OUR CONTRIBUTION TO CLIMATE PROTECTION IN THE EUROPEAN UNION, US AND CHINA IN 2023.

At the BMW Group, we see the consequences of climate change as a major challenge for the future. As governments around the world work to enshrine the goals of the Paris Climate Agreement in national law, investors are increasingly evaluating companies and business models according to ESG criteria (Environmental, Social, Governance).

In Europe, North America, Japan, China and elsewhere, medium- to long-term targets for CO_2 emissions from new vehicles are already in place, but they are not directly comparable at an international level. This is because test cycles and test procedures differ from country to country, and segment and drivetrain mixes often vary considerably.

The BMW Group is committed to achieving ambitious yet realistic environmental policy targets worldwide that meet the Paris Climate Agreement. These include a fully climate-neutral value chain by 2050 at the latest. In our work with major industry associations (VDA, ACEA, Alliance for Automotive Innovation, CAAM), we advocate for aligning association activities with the Paris Climate Agreement.

For us at the BMW Group, a key concern is the creation of the right framework conditions to boost the ramp-up of electromobility and facilitate the transition towards climate-neutral transport, so that our already broad range of models is met with the required levels of market acceptance and customer demand.

EUROPEAN UNION

CO_2 emission performance standards for new vehicles are the centrepiece of the European Union's (EU) climate policy for road transport. The current regulation adopted by the European Parliament and Council aligns existing CO_2 emission standards for new passenger cars and new light commercial vehicles with the EU's more stringent climate targets. In particular, tighter emission targets will now apply as of 2030, with a 100% reduction target from 2035.

The BMW Group has been closely involved in this political decision-making process, both at association level and in its own right. In particular, the focus of this engagement has been on the cornerstones for implementing the targets: expansion of the charging infrastructure, availability of renewable energy and reliable access to key raw materials, even in times of crisis.

In 2023, as in previous years, the BMW Group once again surpassed its carbon emission targets in the EU. We were quick to accept as feasible the revised reduction target of -55 % by 2030 (compared with 1990) and have been making consistent progress in electromobility since the market launch of the BMW i3 in 2013. However, we do not see the necessary framework conditions being put in place to achieve the 2035 carbon reduction target – despite the aligned advocacy of ACEA and BMW Group: Overall electric car sales in the EU grew three times faster than charging point installation between 2017 and 2023. This charging infrastructure gap could even widen in the future. While BMW Group has been calling for a more aggressive ramp-up, the final AFIR regulation (Alternative Fuels Infrastructure Regulation) decided among the EU-institutions will lead to an only minimal increase of the overall charging landscape across the EU. We are very concerned that the infrastructure rollout will not keep pace with the battery-electric car sales and with the charging network requirements of the ambitious EU CO_2 emission target.

To this end, in our view, all types of drivetrain technology should play a part in decarbonisation, and we should keep an open mind towards different technologies. Because without doubt, effective climate protection is not just about setting a long-term target but about making systematic and innovative use of all the available technologies with ongoing enhancements.

Fuel-cell electric vehicles (FCEV), for example, are the ideal complement to battery electric ones, as two complementary all-electric drives systems offer increased resilience and will likely convince greater numbers of customers to switch to electric. Equally, the decarbonisation of energy and liquid fuels should also be considered as key to meeting future regulatory targets, as it would allow us to better meet customers' needs, reflect market dynamics and increase global competitiveness.

The BMW Group also affirms that achieving the climate targets requires a holistic approach to CO_2 reduction across the entire value chain. This includes efforts to establish a circular economy. The BMW Group is committed to achieving international standards and harmonising carbon emissions recording.

USA

In the United States, vehicle emissions and related fuel economy standards are regulated at both state and federal level. At federal level, the US Environmental Protection Agency (EPA) regulates vehicle emission criteria, including CO_2, pursuant to authority granted by the federal Clean Air Act (CAA). The National Highway Traffic and Safety Administration (NHTSA) regulates motor vehicle fuel efficiency standards pursuant to authority granted under the Energy Policy and Conservation Act of 1975 (EPCA). At state level, California vehicle emissions are regulated by the California Air Resources Board (CARB), the lead agency for climate change programmes which also oversees all air pollution control efforts in California to attain and maintain health-based air quality standards.

BMW of North America remains in an alliance with the State of California in its adherence to the California Framework Agreement, signed in 2019, which introduced significantly higher stringency levels than the greenhouse gas (GHG) levels of the former Trump administration. The continued cooperation with California has allowed the BMW Group to enhance its already constructive working-level dialogue with both the California Air Resources Board and the EPA. This framework agreement is still in place today.

In 2022 the CARB unanimously passed the Advanced Clean Cars 2 (ACC2) regulations – notably the decision to enforce 100% zero-emission vehicle (ZEV) sales from 2035*) in California and codify Governor Newsom's Executive Order. California's Office of Administrative Law approved the regulation in November 2022, and ACC2

will be implemented in 2026, affecting vehicle model years 2026 – 2035.

In April 2023 the EPA announced the highly anticipated Notice of Proposed Rulemaking (NPRM) regarding GHG emission standards and the Tier 4 federal emission regulation for model years 2027 – 2032. The proposed rule aims to reduce the average fleet target for new passenger cars and light trucks to 102 g/mile in 2030 and 82 g/mile in 2032. The EPA bases its feasibility calculation on an assumed EV rate of 60% in 2030 and 67% by 2032. The proposal would provide an average year-on-year stringency of -13% across the period concerned. In 2023, BMW of North America played a key role in the rulemaking process, providing information to the regulatory agencies and White House climate team. We also took part in several forums, meetings and sessions with top advisors in the Biden administration.

As always, BMW of North America is in direct discussions with our partners at the EPA, CARB and NHTSA. These are valuable and critical conversations regarding the technical aspects of the proposals and rules issued by the agencies. As in the EU, our main concern is that preconditions such as green energy resources, charging infrastructure and the critical mineral supply chain may not be sufficiently in place within the projected timeframe.

During discussions around the Inflation Reduction Act (IRA) of 2022 – and specifically the extension of 30(d) EV consumer incentives as well as the general transition to sustainable mobility – the automotive industry was pivotal in determining the way forward on consumer incentives for electric vehicles. Over the course of the regulatory guidance process, BMW of North America advocated for the extension of tax benefits for electrified vehicles while also working to ensure that all makes, models and consumers would be eligible so as to further increase consumer acceptance. Extensive meetings were held to this effect, with both the administration and key elected officials on Capitol Hill.

*) includes BEV, qualifying PHEV and FCEV

CHINA

China also regulates the fuel efficiency of its vehicle fleet. Its average fleet consumption target for 2020 was set at 5 litres per 100 kilometres, based on the standardised NEDC (New European Driving Cycle) test cycle. The fuel consumption standard for 2021 – 2025, released in 2019, targets 4.6 litres per 100 kilometres, under the new test cycle of WLTC (Worldwide Harmonised Light-Duty Test Cycle). In 2021 the test cycle for internal combustion engine vehicles and PHEVs switched from the NEDC to WLTC, for BEVs from the NEDC to the China cycle (CLTC).

The introduction of a New Energy Vehicle (NEV) mandate began in 2018. For 2023 the NEV mandate was 18 %. For 2024 it is 28 %, and for 2025 it is 38 %. By 2027 NEVs are expected to account for 45 % of all new automobiles, according to the national "Beautiful China" guideline, as released by the State Council. But the Automotive Industry Green and Low-Carbon Development Roadmap 1.0, released by the China Society of Automotive Engineers, is more optimistic, forecasting a NEV share of 50 % in 2025 and 65 % in 2030.

As well as national regulations, measures are also being taken at regional and municipal levels. Varying requirements for drivetrain technologies will start to have considerable influence on product strategy (e.g. the limited quota on ICE vehicle registration plates in Chinese metropolitan areas and waivers for NEVs).

The BMW Group has spoken with representatives of the Chinese government – such as the Ministry of Industry and Information Technology and the Ministry of Commerce – about climate policy at various meetings. Discussions focused on the further expansion of the fast-charging network, incentives to increase the market acceptance of electric vehicles, and the decarbonisation of supply chains.

In 2021 the BMW Group and the China Development Research Foundation (CDRF) launched an initiative to reduce

supply chain emissions in the automotive industry. This has seen a number of in-depth studies and onsite investigations into the green transition of steel, renewable electricity, the circular economy and carbon reduction standards. The CDRF has since compiled a report outlining convincing measures and suggestions as a reference for policymakers.

At the 2022 annual conference of the China Electric Vehicle Association (EV100) – a global initiative to promote the scaling up of electromobility and expansion of the charging infrastructure – the BMW Group outlined its perspective and actions for a sustainable future on both the Chinese level and internationally, sharing its carbon reduction targets for the entire vehicle lifecycle and its vision of a circular economy. It also advocated for a predictable decarbonisation policy scheme, collaboration amongst policymakers, businesses and research institutes, and an enhanced government effort on the e-mobility infrastructure.
At the 2023 EV100 annual conference, the BMW Group called for a joint effort by the energy industry, infrastructure providers and automotive OEMs to set out a technology roadmap and facilitate green energy integration with NEVs. We also advocated for green hydrogen and easy, reliable access to the refuelling network in order to speed up the rate at which fuel-cell electric vehicles (FCEV) become a relevant option for passenger vehicle customers.

During the 2023 World NEV Congress (WNEVC) in Haikou, the BMW Group proposed stable, predictable, balanced incentives to accelerate the marketisation and ramp-up of NEVs and advance high-quality development through a technology-oriented regulatory approach. Another key player in the energy transition and climate protection, in the eyes of the BMW Group, is hydrogen. As stated by Oliver Zipse, Chairman of the Board of Management of BMW AG, at the WNEVC session on the fringes of the IAA Mobility in Munich in September 2023, we believe that to achieve a breakthrough, hydrogen needs the same incentivisation as electromobility.

BMW AG, May 2024
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