Sustainability in the Cayenne Electric

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Electric performance. Expansion of renewable energies

Porsche is supporting the development of wind and solar energy plants to cover the expected electricity demand of the Cayenne Electric fleet based on a driving distance of 200,000 km (~124.274 mi) at certified consumption.

The reasons for promoting additional electricity from renewable energies

With every new fully electric vehicle, additional electricity requirements arise due to charging during the vehicle use phase. To meet this demand, Porsche is supporting the creation of new wind and solar

capacities. The energy this generates is fed into the power grids.

Porsche activities to advance renewable energy

Porsche uses a model-based approach aiming to cover the increased demand for renewable energy that is expected to be triggered by the growing fully electric Cayenne fleet. To achieve this, the expansion of wind and solar power capacity in the electricity supply networks of global regions (Europe, USA, China) is being supported – this capacity is of sufficient scale to cover the model-based energy consumption of the Cayenne Electric new vehicle fleet.

The exact generation capacity of wind and solar energy plants depends on the weather (wind and sun radiation). Porsche uses the average expected output of the plants it supports to project the anticipated generation capacity. This indicates the amount of electricity the plant can exceed or fall short of with a likelihood of 50%.

Porsche financially supports the expansion of required wind and solar capacity by entering into ten-year contracts with project partners, such as plant builders and/or operators, together with other companies within the Volkswagen Group.

Under the agreements, Porsche commits to paying a fixed amount per unit of energy produced, thereby increasing the plant operator's planning security and contributing proportionally to the financing of the new plant. In return, Porsche acquires the certificates of origin (EACs: Energy Attribute Certificates) for the electricity fed into the grid and its 'ecological properties'. Cancelling the certificates prevents double usage and double trading by third parties.

The calculation of the model-based expected electricity demand

For vehicles in Europe, China and the USA, region-specific average consumption values are calculated for the main market regions (EU+3 - (Iceland, Norway, UK), USA, China) based on an assumed mileage of 200,000 km (~124.274 mi) per vehicle over ten years. The consumption values are determined according to the legally prescribed test cycle. For vehicles produced for other regions in the world, a volume-weighted average consumption value of the main markets is used. The assumed mileage of 200,000 km (~124.274 mi) is based on the recommendation of VDA (German Association of the Automotive Industry) guideline 900-100. Porsche has the procedure audited annually by an independent expert.

Electricity for production. From renewable energies

The Cayenne Electric vehicle production process uses 100% electricity from renewable energy sources.

In the production of the Cayenne Electric, the climate impact is reduced through the use of 100% electricity from renewable sources and by providing space heating via a heat pump. Since 2013, the Volkswagen Group's vehicle production plant in Bratislava has used electricity derived exclusively from renewable sources.

Natural gas is currently used to generate heat for industrial processes. Thanks to a heat pump installed in 2024 with a maximum output of 715 kW, waste heat from the body shop can be used for space heating.

Storage of power. Manufactured with reduced CO_2 emissions

Around 50% of the expected climate impact of the high-voltage battery cells is reduced through measures taken in their manufacturing and supply chain.

The need for CO_2-reduced battery cells

High-voltage battery cells in a battery-electric vehicle contribute significantly to the climate impact of the supply chain. Reducing the climate impact of battery cells is therefore of particular importance to Porsche. Through a variety of measures and contractual agreements with a direct supplier, Porsche reduced the expected climate impact of the high-voltage battery cells in the Cayenne Electric by around half. The associated measures for high-voltage battery cells are explained in more detail in the following sections and apply to all cells manufactured from 2026 onwards.

CO_2-reduced nickel from the EU

The nickel comes from the EU and is characterised by an exceptionally low CO_2 footprint. Thanks to an energy-efficient process, the need for crushing and grinding the ore is reduced and high-temperature steps are avoided. The integrated production chain – from the mine to battery material manufacturing at a single site – further reduces emissions.

CO_2-reduced lithium

The lithium in the Cayenne Electric's high-voltage battery cells is obtained through CO_2-reduced extraction and production.

Renewable energies in manufacturing

For the production of the battery cells and the active material in the anode and cathode of the battery cells, contractual agreements have been made with the direct supplier regarding the use of electricity

from renewable energy sources. This allows for a further reduction in climate impact compared with the locally used electricity mix.

Methodological background information

To assess the climate impact of the Cayenne Electric's high-voltage battery cells, the following process steps are considered: raw material extraction, raw material processing up to and including cell production, and raw material transport. The 'reference without measures' considers the climate impact of the cells without taking any implemented measures into account. For this purpose, generic data from the software LCA for Experts is used, including, for instance, a local (Polish) electricity mix during cell manufacturing.

Porsche has entered into contractual agreements with a direct supplier to achieve environmental improvement potential in the battery cells.[1] The 'expectation with measures' reflects the expected impact of these measures. When quantifying the expected impact of these measures, selected primary data from the immediate supplier are taken into account.

[1] Contractual agreements with the direct supplier as of the measures calculation date (July 2025). Subsequent changes are possible (e.g. due to unforeseeable events).

Tested for long service life. Repairable and recyclable

Porsche tests the Cayenne Electric's energy storage system for long service life and offers a warranty against material and manufacturing defects. A globally available high-voltage battery repair concept, along with an estimated 90% recyclability, is intended to further support resource conservation.

Service life

Even before the start of series production of the Cayenne Electric, the Cayenne Electric's high-voltage battery has undergone numerous tests. Porsche tests the Cayenne Electric's energy storage system for long service life. To ensure that the high-voltage battery meets Porsche quality standards, extreme conditions such as heat exposure from 60 degrees to 100 degrees Celsius are tested and an immersion test is carried out.

Porsche high-voltage battery warranty

Every fully electric Porsche is delivered with a worldwide high-voltage battery warranty against material and manufacturing defects, which is valid for eight years or up to a mileage of 160,000 km (100,000 mi).[1]

Porsche guarantees the residual capacity of the high-voltage battery: 80% of the original net battery capacity is guaranteed for up to three years or 60,000 km (37,500 mi)[1], after which we guarantee at least 70% residual capacity until the end of the HV battery warranty.

[2]Whichever comes first.

In-depth repair concept

Porsche has developed an in-depth repair concept for the Cayenne Electric high-voltage battery that is available worldwide through Porsche Centres and partner workshops. If the battery needs to be repaired, errors can be diagnosed and faulty components can be replaced. This also makes it possible, for example, to replace individual battery modules. These measures can enable the battery to be repaired in a more resource-saving and cost-efficient manner. The raw materials used in the battery can therefore remain in use for longer.

Around 90% recyclable

Even at the end of the battery's life, Porsche places the highest priority on responsible management of these materials. To this end, Porsche Ventures, a wholly owned subsidiary, invested in the battery recycling scale-up, cylib, in May 2024. The innovative process developed by cylib allows approximately 90% of the high-voltage battery raw materials (weighted by mass for lithium, graphite, nickel, manganese, and cobalt) to be recovered. From 2027, cylib plans to recycle 30,000 tonnes of end-of-life batteries annually across all manufacturers in a new industrial facility.

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Consumption data

Cayenne Electric (WLTP)*: Electrical consumption combined: 21.8 – 19.7 kWh/100 km; CO_2 emissions combined: 0 g/km; CO_2 class: A

Cayenne Turbo Electric (WLTP)*: Electrical consumption combined: 22.4 – 20.4 kWh/100 km; CO_2 emissions combined: 0 g/km; CO_2 class: A

*Further information on the official fuel consumption and the official specific CO_2 emissions of new passenger cars can be found in the "Leitfaden über den Kraftstoffverbrauch, die CO_2-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Fuel Consumption, CO_2Emissions and Electricity Consumption Guide for New Passenger Cars), which is available free of charge at all sales outlets and from DAT (Deutsche Automobil Treuhand GmbH, Helmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, www.dat.de).

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