

Media Information
2 September 2021

Revolution, not evolution: BMW Group to reduce carbon footprint significantly by 2030 using innovative materials.

+++ Measures to achieve 1.5-degree goal: BMW Group backs sustainable, innovative materials and circular economy +++
Higher recycling rates and material substitutions for faster reduction of lifecycle CO₂ emissions by 2030 +++ Innovative materials research and collaborations key factors in combating climate change

Munich. The BMW Group is stepping up its fight against climate change with a unique sustainability strategy and clearly defined CO₂ targets, as announced by Oliver Zipse, Chairman of the Board of Management of BMW AG at a media event in Munich.

The main focus of the company's pioneering strategy is, on the one hand, to **drastically reduce CO₂ per vehicle by 2030**. On the other, with the introduction of the "Neue Klasse", the BMW Group will be massively promoting the use of **secondary material** and the forward-looking principles of the **circular economy**. The BMW Group is committing to a more sustainable pathway, with the goal of limiting global warming to 1.5 degrees C.

Fulfillment of all climate goals is closely tied to **research and development of sustainable materials**. The BMW Group believes only a holistic approach to the use of proven and new materials can permanently reduce CO₂ emissions. For this reason, the BMW Group is focusing its research and development efforts on environmentally-compatible raw materials. At the same time, it is accelerating targeted the creation of a secondary-materials market and working with select startups and experienced material suppliers to develop pioneering materials.

"We are setting **new standards for sustainable premium quality** – by rethinking materials and focusing more than ever on resource-efficient alternatives and renewable materials with strong dismantling capability," said Dr Stefan Floeck, head of Development Body, Exterior, Interior, responsible for Product Line MINI, Compact Class BMW since 1 September. "We are following a consistent path towards holistically sustainable product development, responsible use of resources and transformation into a circular economy."

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Innovative materials for a sustainable goal

For both the interior and exterior, the use of intelligent, sustainable materials forms the basis for resource-efficient car-building. The BMW Group has defined material groups with sustainable properties that set new standards and span all four dimensions of the circular economy: RE:THINK, RE:DUCE, RE:USE and RE:CYCLE.

Integrating natural raw materials

The BMW Group has used renewable raw materials in its vehicles for a number of years now – for example, in door trim panels, where a natural-fibre mat is paired with a plastic matrix to provide the necessary stability. **Renewable raw materials** like natural fibres are not only **30 percent lighter** than plastic alternatives, they also come into the **CO₂ calculation with a negative value**, since they absorb CO₂ and release oxygen during the growth phase.

In recognition of this potential, the BMW Group and its partners have systematically further developed the use of fibres such as hemp, kenaf and flax, providing them with natural fibre lattice structures. Thanks to these support structures, it is possible to maintain their mechanical properties and avoid additional weight by reducing the amount of material needed.

Wood can be used as a renewable raw material in many different areas of application. The BMW Group is also conducting research into **pioneering wood foams** with an open-pored structure made up of finely ground wood particles. The foams' resistance comes from the wood's own binding forces, which make it possible to dispense with synthetic adhesives. The foams therefore consist of 100-percent renewable raw materials and could replace acoustic foams in the future.

Recycled plastics: smart and environmentally-friendly

The BMW Group already uses up to 100-percent recycled plastic in its thermoplastic components and is working with pioneering plastic manufacturers to further develop **recycled plastics and bioplastics** with a significantly lower carbon footprint. In addition to recycled plastics, the company also employs biobased plastics and plastics reinforced with natural fibres such as cellulose, hemp, wood or bamboo to **reduce the percentage of oil-based primary plastics**. The aim is to use thermoplastics with an average of 40 percent recycled material by 2030.

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Innovative leather from new sources

New vegan and resource-efficient leather alternatives are another important element of the BMW Group's research. Synthetic leather with biobased raw materials, 100-percent recycled polyester textiles and cork particles enable **CO₂ emissions to be reduced by up to 45 percent compared to today's PVC synthetic leather**. In cooperation with the startup Adriano di Marti S.A. de C.V., the BMW Group is researching a **sustainable cactus-based material**.

Deserttex™ is made from pulverised cactus fibres with a biobased polyurethane matrix. Another promising alternative to leather is the fully recyclable **Mirum™**, which mimics all the properties of traditional leather, yarns and foams. The BMW Group's [equity investment in the startup Natural Fiber Welding](#) opens up new possibilities for developing and implementing plant-based material options.

Textiles – reimagined and 100-percent recyclable

As part of its research and development activities, the BMW Group is working on innovative materials with the potential for use in future vehicles. These include **synthetic textile variants**, which are mostly used for seat covers. They have a low carbon footprint and can be manufactured from **100-percent recycled material**. Thanks to their composition, they can repeatedly be **fed back into the cycle and reused several times** over the course of their product lifecycle. The BMW Group aims to use more **mono-materials**, instead of multi-layered, multi-material approaches. In seats, for instance, the cover and the foam beneath it are currently made of different materials. These can neither be easily separated out nor recycled together to create a new material that can be used in vehicles. The various connecting elements between the materials, such as adhesives and yarn, also play a role in this. If both parts are made of the same material, it is possible for them to be recycled within the circular economy. The BMW Group is also employing new techniques to give textiles a new appearance, using 3D structures, applications, templates and graphic elements, and working on a new material mix for series introduction.

With these and many other innovative measures, the BMW Group seeks to raise general awareness of sustainable materials and provide a transparent insight into its circular approach to a sustainable future – with the aim of **reducing lifecycle CO₂ emissions by more than 40 percent by 2030**.

Corporate Communications

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The BMW Group

With its four brands BMW, MINI, Rolls-Royce and BMW Motorrad, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial and mobility services. The BMW Group production network comprises 31 production and assembly facilities in 15 countries; the company has a global sales network in more than 140 countries.

In 2020, the BMW Group sold over 2.3 million passenger vehicles and more than 169,000 motorcycles worldwide. The profit before tax in the financial year 2020 was € 5.222 billion on revenues amounting to € 98.990 billion. As of 31 December 2020, the BMW Group had a workforce of 120,726 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company set its course for the future early on and is making sustainability and resource efficiency the focus of the company's strategic direction – from the supply chain, through production, to the end of the use phase, for all its products.

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