

Media Information
20 October 2021

Harnessing wind and hydroelectric power from the Arctic Circle: BMW Group plans to source steel produced with green power and hydrogen from northern Sweden

- Agreement with Swedish startup H2 Green Steel: first deliveries for Neue Klasse from 2025
- Up to 95% reduction in CO₂ emissions compared to conventional methods
- Delivery to BMW Group plants in Europe
- Circular economy: Sheet metal remnants from BMW Group plants will be recycled and reused
- Wendt: “Vital contribution to our goal of reducing CO₂ emissions in our steel supply chain by about two million tonnes by 2030”

Munich. The BMW Group continues to push forward with climate protection and is systematically pursuing its goal of significantly reducing CO₂ emissions at their source in the supply chain. From 2025 on, the company plans to source steel produced with up to 95% less CO₂ emissions and without requiring fossil resources such as coal. The BMW Group has now reached an agreement to this effect with the Swedish startup H2 Green Steel, which uses hydrogen and only green power from renewable energies for steel production. Owing to its particularly energy-intensive manufacturing process, steel production is considered one of the main sources of global CO₂ emissions.

“Our goal is to reduce CO₂ emissions in our steel supply chain by about two million tonnes by 2030. Sourcing steel produced using hydrogen and green power can make a vital contribution to this,” says Dr Andreas Wendt, member of the Board of Management of BMW AG responsible for Purchasing and Supplier Network. “Steel is essential for producing cars and will be no less important for future vehicle generations. Innovative technologies that enable virtually carbon-free production of steel have a significant impact on our ability to reduce CO₂ emissions in our steel supply chain.”

Closed-loop material cycle

In addition to the delivery of steel produced using green power, the BMW Group and

H2 Green Steel have also agreed to create a closed-loop material cycle. H2 Green Steel will take back sheet metal remnants, such as those produced at press plants when doors are punched out, and will process them in such a way that they can be shipped back to the plants as new steel rolls, also known as steel coils. In this way, raw materials can be used multiple times in a circular economy and natural resources protected. Since it requires less energy to produce, secondary steel lowers CO₂ emissions by an average of 50-80%, compared to primary material.

The BMW Group is already using between 20% and 100% secondary steel in its vehicles and will continue to increase this percentage in the future. BMW Group press plants in Europe process more than half a million tonnes of steel per year.

Ideal location in northern Sweden

H2 Green Steel is building its steel production site in the province of Norrbotten in northern Sweden, close to the Arctic Circle. The region is best known for its reindeer and spectacular northern lights, but also provides access to high-quality iron ore, plentiful energy from renewable sources such as hydroelectric and wind power, a major seaport and generations of steel production know-how.

Unlike conventional processes that rely on coke for making steel, the company employs hydrogen produced using green power to remove the oxygen from the iron oxide. This so-called direct reduction of iron ore produces almost no CO₂ at all, only water – thereby avoiding 95% of the CO₂ emissions normally produced. The specially built hydrogen power plant, which uses water and green power from across the region, will be directly integrated into the steel production plant. The company also uses local green power for the remainder of the manufacturing process.

BMW Group to source Northvolt battery cells from the same region from 2024 on

Swedish company Northvolt, which develops and produces battery cells for electric cars, is also exploiting the potential for green power in the north of Sweden.

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Last year, the BMW Group signed a long-term battery-cell supply contract with Northvolt. The battery cells will be produced in Europe at the Northvolt gigafactory currently under construction in Skellefteå in northern Sweden from 2024. The company will use only green electricity from local wind and hydroelectric power to produce the battery cells.

Neue Klasse poised to set new standards

From 2025 onwards, the BMW Group will be realigning its product range – which has grown successfully over decades – on the basis of the Neue Klasse. The Neue Klasse will be characterised by three key aspects: a completely redefined IT and software architecture, a new generation of high-performance electric drive trains and batteries and a radically new level of sustainability across the entire vehicle lifecycle. These strands are interwoven within an overall vehicle architecture that has been uncompromisingly optimised for electric drive trains, setting a new benchmark in terms of digitisation and electrification, while at the same time ensuring that the characteristic flair of a typical BMW is transferred to future vehicle generations.

Active commitment to environmental and social standards in the steel supply chain

As part of its involvement with the not-for-profit organisation ResponsibleSteel, the BMW Group actively participated in establishing environmental and social standards throughout the entire steel value chain, starting at the mine. This sustainability standard for production sites in the steel industry was published in 2019 as part of a multi-stakeholder process and now forms the basis for certification. ResponsibleSteel is the steel industry's first global multi-stakeholder standard and certification initiative.

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About H2 Green Steel

H2 Green Steel was founded in 2020 with the aim of establishing large-scale fossil-free steel production in northern Sweden and thereby minimising CO₂ emissions from steel production. The company plans to produce five million tons of fossil-free steel annually by 2030. In this way, it contributes to decarbonisation of the European steel industry, one of the largest carbon dioxide emitters. Production sites are being built in Boden and Luleå, Sweden. The founder and largest shareholder is Vargas Holding, which is also a co-founder and major shareholder in Northvolt.

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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