



# North American Light Vehicle Production Forecast

March 2023





## LMC Automotive

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- Hybrid & Electric Vehicle Forecasts
- Global Automotive Scenarios Service
- European Trade & Inventory Service

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**NORTH AMERICAN LIGHT VEHICLE  
PRODUCTION FORECAST**

***Monthly  
Commentary  
March 2023***

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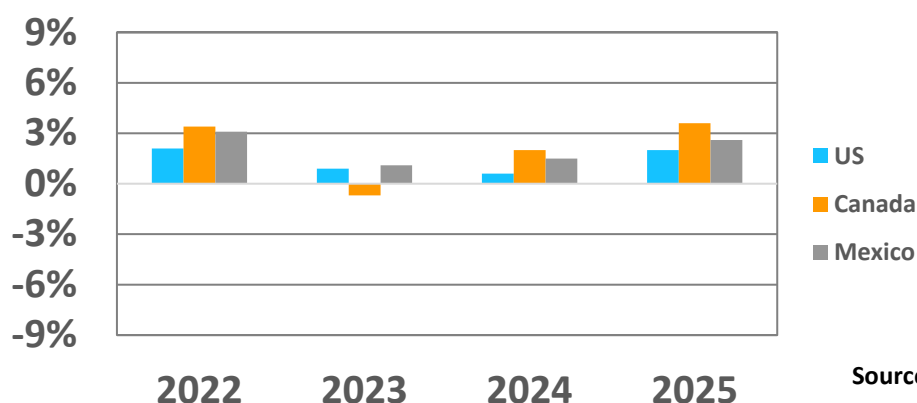
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Key Economic Indicators

GDP Growth



Source: Oxford Economics

		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
United States	GDP Growth	-2.8%	6.0%	2.1%	0.9%	0.6%	2.0%	2.0%	1.9%	1.8%	1.7%	1.5%
	Consumer Spending Growth	-3.0%	8.3%	2.8%	1.4%	1.0%	2.2%	2.1%	1.9%	1.8%	1.6%	1.5%
	Short-term Interest Rate	0.7%	0.2%	2.4%	5.4%	3.9%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
	Unemployment Level	8.1%	5.4%	3.6%	4.2%	5.2%	4.9%	4.5%	4.4%	4.4%	4.4%	4.3%
Canada	GDP Growth	-5.1%	5.0%	3.4%	-0.7%	2.0%	3.6%	2.8%	2.5%	2.1%	2.0%	1.8%
	Consumer Spending Growth	-6.1%	5.0%	4.8%	0.3%	2.0%	3.5%	3.4%	3.0%	2.5%	2.2%	2.0%
Mexico	GDP Growth	-8.2%	4.9%	3.1%	1.1%	1.5%	2.6%	2.3%	2.1%	1.9%	1.8%	1.8%
	Consumer Spending Growth	-10.5%	7.8%	6.0%	0.3%	1.4%	2.6%	2.4%	2.1%	1.9%	1.8%	1.8%

North American Economic Analysis

Forecast Changes

US: On the basis that a recession will start in Q3 2023 as consumers limit spending and businesses cut back on hiring and investment, GDP is expected to increase by 0.9% in 2023, up by 0.9 pp from last month.

Canada: Despite slight gains in monthly GDP, Oxford Economics (OE) states the economy hit a turning point as growth stalled in Q4 2022. An outright contraction looks unavoidable this year as the full impact from higher interest rates materializes. GDP is forecast to contract by 0.7% in 2023 (+0.4 pp from February), as Canada is on the verge of recession.

Mexico: Mexico’s GDP outlook has been increased by 0.3 pp to 1.1% in 2023, due to stronger US growth and a tighter labor market. OE has pushed back its forecast of a recession from H1 2023 to H2.

Current Situation

US GDP is projected to grow by 0.9% in 2023, mainly due to early economic momentum. OE is also anticipating that 2023 may feature a mild recession in the US, but whereas previously it was forecast to occur in Q2, OE has now delayed the recession until Q3. OE expects the Fed to continue raising interest rates despite the turmoil in the banking sectors, and after a rate increase of 25 basis points in March, OE anticipates two similar-sized hikes by the Fed in May and June.

Consumer spending growth was fairly steady at 2.8% annualized in 2022, as income gains and savings buffers mitigated pressure from high inflation. Business investment grew by 3.3% annualized in Q4, while residential investment contracted by 25.9% as high mortgage rates caused more pain in the housing sector. Inventories offered a 1.5 pp boost to GDP growth, while net trade’s contribution added 0.5 pp to growth.

OE continues to anticipate a mild recession in 2023, but with early, strong Q1 GDP growth, it may have pushed back the start of the recession. OE forecasts that GDP will grow in H1 2023 before a mild downturn in H2, a positive outlook for 2023 versus previous reports, reaching 0.9% GDP growth in 2023, followed by 0.6% growth in 2024.

## North American Economic Analysis, continued

### Current Situation, continued

Job growth slightly eased in February, but the labor market continues to remain solid at the moment. The unemployment rate increased by a small margin of 0.2 pp to 3.6%, but this still remains close to the historical low rate. With the possibility of a recession in Q3 2023, this could have an impact on the labor market, and OE forecasts unemployment to increase to 4.1% by the end of 2023, rising to 5.2% in 2024.

The Fed is expected to continue raising interest rates, despite recent events in the banking industry. After the 25 basis point rate increase in March, OE expects similarly-sized hikes by the Fed in May and June.

Headline and core CPI were buoyant in February, while core PCE inflation rose 4.7% YoY in January. Further revisions to Q4 2022 data show inflation was higher than estimates. OE expects inflation to moderate through the rest of 2023, as the outlook foresees core PCE inflation to ease to 4.2% in 2023 from 5% in 2022.

Forecasts of much weaker consumer activity have failed to materialize in recent months, but the latest spending data offer the first tangible signs that the economy's main engine is slowing. Nominal personal spending was down by 0.2% in December, on a significant drop in goods outlays that more than offset an increase in services spending. Moreover, real spending fell 0.3%. A downward revision to real spending in November corroborates OE's view that the consumer ended 2022 on a weak footing and that the transition to Q1 was weak.

Job creation is still strong, despite a slight slowdown in February. Only 22k jobs were added in February, much lower than January's 150k jobs, and despite the reduction MoM, it is reassuring that jobs are still being added with circling recession talks. OE is expecting a gradual cooldown in job growth through the middle of 2023, and greater labor market slack in the second half of 2023 as the anticipated recession weakens employment.

In Canada, the economy hit a turning point as growth stalled in Q4 2022. OE estimates GDP will contract by 0.7% in 2023, before rising to 2.0% in 2024. The ongoing correction in housing likely drove a 2.3% QoQ decline in residential investment, which is its third consecutive decline. The falls in housing and business investment contributed to the stalled GDP. Consumption rose by 0.5% QoQ, which is stronger than OE's original estimate of consumption falling another 0.1% QoQ in Q4. The Bank of Canada is expected to hold interest rates steady at 4.5% in March, and OE expects the rates to remain unchanged.

In Mexico, overall activity softened in Q4 2022 GDP, but the current start of 2023 suggests that growth continued. The outlook for 2023 shows GDP growing by 1.1%, compared to 3.1% in 2022. Industrial activity was flat in January 2023, under OE's forecast of 0.2% and below the 0.5% market consensus. The labor market remains strong as OE expects consumption to grow only by 0.3%, well below the 6.0% growth estimate for 2022. The delayed effects from Banxico's record tightening will weigh on credit and the slowdown of the external sector will halt job creation and real wage gains. There are still expectations of a mild recession in 2023, but it has been pushed into H2 2023, staying in line with a similar situation in the US.

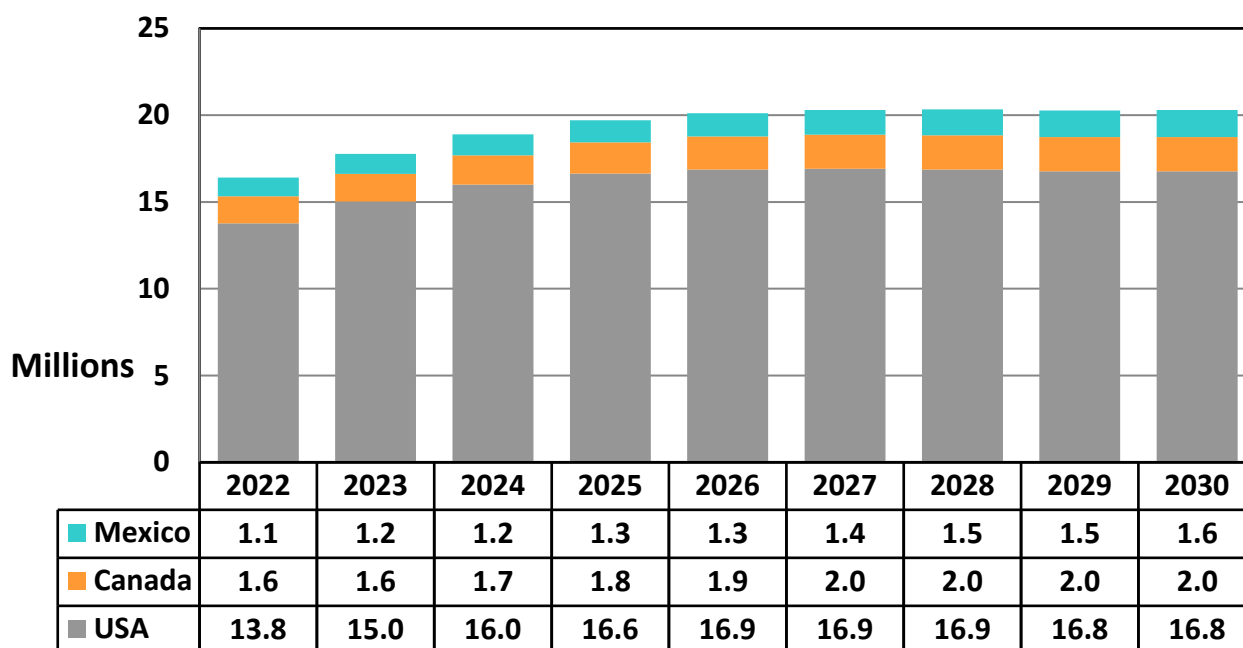
### Medium- and Long-Term Outlook

In the US, OE still estimates long-term potential output growth for the economy will settle around 1.5% in 2030 based on supportive fundamentals. These factors include competitive wage costs underpinning stable growth, and relative unit labor costs, once the current bout of high inflation and strong wage gains pass. At the same time, household balance sheets look healthy as the debt-to-income ratio for US households has fallen back close to its long-term average. Growth is expected to be under 2% by 2028 and beyond.

In Canada, OE expects aggressive rate hikes by the BoC to cause a recession in 2023, followed by a return to growth starting in 2024, peaking at 3.7% growth in 2025. OE expects sluggish investment in both the energy and non-energy sectors, which will only gradually improve. OE forecasts capital stock to expand 1.6% pa over the next decade, weaker than the 2.1% pa expansion in 2011-2020.

In Mexico, protracted economic underperformance and scarring from the pandemic-induced recession have limited the potential growth outlook for 2021-2030 to an average of 1.7%, down from the 1.8% average growth recorded during the previous decade. High uncertainty regarding government infrastructure projects amid fiscal consolidation and tensions between the government and the private sector will keep domestic investment subdued for years to come.

North American Light Vehicle Sales



North American Light Vehicle Sales Analysis

Forecast Changes

The 2024 US forecast has been reduced to 16.0 mn units, compared to 16.1 mn units in our previous forecast. Mexico volumes in 2023 are forecasted to reach 1.2 mn units compared to 1.1 mn units previously.

Current Situation

US LV sales totaled 1.15 mn units in February, a YoY gain of 9.6%. A positive YoY result was not surprising given the weakness in the market a year ago, when the chip shortage wreaked havoc on sales. The selling rate declined to 15.0 mn units/year, down from 16.0 mn units/year forecast in January, but we should not read too much into this, as January has traditionally been a weak month, and seasonality has been disrupted over recent years. There were 31k units of inventory added in February, and although the rate of growth has slowed in recent months, the signs are that production may be able to outpace sales on a consistent basis in 2023, alleviating supply problems. Average transaction prices in February were US\$46,015, up by 4.3% YoY, and incentives have continued to increase at US\$1,415, the highest since February 2022. Interest rates are rising, although the pace of rate hikes is easing off, providing some degree of relief to consumers, while strong employment figures continue to ameliorate fears over a recession, at least in the short-term.

The year got off to a positive start in Canada, with sales reaching 101.4k units in February, compared to 96k units in January, unfortunately declining by 4.1% YoY. The selling rate slightly decreased to 1.6 mn units/year in February, from 1.78 mn units/year in January. Inventory levels are starting to show signs of improved vehicle availability among a growing list of manufacturers. Previously, the market has become accustomed to historically low inventories, which is great for manufacturers that can prioritize more expensive vehicles and sell what they build because dealers can only maintain what is available. Meanwhile, customers appear to be becoming more cautious about making purchases in the context of rising interest rates and elevated inflation is making vehicles less affordable. The uncertainty created by the prospect of recession in 2023 is also potentially dampening demand.

In Mexico, initial estimates show a small jump in sales in February at 101.5k units, up by 28.4% YoY and continuing from an already strong result in January of 94k units. Sales volumes are slowly starting to see pre-pandemic levels, compared to January 2020, when sales were 104k units. The selling rate declined marginally to 1.16 mn units/year in February, from 1.22 mn units/year in January: this was the strongest rate since February 2020.

## North American Light Vehicle Sales Analysis, continued

### Medium- and Long-Term Outlook

After a disappointing 2022, the industry is hoping for better things in 2023, and US sales hinted at an improved performance in February. That said, sales are still at low levels compared to pre-pandemic norms – or perhaps more crucially, before the chip shortage. Although the YoY comparison was up by 9.6% in February, volumes were still down by 3.8% when compared to February 2021 and down by 15.7% versus February 2020. There is little doubt that some OEMs are enjoying better inventory than at any point over the last 18 months or so, but some other manufacturers are still battling a lack of stock, meaning that the market is still not firing on all cylinders by any means. To compound matters, even where there is sufficient supply, demand is being hindered to some extent by elevated interest rates, near-record high transaction prices, the general cost-of-living squeeze, and economic uncertainty. Still, while it is somewhat premature to draw conclusions from just two month's results, January and February showed positive signs that 2023 should see some YoY growth overall. Despite a seemingly unfavorable backdrop, we believe that improving inventory levels, which should become more widespread across the industry as the year goes on, will lead to an uptick in total sales. One feature of the market this year is likely to be an increase in share for fleet purchases, which has been a trend observed over recent months. Fleet sales are expected to total approximately 240k units in March 2023, which will represent 18.1% of total sales. This would be an increase of 31.4% YoY, but would still be down by 7.8% compared to February. Some OEMs are seeking to utilize the fleet channel to boost overall volumes and market share, even though this can be a less profitable route than retail sales. For 2023, we see annual sales at 15.0 mn units, a YoY gain of 9.0%. Looking to the longer-term, sales are expected to trend up towards 16.9 mn units by 2027, although we think that the 17 mn unit threshold may not be breached again at any point in the forecast horizon.

With inventory improving, February sales in Canada were slightly more robust than expected, but there is still a long way to go before the overall assessment of a depressed market can be fundamentally changed. Before the pandemic, a typical level of inventory was a 65 day supply. Manufacturers may operate on leaner stocks going forward, perhaps around 45 to 60 days, on the assumption that buyers will get used to waiting for their vehicle to be delivered. A recession has not yet officially been declared, but nevertheless Canada may already have entered one. Demand could remain somewhat stable as some economic conditions have proven more resilient than anticipated. This is reflected in the tight labor market, declining inflation, and interest rates are likely to remain on hold during 2023, providing a counterbalance which could offer support to vehicle sales. Incentives could also be raised to encourage more buyers into the market. We see sales at 1.6 mn units in 2023, up by 3.0% YoY, before the pace of growth increases in subsequent years to see volumes rise to 1.96 mn units in 2027.

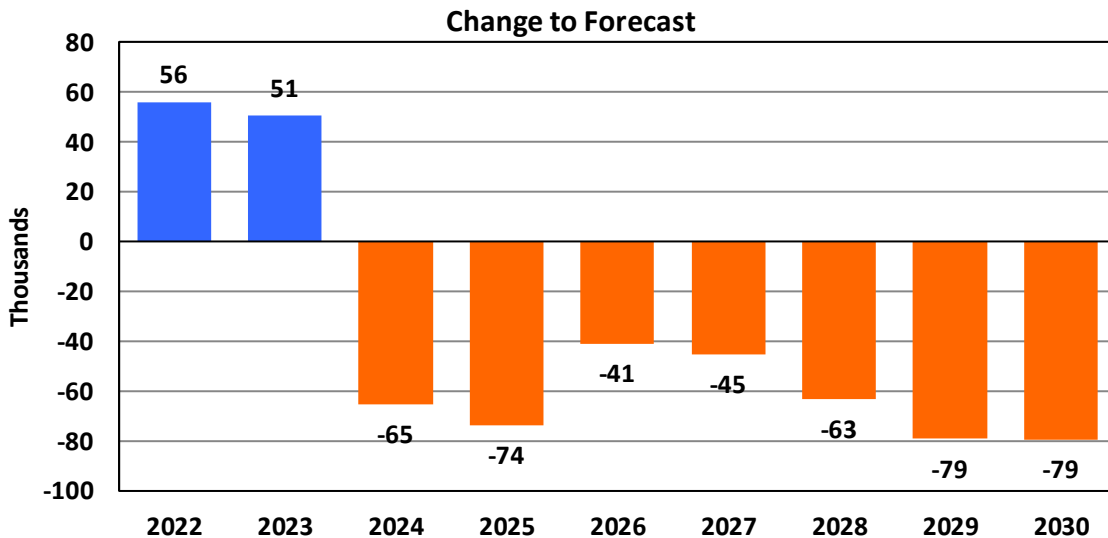
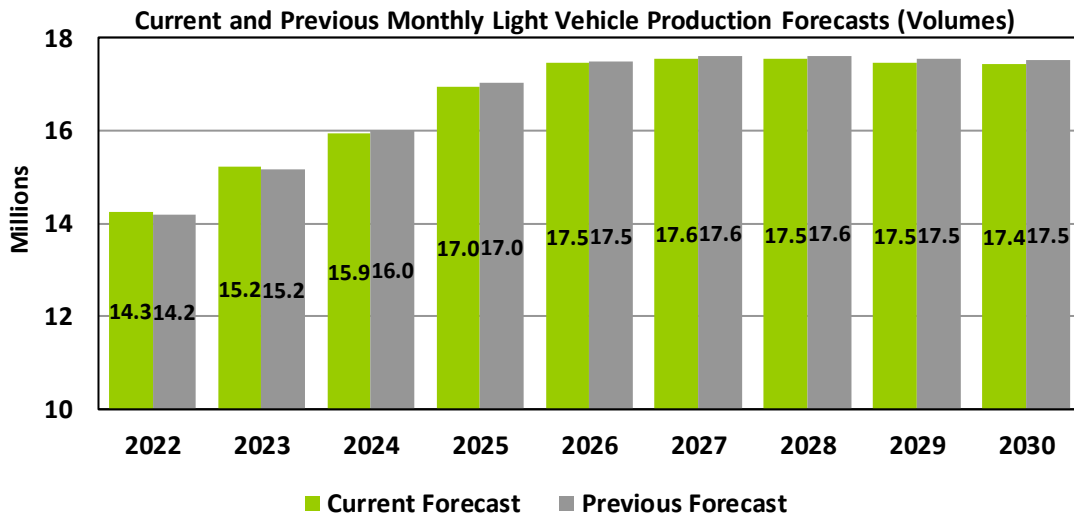
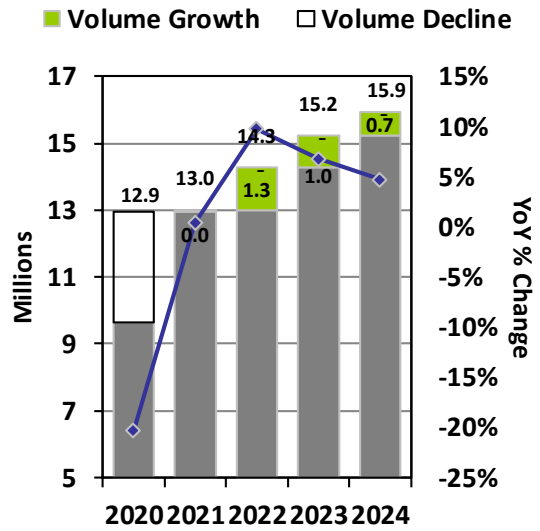
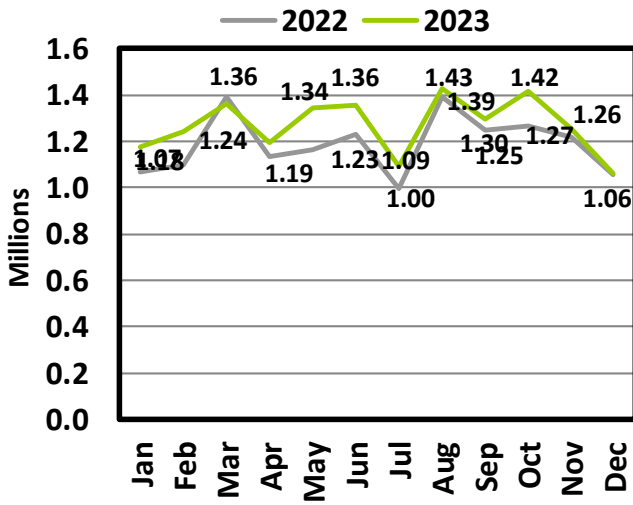
In Mexico, sales beat our expectations in February with sales reaching 101.5k units – since March 2020, monthly sales have only exceeded 100k units three times. Apart from the fact that inventories are improving, the Mexican market continues to attract new entrants to boost sales. For example, the Chirey brand – known as Chery elsewhere – added 3k units in sales in January in its debut month. The arrival of Chirey is representative of the direction of the Mexican market in general – Chinese OEMs offering vehicles, often SUVs, at affordable prices, although some Western OEMs have partnerships with Chinese manufacturers to sell joint venture products. For 2023, we see sales reaching 1.16 mn units, a YoY gain of 7.0%, still well below pre-pandemic levels of around 1.3 mn units, and we see volumes gradually increasing to 1.42 mn units by 2027.

### Market Trends

Imported vehicles accounted for 24.1% of North American sales in 2022, down from 25.9% in 2021. This metric has fluctuated over recent years, but imports are expected to account for only 21.2% of the market by 2028, with a higher share of SUVs being built within the region. Mexico will continue to import a larger percentage of vehicles from outside North America than the US or Canada, at around 54-56%.

SUVs accounted for 53.9% of North American sales in 2022, up from 53.2% in 2021. Cars claimed a 19.5% share of sales in 2022, down from 21.2% in 2021, but the rate of decline should slow in the coming years, with Cars still holding around 14.8% of the market in 2035. Electric and hybrid vehicles are becoming increasingly popular, helped by government policy in the US and Canada. Autonomous Vehicles (AVs) are not expected to influence the market substantially through 2035, but shared mobility and AVs will eventually disrupt the traditional ownership model.

North American Light Vehicle Production – Short-Term Analysis





North American Light Vehicle Production – Short-Term Analysis

Current and Previous Monthly Light Vehicle Production Forecasts (Millions)

	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Current Forecast</b>	14.26	15.22	15.94	16.95	17.46	17.56	17.54	17.47	17.45
<b>Previous Forecast</b>	14.20	15.17	16.01	17.02	17.50	17.61	17.61	17.55	17.53
<b>F/C Change (Millions)</b>	0.06	0.05	-0.07	-0.07	-0.04	-0.05	-0.06	-0.08	-0.08
<b>F/C Change (%)</b>	0.4%	0.3%	-0.4%	-0.4%	-0.2%	-0.3%	-0.4%	-0.5%	-0.5%

Current and Previous Monthly Light Vehicle Production Forecasts (Year-on-Year Change)

Year-on-year changes	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Current Forecast</b>	9.8%	6.7%	4.7%	6.3%	3.0%	0.6%	-0.1%	-0.4%	-0.1%
<b>Previous Forecast</b>	9.3%	6.8%	5.5%	6.4%	2.8%	0.6%	0.0%	-0.3%	-0.1%
<b>Difference</b>	0.4%	-0.1%	-0.8%	0.0%	0.2%	0.0%	-0.1%	-0.1%	0.0%

North American Light Vehicle Production – Short-Term Analysis

Forecast Changes

As Q1 2023 nears an end, production interruptions have continued – albeit to a lesser extent than 2022, with known plant shutdowns due to parts-related shortages accounting for over 51k in losses so far. With most sources reporting, production through February is expected to finish at over 2.4 mn vehicles, 256k units higher than the same period in 2022 (+11.8% YoY) and the highest January-February total since 2020. Most recently, GM’s Silao plant, producing the Chevrolet Silverado (T1XCF) and GMC Sierra (T1XGF), was down for 14 days in March due to lack of parts: we estimate this cost the automaker over 15k units of Silverado and Sierra output. This shutdown notably came after GM announced it would stop production of the Silverado and Sierra at its Fort Wayne plant for two weeks beginning the week of 27 March to control inventory.

Also of note, Stellantis’ Windsor plant, producing the Chrysler Pacifica (RU) and Chrysler Voyager (RU), had its third weeklong shutdown of the year so far beginning the week of 13 March for a non-semiconductor related part issue. In total, the three shutdowns are estimated to have resulted in over 7k units of lost output for the models. Despite the downtime, US days’ supply of the Chrysler Pacifica was at 58 days at the end of February, well above the industry total of 37, mainly due to the slower pace of demand for the model.

Given our outlook for disruption assumptions lessening for 2023, we continue to see North America production recovering at a healthy clip to nearly 15.2 mn vehicles (+6.7% YoY), still well below pre-pandemic levels. This equates to a 962k unit increase over 2022 and while production disruptions remain by far the highest risk factor for 2023, market uncertainty and risk of consumer pullback should also be considered as downside risks. Semiconductor and other parts supply improvements coupled with an expected soft demand environment should help inventory to continue to recover in 2023. The economic headwinds against demand, particularly in the US, means we will likely see more outliers – like GM’s Fort Wayne plant shutdown – where production is pulled back due to elevated inventory levels.

On an OEM level, in step with the improvement expected on the supply-side, we see most automakers in the region improving over 2022 levels. Particularly, our outlook for Tesla has been raised by over 52k from our February release mainly due to a much stronger demand forecast for the Model 3 and Model Y. Price reductions on the two models by Tesla, as well as eligibility for the US\$7,500 tax credit, should help spur greater demand and help fill unused capacity at its Fremont and Austin plants. For the year, we see Tesla output growing by 158k units YoY (+26.0%). Honda we also see recovering significantly in 2023, with production improving by 17.9% YoY (+215k units), led by output of the popular Honda CR-V (2YC) which is expected to increase by 25.1% YoY (+76k).

**North American Light Vehicle Production – Short-Term Analysis, continued****Forecast Changes, continued**

We see North America production continuing to recover in 2024: it is expected to reach 15.9 mn vehicles, which would be the highest level since 2019. The expectation of continued supply-side improvement on semiconductor and other parts-related issues coupled with an improving global demand environment should help stimulate further output growth in the region. We also expect to see ‘Other’ start-up BEV OEMs combined output reach six figures for the first time as new automakers come on board and the likes of Canoo, Lucid and Rivian improve their manufacturing process and launch new models.

Production of the Honda Accord will be moving from Marysville, OH to the Greensburg, IN plant in 2025 where the Honda Civic and CR-V are currently made. This move comes as Honda plans to invest US\$700 million to retool three of its plants for electric vehicle production, including Marysville where it will consolidate two of its production lines into one, leading to a decrease in capacity. Production volumes for the Accord at Greensburg are anticipated to reach an average 192k vehicles a year, bringing volumes at the plant slightly above capacity at around 357k units a year starting in 2026, and opening the possibility of other sourcing moves at the plant.

During Tesla’s recent investor day, Elon Musk confirmed that the manufacturer will build a new Gigafactory in Mexico to expand global output. Nuevo Leon Governor Samuel Garcia also confirmed that the new plant will be built in the Mexican state of Nuevo Leon as an eventual US\$10 billion investment. Although further details for the new plant have yet to be confirmed, our current assumption is that the Nuevo Leon plant will have the capacity of 500k units annually, and that a new model - the C-Hatchback EV - will be built there starting in March 2025.

Production for EV startup VinFast was scheduled to start by the end of 2024, however, it has recently been confirmed that the company will not start production now until 2025 due to a delay in construction for its new plant in Moncure, North Carolina. Because of this, the VF 8 Compact SUV and VF 9 Midsize SUV are both anticipated to start production in July 2025. The Moncure plant is expected to have an initial capacity of 150k vehicles a year, which will then rise to 250k vehicles a year starting in 2027 when it completes phase two of construction – that is if the plans come to fruition.

Chinese automaker Jetour recently announced that it will begin to launch sales of its X70 and X90 SUV models in Mexico starting in April of this year. Additionally, it plans to invest \$1 billion in developing a plant in Mexico for both ICE and electric vehicle production, including the X70 and X90 models. While details are still speculative, we anticipate the new plant to be built in Guanajuato with production starting in March 2025.

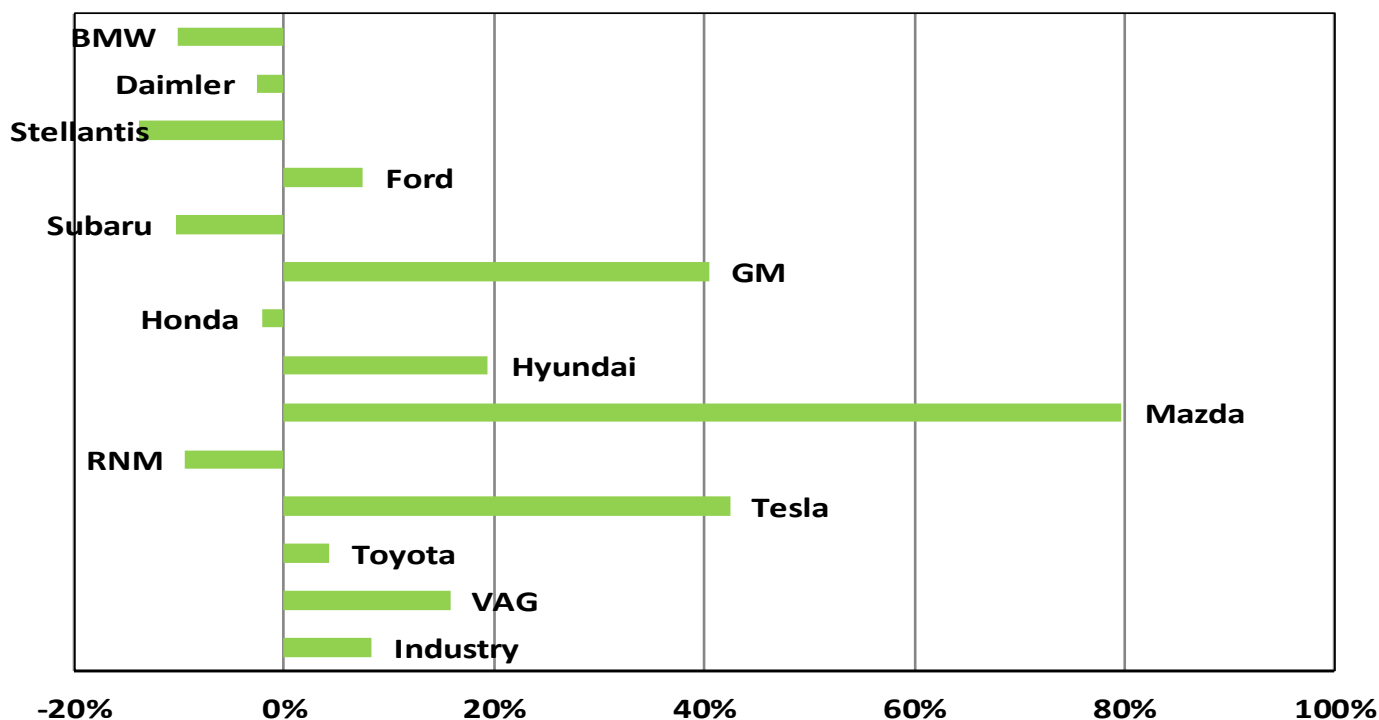
**Current Situation**

February LV production increased by 12.9% YoY and 5.6% MoM to 1.2 mn vehicles, with most major OEMs seeing increases. Subaru had significant YoY gains at 37.2% (+8k units) – mostly due to the Impreza (+3k units) and Ascent (+3k units) – a large improvement from the month of January, which saw a -19.5% YoY loss. Ford also saw sizeable growth in February at 25.6% YoY (+35k units) on account of the F-150 (+32k units), Expedition (+8k units) and Explorer (+8k units). The automaker experienced multiple plant shutdowns in February 2022 because of the chip shortage, including its Chicago plant, where the Explorer is produced, as well as Kansas City Truck plant where the F-150 is produced. A few other notable increases are from VW Group at 33.9% YoY (+11k units) due to the ID.4 (+3k units) that started production July 2022 as well as Mazda at 50.6% YoY (+7k units) due to the CX-50 (+3k units) that started production in January 2022. The only major OEM that saw a decline for the month of February was Stellantis (-1.5% YoY), which has experienced a few shutdowns so far this year due to parts shortages at its Windsor plant that produces the Chrysler Pacifica and Voyager.

US days’ supply at the end of February 2023 was at 37 days, 3 days less than the previous month and 14 days more than a year ago. Total US inventory increased slightly to 1.74 mn units from 1.71 mn units in January. Inventory is 63% higher than it was at the same point a year ago, marking the eighth consecutive month of a YoY increase. While the inventory increase is a positive sign, it is still far below historical levels: current inventory of 1.74 mn vehicles is still 35% (927k) below February 2021, and 51% (1.84 mn) below February 2020.

North American Production Short-Term Group Summary

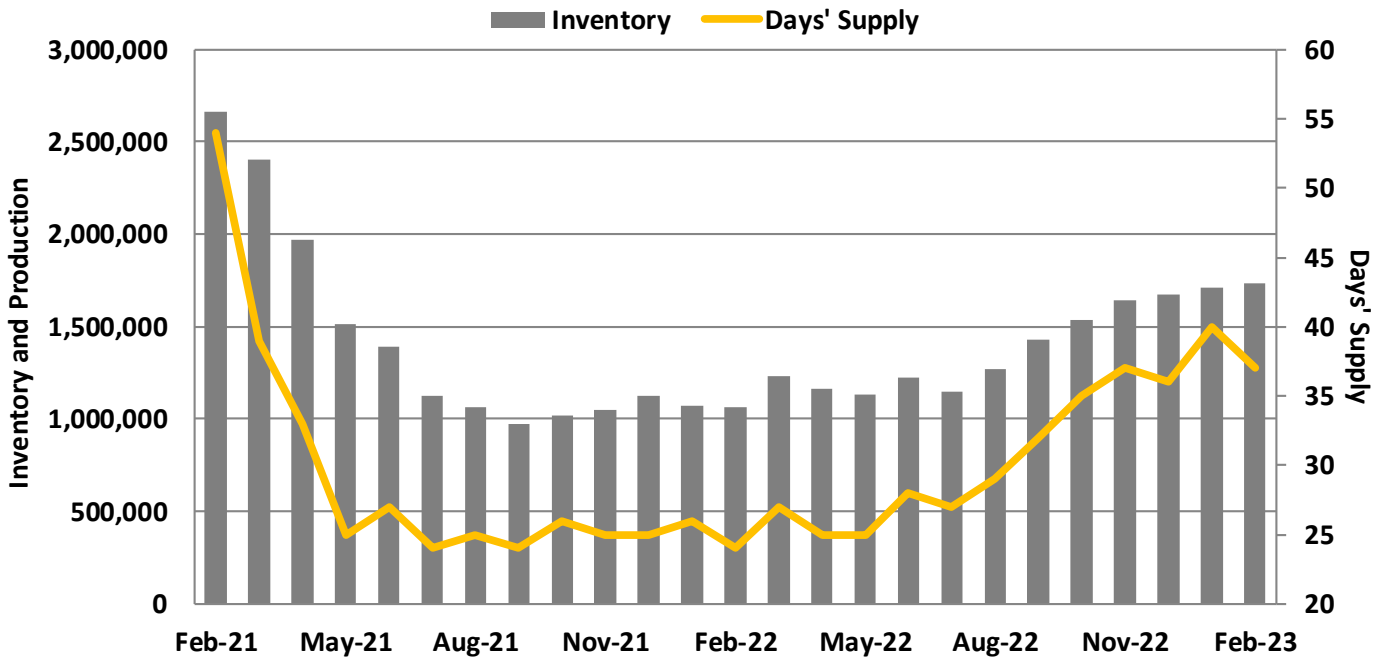
2022 Q4 Year-on-Year Change



2023 Outlook, 000s

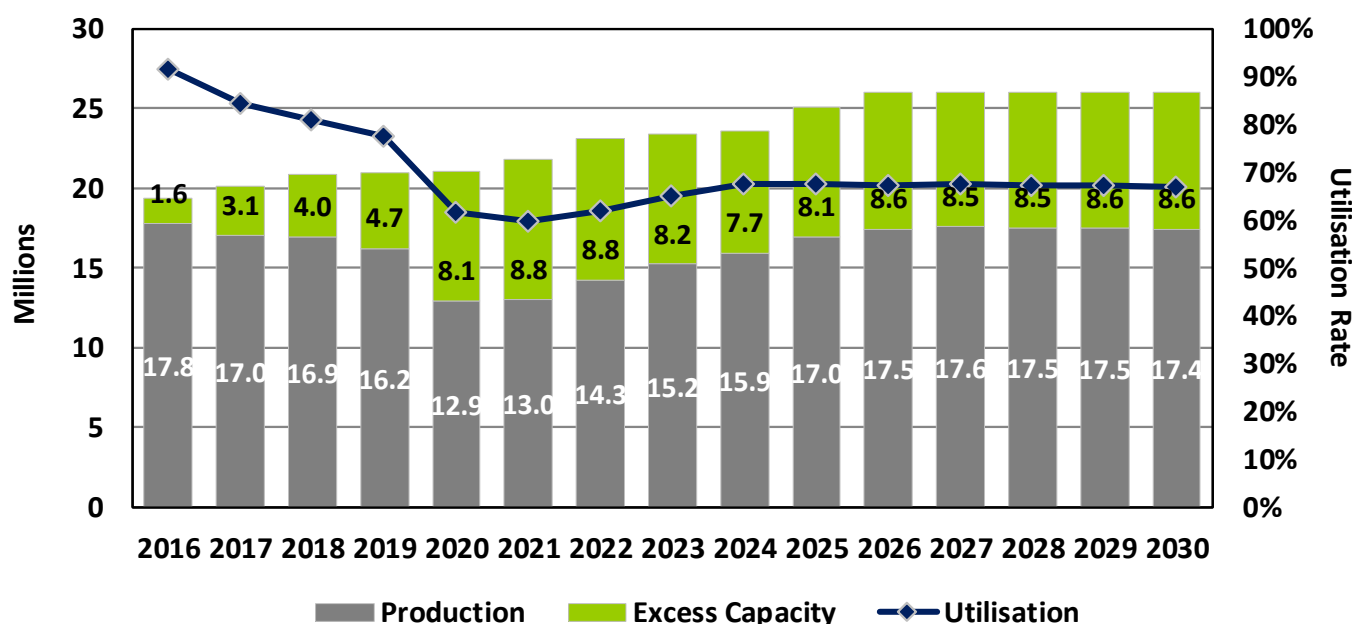
Group	2022	2023	%Δ	Δ Volume
BMW	481	487	1.3%	6
Daimler	412	408	-0.9%	-4
Ford	2,272	2,362	3.9%	90
GM	2,640	2,783	5.4%	143
Honda	1,199	1,413	17.9%	215
Hyundai	938	968	3.2%	30
Mazda	178	240	35.0%	62
Other	33	67	105.2%	35
RNM	907	972	7.2%	65
Stellantis	1,842	1,875	1.8%	33
Subaru	286	321	12.0%	34
Tesla	608	766	26.0%	158
Toyota	1,831	1,921	4.9%	90
VAG	605	612	1.1%	7
<b>Total</b>	<b>14,258</b>	<b>15,220</b>	<b>6.7%</b>	<b>962</b>

North American Stock/Inventory Analysis



Group	Days' Supply		Inventory
	Current Month	Prior Month	
BMW	39	43	47,010
Ford	50	58	322,710
GM	52	52	398,399
Honda	30	26	104,008
Hyundai	24	22	60,031
Mazda	19	28	24,215
Mercedes	43	47	43,200
RNM	28	35	85,581
Stellantis	68	69	335,463
Subaru	11	11	21,387
Toyota	20	23	134,361
VAG	45	49	40,794
<b>Industry</b>	<b>37</b>	<b>39</b>	<b>1,737,239</b>

North American Light Vehicle Production – Long-Term Analysis



North American Light Vehicle Production – Long-Term Analysis

Medium- and Long-Term Outlook

We see North America production getting back to 2018 levels by 2025, being driven by a mixture of both top-down regional and global demand recovery as well as regional bottom-up model and added capacity activity. We forecast regional demand having a significant boost aided by the expectation that supply-side disruptions will be mostly alleviated, which should help continue to boost inventory and replacement demand. We also see the economic environment improving, with interest rates expected to be pulled back in the US to around 2% which should help to spur sales. LV capacity is expected to grow significantly in North America by over 4.0 mn vehicles from 2018-2025, particularly in the US. This is partially being driven by the Inflation Reduction Act EV credit rules and means that fewer vehicles are expected to be imported.

We could see opposing forces meet in the 2024-2026 timeframe, where the upside potential is that output could be higher than our current forecast as numerous new BEV entries are produced, bringing about an expedited ICE to BEV conversion by consumers. We currently expect nearly 100 BEV models to be produced in North America by 2025, with output totaling roughly 2.5 mn vehicles. However, downside risks include raw-material scarcity and semiconductor shortages due to the increased demand for BEV versus ICE models, which could undermine both affordability and consumer appeal.

Nearly every major OEM is expected to grow in volume by the end of the forecast horizon, totaling 17.4 mn units. Most notable is Geely Group, which is expected to reach 160k units by 2030 compared to the 14k it produced in 2022. This increase is mostly due to the Volvo EX90 Midsize SUV starting production later this year while the EX100 Large SUV and EX80 Compact SUV enter production in 2024. Subaru is expected to grow by 108% from 2022 to 2030, aided by the addition of localized production of the Crosstrek and Forester. With the introduction of several new models including the Roadster, Cybertruck, C-Hatchback EV and more, Tesla’s volumes are expected to significantly rise to 1.2 mn units by 2030 (+96% from 2022).

Capacity utilization by country breakdown:

	2018	2022	2023	2030
<b>USA</b>	80.8%	63.6%	66.0%	66.2%
<b>Canada</b>	81.8%	53.0%	59.3%	70.9%
<b>Mexico</b>	81.0%	60.5%	64.3%	68.2%
<b>N. America</b>	<b>81.0%</b>	<b>61.8%</b>	<b>65.0%</b>	<b>67.0%</b>

**Model Line Forecast Changes, by OEM****Chery Group**

The Jetour X70 (CX62) has been added to the forecast at Guanajuato (Chery). SOP is scheduled for June 2025, EOP for May 2033 and a facelift for June 2029.

The Jetour X90 (KX63) has been added to the forecast at Guanajuato (Chery). SOP is scheduled for March 2025, EOP for February 2033 and a facelift for March 2029.

**Ford Group**

EOP of the Ford F-150 Lightning (P702) at Rouge Electric Vehicle Center has been changed from August 2026 to August 2025.

SOP of the Ford F-150 Lightning (P800) at Rouge Electric Vehicle Center has been changed from September 2026 to September 2025. EOP has been changed from August 2032 to August 2031. A facelift is now scheduled for September 2028, a switch from the previous date of September 2029.

SOP of the Ford F-150 Lightning (P800) at Stanton has been changed from October 2026 to September 2025. EOP has been changed from August 2032 to August 2031. A facelift is now scheduled for September 2028, a switch from the previous date of September 2029.

The program code of the Ford F-250/F-350 Lightning has been changed from P708 EV to P812.

The platform code of the Ford F-250/F-350 Lightning (P812) at Stanton has been changed from TE2 to TE1.

SOP of the Ford F-250/F-350 Lightning (P812) at Stanton has been changed from October 2029 to September 2025. EOP has been changed from June 2036 to August 2031. A facelift is now scheduled for September 2028, a switch from the previous date of June 2033.

**Geely Group**

SOP of the Volvo EX90 (V536) at Ridgeville has been changed from September 2023 to December 2023. EOP has been changed from August 2030 to November 2030. A facelift is now scheduled for June 2027, a switch from the previous date of September 2027.

SOP of the Volvo EX90 (V536(ng)) at Ridgeville has been changed from September 2030 to December 2030. EOP has been changed from August 2037 to November 2037. A facelift is now scheduled for June 2034, a switch from the previous date of March 2034.

**General Motors Group**

EOP of the Cadillac CT4 (A2SL) at Lansing Grand River has been changed from August 2025 to May 2026.

EOP of the Cadillac CT5 (A2LL) at Lansing Grand River has been changed from August 2025 to May 2026. A facelift is now scheduled for February 2024.

A facelift for the Cadillac XT4 (E2UL) at Fairfax is now scheduled for April 2023, a switch from the previous date of June 2023.

EOP of the Chevrolet Camaro (A1A/BC) at Lansing Grand River has been changed from June 2024 to January 2024.

A facelift for the Chevrolet Suburban (T1YCF) at Arlington is now scheduled for November 2023, a switch from the previous date of July 2024.

A facelift for the Chevrolet Tahoe (T1UCF) at Arlington is now scheduled for November 2023, a switch from the previous date of May 2024.

**Model Line Forecast Changes, by OEM****Honda Group**

The Acura Integra (2UW(ng)) has been added to the forecast at Marysville. SOP is scheduled for May 2029, EOP for April 2036 and a facelift for May 2032.

The Honda Accord (2QD(ng)) at Marysville has been removed from the forecast.

EOP of the Honda Accord (2QD) at Marysville has been changed from December 2027 to July 2025.

The Honda Accord (2QD) has been added to the forecast at Greensburg. SOP is scheduled for August 2025, EOP for December 2027 and a facelift for August 2025.

The Honda Accord (2QD(ng)) has been added to the forecast at Greensburg. SOP is scheduled for January 2028, EOP for December 2032 and a facelift for August 2030.

**Hyundai Group**

SOP of the Genesis GV70 (JK1) at Montgomery has been changed from February 2023 to January 2023. EOP has been changed from January 2028 to December 2027. A facelift is now scheduled for July 2025, a switch from the previous date of August 2025.

SOP of the Genesis GV70 (JK2) at Montgomery has been changed from February 2028 to January 2028. EOP has been changed from January 2033 to December 2032. A facelift is now scheduled for July 2030, a switch from the previous date of August 2030.

The program code of the Kia EV7 has been changed from MV1 to PV1.

SOP of the Kia EV7 (PV1) at Ellabell has been changed from May 2024 to October 2026. EOP has been changed from April 2030 to September 2032. A facelift is now scheduled for October 2029, a switch from the previous date of May 2027.

The program code of the Kia EV9 has been changed from NV1 to MV1.

SOP of the Kia EV9 (MV1) at West Point 1 has been changed from August 2024 to May 2024. EOP has been changed from July 2030 to April 2030. A facelift is now scheduled for May 2027, a switch from the previous date of August 2027.

SOP of the Kia EV9 (MV2) at West Point 1 has been changed from August 2030 to May 2030. EOP has been changed from July 2036 to April 2036. A facelift is now scheduled for May 2033, a switch from the previous date of August 2033.

**Other**

SOP of the Fisker PEAR (1) at Lordstown (Foxconn) has been changed from January 2024 to August 2024. EOP has been changed from December 2031 to July 2032. A facelift is now scheduled for August 2028, a switch from the previous date of January 2028.

SOP of the VinFast VF 6 (VFe33) at Moncure has been changed from April 2026 to October 2026. EOP has been changed from March 2032 to September 2032. A facelift is now scheduled for October 2029, a switch from the previous date of April 2029.

SOP of the VinFast VF 7 (VFe34) at Moncure has been changed from August 2025 to February 2026. EOP has been changed from July 2033 to January 2034. A facelift is now scheduled for February 2030, a switch from the previous date of August 2029.

SOP of the VinFast VF 8 (VFe35) at Moncure has been changed from December 2024 to July 2025. EOP has been changed from November 2032 to June 2033. A facelift is now scheduled for July 2029, a switch from the previous date of December 2028.

SOP of the VinFast VF 9 (VFe36) at Moncure has been changed from December 2024 to July 2025. EOP has been changed from November 2032 to June 2033. A facelift is now scheduled for July 2029, a switch from the previous date of December 2028.

## Model Line Forecast Changes, by OEM

### Renault-Nissan-Mitsubishi

EOP of the Nissan Rogue (P33A) at Smyrna 2 has been changed from August 2026 to September 2026.

The program code for the Nissan Rogue has been changed from W33C to P33C.

SOP of the Nissan Rogue (P33C) at Smyrna 2 has been changed from September 2026 to October 2026. EOP has been changed from August 2032 to September 2032. A facelift is now scheduled for October 2029, a switch from the previous date of September 2029.

### Tesla Motors

The Tesla C-Hatchback EV (1) has been added to the forecast at Nuevo Leon. SOP is scheduled for March 2025, EOP for February 2035 and a facelift for March 2030.

The Tesla C-SUV EV (1) has been added to the forecast at Nuevo Leon. SOP is scheduled for July 2027, EOP for June 2037 and a facelift for July 2032.

A facelift for the Tesla Model Y (1) at Fremont (Tesla) is now scheduled for October 2024, a switch from the previous date of January 2025.

A facelift for the Tesla Model Y (1) at Austin is now scheduled for October 2024, a switch from the previous date of January 2025.

SOP of the Tesla Roadster (1) at Fremont (Tesla) has been changed from January 2024 to July 2024. EOP has been changed from December 2033 to June 2034. A facelift is now scheduled for July 2029, a switch from the previous date of January 2029.

### Volkswagen Group

The Scout D-SUV EV (1) at San Antonio (Navistar) has been removed from the forecast.

The Scout E-Pickup EV (1) at San Antonio (Navistar) has been removed from the forecast.

The Scout D-SUV EV (1) has been added to the forecast at Blythewood. SOP is scheduled for July 2026, EOP for June 2032 and a facelift for July 2029.

The Scout E-Pickup EV (1) has been added to the forecast at Blythewood. SOP is scheduled for October 2026, EOP for September 2032 and a facelift for October 2029.



North American Production Group Summary

Group/Marque	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>BMW Group</b>	<b>481</b>	<b>487</b>	<b>453</b>	<b>530</b>	<b>550</b>	<b>575</b>	<b>577</b>	<b>558</b>	<b>549</b>
<i>Change</i>	-5.2%	1.3%	-7.2%	17.0%	3.8%	4.6%	0.3%	-3.3%	-1.6%
BMW	481	487	443	465	489	520	525	510	504
MINI	-	-	9	65	61	55	52	49	46
<b>Mercedes-Benz Group</b>	<b>412</b>	<b>408</b>	<b>387</b>	<b>384</b>	<b>340</b>	<b>342</b>	<b>329</b>	<b>319</b>	<b>309</b>
<i>Change</i>	5.1%	-0.9%	-5.1%	-0.9%	-11.5%	0.8%	-3.7%	-3.2%	-3.0%
Mercedes-Benz	412	408	387	384	340	342	329	319	309
<b>Stellantis</b>	<b>1,842</b>	<b>1,875</b>	<b>1,964</b>	<b>2,103</b>	<b>2,171</b>	<b>2,126</b>	<b>2,145</b>	<b>2,124</b>	<b>2,111</b>
<i>Change</i>	2.5%	1.8%	4.8%	7.0%	3.2%	-2.0%	0.9%	-1.0%	-0.6%
Chrysler	131	125	95	113	170	164	156	151	145
Dodge	217	225	183	153	172	167	162	152	143
Fiat	67	75	82	83	89	90	91	92	93
Jeep	824	840	944	1,052	1,060	1,012	1,044	1,031	1,028
Ram	603	609	660	700	680	694	693	698	703
<b>Ford Group</b>	<b>2,272</b>	<b>2,362</b>	<b>2,340</b>	<b>2,443</b>	<b>2,406</b>	<b>2,427</b>	<b>2,386</b>	<b>2,386</b>	<b>2,449</b>
<i>Change</i>	15.9%	3.9%	-0.9%	4.4%	-1.5%	0.8%	-1.7%	0.0%	2.7%
Ford	2,165	2,268	2,268	2,354	2,313	2,338	2,303	2,307	2,369
Lincoln	108	94	73	89	93	89	83	79	81
<b>Subaru Corporation</b>	<b>286</b>	<b>321</b>	<b>405</b>	<b>462</b>	<b>598</b>	<b>562</b>	<b>528</b>	<b>523</b>	<b>530</b>
<i>Change</i>	4.5%	12.0%	26.3%	14.1%	29.2%	-5.9%	-6.1%	-1.0%	1.3%
<b>Geely Group</b>	<b>14</b>	<b>14</b>	<b>51</b>	<b>126</b>	<b>137</b>	<b>143</b>	<b>151</b>	<b>157</b>	<b>158</b>
<i>Change</i>	-40.1%	-1.4%	274.3%	148.1%	8.8%	4.6%	5.6%	3.7%	1.0%
<b>General Motors Group</b>	<b>2,640</b>	<b>2,783</b>	<b>2,826</b>	<b>2,853</b>	<b>2,777</b>	<b>2,782</b>	<b>2,832</b>	<b>2,800</b>	<b>2,805</b>
<i>Change</i>	28.0%	5.4%	1.5%	0.9%	-2.7%	0.2%	1.8%	-1.1%	0.2%
Buick	41	40	46	57	55	54	54	47	44
Cadillac	177	200	195	191	147	148	186	178	182
Chevrolet	1,729	1,808	1,805	1,811	1,759	1,774	1,769	1,765	1,783
Cruise	1	2	6	9	11	12	11	10	10
GMC	692	719	740	741	755	737	751	735	724
<b>Honda Group</b>	<b>1,199</b>	<b>1,413</b>	<b>1,588</b>	<b>1,636</b>	<b>1,635</b>	<b>1,636</b>	<b>1,660</b>	<b>1,662</b>	<b>1,634</b>
<i>Change</i>	-7.9%	17.9%	12.3%	3.0%	0.0%	0.1%	1.5%	0.1%	-1.7%
Acura	129	161	167	165	164	188	181	176	172
Honda	1,069	1,252	1,421	1,467	1,451	1,419	1,444	1,448	1,423

Table continues ...

North American Production Group Summary, continued

Group/Marque	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Hyundai Group</b>	<b>938</b>	<b>968</b>	<b>1,012</b>	<b>1,128</b>	<b>1,095</b>	<b>1,088</b>	<b>1,080</b>	<b>1,072</b>	<b>1,042</b>
<i>Change</i>	22.5%	3.2%	4.6%	11.4%	-3.0%	-0.6%	-0.7%	-0.8%	-2.8%
Hyundai	361	347	390	469	505	507	487	459	435
Kia	577	618	617	647	579	571	561	570	566
<b>Jianghuai Automotive</b>	<b>11</b>	<b>10</b>	<b>11</b>	<b>13</b>	<b>12</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>16</b>
<i>Change</i>	524.6%	-5.9%	2.1%	16.8%	-7.6%	27.1%	1.5%	-1.3%	6.5%
<b>Mazda</b>	<b>178</b>	<b>240</b>	<b>263</b>	<b>238</b>	<b>234</b>	<b>233</b>	<b>218</b>	<b>223</b>	<b>219</b>
<i>Change</i>	39.5%	35.0%	9.5%	-9.5%	-1.5%	-0.6%	-6.2%	2.3%	-1.8%
<b>Other</b>	<b>33</b>	<b>67</b>	<b>112</b>	<b>190</b>	<b>305</b>	<b>388</b>	<b>425</b>	<b>452</b>	<b>470</b>
<i>Change</i>	1719.5%	105.2%	65.7%	70.2%	60.4%	27.0%	9.5%	6.3%	4.0%
Bollinger	-	-	1	2	2	2	2	2	2
Canoo	-	2	11	34	41	41	39	37	35
Karma	-	-	-	-	-	-	-	-	-
Lordstown	-	1	4	7	9	10	10	9	9
Lucid	7	13	21	31	38	45	57	60	62
Rivian	24	48	55	56	111	166	192	214	226
Workhorse	1	-	-	-	-	-	-	-	-
<b>Renault-Nissan-Mitsubis</b>	<b>907</b>	<b>972</b>	<b>951</b>	<b>898</b>	<b>994</b>	<b>1,047</b>	<b>1,096</b>	<b>1,094</b>	<b>1,069</b>
<i>Change</i>	-6.8%	7.2%	-2.2%	-5.6%	10.7%	5.3%	4.7%	-0.1%	-2.3%
Infiniti	48	48	51	52	52	57	73	72	67
Mitsubishi	-	2	21	25	28	26	26	28	26
Nissan	859	922	879	820	914	963	994	992	973
Renault	-	-	-	-	-	1	3	4	4
<b>Tesla Motors</b>	<b>608</b>	<b>766</b>	<b>875</b>	<b>976</b>	<b>1,177</b>	<b>1,173</b>	<b>1,198</b>	<b>1,200</b>	<b>1,189</b>
<i>Change</i>	37.2%	26.0%	14.3%	11.5%	20.7%	-0.4%	2.2%	0.2%	-0.9%
<b>Toyota Group</b>	<b>1,831</b>	<b>1,921</b>	<b>2,094</b>	<b>2,303</b>	<b>2,310</b>	<b>2,270</b>	<b>2,174</b>	<b>2,128</b>	<b>2,156</b>
<i>Change</i>	2.2%	4.9%	9.0%	10.0%	0.3%	-1.7%	-4.2%	-2.1%	1.3%
Lexus	175	217	211	186	180	172	129	113	136
Toyota	1,656	1,704	1,883	2,118	2,130	2,098	2,045	2,015	2,020
<b>Volkswagen Group</b>	<b>605</b>	<b>612</b>	<b>608</b>	<b>667</b>	<b>713</b>	<b>751</b>	<b>725</b>	<b>755</b>	<b>735</b>
<i>Change</i>	6.9%	1.1%	-0.7%	9.8%	6.8%	5.4%	-3.6%	4.1%	-2.6%
Audi	178	170	177	175	159	149	139	133	128
Volkswagen	427	442	431	493	538	535	512	553	543
<b>Total</b>	<b>14,258</b>	<b>15,220</b>	<b>15,940</b>	<b>16,951</b>	<b>17,457</b>	<b>17,562</b>	<b>17,545</b>	<b>17,471</b>	<b>17,447</b>
<i>Change</i>	9.8%	6.7%	4.7%	6.3%	3.0%	0.6%	-0.1%	-0.4%	-0.1%

# About LMC

For over 30 years, LMC's mission has been to provide the most comprehensive, timely and actionable services to all sectors of the auto industry. Focusing exclusively on this sector, while being highly responsive to our large and growing client base of car and truck makers, component manufacturers and suppliers, and financial and government institutions, has fostered our rapid growth. Today, from offices in all the major automotive markets, LMC provides insights and forecasts for both the Light Vehicle and Commercial Vehicle sectors, with specific emphasis on vehicle sales, production and propulsion systems. Our experts examine global industry dynamics from every angle – be they macroeconomic trends, market and production developments or regulatory and technological changes. These insights are shaped into a comprehensive suite of services that can be tailored to an individual client's needs and are delivered in a range of flexible and sophisticated formats.

As a company, we pride ourselves on the quality of our products, as well as our commitment to customer service. Our team, and our carefully selected partner companies, are dedicated to what they do – bringing the most accurate information to market and helping our clients to gain maximum benefit from our insights.

LMC Automotive is part of the LMC group, originally founded in 1980, which provides market intelligence, analysis and advice to clients around the world involved with agricultural commodities, foods, industrial materials, biofuels and their end-markets. A separate company in the group specialises in the coverage of the rubber and tyre sectors.

## **LMC Automotive services include:**

The **Global Light Vehicle Forecast**. LMC's entry-level service designed for automotive industry executives and decision makers who need to see global coverage of Light Vehicle sales and production in one single publication with detailed forecasts going out seven years into the future, and indicative forecasts for 10 and 15 years. However, the core of the service is the associated database providing sales and production of Light Vehicles, the former by marque and the latter by model. These forecasts are supplemented by detailed reviews of the economic drivers of vehicle demand and of the major OEMs. The service, which is updated quarterly, includes introduction and run out dates for all new models.

The **Global Light Vehicle Production Forecast**. LMC's premium vehicle production forecasting service. Published monthly, forecasts are provided by manufacturer, make, model, model generation, platform, design lead, assembly plant with capacity and utilisation, in monthly, quarterly and annual time slices and with a 7-year forecasting time horizon. These forecasts are supplemented by concise monthly regional commentaries as well as a global snapshot of vehicle production and detailed quarterly reports. As an add-on to these services, forecasts by bodystyle and number of doors are also available.

The **Global Light Vehicle Sales Forecast**. Published in association with *Jato Dynamics Ltd*, this service builds on macro-economic forecasts generated by our partner, the renowned *Oxford Economics*, which, combined with an examination of demographics, fiscal and regulatory influences by LMC's own specialist automotive research team, presents twelve-year forecasts at a global, regional and country level for Light Vehicle demand in 137 countries. In its most detailed form, model level forecasts are updated monthly and are provided in annual, quarterly and monthly timeslices. Quarterly summary reports analyse the current market situation and likely future evolution from the perspective of developments at a country level and from the position of each major OEM.

The **Global Light Vehicle Powertrain Forecast**. This service provides data and 7-year forecasts of powertrain fitment rates and volumes. For each model, LMC provides forecasts of the volumes of each engine, transmission and electrification combination that will be fitted, as well as the total demand for each powertrain. The service is published quarterly, and covers IC, hybrid, full electric and fuel cell propulsion systems. In addition, as an optional add-on, the xEV forecasts are linked to information on the batteries and eMotors which will be fitted to these models.

The **Global Hybrid & Electric Vehicle Forecast**. Published quarterly, this service provides a model level forecast of demand for electrified passenger cars and US light trucks in the world's most important vehicle markets with a time horizon of the current year plus 12 years. These forecasts are provided by technology type, from mild hybrids through battery electric vehicles to fuel cell electric vehicles. They are supplemented by market-by-market overviews of the key drivers of vehicle electrification and how these may change over time and OEM-by-OEM profiles detailing, for all major hybrid and electric vehicle producers, their global and local product plans, strategic approach to the sector, vehicle production snapshots and regional highlights. An additional *Battery & eMotor* module is also available.

# About LMC

The **Global Commercial Vehicle Forecast**. This service provides the most comprehensive view of the current state of the medium (6-15t GVW) and heavy (15t+GVW) commercial vehicle sectors of the automotive industry together with detailed twelve-year forecasts of sales and production in quarterly and annual timeslices. Produced in association with *ACT Research*, and covering trucks and buses, this service is published quarterly and offers coverage of all the world's major markets. Updates can also be provided on a monthly basis while Model Line detail is available as a separate module for Western Europe, the Czech Republic and Poland.

The **Automotive Market Reports** are six automotive services specifically addressing the rapidly developing economies in Asia. They include the *Automotive Market Updates*, published monthly and covering China, India and ASEAN, which monitor the latest market developments in these areas; and the *Automotive Market Forecasts*, published monthly and also covering China, India and ASEAN and offering 7-year forecasts of sales, by segment, brand, group and fuel type and production by plant and model.

The **China Medium & Heavy Truck Forecast** provides a clear and concise view of the Chinese medium and heavy vehicle market in a single user-friendly report. The latest registration volumes for medium and heavy trucks are analysed in a comprehensive market overview, with overall sales trends reviewed as well as key structural developments concerning segments and manufacturers.

The **China Monthly Inventory Level Monitor**. By comparing Retail and Wholesale sales numbers, the China Monthly Inventory Level Monitor is able to offer the most comprehensive picture of personal vehicle sales in China and to provide a valuable indicator of future short-term movements in both sales and production.

The **European Light Vehicle Trade & Inventory Service**. Published every month, the aim of this service is to provide an early warning system that highlights risks that emerge from imbalances in supply/demand in Light Vehicles sourced from Europe, for which little published inventory information is available. This unique service provides LMC's estimate of inventory levels, represented by "days' supply" for all sales groups, brands and models and explains what this means for the short-term outlook for vehicle production.

The **European Light Vehicle Trade Flow Forecast**. Published quarterly, this service monitors Light Vehicle sales and their flows within, into and out of Europe. For each model produced at a European plant, the service provides 7-year forecasts detailing the country of final destination and for all European imports, the country and plant of origin. As sourcing patterns shift and new challenges emerge, this service provides detailed statistical data and forecasts essential to plan and react to changing events and is of particular relevance to OEMs, component suppliers, logistic providers and financial planners.

The **Global Automotive Scenarios Service**. Published quarterly in association with our partner, *Oxford Economics (OE)*, this service assesses the impact of a range of plausible scenarios for the global macroeconomic landscape, and the resulting effects on Light Vehicle sales and production over the coming years. Three-to-five different sets of global macroeconomic projections, based on different events or trends, are used, each quarter, to formulate consistent vehicle industry outcomes. The scenarios are delivered alongside the baseline macroeconomic and vehicle industry forecasts for reference.

The **Global Commercial Vehicle Powertrain Forecast**. Published in partnership with Knibb, Gormezano & Partners (KGP Auto), this service, which is updated quarterly, takes the 12-year forecasts as provided in the Global Commercial Vehicle Forecast and details powertrain fitment for this sector. Initially focussed on engines, aftertreatment systems and emissions compliance, coverage now includes electrification & decarbonisation of the sector. An additional module is available for transmissions.

In addition to the above services, LMC publishes multi-client studies, which offer comprehensive and systematic analysis of topical automotive industry subjects, and, based on its extensive analysis of the industry, LMC frequently undertakes customised projects on client-generated subjects, such as luxury sales, CO<sub>2</sub> emissions, powertrain strategies and electrification. For further information about our company, its activities and how LMC might help you, please refer to our website ([www.lmc-auto.com](http://www.lmc-auto.com)) or contact us directly at [forecasting@lmc-auto.com](mailto:forecasting@lmc-auto.com).



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**For experts**  
**by experts**