



Polestar 4 SUV
—
Carbon footprint
Summary

Introduction

Assessment overview

This document presents the carbon footprint of Polestar 4 SUV and is based on the Life Cycle Assessment report. That report, which is a more in-depth analysis, can be read and downloaded at: polestar.com/sustainability.

The full Life Cycle Assessment report is reviewed by WSP UK Ltd and made according to ISO 14067. Data is based on Polestar 4 SUV at the Start of Production in summer of 2026.



Introduction Transparency

Polestar is dedicated to ensuring transparency regarding the environmental impact of its vehicles. This document aims to promote openness to all audiences by disclosing the carbon footprint associated with our passenger vehicles. This is a summary of the full Life Cycle Assessment report, available at: polestar.com

Read the full report →



Introduction
Carbon footprint

A carbon footprint is the total amount of greenhouse gas emissions, expressed in CO₂ equivalents, caused throughout the entire life cycle of a vehicle.

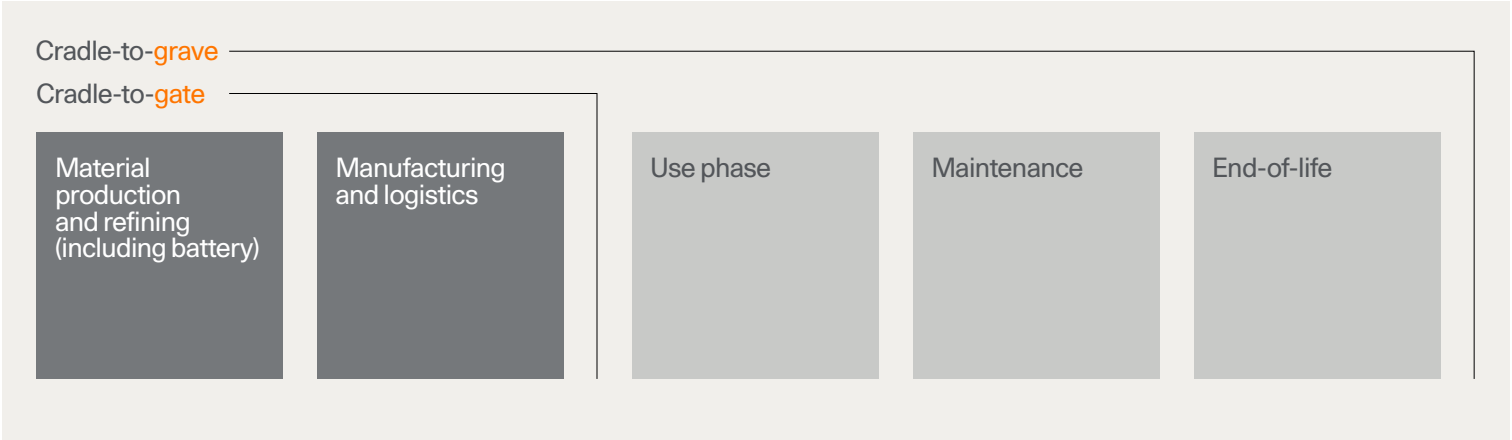
In the cradle-to-gate calculations we include:

- Material production and refining. From raw materials to components (including battery).
- Manufacturing and logistics. Energy used in assembly plant, transport of parts to the manufacturing plants and finished vehicles delivered directly to the dealer.

For the cradle-to-grave calculations we add on and include:

- Use phase. Electricity consumed during assumed 200,000 km of driving over 15 years.
- Maintenance. Parts replaced during the vehicle lifetime.
- End-of-life. Dismantling and disposal of the vehicle.

By assessing the full life cycle, we can identify the processes and materials with the greatest climate impact, enabling us to make better design choices and drive decarbonisation across our value chain.



Use phase calculation based on

15 years
200 000 km

Introduction

Reviewing the data

How do we measure it?

Our assessments follow the ISO 14067 standard and use the 100-year global warming potential (GWP) factors from the IPCC (2021). The functional unit is one vehicle kilometre (vkm), with a lifetime distance of 200,000 km assumed over 15 years. Energy use is based on WLTP electricity consumption figures. We apply a recycled content approach: emissions from recycled material inputs are included, but no credits are given for recycling at end-of-life.

Who reviews this data?

The Polestar 4 SUV LCA has been critically reviewed by independent third party WSP UK Ltd. in accordance with ISO 14067. This critical review strengthens credibility and ensures transparency towards customers, investors, and other stakeholders.

Why does it matter?

A carbon footprint is more than a number. It gives us clarity on where emissions occur, guides material and process choices, and helps accelerate our journey to climate-neutral mobility.



The product
Technical details

Technical details	Dual motor	Rear motor
Powertrain	Electric	Electric
Drive type	All wheel drive	Rear wheel drive
Power	400 kW (544 hp)	200 kW (272 hp)
Max speed	200 km/h	200 km/h
0 - 100 km/h	3.9 s	7.3 s
WLTP range	600 km	630 km
Energy consumption, WLTP	19.0 kWh/100km	17.5 kWh/100km
Battery capacity (gross)	100 kWh	100 kWh
Battery pack weight, (Chemistry)	581 kg, (NMC)	581 kg, (NMC)
Curb weight	2 375 kg	2 265 kg



Carbon footprint
To car handover

The cradle-to-gate carbon footprint represents all processes occurring up until the point the vehicle arrives at the dealership for customer handover.

When the Polestar 4 SUV reaches its customer, the average carbon footprint totals 21.1 tCO₂e for the Dual motor and 20.2 tCO₂e for Rear motor.

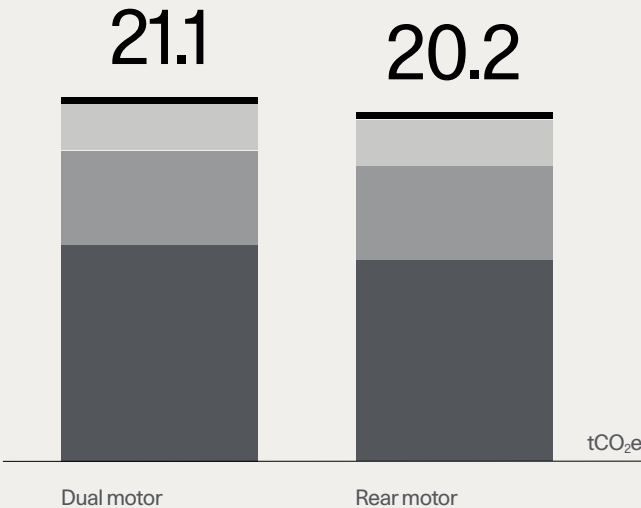
The largest share, 60% for the Dual motor, and 58% for the Rear motor comes from materials extraction and production, such as aluminium, steel, copper, plastics, electronics and rubber used.

The Li-ion battery pack is the next biggest contributor, responsible for 26% for the Dual motor and 27% for the Rear motor.

Logistics account for 13% for both the Dual motor and the Rear motor. Approximately 2% comes from the manufacturing processes occurring in the Busan plant.

The carbon footprint from logistics varies depending on which market the Polestar 4 SUV is shipped to. The total figures mentioned for all model variants include the average logistics emissions across all markets.

Cradle-to-gate carbon footprint
MY27



	Dual motor	Rear motor
■ Manufacturing	0.4	0.4
■ Logistics	2.7	2.7
■ Li-on battery pack	5.5	5.5
■ Materials production and refining	12.6	11.7



Li-ion battery pack carbon footprint

5.5 tCO₂e

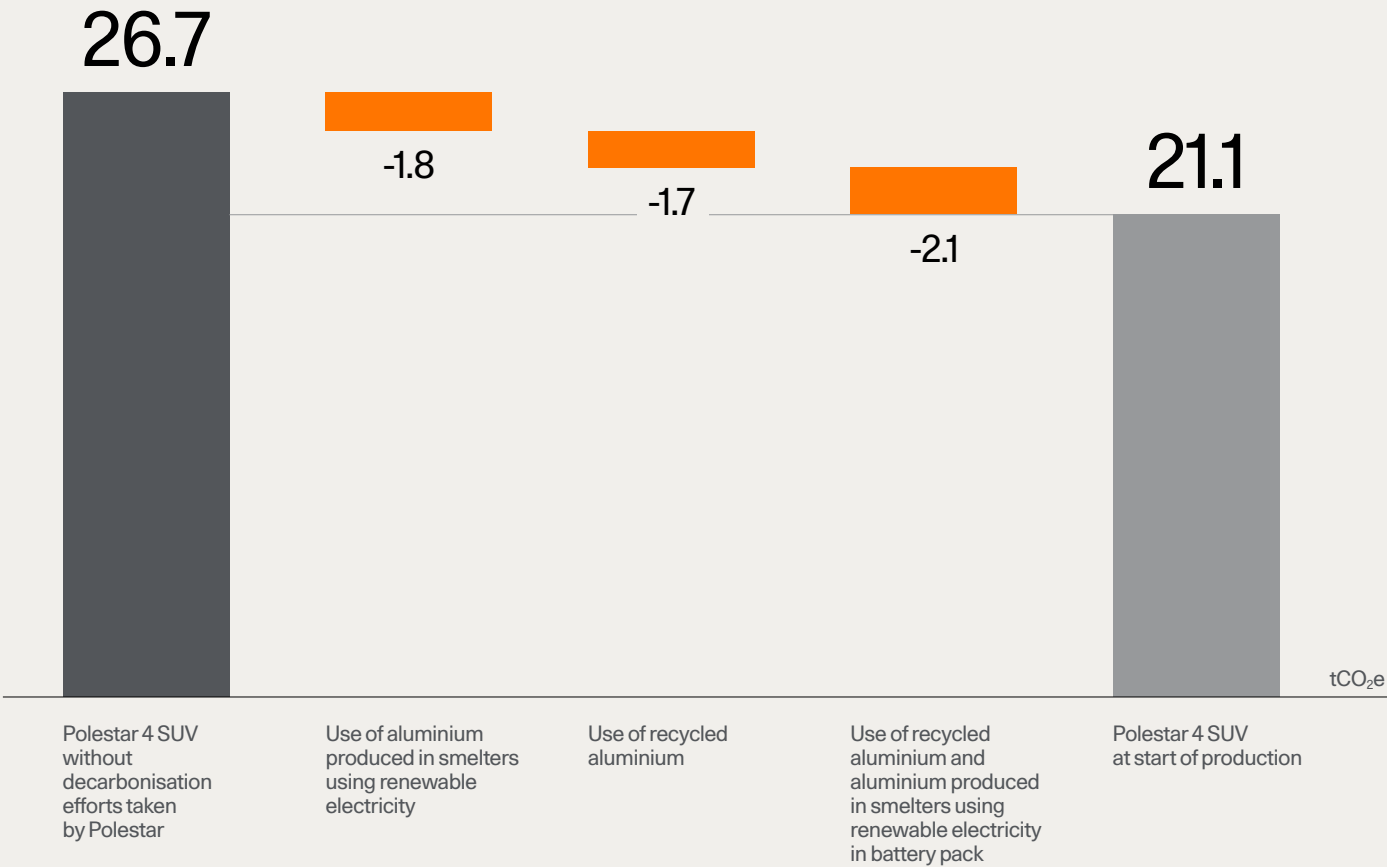
Carbon footprint
Measures to reduce

To get to the result of 21.1 tCO₂e, for the Dual motor variant, Polestar has set high requirements on suppliers to reduce the carbon footprint of aluminium and battery pack. The figures to the right show the measures Polestar has taken to reduce the carbon footprint of the Polestar 4 SUV Dual motor.

Without these measures to reduce the vehicle carbon footprint, the impact would be significantly higher. This proves that by taking action to address carbon emission hot spots we can drive change and reduce the climate impact of our products.

Decarbonisation measures effect on Polestar 4 SUV Dual motor

Cradle-to-gate carbon footprint



Carbon footprint During lifetime

The cradle-to-grave carbon footprint is calculated based on all processes occurring over the assumed 200,000 km lifetime of the Polestar 4 SUV, including end of life treatment.

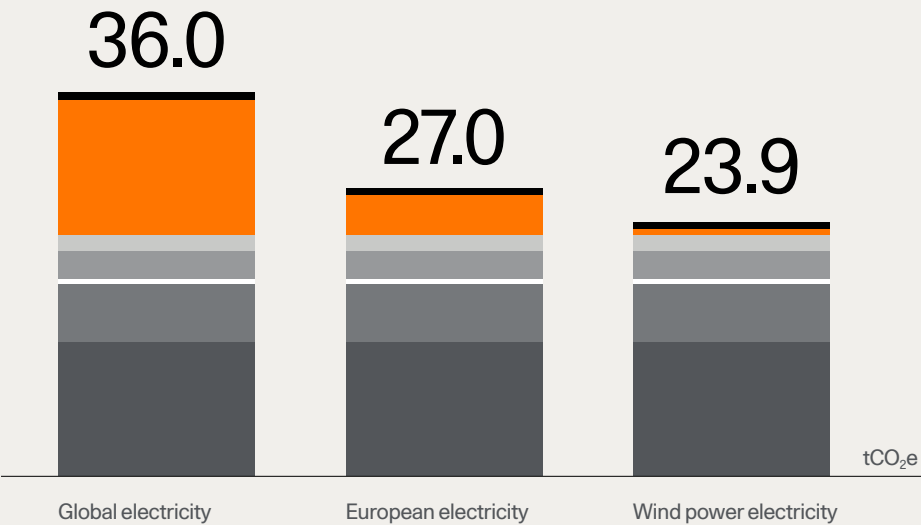
The carbon footprint of the use phase is highly dependent on how the electricity used to charge the Polestar 4 SUV is generated.

Using the global average electricity mix the GHG emissions from the use of the vehicle results in 12.7 tCO₂e (Dual motor) and 11.7 tCO₂e (Rear motor), while the European average electricity mix results in 3.7 tCO₂e for the Dual motor variant and 3.4 tCO₂e for the Rear motor variant. Customers can make significant reductions to their climate impact by charging with renewable electricity, charging exclusively with wind power electricity results in 0.5 tCO₂e.

Both the Global and European electricity mixes include carbon intensity reductions that are estimated to occur during the assumed 15 year lifetime of the vehicle. Data sourced from the International Energy Agency (IEA) according to their STEPS Scenario.

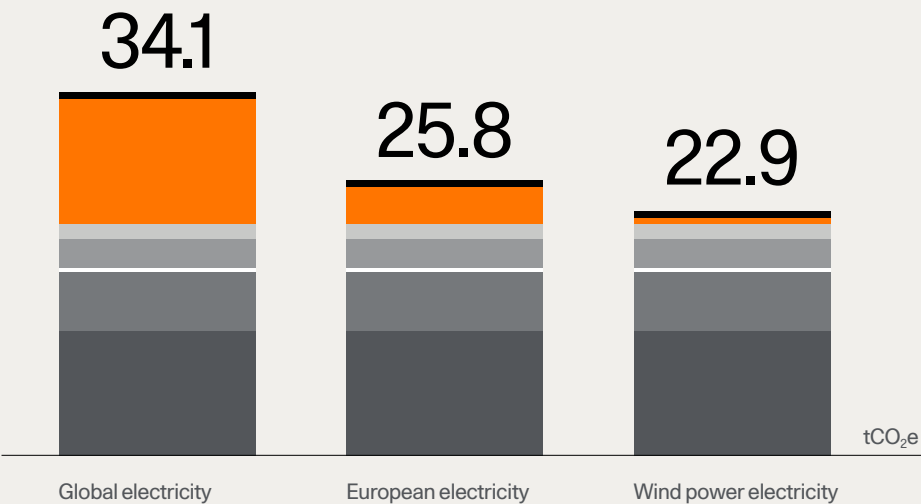


Cradle-to-grave carbon footprint
Dual motor



	Global	European	Wind
End-of-life	0.7	0.7	0.7
Use phase	12.7	3.7	0.5
Maintenance	1.5	1.5	1.5
Logistics	2.7	2.7	2.7
Manufacturing	0.4	0.4	0.4
Li-on battery pack	5.5	5.5	5.5
Material production	12.6	12.6	12.6

Cradle-to-grave carbon footprint
Rear motor



	Global	European	Wind
End-of-life	0.7	0.7	0.7
Use phase	11.7	3.4	0.5
Maintenance	1.5	1.5	1.5
Logistics	2.7	2.7	2.7
Manufacturing	0.4	0.4	0.4
Li-on battery pack	5.5	5.5	5.5
Material production	11.7	11.7	11.7