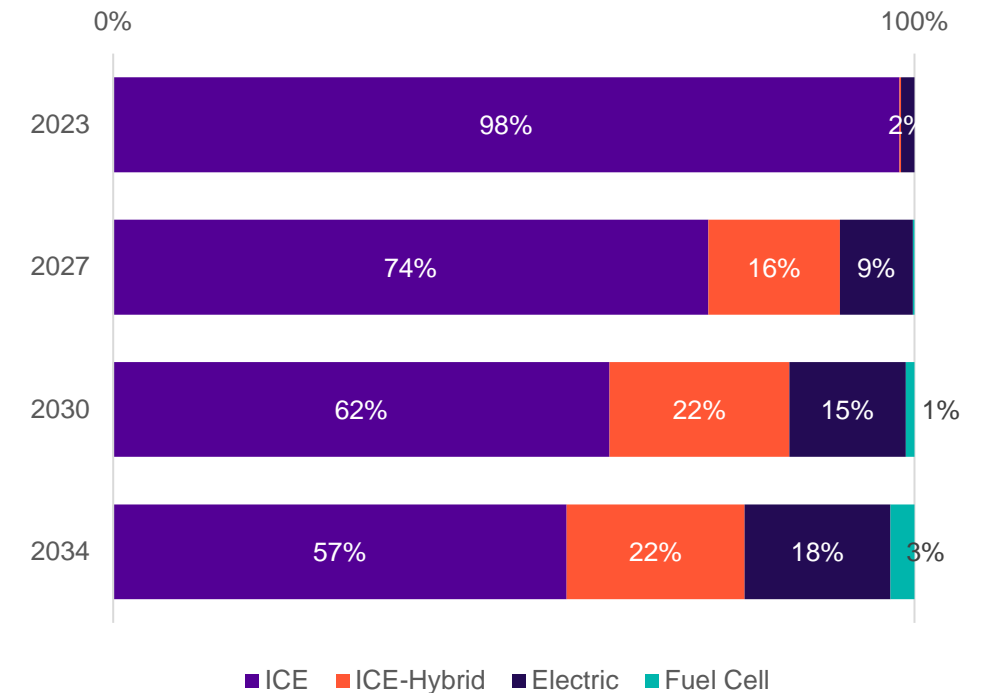
Concerns surrounding use-cases and charging infrastructure continue to dampen the demand for ZEVs, and their growth projections have been reduced accordingly. Industry's reliance on Diesel and Gasoline is estimated to decline from over 97% in 2023 to less than 75% in 2034. Alternative Fuels, such as Hydrogen and hybrid powertrains, are expected to help OEMs offer a diverse powertrain portfolio in the future.

ICE-Hybrid enables OEMs to meet emission requirements, while mitigating R&D costs and time. Those also offer fleets a middle-ground between ICE vehicles and BEVs, curbing concerns over charging infrastructure and use-cases. Electric powertrains are expected to account for 9% in 2027, as adoption remains subdued due to above-mentioned concerns. Fuel-cells' share in the powertrain mix remains in low single-digits in the long-term

North American Class 2b-8 CV Production, ZEV Share, Q3 vs Q4 2023 Forecast, 2023-34 (% of Production)



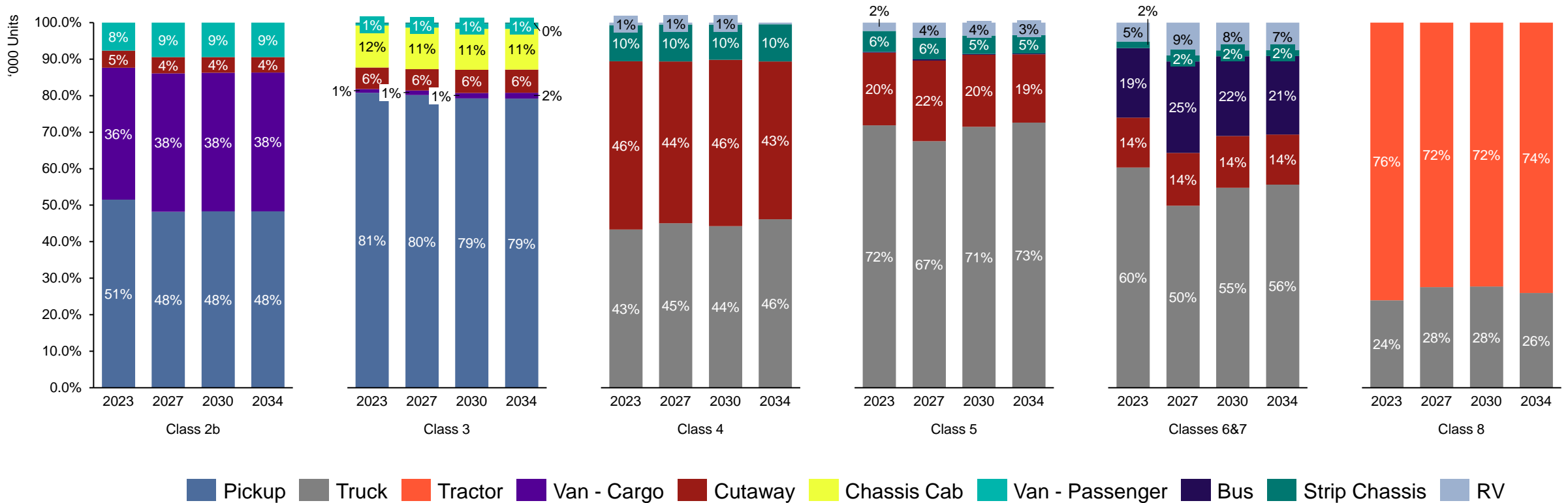
North American Class 2b-8 CV Production, by Powertrain Type, Q4 2023 Forecast, 2023-34 (% of Production)



Vehicle Type Analysis

Lower weight-classes (Class 2b and 3) are dominated by pickups while vocational trucks dominate medium duty vehicles (Class 4 to 7). E-commerce growth has fueled the demand for cargo vans and cutaways. Tractors are the vehicle of choice in long-haul transport applications and hence have a very strong dominance in Class 8.

North American Class 2b-8 CV Production, by Weight Class and Type, 2023-34 ('000 Units)



ECONOMIC SUMMARY

The basics of our economic outlook have not changed – we continue to look for growth in the short term and long term at just under 2%, pretty much matching “potential” growth. This is our view even in the face of recent robust numbers, including an upwardly revised Q3 GDP growth estimate of 5.2% (q/q annualized). We regard this as an outlier, resulting from special factors, which will not carry forward to Q4 or to 2024. While some readers may look at sub-2% growth as pessimistic, the offset is that with each passing month, we mark down the probability of recession. We are not quite at the stage of ruling out a recession for 2024, but we think the probability of an economic downturn occurring in the next 12 months is 15% or less. This stands in contrast to our view one year ago, when recession was our base case for 2023.

The FOMC meets again in mid-December. Recent statements by Fed Chair Powell have given hope to the idea that this round of monetary tightening is ending. However, strong GDP growth, the recent pullback in long-term rates, and continued tightness of the labor market may cause the Fed to reassess its policy stance. History shows that a successful campaign by the Fed to engineer a soft landing is a rarity. Examination of the last 60 years shows only two “wins” ([1965-66](#) and [1994-95](#)) against seven “losses,” when episodes of inflation-fighting rate hiking cycles ultimately contributed to [recessions](#).

The jury is still out, and probably won’t render a final verdict until late 2024. But at the moment, the prospects of a recession-free tightening cycle look promising. If the Fed can push inflation down to its 2% targeted rate for “core” (excluding food and energy) from the 2.5-3.0% current run rate, while the economy keeps growing, it can check the box. Using a football metaphor, we are in the red zone, but not quite in the end zone. In retrospect, this is quite a success for both the Fed and the economy, given the magnitude of the inflation problem (9% in the summer of 2022) and the aggressiveness of the Fed response (steepest tightening since 1981-82).

MEDIUM DUTY MARKET

October was another tough month for the medium duty market. Not only did production and sales both slow sequentially, but orders also took a step back. All three of these declines were counter to seasonal expectations. While some of the weakness can probably be ascribed to the UAW strike, the reality is that the market has just not been able to find a firm footing upon which to build momentum. Despite solid underlying economic and demand fundamentals, lingering supply-chain trials and prioritization of higher margin vehicles are ever present. Regardless, build and sales forecasts were unchanged this month. November’s preliminary net orders for 19,900 MD trucks (+18% m/m) was the highest since September 2022 and may represent a further opening of the 2024 orderboard.

HEAVY DUTY MARKET

Even as we leave the forecast unchanged this month while witnessing continued positive order activity relative to our forecast, we caution freight market fundamentals that inform on the largest single Class 8 market, US for-hire truckload, are still flatlining at recessionary levels.

We leave the balance of the forecast alone this month, with our 2026-2027 prebuy-bust thesis still intact. We note that any downward movement in 2024 expectations will potentially have negative implications for 2025 production. A 2024 forecast markdown, weighing on 2H’24 build rates, would lead to a lower starting build rate in 2025. With already robust demand recovery through 2025, the lower starting point inevitably takes units out of our rosy, prebuying-gets-underway-in-2025 expectations. As well, weaker economic fundamentals as a driver of lowered 2024 expectations would create weaker-for-longer trucking fundamentals.

There remains no traction on bottom-tracking for-hire trucking fundamentals. DAT’s load-to-truck ratio, a short-term leading indicator of spot freight rates, remains mired at recessionary levels. As spot rate trends lead carrier income and profits, and carrier profits likewise inform on domestic tractor demand, the ongoing stagnation in this metric is a red-light flashing. US and Canadian tractors represent around 2/3 of all Class 8 units sold in the NA market, so this daily series has become the “must watch” metric at ACT.

History shows that two conditions must be present to drive a large prebuy: willingness to prebuy must, by necessity, be accompanied by the ability to do so. While we believe the freight market will begin to recover from here, as consumer spending reverts to a goods-buying mean, lingering equipment overcapacity has already pushed our expectations for a recovery in carrier profitability to mid-2024. Economic hiccups that push those recovery expectations farther into 2024 add risk to robust 2025 expectations, which in turn would impact the industry’s start-of-2026 build rate.

ACT CLASS 8 TRACTOR DASHBOARD: After a September rally, ACT’s Class 8 Tractor Dashboard reverted to prevailing trend levels, with a -9 reading in October. Of the Dashboard’s 15 variables, 10 were in negative territory, with just one positive, and five neutral. One metric in each column drove the -3 m/m decline: The Dow Truck Stock Index fell from positive to neutral, while DAT’s load-to-truck ratio and ACT’s Class 8 IN/RS ratio slid from neutral to negative levels. All other metrics were unchanged.

TRAILER ORDERS: October net orders, at 35,300 units, were 26% lower y/y, if 4k units more than were booked in September. With 35% of the year’s orders historically booked in Q4, the quarter’s seasonal factors run roughshod on the nominal data. Seasonally adjusted (SA), October’s orders fall to 26,200 units. On that basis, instead of rising from September, orders decreased 9% m/m. By category, dry van orders contracted 16% y/y, with reefers down 53%, and flats 41% lower compared to October 2022.

Industry, Economy, and Legislation

The US Department of Transportation has announced \$1.5 billion in grants to support infrastructure projects along commercial and commuter corridors, aiming to improve supply chain connectivity and demonstrate significant local economic impact.

US retail sales for medium-duty trucks increased by 6.1% YoY in November, to 9,596 units, despite a decrease in sales in October. Class 4-7 sales increased by 15.5% YoY to 19,277 units, while Class 7 sales rose by 5.8% YoY to 4,012 units. Class 6 sales dropped by 6.5% YoY to 6,064 units.

Class 8 retail truck sales in November fell 17.5% YoY to 19,027 units, down 11.2% sequentially from 20,417 units in October. This is the fourth consecutive month of decline, with sales for six of the seven major truck makers.

The U.S. House of Representatives passed the "Choice in Automobile Retail Sales (CARS) Act" with bipartisan support, prohibiting the EPA from finalizing federal emissions standards for light- and medium-duty vehicles, and preventing future EPA emissions regulations mandating certain technologies or engine types.

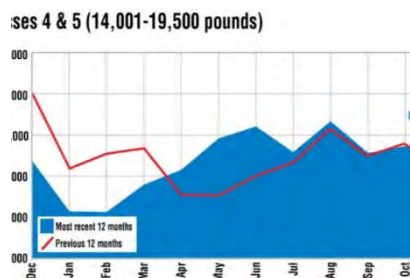
The US Department of Transportation has announced a \$25 million funding opportunity for its Rural Autonomous Vehicle research program. The program, which aims to study the benefits and responsible application of automated vehicles in rural and Tribal communities, will be competitive and six-year cooperative agreements.

In 2023, battery-electric trucks' progress was slower than anticipated due to low demand and infrastructure improvements. No legacy truck makers launched Class 8 battery-electric trucks in the U.S., except Freightliner's eCascadia model.



USDOT Announces \$1.5 Billion in Infrastructure Grants

The U.S. Department of Transportation recently announced the availability of grants designed to advance big-ticket infrastructure projects along commercial and commuter corridors.



November Medium-Duty Sales Rise 6.1% Year-Over-Year

U.S. retail sales for medium-duty trucks rose 6.1% year-over-year in November, bouncing back after the first decrease in seven months in October, according to Wards Intelligence data.



Class 8 Sales Fall for Fourth Consecutive Month in November

Class 8 retail truck sales in November fell year-over-year for a fourth consecutive month, Wards Intelligence data showed.



House Passes Bill to Stop EPA Emissions Mandate

The U.S. House of Representatives passed the “Choice in Automobile Retail Sales (CARS) Act” (H.R. 4468) with bipartisan support (221 to 197), with five Democrats...

US Department of Transportation announces \$25M rural autonomous vehicle research program

The US Department of Transportation (U.S. DOT or the Department) announced a \$25 million funding opportunity (RAVTRANS) for its Rural Autonomous Vehicle research program. Accredited universities are eligible to apply for this competitive, six-year cooperative agreement program.



Battery-Electric Truck Growth Underwhelms in 2023

Progress in 2023 for battery-electric trucks was slower than expected, with demand underwhelming and improvements needed for the underlying infrastructure, some OEM executives say.

Electrification

ChargeHub has partnered with Holman to simplify public charging for commercial fleet operators of electric vehicles. The partnership uses ChargeHub's proprietary app to provide easy access to over 80,000 charging locations in the US and Canada, allowing fleet operators to manage multiple accounts and monitor charging costs in one centralized location.

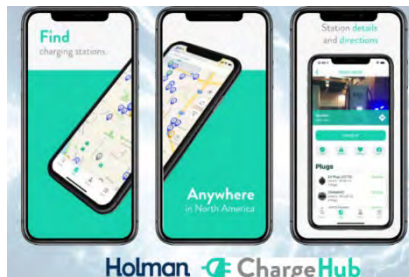
Ford Pro and Xcel Energy have announced a collaboration to deploy 30,000 electric vehicle (EV) charging ports in Xcel Energy service territories by 2030. The initiative, part of Xcel Energy's Electric Vehicle Supply Infrastructure program, will offset most upfront costs for EV charging equipment and installation for qualifying business fleet customers.

Mullen Automotive has opened a new high-energy facility in Fullerton, California, focusing on EV battery development and production. The facility will consolidate its Monrovia pilot facility and Romeo Power assets. Mullen plans to close the Monrovia facility by 2023 and begin testing of solid-state polymer battery packs in Q1 2024.

Pilot Travel Centers, General Motors, and EVgo have opened 17 locations of their national electric vehicle fast-charging network in 13 states. The network offers charging experience, similar to existing Pilot and Flying J locations.

A study of self-selected electric vehicle owners found that paid fast charging sessions averaged 42 minutes and consumed 22 kWh of energy, while free sessions nearly doubled. The data, collected from 2.4 million sessions from 2020 to 2023, does not include charging from Tesla's Supercharger network.

California leads the US in electric vehicle (EV) and charging locations since 2016, accounting for 37% of registered light-duty EVs and 27% of charging locations at the end of 2022, according to State Energy Data System estimates. The number of registered EVs in the US increased six times from 2016 to 3.1 million in 2022, with California's EV registrations quadrupling from 247,400 to 1.1 million and charging locations tripled from 5,486 to 14,822.



ChargeHub and Holman Partnership Streamlines Fleet Public Charging

ChargeHub announced a new collaboration with Holman, a global automotive services organization, to simplify public charging for commercial fleet operators of electric vehicles.



Ford Pro, Xcel Energy Collaborate on EV Charging Port Installation

Ford Pro, the commercial division within Ford Motor Company, and Xcel Energy, national clean energy provider, announced what they said is a “unique collaboration” to support the deployment of 30,000 electric vehicle (EV) charging ports...



Mullen Consolidates EV Battery Production to New California Facility

Mullen Automotive introduced a new high-energy facility in Fullerton, California, for EV battery development and production capabilities. Mullen said the new Southern California facility...

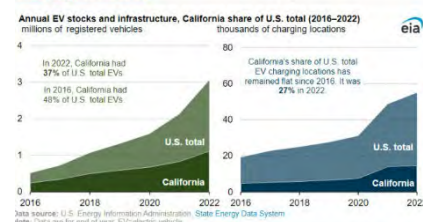
Pilot Travel Centers, GM and EVgo opening first 17 stations in coast-to-coast EV charging network

Pilot Travel Centers, General Motors and EVgo announced the opening of the first 17 locations of their previously announced national electric vehicle fast charging network. Now available in 13 states, the network features an elevated charging experience...

DOE: fast charging at non-Supercharger paid stations averaged 42 minutes per session from 2020 - 2023

A study of self-selected electric vehicle owners found that paid fast charging sessions averaged 42 minutes and consumed 22 kWh of energy, while free sessions nearly doubled. Free fast charging sessions nearly doubled those numbers...

[California leads the United States in electric vehicles and charging locations](#)



California leads the United States in electric vehicles and charging locations

California has led the United States in the number of electric vehicles (EVs) and EV charging locations...

Off-Highway

Caterpillar is showcasing its 'E' game at CES 2024, featuring investments in electrification and energy solutions. The company's centerpiece is the zero-exhaust emission Cat R1700 XE LHD underground loader, equipped with the industry's only onboard battery. The 301.9 mini excavator is also on display.

Komatsu is introducing the first remanufacturing scheme for electrical components on hybrid hydraulic excavators, including capacitors and inverters compatible with HB series in Japan. The company already offers Reman services for conventional diesel engine-powered construction equipment.

NHRA and AGCO have announced a multiyear partnership, with Fendt becoming the official tractor for the 2024 and 2025 race seasons. Fendt tractors will support major NHRA events by preparing the racetrack, assisting with track maintenance, and will be featured in NHRA media programming. The partnership includes social media integration, digital advertising, track signage, and on-site promotions at national events.

General Motors and Komatsu are collaborating to develop a hydrogen fuel cell power module for Komatsu's 930E electric drive mining truck. The lightweight, quick-refueling technology is ideal for electrifying applications traditionally powered by diesel engines, offering zero tailpipe emissions and simplifying the sizing and deployment of hydrogen refueling infrastructure for vehicles with extreme hauling requirements.


Santa Clara-based SafeAI has successfully retrofit a Caterpillar 725 haul truck with a fully electric drive train. This achievement addresses the growing concern of fossil fuels in the heavy industry, as even OEMs like Caterpillar have only begun to showcase battery-operated devices. The project took about five months.

New Holland has introduced its first full-electric mini excavator, the E15X Electric Power, at SITEVI 2023. The compact machine, acquired from Italian company Sampierana S.p.A., offers width, design, versatility, innovation, comfort, and performance. Its compact dimensions make it ideal for indoor use and ensures eight-hour autonomy with a one-hour fast charge.



Caterpillar to show electric machines, energy solutions at CES 2024

OEM exhibiting at show from Jan. 9-12 in Las Vegas

 newpowerprogress.com



Komatsu expands reman to hybrid excavator components

Komatsu is adding the first remanufacturing scheme for electrical components on its hybrid hydraulic excavators.

 equipmentworld.com



New Holland First Fully Electric Mini Excavator Displayed

New Holland, a brand of CNH, has unveiled its very first full-electric mini excavator model.

 cswire.com

GM and Komatsu Collaborate on Hydrogen Fuel Cell-Powered Mining Truck

GM expands its vision of an all-electric future to include the heaviest-duty applications, developed with Komatsu DETROIT - General Motors and Komatsu will co-develop a hydrogen fuel cell power module for Komatsu's 930E electric drive mining truck, the world's best-selling ultra-class haul truck.



'World's first' robot-electric haul truck unveiled by US-Japan firms

Santa Clara-based SafeAI, known for making autonomous heavy equipment, has teamed up with a Japanese construction company, Obayashi, to retrofit a Caterpillar 725 haul truck...



NHRA, Fendt partner on Official Tractor of NHRA for 2024 and 2025 seasons

NHRA and Fendt, a leading brand of AGCO, a global leader in the design, manufacture, and distribution of agricultural machinery and precision technology...

Truck OEM

Hyliion will not display its ERX Hypertrucks at upcoming trade shows, but its Karno generator may power EV charging stations. The company has decided to wind down its electric powertrain operations and focus on the fuel-agnostic Karno generator. Hyliion has obtained California Air Resources Board certification for its natural gas-powered ERX and is suspending development of the new Cummins 15-liter natural gas engine.

Daimler Truck North America has delivered 20 zero-emission Freightliner eCascadia Class 8 tractors to Reyes Coca-Cola Bottling in California. These heavy-duty tractors will be powered by Detroit eFill commercial charging stations and the Detroit Charger Management System, reducing the company's annual diesel fuel usage by 40,000 gallons.

Peterbilt has announced that the Bendix Fusion safety system will be standard on new Model 579 trucks, featuring enhanced collision mitigation features such as Fusion Stop & Auto-Go, which aids drivers in heavy traffic situations with active cruise and braking to zero miles mph. These features are integrated with the Model 579's Digital Display.

GreenPower Motor Company has completed manufacturing its first four all-electric school buses at its West Virginia facility. The Type A Nano BEAST school buses will be delivered to Cabell County, Clay County, Kanawha County, and Monongalia County school districts. GreenPower took possession of the facility in August 2022.

Blue Bird Corporation and Generate Capital have formed Clean Bus Solutions, LLC to meet the demand for electric school buses in North America. The joint venture offers a fleet electrification-as-a-service solution, including financing, project planning, and fleet optimization, at an affordable monthly fee.

Daimler Truck plans to launch hydrogen fuel cell-powered Mercedes-Benz GenH2 trucks in 2024, with Amazon, Air Products, Ineos, Holcim, and Wiedmann & Winz participating in initial customer trials. The GenH2 truck, based on a conventional Actros cabover long-haul truck, aims to reduce emissions.



Hyliion's Pivot to Genset Production Could Power Trucking's EV Transition

We will not see any more of Hyliion's ERX Hypertrucks at upcoming trade shows or exhibitions, but we may see the company's Karno generator powering EV charging stations.



DTNA delivers 20 BEV eCascadia Freightliners to Reyes Coca-Cola

Daimler Truck North America (DTNA) recently delivered 20 zero-emission, battery electric Freightliner eCascadia Class 8 tractors to Reyes Coca-Cola Bottling (RCCB), a West Coast and Midwest bottler and distributor of Coca-Cola brands.



Peterbilt Model 579 Gets Enhanced Bendix Safety System Features

Peterbilt announced that enhanced standard collision mitigation features on the Bendix Fusion safety system will be standard equipment on new Model 579 trucks.



GreenPower Produces its First All-Electric School Buses

GreenPower Motor Company Inc., manufacturer and distributor of purpose-built, all-electric, zero-emission medium and heavy-duty vehicles serving the cargo and delivery market, shuttle and transit space and school bus sector...

Blue Bird and Generate Capital establish "Clean Bus Solutions," a fleet electrification-as-a-service joint venture

School bus manufacturer Blue Bird Corporation and Generate Capital, a sustainable investment and operating company, have formed a joint venture (JV) named Clean Bus Solutions, LLC to meet the increasing demand for electric school buses and accelerate the adoption of clean transportation of students in North America.



Daimler Partners With Amazon for Fuel Cell Truck Trials

Daimler Truck plans to begin the first on-road customer tests of hydrogen fuel cell-powered Mercedes-Benz GenH2 trucks in global markets in the middle of 2024.

PERIODIC ECONOMIC/MARKET INDICATORS

GDP

(Chained (2012) Dollars)
Seasonally Adjusted at Annual Rates

2022 CY	2022 Q3	2023 Q3 <i>Current Rev</i>	Quarterly Growth	2023 Q2 <i>Current Rev</i>	YoY Growth
21,822.0	21,851.1	22,490.7	+3.3%	22,225.4	+2.9%

Source: U.S. Bureau of Economic Analysis, *National Economic Accounts*

Inflation

Consumer Price Index

2022-10	2023-9	2023-10	2023-11 <i>Current</i>	MoM	YoY
297.9	307.5	307.6	307.9	+0.09%	+3.1%

Source: FRED Economic Data

Unemployment

2022-10	2023-9	2023-10	2023-11	MoM	YoY
3.7%	3.8%	3.9%	3.7%	-5.1%	+2.8%

Source: FRED Economic Data

WTI Spot Oil Price

(Dollars per Barrel)

2022-10	2023-9	2023-10	2023-11	MoM	YoY
87.55	84.3	85.6	77.7	-9.3%	-7.9%

Source: US Energy Information Administration

YEARLY ECONOMIC/MARKET INDICATORS

GDP

(In current dollars)

Seasonally Adjusted at Annual Rates

2017	2018	2019	2020	2021	2022	2023 (3 Qtr.)
19,390.6	20,580.2	21,433.2	21,060.5	23,315.1	25,744.1	27,610.1

Source: U.S. Bureau of Economic Analysis, *National Economic Accounts*

Revisions are carried out about every 5 years.

Industrial Production Index

(2017=100)

Annual & Monthly Average

2017	2018	2019	2020	2021	2022	2023 (11 Mo.)
100	103.1	102.4	95.1	99.2	102.6	102.8

Source: Board of Governors of the Federal Reserve System, G 17 Seasonally adjusted.

Residential Buildings (Private)

(In billions of dollars)

Annual Historical Data & Monthly Average

2017	2018	2019	2020	2021	2022	2023 (10 Mo.)
514.7	544.0	515.5	691.0	775.3	852.1	884.4

Source: Bureau of Census, Manufacturing and Construction Division

Nonresidential Buildings Construction Put-in-Place (Private)

(In millions of dollars)

Annual Historical Data & Monthly Average

2017	2018	2019	2020	2021	2022	2023 (10 Mo.)
436.5	453.3	459.6	446.6	468.8	589.9	694.8

Source: Bureau of Census, Manufacturing and Construction Division

Highways and Streets (Public)

(In billions of dollars)

Annual Historical Data & Monthly Average

2017	2018	2019	2020	2021	2022	2023 (10 Mo.)
88.0	93.2	100.2	98.6	100.4	118.4	131.9

Source: Bureau of Census, Manufacturing and Construction Division

WTI Spot Oil Price

(Dollars per Barrel)

2017	2018	2019	2020	2021	2022	2023 (11 Mo.)
50.8	65.2	56.9	39.2	68.1	94.8	77.7

Source: US Energy Information Administration

INCREASE IN 4-WHEEL-DRIVE AG TRACTOR SALES CONTINUES IN NOVEMBER

Unit sales of 4-wheel-drive agriculture tractors grew in both the U.S. and Canada in November, continuing a strong final quarter of 2023, according to the latest data from the Association of Equipment Manufacturers (AEM). In the U.S., the November data shows that 4-wheel-drive tractors grew year-over-year 72.6 percent, the only segment to see growth for the month. Year-to-date, 4-wheel-drive tractor sales are up 38.2 percent, leading all segments in unit sales growth. In Canada, 4-wheel-drive unit sales were up 84.8 percent for the month, and 41.5 percent year-to-date.

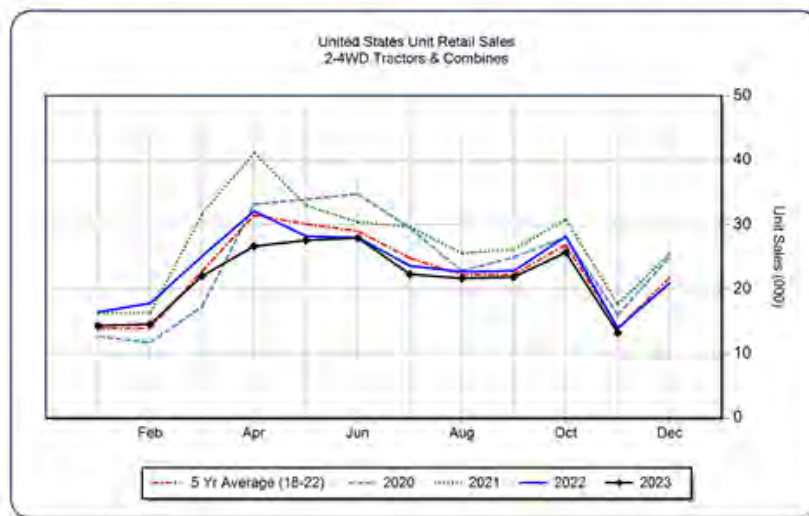
“November is historically a slow month for tractor and combine sales,” said Curt Blades, senior vice president, industry sectors and product leadership at the Association of Equipment Manufacturers. “We are happy to see the year-to-date sale’s strength in the larger equipment market and remain optimistic for the long-term.” Overall unit sales of U.S. tractors are down 4.7 percent compared to sales in November 2022, while combine sales finished 11.3 percent below this time last year. Canadian tractor sales finished the month up 1.0 percent. Combines were also down for the month, falling 12.8 percent.



AEM United States Ag Tractor and Combine Report November 2023

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	November			YTD - November			Beginning Inventory Nov 2023
	2023	2022	%Chg	2023	2022	%Chg	
2WD Farm Tractors							
< 40 HP	7,832	8,172	-4.2	146,143	164,143	-11.0	94,068
40 < 100 HP	3,581	4,004	-10.6	56,041	61,703	-9.2	39,062
100+ HP	1,262	1,263	-0.1	24,888	23,629	5.3	9,967
Total 2WD Farm Tractors	12,675	13,439	-5.7	227,072	249,475	-9.0	143,097
4WD Farm Tractors	283	164	72.6	4,072	2,947	38.2	530
Total Farm Tractors	12,958	13,603	-4.7	231,144	252,422	-8.4	143,627
Self-Prop Combines	275	310	-11.3	6,760	6,518	3.7	1,237



Housing Starts Rise in November

Housing starts in the US unexpectedly soared 14.8% month-over-month to an annualized 1.56 million in November of 2023, the highest rate in six months, and well above market forecasts of 1.36 million, benefiting from a fall in mortgage rates and low inventory. Starts for single-family homes jumped 18% to 1.143 million, the highest level since April 2022, and those for buildings with five units or more went up 8.9% to 404K. Starts increased in the Northeast (100% to 144K), the South (16.3% to 849K), the West (2.1% to 347K) and the Midwest (1.4% to 144K). Figures for October were revised lower to 1.359 million from an initial 1.372 million.



Trade Deficit Widens

The US trade gap widened slightly to \$64.3 billion in October 2023, the highest in three months, compared to a downwardly revised \$61.2 billion in September and forecasts of \$64.2 billion. It reflects an increase in the goods deficit of \$3.5 billion to \$89.8 billion and an increase in the services surplus of \$0.4 billion to \$25.5 billion. Total exports went down 1% to \$258.8 billion, led by gem diamonds, pharmaceutical preparations, jewelry, passenger cars, other automotive parts and accessories, trucks, buses, and special purpose vehicles and travel. On the other hand, sales rose for organic chemicals, nonmonetary gold, transport and financial services. Meanwhile, imports edged up a meager 0.2% to \$323 billion, prompted by computers, drilling and oilfield equipment and travel while purchases of passenger cars went down.





Rhein Associates is a leader in North American commercial vehicle and off-highway powertrain forecasting, strategically located between Ann Arbor and Detroit, in Canton, MI. Rhein Associates is renowned for providing the industry with accurate, thorough and relevant databases, analysis and insight, by analysts that are involved and connected in the industry. Our data covers both on-road commercial vehicle as well as the off-highway, marine, industrial, agricultural and electrification sectors. With comprehensive and detailed Databases that include both historic and future applications, we service OEMs, suppliers, distributors, as well as financial and governmental institutions around the world.



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Rhein Associates specializes in powertrain forecasting, however the knowledge and expertise goes much deeper. We are here to support the industry with analysis, forecasts, insight and thought leadership. Opportunity targeting, electrification scenario forecasts, and part number forecasts are just examples of topics our analyst team can support.



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