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Oil shock to accelerate EV transition; Cleaner automakers likely winners

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Oil shock could quicken the shift to EVs from ICE

The Middle East war is reminiscent of the Russia-Ukraine war in 2022 because it has ensured that the world shifts towards the energy security provided by clean/renewable energy (also the most economical source of energy). Since 2022, renewable capacity has increased three-fold, and clean tech spending rose by ~50%. Similarly, as a fallout of this war and the shortage of oil & gas driving up fuel prices in several countries, an acceleration in EV adoption is likely. Rising EV adoption has reduced oil demand for transport by 1m bpd between 2018 and 2024, and another 1m bpd from 2024-2026, and is expected to cut up to 5m bpd by 2030. We assessed 22 global automakers and 5 shared mobility service providers to understand their transition journey, adoption of clean mobility, CO_2 emissions, and interim and long-term targets to achieve carbon neutrality/net zero. Our assessment suggests automakers transitioning more quickly towards EVs and low-carbon mobility are also the ones showing the highest increase in market capitalization from 2020 to 2026.

Shift to EV critical to keep global warming in check

Of the total annual global emissions of ~60 GT, about 60% are from light transport, light industry, and buildings; another 20% are from heavy industries, and the balance comes from agriculture, land use, and deforestation. Overall, transport is responsible for 24% of the world's CO2 emissions, and 45% of these come from passenger transport. Hence, the automobile industry has an important role to play in reducing transport-sector emissions to mitigate the effects of global warming. According to the IEA's stated policy scenario and BloombergNEF's Economic Transition Scenario, the world is on track for a warming of 2.5-2.6˚C by 2100. Against this backdrop, it becomes imperative that the automobile industry contributes to keeping global warming well below 2˚C by 2100.

Low scope 3 emissions support growth, market value

The cumulative market cap of 22 global automakers and 5 shared mobility companies rose to USD2.5t in 2026 from USD1.76t in 2020, suggesting that the industry is making steady progress in the transition. Tesla and Chinese automakers captured 80% of the incremental market value due to rising EV/PHEV sales and lower per-vehicle Scope 3 emissions. The Korean and European players are catching up but still lag in cost competitiveness, whereas the legacy Japanese and American automakers remain significantly behind. For India, Tata Motors stands out, with EVs forming a double-digit share of its local sales volume. The market value of legacy automakers from the US and EU has contracted owing to high Scope 3 emissions and a slower pace of transition. It can be concluded that automakers, battery manufacturers, and other EV suppliers with a faster transition pace will stand to gain in terms of growth and market value.

Use phase, supplier emissions are key to transition

Our analysis revealed that: 1) Scope 1 and 2 emissions account for just 1% of total emissions for automakers; 2) Scope 3 emissions, especially those from the use phase, constitute 70-80% of total emissions, and another 15-20% originate from the purchase of goods from suppliers; 3) EV sales for legacy companies at 2-35%, indicating different stages of transition; and 4) all automakers have a net-zero plan with defined targets and KPIs.

1. Scope of the report

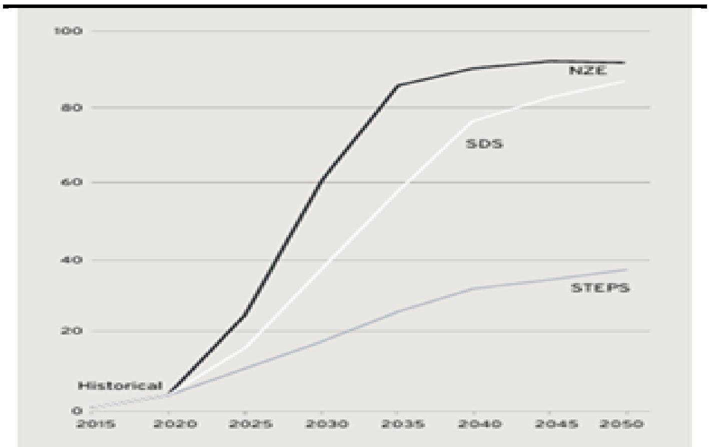
In this report on the auto sector transition, we analyzed the following:
1. Global EV transition scenarios and sales by geography
2. Global EV regulations
3. Comparison of global automakers' emissions and market value changes
4. Summary of global automakers' sustainability targets and initiatives

2. Global EV transition scenarios and sales by geography: good progress in transition, led by China's dominating leadership

For 2025, global battery EV sales were 13.7m units (+30% YoY), accounting for 19% of total global car sales, according to Strategy& Research. Additionally, plug-in hybrid EV sales were 6.7m (+6.8% YoY), representing 9.5% of global sales, and hybrid EV sales reached 10.7m (+12% YoY), or 15% of total sales. China sold nearly 42% of the world's electric vehicles in 2025, while the share of Detroit's three large carmakers declined to just 13% of global car sales from 30% in 2000. In 2026, Chinese EV sales are expected to surpass total car sales in the US.

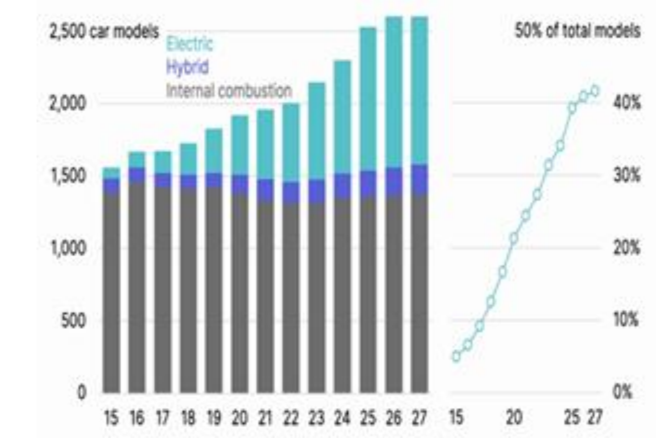
The internal combustion engine (ICE) vehicle sales peaked in 2017 and were 34% lower than that level in 2025. Of total car sales in 2025, approximately 60% were ICE powertrains, and the balance were battery electric or hybrid. Based on this data, we are on track to achieve the scenario outlined in the Stated Policies Scenario (STEPS) by the IEA. However, for the world to stay well below the 2°C warming threshold, EV sales will need to more than double under the Sustainable Development Scenario (SDS) or the Net Zero Emissions (NZE) Scenario.

Fig 1: Global EV sales share across IEA scenarios (2015-40)



Source: Company Sustainability Reports, IEA

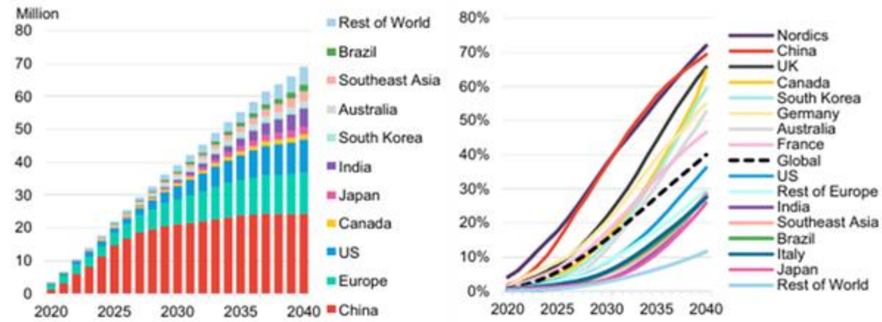
Fig 2: Nearly 40% of > 2,500 car models are electric today



Source: Nat Bullard Presentation, Jan 2026

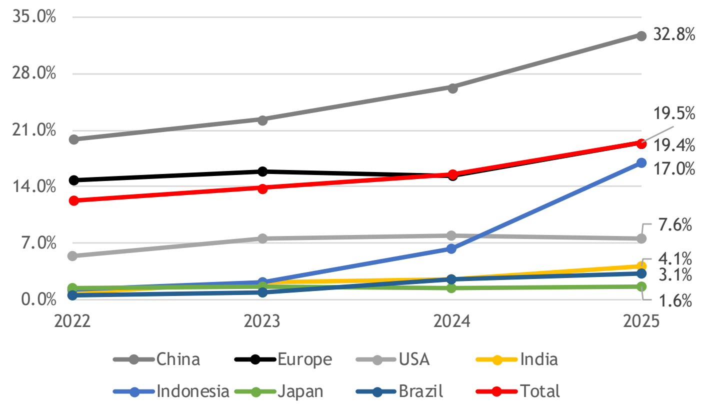
For the SDS or NZE scenarios to materialize, we need a rapid acceleration in EV adoption, supported by reasonable vehicle prices, reduced or no range anxiety, and strong policy incentives. As of now, these factors differ across developed and developing countries, resulting in an uneven transition to EVs. The EU and China lead in EV (BEV + PHEV) penetration, with 30–50% EV ownership in new vehicle sales, whereas penetration is only about 9% in the US and 3–4% in Japan and India. Within ASEAN, Thailand leads with EV sales accounting for 19% of total vehicle sales, followed by Indonesia at 18% and Malaysia at 5%. While issues relating to vehicle prices, charging time, and charging infrastructure are being addressed, delays in transitioning to EVs and hybrids will raise the transition costs for lagging automakers, directly affecting their future profitability and market value.

Fig 3: Economic Transition Scenario of BNEF: global EV sales by market and by fleet in 2040



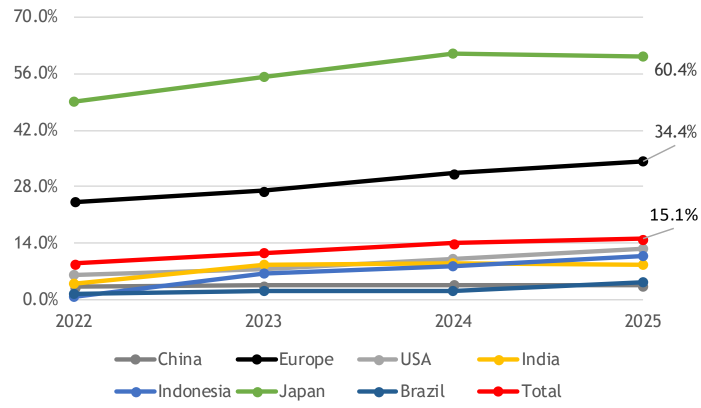
Source: BloombergNEF

Fig 4: BEV sales: China at 32.8%, Europe at 19.5% and Indonesia at 17% vs global average of 19.4%



Source: Sustainalytics, Maybank IBG Research

Fig 5: Hybrid sales: Japan at 60.4% and Europe at 34.4% of car sales vs global average of 15.1%



Source: Sustainalytics, Maybank IBG Research

3. Global EV regulations, falling battery prices: will force carmakers to shift from ICE powertrain over the next 5-10 years

Global emission regulation/transition are uneven but it's clear the future belongs to EV powertrain. As can be seen from the table and charts comparing EV and ICE powertrains, the global auto industry has been moving toward reduced emission intensity over the past five to six years, and this trend is expected to intensify between now and 2035. However, regulations relating to emission intensity and corporate average fuel efficiency (CAFÉ) norms differ significantly across regions, leading to divergent fleet-composition strategies. The chart showing CO_2 emissions by powertrain clearly indicates that Well-to-Wheel (WTW) emissions for an EV powertrain are nearly half those of an equivalent ICE powertrain. Tank-to-Wheel (TtW) emissions for EVs are effectively zero, while ICE vehicles continue to emit CO_2 and other pollutants during operation. This stark emissions advantage is a key reason why the EV fleet is likely to grow at a rapid pace, as consumers embrace cleaner vehicles and as policymakers and automakers pursue cleaner fleets to meet regulatory mandates and evolving market requirements.

Fig 6: Emissions/CAFÉ norms in various global markets

Country	Remarks
USA	For light duty vehicles targeting to reduce CO2 emissions to 170 g/mile by 2027 and further to 85 g/mile by 2032
Japan	Has already adopted Euro 6 standard equivalent norms in 2010. The standards require an average fleet gasoline-equivalent fuel economy of 25.4 km/L by 2030, which is a 32.4% improvement over the 2016 fleet average
China	Has adopted China 6 standards which are more stringent than Euro 6 standards - targets fuel efficiency of 4 ltrs/100 km by 2025 to further drop to 3.2 ltrs/100km by 2030 and 2.0 ltrs/100km by 2035
Malaysia	Currently transitioning to Euro 6 standards. The plans are to implement stringent emissions standards for ICE vehicles. Currently, there are fuel consumption limits based on vehicle weights
Indonesia	Currently at Euro 4 standards since 2018-2022. Luxury tax rates on vehicles based on CO2 emissions and fuel efficiency rather than just engine capacity
Thailand	Euro 5 standards adopted for new diesel and gasoline vehicles from Jan 2024. Excise tax on vehicle purchase based on CO2 emissions
Philippines	Currently at Euro 4 standards and to adopt Euro 5 standards in Jan 2027. Excise taxes on vehicles are based on CO2 emissions of vehicles ie EV is taxed at lower rate

Source: Maybank IBG Research

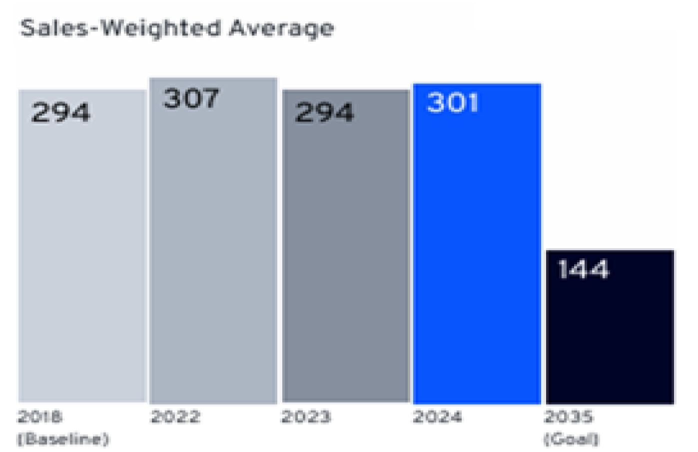
The policies and regulations relating to vehicle emissions and energy efficiency are the most stringent in the EU, which requires CO_2 emissions from cars to be reduced by 55% in 2030 compared with 2021 levels, and by 100% by 2035. Essentially, the EU is advocating for the end of new vehicle sales after 2035 that are not zero-emission vehicles. This timeline is currently under revision due to significant political and industry pressure in recent years and may be relaxed by up to five years, shifting the target to 2040. However, the transition could still occur more quickly, driven by the oil-price shocks triggered first by the Russia–Ukraine war and then by the Iran–Israel conflict in the first half of this decade.

The advancement in battery technology, a substantial reduction in charging time of the battery, solid-state batteries enabling travel up to 800–1,000 km range, and the narrowing gap between EV and ICE powertrain vehicles suggests that a quicker transition is possible without too much reliance on subsidies or incentives. One of the consequences of this phenomenon is that Chinese automakers are capturing the market share of their global peers and achieving the highest export volumes, ahead of their Japanese rivals. This is happening despite substantial import duties on Chinese car models in Europe and other countries. In fact, Chinese companies are putting up EV production units in parts of Asia, Latin America, and Europe to make their products locally sourced. Innovations such as the ability to fully charge a car battery in 5–10 minutes (for example, BYD’s blade batteries introduced in March 2026) would also expedite EV ownership relative to internal combustion engine (ICE) vehicles.

Another driving factor for EVs would be more electrification and the greening of the grid through increased adoption of renewables. The world average emission intensity of power is 426 g of CO_2/kWh, but that in Asia ranges from 526–711 g of CO_2/kWh. This shows that the grid in Asia is still characterised by a high share of coal-based power generation, but as this share comes down it will improve the lifecycle emissions of battery-operated cars. In particular, in Southeast Asia since 2015 the grid emission intensity has increased by 7%, whereas in other countries such as China and India it has declined. Annual global investments in power grids in

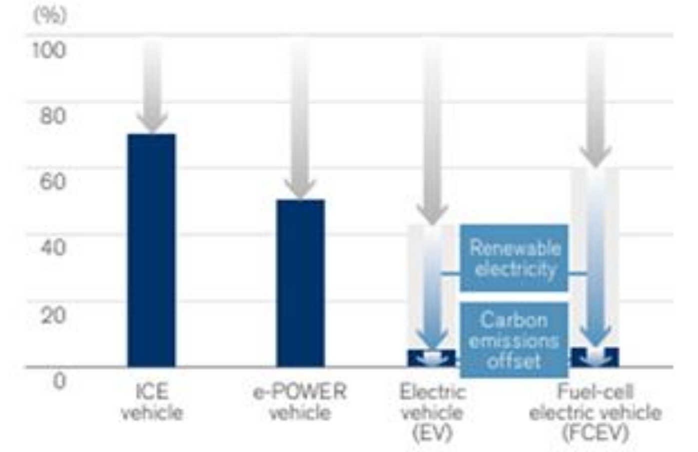
2025 have increased by 60% to USD200b over 2020, suggesting more electrification, which is favorable for transport electrification.

Fig 7: Global well-to-wheel Co2 emissions intensity (gCO_2e/km)



Source: Company Sustainability Reports

Fig 8: CO_2 emissions comparison by power train (WtW)

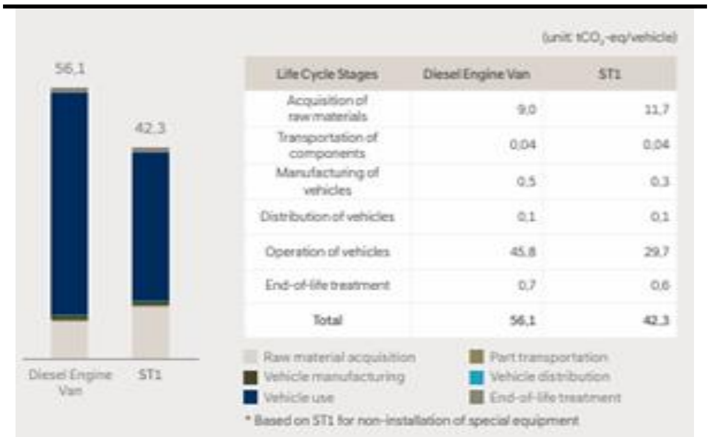


Source: Company Sustainability Reports

Fig 9: Carbon emissions comparison of EV4 (EV) to Seltos (ICE)

Source: Company Sustainability Reports

Fig 10: Comparison of diesel van engine vs Hyundai ST1 (EV)

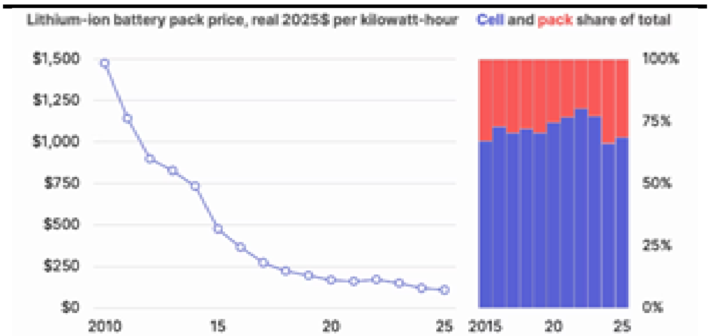


Source: Company Sustainability Reports

The EV ownership has been limited to premium cars priced above USD45–50k due to high battery prices and the lack of availability of models at lower price points. However, in the past year, Chinese and Indian automakers have launched EVs in the mass market priced at less than USD12k, aided by falling battery prices, local manufacturing, and policy incentives. In China the price of an EV is already similar to or lower than that of an ICE vehicle, but this is not yet the case in other parts of the world, including the US and the EU. Indian automakers such as Maruti Suzuki (MSIL IN, CP INR12,250, not rated), Tata Motors, and MG Motors are now offering "Battery-as-a-Service" plans under which the car buyer can pay less than USD 10k to purchase a new car and pay for battery use per kilometre (at INR4/km, or about 5 cents/km). This is likely to increase EV penetration into the affordable and mass-market car segment, which accounts for the bulk of the car market in middle- and low-income countries in Asia, Latin America, as well as Africa.

The annual investment in charging infrastructure stood at around USD35b in 2025 and is likely to increase to USD45–50b by 2035–2040. As of now, the bulk of the charging infrastructure investment is happening in China, followed by the EU and North America.

Fig 11: Battery pack prices on a declining trend



Source: Nat Bullard Annual Presentation January 2026

Fig 12: Price of 2025 BYD Seagull lower than MacBook Pro

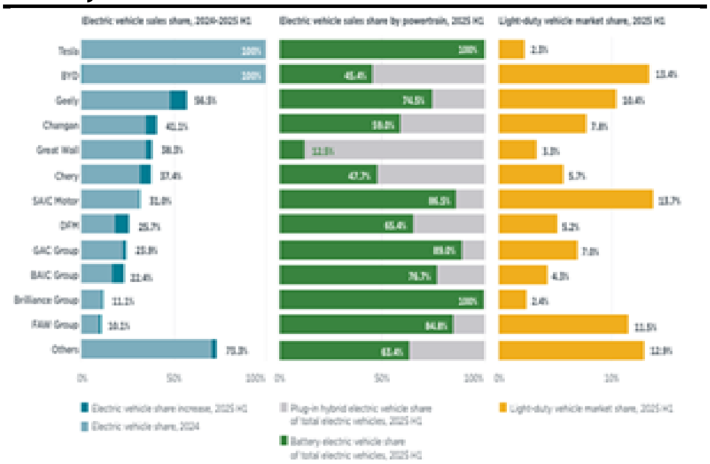
Source: Nat Bullard Annual Presentation January 2026

4. Comparison of emissions and market value: lower use phase, supplier emissions favourable for better growth & market value

Our analysis of 22 global automakers and 5 shared-mobility operators takes into account cumulative annual sales of 78.2m vehicles in 2024 and total emissions of 4.4 GT. We observe that 99% of these emissions arise from the use phase and purchased goods in Scope 3, which suggests decarbonizing the fleet and the supplier base is of paramount importance for global automotive companies. On average, the lifecycle emissions of these companies work out to 57 tCO_2e per vehicle sold. Ten of the 22 auto companies have per-vehicle emissions greater than 50 tCO_2e, due to their petrol- and diesel-heavy fleets and the lack of rapid growth in EV/hybrid sales.

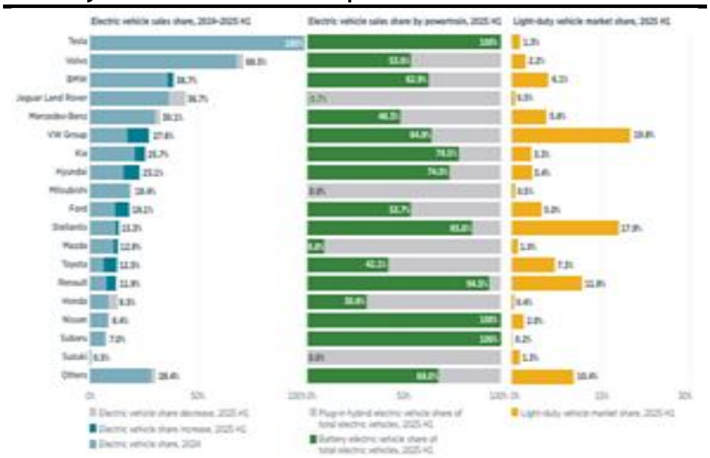
Our analysis reveals that companies with lower-than-average Scope 3 emissions per vehicle achieved the best market capitalization increase from 2020 to 2026. This list includes Tesla, BYD, Hyundai, and Kia. The exceptions to this rule are Tata Motors and Mahindra in India, where SUV sales are booming, and Toyota, which is moderately successful in developing hybrid models. Among the other winners is Uber, which offers green rides in around 200 cities across the world.

Fig 13: Light duty EV sales share, technology mix and market share by manufacturer in China



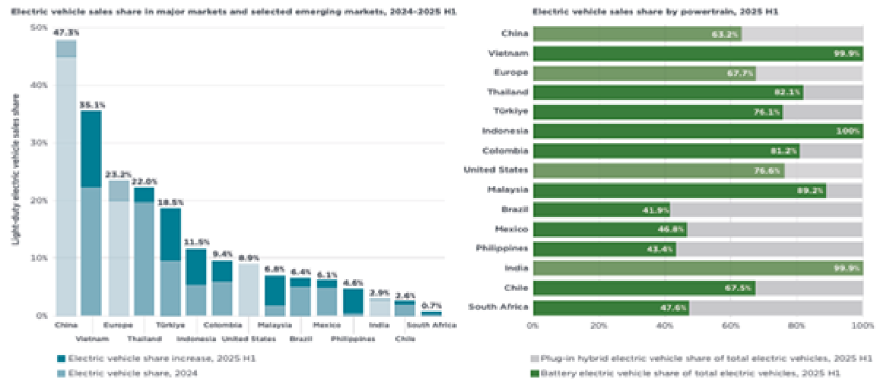
Source: The International Council on Clean Transportation (ICCT)

Fig 14: Light duty EV sales share, technology mix and market share by manufacturer in Europe



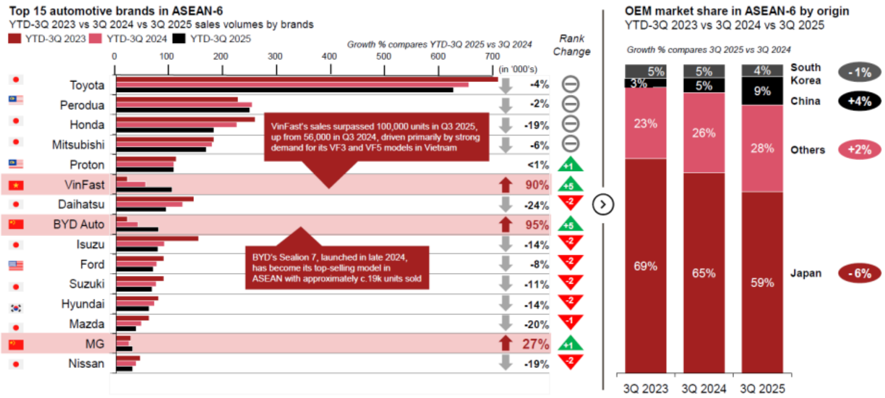
Source: The International Council on Clean Transportation (ICCT)

Fig 15: Light duty EV sales by country in selected emerging markets (1H25)



Source: The International Council on Clean Transportation (ICCT)

Fig 16: Top automaker brands in ASEAN-6, Chinese steadily gaining market share of EV adoption at the cost of Japanese and South Korean brands



Source: eReadiness ASEAN Report 2025 PWC - Strategy&, Marklines, PWC Analysis

As per Nat Bullard's Annual Presentation of Jan'26, annual spending on automotive sector R&D is around USD100b, of which the European auto sector is spending nearly half. However, due to legacy factors and a lack of cost competitiveness compared with the Chinese, EU automakers are still lagging behind Chinese automakers in terms of EV sales growth and the availability of models at mass-market price points of less than USD25k. Chinese automakers are investing 7% of their revenue into R&D, ahead of Japanese and American carmakers. However, European automakers are investing more than 6% of their revenue into R&D.

Fig 17: Global automakers emissions and market capitalisation

Company	Bbg. code	Curr.	CP	Rating	TP	Mcap in 2020 (USDb)	Current Mcap (USDb)	Scope1+2 Emissions mt 2024	Scope 3 Emissions in mt 2024	Scope 3 emissions to sales (in tCO2e/vehicle)	Mcap/ Scope 3 Emissions
Tata Motors	TMPV IN	INR	299	NA	NA	20.0	29.9	0.3	163.0	125.4	1,834
Suzuki Motors	7269 JP	JPY	1,865	NA	NA	25.0	23.7	1.5	110.0	34.4	2,155
Toyota Motor	7203 JP	JPY	3,224	NA	NA	220.0	275.0	5.0	584.0	52.1	4,709
Honda Motor	7267 JP	JPY	1,270	NA	NA	45.0	33.0	2.7	294.0	73.5	1,122
Hyundai Motor	005380 KS	KRW	469,500	NA	NA	40.0	93.0	2.2	114.0	27.1	8,158
Kia Corp	000270 KS	KRW	151,500	NA	NA	25.0	42.5	1.2	99.0	31.9	4,293
BYD	1211 HK	HKD	106	NA	NA	70.0	141.0	10.0	3.3	0.8	427,273
Geely Auto	0175 HK	HKD	21	NA	NA	25.0	24.0	0.6	67.0	31.9	3,582
Nissan Motor	7201 JP	JPY	336	NA	NA	20.0	8.0	1.5	153.0	46.4	523
Renault SA	RNO FP	EUR	28	NA	NA	10.0	9.0	0.7	107.4	48.8	838
Stellantis	STLAM IM	EUR	6	NA	NA	45.0	18.7	0.3	411.0	68.5	455
General Motors	GM US	USD	73	NA	NA	60.0	65.9	3.5	388.0	62.6	1,698
Ford	F US	USD	11	NA	NA	35.0	46.7	2.9	354.0	80.5	1,319
BMW	BMW GY	EUR	78	NA	NA	45.0	48.0	0.0	118.7	47.5	4,044
Mercedez Benz	MBG GY	EUR	52	NA	NA	75.0	52.1	1.4	118.0	47.2	4,415
Mahindra & Mahindra	MM IN	INR	2,980	NA	NA	20.0	36.7	0.3	94.5	118.1	3,884
Tesla Inc	TSLA US	USD	362	NA	NA	669.0	1,200.0	1.0	54.0	30.0	222,222
X-Peng Inc	9868 HK	HKD	67	NA	NA	15.0	19.2	0.2	0.0	0.0	NA
SAIC Motors	600104 CH	CNY	14	NA	NA	35.0	23.4	2.0	0.0	0.0	NA
Volkswagen Group	VOW GR	EUR	86	NA	NA	85.0	51.0	6.7	883.0	96.0	578
Volvo AB	VOLVB SS	SEK	300	NA	NA	NA	65.1	0.2	228.0	285.0	2,855
Uber Inc	UBER US	USD	69	NA	NA	95.0	151.0	0.1	38.6	0.0	39,119
Comfortdelgro	CD SP	SGD	1.45	BUY	1.70	NA	2.4	1.1	0.8	0.0	30,000
Nio Inc	NIO US	USD	5	NA	NA	70.0	10.3	0.2	0.1	0.6	1,030,000
Rivian Auto	RIVN US	USD	15	NA	NA	NA	14.8	0.0	0.0	0.0	0
Lyft Inc	LYFT US	USD	13	NA	NA	15.0	5.2	0.0	0.0	0.0	0
Grab Holdings	GRAB US	USD	3.57	BUY	6.48	NA	15.3	0.1	2.7	0.0	56,667
GoTo Gojek	GOTO IJ	IDR	51	BUY	120	NA	3.4	0.0	0.0	0.0	0
Total						**1,764.0**	**2,508.3**	**45.6**	**4,386.1**	**56.1**	

Source: Company Sustainability Reports, Maybank IBG Research

5. Summary of targets and initiatives for transition: global automakers are committed to net zero but at varied pace

The table below indicates that most automakers are on a committed transition path and have taken the following steps to decarbonize their operations and use-phase emissions per vehicle fleet:

1. Set net zero and interim emission reduction targets, Carbon neutrality targets by 2040-2045 including operations and supply chain, vehicle fleet
2. Target an increased share of zero emission or low emission vehicle sales
3. Reduce fleet emissions in line with Euro 6 standards or beyond
4. Achieve RE100 or 100% renewable power across factories
5. Practice circular economy in own manufacturing as well as with vendors (steel, aluminium, copper, plastics)
6. Develop a detailed strategy for supplier disclosures from suppliers providing critical minerals

Fig 18: Leading global automakers are positioning for net zero/carbon neutrality ahead of 2050

Company	Sales volume (m)	EV share of sales	Targets and Initiatives
Tata Motors	1.3	12-15%	JLR aims for 100% ZEV between 2025 and 2035, net zero by 2045, 25% emission reduction for Scope 1&2 by 2030, Tata Motors 30% of India sales as EV by 2030
Suzuki Motors	3.2	0.01%	Aims for 80% ZEV in EU, 20% in Japan, 15% in India by 2030, 45% in EU, carbon neutrality by 2050, reduce Co2 emissions by 42% by 2030 compared to 2022
Toyota	11.2	2-3%	Aims for 32% ZEVs by 2030, reduce carbon lifecycle of vehicle fleet by 30% by 2030, achieve carbon net zero for all vehicles by 2050, sell 3.5m BEVs by 2030
Honda	4.0	1-2%	Aims for 100% ZEVs by 2040, Net zero by 2050, RE100 by 2050
Hyundai	4.2	7-8%	36% ZEVs by 2030, 19% of all sales eco-friendly EV, PHEV and HEV, EV as % of sales is 5%, carbon neutrality by 2045 including supply chain, 2m EV sales by 2030, RE100 by 2045
Kia	3.1	7-8%	38% ZEVs by 2030, carbon neutrality by 2045, RE100 by 2040, 21% vehicles sold are eco-friendly i.e. EV+PHEV+HEV, sell 56% of total vehicles as eco-friendly by 2030 and 30% as EV
BYD	4.2	100%	Already 100% (fleet emissions 75gm/km in 2025), value chain carbon neutrality by 2045
Geely	2.1	35-40%	50% ZEVs by 2025 and 100% by 2035 (fleet emissions 76gm/km), achieve carbon neutrality by 2045, lifecycle emissions 31.4tCoe/vehicle
Nissan	3.3	12%	40% ZEVs by 2030, cut lifecycle emissions of vehicles by 30% by 2030 and manufacturing by 52% by 2030, use 100% sustainable material by 2050, vehicle fleet emission at 122gm/km, BEV sales as % of total at 4% and hybrid at 8%, fleet emissions of 155gm/km
Renault	2.2	10-12%	100% ZEVs by 2035, 25% sales is hybrid and 9% is EV, 43t Co2e/vehicle sold, Net Zero by 2050 in the world and by 2040 in Europe, cut scope 1 and 2 emissions by 62.5% and 3 by 27.5% by 2030
Stellantis	6.0	6-7%	100% ZEV by 2030 in EU and 50% in NA, reduce absolute GHG emissions by 30% by 2030 baseline 2021, reduce per vehicle emission intensity by 50% by 2030, Net zero by 2038
GM	6.2	2%	100% ZEVs by 2035, reduce scope 3 emissions per vehicle km by 51% by 2035, reduce S1 and S2 emissions by 72% by 2035, RE100 by 2035
Ford	4.4	3-4%	13% of vehicles sold are EVs, including hybrids, 100% ZEVs by 2035, reduce scope 3 emissions by 50% per vehicle km by 2035 using 2019 baseline, reduce manufacturing emissions by 46% by 2028 and 76% by 2035
BMW	2.5	26.1%	EV cars sales at 17.9% of total sales, Co2 emissions of the EU new vehicle fleet in g/km at 90
Mercedez Benz	2.5	18-20%	Share of electrified cars 20.5%, electrified vans 7.9%, 100% decarbonization of production and new vehicle fleet by 2039
Mahindra & Mahindra	0.8	2-3%	Scope 3/Use phase emissions are on the rise, Achieve carbon neutrality by 2040, RE100 by 2030 and Zero Waste to Landfill by 2030
Tesla	1.8	100%	Already 100%, Supercharger network powered by 100% RE, Giga factory powered by RE, 77% of battery material suppliers have set net zero or carbon neutral goal
X-Peng			Already 100% EVs, collaboration with VW and DiDi
SAIC Motors	5.0	20-25%	Fleet emissions of 71gm/km, 30% of 4.6m vehicles sold are new energy vehicles. Haven't yet disclosed scope 3 emissions
Volkswagen	9.2	9-10%	Targets 80% ZEVs in EU, 55% in NA, 50% in China by 2030. Achieve carbon neutrality by 2050, targets 30% reduction in co2 per passenger km by 30% by 2030, baseline year is 2018
Volvo	0.8	46%	90% ZEV by 2030, Fleet emissions of 66gm/km, Emissions reduced by 31% from 2019 to 2025 in use phase and 33% in operations, Upstream emissions reduced by 24% since 2019, Use phase emissions are 95% of total 344mt in baseline year, Net Zero target by 2040
Uber Inc	NA	NA	Fleet emissions of 197gm/mile in EU, 340gm/mile in US, Uber Green available in 170 cities in 27 countries, 9-15% rides in US/EU are ZEV rides, reduce S1+S2 emissions by 42% by 2030 and S3 by 34% per km, reduce S1+S2 emissions by 90% by 2040 and Scope 3 emissions by 97% per km
Comfort Delgro	NA	NA	76% of car fleet powered by clean energy, 54.6% reduction in S1 and 2 emissions along with a 61.2% reduction in absolute S3 emissions by 2032, ICE vehicles meet Euro 5 norms. Since 2019 overall emissions fell in 2024 but scope 3 emissions rose, network of 1,117 EV charging points
Nio	0.2	100%	4,292 charging stations, Battery passport released
Grab Holdings	NA	NA	The bulk of delivery and cab services through EVs, use of RE

Source: Company Sustainability Report, Maybank IBG Research

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