


Life cycle assessment

Carbon footprint report
Polestar 4 coupé

Produced in Hangzhou Bay, China



Model year
2027

4

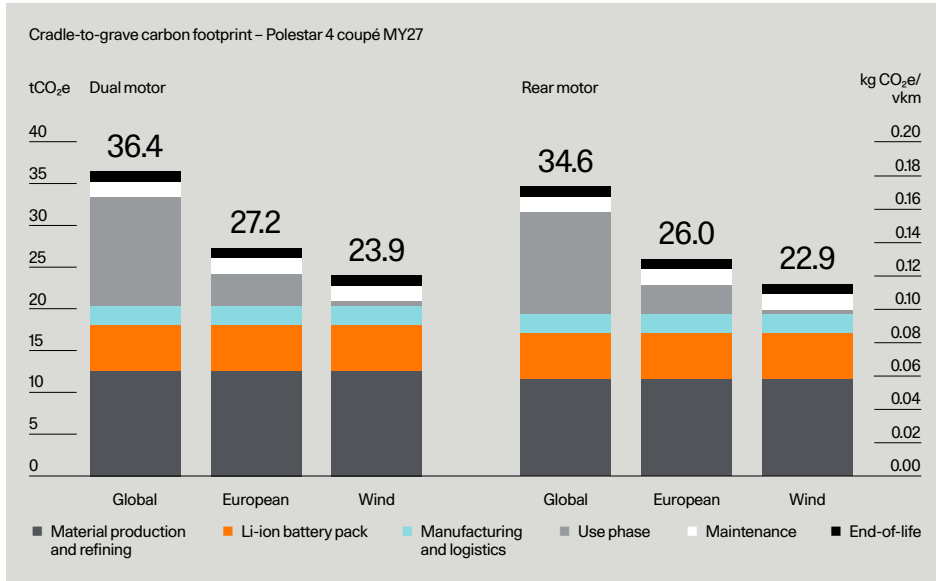
Disclaimer

This report is for information only and (1) is based solely on an analysis of Polestar 4 coupé (model year 2027) and does not include information regarding any other Polestar vehicle and (2) does not include any commitments for current or future products or carbon footprint impacts. Full study methodology is available in the first Polestar 4 life cycle assessment report, available via this link: [Polestar 4 LCA report](#). To get a full understanding of the methodology used to calculate the carbon footprints in this report, it is recommended to read the previous report in conjunction with this one.

The result of this study is dependent upon agreed and validated information from Polestar's suppliers and sub-suppliers. During the course of a vehicle program life there could arise changes and non-compliances within the supply chain, should such changes or non-compliances arise, Polestar will take corrective actions to achieve the results presented in this report.

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< Figure 1

Carbon footprint for Polestar 4 coupé variants, with different electricity mixes in the use phase. The axis to the left, as well as the data labels, presents the result per functional unit (200,000 km lifetime driving distance) in tCO₂e. The axis to the right presents the result in kg CO₂e using a secondary functional unit of 1 vkm (vehicle kilometer, 200,000 km lifetime driving distance).

At the end of 2023, a carbon footprint report of Polestar 4 “Long range Dual motor”, Long range Single motor” and “Standard range Single motor” model year 2024 and 2025 was published. The carbon footprints presented in this report only represent vehicles produced in Hangzhou Bay, China. The Polestar 4 from model year 2026 and onwards does not come with the Standard range Single motor. From the present model year, 2027, there have been naming changes of the model and variants of the vehicle. The Polestar 4 has been renamed the “Polestar 4 coupé” and the Long range Dual motor variant has been renamed “Dual motor” and the Long range Single motor has been renamed “Rear motor”. This report assesses these two variants of the Polestar 4 coupé; these changes are only changes in name and no changes in the actual vehicle.

The carbon footprint presented in this report is based on a Life Cycle Assessment (LCA). The LCA is performed according to ISO LCA standards¹. In addition, the “Product Life Cycle Accounting and Reporting Standard”² published by the Greenhouse Gas Protocol has been used for guidance in methodological choices. Given the great number of variables and possible methodological choices in LCA studies, these standards generally provide few strict requirements to be followed. Instead, they mostly provide guidelines for the practitioner. For this reason, care should be taken when comparing our results with results from other vehicle manufacturers’ carbon footprints. In general, Polestar have made some conservative assumptions, in order not to underestimate the impact from unknown data. Methodological choices and data sources are described in the previous Polestar 4 LCA report. Some methodological and data changes have been made, which are described in this report. To get a full understanding of the methodology used to calculate the carbon footprints in this report, it is recommended to read the first report Polestar 4 LCA report. This previous report corresponds to Polestar 4 model years 2024 and 2025.

The carbon footprint includes emissions from upstream supplier activities, manufacturing, logistics, use phase of the vehicle and the end-of-life phase. The functional unit chosen is “The use of a Polestar 4 coupé vehicle driving 200,000 km between the full years of 2026 to 2040”.

Changes have been made in the Polestar 4 battery supply chain which have led to reductions in the cradle-to-gate carbon footprint of the Dual motor and Rear motor Polestar 4 variants. The first Polestar 4 carbon footprint report used preliminary WLTP (Worldwide Harmonised Light Vehicle Test Procedure) figures for energy consumption in the use phase while this report uses the certified WLTP figures. Methodological changes in the use phase have also been made in this report to the previous report, this includes accounting for changes in driving patterns throughout the vehicle lifetime. Accounting for these driving patterns leads to the cradle-to-grave carbon footprint result in this report being comparable to Polestar vehicle carbon footprint reports currently published as of February 2026.

As shown in Figure 1, the life cycle (cradle-to-grave) carbon footprints are 23.9-36.4 tCO₂e for Dual motor and 22.9-34.6 tCO₂e for Rear motor. The range in results is caused by differences in electricity mix scenarios, where the highest value reflects that a global electricity mix is used in the vehicle use phase (for vehicle charging) while the lowest value reflects that wind power is used.

1 ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines” and ISO 14040:2006 “Environmental management – Life cycle assessment – Principles and framework”

2 https://ghgprotocol.org/sites/default/files/standards/Product-Life-CycleAccounting-Reporting-Standard_041613.pdf

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Battery pack

Complete vehicle battery including battery cells, modules and battery pack structure.

Cradle-to-gate

A cradle-to-gate assessment considers impacts at parts of the product's life cycle; in Polestars studies it starts from the time natural resources are extracted from the ground and processed through each subsequent stage of manufacturing and ends after the vehicle has been transported to sales market.

Cradle-to-grave

A cradle-to-grave assessment considers impacts at each stage of the product's life cycle, from the time natural resources are extracted from the ground and processed through each subsequent stage of manufacturing, logistics, product use, recycling, and ultimately, end-of-life treatment.

Dataset (LCI or LCIA dataset)

A dataset containing life cycle information of a specified product or other reference (e.g. site, process), covering descriptive metadata and quantitative life cycle inventory and/or life cycle impact assessment data, respectively.

End-of-life

End-of-life means the end of a product's life cycle. Traditionally it includes waste collection and waste treatment, e.g. re-use, recycling, incineration, landfill, etc.

Functional unit

Quantified performance of a product system for use as a reference unit.

GHG

Greenhouse gases. These are gases that contribute to global warming, e.g. carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), as well as freons/CFCs. Greenhouse gases are often quantified as a mass unit of CO₂e, where "e" is short for equivalents.

Life cycle

Consecutive and interlinked stages of a product system, from raw material acquisition or generation from natural resources to final disposal.

Life Cycle Assessment (LCA)

Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life.

LR / SR / DM / SM

Long range / standard range / dual motor / single motor

MY

Model year (e.g., MY27 equals model year 2027)

Raw material

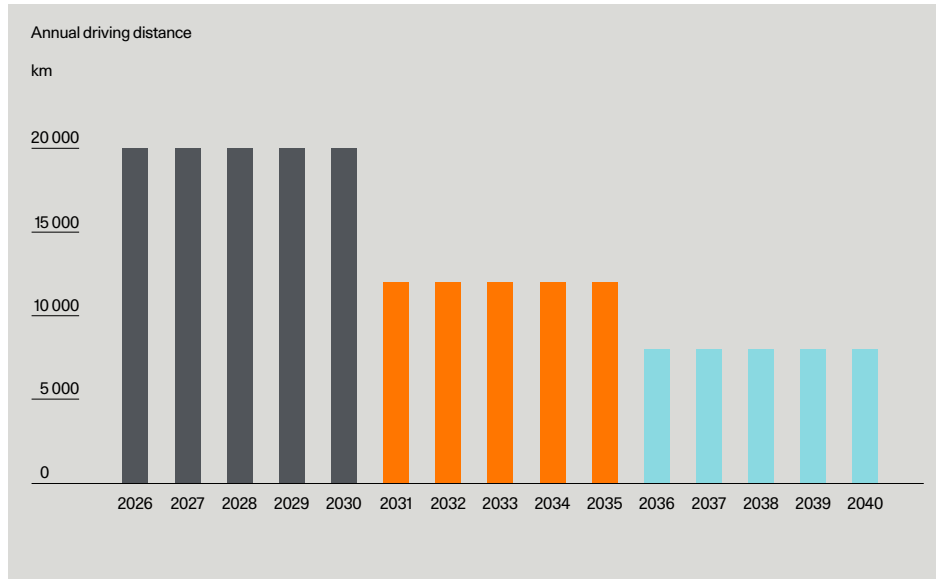
Primary or secondary material that is used to produce a product.

tCO₂e

Metric tonne carbon dioxide equivalents.

WLTP

Worldwide Harmonised Light Vehicle Test Procedure, used for certification of vehicles in the EU



← Figure 2

Assumed driving distances in kilometers per year during the lifetime of the vehicle.

Changes in methodology and data since previous Polestar 4 LCA

The previously published Polestar 4 LCA report describes and motivates the way of working to obtain data, data sources, LCA databases and software, relation to standards, system boundaries, allocation methods, assumptions, and limitations. The original report also describes material categories, manufacturing methods, logistics, use phase, and end-of-life treatment. Polestar aims to make continuous improvements to the LCA methodology. Methodological changes can lead to either a higher or a lower carbon footprint of the vehicle.

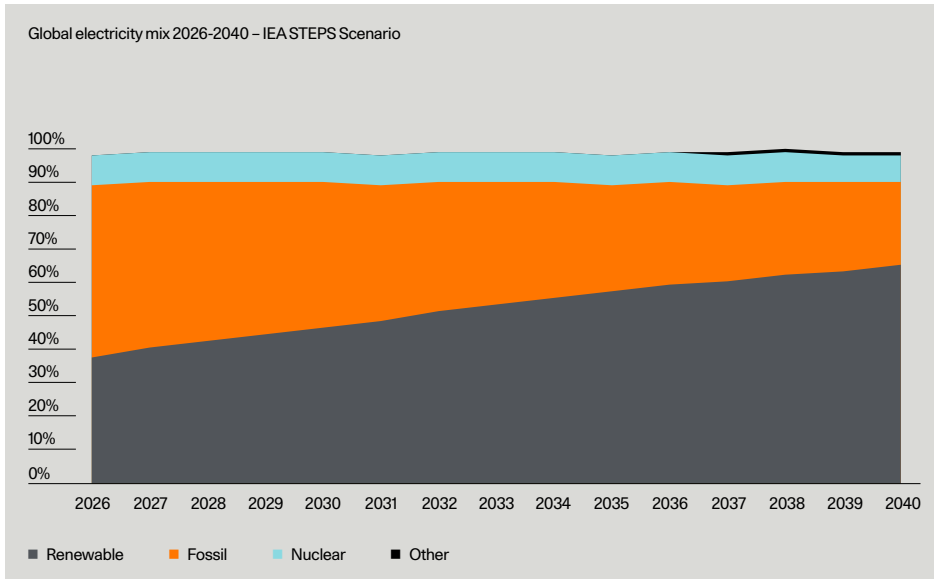
This chapter only describes the changes made in either methodology or data, from the previous Polestar 4 LCA. All other methodology is the same as in the previous Polestar 4 LCAs and is described in Polestar 4 LCA report. The updated use phase methodology provide a more accurate estimation of the carbon footprint and increases the overall cradle-to-grave comparability across Polestars three car line-up (see Polestar 2 & Polestar 3 LCAs).

Updated use phase assumptions

The previous use phase assumption can be found in the previous report, section 2.10. To be able to calculate the emissions in the use phase of the vehicle, the distance driven is needed together with the energy use, as well as emissions from electricity generation. The vehicle lifetime driving distance for Polestar vehicles has been set to 200 000 km, and energy use of the vehicle corresponds to driving according to the WLTP driving cycle, according to the lower consumption figures in Table 1. WLTP does not take all driving conditions into account, for example WLTP assumes a driving condition where heating or cooling is not necessary and no use of infotainment in use. This could, especially for certain markets, lead to an underestimated energy use figure.

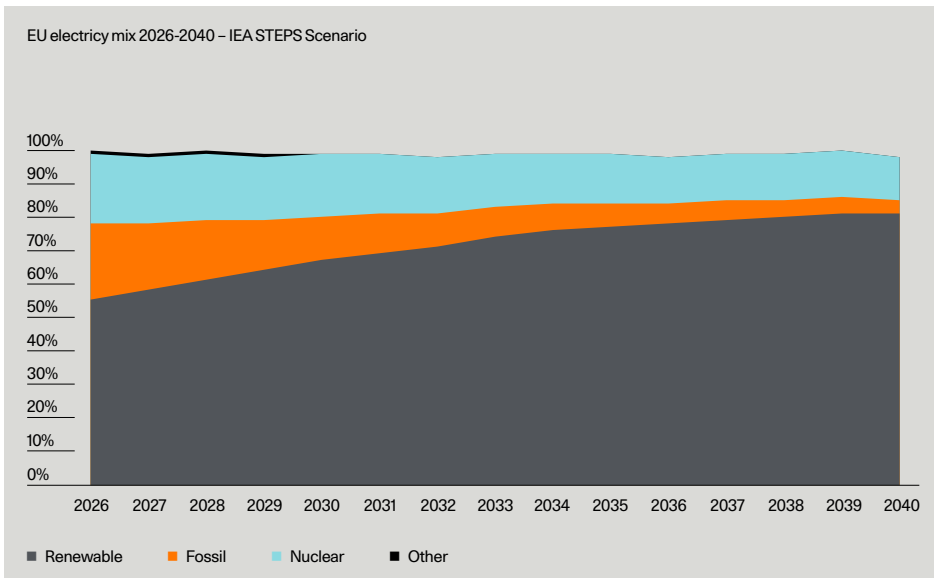
The analysis assumes that 50% of a vehicle's total lifetime mileage is covered in the initial five years, equivalent to 20 000 kilometres per year, while 30% is driven in the subsequent five years, amounting to 12 000 kilometres annually. During the last five years of the vehicle's life, it is assumed that the yearly distance driven is 8 000 km, illustrated in Figure 2.

Electricity generation is modelled according to three cases: Global and EU (European Union) grid mix and a specific source of electricity, wind power. Current and future global and EU electricity generation mixes are based on the World Energy Outlook 2024 Extended Dataset³ from IEA between the years 2026-2040. The previous LCA study utilized data from the World Energy Outlook 2022 Extended Dataset which predicted slightly lower shares of renewables in the grid mixes compared to the 2024 dataset. IEA uses the Global Energy and Climate (GEC) Model to explore possible future energy related scenarios based on different assumptions. For this study, STEPS (Stated Policies Scenario) has been used to determine the electricity generation mixes used to charge the vehicles in the use phase. STEPS reflects current policy settings based on a sector-by-sector and country-by-country assessment of the specific policies that are in place, as well as those that have been announced by governments around the world.



← Figure 3

Predicted share of energy production sectors in the Stated Policies Scenario STEPS for global energy mix.



← Figure 4

Predicted share of energy production sectors in the Stated Policies Scenario STEPS for EU energy mix

Figure 3 and Figure 4 visually represent the development of electricity sources. It is evident that the generation of electricity from fossil sources is expected to diminish, gradually being replaced by renewable sources based on the IEA STEPS data.

Amounts of electricity from different energy sources have in this study been paired with appropriate LCI datasets from Sphera professional database (see Appendix 1) to determine the total climate impacts from different electricity generation mixes, both direct (at the site of electricity generation) and upstream. On average, the emissions throughout the entire use phase amount to 0.34 kg CO₂e/kWh for the global electricity mix scenario and 0.10 kg CO₂e/kWh for the EU electricity mix scenario.

Considering the anticipated changes in electricity generation—specifically, the reduction in fossil fuel-based electricity and the concurrent increase in renewable electricity forecasted from 2026, it is expected that yearly emissions from electric vehicle usage will decline. The distances driven, described in Figure 2, are multiplied by the emission factors corresponding to each year, reflecting the changes in global and EU electricity mix.

Battery pack carbon footprint updates

In the first Polestar 4 LCA report the battery pack was wrongfully referred to as “battery modules”. The term “battery modules” is often referred to as a subcomponent of the complete “battery pack”, thereby the battery pack is a larger component which holds battery cells, battery modules and the carrier and protective structure which is the battery pack. This is an important distinction since Polestar uses separate battery carbon footprint studies, made by the battery supplier in collaboration with Polestar, to account for the carbon footprint of vehicle batteries and in the case of Polestar 4 coupé, these LCAs account for the complete battery pack.

The supplier LCA was updated during 2024 and are included in the carbon footprint calculation of the Polestar 4 coupé variants of model year 2027. The major change in the updated supplier LCA is improved data quality concerning the aluminium in the battery. Increased recycled content of aluminium in the battery pack and battery module structure as well as aluminium from smelters utilizing renewable electricity in the battery pack structure has been identified, which has led to a reduction of the battery pack carbon footprint of 2.1 tCO₂e. The recycled content includes both post-consumer material and post-industrial material in accordance with the definition of recycled content in ISO 14021 “Environmental Labels and Declarations”. Polestar aims to increase the recycled content of post-consumer materials in the future, as this material is more in-line with principles of circular economy.

Aluminium production and refining

As in the previous Polestar 4 LCA, all aluminium is assumed to be produced in China, which is based on an expert judgement by Polestar logistics specialists. The aluminium used in some identified parts in the vehicles comes from smelters utilising renewable electricity for smelting, specifically hydropower. Additionally, some parts also containing recycled aluminium have been identified. The recycled content includes both post-consumer material and post-industrial material in accordance with the definition of recycled content in ISO 14021 “Environmental Labels and Declarations”. The share of aluminium produced using renewable electricity has been modelled with a fossil

Table 1 →

Aluminium from different sources by share of total aluminium weight, excluding battery pack aluminium.

Polestar 4 coupé MY27	Dual motor	Rear motor
Aluminium from smelters using renewable electricity	34%	37%
Recycled aluminium	27%	22%
Standard Chinese aluminium	40%	42%

Steel

There has been a slight increase in recycled steel content for model year 2027 of Polestar 4 which is accounted for in this report. Theecoinvent dataset "RoW: market for scrap steel" is used for the recycled content ingot. Only post-industrial and post-consumer scrap is modelled as recycled content. The total recycled content for steel and iron in the Polestar 4 coupé Dual motor is at 16%, the Rear motor variant totals 17%.

Logistics data updates

In the first LCA study of Polestar 4, GHG emissions from both inbound and outbound logistics was estimated based on assumptions on transport patterns as data on actual transport patterns were unavailable. These previous logistics assumptions can be found in the previous report, section 2.9. Instead of using estimations this study incorporates actual data for the year 2025 of outbound logistics GHG emissions per sold Polestar vehicle produced in the Hangzhou Bay plant, calculated according to ISO 14083:2023 "Quantification and reporting of greenhouse gas emissions arising from transport chain operations". For the inbound logistics of Polestar 4, the 2025 average GHG emissions per sold Polestar 4 vehicle produced in Hangzhou Bay is used and calculated according to the same ISO standard. This update has led to an increase of approximately 1.8 tCO₂e in the life cycle stage "manufacturing & logistics".

Maintenance

The previous Polestar 4 LCA did not account for maintenance of the vehicle during the use of the product. This present study incorporates a maintenance scenario. For the 15 years lifespan of the vehicle, it is assumed that some vehicle parts are required to be replaced. The data for maintenance of the vehicle is based on data for maintenance of a typical Polestar vehicle and not specific to the Polestar 4. The maintenance list is presented in Table 2. It is assumed that the number of items represents groups of items, e.g. one wiper blade represents the entire set of the two wiper blades. The vehicle tyres are designed to last 40 000 km. It is assumed that the tyres are not changed just before EoL, therefore 16 tyres need to be changed during the vehicle lifetime. For each part the corresponding item is found in the BoM and specific material data is used together with the corresponding dataset, in the same way as material production and refining. However, only standard Chinese aluminium is used for the parts which contain aluminium, meaning that no share of recycled aluminium or aluminium from smelters using renewable electricity is assumed to be part of any replacement components.

Table 2 →

Maintenance parts changed during the lifetime of the vehicle of 15 years and 200 000 km driven.

Vehicle part	Unit	#
Wiper blades	number of sets	39
Tyres	number of items	16
Brake fluid	litres	2
Brake pads	number of items	24
Brake discs	number of items	4
Battery, 12 V	number of items	3
Steering joint	number of items	1
Link arm	number of items	2
Condenser	number of items	1
AC fluid	number of AC container volume	2
Cabin filter	number of items	12

The products

The study assesses both Polestar 4 coupé model year 2027 variants: the Dual motor, and the Rear motor. Model year 2027 correspond to all vehicles produced from week 17 in year 2026. Both variants have been developed in collaboration with Zhejiang Geely Holding Group and are produced in Hangzhou Bay, China and Busan Korea. This report only assesses the Polestar 4 coupé being produced in Hangzhou Bay. The variants are produced with different specifications. This study encompasses the specifications expected to have the largest sales volumes. Descriptions of the studied vehicles are presented in Table 3 & 4, and the material composition of both variants is available in Appendix 5. Since the previous report, the energy efficiency of the Rear motor variant during driving has been reduced from 18.1 to 17.8 kWh/100 km.

Table 3 →

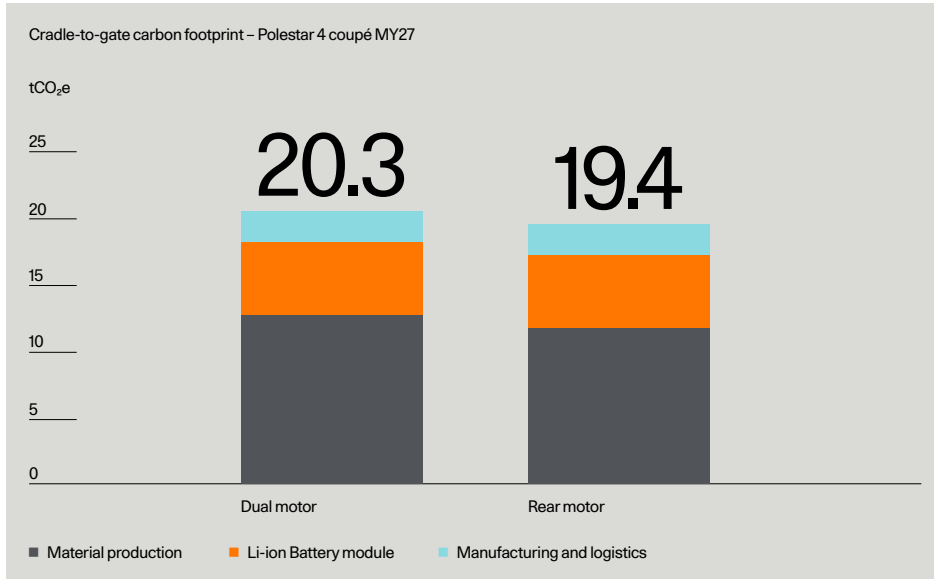
Studied vehicles and corresponding weights in kg.

Polestar 4 coupé MY27	Dual motor	Rear motor
Total weight (kg)	2,351	2,229
Li-ion battery pack weight (kg)	581	581

Table 4 →

Descriptions of the Polestar 4 coupé MY27 variants.

Polestar 4 coupé MY27	Dual motor	Rear motor
Battery capacity	100 kWh	100 kWh
Output	400 kW 544 hp 686 Nm	200 kW 272 hp 343 Nm
Energy consumption (WLTP)	19.0 kWh/100 km	17.8 kWh/100 km
Preliminary range (WLTP)	590 km	620 km



← Figure 5

Cradle-to-gate carbon footprint for the Polestar 4 coupé MY27 variants, including Materials production, Li-ion battery pack and Manufacturing and Logistics. Results are shown in tCO₂e per functional unit.

Figure 5 and Table 5 present the cradle-to-gate carbon footprint of both variants of the Polestar 4 coupé. The Rear motor variant has the lower cradle-to-gate carbon footprint at 19.4 tCO₂e compared to the Dual motor variant at 20.3 tCO₂e, thereby the Polestar 4 coupé Rear motor produced in Hangzhou Bay has the lowest cradle-to-gate carbon footprint of any Polestar car on sale today (January 2026). Figure 6-7 and Table 6-7 present the cradle-to-grave carbon footprint of the two Polestar 4 coupé variants, as well as the carbon footprint distributed into life cycle phases. Depending on variant and electricity mix scenario, the life cycle carbon footprint varies between 22.9 and 36.4 tCO₂e. The largest variability in the results is due to the choice of electricity mix in the use phase. In the case of global electricity mix, the use phase accounts for almost 40% of the life cycle carbon footprint, while in the case of wind power, the use phase accounts for only 2%. This displays the importance of choice of electricity mix scenario when studying the life cycle carbon footprint of an electric vehicle as well as the influence drivers of EVs can have over their usage carbon footprint by e.g., choosing renewable electricity contracts for home charging.

The Rear motor variant has a lower carbon footprint than the Dual motor variant. This is due to that it 1) has one less motor and thereby requires less materials, resulting in less impact from material extraction and manufacturing. The lower material mass also leads to 2) a lower total vehicle weight, that increases energy efficiency and lowers the use phase carbon footprint.

Figure 8-9 in Appendix 3 presents a breakdown of material contribution to the carbon footprint of the two Polestar 4 coupé variants. Aluminum represents the highest share of the carbon footprint at 36-37% while steel and iron represent 31-32%.

As seen in Table 5, the impact from manufacturing & logistics is 2.3 tCO₂e for both variants. This is significantly higher than the 0.5 tCO₂e in the first Polestar 4 carbon footprint report. This is due to the incorporation of previously unavailable actual data on logistics as described in Section 1.5. Another important difference between the present report and the previous report is that the carbon footprint from the battery pack has decreased significantly, from 7.6 tCO₂e for both variants to 5.5 tCO₂e for both variants due to improved data quality as described in section 1.2. In Appendix 4, a comparison between the first and present model year of Polestar 4 coupé Dual motor is presented.

Table 5 →

Cradle-to-gate carbon footprint for the Polestar 4 coupé MY27 variants, including Materials production, Li-ion battery pack, Manufacturing and Logistics. Results are shown in tCO₂e. Note: Totals may not sum due to rounding.

Polestar 4 coupé MY27	Dual motor	Rear motor
Material production	12.6	11.6
Li-ion battery pack	5.5	5.5
Manufacturing and logistics	2.3	2.3
Total cradle-to-gate	20.3	19.4

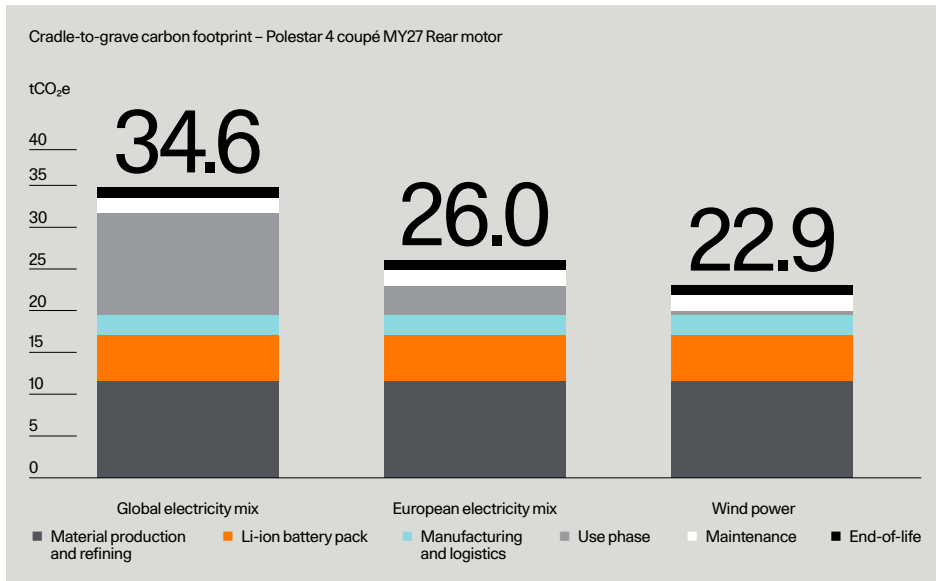
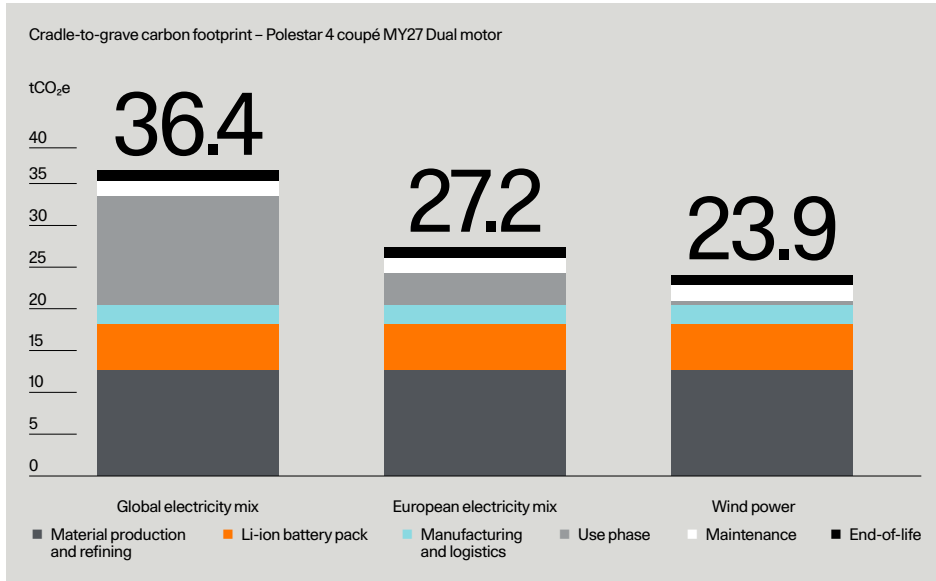


Table 6 →

Cradle-to-grave carbon footprint for Polestar 4 coupé Dual motor, with different electricity mixes used in the use phase. Results are shown in tCO₂e per functional unit. Note: Totals may not sum due to rounding.

Polestar 4 coupé Dual motor MY27	Global electricity mix	EU electricity mix	Wind power
Material production	12.6	12.6	12.6
Li-on battery pack	5.5	5.5	5.5
Manufacturing and logistics	2.3	2.3	2.3
Use phase	13.0	3.8	0.5
Maintenance	1.9	1.9	1.9
End-of-life	1.2	1.2	1.2
Cradle-to-grave	36.4	27.2	23.9

← Figure 6

Cradle-to-grave carbon footprint for Polestar 4 coupé Rear motor, with different electricity mixes in the use phase. Results are shown in tCO₂e per functional unit (200,000 km lifetime range).

Polestar 4 coupé Rear motor MY27	Global electricity mix	EU electricity mix	Wind power
Material production	11.6	11.6	11.6
Li-on battery pack	5.5	5.5	5.5
Manufacturing and logistics	2.3	2.3	2.3
Use phase	12.2	3.5	0.5
Maintenance	1.9	1.9	1.9
End-of-life	1.2	1.2	1.2
Cradle-to-grave	34.6	26.0	22.9

Table 7 →

Cradle-to-grave carbon footprint for Polestar 4 coupé Rear motor, with different electricity mixes in the use phase. Results are shown in tCO₂e per functional unit (200,000 km lifetime range).

← Figure 7

Cradle-to-grave carbon footprint for Polestar 4 coupé Rear motor, with different electricity mixes in the use phase. Results are shown in tCO₂e per functional unit (200,000 km lifetime range).

LCA is continuously used for assessing the carbon footprint of Polestar's cars. Major work has been put into building the methodology, and it is continuously being developed. One such development in this study is incorporating Polestar's actual carbon footprint from outbound logistics into this study. Another is the incorporation of the latest data from the International Energy Agency STEPS scenario for electricity in the use phase as well as incorporating maintenance of the vehicle.

In this study, the carbon footprints of the two Polestar 4 variants Dual motor and Rear motor MY27 produced in Hangzhou Bay were calculated, including the life cycle phases materials production and refining, manufacturing, use phase, maintenance and end-of-life.

According to the methodology described in this report and in the first [Polestar 4 LCA report](#), the cradle-to-grave carbon footprints are 23.9-36.4 tCO₂e for Dual motor, 22.9-34.6 tCO₂e for Rear motor. The range in results is caused by differences in electricity mix scenarios, where the highest value reflects that a global electricity mix is used in the vehicle use phase while the lowest value reflects that wind power is used.

Polestar will continue to improve its LCA methodology to create an even more robust methodology. To follow up more closely on how different sourcing decisions and material choices impact the results, Polestar also aims at increasing the supplier-specific data used in the LCAs.

Electricity	Location	Name of LCI dataset	Year	Type	Source
Electricity from solar power	RER	Electricity from photovoltaic Sphera	2019	agg	Sphera professional database
Electricity from wind power	RER	Electricity from wind power Sphera	2019	agg	Sphera professional database
Electricity from geothermal	RER	Electricity from geothermal	2019	agg	Sphera professional database
Electricity from hydro power	RER	Electricity from hydro power Sphera	2019	agg	Sphera professional database
Electricity from bioenergy	RER	Electricity from biomass (solid)	2019	agg	Sphera professional database
Electricity from nuclear power	RER	Electricity from nuclear	2019	agg	Sphera professional database
Electricity from unabated coal	RER	Electricity from hard coal	2019	agg	Sphera professional database
Electricity from unabated gas	RER	Electricity from natural gas	2019	agg	Sphera professional database
Electricity from oil	RER	Electricity from heavy fuel oil (HFO)	2019	agg	Sphera professional database

← Table 8

Chosen datasets for electricity sources in use phase

In the LCA a large number of generic datasets from databases are used. In this appendix the datasets used are listed in Table 8. Appendix 1 only presents changes to the datasets used from the previous LCA study on Polestar 4. The original Polestar 4 LCA contains all other datasets used.

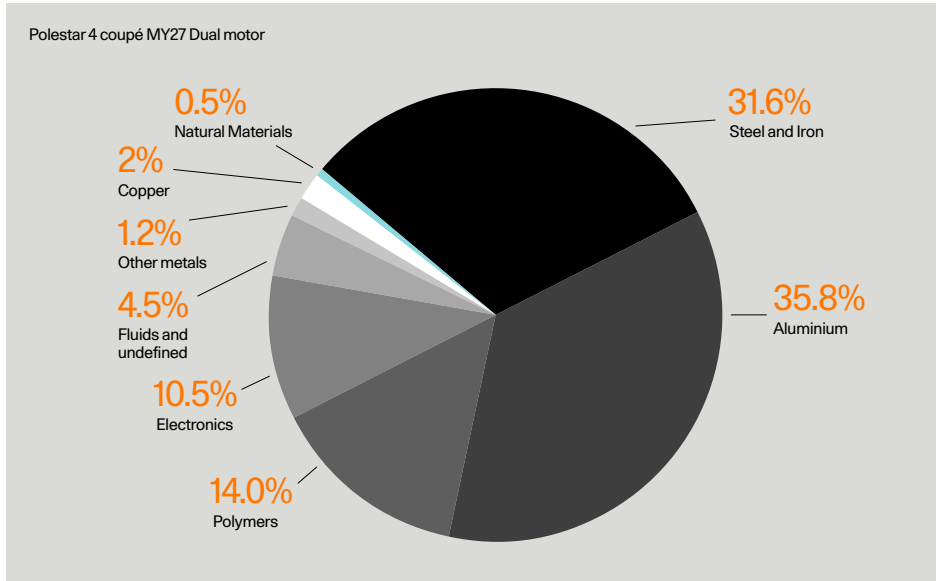
Table 9 →

Material library material categories

Material name	Material group
ABS (filled)	Polymers
ABS (unfilled)	Polymers
Aluminium	Aluminium
Aramid	Polymers
Brake fluid	Fluids & Undefined
Carbon Fibre	Fluids & Undefined
Cast iron	Steel & Iron
Catalytic coating	Fluids & Undefined
Cathode	Fluids & Undefined
Ceramic	Fluids & Undefined
Copper	Copper
Copper alloys	Copper
Cotton	Natural Materials
Damper	Fluids & Undefined
E/P (filled)	Polymers
E/P (unfilled)	Polymers
Elastomer	Polymers
Electronics	Electronics
EPDM	Polymers
EVAC (filled)	Polymers
EVAC (unfilled)	Polymers
Ferrite magnet	Fluids & Undefined
Float glass	Fluids & Undefined
Friction	Fluids & Undefined
GF-Fibre	Fluids & Undefined
Glycol	Fluids & Undefined
Lead (12V battery)	Fluids & Undefined
Leather	Natural Materials
Lubricants	Fluids & Undefined

Material name	Material group
Magnesium	Other Metals
Mineral	Natural Materials
NdFeB	Other Metals
Natural rubber	Natural Materials
PA (filled)	Polymers
PA (unfilled)	Polymers
PBT (filled)	Polymers
PBT (unfilled)	Polymers
PC (filled)	Polymers
PC (unfilled)	Polymers
PC+ABS (filled)	Polymers
PC+ABS (unfilled)	Polymers
PE (filled)	Polymers
PE (unfilled)	Polymers
PET (filled)	Polymers
PET (unfilled)	Polymers
PMMA (filled)	Polymers
PMMA (unfilled)	Polymers
Polyester	Polymers
Polyurethane	Polymers
POM (filled)	Polymers
POM (unfilled)	Polymers
PP (filled)	Polymers
PP (unfilled)	Polymers
PVB (unfilled)	Polymers
PVC (filled)	Polymers
PVC (unfilled)	Polymers
R-1234yf	Fluids & Undefined
Recycled Aluminium	Aluminium

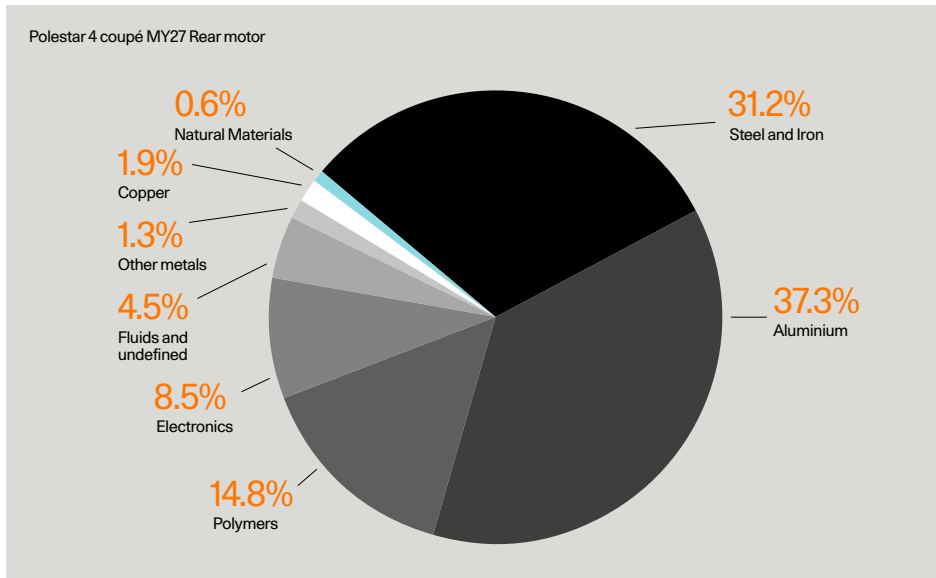
Material name	Material group
Recycled Polymer	Polymers
SBR	Polymers
Silicone rubber	Polymers
Steel, Sintered	Steel & Iron
Steel, Stainless, Austenitic	Steel & Iron
Steel, Stainless, Ferritic	Steel & Iron
Steel, Unalloyed	Steel & Iron
Sulphuric acid	Fluids & Undefined
Talc	Fluids & Undefined
Thermoplastic elastomers	Polymers
Thermoplastics	Polymers
Undefined	Fluids & Undefined
Washer fluid	Fluids & Undefined
Wood (paper, cellulose, etc.)	Natural Materials
Zinc	Other Metals



← Figure 8

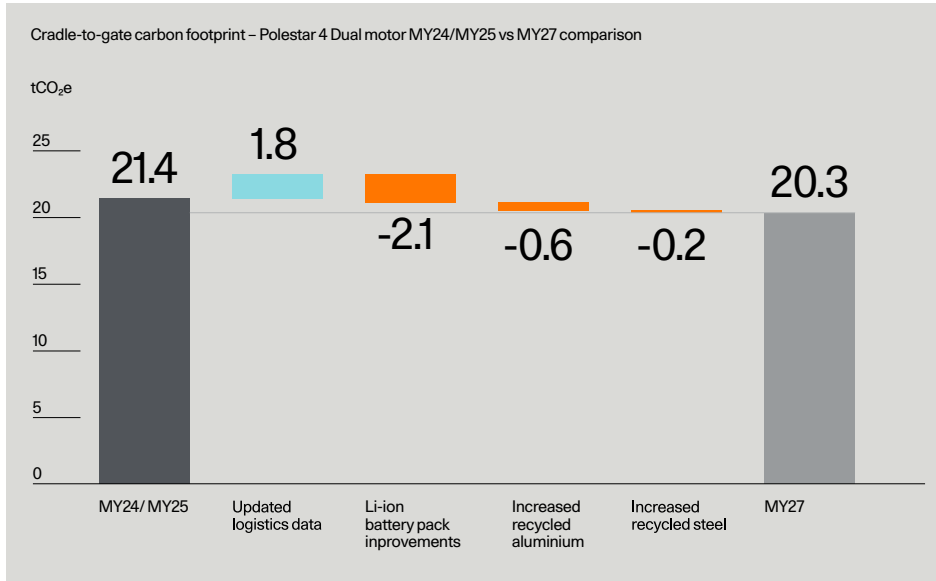
Contribution from different material groups, excluding battery pack, to the carbon footprint from materials production and refining for Polestar 4 coupé Dual motor.

Figure 8-9 presents how the different material groups, excluding the battery pack, contribute to the carbon footprint from materials production and refining for the two Polestar 4 coupé variants. The group "Others" consists of all the material groups that have an individual contribution of 1% or less, which are other metals, copper and natural materials.



← Figure 9

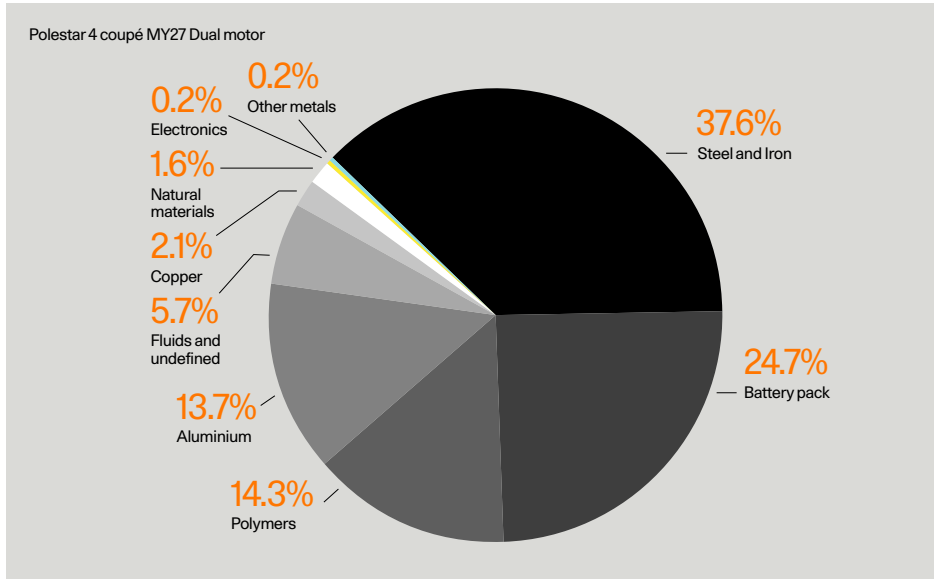
Contribution from different material groups, excluding battery pack, to the carbon footprint from materials production and refining for Polestar 4 coupé Rear motor.



← Figure 10

Cradle-to-gate carbon footprint for the Polestar 4 coupé Dual motor, developments between model years 2024/2025 and 2027, results shown in tCO₂e per functional unit.

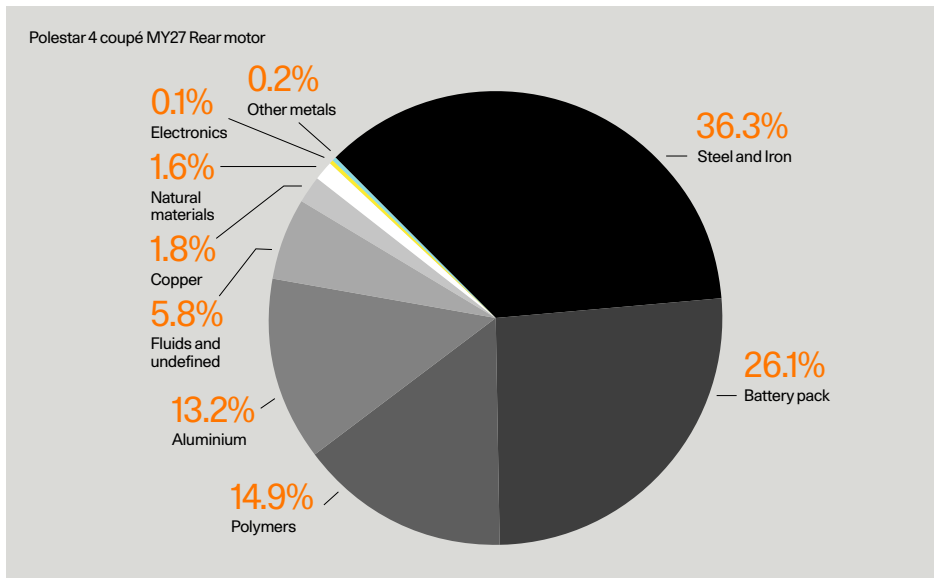
Figure 10 presents the changes in cradle-to-gate results between model year 2024/2025 and 2027 produced in Hangzhou Bay, China. The increased carbon footprint from logistics is due to increased data quality on logistical services, both inbound and outbound logistics. The decrease in carbon footprint from the battery pack is attributed to increased recycled content of aluminium in the battery pack and battery module structure as well as the implementation of aluminium from smelters utilizing renewable electricity in the battery pack structure. The Li-ion battery pack improvements was incorporated from model year 2026. The increased recycled steel and aluminium content came into the vehicle from the present model year, 2027.



← Figure 11

Weight shares per material category,
Polestar 4 coupé Dual motor.

Figure 11-12 presents the material composition of the Polestar 4 coupé
Dual motor and Rear motor, based on material mass.



← Figure 12

Weight shares per material category,
Polestar 4 coupé Rear motor.