

# **Audi A6 Avant 45 TFSI quattro S tronic\***

## **The life cycle assessment**



Image shows vehicle from the production year 2018 with optional equipment

\* Audi A6 Avant 45 TFSI quattro S tronic, 7-speed S tronic, 195 kW: combined fuel consumption: 8.8 - 7.6 l/100 km; combined CO<sub>2</sub>-emissions: 193 - 172 g/km; CO<sub>2</sub> Class: G - F

# Life cycle assessment

## Audi A6 Avant 45 TFSI quattro S tronic\*

AUDI AG prepares a detailed life cycle assessment for new vehicle models at the start of production.

In the following, the Audi A6 Avant 45 TFSI quattro S tronic\* with the German standard equipment without additional optional equipment is considered.

### The methodology

The life cycle assessment (LCA) analyzes the environmental impact of a product throughout its life cycle (cradle-to-grave, see Figure 1). In a life cycle assessment for an AUDI AG vehicle, this is broken down into the following phases:

- **Production:**

Manufacture of the components (from the raw material to the finished component) and production of the vehicle model.

- **Usage:**

Use of a vehicle model based on a predefined driving profile (WLTP) with a mileage of 200,000 km including upstream processes from the fuel or energy supply.

- **Recycling** at the end of the product life.

Within the life cycle assessment on hand, only the ecological impact category of greenhouse gas potential is quantitatively assessed. Further explanations can be found below.

When preparing the life cycle assessment, AUDI AG follows the procedure standardized in the international series of standards ISO 14040 ff.

The following premises were used as a basis for preparing the life cycle assessment:

- Production year 2018, model year 2021
- Material data and component parts list of the examined vehicle model
- Combined fuel consumption according to WLTP in 2020
- 200,000 km mileage in the use phase
- Testing and validation by independent experts (TÜV NORD CERT GmbH)

The life cycle assessment software GaBi version 9.5.2.49 was used.

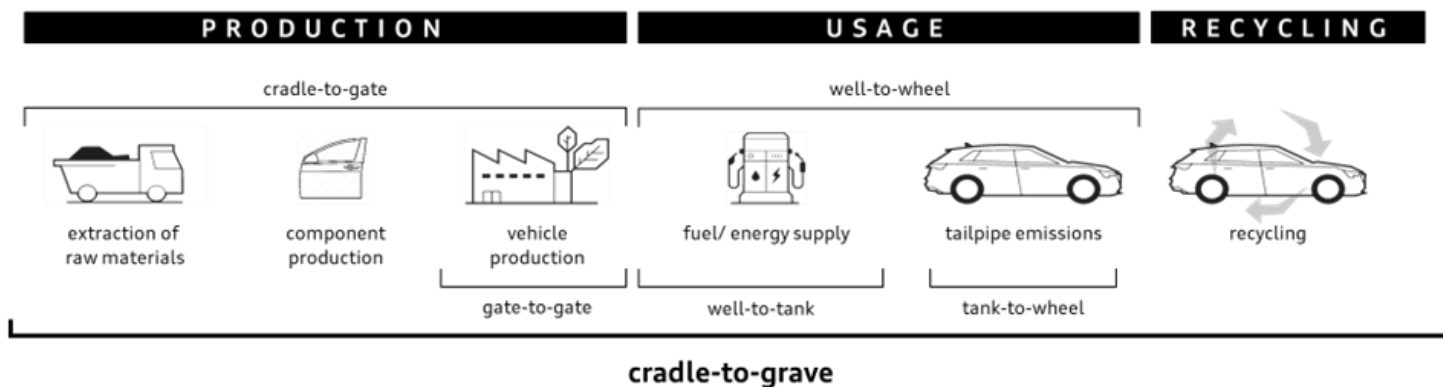


Figure 1: Scope of investigation of a life cycle assessment

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### The results - global warming potential over the entire life cycle

The global warming potential (GWP) describes the emissions of greenhouse gases that lead to an increase in the heat absorption of solar radiation in the atmosphere and thus can contribute to an increase in the global average temperature. The reference substance for the global warming potential is carbon dioxide (CO<sub>2</sub>), to which all other active substances (e.g. methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), volatile organic compounds (VOC)) are related (CO<sub>2</sub> equivalents - CO<sub>2</sub>-eq.).

The Audi A6 Avant 45 TFSI quattro S tronic\* causes approx. 53.2 t CO<sub>2</sub>-eq. greenhouse gas emissions over its entire life cycle. In the production phase, the greenhouse gas emissions of the Audi A6 Avant 45 TFSI quattro S tronic\* are around 8.4 t CO<sub>2</sub>-eq. and 0.9 t CO<sub>2</sub>-eq. are generated in logistics. In the use phase of the Audi A6 Avant 45 TFSI quattro S tronic\*, 8.0 t CO<sub>2</sub>-eq. account for fuel provision, as well as 35.5 t CO<sub>2</sub>-eq. for driving emissions, which in total corresponds to almost 80 % of the total greenhouse gas emissions over the life cycle. The maintenance generates 0.4 t CO<sub>2</sub>-eq.. 0.03 t of CO<sub>2</sub>-eq. are generated during recycling.

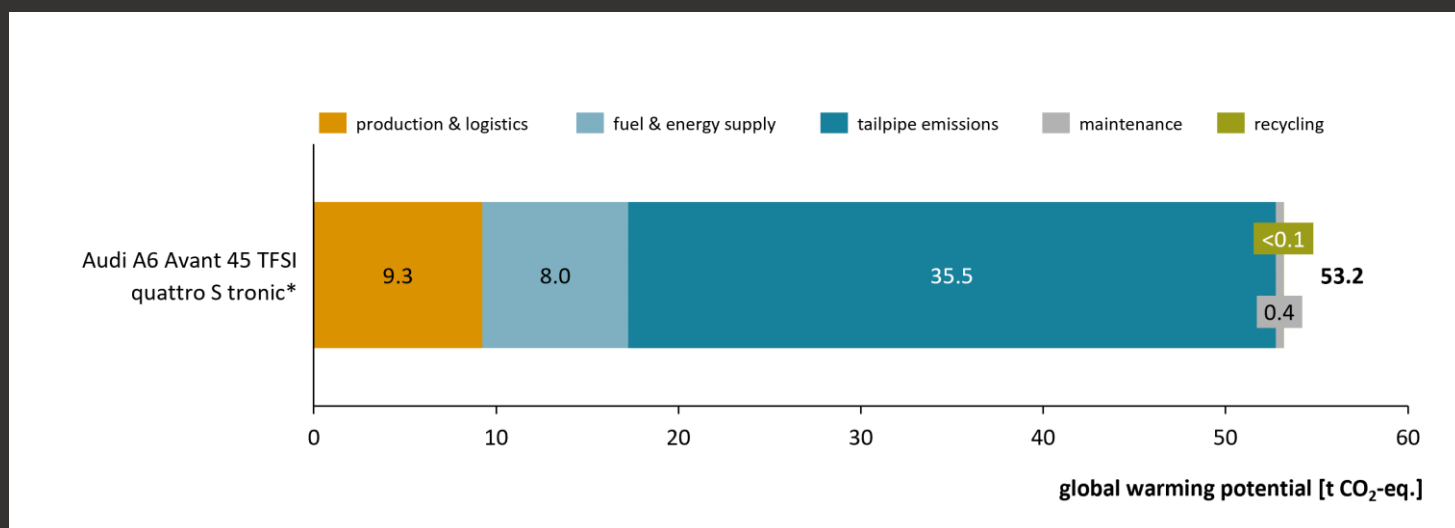


Figure 2: Global warming potential of the Audi A6 Avant 45 TFSI quattro S tronic\* over the entire life cycle

## Conclusion

AUDI AG is aware of its responsibility towards the environment by putting vehicles on the market and is committed to the Paris Agreement on climate change. As part of this, AUDI AG is pursuing a consistent decarbonization strategy. The data basis for this is formed, among other things, by the life cycle assessments of the various vehicle models from Audi AG.

The life cycle assessment of the Audi A6 Avant 45 TFSI quattro S tronic\* was checked by the external expert TÜV NORD CERT GmbH. Evidence of the rule-compliant application of DIN EN ISO 14040 was provided and a declaration of validity was issued. Further information on sustainability at Audi AG can be found at [Consistent and holistic: sustainability at Audi | audi.com](https://www.audi.com/consistent-and-holistic-sustainability).

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# GÜLTIGKEITSERKLÄRUNG

**DIN EN ISO 14040:2021 / DIN EN ISO 14044:2021  
(Produkt-Ökobilanz)**

Der Nachweis der regelwerkskonformen Anwendung wurde erbracht und wird gemäß Verfahren der TÜV NORD CERT Umweltgutachter GmbH bescheinigt für

**Audi AG**  
Auto-Union Straße 1  
85057 Ingolstadt  
Deutschland

Geltungsbereich

**Umweltbilanz „Audi A3 (PHEV)“, „Audi A6 (TFSI)“, „Audi Q2 (TFSI und TDI)“, „Audi Q4 (e-tron)“ und „Audi e-tron GT“.**

Die Anforderungen der genannten Nomen wurden nachweislich erfüllt durch eine kritische Prüfung hinsichtlich

- der bei Durchführung der Umweltbilanz angewendeten wissenschaftlich begründeten und technisch gültigen Methoden;
- der Zweckmäßigkeit der verwendeten Daten in Bezug auf das Ziel der Studie;
- der Berücksichtigung des Zieles der Umweltbilanz und der erkannten Einschränkungen in den Auswertungen.

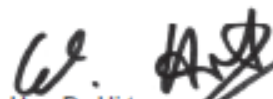
Die Berichte zur Umweltbilanz (Az: 35297115\_1-5) sind transparent und in sich stimmig.

Diese Gültigkeitserklärung bezieht sich ausschließlich auf die funktionelle Einheit zum Zeitpunkt der Berichte zur Umweltbilanz.

Berichts-Nr. 3529 7115

TÜV NORD CERT UMWELTGUTACHTER GmbH

Hannover, 2021-10-19



Herr Dr. Hirtz  
Umweltgutachter