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# Increased efficiency and range, sharpened design: The new Audi Q8 e-tron

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The equipment, data and prices specified in this document refer to the model range offered in Germany. Subject to change without notice; errors and omissions excepted.

All terms marked in blue in the text are explained in detail in the technology lexicon at <a href="https://www.audi-mediacenter.com/en/audi-technology-lexicon">https://www.audi-mediacenter.com/en/audi-technology-lexicon</a> for a detailed explanation.

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#### **Summary**

## Increased efficiency and range, sharpened design: The new Audi Q8 e-tron

Ingolstadt, December 19, 2022 – Premium manufacturer Audi heralded in the age of e-mobility in 2018 with the launch of the Audi e-tron, marking the start of the electric future at the brand with the four rings. Since then, the model has been setting standards in the electric SUV luxury class. The new Audi Q8 e-tron\* now continues the success story of the electric pioneer. As the top model in the electric SUV and crossover range, it boasts an optimized drive concept, improved aerodynamics, higher charging performance, and expanded battery capacity – increasing the range up to 582 km in the SUV, and up to 600 km in the Sportback (both according to the WLTP). Significant updates, especially in the front of the vehicle, lend the new SUV flagship a fresher appearance.

Audi heralded in its electric future around four years ago with the launch of the Audi e-tron. Since, the company has stuck to its sustainability roadmap, boasting an eight-model-strong electric portfolio. By 2026, there will be over 20 and from then, Audi will only launch all-electric models to the global market. "With our Vorsprung 2030 corporate strategy, we have set a fixed date for phasing out the internal combustion engine, making a clear decision that Audi will be an all-electric brand in as little as eleven years," says Markus Duesmann, Chairman of the Board of Management of AUDI AG. "With its increased efficiency and range, as well as its sharpened design, the new Audi Q8 e-tron\* is another important element in our e-portfolio to help get people excited about e-mobility with emotive models that are suitable for everyday use," says Oliver Hoffmann, Head of Technical Development at Audi, also highlighting the increased customer benefits the improvements provide. "We were once again able to significantly increase both battery capacity and charging power in the new Q8 e-tron\*. By doing so, we optimized the balance between energy density and charging capacity to ensure greater efficiency," says Hoffmann. "We've also enhanced the motors, the progressive steering, and the suspension control systems, sharpening Audi's typical dynamic driving characteristics in all Q8 e-tron derivatives."

Audi offers the new Q8 e-tron\* as a classic SUV and a dynamically styled Sportback, that combines the spaciousness of an SUV with the elegant lines of a large coupé. Standing 4,915 mm in length, 1,937 mm wide, and 1,619 mm (Sportback) or 1,633 mm (SUV) tall, the Q8 e-tron\* offers maximum space and comfort. The SQ8 e-tron\* and SQ8 Sportback e-tron\* are both two millimeters flatter and 39 mm wider.

The 2,928 mm wheelbase means that even rear seat occupants have plenty of legroom. At 569 liters (528 l in the Sportback), the luggage compartment volume is also generous. Additionally, there are 62 liters in the front luggage compartment or "frunk" also.

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#### New face, new name, and new corporate identity

The model name, Q8, positions the model at the top of Audi's nomenclature, making a clear statement that the Audi Q8 e-tron\* is the leading model in the electric SUV and crossover range. At first glance, there is no mistaking that the Audi Q8 e-tron\* and Q8 Sportback e-tron\* are allelectric models: the new front and rear design, which systematically build on Audi's electric design language, make this clear. As a prestigious electric Audi SUV, the Q8 e-tron\* introduces the new corporate identity with a two-dimensional, no-frills design of the four rings. The model name in Audi lettering on the B-pillar is also new. To ensure the new family logo has an even more striking appearance on the front, Audi will now use the Singleframe light spoiler to highlight the four rings as a central element and showcase the vehicle face on request.

#### Three drive variants

Three versions with electric all-wheel drive are available for each of the two body styles: Both motors in the base models of the Audi Q8 50 e-tron\*\* (Combined electric power consumption in kWh/100 km (62.1 mi): 24.0–20.1 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) and Audi Q8 Sportback 50 e-tron\*\* (Combined electric power consumption in kWh/100 km (62.1 mi): 23.7–19.5 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) have an output of 250 kW in boost mode with 664 Nm of torque and a range of up to 491 km (SUV) and 505 km (Sportback).

Both motors in the Audi Q8 55 e-tron\*\* (Combined electric power consumption in kWh/100 km ( $62.1 \, mi$ ): 24.4–20.6 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) and the Audi Q8 Sportback 55 e-tron\*\* (Combined electric power consumption in kWh/100 km ( $62.1 \, mi$ ): 24.1–19.9 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) have an output of 300 kW in boost mode with 664 Nm of torque. The range according to the WLTP is up to 582 km for the SUV and up to 600 km for the Sportback. Like the Q8 50 e-tron\*\* (Combined electric power consumption in kWh/100 km ( $62.1 \, mi$ ): 24.0–20.1 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) the top speed is fixed at 200 km/h.

The top models Audi SQ8 e-tron\*\* (Combined electric power consumption in kWh/100 km ( $62.1 \, mi$ ): 29.0–26.2 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) and Audi SQ8 Sportback e-tron\*\* (Combined electric power consumption in kWh/100 km ( $62.1 \, mi$ ): 28.2–25.3 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) are powered by three motors that deliver a boost power of 370 kW and 973 Nm of torque.

The range for the S models: up to 494 km for the SUV, and up to 513 km for the Sportback. The top speed is fixed at 210 km/h.

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#### More battery capacity and higher charging power

Two battery sizes are available: in the Q8 50 e-tron\*, the battery has a storage capacity of 89-kilowatt hours net (gross: 95 kWh), while the two more powerful versions, the Q8 55 e-tron\* and SQ8 e-tron\*, have a net 106 kWh (gross: 114 kWh). Cell technology and cell chemistry have also seen improvements; during production the individual cells are layered using stacking technology, which results in an up to 20 percent higher energy density in the same space. The battery capacity available to customers has also been increased by updating the battery management system.

At a high-power charging station (HPC), the Audi Q8 50 e-tron\* reaches a maximum charging power of 150 kW. For the Q8 55 e-tron\* and the SQ8 e-tron\*, the maximum charging power has increased up to 170 kW. For both battery sizes, this means the battery can charge from 10 to 80 percent during a charging stop of around 31 minutes. In ten minutes at an HPC charging station, the Q8 50 e-tron\* and Q8 55 e-tron\* can recharge to a range of 123 km, while the SQ8 e-tron\* recharges to 104 km. What's more, the Audi Q8 e-tron\* impresses with a charging curve, unique in its competitive environment, which runs at a high level for a very long time, allowing the battery to rapidly recharge to long ranges. This makes the Audi Q8 e-tron\* highly suitable for long-distance driving. At an AC charging station or a Wallbox, the Audi Q8 e-tron\* charges with up to 11 kW of power; Audi also offers an optional AC charging capacity of 22 kW.

With AC power, the Audi Q8 50 e-tron\* can charge under ideal conditions in close to 9.15 hours (22 kW: close to 4.45 hours). The large battery takes around 11.30 hours with 11 kW and approximately 6.00 hours with 22 kW of charging power.

In the Audi Q8 e-tron\*, the Plug & Charge function comes as standard. At compatible charging stations, the vehicle automatically authorizes and activates the station when the charging cable is plugged in – billing is also automatic.

The new Audi charging service, launching in 2023 and replacing the existing e-tron Charging Service, will provide convenient access to charging points throughout Europe. Around 400,000 public charging points can be used in 27 countries from January 2023, with the service to expand to a total of 29 countries, including Germany, by mid-2023.

The e-tron <u>route planner</u> provides drivers with reliable support in finding charging points along the route. For an accurate calculation of the current range, the algorithm supplements recent consumption data with additional data from the Audi Q8 e-tron\* route planner. This means the system considers the weather, traffic conditions, and topography along the planned route, whilst also providing preference to high-power charging (HPC) stations to minimize charging times.

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#### Revised rear-axle motors

The new Audi Q8 e-tron\* is equipped with electric motors on both axles that operate as asynchronous machines. The current flow in the stator windings creates a magnetic field around the axis of the rotor, pulling it along. A major advantage of operating this way: if there is no flow of current, the motors do not produce any electrical drag losses and are therefore highly efficient. This engine concept was modified on the rear axle for the new Audi Q8 e-tron\*.

Instead of 12, 14 windings now generate the electric magnetic field. With identical current input, the motor thus generates a stronger magnetic field, which in turn ensures higher engine torque. If it's not expended, the electric motor requires less current to build up torque, reducing consumption and increasing range.

#### Electric torque vectoring for improved dynamics

In the e-tron range's S model, Audi used a three-motor concept for the first time in large-scale production; the same is also used in the new SQ8 e-tron\*\* (Combined electric power consumption in kWh/100 km (62.1 mi): 29.0–25.3 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)). A 124 kW electric motor drives the front axle whilst on the rear axle, two electric motors each with 98 kW of output, each separately power a rear wheel. This makes for up to 370 kW of boost output, which gives the almost five-meter-long SUV the acceleration of a sports car. In addition to acceleration, the drive concept shows its strengths on winding roads – the two rear electric motors distribute the drive torque variably between the rear wheels in a fraction of a second, giving drivers a high degree of agility, improving handling, and increasing traction even on slick roads.

#### Ideal balance of comfort and sportiness

The new Audi Q8 e-tron\* is equipped with standard air suspension and controlled damping. This allows the vehicle to configure to different road conditions, and the ride height can be adapted by a total of 76 mm depending on the driving situation. The air suspension has also been tuned for optimized lateral dynamics.

Plus, the electronic stabilization control (ESC) system now offers even more leeway – especially on sharp curves. The Audi Q8 e-tron\* is noticeably more agile thanks to its enhanced progressive steering, whilst the ratio of the steering gear has been updated for a much more direct steering response to even the slightest of movements – drivers possess even more agile control for effortless, precise maneuvering through curves. The effect of this more direct steering ratio is enhanced through a stiffer front axle bearing, which applies steering movements more directly to the wheels and also improves steering response feedback.

All involved suspension control systems have been adapted accordingly, but in keeping with <u>Audi's DNA</u>, they nevertheless maintain their balance and precise calibration. "When you drive an Audi, you should be able to feel Audi – through consistent, typical driving characteristics," says Head of Technical Development Oliver Hoffmann.

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"The customer should be able to have an unmistakable experience of the genetics of the Audi driving experience." The result is a luxury SUV that impresses with quietness and comfort in the city as well as on both short- and long-distance drives, and on winding mountain roads with lateral dynamics and sporty handling.

#### Further improved aerodynamics

Aerodynamic drag is one of the main driving frictions that cars have to overcome, especially at higher speeds. This is particularly noticeable in electric vehicles, where it impacts consumption and range. With the Audi Q8 e-tron\*, aerodynamics was therefore a top priority. The result is a reduction in the drag coefficient  $c_w$  from 0.26 to 0.24 for the Q8 Sportback e-tron\* and from 0.28 to 0.27 for the Q8 e-tron\*. The wheels have a significant impact on its aerodynamic drag and wheel spoilers on the underbody help divert the airflow around the wheels. The front-axle spoilers have been enlarged; the Audi Q8 Sportback e-tron\* now also uses spoilers in front of the rear wheels whilst on the SQ8 Sportback e-tron\*, spoilers are mounted on the rear axle only. This is the first Audi model to use a self-sealing system in the area around the radiator grille to supplement the electric louvers that automatically close the radiator, further optimizing airflow on the front end of the car, preventing unwanted losses.

#### Convenient parking with remote park assist plus

The Audi Q8 e-tron\* provides drivers with approximately 40 driver assistance systems: up to five radar sensors, five cameras, and twelve ultrasonic sensors supply the central driver assistance controller with environmental information for analysis. A new feature is remote park assist plus, which will be available for order during 2023 – with its help, the Audi Q8 e-tron\* can maneuver into even the tightest of parking spaces and customers can control the parking maneuver using the myAudi app on their smartphones.

Once the car has reached its final position in the parking space, it automatically switches off, activates the parking brake, and locks the doors. When the driver is ready to leave the parking space, they can power on the motor in the myAudi app, at which point the vehicle maneuvers out enough so they can exit comfortably.

#### Digital Matrix LED headlights

The Q8 e-tron\* comes optionally with <u>Digital Matrix LED headlights</u>; dispersed into 1.3 million pixels per headlight, the light can be controlled with high precision, which enables a number of new functions. On highways, the orientation light marks the car's position in its lane, helping the driver to stay safely centered in their lane. Three new functions are also included: advanced traffic information, a lane light with direction indicator lights, and an orientation light on country roads. The Digital Matrix LED headlights encompass DMD technology, which stands for digital micromirror device, originally used in video projectors. At its core is a small chip with roughly 1.3 million micromirrors with edges only a few hundredths of a millimeter long.

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#### Luxury-class interior

The comfort features in the Audi Q8 e-tron\* are typical of the brand's luxury-class models. The panoramic glass roof, which opens and closes electrically, makes the interior even brighter, enhancing its light and spacious appearance and the light-tight sunblinds are just as convenient to operate. When open, the two-part panorama glass roof improves the interior climate through efficient ventilation and an integrated wind deflector reduces wind noise.

As an alternative to the standard two-zone automatic air conditioning, Audi offers four-zone automatic air conditioning and the <u>air quality package</u>, ensuring first-class air quality with an ionizer and adjustable fragrancing. A three-stage ventilation system makes for highly comfortable seating, even at hot outside temperatures – the system is now available for standard leather seats, which feature high-detail perforation. With their numerous seat and backrest adjustment options, the individual contour seats are the apex of the program, including a massage function on request, in which ten pneumatic cushions relax the occupant's back muscles in seven selectable programs and three intensities, essential on long trips in particular.

All equipment versions include decorative inlays in a choice of open-pore wood veneers, such as grained ash, sycamore wood or aluminum and for the first time, the S line variant and the Edition S line also offer an optional carbon structure. New additions to the range include light brown walnut wood and a sustainable technical fabric made from recycled PET bottles, plus the Audi Sport stitching package in red adds high-end accents to the sports seats, steering wheel, knee pad, and door armrests with colored stitching. Edged in red, the seat belts are another interior highlight and the interior is rounded off with optional stainless steel pedals.

#### High-resolution touch displays and voice control

Like all luxury-class models from Audi, the Q8 e-tron\* incorporates the MMI touch response operating system. The two large, high-resolution displays – the upper with a 10.1-inch, the lower with an 8.6-inch diagonal – replace almost all switches and controls typically seen in cars. Operation is fast and safe: when the driver activates a function with their finger, the system confirms with haptic and acoustic feedback. In addition to operation via the two touch displays, many functions can be activated using natural voice control.

The digital display and operating concept in the Audi Q8 e-tron\* is rounded off with the standard Audi virtual cockpit with full HD resolution. Specific graphics display key parameters for electric driving, from charging power to range. Upon request, an optional head-up display supplements the displays.

The Audi Q8 e-tron\* offers an extensive range of infotainment and connectivity features. For the German market, the Audi Q8 e-tron\* comes standard with MMI Navigation plus, including a Media Center which supports the fast LTE Advanced transmission standard with an integrated Wi-Fi hotspot for passengers' mobile devices.

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The navigation system offers intelligent destination suggestions based on previously driven routes and the Audi connect Navigation and Infotainment package includes <u>car-to-X services</u>, by allowing the Audi Q8 e-tron\* to take advantage of the swarm intelligence of the Audi fleet.

#### Recycled materials

The Audi Q8 e-tron\* will reach customers in Europe and the United States as a certified, net carbon-neutral¹ car. From as early as 2025, all Audi plants will operate with net zero emissions¹; Brussels already achieved this distinction in 2018, whilst Győr, and Böllinger Höfe did in 2020. On top of that, Audi works with recycled materials in some components for the Audi Q8 e-tron\*, recovered via a recycling process, to save resources and ensure a closed material cycle that is both efficient and sustainable. In the interior of the Audi Q8 e-tron\*, recyclates are used for carpets as well as in insulation and damping materials.

The decorative inlay (the tech layer above the display) is available with a novel, anthracite tech fabric made partly from recycled PET bottles. In the S line equipment package, the sports seats are upholstered with Dinamica microfiber material and artificial leather; consisting of up to 45 percent polyester fibers, Dinamica still looks and feels like suede. The fibers used are obtained from recycled PET bottles, old textiles, or residual fibers. In contrast to the previous microfiber quality, the production of Dinamica is also solvent-free – a further contribution to environmental protection.

This also marks the first time that safety-relevant components are used which have been produced in part from mixed automotive plastic waste via a chemical recycling process: the plastic covers of seatbelt buckles. As part of the PlasticLoop project, Audi and plastics manufacturer LyondellBasell took the findings from a pilot project and established an innovative process that will employ chemical recycling for the first time to reuse mixed automotive plastic waste for the series production of the Audi Q8 e-tron. For this process, the two companies will first dismantle plastic components from customer vehicles that are beyond repair, then clean the components of foreign materials, such as metal clips, before being shredded and processed via chemical recycling into pyrolysis oil, which is then used as a raw material for the production of new plastics using a mass-balance<sup>2</sup> approach. The plastic granulate obtains is used for the production of the Q8 e-tron seatbelt buckle covers. In this way, Audi and its project partner have succeeded in cycling another material stream, which today is usually only suitable for energy recovery. This allows Audi to use fossil raw materials for longer and reduce the purchase of additional primary materials for the Q8 e-tron\* accordingly. The components made from pyrolysis oil have the same high quality and technical properties as virgin materials. As such, chemical recycling represents a viable alternative to energy recovery and complements Audi's mechanical recycling efforts.

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#### Market launch in the spring of 2023

The market launch for the new Audi Q8 e-tron\* and Audi Q8 Sportback e-tron\* is scheduled for late February 2023 in Germany, and the most important European markets. The model is scheduled to hit the U.S. market at the end of April. The SQ8 e-tron\*/SQ8 Sportback e-tron\* will be launched in Europe at the end of May. The base price for the Audi Q8 e-tron\* in Germany starts at €74,400.





#### The facts

# The most important facts about the new Audi Q8 e-tron / Audi Q8 Sportback e-tron

#### Positioning

- > Top model in Audi's electric SUV portfolio with high luxury-class comfort, outstanding everyday utility, and sporty driving performance
- > Two body versions: Classic SUV or Sportback with coupé lines
- > European market launch in February 2023 and U.S. market launch in late April 2023
- > Available for order starting mid-November 2022; prices in Germany start at €74,400
- > SQ8 e-tron\*/SQ8 Sportback e-tron\* available to order from spring of 2022, European market launch in late May; prices in Germany start at €95,800/98,050

#### **Drive and recuperation**

- > Electric all-wheel drive with one asynchronous machine each on the front and rear axle. In the SQ 8 e-tron\*, two asynchronous motors on the rear axle, one on the front axle
- > Efficiency measures and an optimized operating strategy for the powertrain: altered engine characteristics in the asynchronous motor (rear axle) due to an increase in the number of copper windings in the stator from 12 to 14; stronger magnetic field at the same torque with reduced current for lower consumption, higher efficiency, and longer range
- > Boost outputs of 250 kW / 664 Nm torque (Audi Q8 50 e-tron\*), 300 kW / 664 Nm torque (Audi Q8 55 e-tron\*), and 370 kW and 973 Nm torque (Audi SQ8 e-tron\*)
- Acceleration from 0 to 100 km/h Audi Q8 50 e-tron\*\* in 6.0 seconds (Combined electric power consumption in kWh/100 km (62.1 mi): 24.0–20.1 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)), Q8 55 e-tron\*\* 5.6 s (Combined electric power consumption in kWh/100 km (62.1 mi): 24.4–20.6 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) and Audi SQ8 e-tron\*\* 4.5 s (Combined electric power consumption in kWh/100 km (62.1 mi): 29.0–25.3 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0))
- Top speed limited to 200 km/h, 210 km/h in the SQ8 e-tron\*
- Recuperation (brake energy recovery) can be set in several stages, thanks to an integrated brake control system in more than 90% of all everyday braking processes via electric motors (up to 0.3 g), intelligent control of gliding, and recuperation via predictive efficiency assistance systems

#### Battery and charging

- > Lithium-ion battery with 396 volts and a storage capacity of 89 kWh net (gross: 95 kWh) in the Audi Q8 50 e-tron or 106 kWh (gross: 114 kWh) in the Audi Q8 55 e-tron\* and Audi SQ8 e-tron\* models
- Advanced cell technology and optimized cell chemistry with new battery management increase energy density by roughly 20%, whilst stacking processes with stacked electrode layers increase package efficiency of prismatic cells

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- > Range with large battery SUV up to approx. 582 km / Sportback up to approx. 600 km. In the SQ8 e-tron\* up to 458 km SUV / 471 km for the Sportback. Range of smaller battery up to approx. 491 km for the SUV, in the Sportback up to approx. 505 km. All values according to the WLTP standard.
- > DC charging as standard with up to 170 kW power (89 kWh battery with up to 150 kW);
  AC charging as standard with 11 kW charging power; on-board charger with maximum 22 kW power optional, second charging socket on the right-hand side of the vehicle also optional
- > Charging curve, unique in the competitive environment, runs at a high level for very good long-distance capability, recharging from 10–80% in about 28 minutes (89 kWh) or about 31 minutes (106 kWh). Up to 123 km range in ten minutes of charging time.
- New Audi charging service with access to some 400,000 charging points in Europe, first year on Pro plan with no monthly account maintenance fee when a new all-electric Audi model is purchased
- > Plug & Charge (PnC) enables automatic authorization and billing at charging stations
- > Intelligent thermal management with four cooling circuits and heat pump as standard equipment

#### Exterior design, aerodynamics, and body

- > Length 4,915 mm, width 1,937 mm (SQ8 1,976 mm), height 1,633/1,619 mm (SUV/Sportback, including roof antenna). SQ8 SUV 1,631 mm, Sportback 1,617 mm (height).
- > Luggage compartment 569 liters (SUV), 528 liters (Sportback), plus 62 liters each in the frunk
- > Optimized aerodynamic concept reduces drag and increases efficiency
- > Reduced aerodynamic drag: c<sub>w</sub> 0.27 SUV and c<sub>w</sub> 0.24 Sportback
- > New wheel spoilers on the underbody (SUV: front; Sportback: front and rear; SQ8 Sportback e-tron\* rear) ensure streamlined airflow around the wheels
- > Controllable cool-air intake resolves the conflict between high cooling capacity and optimum aerodynamics, new concept for cooling air flow with self-sealing component in the front of the vehicle reduces flow losses
- > New front design with Singleframe mask and inverted grille insert
- > First model with new corporate identity (flatter, two-dimensional Audi rings at the front and rear) and model name (badge on B-pillar)
- > Eleven colors, including five new colors Soneira Red Metallic, Solid Magnetic Gray, Madeira Brown Metallic, and Ultra Blue Metallic, which is exclusively available for the S line variant and the S model. Florett Silver will be available from mid-2023.

#### Headlights and lighting

- > Horizontal light signature integrated into the headlights; wide illuminated band in the rear
- > New projection light in the Singleframe creates a visually consistent connection between the headlights.
- > Digital Matrix LED headlights enable even more precise lighting functions
- > Three new features: advanced traffic information, orientation light on country roads, lane light with direction indicator

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### Interior design and interior

- > Ample space with room for five people
- > Extensive comfort features (optional): ventilation & massage seats, air quality package, contour and ambient light package
- > Interior design with elegant, minimalist form language
- > Circumferential wrap-around, cockpit with MMI touch response display
- > New decorative inlays with, among other things, sustainable technical fabric
- > Dinamica microfiber sports seats
- Red stitching package from Audi Sport (steering wheel, straps, seats, center armrest, armrest, knee pad)
- > Premiere: seatbelt buckle covers made using an innovative recycling process

#### Operation and displays

- > MMI touch response display with 8.6 and 10.1-inch diagonal and haptic feedback; virtual exterior mirrors with touch displays on request
- > Natural voice control with on-board and cloud search; additionally, Amazon Alexa voice assistant<sup>3</sup>
- Audi virtual cockpit as standard, plus version with third view and optional head-up display on request

#### Infotainment and Audi connect

> Extensive portfolio of Audi connect services

dependent on the chosen vehicle specification.

- > MMI Navigation plus as standard, data transmission with LTE speed, Wi-Fi hotspot
- > Bang & Olufsen Premium Sound System with optional 3D sound

#### Assistance systems and digital services

- > Audi pre-sense safety systems as standard. Optional City, Tour, and Park packages, including with remote park assist plus available 2023
- > The e-tron route planner as standard for navigation and charge planning
- > Function on demand: subsequent expansion of vehicle functions in the areas of lighting, driver assistance systems, and infotainment

#### Chassis and steering

- > Low center of gravity and almost equal weight distribution between front and rear axles due to location of the high-voltage battery
- > Standard air suspension with controlled dampers (from "comfort" to "sporty driving") and high lateral dynamics
- New progressive steering with modified transmission for more direct response, greater agility, and less steering effort
- > Fine-tuning of chassis, axle kinematics, and ESC increases lateral-dynamic capabilities
- > 176 mm ground clearance can be varied by 76 mm via air suspension, automatic lowering on highways at higher speeds

<sup>\*</sup>The collective fuel/electric power consumption and emissions values of all models named and available on the German market can be found in the list provided at the end of this text. \*\* Consumption and emissions values are only available according to WLTP and not according to NEDC for this vehicle. Information on fuel consumption and  $CO_2$  emissions in ranges are





- > Audi drive select driving dynamics system as standard with greater differentiation of the selected auto, comfort, dynamic, efficiency, individual, allroad and offroad profiles
- > Wheel size 19 to 22 inches, new wheel designs for every inch size

#### Production and sustainability

- > Carbon-neutral<sup>1</sup> production and delivery to customers in Europe and the USA
- > Green power for production and battery cells
- > Use of recycled materials in the interior
- > Seatbelt buckle covers made using an innovative recycling process (recycled automotive plastics)
- > Improved aerodynamics and increased drive efficiency in everyday driving





#### The model in detail

### The new Audi Q8 e-tron

Ingolstadt, December 19, 2022 – The Audi e-tron has been setting standards in the electric SUV luxury class category since 2018; its sales successes have made the e-tron brand famous the world over. In the spring of 2023, the new Audi Q8 e-tron\* will continue the success story of the electric pioneer under a new name – as the top model of Audi's electric SUVs and crossover models. Highlights include: optimized drive concept, improved aerodynamics, and higher charging performance and battery capacity, which increase the range to up to 600 kilometers (according to the WLTP). Significant updates, especially in the front of the vehicle, lend the new SUV flagship a fresher appearance.

Audi offers the new Q8 e-tron\* in two body variants: as a classic SUV and as a Sportback that combines the spaciousness of an SUV with the elegant lines of a large coupé. Standing 4,915 mm in length, 1,935 mm wide, and 1,633 mm (SUV) or 1,619 mm (Sportback high, the Q8 e-tron\* offers maximum space and comfort. The SQ8 e-tron\* and SQ8 Sportback e-tron\* models are both two millimeters flatter and 39 mm wider. The 2,928 mm wheelbase means that even rear seat occupants have plenty of legroom. The total luggage compartment volume is also generous, with around 630 liters (including frunk) in the SUV and around 590 liters in the Sportback. With dimensions like these, the Audi Q8 e-tron\* offers ample space for five passengers and their luggage, making it the perfect car for long-distance drives.

Three drive variants are available for each of the two body styles – all with electric all-wheel drive. The output range extends from 250 kW in the Q8 50 e-tron\*\* (Combined electric power consumption in kWh/100 km (62.1 mi): 24.0–19.5 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) and 300 kW in the Q8 55 e-tron\*\* (Combined electric power consumption in kWh/100 km (62.1 mi): 24.4–19.9 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) to 370 kW in the SQ8 e-tron\*\* (Combined electric power consumption in kWh/100 km (62.1 mi): 29.0–25.3 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)), which is powered by three electric motors. The models' ranges lie between 458 and 600 km.

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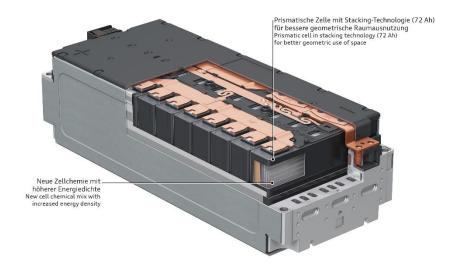
# More battery capacity and higher charging power: Battery

The high-voltage battery system in the new Audi Q8 e-tron\* operates with a nominal voltage of 396 volts. Two different battery sizes are available: in the Q8 50 e-tron\*, the battery has a storage capacity of 89 kilowatt hours net (gross: 95kWh), while the two more powerful versions, the Q8 55 e-tron\* and SQ8 e-tron\*, have 106 kWh net (gross: 114 kWh). In both cases, the space required for the drive battery is the same; thanks to further developments in cell technology and structure as well as in cell chemistry, the individual cells boast an increased energy density. The prismatic cells used in battery production are now assembled via a process called stacking technology, whereby the cell material is stacked in layers, thus filling the rectangular space much more efficiently – up to 20 percent more active cell material for power storage fit in the battery cell.

## Audi Q8 55 e-tron quattro

Lithium-Ionen-Batterie mit zwölf prismatischen Zellen Lithium-ion battery modul with twelve prismatic cells





The high-voltage components are housed in a frame (2.28 m long, 1.63 m wide, 34 cm high) beneath the passenger compartment. Twelve battery cells each form a module in a cuboid-shaped aluminum housing with a total of 36 modules on two levels fit in the vehicle floor. Whilst pouch cells were used when production of the Audi e-tron began in 2018, Audi now relies on prismatic battery cells.

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To ensure that the lithium-ion battery can reliably provide full power over a longer period of time and at hot outside temperatures, even during dynamic driving, an indirect cooling system holds it in the optimum temperature range. The cooling system, distinct from the cell space, consists of flat, extruded aluminum sections divided into tiny chambers. Heat is exchanged between the cells and the cooling system beneath them via a thermally conductive gel pressed beneath each cell module, which evenly transfers the waste heat from across the battery housing to the coolant.

The battery and all key parameters, such as charge status, power output, and thermal management, are managed by the battery management controller (BMC). The BMC communicates with both the electric motor controllers and the cell module controllers (CMC), each of which monitors the modules' currents, voltage, and temperature. The battery junction box (BJB), into which the high-voltage relays and fuses are integrated, is the electrical interface to the vehicle. Data exchange between the BMC, the CMCs, and the BJB is via a separate bus system.

#### Increased high-level charging power

When it comes to electric vehicles, high range is one of customers' key requirements. But on long-distance business trips or vacation, the speed at which the high-voltage battery recharges is just as crucial. Here, the Audi Q8 e-tron\* impresses with a charging curve, unique in its competitive environment, that runs at a high level, meaning the current flows at a high charging power, even up to a charge level of 80 percent.

Using a fast CCS (combined charging system) charger, the Audi Q8 50 e-tron\* reaches a maximum charging power of 150 kW. By using more charging power at a higher battery capacity, the Q8 55 e-tron\* and SQ8 e-tron\* boast a maximum charging power of up to 170 kW. For the smaller of the two batteries, it takes around 28 minutes to charge from 10 to 80 percent in one charging stop, while the larger battery takes around 31 minutes. In ten minutes at an HPC charging station, the Q8 50 e-tron\* and Q8 55 e-tron\* can recharge to a range of 123 km, while the SQ8 e-tron\* recharges to 104 km.

#### Fast charging and long battery life through thermal management

Sophisticated thermal management ensures that the battery of the Audi Q8 e-tron\* quickly reaches its optimum efficiency range of 25 to 35 °C and stays there while driving – from a cold start in winter to fast highway driving on hot summer days – you can accelerate several times in succession without any drop in performance. It's also the prerequisite for high, reproducible performance at quick-charging stations. At the same time, thermal management contributes to the battery's long service life. The control software for charging counteracts the battery's aging process by adjusting the current and voltage according to age and remaining capacity to prevent overloading the battery during charging.

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The intelligent thermal management system comprises of four circuits that can be connected in various ways as required. It cools the electric motors including their rotors, the power electronics, and the charger. In addition, the thermal management system in the Q8 e-tron\* regulates both the interior temperature and that of the high-voltage battery. The rotors, which reach up to 13,300 revolutions per minute during real vehicle operation, consist of magnetically conductive electrical sheets and lightweight, high-purity aluminum. Coolant flows through the inside of the shafts to ensure that the temperature does not exceed 180 degrees Celsius, whilst the stators and end shields of the electric motors are also water-cooled. The gearboxes mounted on the end shields benefit indirectly from this solution.

For the electric motor on the rear axle, the coolant is supplied via a double-wall pipe and its ceramic seal on the electric motor rotor.

22 liters of coolant circulate around the 40 meters of cooling pipes in the Audi Q8 e-tron\*. The standard heat pump uses the unavoidable waste heat (up to 3 kW of actual power losses) from the electric motors for efficient heating and air conditioning in the interior; a system that makes concrete contributions to improved range in everyday driving.

#### Charging at home

The charging flap of the Audi Q8 e-tron\* is located on the driver's side fender. At the push of a button, the flap moves down to reveal the port, illuminated by a white LED. Next to it is a second LED that indicates the charging status – a pulsing green light means charging is in progress, a steady green light means charging is complete. When the plug is removed, the charging flap closes automatically within five seconds.

The charging socket has space for the CCS plug for fast DC charging or the standard mode 3 charging cable for AC charging. The standard on-board charger operates with up to 11 kW of power; the new Audi Q8 e-tron\* charges at a home Wallbox or at a public AC charging station between around 9.15 to approximately 11.30 hours, depending on the battery size. Audi also offers an optional 22 kW AC on-board charger. A complete charge from zero to 100 percent takes approximately 4.45 hours for the battery with a capacity of 89 kWh net and around 6.00 hours for the battery with 106 kWh net. This means that much of the car's total range is available again after a long business meeting or an evening at the theater. Customers may also choose the Audi Q8 e-tron\* with an additional charging socket on the right side of the vehicle, making everyday charging even more convenient, e.g. when charging at a station at the side of the road.

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## Access to around 400,000 charging points in 27 European countries

The new Audi charging service ensures customers can travel Europe's most popular destinations, safely and conveniently. The successor to the <u>e-tron charging service</u>, Audi charging provides access to around 400,000 public charging points. At launch, the service will be available in 27 countries and by mid-2023, in 29 countries, including Germany. This enables charging at AC charging stations with up to 11 (or 22) kW of charging power as well as quick stops at high-power chargers (HPC), where the Audi Q8 e-tron\* charges with up to 170 kW (Q8 50 e-tron\* with up to 150 kW). Customers can use an RFID card to activate most charging points or by scanning a QR code in the myAudi app.

The Plug & Charge function, which is standard in the Audi Q8 e-tron\*, offers even more convenience. At compatible charging stations (for example, around 1,900 HPC chargers across Europe from IONITY), vehicles with the Audi charging service use an encrypted data check to authorize and activate the station automatically when the charging cable is plugged in. It's no longer necessary for drivers to hold their RFID card up to the card reader.

Customers pay via Audi charging, with services that can be managed entirely in the myAudi app. The user's account collects all charging and billing data, and the app also allows users to switch to a different plan; Audi charging offers the following: the Basic plan, and the Plus and Pro plans with an account maintenance fee and lower kWh prices. In the first contract year after purchasing a new all-electric model from Audi, customers who choose the Pro plan have no monthly account maintenance fee.

The Pro plan is aimed primarily at customers who use the Audi Q8 e-tron\* as a long-distance vehicle and frequently charge at public quick-charging stations. The monthly account maintenance fee of €14.99 pays for itself through significantly lower electricity prices at IONITY's quick-charging stations, starting with one long charging stop per month.

Customers can still also charge at stations that are not included in the Audi charging offer. In these cases, customers are billed directly by the respective provider, for example by credit card, and not by Audi charging.

### Range display and route planner: well-informed at all times

During journeys, drivers need reliable information regarding remaining range for peace of mind and to allow them to reliably plan charging stops on long-distance trips. The e-tron route planner in the Audi Q8 e-tron\* gives drivers the support they need by taking numerous factors into account when calculating the remaining range, including the individual driving style and the use of comfort features such as air conditioning as well as external factors including congestion, topography along the route, and outside temperatures. All of this information ensures the route planner can ideally integrate charging stops into the planned route.

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The driver can control the charging schedule from within the vehicle via the Audi Multi Media Interface (Audi MMI) or before leaving via the myAudi app. Without the technical support of the navigation system and the route planner, the calculation of the remaining range relies on recent consumption values. The system also reflects driver-specific properties, such as an especially sporty or economical driving style. Briefly higher loads, e.g., due to energy-intensive passing maneuvers, are reliably averaged out, making calculations even more realistic.

For route-based range calculation, the recent consumption data is supplemented with additional data from the Audi Q8 e-tron\* route planner – the system considers the topography along the planned route.

In order to calculate the range as precisely as possible, the system divides the planned route into sections and assigns each stage an expected driving speed. Additional factors include congestion, but urban traffic, traffic jams, blocked traffic, speed limits, and main through roads also have a live influence on the calculation. Examples of vehicle-related factors include changes in usage behavior related to comfort features or sudden changes in driving behavior.

If the occupants switch the heating or air conditioning on or off, the system adjusts the range display accordingly. The route planner makes looking for charging stations along the route intelligent and reliable to ensure the shortest possible travel time, only as many charging stops are suggested as are necessary to reliably reach the destination. If the route or consumption changes, the system adjusts the charging stops. Two short stops to charge at a station with high-power charging points can save time, compared to one long stop at a charging station with lower-power charging points.

The route planner also takes alternative routes with better charging infrastructure into account when calculating the ideal total travel time. The system gives preference to high-power charging (HPC) stations and reflects daily updated data, such as detailed information on payment and authentication options, precise operator data, and any access restrictions.





## Improved efficiency, longer range: Drive system

The electric drive system in the Audi Q8 e-tron\* meets the diverse demands that drivers place on a luxury SUV with a high-performance total package, offering superior traction, even in difficult road conditions or critical situations, thanks to the electric all-wheel drive. With its efficient powertrain, the Audi Q8 e-tron\* boasts dynamic driving performance and thanks to improvements to many components of the drive concept, the Q8 e-tron\* impresses with consumption values standard for its class, and increased range. The development team gave "the heart of the engine" a thorough update, as technical project manager Jens Müssig explains: "All the changes help to increase the range of the Audi Q8 e-tron\* without diminishing its sporty qualities." This is also true of the sportiest electric luxury SUV, the Audi SQ8 e-tron\*. Powered by three electric motors – two on the rear axle, one on the front axle – it offers superior performance in both longitudinal and lateral dynamics with electric torque vectoring.

#### Three motorizations on offer

Both the Audi Q8 e-tron\* and the Q8 Sportback e-tron\* will be launched in three unique drive configurations.

**Audi Q8 50 e-tron\*\*** (Combined electric power consumption in kWh/100 km (62.1 mi): 24.0–20.1 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) /

**Audi Q8 Sportback 50 e-tron\*\*** (Combined electric power consumption in kWh/100 km ( $62.1 \, mi$ ): 23.7–19.5 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)): Equipped with a battery with a capacity of 89 kWh net (gross: 95 kWh), the entry-level model features one electric motor each on the rear and front axles, for a maximum system output in boost mode of 250 kW and 664 Nm of torque. The vehicle makes the 0 to 100 km/h sprint in 6.0 s. The range according to the WLTP is up to 491 km for the SUV and up to 505 km for the Sportback. The top speed is fixed at 200 km/h.

Audi Q8 55 e-tron\*\* (Combined electric power consumption in kWh/100 km (62.1 mi): 24.4–20.6 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) /

**Audi Q8 Sportback 55 e-tron\*\*** (Combined electric power consumption in kWh/100 km (62.1 mi): 24.1–19.9 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)): the battery size is 106 kWh net (gross: 114 kWh). With its two motors, the quattro drive has an output of 300 kW with a torque of 664 Nm in boost mode, enabling the vehicle to accelerate from a standstill to 100 km/h in 5.6 s. The range according to the WLTP is up to 582 km for the SUV and up to 600 km for the Sportback. Its top speed is fixed at 200 km/h.

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Audi Q8 e-tron Audi Q8 Sportback e-tron	50 e-tron	55 e-tron
Battery energy in kWh net/gross	89/95	106/114
Maximum charging power in kW AC/DC	11 (Optional: 22)/150	11 (Optional: 22)/170
Maximum engine power (boost mode) in kW (PS)	250 (340)	300 (408)
Maximum torque in Nm	664	664
Top speed in km/h	200	200
Acceleration from 0 to 100 km/h in s	6.0	5.6
Range in km (WLTP) up to	SUV 491 / Sportback 505	SUV 582 / Sportback 600
Unladen weight in kg (without driver)	2,510	2,510
	<del>-</del>	·

**Audi SQ8 e-tron\*\*** (Combined electric power consumption in kWh/100 km  $(62.1 \, mi)$ : 29.0–26.2 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)) / **Audi SQ8 Sportback e-tron\*\*** (Combined electric power consumption in kWh/100 km  $(62.1 \, mi)$ : 28.2–25.3 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)): with its capacity of 106 kWh net (gross: 114 kWh), the battery powers three motors: one on the front axle, two on the rear axle, each driving one wheel, for a boost power of 370 kW and 973 Nm of torque. This results in acceleration from 0 to 100 km/h in 4.5 s and a top speed fixed of 210 km/h. The range of the S models is up to

458 km for the SUV and up to 471 km for the Sportback.

Audi SQ8 e-tron Audi SQ8 Sportback e-tron	SQ8 e-tron
Battery energy in kWh net/gross	106/114
Maximum charging power in kW AC/DC	11 (optional: 22)/170
Maximum engine power (boost mode) in kW (PS)	370 (503)
Maximum torque in Nm	973
Top speed in km/h	210
Acceleration from 0 to 100 km/h in s	4.5
Range in km (WLTP) up to	SUV 458 / Sportback 471
Unladen weight in kg (without driver)	2,650

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## Revised rear-axle motors in the Audi Q8 e-tron 50\* and O8 e-tron 55\*

The new Audi Q8 e-tron\* is equipped with electric motors on both axles that operate as asynchronous machines. The current flow in the stator windings creates a magnetic field around the axis of the rotor. A conceptual advantage of operating this way is that a permanent magnet is no longer needed in the electric motor. If there is no flow of current, the motors do not produce any drag losses and are therefore highly efficient. They also require little maintenance and are highly robust and comparatively light thanks to the aluminum rotor.

This engine concept was modified on the rear axle for the new Audi Q8 e-tron\*. Instead of 12, 14 windings now generate the electric magnetic field. The advantage to this is that the motor generates a stronger magnetic field at an identical current input, which in turn ensures higher engine torque. If it's not fully expended, the electric motor thus requires less current to build up torque, reducing consumption and increasing range. We are shifting the engine characteristics at the same peak power to a more efficient place, taking real customer needs into account," says Sami Robert Zaki, System Team Leader Drive at Audi. The boost function, which lets the driver access full system power at short notice by selecting S mode as well as on kickdown, ensures a more targeted focus on the speed ranges where a lot of power is needed for passing maneuvers. Based on several million kilometers of driving data, the developers have evaluated our customers' usage behavior and responded by giving Audi e-tron drivers access to a predominant portion of its performance in the speed range up to 100 km/h. "The increase in efficiency is highly relevant for everyday driving," says Zaki.

In normal driving conditions, the rear axle is the preferred drive axle for reasons of efficiency. The engine on the front axle is only used when customers require higher performance or if the driving situation calls for the quattro drive, for example on slippery roads or to stabilize the vehicle when taking curves. The drive of all four wheels can be adjusted manually by selecting the drive mode. If the driver switches from D to S, the Audi Q8 50 e-tron\* and Q8 55 e-tron\* run with permanent all-wheel drive. Whatever the driving mode, the Audi Q8 e-tron\* gives customers that typically Audi handling experience.

#### Audi drive select and four-stage ESC

The electric all-wheel drive builds on the intelligent networking of numerous control systems that ensure the typical quattro properties of high traction and driving stability. Important network elements include the four-stage electronic stabilization control (ESC) system and the power electronics, which interact to help balanced handling. Similarly, the control systems allow individual electronic intervention. In addition to normal mode, ESC offers a sport and an offroad mode, and the system can even be switched off entirely for higher performance in certain driving situations.

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The characteristics of the Audi Q8 e-tron\* can also be adapted for driving on different terrains with the standard Audi drive select dynamic handling system. Whether relaxed travel, dynamic cornering, or off-roading, depending on the driving situation, road conditions, or personal preferences, customers can choose between seven profiles: auto, comfort, dynamic, efficiency, individual, allroad, and offroad.

## Power electronics and the drive control unit: split-second reaction times

Each electric motor in the Q8 e-tron\* is powered and controlled by its own power electronics module, receiving data from the drive control unit (DCU), where all requests come together – from the accelerator pedal, the brakes, or the electric all-wheel drive. The power electronics modules read in sensor data 10,000 times per second and output current values for the electric motors. This results in the optimum use of output, during dynamic vehicle operation in particular. Some functions, such as vibration damping and the slip control functions, are integrated into the power electronics directly, enabling the deceleration-free transmission of interventions and improves, for example, the vehicle's ability to accelerate on icy roads significantly. The two structurally identical power electronics modules are positioned on the housings of the electric motors and are integrated into the thermal management system of the drive system. They take up little space, and each weigh only eight kilograms thanks to their aluminum housing. The power electronics convert the direct current from the battery into three-phase current for the drive system. When the electric motors operate as a generator during recuperation, the power electronics convert the generated three-phase current into direct current and feeds it back to the battery.

#### Electric torque vectoring in the Audi SQ8 e-tron\*

The e-tron series' S model marks the first time Audi has used three electric motors in a mass-produced model. This concept is continued in the SQ8 e-tron\*\* (Combined electric power consumption in kWh/100 km ( $62.1 \, mi$ ): 29.0–25.3 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)). The front axle is driven by an electric motor with a peak output of 124 kW. On the rear axle, there are two electric motors both with 98 kW of peak output that separately power a rear wheel. In boost mode, the front-axle motor produces up to 157 kW, and the two rear motors 138 kW each; this would amount to a total boost power of 433 kW, however, the value is limited to 370 kW by the battery. This means the SUV, which is just under five meters long, accelerates like a sports car from zero to 100 km/h in 4.5 seconds. In addition to acceleration, the drive concept shows its strengths on winding roads in particular; because the two rear electric motors are not connected in any way or coupled via a differential, apart from the shared cooling system, they can distribute the drive torque completely variably between the rear wheels.

Since there are no mechanical drives forces, only data and electric current, electric torque vectoring directs drive torque to the appropriate wheel in no more than five milliseconds.

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The latency, i.e., the time offset, is only around a fifth of that of a mechanical system – when cornering at high speed, the rear axle does not need to apply the brakes to keep the vehicle agile and stable.

When drivers accelerate out of curves dynamically, the outside rear wheel receives up to 220 Nm more than the inside one due to the gear ratio – the difference at the wheels is around 2,100 Nm. The yaw torque that is generated not only supports the self-steering behavior, but also requires a tighter steering angle to maintain the cornering radius.

At the dynamic limit, the unloaded front wheel on the inside of the curve is slowed down slightly – this small intervention, which would go unnoticed by the driver, prevents slippage and makes handling more agile and neutral. Traction is another advantage: if a rear wheel is on a road surface with low friction coefficient (e.g., a patch of ice or gravel) when accelerating, the torque can be distributed precisely and quickly between the two motors. The high-traction wheel receives almost the entire torque, while the low-traction wheel has practically none.

In normal everyday driving, when only a fraction of the available output is used, the electric motors on the rear axle drive the vehicle, increasing efficiency and range with no negative impact on the vehicle's characteristics. When more output is used, the torque shifts to both axles so the SQ8 e-tron\* can immediately demonstrate its sporty character and take advantage of electric torque vectoring.

#### Intelligent braking and recuperation concept

In 90 percent of all braking situations, the Audi Q8 e-tron\* does not use its disk brakes, thanks to the intelligent recuperation concept. Up to a deceleration of 0.3 g, the system recuperates via the electric motors alone, without using the conventional brakes which then work as generators, converting the kinetic energy into electrical energy. Only when the driver uses the brake pedal to decelerate more than 0.3 g do the internally ventilated 18-inch wheel brakes come into play. Depending on the driving situation, the Audi Q8 e-tron\* decides whether to decelerate via the electric motor, the wheel brakes, or a combination of both – and does so individually for each axle. When braking from higher speeds, the system recuperates with around two-thirds of its drive power.

The optional paddles on the steering wheel can be used to select a total of three levels of regenerative braking. At the lowest level, the Audi Q8 e-tron\* glides without additional drag torque when the driver lifts off the accelerator, i.e., it glides freely and puts the input energy to the best possible physical use. No electricity flows to or from the electric motor while the vehicle is moving. In stage 1 (balanced – low deceleration) and 2 (strong – high deceleration), the electric motors develop a regenerative braking torque and produce electricity.

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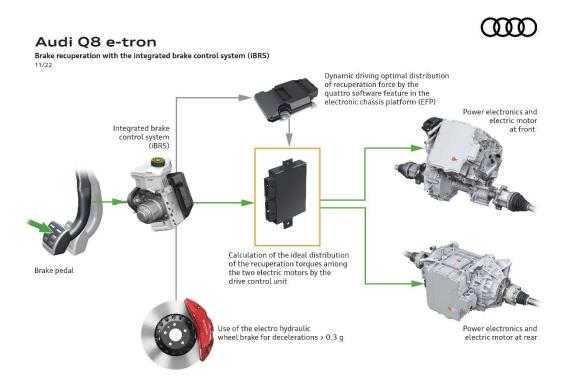


The car reduces the speed noticeably – the driver can decelerate and accelerate using just the accelerator pedal. In addition to manually adjusting the recuperation level with the steering wheel paddles, the driver can also select automatic mode in the MMI.

The predictive efficiency assist then regulates the deceleration as needed and predictively, for example in relation to the route or vehicles on the road ahead. Drivers can adapt the deceleration effect to the situation via the shift paddles; it remains active until the driver operates the accelerator pedal again.

#### Electrohydraulically integrated brake system

The technical prerequisite for the efficient recuperation properties in the Audi Q8 e-tron\* is the brake-by-wire braking system – it completely decouples the brake pedal and brake hydraulics. When the driver presses the brake pedal, the system calculates whether the generators' recuperation power is sufficient for the desired deceleration or whether it's necessary to use the disc brakes on the front and rear axles. Audi was the first manufacturer in the world to use this electrohydraulically integrated brake control system in a mass-produced electric-drive vehicle, when it introduced the e-tron series.



If the situation demands a deceleration that exceeds 0.3 g, the controller computes the required amount of braking power within milliseconds. A displacement piston in the brake hydraulics generates additional pressure; put into motion by an electric spindle drive, it pushes brake fluid into the brake lines and generates additional brake force using the conventional friction brakes.

to NEDC for this vehicle. Information on fuel consumption and  $CO_2$  emissions in ranges are dependent on the chosen vehicle specification.

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The transition between electric and hydraulic braking is smooth and homogeneous, the driver does not notice it – the brake forces remain constant. Using a pressure-resistant element, a second piston generates the familiar pedal feeling for the driver's foot. In the case of ABS braking, the driver will not feel the pressure build-up and reduction in the pedal, otherwise felt as irritating, hard pulsations. Even at a very slow speed, such as during maneuvering, the Audi Q8 e-tron\* decelerates efficiently via the wheel brakes.

The new electrohydraulic actuation allows the brake control system to build up pressure for the wheel brakes with great precision, and roughly twice as fast as a conventional system. This enables a larger air gap, i.e., a greater distance between the brake pad and brake disk to be set, minimizing possible friction and heat generation and increasing the range. During automated emergency braking, there are only 150 milliseconds between when the brakes are applied and the presence of maximum brake pressure between the pads and disks.

Thanks to this rapid pressure build-up, the electrohydraulically integrated brake control system shortens the braking distance by up to 20 percent compared with a conventional brake system. Thanks to the recuperation output of the Audi Q8 e-tron\*, the wheel brakes are used less frequently in everyday driving, reducing wear and lowering service and operating costs for the vehicle.

To prevent the steel disks from rusting, a brake cleaning function automatically opts to use the friction brakes at certain intervals, even though recuperation would be possible, keeping the system in ideal operating condition.

A six-piston fixed caliper brake is mounted on the front axle, and a single-piston floating caliper on the rear axle. The internally ventilated discs measure 375 mm in diameter at the front and 350 mm at the rear.





# A high level of driving fun and comfort: Chassis and Steering

An unmistakable driving feeling with a perfect balance between dynamics and comfort: these driving characteristics are typical of every Audi model, they are part of the brand's DNA. It applies to every driving situation, whether stop-and-go traffic, accelerating when leaving town, driving on winding roads or changing road conditions. That's why Audi's DNA was at the very top of the design specifications for the development of the Audi Q8 e-tron\*. The control systems were adapted to the new steering system so it maintains balance and precise calibration; the result: a luxury SUV that offers quietness and comfort in the city, on the highway as well as on both short and long-distance drives, and on winding mountain roads with lateral dynamics and sporty handling.

The standard adaptive air suspension is an integral component of the suspension design. Newly tuned, more direct steering, a new front axle bearing, and revised software for the ESC (electronic stabilization control) system further sharpen these handling characteristics in the Audi Q8 e-tron\* – noticeable not only at the handling limits, but in everyday driving situations in the electric SUV.

#### Air suspension: an ideal balance of comfort and sportiness

The Audi Q8 e-tron\* is equipped with standard air suspension with controlled damping, allowing the vehicle to adapt individually to the road conditions. The air suspension was newly tuned, along with the steering, whilst the ride height can be adjusted over a total range of 76 mm and in its default setting, the Audi Q8 e-tron\* has a ground clearance of 176 mm. On the highway, the body is lowered by as much as 26 mm, which improves stability and aerodynamics at high speeds, thus facilitating a long range. If drivers select "offroad" mode in Audi drive select, it increases ground clearance by 35 mm; for particularly difficult, uneven terrain, the body can be raised by an additional 15 mm. In conjunction with the front angle of approach of 14 degrees and the rear angle of approach of 20 degrees with the offroad setting, the Audi e-tron is well prepared to tackle gentle off-road terrain – the ramp angle of the electric SUV is 14 degrees in this configuration.

Most often however, customers drive the Audi Q8 e-tron\* on the road, where the air suspension with damper control comes into its own – it is integrated into the electronic chassis platform and Audi drive select management. The central control unit for the chassis individually controls the shock absorbers on each wheel at millisecond intervals – according to the road condition, driving style, and the mode set by the driver in the Audi drive select dynamic handling system. In "auto" mode this is very balanced.

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With the "comfort" setting, the shock absorbers are controlled so that they provide relaxed driving even on poor roads. The "dynamic" mode is recommended for dynamic cornering, which lowers the air suspension by 13 mm, sharpens the characteristic curve of the dampers and the accelerator pedal, and changes the steering characteristics. Compared with the predecessor model, the Audi drive select differentiates much more clearly between the various driving modes with the steering interchanging between "comfort" and "dynamic."

#### Greater agility through more direct steering

The standard progressive steering has been noticeably reworked in the Audi Q8 e-tron\*. "The greater agility, reduced steering angle requirements, and simultaneously improved steering feeling and response are noticeable from the very first steering movement," says Oswin Röder, the developer responsible for the driving characteristics of the e-tron series. The ratio of the steering gear has been reduced for a much more direct steering response to even slight steering wheel movements. This gives drivers even more agile control over the vehicle for effortless, precise maneuvering through curves, where the car feels more nimble, despite its size and comparably high weight. Röder adds: "At Audi, we define controlled handling in terms of precise and predictable self-steering response when cornering." The Audi Q8 e-tron\* steers into corners spontaneously with no understeer and remains neutral for a long time even at high speeds. At low speeds, power steering increases, adapting to every driving situation.

The effect of this more direct steering ratio (14.6 compared to 15.8 in the predecessor model) is enhanced through a stiffer front axle bearing, which applies steering movements more directly to the wheels and also improves steering response feedback. Audi has optimized the air suspension tuning to match the vertical tuning to the car's changed lateral behavior, meaning the car's more agile self-steering is better supported by the dampers. The model feels even more stable in both the lateral and longitudinal directions, as the body moves less overall. Similarly, the ESC system has been adjusted slightly for an increase in dynamics, with the new settings allowing more leeway in dynamic driving situations, particularly noticeable in very tight curves.

#### Low center of gravity and ideal weight distribution

Despite its high body, the Audi Q8 e-tron\* has a low center of gravity similar to that of a luxury sedan. Ideally adapted to the car's dimensions and shaped like a flat, wide block, the high-voltage battery system is located in the floor of the passenger compartment between the axles. This lowers the center of gravity whilst at the same time, the axle load distribution is perfectly balanced with a ratio of almost 50:50. The front and rear axles feature a 5-link suspension design for ideal absorption of lateral and longitudinal forces. In the lateral direction, the bearings are sporty and stiff, while in the longitudinal direction they are smooth and soft, ensuring a significant increase in comfort, in addition to enhanced driving dynamics.

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The streamlined 19-inch wheels feature 255/55 tires which are characterized by low rolling resistance without compromising on handling and braking performance. Rolling resistance-optimized, 21-inch tires are new. The largest wheel-tire combination are optional 22-inch wheels which have a tread width of 285 mm on the SQ8 e-tron\*.

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## Fine-tuning in detail: Aerodynamics

In electric cars, weight is not the only factor that determines consumption values and range per battery charge. Increase in vehicle mass, due primarily to the heavy high-voltage battery, actually results in higher electricity recovery via recuperation. This is why city traffic is not the biggest challenge for electric cars, as stop-and-go driving feeds a lot of electricity back into the battery. Driving on the highway is when it actually becomes a challenge, as air resistance increases disproportionately at faster driving speeds. Throughout the development of the Audi Q8 e-tron\*, aerodynamics was therefore a top priority, resulting in a reduction in the drag coefficient  $c_w$  from 0.26 to 0.24 for the Q8 Sportback e-tron\* and from 0.28 to 0.27 for the Q8 e-tron\*.

#### Optimized air control around the radiator grill

A controllable cool-air intake in the Singleframe grille of the Audi Q8 e-tron\* ensures the airstream flows around this zone with reduced turbulence. The system is now optimized through the use of further components and the controllable cool-air intake consists of two electrically operated louvers installed in a frame behind the grille. Normally closed, they only open when the drive system components require cooling under high loads or the air conditioning condenser needs to be ventilated.



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The controllable cool-air intake also opens when the hydraulic wheel brakes are under high loads, opening two ducts that direct cooling air into the front wheel arches to the brakes. This is the first Audi model to use a newly developed self-sealing system which will exploit the full potential of this air control technology with a self-sealing system which consists of a rubber lip and plastic element. When the louvers are closed, the air pressure presses the seal onto the body components around the louvers so there are no leaks and resulting pressure losses.

#### Air curtains and wheel spoilers for reduced air resistance

Air curtains ensure that the airstream flows around the front wheels and side of the vehicle in a way that generates as little turbulence as possible. The air curtains have been adapted to the new design of the Audi Q8 e-tron\* and slightly optimized. Wheel spoilers on the front wheels improve the drag coefficient additionally. They prevent the airstream from hitting the tires directly by deflecting it around their sides. The wheel spoilers mounted to the underbody of the Audi Q8 e-tron\* are significantly larger than those of the Audi e-tron, which used a system of air dams and spoilers. This technology is used also on the rear axle of the Q8 Sportback e-tron\*, whereas it is only used on the rear axle for the Sportback e-tron. Half of the cw value reduction achieved on the Sportback compared with the Audi e-tron Sportback is due to the larger wheel spoilers.



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## Virtual exterior mirrors and an aerodynamically optimized underbody

The optional virtual exterior mirrors are among the tried-and-proven aerodynamic components in the Audi e-tron. The cameras reduce the overall width of the vehicle by 15 centimeters, thus improving the drag coefficient.

The fully lined underbody also contributes to the improved aerodynamics. For the first time, the underride guard is made of high-strength, highly rigid plastic instead of aluminum as before. The bolting points of the aluminum plate beneath the high-voltage battery come with bowl-shaped indentations, similar to the dimples on a golf ball which enhances the air flow much more than a totally flat surface. The electric motors on the axles and the wheel suspension are covered with paneling made from a pressed fiber-fleece material which absorbs noise, whilst a variable diffuser below the rear skirt ensures that the accelerated air creates as little swirl as possible.

The S line exterior improves the aerodynamics of both the Audi Q8 e-tron\* and the Q8 Sportback e-tron\*.





## A fresh face and our new CI: Exterior design

The new Audi Q8 e-tron \* is a versatile model with two distinct body variants. Even at first glance, the Audi Q8 e-tron\* and Audi Q8 Sportback e-tron\* are clearly all-electric models, yet they have their very own character. The new front and rear designs with the expressive Singleframe mask, the inverted grille, and a blade above the redesigned rear diffusers systematically advance Audi's electric design language and emphasize the SUV DNA. Two lines are available: the attractive entry-level Advanced variant and the S line. In addition, the Audi SQ8 e-tron\*, which underlines its athleticism with high-quality aluminum-look applications and a large diffuser at the rear.

As an important and prestigious Audi e-model, the Q8 e-tron\* introduces Audi's new corporate identity in the exterior with a premium-quality, two-dimensional four rings design. The model name with the Audi lettering on the B-pillar is also new.

#### Inverted grille as a distinguishing feature

As an indicator for an electric-powered SUV from Audi, the Audi Q8 e-tron\* features the distinguishing three-dimensional Singleframe. The Singleframe is almost completely closed.

A mask around the Singleframe visually links the distinctive headlights, creating more width and in the S line, the mask comes in black or Selenite Silver with the Singleframe in Platinum Gray and the radiator grille is in Hekla Gray with black inlays. A special feature of the Edition S line package is the Singleframe, available exclusively in the color of the car. The color-inverted grille structure features a two-dimensional and closed effect as a clear indicator of the all-electric models.

#### More striking SUV look

The underride guard also now appears wider, creating a more striking SUV look. At the lower edge of the Matrix LED headlights, four horizontal struts create the specific signature in the daytime running lights, which are integrated directly into the headlights for the first time. Light is used as a core design feature, with dynamic turn signals at the front and rear.

Particularly eye-catching are the optional virtual exterior mirrors. Incorporated into the hexagonal end of their flat supports is a small camera with a resolution of 1280 x 1080 pixels – each support also incorporates an LED indicator and an optional TopView camera. Inside the vehicle, the images from the virtual exterior mirrors appear on OLED displays in the transition between the instrument panel and door.

The most striking element in the side view is the sill area with the battery package riding low between the axles whilst the sill and wheel arch panels, like the rear bumper, come in the color of the car or Manhattan Gray.

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In the S line equipment package, a horizontal blade and fins at the sculpted rear emphasize the sporty character of the electric SUV. With their horizontal emphasis and segmented appearance, the taillights echo the graphics of the daytime running lights.

#### S model as a sporty derivative

The Audi SQ8 e-tron\* and Audi SQ8 Sportback e-tron\* reveal their electric power at first glance; the front and rear bumpers are highly contoured and the particularly large and expressive air curtains at the front are reminiscent of a jet nozzle. A vertical bar emphasizes the car's sportiness and harmonizes visually with the underride guard whilst silver attachments accentuate the front and rear – an exclusive feature for the S models, as are the aluminum-look exterior mirror housings. Widened, flow-optimized wheel arch panels make the S model hug the street tightly, underscored by an aerodynamic diffuser at the rear. Here, the horizontal struts with their lamella structure echo the daytime running light signature as a recurring design element and the horizontal blade at the rear has an aluminum look, as do the elements in the side rocker panels and Singleframe.

#### Eleven colors on offer at launch

The color range for the Audi Q8 e-tron\* boasts eleven eye-catching colors, including the five new shades Soneira Red Metallic, solid Magnetic Gray, Madeira Brown Metallic, and Ultra Blue Metallic, exclusively available for the S line variant and the S model. Florett Silver will be available from mid-2023. In the S line equipment package, 20-inch wheels, a full paint finish in the color of the car, and optional red brake calipers enhance the appearance even further. Five new wheel designs are available for the Q8 e-tron\* and the S model boasts a unique wheel range, with the rim size starting at 22 inches (in all other variants, the rim size ranges from 19 to 22 inches).

#### Progressive and sporty with the Edition S line

The Edition S line boasts sporty highlights, both inside and out. It underscores the progressive appearance of the all-electric Audi Q8 e-tron models\* and builds on the S line exterior, which already features striking accents at the front, sides, and rear.

Red brake calipers emphasize the sporty character and privacy glass additionally darkens the back seat windows. Available metallic finish color options include Chronos Gray, Daytona Gray Pearl Effect, Magnetic Gray, Plasma Blue, Glacier White, and Mythos Black.

When the driver's door is opened, LED lights project the words "e-tron edition" onto the street. In the interior, the upper section of the instrument panel is upholstered in artificial leather with a carbon application beneath that. Color highlights include contrast stitching in red on the three-spoke sport leather steering wheel, the seat belts, and on the super sports seats and center armrest, among other places.

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#### The four rings, redesigned

The Audi Q8 e-tron\* is the first model to carry the newly designed Audi rings in a two-dimensional look. "As a prestigious model, the Q8 e-tron\* represents Audi's 'e-volution', so it is only logical for this vehicle to be the first to use the new four rings design," says designer André Georgi. Although the size remains the same, the new rings have a more precise appearance that is also made premium-quality, modern, and elegant through the thinner lines. The rings are entirely chrome-free with highly contrasting black and white for even greater radiance. Optically brightening the logo lends the rings a flat, premium-quality look, which still appears three-dimensional in detail.

The new rings harmonize with all finishes across Audi's color range. On request, customers can continue to opt for a black edition, where the white is replaced by a dark gray that looks like high-gloss black. In addition to the four rings, the model and technology identifiers on the vehicle have also been reimagined. In all upcoming models starting with the Q8 e-tron\*, the model name, derivatives, and drive technologies, in addition to the Audi lettering, will be engraved on the B-pillar trim tone-on-tone using a special process. The engraving appears as though behind a pane of glass. In addition, no output indicator is visible on the vehicle, giving the appearance a very clean look.

To underscore the new family logo even more on the front and to highlight the four rings as a central element, going forward Audi will use indirect lighting in the radiator grille to showcase the vehicle face on request. The Singleframe projection light uses a light strip to create a visually consistent connection between the headlights.





## New functions: Digital Matrix LED Headlights

On request, the Q8 e-tron\* comes optionally with <u>Digital Matrix LED headlights</u> – a global innovation in mass production that Audi unveiled in the fall of 2019 with the e-tron Sportback\*. Dispersed into 1.3 million pixels per headlight, the light can be controlled with high precision, which enables a number of new functions. On narrow lanes, the orientation light marks the car's position in the lane, for example. They also include three new functions: advanced traffic information, a lane light with direction indicator lights for highway use, and an orientation light on country roads.

Digital Matrix LED headlights are based on digital micromirror device (DMD) technology, which is also used in video projectors for example. At its core is a small chip with around 1.3 million micromirrors with edges only a few hundredths of a millimeter long. Using electrostatic fields, each and every one of them can be angled up to 5,000 times a second. Depending on the setting, the LED light is either directed onto the road via the lenses or absorbed for the purpose of masking. This allows the light to be controlled intelligently, creating a continuously regenerating video image rather than a static beam.

#### Lane light and orientation light on highways

The lane light, in partnership with the orientation light is extremely helpful for night driving on the highway, illuminating the car's own lane, helping the driver focus on driving events. The integrated position marking from the orientation light – darkened arrows – predictively indicates the position of the Audi Q8 e-tron\* between the lane markers, encouraging safe driving in the center of the lane.

With its focus on the car's own lane markers, the lane light with the orientation light on the highway helps the driver accurately assess their position in the lane, for example in narrow lanes around construction sites.

While changing lanes, the lane light dynamically and brightly illuminates both lane markers, while the orientation light indicates the car's exact position in the lane to give the driver the most support possible. This is where the innovative direction indicator lights come in; with the turn signals activated; the Digital Matrix LED headlights create a dynamic blinking area on the appropriate side of the lane light. This way, the lane light reiterates and intensifies the signal from the direction indicator lights on the road in front of the vehicle providing additional clear information about the upcoming lane change to the traffic along the side. Another way that Audi is making driving safer for everyone on the road, particularly in heavy traffic.

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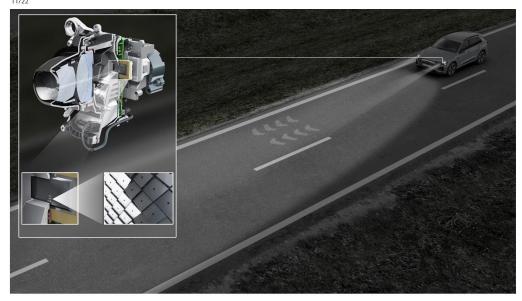
#### Orientation light on country roads

Now that the headlight has been digitalized, the orientation light is also available independently of the lane light on country roads, making changing lanes easier and helping the driver to more accurately assess their position, especially on narrow country roads.

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#### Audi Q8 e-tron

Orientierungslicht auf Landstraßen Digitaler Matrix LED-Scheinwerfer mit Digital Micromirror Device Orientation light on country roads Digital Matrix LED headlights with digital micromirror device



#### Warnings on the road

dependent on the chosen vehicle specification.

A further innovation: while visual and acoustic warnings about possible accidents or breakdowns are already provided by HERE maps, the Digital Matrix LED headlights including DMD module offer another level of security. Apart from a display in the digital instrument panel, the headlights now project a warning indicator on the road in front of the car for about three seconds. From the driver's seat, a triangle with an exclamation point can be seen projected onto the road allowing the driver to keep their eyes ahead and react as quickly as possible in the event of an accident or breakdown in upcoming traffic.

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# Luxury-class comfort: Interior design

The comfort features in the Audi Q8 e-tron\* are typical of the brand's luxury-class models. The panoramic glass roof, for example, opens and closes electrically and enhances its light and spacious appearance. The light-tight sunblinds are just as convenient to operate: when open, the two-part panorama glass roof improves the interior climate through efficient ventilation and an integrated wind deflector reduces wind noise.

As an alternative to the standard two-zone automatic air conditioning, Audi offers four-zone automatic air conditioning and the <u>air quality package</u>. It includes an ionizer and fragrancing that customers can adjust in several stages for first-class air quality.

A three-stage ventilation system makes for comfortable seating, even at hot outside temperatures. The system is now available for standard leather seats with high-detail perforation with numerous adjustment options. In addition to pneumatic adjustment of the seats and backrests, a massage function is available upon request. Ten pneumatic cushions relax the occupant's back muscles in seven selectable programs and three intensities, increasing seating comfort on long trips in particular.

In the dark, the optional ambient lighting package, with its white LED light, stages the interior to great effect, gently illuminating surfaces such as doors and the instrument panel, making them appear to float. The ambient light package plus offers a further enhancement with six predefined color profiles and extensive contour lights in up to 30 colors which precisely trace the lines of the interior.

#### Progressive elegance

The interior of the Audi Q8 e-tron\* stands for performance, intelligence, lightness, and unified design – characteristics that are expressed in many of the vehicle's details; design and technology form a single unit. A generous arc wrap-around envelops the instrument panel with pronounced horizontal lines as far round as the sculptural door panels. It harmoniously integrates the displays of the optional virtual exterior mirrors as well as the hood above the Audi virtual cockpit, whose sleek display stands visually free in space. The cockpit has a strong driver bias, and the two MMI touch response displays are angled in the driver's direction. When switched off, the upper one of these blends almost invisibly into the large black panel surface, in contrast, the lower display is incorporated into the broad center console. Options include the multifunction buttons on its edge and the control element for the lighting functions in a black panel design with touch response technology.

Both touch displays show all images and information on a black background and as a general design concept, the graphical user interfaces have been deliberately reduced and clearly structured so that the information can be assimilated quickly.

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#### New highlight: the stitching package in red

Customers can choose from several colors and equipment packages for the interior of the Audi Q8 e-tron\*. Two interior lines are available: the base version with comfortable seats and decorative inlays in graphite gray, and the S line version with more highly contoured sports seats and contrast stitching, stainless steel pedals, a comfortable center armrest, and decorative inlays in matte brushed aluminum. The choice of seat upholstery begins with fabric and ranges through the sustainable microfiber material Dinamica to premium Valcona leather with a very fine and pleasantly warm surface. There is optional contrasting stitching on the seats, center armrest, and armrests, and at the front, the floor mats in the S model in both variants have a rhombus S badge.

A new highlight is the Audi Sport stitching package in red, adding high-end accents to the sports seats, steering wheel, knee pad, and door armrests with colored stitching. Edged in red, the seat belts are another interior highlight.

All equipment versions include decorative inlays in a choice of open-pore wood veneers such as grained ash or sycamore wood or aluminum; for the first time, the S line equipment package and the Edition S line also offers a carbon structure. New additions to the range include light brown walnut wood and a sustainable technical fabric made in part from recycled PET bottles.

### Recyclates and resource-efficient materials

The Audi Q8 e-tron\* will reach customers in Europe and the United States as a certified, net carbon-neutral¹ car. To help conserve resources, Audi is using recyclates – processed plastics derived from a recycling process – in some components of the Audi Q8 e-tron\*. The interior of the Audi Q8 e-tron\* uses recyclates for carpets as well as in insulation and damping materials with the purpose to not only to use less resources, but also close a material loop for reasons of economy and efficiency.

The decorative inlay (the tech layer above the display) is available with a novel, anthracite tech fabric made from up to 60% recycled PET bottles. In the S line equipment package, the sports seats are upholstered with Dinamica microfiber material and artificial leather – consisting of up to 45 percent polyester fibers, Dinamica still looks and feels like suede and the fibers used are obtained from recycled PET bottles, old textiles, or residual fibers. In contrast to the previous microfiber quality, the production of Dinamica is also solvent-free – a further contribution to environmental protection.

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# Pilot project: Seatbelt buckle covers made from an innovative recycling process

The Q8 e-tron\* also marks the first time that safety-relevant components are used which have been produced in part from mixed automotive plastic waste via a chemical recycling process: the plastic covers of seatbelt buckles. As part of the PlasticLoop project, Audi and plastics manufacturer LyondellBasell took the findings from a pilot project and established an innovative process that will employ chemical recycling for the first time to reuse mixed automotive plastic waste for the series production of the Audi Q8 e-tron. For this process, Audi has joined forces with LyondellBasell to first dismantle plastic components from customer vehicles that are beyond repair, then cleanse the components of foreign materials such as metal clips, before being shredded and processed via chemical recycling into pyrolysis oil. This is then used as a raw material for the production of new plastics using a mass-balance<sup>2</sup> approach.



The plastic granulate obtained is used for the production of the Q8 e-tron seatbelt buckle covers. Audi and its project partners have succeeded in cycling another material stream, which today is usually only suitable for energy recovery, allowing Audi to use fossil raw materials for longer and reduce the purchase of additional primary materials for the Q8 e-tron\* accordingly. The components made from pyrolysis oil have the same high quality and technical properties as virgin materials.

to NEDC for this vehicle. Information on fuel consumption and  $\widetilde{CO_2}$  emissions in ranges are dependent on the chosen vehicle specification.

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Chemical recycling offers a good alternative to energy recovery and thereby complements mechanical processing, where recycled single-variety plastics are primarily used. "At Audi, our goal is to use secondary materials wherever it is technically possible and makes ecological and economic sense," says Philipp Eder, Project Manager for Circular Economy in the Supply Chain at Audi. The PlasticLoop project is part of Audi's circular economy strategy and serves as a good example for cross-industry cooperation within the Audi supply chain. Findings from the project also flow into product development for future vehicle projects via Audi's "design for recycling" approach.

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# Intuitive and high-resolution: Operation and Displays

The Audi Q8 e-tron\* features a fully digital display and operating concept as standard. With its two MMI touch response displays, it offers a control logic similar to smartphones – the system gives haptic and acoustic feedback if desired and the model's virtual exterior mirrors open the digital operating window even further. Audi pioneered this technology and was the first manufacturer to offer virtual exterior mirrors in a mass-produced model.

### Automatic adaptation to any driving situation

The virtual exterior mirrors are more than just a new technology experience – they also optimize comfort and safety. Incorporated into the hexagonal end of their flat supports is a small camera, whose digitally processed images are displayed on OLED displays in the transition between the instrument panel and door with a resolution of 1280 x 1080 pixel and are harmoniously integrated into the wrap-around that envelopes the cockpit. The 7-inch displays automatically control the brightness and respond even before the driver's finger touches the display; if the driver moves their finger toward the surface, symbols are activated with which the driver can reposition the image. A switching function allows the driver to also adjust the virtual passenger-side mirror.

Thanks to their sophisticated image processing, the displays provide a significantly better image than a conventional mirror in certain situations e.g. direct sunlight. The mirrors adjust automatically to three driving situations: highway, turning, and parking. On highways, the field of vision is reduced so that the driver can better estimate speeds when driving fast – other vehicles then appear larger in the display. If the driver signals an intention to turn or change lanes with the turn signal, the turn signal view enlarges the image on the relevant side, making the blind spot smaller. When maneuvering and parking, the field of view displayed extends downward. The display visualizes turn signals as a green outline on the outer frame and displays information from the lane change assist, Audi side assist, and the exit warning and a heating function protects the camera from fogging and freezing.

#### Haptic feedback: the MMI touch response operating concept

Like all luxury-class models from Audi, the Q8 e-tron\* also uses the MMI touch response operating system. The two large, high-resolution displays – the upper one with a 10.1-inch, the lower one with an 8.6-inch diagonal – replace almost all switches and controls typically seen in cars. Operation is fast and safe: when the driver activates a function with their finger, the system confirms with haptic and acoustic feedback.

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#### Natural voice control and Amazon Alexa<sup>3</sup>

In addition to touch operation, many functions can be activated using <u>natural voice control</u>. The system understands freely worded commands and questions. The Dialog Manager asks questions, if necessary, allows corrections, offers choices, and also defers to the speaker when interrupted. In addition, Amazon's virtual assistant Alexa can be used to check the news, the weather, and current scores of sporting events as well as to place grocery orders or create to-do lists. Alexa streams music and audiobooks from Amazon Music and Audible and provides access to a wide range of Alexa Skills; Audi has seamlessly integrated Amazon's virtual assistant into the MMI system of the Audi Q8 e-tron\*. To use it, the driver doesn't need to install an app on their smartphone or even pair their smartphone with the car; it's as simple as connecting the car with the Amazon account and activating the service via the on-board voice control.

#### Full HD resolution: the Audi virtual cockpit

The digital display and operating concept in the Audi Q8 e-tron\* is rounded off with the standard Audi virtual cockpit with full HD resolution; the specific graphics display key parameters for electric driving, from charging power to range. Via the multifunction steering wheel, the driver can switch between two views: in the classic view, the power meter and speedometer appear as large round instruments; in infotainment mode, they are displayed smaller – and the navigation map moves to the center. The Audi virtual cockpit plus offers two additional views that can be set in the MMI: in addition to the Sport layout – as per the view in the S models – there is a display graphic with a particularly dynamic design: the RPM and speed are shown here as bar diagrams with angular, red graphical elements.

On request, an optional <u>head-up display</u> supplements the displays, projecting important information right onto the windshield – the projections appear to float about two meters in front of the driver.

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# Extensive connectivity: Infotainment System

The Audi Q8 e-tron\* offers an extensive range of infotainment and connectivity features. For the German market, the Audi Q8 e-tron\* includes the MMI Navigation plus as standard. The top Media Center supports the fast LTE Advanced transmission standard with an integrated Wi-Fi hotspot for passengers' mobile devices. Whilst the navigation system offers intelligent destination suggestions based on previously driven routes. Journeys are calculated on-board in the car or online via the servers of map and navigation service provider HERE, incorporating real-time traffic data in the process.

The online services from <u>Audi connect</u> augment the navigation system and are divided into two large packages: Audi connect Navigation & Infotainment and <u>Audi connect safety & service</u>, which includes the vehicle status report with information on charging status and range.

Additionally, the Audi connect Navigation and Infotainment package includes <u>car-to-x services</u> utilizing the swarm intelligence of the Audi fleet: suitably equipped vehicles report moving into and out of parking spaces so that forecasts on vacant roadside parking spaces appear in many cities. The cars from the swarm also warn each other of hazards such as fog or black ice, as well as report current speed limits.

#### Individualization with Audi connect key

The optional Audi connect key provides digital access to the Audi Q8 e-tron\*, enabling the driver and four other authorized users to unlock, lock, and start the electric SUV using an Android smartphone. Preferred settings can be saved in up to seven different user profiles.

### Inductive charging and 3D sound: telephony and sound system

To ensure full enjoyment of media, all components in the Audi Q8 e-tron\* that can emit electromagnetic fields and thus cause interference have been exhaustively shielded and/or suppressed. The Audi phone box makes using the phone very convenient, connecting the driver's smartphone to the car antenna and charging it inductively. Voice-over-LTE helps to connect faster and makes it possible to use high-speed data transfer and high-resolution online voice telephony (HD Voice) at the same time. The Audi Q8 e-tron\* offers two USB ports for playing music from an MP3 player or smartphone through the car's loudspeakers and two additional ports in the rear are optional.

The <u>Audi smartphone interface</u> links customers' iOS and Android smartphones and inserts Apple Car Play or Android Auto environment on the MMI display. A digital radio tuner and an optional TV tuner round out the infotainment program.

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The optional <u>Bang & Olufsen Premium Sound System</u> with 3D sound up front lends the Audi Q8 e-tron\* additional acoustic precision. A small speaker in each A-pillar reproduces the spatial dimension of height; the windshield reflects the sound they emit and the music is experienced exactly as it was recorded – without any artificial effects.

At the heart of the Bang & Olufsen Premium Sound System is a highly efficient amplifier driving 16 loudspeakers with 705 watts. The bass loudspeakers in the front doors are located in a separate housing therefore the surrounding paneling vibrates less. This improves the sound quality and reduces sound propagation outside the vehicle and the decoupling of the loudspeaker also provides a precise, voluminous bass.

One of the first vehicles to be so, the new Audi Q8 e-tron\* is holoride-capable thanks to the modular infotainment kit (MIB 3). Rear seat passengers can put on virtual-reality glasses (VR glasses) and immerse themselves in games, films, and presentations, making car rides a multimodal experience. The main attraction: virtual content adapts to the driving movements of the car in real time. For example, if the car is taking a right turn, the spaceship in the imaginary world will also fly to the right. If the car accelerates, the spaceship speeds up too. In other words, the car's driving dynamics are integrated live into the virtual experience permitting passengers to experience various media formats including games, films, and interactive content is even more intensive.

Holoride combines the displayed content in real time with relevant data points from the car, like acceleration and steering movements as well as navigation data about the route and trip time. Additionally, the movement-synchronized journey through virtual worlds reduces the motion sickness that often accompanies conventional enjoyment of visual media in the car. Initiated by Audi, development of this innovative VR or XR (extended reality) technology is being advanced and commercialized for different manufacturers by the tech entertainment start-up holoride. Audi is the first manufacturer worldwide to introduce virtual-reality entertainment from holoride into its vehicles.

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# Prepared for any everyday situation: Assistance Systems and Digitalization

Up to five radar sensors, five cameras, and twelve ultrasonic sensors register everything that happens in the vehicle's environment – with its 40 functions and systems, the central driver assistance controller in the Audi Q8 e-tron\* ensures even greater convenience and traffic safety. Assistance systems relieve drivers of routine tasks, are reliable even over long distances, and help defuse potentially dangerous situations. Finally, new assistance systems in the Audi Q8 e-tron\* make parking in tight spaces even more convenient.

#### Intelligent park assist and remote park assist plus

Intelligent park assist, which will become available for order in 2023, can steer the car automatically into perpendicular and parallel parking spaces. Numerous ultrasonic sensors located in the front, rear, and side bumpers help with parking. There are also four TopView cameras mounted in the side mirrors, the tailgate opener, and the radiator grille. It also helps drivers to find a suitable parking space: when activated via the MMI, the ultrasonic sensors measure the size of potential roadside parking spaces in the streets of the driver's destination as the vehicle drives past at a moderate speed. The system reliably identifies and measures perpendicular parking spaces up to a maximum speed of 20 km/h and parallel parking spaces up to a maximum speed of 30 km/h. If a suitable parking space is identified, a message appears on the MMI display. To park the vehicle safely, the car must be in forward or reverse, the accelerator pedal gently depressed, and the brakes applied if necessary. Acoustic signals provide support, and the system automatically sets the right steering angle at the right time. If necessary, park assist parks the car in several forward and backward motions. It can also park in parallel parking spaces (the maximum speed for all parking maneuvers is 7 km/h).

Remote park assist plus, which will be available to order in the course of the coming year, offers even more convenience. Using this new system, the driver does not even have to remain within the car but can monitor parking from outside using the myAudi app on their smartphone. This is particularly useful when the Audi Q8 e-tron\* has to be maneuvered into a very tight parking space where getting out and back in would be difficult. During the parking maneuver, the driver must press and hold the corresponding button in the myAudi app and if the distance between the smartphone and the car exceeds six meters, the system will abort the parking maneuver for safety reasons. Once the Audi Q8 e-tron has reached its final position in the parking space, it automatically switches off, activates the parking brake, and locks the doors. When the passengers are ready to leave the parking space, the driver can start the motor in the myAudi app, at which point the vehicle maneuvers out enough so they can enter comfortably.

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#### Route planner and efficiency assist

Assistance systems in the Audi Q8 e-tron\* that were designed specifically for electric-drive models include the route planner, which calculates the ideal charging strategy for long-distance drives. For more details on the route planner, see the section on battery and range. Efficiency assist supports the driver in fuel-saving driving by accessing predictive route data from the navigation system as well as car-to-x information. In order to detect traffic signs and other vehicles, the system uses the front camera and data from the car's forward-facing radar sensors. Efficiency assist can brake and accelerate predictively as well as adjust the speed to match the course of the road and the traffic situation, also considering vehicles on the road ahead. The predictive system always matches its driving style to the selected driving program, from efficient to sporty, as well as using recuperation and gliding.

#### Functions on demand: adding functions after purchase

Even after the customer has ordered their Audi Q8 e-tron\*, the configuration process is not complete. Functions on demand lets customers add vehicle functions in the areas of lighting, driver assistance systems, and infotainment online – depending on their needs and whenever it's convenient. This means the customer can constantly update their car to suit their individual needs, even after delivery. Functions can be purchased for different periods – by month, by year, or permanently.

Booking is done via the myAudi app or the myAudi service portal, and AudiPay makes payment convenient and secure. An example of how it works: LED headlights can be upgraded to Matrix LED headlights with intelligently controlled high beams. Other available functions include dynamic turn signals, daytime running lights with specific signatures, and dynamic lighting scenarios when the Audi Q8 e-tron\* is opened or locked. In terms of assistance systems, customers can add park assist in this way, for example. The Infotainment package includes the Audi smartphone interface.

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# Spacious and suitable for everyday use: Body and Space Concept

Relaxed, safe driving in a pleasant and spacious atmosphere: the Audi Q8 e-tron\* meets this luxury-class requirement with premium long-distance comfort.

### Spacious interior

Standing 4,915 mm long, the Audi Q8 e-tron\* is slightly longer than the Audi e-tron (14 mm). The long 2,928-mm wheelbase allows generous space in the first and second rows of seats; even tall people enjoy a great deal of headroom and knee room in both the SUV and the Sportback derivatives. In fact, the Audi Q8 e-tron\* is the leader in this respect in the luxury class. Typical of electric cars without a center tunnel, the rear seats feature additional legroom – up to five people can sit comfortably here, and there is also ample storage space for baggage, with a luggage compartment volume of 569 liters. If only two people are traveling in the Audi Q8 e-tron\*, the rear seats can fold down individually, increasing storage space to up to 1,637 liters (1,567 liters in the Sportback). In the Sportback, the rear luggage compartment offers 528 liters of space, plus a further 62 liters in the frunk (front trunk) under the front hood, as in the SUV variant – the mobile charging cable or smaller bags can be conveniently stored here, for example.

#### Acoustics and noise insulation

In an electric car, the engine noise is no longer the dominant sound source. Instead, occupants hear the rolling noise of the wheels and the structure-borne sound of the body. Even at medium speeds, the wind is an additional source of noise (wind noise becomes audible above 85 km/h). This noise remains quite low thanks to intensively fine-tuned door seals and water-catching strips and the exterior mirrors also play a large part in helping minimize noise. With its sophisticated noise insulation and excellent aeroacoustics, the Audi Q8 e-tron\* is a relaxing-to-drive glider that lives up to luxury-class standards. Among other features, the front windshield comes standard in a double-glazed design, so passengers can relax and talk to each other even at high speeds; Audi also offers acoustic glazing for the side windows as an option. Openings and cavities within the body are sealed and filled with absorbent, insulating materials. Textile fabric and microfiber fleece line the wheel wells to absorb sound and large sheet metal surfaces are covered with a special material, which prevents them from vibrating heavily. On the front wall, a multi-coat design insulates the noise against passing from the front end into the interior and the electric motor on the rear axle also requires sound insulation measures in the rear. On top of that, the electric motors are enclosed in noise-reducing capsules. In the interior, foam-backed carpeting maintains the quiet.

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#### Body stiffness and crash structure

In line with the brand philosophy, the body of the Audi Q8 e-tron\* features a mixed steel/aluminum hybrid construction. Including the housing for the high-voltage battery, the aluminum content is around 40 percent. The doors, front, and tailgate as well as the floor panel in the rear are made of aluminum. The unladen weight lies between 2,510 and 2,650 kg, which is within the usual range for an electric SUV of this size with a powerful battery.

The high-voltage battery and body form a strong hybrid structure with 45 percent greater torsional stiffness than a conventional combustion SUV. This construction pays off in better handling as well as reduced noise levels. The battery is protected by a surrounding frame made of cast aluminum nodes and extruded aluminum sections whilst the interior is stiffened by an aluminum framework system also made of extruded sections.

Central components – e.g. A- and B-pillars, roof members, center tunnel, interior sills, floor cross-members, and rear longitudinal members – are made of ultra-high-strength steel and comprise the stable backbone of the passenger compartment. In a head-on collision, the three stress planes in the front end absorb the forces to protect car occupants.

#### Trailer loads up to 1,800 kg

An optional trailer hitch is available for the Audi Q8 e-tron\*. The vehicle is approved for a trailer load (braked) of up to 1,800 kg, a high value for an electric vehicle. The trailer hitch (nose weight 80 kg) gives customers the opportunity to mount a bicycle rack to carry several bikes and e-bikes.

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# Carbon neutral form stage one: Sustainable Production

When the new Audi Q8 e-tron\* leaves production at the Brussels plant in Belgium, it will reach customers in Europe and the United States as a net carbon-neutral¹ car. A TÜV certification on its status as a "climate-neutral product" confirms this officially: "Audi ensures that carbon emissions along the supply chain, throughout the production process, and in logistics, among other areas, have been proportionately avoided or reduced through the use of electricity from renewable sources. This explicitly includes the production of the vehicles' high-voltage battery. In addition, Audi goes further by offsetting unavoidable CO₂-equivalent emissions through its support for internationally recognized carbon offsetting projects," TÜV NORD confirms in its certification.

# First carbon-neutral high-volume production plant in premium segment

Since production of the Audi e-tron began in 2018, the plant in Brussels has been recognized as the world's first certified CO<sub>2</sub>-neutral high-volume production plant in the premium segment. The site switched to green power back in 2012. Among other things, Audi Brussels installed one of the largest photovoltaic systems in the region on the plant premises, covering 107,000 square meters. It generates around 9,000 megawatt hours of power from sustainable energy per year (enough to charge some 90,000 Audi Q8 e-tron\* units). The companies that supply the battery cells are also obliged to only use electricity from renewable sources for production.

The second sphere of action involves heating the location with renewable energy. At the Audi plant in Brussels, this coverage comes through biogas certificates. Both of these spheres together cover around 95 percent of the plant's energy needs. Emissions in production and the supply chain that cannot yet be avoided by means of renewable energy sources are offset using carbon credit projects which are certified by non-profit organizations <u>The Gold Standard</u> or <u>Verified Carbon</u> Standard.

#### Rail instead of road

As an additional measure, components for battery production no longer reach the Audi plant in Brussels by truck, but instead by DB Cargo freight trains from Hungary. This enables Audi to reduce harmful  $CO_2$  emissions. Rail transport over an approximate 1,300-kilometer route, reduces emissions by around 2,600 tons of  $CO_2$  per year. The switch to rail transport between Hungary and Brussels began in May 2022 and is scheduled for completion in early 2023.

Wherever possible, Audi uses DB Cargo's DBeco plus service – for example, for the parts of the route in Austria and Germany. The service sources power exclusively from renewable sources such as wind, water, or solar energy, making transport net carbon neutral.

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In Hungary and Belgium, Audi uses DBeco neutral. With this product, the power used for transportation is offset by means of climate certificates, reducing carbon emissions elsewhere.

#### S rating in the supply chain

To ensure sustainability in the supply chain, Audi uses various tools, including the Sustainability Rating or S rating. This tool helps evaluate suppliers with respect to sustainability, environment, and social wellbeing, regardless of their location and size. The rating is based on a self-assessment questionnaire (SAQ) that suppliers answer, but it also takes into consideration the documents and certificates provided. Whenever it appears necessary, Audi verifies the information on site. Audi only works with companies that pass this audit. In short, Audi uses this procedure to ensure contractual partners comply with the contents of the Code of Conduct for Business

Partners. It also lets the company determine the sustainability performance of its suppliers with the S rating being mandatory for all companies that wish to cooperate with Audi and employ more than ten people at their site.

#### Recyclates and resource-efficient materials

To further help conserve resources, Audi uses a novel plastic construction design for the underride guard in the Audi Q8 e-tron\* for the first time. Instead of aluminum, the use of high-strength and highly stiff fiber composite materials made from single-variety plastic now significantly reduces the weight of the component by around seven kilograms. This also reduces the CO<sub>2</sub> footprint of the underride guard and for the Q8 e-tron\* overall. The underride guard features a demountable seal that is quick and easy to take off in the event of an inspection.

For subsequent vehicle generations, there are already plans to manufacture the underride guard from recyclates, which would further improve the carbon balance and contribute to the sustainability targets of the brand with the four rings. As the component is made of pure plastic reinforced with glass, it can itself be easily recycled and returned to the material cycle. Recyclates – processed materials derived from a recycling process – are already used in some components of the Audi Q8 e-tron\*. In addition to reducing carbon emissions, the goal is to establish a closed and thus efficient and sustainable material cycle.

In the interior of the Audi Q8 e-tron\*, Audi uses recyclates for carpets as well as in insulation and damping materials. The decorative inlay (the tech layer above the display) is available with a novel, anthracite tech fabric made partly from recyclates. In the S line equipment package, the sports seats are upholstered with Dinamica microfiber material and artificial leather. Polyester fibers make up 45 percent of the Dinamica material, which still looks and feels like suede.

The fibers used are obtained from recycled PET bottles, old textiles, or residual fibers. In contrast to the previous microfiber quality, the production of Dinamica is also solvent-free – a further contribution to environmental protection.

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#### Green power in the utilization phase as well

Green power is considered the most effective lever for  $CO_2$  reduction in the utilization phase. This phase covers the entire period during which the car is driven by customers, making the provision of fuel or charging power a key factor throughout. It is also during this phase that about half of the carbon emissions a car produces over the course of its <u>life cycle</u> are generated.

For example, Audi customers can already use the green power solutions offered by Volkswagen subsidiary Elli (Electric Life) to charge their cars at home today. For charging on the road, the charging network from IONITY, Europe's largest open HPC network, also uses green power. Audi's involvement in this joint venture is the provision of more than 5,000 additional quick-charging points with up to 320 kW of charging power at over 1,000 locations in Europe by 2025.

#### New wind and solar parks

Audi wants to do its part to uphold the Paris Climate Accords by making the entire company net carbon neutral<sup>1</sup> by no later than 2050. To achieve this together with its customers, the brand with the four rings is relying on, among other things, green electricity to power Audi's electric fleet in Europe. The aim is to increase the amount of green power in the European power grids and thus enable customers to charge with net green electricity. With this initiative, Audi is making a measurable contribution toward offsetting the amount of energy its electric fleet with new additional consumers uses, with power from renewable energy sources. In the process, the company is committed to expanding new sources of renewable power. Together with its cooperation partners, Audi aims to increase the share of electricity generated from renewable sources as well as that of electric cars on the market. By 2025, Audi plans to build new wind and solar parks in various European countries together with several partners, which will generate around five terawatt hours of additional green power. This corresponds to an installed capacity of about 250 new wind turbines.

As the first project to expand the supply of green power in Germany, a solar park in the German state of Mecklenburg-Vorpommern went live in 2022.

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## Market Launch and Prices

Audi began its journey to all-electric mobility in 2018 with the e-tron\*. It has been a resounding success, with around 150,000 vehicles delivered to customers worldwide. Audi's family of electric models has grown in recent years and months: the Audi e-tron GT quattro\*, RS e-tron GT\*, and Audi Q4 e-tron\* have significantly expanded the company's e-product portfolio. In 2023, the Audi Q8 e-tron\* will join them as the top model in Audi's electric fleet.

The new Audi Q8 e-tron\* will be launched in Germany and numerous other European countries in late February 2023. In the USA, the market launch is scheduled for two months later.

The Audi Q8 e-tron\*/Q8 Sportback e-tron\* will be available to order from mid-November 2022.

The SQ8 e-tron\*/SQ8 Sportback e-tron\* will be available to order starting in the spring of 2023 and will be launched in Europe in late May.

#### Prices in Germany

The Audi Q8 e-tron\* will be available in Germany starting at €74,400.

Audi Q8 50 e-tron\*: €74,400 Audi Q8 55 e-tron\*: €85,300 Audi SQ8 e-tron\*: €95,800

Audi Q8 Sportback 50 e-tron\*: €76,650 Audi Q8 Sportback 55 e-tron \*: €87,550 Audi SQ8 Sportback e-tron\*: €98,050

<sup>&</sup>lt;sup>1</sup> Audi understands net-zero carbon emissions to mean a situation in which, after other possible reduction measures have been exhausted, the company offsets the carbon emitted by Audi's products or activities and/or the carbon emissions that currently cannot be avoided in the supply chain, manufacturing, and recycling of Audi vehicles through voluntary offsetting projects carried out worldwide. In this context, carbon emissions generated during a vehicle's utilization stage, i.e., from the time it is delivered to the customer, are not considered.

<sup>&</sup>lt;sup>2</sup> At least 70 percent of the plastic granulate for the seatbelt buckle covers (including fillers and additives) consists of the pyrolysis oil produced through the project. This pyrolysis oil was secured through the plastic granulate manufacturing process. The assignment of the waste-based pyrolysis oil is carried out within the framework of a mass-balance approach with a qualified credit transfer. This means that ecocycle, an independent external certification agency, confirms that the project members have replaced the amounts of fossil resources required for the seatbelt buckle covers with pyrolysis oil produced from mixed automotive plastic materials. It is intended to provide sufficient pyrolysis oil in the aforementioned volume for the entire production run of the Q8 e-tron on the basis of the currently planned production figures.

<sup>&</sup>lt;sup>3</sup> Amazon, Alexa, and all related logos are registered trademarks of Amazon.com Inc. or associated companies.

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The Audi Group is one of the most successful manufacturers of automobiles and motorcycles in the premium and luxury segment. The brands Audi, Bentley, Lamborghini, and Ducati produce at 22 locations in 13 countries. Audi and its partners are present in more than 100 markets worldwide. In 2022, the Audi Group delivered 1.61 million Audi vehicles, 15,174 Bentley vehicles, 9,233 Lamborghini vehicles, and 61,562 Ducati motorcycles to customers.

In the 2022 fiscal year, AUDI Group achieved a total revenue of  $\leqslant$ 61.8 billion and an operating profit of  $\leqslant$ 7.6 billion. Worldwide, more than 87,000 people worked for the Audi Group in 2022, over 54,000 of them at AUDI AG in Germany. With its attractive brands, new models, innovative mobility offerings and groundbreaking services, the group is systematically pursuing its path toward becoming a provider of sustainable, individual, premium mobility.





#### Fuel/electric power consumption and emissions values\*\* of the models named above:

#### Audi Q8 50 e-tron

Combined electric power consumption in kWh/100 km (62.1 mi): 24.0–20.1 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

#### Audi Q8 55 e-tron

Combined electric power consumption in kWh/100 km (62.1 mi): 24.4–20.6 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

#### Audi SQ8 e-tron

Combined electric power consumption in kWh/100 km (62.1 mi): 29.0–26.2 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

#### Audi Q8 50 Sportback e-tron

Combined electric power consumption in kWh/100 km (62.1 mi): 23.7–19.5 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

#### Audi Q8 55 Sportback e-tron

Combined electric power consumption in kWh/100 km (62.1 mi): 24.1–19.9 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

#### Audi SQ8 Sportback e-tron

Combined electric power consumption in kWh/100 km (62.1 mi): 28.2–25.3 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

#### Audi e-tron GT quattro

Combined electric power consumption in kWh/100 km (62.1 mi): 21.6–19.9 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

#### Audi RS e-tron GT

Combined electric power consumption in kWh/100 km (62.1 mi): 22.1–19.8 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

#### Audi Q4 e-tron

Combined electric power consumption in kWh/100 km (62.1 mi): 20.2–16.1 (WLTP); combined CO<sub>2</sub> emissions in g/km (g/mi): 0 (0)

\*\*The indicated consumption and emissions values were determined according to the legally specified measuring methods. The WLTP test cycle completely replaced the NEDC on January 1, 2022, which means that no NEDC figures are available for vehicles with new type approvals from after this date.

The figures do not refer to a single, specific vehicle and are not part of the offering but are instead provided solely to allow comparisons of the different vehicle types. Additional equipment and accessories (add-on parts, different tire formats, etc.) may change relevant vehicle parameters, such as weight, rolling resistance and aerodynamics, and, in conjunction with weather and traffic conditions and individual driving style, may affect fuel consumption, electrical power consumption,  $CO_2$  emissions and the performance figures for the vehicle.

Due to the more realistic test conditions, the consumption and  $CO_2$  emission values measured are in many cases higher than the values measured according to the NEDC. This may result in corresponding changes in vehicle taxation since September 1, 2018. Additional information about the differences between WLTP and NEDC is available at <a href="https://www.audi.de/wltp">www.audi.de/wltp</a>

Further information on official fuel consumption figures and the official specific  $CO_2$  emissions of new passenger cars can be found in the "Guide on the fuel economy,  $CO_2$  emissions and power





consumption of all new passenger car models", which is available free of charge at all sales dealerships and from DAT Deutsche Automobil Treuhand GmbH, Helmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, Germany (<u>www.dat.de</u>).