

Auto Environment Guide 2023: Media Briefing

Over the past 12 months, we have experienced another year of extreme climate events, including historic floods, hurricanes, wildfires and heat waves. As we face an intensifying climate crisis, the need to decarbonise the auto industry remains urgent.

According to the International Energy Agency, global carbon emissions need to decrease by at least 3% per year until 2030 to achieve net zero emissions by 2050¹. For the automotive industry, a full phase-out of combustion engine vehicle sales is necessary for the industry to be compatible with a 2050 net zero emissions future, in tandem with a greater focus on resource circularity and responsible supply chain practices.²

The race towards electrification is on. Carmakers need to keep up with public demand for EVs and new regulations. On a larger scale, carmakers must take accountability for their overall contribution to the climate crisis. Electrification and carbon neutrality efforts do not merely entail an end to tailpipe emissions, but also a restructuring of the automotive industry's manufacturing and materials procurement process.

The Auto Environmental Guide 2023 tracks carmakers' decarbonisation efforts by the world's 15 largest traditional automakers. They are evaluated based on three categories: (1) combustion engine vehicle phase-out; (2) supply chain decarbonisation; and (3) resource reduction and efficiency. The weighting of each category corresponds to lifecycle emissions of the average passenger vehicle.

¹ International Energy Agency (IEA), Transport, (Paris: IEA, 2023), <https://www.iea.org/energy-system/transport>.

² International Energy Agency (IEA), Pathway to critical and formidable goal of net-zero emissions by 2050 is narrow but brings huge benefits, (Paris: IEA, 2021), <https://www.iea.org/news/pathway-to-critical-and-formidable-goal-of-net-zero-emissions-by-2050-is-narrow-but-brings-huge-benefits>.

Industry Trends in 2022

Suzuki, Great Wall Motor and Toyota received the lowest scores in the ranking. Toyota is the world's largest automaker, yet fewer than one in 400 vehicles sold by Toyota in 2022 were battery electric vehicles (BEVs). Suzuki sold zero BEVs in 2022, according to MarkLines data.

Mercedes-Benz and BMW received the highest scores in this year's ranking. However, their combustion engine vehicle phase out timelines are not in line with limiting the global annual average temperature increase to 1.5°C⁵ and their sales of electric vehicles trail those of Tesla and BYD.

Chinese automaker SAIC reported the highest volume of electric vehicle (EV) sales, but took just third place due to its slow progress on supply chain decarbonization. In 2022, three out of ten vehicles sold by SAIC were zero-emission vehicles. SAIC is the only automaker included in the ranking with sizable zero-emission vehicle sales in India, Thailand, and Indonesia.

Changan and Great Wall Motor lost points for poor supply chain decarbonization, despite their relatively higher proportion of zero-emission vehicle sales. Neither automaker has issued adequate commitments to reduce emissions from production and materials.

Hyundai-Kia continues to increase its SUV sales, contributing to an increase in the automaker's overall emissions. SUVs have a larger carbon footprint than smaller-sized vehicles due to their elevated steel consumption and low fuel efficiency.³ In 2022, the share of SUVs in Hyundai-Kia's total sales surpassed 50% for the first time.

Overall Trends in 2022

Despite rapid growth in EVs, combustion engine vehicles continue to dominate the global automotive market. The world's 15 largest traditional automakers sold 3.3 million ZEVs in 2022, compared to 55.5 million combustion engine vehicles.

Traditional automakers are losing the race when it comes to ZEV sales. While the 15 largest traditional automakers accounted for 74% of global auto sales in 2022, they were responsible for just 43% of zero-emission vehicle sales.

Automakers' existing decarbonisation targets are insufficient to limit the global average temperature increase to 1.5°C. Few traditional automakers have released comprehensive sustainability plans that

³ Wenjie Liu, Jiangbei Hao and Ada Kong, *Breaking The Mold: The Role of Automakers In Steel Decarbonisation*, (Online: Greenpeace East Asia, 2023), https://www.greenpeace.org/static/planet4-eastasia-stateless/2023/05/e45b70a3-auto_steel_report_2023_-greenpeace.pdf.

include targets for both the phase-out of ICE vehicles and the decarbonisation of supply chains and upstream materials. Even for automakers that received the highest scores for decarbonisation targets, their pledges fall short of the level of ambition needed to limit the global average temperature increase to 1.5°C, which, according to the International Energy Agency, requires a full phase-out of ICE vehicles by 2035.⁴

Traditional automakers have failed to substantially increase zero-emission vehicle sales outside of China and Europe. Traditional automakers have increased zero-emission vehicle sales in China and the EU, where they have benefited from government incentives, but their sales in other regions remain low. Traditional automakers continue to sell high volumes of combustion engine vehicles in the Global South, which delays decarbonization efforts and is inconsistent with the automakers' climate commitments.

SUV sales continue to grow at an alarming rate, representing a major climate threat due to their high energy consumption. In 2022, 34.4 million SUVs were sold globally⁵, an increase of 1.1 million from 2021. Over the past three years, two-thirds of carmakers in the ranking reported increased sales of SUVs as a portion of total auto sales. In 2022, SUVs comprised more than half of global auto sales by Hyundai-Kia (53%) and Great Wall Motor (72%), compared to 44% for Volkswagen, 40% for General Motors, 37% for Toyota, and 36% for Stellantis.





Japanese automakers, including Toyota, Honda and Nissan, are losing market share in the EU, China and the US due to their slow transition to EVs⁶. Japan's government offers few incentives for EV production, placing Toyota, Honda and Nissan at a disadvantage in the EV transition compared to other global automakers.

Automakers have neglected the critical role that supply chains and materials play in decarbonisation. Industry-wide, there is insufficient emphasis placed on emissions that originate from the supply chain, materials and production, such as energy consumed in manufacturing plants and upstream emissions from steel procurement.

⁴ International Energy Agency (IEA), Pathway to critical and formidable goal of net-zero emissions by 2050 is narrow but brings huge benefits, (Paris: IEA, 2021), <https://www.iea.org/news/pathway-to-critical-and-formidable-goal-of-net-zero-emissions-by-2050-is-narrow-but-brings-huge-benefits>.

⁵ Laura Cozzi, Apostolos Petropoulos, Leonardo Paoli, Mathilde Huismans, and Amrita Dasgupta, "As their sales continue to rise, SUVs' global CO2 emissions are nearing 1 billion tonnes", IEA, February 27, 2023, <https://www.iea.org/commentaries/as-their-sales-continue-to-rise-suvs-global-co2-emissions-are-nearing-1-billion-tonnes>.

⁶ "Foreign automakers on track to lose market share in China due to slow shift to EVs: study," Greenpeace East Asia, May 11, 2023, <https://www.greenpeace.org/eastasia/press/7968/foreign-automakers-on-track-to-lose-market-share-in-china-due-to-slow-shift-to-evs-study/>.

 Companies	 Rank	 Total score (out of 100)	 ZEV proportion in 2022 (25% of total score)
Mercedes-Benz	1	41.1	7.25%
BMW	2	40.0	10.32%
SAIC	3	35.3	30.93%
Ford	4	28.9	2.74%
General Motors	5	27.6	1.90%
Volkswagen	6	26.6	7.29%
Stellantis	7	26.3	4.98%
Renault	8	24.5	10.59%
Hyundai-Kia	9	20.5	5.58%
Honda	10	14.7	0.67%
Nissan	11	13.9	2.98%
Changan	12	12.5	11.52%
Toyota	13	12.4	0.24%
Great Wall	14	10.8	9.02%
Suzuki	15	3.2	0.00%

Scope

This report evaluates the performance of the world's fifteen largest traditional automakers, based on 2022 sales as measured by MarkLines.

The scope of the 2023 report was expanded to include the world's 15 largest traditional automakers, compared to the ten largest in 2022.

In the 2023 report, sales of vehicles bearing Chinese marques from Sino-foreign joint ventures were classified under the Chinese joint venture partner, a change compared to the 2022 ranking.

Scoring Criteria

Companies were ranked according to their performance on the phase-out of ICE vehicles (77%), supply chain decarbonisation (18%), and resource reduction and efficiency (5%). The three categories are weighted according to life cycle emissions. An additional ranking scheme for the deduction of points due to violations or misconduct was also included.

A detailed breakdown of the scoring criteria is available in Section 2 of the report.

Recommendations

Greenpeace recommends that automakers take the following actions to decarbonise the transport sector:

1. Accelerate the phase-out of internal combustion engines

Automakers must end the sale of combustion engine vehicles in Europe by 2028 and in their primary markets (the US, China, Korea, and Japan) before 2030.

2. Promote renewable energy charging and resource reduction

Automakers should promote renewable energy charging and build the capacity required to reuse and recycle batteries.

3. Fast-track steel decarbonisation

Automakers must audit and disclose the carbon footprint of their materials, commit to the purchase of low-carbon steel, set steel carbon reduction targets, produce fewer SUVs, and invest in the development of zero-carbon steel.

4. Ensure a just transition

Automakers and policymakers must engage early and often with workers, unions and other stakeholders. It is critical that auto workers have a leading voice in the transition to zero-emission vehicles and that their economic, social and physical well-being are protected.

5. Rethink mobility and reduce private car ownership

A zero-carbon mobility future entails fewer private cars, more efficient public transport systems, car sharing options, the redesign of cities to make space for walking and cycling, and less travel. Automakers need to reconsider their business model, which is currently based on the sale of vehicles at an ever-increasing pace, and governments should devise strategies to steer the world towards a zero-emission future.