

Polestar



Sustainability report

Initiatives and performance on environmental,
social and governance matters

2022

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About this report

Polestar's 2022 sustainability report explores the details of our sustainability strategy, management, initiatives and performance on environmental, social and governance matters. It has been prepared in accordance with the GRI Standards 2021, the European Union's Non-Financial Reporting Directive (as implemented by the Swedish Annual Accounts Act's requirements on the statutory sustainability report) and it details our disclosures in line with the Task Force on Climate-related Financial Disclosures (TCFD). The report also references a selection of disclosures from the Sustainability Accounting Standards Board's (SASB) sector guidelines for the automobile industry.

Polestar publishes a sustainability report annually. This report covers the fiscal year 2022. The last report was published on 17 May 2022 and is available at: <https://reports.polestar.com/>

This report includes all operations of Polestar Automotive Holding UK PLC and its subsidiaries, including Polestar Performance AB, a company incorporated in Sweden.

This report has not been externally assured.

Do you have questions or comments? We would love to speak with you! Please contact us at media@polestar.com or ir@polestar.com.

Forward-looking statements

Certain statements in this Sustainability Report ('Report') may be considered 'forward-looking statements' as defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements generally relate to future events or the future financial or operating performance of Polestar. Guidance on revenue, volumes, gross margin, other financial or operating metrics, and product or operating environmental metrics, such as the ones included in the Climate neutrality section described in this Report, are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as 'may', 'should', 'expect', 'intend', 'will', 'estimate', 'anticipate', 'believe', 'predict', 'potential', 'forecast', 'outlook', 'guidance', 'plan', 'seek', 'future', 'propose' or 'continue', or the negatives of these terms or variations of them or similar terminology. Such forward-looking statements are subject to risks, uncertainties and other factors which could cause actual results to differ materially from those expressed or implied by such forward looking statements.

These forward-looking statements are based on estimates and assumptions that, while considered reasonable by Polestar and its management, as the case may be, are inherently uncertain. Factors that may cause actual results to differ materially from current expectations include: (1) Polestar's ability to maintain agreements or partnerships with its strategic partners, Volvo Cars and Geely, and to develop new agreements or partnerships; (2) Polestar's ability to maintain relationships with its existing suppliers, and source new suppliers for its critical components, and to complete building out its supply chain, while effectively managing the risks due to such relationships; (3) Polestar's reliance on its partnerships with vehicle charging networks to provide charging solutions for its vehicles and its reliance on strategic partners for servicing its vehicles and their integrated software; (4) Polestar's reliance on its partners to manufacture vehicles at a high volume, some of which have limited experience in producing electric vehicles, and on the allocation of sufficient production capacity to Polestar by its partners for Polestar to be able to increase its vehicle production capacities; (5) competition, the ability of Polestar to grow and manage growth profitably, maintain relationships with customers and suppliers and retain its management and key employees; (6) Polestar's estimates of expenses and profitability; (7) increases in costs, disruption of supply or shortage of materials, in particular for lithium-ion cells or semiconductors; (8) the possibility that Polestar may be adversely affected by other economic, business, and/or competitive factors; (9) the effects of competition and the high barriers to entry in the automotive industry, and the pace and depth of electric vehicle adoption generally on Polestar's future business; (10) changes in regulatory requirements, governmental incentives and fuel and energy prices; (11) the outcome of any legal proceedings that may be instituted against Polestar or others; (12) the ability to meet stock exchange listing standards; (13) risks associated with changes in applicable laws or regulations and with Polestar's international operations; (14) Polestar's ability to establish its brand and capture additional market share, and the risks associated with negative press or reputational harm, including from lithium-ion battery cells catching fire or venting smoke; (15) delays in the design, manufacture, launch and financing of Polestar's vehicles and Polestar's reliance on a limited number of vehicle models to generate revenues; (16) Polestar's ability to continually and rapidly innovate, develop and market new products; (17) risks related to future market adoption of Polestar's offerings; (18) risks related to Polestar's distribution model; (19) the impact of the global COVID-19 pandemic, inflation, interest rate changes, the ongoing conflict between Ukraine and Russia, supply chain disruptions and logistical constraints on Polestar, Polestar's projected results of operations, financial performance or other financial and operational metrics, or on any of the foregoing risks; and (20) other risks and uncertainties set forth in the sections entitled 'Risk Factors' and 'Cautionary Note Regarding Forward-Looking Statements' in Polestar's Form 20-F, and other documents filed, or to be filed, with the Securities and Exchange Commission by Polestar. There may be additional risks that Polestar presently does not know or that Polestar currently believes are immaterial that could also cause actual results to differ from those contained in the forward-looking statements.

Nothing in this Report should be regarded as a representation by any person that the forward-looking statements set forth herein will be achieved or that any of the contemplated results of such forward-looking statements will be achieved. You should not place undue reliance on forward-looking statements, which speak only as of the date they are made. Polestar assumes no obligation to update these forward-looking statements, even if new information becomes available in the future.

CEO Comment

Polestar was founded on a mission to accelerate the shift to electric, sustainable mobility. Together with design and technology, sustainability is one of the three pillars that form the foundation of everything we do. On top of this, we are a young company, we're legacy free and we stand behind a powerful climate solution. This puts us in prime position to challenge old notions, lead with transparency and embrace the power of exponential technology.

In February 2023, together with consultant firm Kearney and American EV manufacturer Rivian, we published a report that took a sobering look at existing, open-source climate data. The report measured emissions from the passenger vehicle segment against the IPCC's 1.5-degree limit and found that without urgent action, the car industry will have spent its full carbon budget by 2035 and is on track to a 75 percent overshoot in 2050.

What stands clear is that although a fast transition to electrification is crucial, it is not enough. For EVs to reach their full potential, we need global access to renewable energy on the grids to enable green charging. As a pure EV-maker, we cannot pat ourselves on the back, confident we've done our bit. We are just getting started, and not having a legacy technology to phase out just means we can focus on what is in our power to change – supply chain decarbonisation.

Polestar is in an intensive growth phase and we're expanding our operations and global footprint, which is crucial as the world transitions to electric mobility. As we grow, the total greenhouse gas (GHG) emissions from our value chain are inevitably increasing. Now, we believe it is possible to decouple the relationship between business growth and increasing emissions. For the second year in a row, we have reduced our relative emissions per car sold, by 8 percent compared with 2021 and by a total of 13 percent compared with 2020.

The key to achieving meaningful reductions is keep our eye on the ball and remain focused on high-impact areas where we will see immediate results. Everyone today communicates on sustainability, and it is easy to get distracted by symbolic gestures and what everyone else is doing. For us, the real work is what matters, such as identifying energy-intensive hotspots in the supply chain where we can switch to renewable energy. A specific example is the smelters for the aluminium in our wheels, where we changed to a supplier that uses hydro power. We have also diversified our product portfolio and sell a larger share of single-motor cars which have a lower energy use.

We are as focused as ever on the Polestar 0 project, our goal to create a truly climate-neutral car by 2030, in which we have now been joined by over 20 leading players from various industries, all committed to eliminating CO₂e and re-thinking processes, instead of relying on misleading offsetting schemes.

During 2022 we defined our priorities in circularity roadmaps and did some important mapping groundwork. Together with Circle Economy and STENA Recycling, we set out to estimate the impact Polestar 2 has on key circularity issues – raw material consumption, biodiversity and recyclability. The studies led to new proposals on how we can improve refurbishment, remanufacture, reuse and recycling. In addition to increasing the circularity of batteries and materials, it involves lifetime optimisation and utilisation improvement to enable better and longer use of our cars. Design is central as we're transitioning from a pure focus on aesthetics, quality, functionality and cost, towards a design process where sustainability and circularity are central. As demand for recycled materials is expected to soar in the coming years, we are increasing emphasis on prolonging the use of materials and increasing the value of components. We view this as an opportunity to use design to redefine premium with sustainable materials.

What gets measured gets done, which is why we will keep advocating a mandatory standard Life Cycle Assessment for the car industry. We must harmonise the way we measure and communicate the lifetime CO₂e impact of our products. Since 2020, we share the cradle-to-grave carbon footprint of all our models through LCAs and customer-facing product sustainability declarations.

We want to be open about the impact we have and how we are working to reduce it. EVs come with a footprint from production – environmental, but also social. We use blockchain to trace risk materials back to the mine, mitigating social and environmental risks in complex supply chains. During 2022 we increased material traceability to include cobalt, mica, lithium, nickel as well as leather and wool. Inclusion is an important strategic focus area, and we continue to take positive steps towards our gender equality targets, and in the areas of human rights, ethical business practices and inclusive customer experience.

In 2023 we will continue to advocate transparency, collaboration and collective climate action, as we usher in a new era of sustainable, electric mobility.

Thomas Ingenlath
CEO Polestar

About Polestar

Polestar is a Swedish electric performance car brand determined to improve society by using design and technology to accelerate the shift to sustainable mobility. We are headquartered in Gothenburg, Sweden, incorporated in the UK and listed on Nasdaq in New York under the ticker PSNY. Established as a premium electric car brand and joint venture between Volvo Cars and Geely Holdings in 2017, we benefit from the technological, engineering and manufacturing capabilities of these established global car manufacturers. We have an asset-light, highly scalable business model with immediate operating leverage.

Polestar's cars are available in 27 markets globally across North America, Europe and Asia Pacific. Polestar 2, the electric performance fastback, launched in 2019. Polestar 3, the SUV for the electric age, premiered on October 12, 2022.

We plan to introduce three new electric vehicles by 2026: Polestar 4, a sporty SUV coupe; and Polestar 5, a luxury four-door GT; and Polestar 6, our electric roadster. Our cars are currently manufactured in the state-of-the-art Taizhou plant in China, which is owned by Volvo Cars.

We use a digital-first, direct-to-consumer approach that enables our customers to browse our products, configure their preferred vehicle and place their order online. Alternatively, our Polestar Locations are where customers can see, feel and test drive our vehicles before making an online purchase. We believe this combination of digital and physical retail presence delivers a seamless experience for our customers. This customer experience is further enhanced by our comprehensive service network that leverages the existing Volvo Cars network.

At the end of 2022, we had 158 Polestar Locations. In addition, the Volvo Cars service centre network provides access to more than 1,100 customer service points worldwide in support of our international expansion. In 2022, we sold over 51,000 cars and our revenues were USD 2.5 billion. Global volumes increased by more than 80 percent and in the fourth quarter alone we delivered over 21,000 cars, which is a significant achievement for a young company and demonstrates our ability to deliver at scale. In November we produced the 100,000th Polestar 2, going from 0 to 100,000 in just two-and-a-half years.

We are on a mission

Polestar is on a mission to accelerate the shift to sustainable mobility. We are determined to lead the way by speaking up and using the positive example of our actions to drive change. As a young and rapidly growing company, we realise that we cannot do it alone. We will seek to collaborate and to be radically transparent on our progress to inspire others to join us. It is only through collective action that the automotive industry can do its part in creating a sustainable society.

The automotive industry is one of the world's largest emitters of greenhouse gases. Electric vehicles charged with renewable electricity have half the carbon footprint of a fossil fuel car. We need the world to tap into this solution, fast. But we also know that electrification alone is not enough and that electric cars come with a heavy footprint from production. Transparency is vital if we are to address it, which is why we share lifecycle assessments with the cradle-to-grave carbon footprint of all our models. The carbon footprint is reported in customer-facing product sustainability declarations, where we also raise awareness of the complexity tied to the extraction of some of our raw materials. We are developing solutions such as blockchain traceability to trace risk materials back to the mine, mitigating social and environmental risks in complex supply chains.

It is crucial that we take on these issues head-on from the start. Only then can we one day truly call electric vehicles sustainable.

Changing our industry's trajectory

The automotive industry has traditionally been opaque and slow to adopt change. As a newcomer unburdened by legacy processes and products, we have an opportunity to both speak up and act to drive change.

To do this, we team up with others who like us are convinced that collective climate action is the way forward. One example is the Polestar 0 project, with the aim to create a truly climate-neutral car by 2030, in which we have now been joined by over 20 leading players from various industries.

Furthermore, to take collective action that can change our industry's trajectory, we need credible data and a common ground to stand on. Together with management consultant firm Kearney and American EV manufacturer Rivian, we commissioned the Pathway Report that took a sobering look at existing, open-source climate data. The report, which was published in February 2023, measured emissions from the passenger vehicle segment against the the Intergovernmental Panel on Climate Change's (IPCC) 1.5 degree Celsius limit and found that without urgent action, the car industry will have spent its full carbon budget by 2035 and is on track to a 75 percent overshoot by 2050.

The report will serve as a basis for our sustainability advocacy work, where we engage with other car companies, policy makers, media and consumers.

Since 2021, we are members of the Exponential Roadmap Initiative, that brings together some of the world's most progressive companies, and the United Nations' Race to Zero campaign. It is assembling the largest ever alliance committed to halving global emissions by 2030 and achieving net-zero emissions by 2050, by rallying companies, cities, regions, and financial and educational institutions. All members are committed to the same overarching goal: reducing emissions swiftly and fairly, in line with the Paris Agreement, through transparent action plans and robust near-term targets.

Polestar's sustainability strategy

Our sustainability strategy comprises the four focus areas Climate neutrality, Circularity, Transparency and Inclusion. Each focus area has several material topics and a set of strategic initiatives, that are set to advance our business's sustainability over the coming years. In this sustainability report, we describe our main targets, actions and achievements on our road to truly sustainable mobility.

CLIMATE NEUTRALITY Pages 7–17	   
Polestar's material topics Eco-economic decoupling Emissions Energy Energy consumption of Polestar's vehicles Charging infrastructure Political influence on green mobility solutions	Strategic initiatives Climate-neutral platform Climate-neutral materials Energy optimisation Climate-neutral manufacturing Renewable energy in the supply chain Climate-neutral company
CIRCULARITY Pages 18–23	     
Polestar's material topics Increase recycled/renewable material Material circularity scoring Zero waste manufacturing Reduce material palette Design for (closed loop) recyclability Monitoring raw material consumption Monitoring biodiversity impacts Chemical management	Strategic initiatives Circular battery design collaborations for recycling and/or second life of batteries Material circularity scoring Collaboration for post-consumer recycled rare earth elements
TRANSPARENCY Pages 24–28	  
Polestar's material topics Transparency of minerals and materials Support for consumers in making sustainable choices Connectivity and customer privacy	Strategic initiatives Materials traceability Supply chain transparency Product sustainability declaration Sustainability reporting
INCLUSION Pages 29–40	      
Polestar's material topics Anti-corruption Compliance and whistleblowing Human rights in the supply chain Employee health and safety Competence development Diversity & inclusion Labour conditions Passenger safety	Strategic initiatives Ethical business practices Human rights in the supply chain Inclusive workplace Inclusive customer experience

Climate neutrality

¹ The Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change.

The world is facing a rampant climate crisis whose impacts can already be seen. If not properly mitigated it will result in catastrophic consequences to biodiversity, human life, society and the global economy. To moderate this climate change, immediate actions to produce results in this decade need to be taken.

In April 2022 Working Group III of the IPCC¹ published its 6th assessment report, stressing that the next few years are critical in limiting global warming to 1.5°C. This will involve a substantial reduction in fossil fuel use, widespread electrification, improved energy efficiency and use of alternative fuels. Electrification of transport combined with low-emission energy sources was pointed out as one important development area.

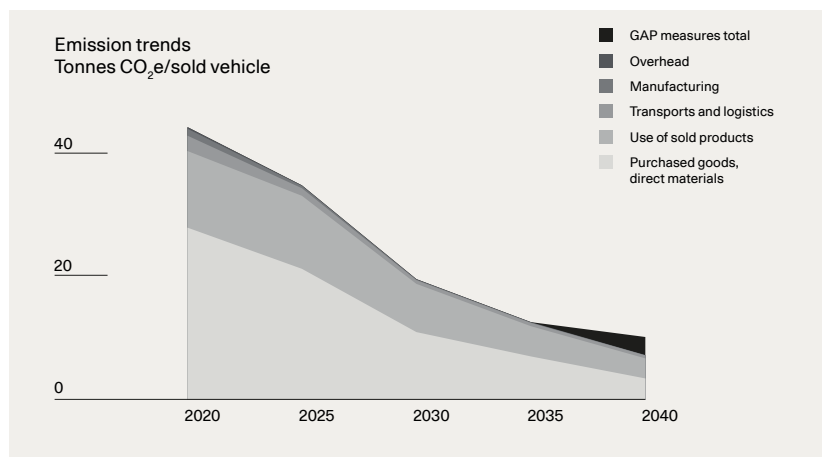
Climate roadmap

Our climate roadmap traces our path to climate-neutrality through our strategic initiatives climate-neutral platform, climate-neutral materials, energy optimisation, climate-neutral manufacturing, renewable energy in the supply chain, and climate-neutral company. It sets out targets for the four five-year periods leading up to the target year 2040.

Our overarching climate targets

² A law akin to Moore's law that states that greenhouse gas emissions need to be halved every decade if the goals in the Paris Agreement are to be reached.

We are following science closely and base our targets on what is needed according to the IPCC. The overarching target is to reach climate neutrality across our value chain by 2040. However, Polestar's growth will cause our greenhouse gas (GHG) emissions to initially increase for a few years. This is why we have also set the target to halve GHG-emissions per sold car by 2030, compared with the 2020 baseline, in line with the so-called Carbon Law². Achieving this requires eco-economic decoupling, where economic growth no longer depends on increased GHG-emissions. In addition, we have set the goal to create a climate-neutral car by 2030.



The graph above illustrates reduction measures within areas of Polestar's value chain, that can enable our GHG-emissions to decrease in line with the Carbon Law and leading to climate neutrality by 2040. Concrete measures to take emissions from 42.8 tonnes per sold vehicle (2020) to 7.5 tonnes in 2040 have been identified for these areas. But after all actions have been implemented, there are still some emissions left. We have yet to identify solutions to close this gap.

Implementing climate action in our car programmes

The actions in our climate roadmap include having 50 percent fossil-free energy in most supply chains by 2030, and 90–100 percent fossil-free energy in all supply chains by 2040. To reduce use-phase emissions by almost 40 percent to 2030, our cars need to become more efficient, but customers also need to charge with fossil-free electricity.

Materials will also have to be used more efficiently, using less for the same type of component. Use of recycled materials must also increase, and we need to transition from just recycling to re-manufacturing and re-using parts.

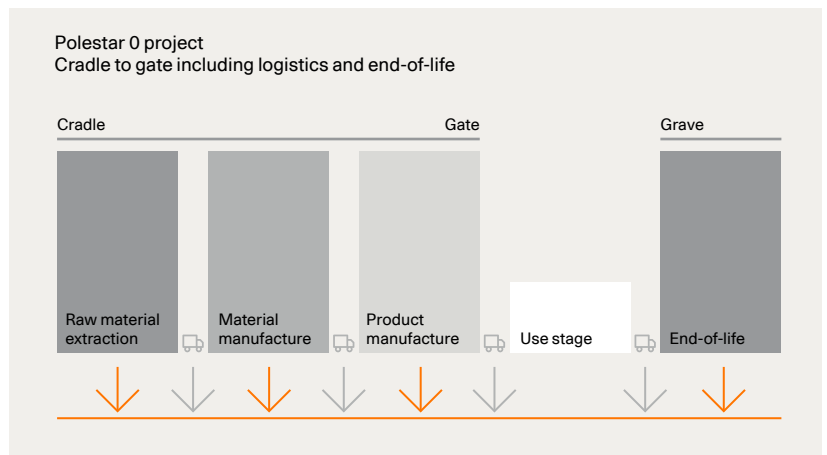
We know what our average emissions per sold car will have to be in 2025, 2030, 2035 and 2040, to reach climate neutrality and to follow the Carbon Law. Based on these targets and sales volume projections, we are setting targets for tonnes greenhouse gases per car for each programme to be reached at start of production.

To reach our targets, however, our cars cannot remain on the same GHG-emissions level for the whole production cycle. Therefore, we are also drafting GHG-emission reduction pathways over the production cycle for each programme, translated into concrete actions concerning for example materials, manufacturing and logistics. This is integrated as a part of our Sustainable Upgrades programme, which aims to move away from conventional face-lift schemes and enable continual improvements on sustainability. Reductions in GHG-emissions for the car model and its variants are communicated through our Product Sustainability Declaration, with every new vehicle model year. The climate target for each programme is then translated into specific actions concerning for example materials, manufacturing and logistics.

A truly climate-neutral car

³ An action intended to compensate for the emission of carbon dioxide into the atmosphere as a result of industrial or other human activity.

With the Polestar 0 project, which was launched in spring 2021, we set the moon-shot goal of creating a truly climate-neutral production car by 2030 by eliminating all emissions from our supply chain, manufacturing processes and end-of-life. No offsets³ will be used.

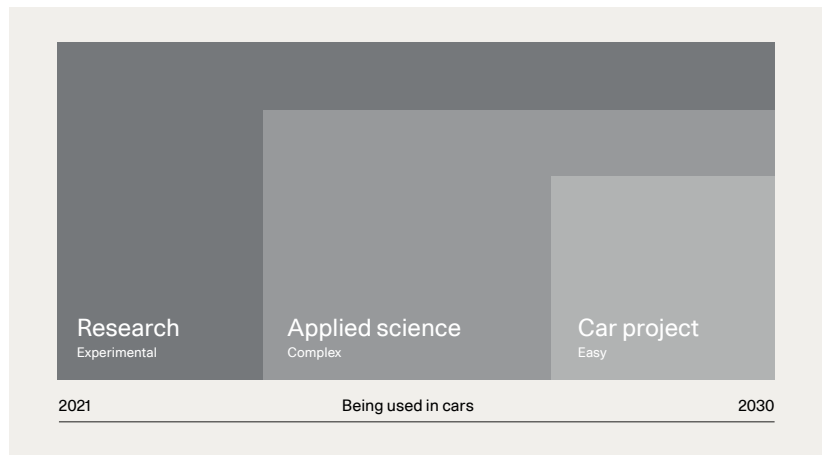


Building a car with zero CO₂e means that we must find, and eliminate, every single CO₂e emission linked to our supply chain: from mining, material refining and production, to overland and sea transportation. Climate-neutral alternatives often do not exist, which means they need to be researched.

To make this happen, we have made open calls for research and collaboration, inviting everyone with the right knowledge, skills or insights to join us. The message was sent to researchers, universities, suppliers, governments, entrepreneurs, experts, innovators, investors and authorities, and to date over 20 leading industry partners have joined us.

In the first phase, our research will focus on identifying and establishing collaborations with partners who can help us innovate. In the applied science phase, the focus will be on building and running pilot lines as well as validating concepts for materials, functions, and supply chain. The work on vehicle architecture will begin. In the final phase, we plan to design manufacturing sites and complete supply chain for normal-volume production.

Polestar is firmly dedicated to the Polestar 0 project and has assigned an internal taskforce as well as an important R&D-budget, however, this is not a normal car project and the usual delivery guarantees cannot be given. The Polestar 0 project is a moonshot goal, aimed at challenging ourselves, the industry and intended to create a sense of urgency. We want to galvanize innovation and exponential thinking, convinced it will lead to big leaps in the right direction.



A pathway for the industry

Frustrated with the current speed of the transition, we saw a need to craft a science- and data-led pathway for the automotive industry. We wanted to understand how much the industry is emitting and what actions need to be taken to remain aligned with the IPCC's 1.5-degree Celsius limit. We also wanted to instil a sense of urgency in our peers and instigate collective climate action.

In 2022, we joined the American electric car manufacturer Rivian and management consultancy Kearney, to calculate the carbon budget for the automotive industry and identify the most powerful actions to take collectively to ensure we stay within it. This resulted in the Pathway Report⁴, which we launched together in early 2023.

⁴ <https://www.kearney.com/automotive/article/-/insights/polestar-and-rivian-pathway-report>

Kearney used existing, open-source data to model the industry's current trajectory and measured passenger vehicle emissions against the global carbon budget defined by the IPCC's 1.5-degree Celsius limit. The results were sobering. Passenger vehicles currently account for 15 percent of global GHG-emissions and according to the IPCC, all GHG-emissions need to be reduced by 43 percent by 2030. The report makes clear that the automotive industry in 2021 had a remaining carbon budget of 80 gigatonnes of CO₂e and is on track to a 75 percent overshoot. The industry's entire carbon budget will be spent as soon as 2035.

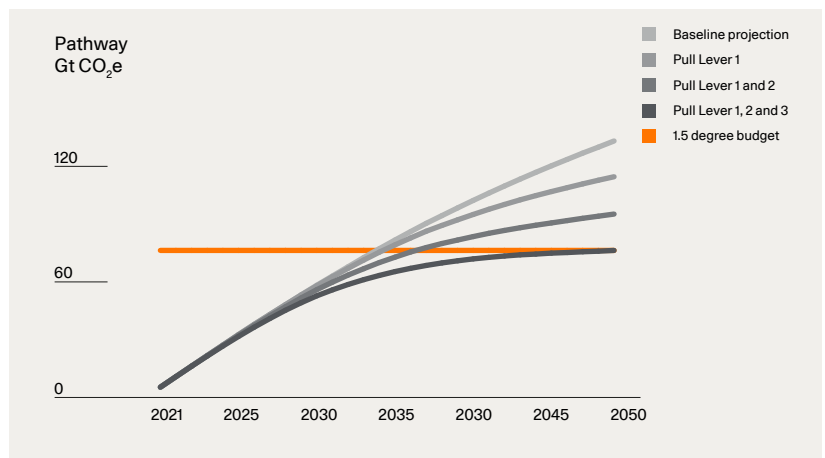
Despite the gloom, the report suggests that the industry still has a chance to get on track and sets out three impactful levers that car manufacturers need to pull simultaneously, starting immediately.

Firstly, the transition to electric vehicles needs to be greatly accelerated. Exhaust pipe emissions from internal combustion engines generate 60–65 percent of a car's total lifecycle emissions. Accordingly, the most significant impact will come from eliminating exhaust pipe emissions. For the industry to stay within its carbon budget, sales of internal combustion engines need to end completely, on a global scale, by 2032.

Secondly, the report underscores that the full potential of electric vehicles can only be reached if charged with renewable energy. This requires the development of charging infrastructure that runs on fossil-free electricity. Today's global average of 39 percent fossil-free electricity needs to increase to 100 percent fossil free by 2033.

Thirdly, supply chains need to be decarbonised. To stay on a 1.5-degree Celsius pathway, the manufacturing and supply chain would need to reduce GHG emissions by 81 percent by 2032. This can be accelerated if manufacturers come together and place requirements on suppliers. This is especially important for energy-intensive materials and parts such as batteries, steel and aluminium.

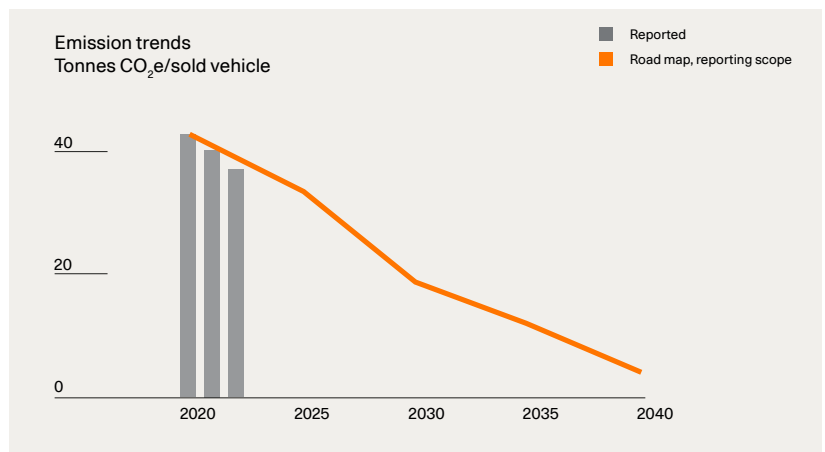
Pulling just one or two levers in isolation will not be sufficient and would only reduce the overshoot. Collective action from car manufacturers is needed on all three levers, in parallel, at a global level.



The report was shared with several of the world's leading car makers before it was launched with the purpose to seek endorsement and start immediate conversations around collective climate action. For example, we held a roundtable in late January 2023. We will continue this joint advocacy, working with Rivian and other car manufacturers who want to join in. And more importantly, we will relentlessly seek ways to stimulate collaboration and collective action on the three levers that build up our industry's climate pathway.

2022 climate footprint

In 2022, absolute GHG-emissions across our value chain increased by 67 percent to 1,875,862 tonnes CO₂e. The emissions intensity was 37.1 (2021: 40.2) tonnes CO₂e per sold car, which is a decrease of 8 percent compared to 2021. The reason for this is for example that the use-phase emissions per car have gone down, mainly because we are selling cars in markets with a fairly good grid mix. The sustainability upgrades of Polestar 2 also contribute to the decrease, as well as the fact that the plant in Taizhou uses only renewable electricity.



Greenhouse gas emissions¹⁾

tonnes CO ₂ e	2022	2021	2020	Change % 2021–2022	Change % 2020–2022
Direct GHG emissions, Scope 1	470	733	897	-36	-48
Indirect GHG emissions, Scope 2 and 3 (market-based)	7,570	8,734	1,031	-13	634
Total GHG emissions in Scope 1 and 2	8,040	9,467	1,928	-15	317
Other indirect GHG emissions, Scope 3	1,867,822	1,116,961	422,777	67	342
Total GHG emissions in Scope 1, 2 and 3	1,875,862	1,126,428	424,705	67	342
Total GHG emissions per sold car	37.1	40.2	42.8	-8	-13

1) Emissions are calculated based on the guidance of the Greenhouse Gas Protocol and this includes emissions within our financial control. The following categories have been excluded: capital goods, processing of sold products and investments. For detailed information about the methodology used, see page 53.

Emissions source, tonnes CO ₂ e	2022	Share of total emissions 2022, %	2021	2020	Change % 2021–2022
Overhead	5,302	0.3	2,718	937	95
Manufacturing	9,068	0.5	16,762	16,518	-46
Transportation and logistics	119,536	6.4	84,398	45,931	42
of which inbound	28,799	1.5	21,793	27,000	32
of which outbound	90,738	4.8	62,605	18,931	45
Purchased goods	1,222,573	65	715,109	277,090	71
of which direct materials	1,162,909	62	658,144	239,182	77
of which indirect materials	59,663	3.2	56,965	37,908	5
Sales	10,891	0.6	10,306	1,266	6
Use of sold products	483,071	26	282,725	77,950	71
of which EMEA	212,246	11	125,175	N/A	70
of which China	23,254	1.2	59,830	N/A	-61
of which APAC	91,168	4.9	1,914	N/A	4,663
of which Americas	156,403	8.3	95,806	N/A	63
End-of-life treatment of sold products	25,421	1.4	14,410	5013	76
Total GHG emissions in Scope 1, 2 and 3	1,875,862	100	1,126,428	424,705	67

The main contributors to our GHG-emissions are the purchased goods for producing our cars, followed by the use of our cars by the customers. Together they make up 88 percent (2021: 83) of our total greenhouse gas emissions.

Emissions from our operations

Our Scope 1 greenhouse gas emissions, which are direct emissions from owned or controlled sources and Scope 2, which are indirect emissions from the generation of purchased energy, represents 0.03 percent of our total greenhouse gas emissions. They come from the electricity and fuel for company-owned cars, the natural gas used for heating and electricity in the Chengdu plant, and the purchased electricity for running the machinery, cooling and lighting at the plant.

Climate neutrality

In 2022, electricity consumption fell by 20 percent to 79,994,088 MJ (2021: 100,122,556), mainly because electricity and natural gas used in the Chengdu plant decreased due to the phasing out of Polestar 1 production and subsequent closing of the plant.

Energy at Chengdu plant and in company owned cars

MJ	2022	2021	2020	Change % 2021–2022
Electricity	79,994,088	100,122,556	30,876,602	-20
Fuels				
Natural gas	6,696,000	10,728,000	14,105,618	-38
Petrol	33,612	232,481	235,282	-86
Total non-renewable fuels	6,729,612	10,960,481	14,340,901	-39
Ethanol (admixture in petrol)	1,147	7,933	8,029	-86
Total renewable fuels	1,147	7,933	8,029	-86

We also report electricity and natural gas consumption at the Volvo Cars-owned Taizhou plant, where Polestar 2 is manufactured, and the electricity consumption in Polestar's leased offices and Locations. We include our share of the energy use from Taizhou which is based on Polestar 2's share of the plant's production. 100 percent of the electricity used at the plant is renewable through Renewable Energy Certificates and on-site solar panels. Electricity consumption at Taizhou increased by 26 percent in 2022, while the use of natural gas rose by 16 percent. The reason for higher energy use is an increase in production volumes.

Energy at Taizhou plant, leased offices and Locations

MJ ¹⁾	2022	2021	2020	Change % 2021–2022
Electricity, operations	178,626,029	135,496,905	73,827,366	32
District heating, operations	5,566,672	5,713,524	2,828,498	-3
Natural gas, operations	84,567,097	80,301,059	53,262,002	5

Supply chain emissions

For 2022, 65 percent (2021: 63) of our value chain GHG-emissions can be traced to the supply chain. Most of these are related to the use of fossil fuels in energy conversion. As we operate, and predominately source, in China, coal power is highly present in our supply chains. In addition to greenhouse gases, burning of fossil fuels leads to emissions of sulphur dioxide, nitrogen oxides and particulates that affect the environment and the health of people living in the areas around the power plants.

Since using renewable energy is key to reach climate neutrality and improve local air quality, increasing the share of renewable energy in the supply chain is one of our strategic initiatives. Our climate roadmap includes milestones for the renewable energy share for every five-year period throughout the supply chain. We also have a target that all electricity used by tier 1 suppliers will be fossil free by 2025.

During the year we have worked to further integrate supplier requirements on climate in our sourcing tools. An important step has been taken to include specific requirements related to climate in the Engineering Statement of Work (ESOW) and Polestar's Sustainability Instructions for Suppliers. These include limits for GHG-emissions per kg for especially important materials and components such as aluminium, steel and batteries, as well as requirements on GHG-emissions reporting, upstream supply chain charts that identify GHG-emissions intensive processes, and clear roadmaps on how to reduce emissions from the suppliers' own operations and their upstream suppliers.

In addition to using renewable energy, material resource efficiency is crucial for reaching climate neutrality. During the year we launched a climate calculation tool to enable our designers and engineers to calculate the carbon footprint of different components and materials during the design phase.

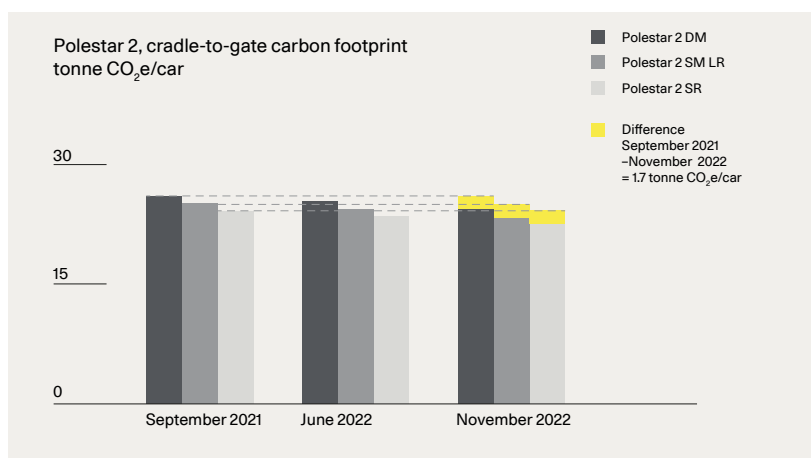
Reducing the carbon footprint of Polestar 2

The GHG-emissions reduction programme for Polestar 2 works to continually lower the carbon footprint through changes in design and in the supply chain. During 2022, two Sustainable Upgrades were launched presenting reductions in the carbon footprint for the Polestar 2 model years.

Firstly, the battery case's aluminium tray is now supplied by smelters that use renewable energy. Smelting aluminium is an energy-intensive process, and this change alone reduces the CO₂e by 0.7 tonnes per car.

Secondly and similarly, the 19 inch (48.3 cm) rims now also use aluminium produced with renewable energy. This reduces the carbon footprint by 0.5 tonnes CO₂e per car.

In addition, the Polestar 2 manufacturing plant is now running on 100 percent renewable electricity, resulting in a 0.5 tonnes CO₂e reduction per car. Compared with last year's model, all these steps reduced CO₂e by 1.7 tonnes per car or 6 percent year over year.



Use-phase energy and emissions

Polestar's biggest sales are in countries where the grid electricity mix is rather low emitting. Increasing sales in markets such as China and the US will lead to increased emissions from the use of sold products. This underlines the importance of working to influence what electricity our customers use to charge their vehicles. In total, electricity consumption in the use-phase increased by 167 percent in 2022 due to more vehicles being sold. Petrol use in the use-phase decreased by 85 percent, due to the phase-out of Polestar 1.

Total energy consumption in the use-phase¹⁾

MJ	2022	2021	2020	Change % 2021-2022
Electricity	6,282,435,168	3,797,987,760	1,421,151,048	65
Petrol	6,871,738	933,660	6,162,156	636
Ethanol (admixture in petrol)	234,490	31,860	210,276	636

¹⁾ Consumption of energy in kWh is converted to MJ with conversion factor 3.6MJ/kWh. For consumption of fuel in litres, litres are converted according to the heat values from Energimyndigheten and Drivkraft Sverige. Petrol is assumed to have an admixture of 5 percent ethanol in general. Use-phase is calculated for an average lifetime distance of 200,000 km per sold car. WLTP (Worldwide Harmonised Light Vehicle Test Procedure) cycle is used as consumption.

The energy consumption of our vehicles is one of our strategic initiatives. To reach our decarbonisation targets, the energy consumption of new models will have to decrease over time.

However, use-phase emissions depend greatly on the source of the electricity used to charge the car. If charged with renewable energy, Polestar 2 has half the lifetime carbon footprint of an equivalent petrol car. However, many customers do not have access to 100 percent renewable energy. Therefore, we urge charging station providers to use renewable energy and to transparently communicate the origin of the electricity to customers. We are also teaming up with charging partners that share our vision on renewable energy.

During 2022, Polestar has sold carbon credits in a number of markets. The income from carbon credits sales contributes to our growth as a company and makes it possible for us to further develop, put our EVs on the market, and replace ICE technology. During the year we have initiated a working group to assess the different carbon credit frameworks, and how they contribute to lowering the GHG emissions from road transport. This working group consists of our climate lead together with business strategy. The aim of the working group is to ensure that we only take part in carbon credit sales that do not contribute to added GHG emissions.

Climate-related financial risks

Overview

The Task Force on Climate-related Financial Disclosures (TCFD) has developed a framework to help companies and organisations to better identify, prioritise, manage and publicly disclose information about their significant climate-related risks and opportunities. Polestar started working with TCFD in 2021 and continued to expand and refine its approach in 2022.

A summary of Polestar's progress is provided below for TCFD's four key thematic areas.

Risk management

To identify and assess Polestar's climate-related risks and opportunities, Polestar:

- Developed an initial gross list of climate-related risks and opportunities (47), directly informed by, and aligned to, the TCFD categories (transition risks, physical risks, and opportunities) and sub-categories (for example policy and legal, technology, market, reputation, acute and chronic physical risks, and markets and products opportunities). The gross list and broader risk assessment process included risks and opportunities across Polestar's value chain (direct operations, upstream and downstream)
- Defined the likely potential financial impacts of each of these risks and opportunities for Polestar's business (for example higher operating costs, higher capital expenditure, access to capital)
- Conducted an initial risk assessment to identify and prioritise Polestar's most significant (material) climate-related risks and opportunities (10) in the short term of 2023–2025. Polestar's climate risk assessment framework is informed by Polestar's company-wide risk framework and comprises a three-point (low, medium and high) likelihood and consequence scale, with the materiality determinations/threshold set as risks/opportunities assessed as 'high' from both a likelihood and consequence perspective
- Conducted a company-wide climate-related scenario analysis to assess the possible changes in exposure to material short-term risks in the medium term (2026–2030) and longer term (2031–2050) compared with the short term (2023–2025) (see Box 1). In future years, Polestar intends to further expand this analysis to include new climate-related risks and opportunities that may emerge in the medium to longer term, but which are not material in the short term.

The climate-related risk assessments, including climate-related scenario analysis, were facilitated by Polestar's sustainability team, with the support of an external consultant, and included input from senior representatives from across Polestar's business.

Overview of Polestar's climate-related scenario analysis

Climate scenarios present plausible futures, not forecasts, based on different levels of climate change and associated policy responses. They are used to understand potential climate-related impacts on an organisation at different time horizons. A climate scenario analysis enables companies to better prepare for, and respond to, uncertainties of climate change.

Polestar has undertaken a climate scenario analysis to assess potential impacts of climate change on our business and identify climate-related risks and opportunities that may arise during different climate scenarios and time horizons (medium 2026–2030 and long term 2031–2050).

Polestar selected two scenarios that represent different pathways and assumptions, allowing different plausible outcomes to be explored. The two scenarios were used to assess future impacts on Polestar's business in medium and long-term time horizons, taking Polestar's value chain and existing mitigation strategies into account.

Polestar has selected the following two climate scenarios (see table below):

- A low-emissions scenario, aligned to the Paris Agreement and a temperature rise limited to 1.5 °C by 2050
- A high-emissions scenario, including limited policy changes to reduce emissions and a temperature rise of 1.6°C - 4°C by 2050

Both scenarios are widely used and accepted but, as with all climate scenarios, they include assumptions and uncertainties. This is especially relevant for scenarios that represent upper and lower levels of temperature change.

Transition risks were assessed by using the low-emission scenario, where the global economy transitions to mitigate global warming to a 1.5°C temperature rise. Physical risks were assessed by using the high-emission scenario, where higher levels of physical risks are likely to occur as a result of climate change. Polestar recognises that physical risks will be present in lower temperature rise scenarios, but at this stage the analysis is limited to focusing on a future with more severe potential physical impacts.

	Low-emissions scenario	High-emissions scenario
Scenario & underlying model	Net Zero Emissions by 2050 scenario (NZE)	Representative Concentration Pathways 8.5 (RCP8.5) and Shared Socioeconomic Pathways 5-8.5 (SSP5-8.5)
	International Energy Agency (IEA)	Intergovernmental Panel on Climate Change (IPCC)
Temperature rise (2050)	1.5 °C	1.7°C–3.7°C (RCP8.5) 1.6°C–4°C (SSP5-8.5)
Purpose & application	To assess the transition impacts in a future state where the global economy transitions to a lower carbon world	To assess physical impacts in a future with limited policy changes to reduce emissions

Strategy

Polestar identified 10 short-term material climate-related risks and opportunities, including transition risks (4), physical risk (4) and opportunities (2) (see table).





















Polestar's material short-term climate-related risks and opportunities

Description	Potential financial impact
Transition risks	
Changes in Polestar's external climate-related policy and/or legal operating environment, leading to increased carbon pricing through emissions trading schemes or other carbon pricing mechanisms	Higher operating costs
Changes in Polestar's external climate-related policy environment, and particularly reduced incentives for EVs, leading to Polestar losing market share to non-EV competitors	Lower revenues
Economy-wide and global transition to electrification leading to intermittent reduction(s) in Polestar's production capacity driven by energy rationing restrictions imposed on Polestar's direct operations	Lower revenues Higher costs
Polestar is perceived to be not sufficiently contributing to transition to a lower-carbon economy leading to Polestar losing key clients to competitors	Lower revenues
Physical risks	
Increased severity of extreme weather events, leading to higher electricity prices	Higher operating costs, Lower revenues
Changes in precipitation patterns and variability in weather patterns leading to higher cost of raw materials from suppliers in affected regions	Higher costs
Rising sea levels, leading to higher cost of raw materials from suppliers in affected regions	Higher costs
Rising mean temperatures, leading to reductions in Polestar's production capacity driven by heat-related interruptions to Polestar's production	Lower revenues, negative balance sheet impacts
Opportunities	
Changes in Polestar's external climate-related policy environment (for example emissions standards), leading to Polestar taking market share from traditional car brands	Increased revenues
Polestar is perceived to be sufficiently contributing to transition to a lower-carbon economy leading to Polestar gaining market share from competitors	Increased revenues, ability to raise new loans or equity on (relatively) favourable terms

Polestar completed a climate scenario analysis to assess the changing risk profile of Polestar's material short-term climate-related risks and opportunities in the medium term (2026–2030) and longer term (2031–2050). In general, and relative to assessed short-term risk exposure, Polestar's material:

- Transition risks may remain at similar levels in the short to medium term
- Physical risks may increase in the medium to long term
- Opportunities may increase in the medium to long term.

Scenario analysis – Polestar risk exposure over time (compared with short term)

Description	Medium-term	Long-term
Transition risks		
Changes in Polestar's external climate-related policy and/or legal operating environment, leading to increased carbon pricing through emissions trading schemes or other carbon pricing mechanisms		
Changes in Polestar's external climate-related policy environment, and particularly reduced incentives for EVs, leading to Polestar losing market share to non-EV competitors		
Economy-wide and global transition to electrification leading to intermittent reduction(s) in Polestar's production capacity driven by energy rationing restrictions imposed on Polestar's direct operations		
Polestar is perceived to be not sufficiently contributing to transition to a lower-carbon economy leading to Polestar losing key clients to competitors		
Physical risks		
Increased severity of extreme weather events, leading to higher electricity prices		
Changes in precipitation patterns and variability in weather patterns leading to higher cost of raw materials from suppliers in affected regions		
Rising sea levels, leading to higher cost of raw materials from suppliers in affected regions		
Rising mean temperatures, leading to reductions in Polestar's production capacity driven by heat-related interruptions to Polestar's production		
Opportunities		
Changes in Polestar's external climate-related policy environment (for example emissions standards), leading to Polestar taking market share from traditional car brands		
Polestar is perceived to be sufficiently contributing to transition to a lower-carbon economy leading to Polestar gaining market share from competitors		

Metrics and targets

Recognizing the significance of climate-related risks and opportunities for Polestar's business, the broader economy and society as a whole, Polestar:

- Measures and publicly discloses its direct and indirect (Scope 1, 2 and 3) GHG emissions in accordance with the Greenhouse Gas Protocol (see chapter Climate neutrality)
- Measures a range of other indicators aligned to Polestar's material climate-related risk and opportunities.
- Has set ambitious climate-related targets, including:
 - ◊ Climate-neutral car by 2030
 - ◊ Halve carbon intensity by 2030
 - ◊ Climate-neutral company by 2040
- Has completed transition planning to support meaningful progress towards, and achievement of, these targets.

Circularity

⁵ The planetary boundaries concept presents a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come.

⁶ Source: Circular Car Initiative

The automotive industry is on a path to dramatically overshoot its estimated carbon and resource budgets. To stay within the planetary boundaries⁵, the industry needs to find fast and cost-effective pathways to a decarbonised future. The key for achieving this is circular cars, that can both meet the growing demand for mobility while reducing the industry's burden on natural resources by consuming less material and using what is already available⁶.

Circularity is an important instrument in Polestar's decarbonisation strategy and in our ambition to safeguard planetary boundaries. It is also a tool for creating new business opportunities, innovation and production efficiency.

Circularity roadmap

To become a fully circular company, we need a clear definition of what circularity means for us and metrics that can enable clear targets. We have decided that our overarching aim is to reduce non-circular (non-recycled or non-biobased) materials per lifetime vehicle mileage to as close to zero as possible. This provides two levers of impact: increasing the share of circular materials and increasing car mileage. Reaching this target will require us to rethink the way we design, make, sell and treat cars during the entire vehicle lifetime and customer journey.

During 2022 we defined our priorities in the circularity roadmap. In addition to increasing the circularity of batteries and materials, it involves lifetime optimisation and utilisation improvement to give us better and longer use of our cars.

Our circularity roadmap is implemented in our car programmes through requirements on, for example, share of recycled or biobased material content, recycled minerals in batteries, and easy disassembly of batteries and other components to enable repair, re-use and remanufacturing at end-of-life.

A circular design approach

The design stage has traditionally been focused on functionality, quality and the costs for meeting customer requirements rather than sustainability from production to end-of-life. This must be replaced with a design process where sustainability and circularity are central. Achieving circular design means developing products whose materials can be re-used repeatedly. That requires designing a system where materials are borrowed and returned within the same system at the products' end-of-life.

To mitigate the need for new materials, as demand for recycled and more sustainably produced materials is expected to soar in the coming years, we are putting greater emphasis on prolonging the use of materials and increasing the value of components. We view this as an opportunity to use design to redefine premium with sustainable materials.

A circular materials strategy

The use of materials is at the root of our biggest social and environmental impacts. The extraction, processing, use and waste treatment of materials is associated with risks and potential negative impacts such as resource depletion; pollution to air, soil and water; climate impact; loss of biodiversity; and human rights violations. Pollution from metallurgical processes and mining activities also affects the health of people working in the supply chain and their local environments. The most sustainable solution is to use the materials we already have. By closing material loops, less virgin materials and minerals need to be extracted and produced reducing our environmental impact.

Together with our sustainability strategy, sourcing strategy, procurement process and product development process, our sustainable materials strategy provides the framework for many of our circularity efforts. It is developed continually, as new insights and more data becomes available. In addition to lifecycle assessments (LCA), we use global standards and recognised methodologies, various best practice benchmarks and restricted substance criteria to maintain and set even stricter new standards for sustainable materials in cars. The strategy outlines particular materials that we aim to phase out over the coming years, due to disproportionate negative environmental impacts, lack of feasible end-of-life treatment options or planned regulatory changes. During the year we have also implemented a no-go

list, identifying a set of materials that our designers and engineers should avoid early on in our car programmes to enable efficient phase-out.

Maximising value at end-of-life

In total, 85 percent by mass of the materials used in Polestar 1 and Polestar 2 are recyclable, as required by the EU Directive on End-of-Life Vehicles. Polestar fully supports the European Union's intention to facilitate the disassembly of vehicles to recycle and re-use parts. However, whereas the EU currently allows for downcycling of materials at end-of-life, our ambition is that our cars should allow at least 85 percent closed-loop recycling, which is material recycling without loss of quality. A major challenge for the industry is maintaining material quality after recycling, which often leads to downcycling, as well as identifying feasible recycling pathways for low-value materials such as plastics and textiles. We aim to build a better understanding of these challenges to influence change.

One challenging area is electronics, which also have a major raw material footprint with impacts on biodiversity and social risks associated with mining. We are working on improving the integration of electronics in our cars to improve the recycling rate, which will reduce our raw material footprint.

Aluminium is another important material in car manufacturing. Cars contain different grades of aluminium, each with specific attributes. However, recycling plants do not distinguish between these grades and recycle them as one material, producing aluminium that is no longer suitable for high-grade applications. Only a small share of that material finds its way back to the automotive industry, as most of it is downcycled into lower-grade metals.

The Polestar electric roadster concept, which was unveiled in 2022, presented a potential solution for distinguishing between different aluminium grades. All of the aluminium on the concept was labelled and colour-coded to provide recyclers with a visual method of differentiating between different grades which would enable them to recycle the materials in separate streams. This would lead to a closed material loop in which aluminium is recycled back to its original quality.

Re-use and recycling of batteries

The battery of an electric vehicle that has reached its end-of-life holds significant value. For instance, disused batteries from electric vehicles can potentially be used for grid balancing, back-up power for telecommunications or low-voltage mobility.

Battery minerals are a scarce resource and there is not much recycled material available. To manage this, we cooperate with partners in both industry and academia to develop concepts for better disassembly of batteries at end-of-life to ensure that re-use and refurbishment is promoted. This includes developing an in-house battery score to collect information on for example how a battery can be remanufactured and how much efficiency and charging capacity is lost in the process. We are also mapping the eco-system surrounding our parts and batteries. The insights provided enable us to identify bottlenecks and to decide on actions for future improvement.

We have teamed up with Volvo Cars for end-of-life management of batteries. In the future, Volvo Cars' service centre network will route used batteries to regional battery centres for sorting and deployment for repair, remanufacturing or recycling. Currently, very few batteries have entered this system as they are still in active use in cars that are almost new.

In late 2022, the European Union reached a provisional agreement on a new cradle-to-grave regulatory framework for batteries. More detailed rules will now be developed and adopted from 2024 to 2028. One of the key elements is the creation of a digital passport for batteries, containing an electronic record with information on the entire lifecycle of the battery. We have started preparations to ensure compliance with the directive and the battery passport.

2022 circularity footprint

During the year, we engaged two consultancies, Circle Economy and Stena Recycling, to perform a baseline circularity evaluation. It enabled us to assess how we perform on two important circularity aspects – raw material consumption and recyclability.

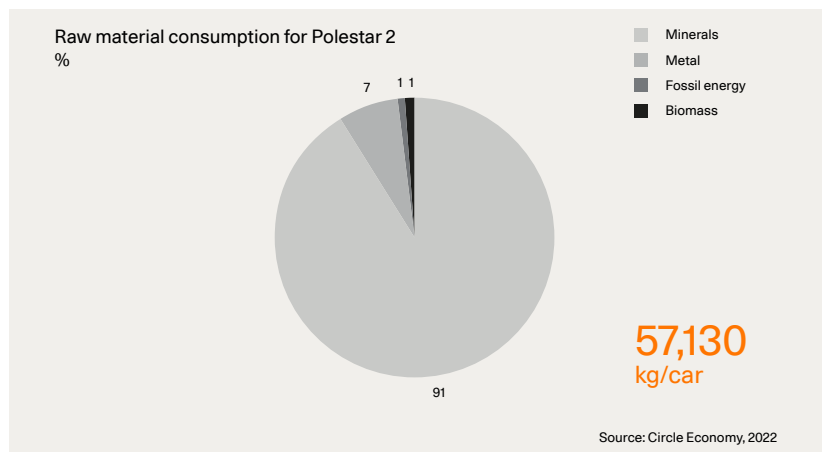
The raw material consumption of Polestar 2

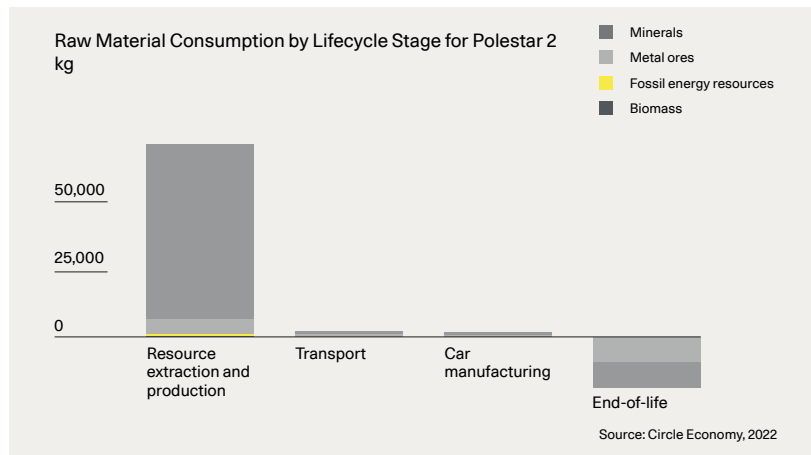
We have used a range of raw materials to produce our cars, as outlined in the table below. The basis for this data is the bill of materials for our car models, and therefore only shows the materials ending up in the products.

Material breakdown of different Polestar 2 variants and their mass in kg

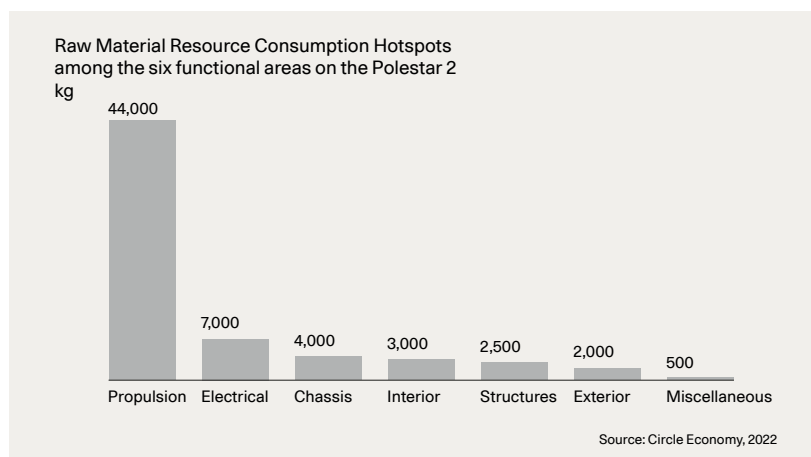
kg	Polestar 1	Polestar 2 Long range Dual motor	Polestar 2 Long range Single motor	Polestar 2 Standard range Single motor
Aluminium	441	391	380	367
Copper	74	71	73	73
Elastomers	85	83	78	78
Fluids	81	26	77	71
Glass and ceramics	62	57	58	58
Magnesium	7	2	2	2
Other metals	29	25	22	23
Other polymers	242	89	86	91
Others	135	245	199	183
Steel and iron	991	880	826	818
Thermoplastics	230	239	229	225
Total	2,376	2,109	2,030	1,989

Through the collaboration with Circle Economy, we were able to also better assess how much raw material goes into the production of a Polestar 2, by analysing the total raw material consumption upstream. A key finding was that the highest raw material consumption is related to the upstream extraction of materials and production of components used in the propulsion and electronic systems. The study presented an important indicator, Raw Material Consumption (RMC) measured in kg of raw material per car, that we will use to monitor our resource efficiency and continually lower raw material use.





We have mapped Polestar 2 for circularity hotspots to identify areas for improvement. Electric motors, containing valuable rare earth elements such as neodymium and dysprosium, have the second-highest raw material footprint after the car batteries. Both of these critical components are part of the propulsion systems at Polestar. The graph below shows how the other systems contribute to the raw material resource consumption on a Polestar 2. These elements are crucial to motor function, but their mining and refinement can often introduce environmental risks, such as leakage of toxic effluents that can harm local ecosystems and biodiversity.

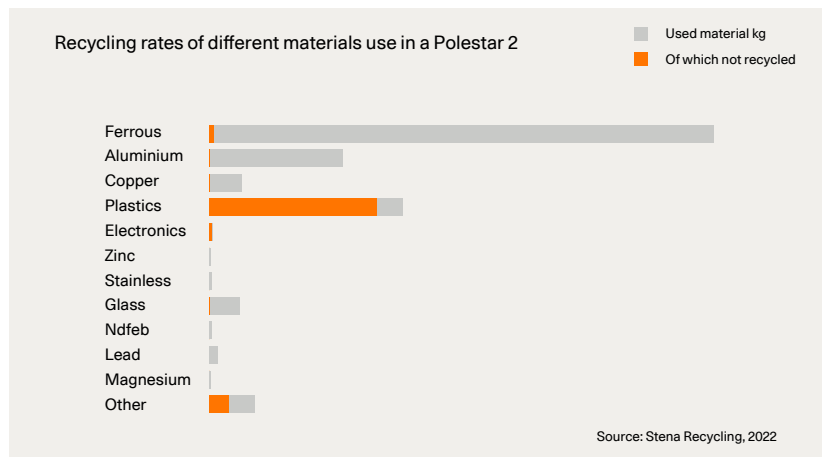


In 2022, Polestar signed a memorandum of understanding with Cyclic Materials to create closed-loop recycling pathways for rare earth elements. The aim is to develop 100 percent post-consumer recycled materials for permanent magnets that will be used in Polestar's cars, and to explore ways to efficiently recycle existing magnets. Not only will this reduce our demand for mining, but it will also help prevent the loss of biodiversity results from the extraction of these elements.

The recyclability of Polestar 2

Another project undertaken in 2022 was a baseline study, based on Polestar 2, with Stena Recycling that highlighted some of the challenges for the end-of-life management of our vehicles. The table below shows the main end-of-life treatments used today in the EU. Some of the main challenges highlighted were the low recycling rate of plastics due to material complexity and sorting technology limitations. Materials that cannot be separated cause contamination of other fractions, which results in material downcycling, or in the worst case incineration.

The project also identified clear opportunities that can be exploited to drive circularity in future vehicles, such as ensuring that electronics are packaged in ways that are easy to access and dismantle, as well as using plastic materials with low amounts of fillers and additives to support sorting at the recycler and dismantler.



Minimising manufacturing waste

We aim to send zero waste to landfill by 2030. In 2022, the waste generated from our plant in Chengdu, China, amounted to 18.93 tonnes (2021: 355.1), of which 10.48 (2021: 66.1) was hazardous. The decrease in generated waste is related to the phasing out of Polestar 1 production and subsequent closing of the plant. Of the total waste generated, 21.13 (2021: 78.15) percent was recycled and 78.87 percent was sent to incineration for energy recovery. No waste was sent to landfill.

Waste generated, Chengdu plant

Tonnes	2022			2021			2020		
	Total	Waste recycled	Disposal	Total	Waste recycled	Disposal	Total	Waste recycled	Disposal
Domestic waste*	5.28	—	5.28	14.4	—	14.4	—	—	—
Contaminant	0.43	—	0.43	7.84	—	7.84	6.31	—	6.31
Filter box	1.49	—	1.49	4.88	—	4.88	—	—	—
Containers/drums	0.83	0.83	—	2.92	2.92	—	1.63	1.63	—
Solvent	7.67	—	7.67	40.69	—	40.69	26.23	—	26.23
Paint	0.02	—	0.02	1.5	—	1.5	0.72	—	0.72
Slag	0.05	—	0.05	0.11	—	0.11	0.04	—	0.04
Cardboard	1.45	1.45	—	82.95	82.95	—	55.11	55.11	—
Plastic	0.19	0.19	—	6.71	6.71	—	5.22	5.22	—
Foam	0.02	0.02	—	—	—	—	—	—	—
Metal**	1.51	1.51	—	8.729	10.419	—	6.73	6.73	—
Wood	—	—	—	174.49	174.49	—	129.78	129.78	—
Oil	—	—	—	0.72	—	0.72	0.03	—	0.03
Glue	—	—	—	7.27	—	7.27	5.94	—	5.94
Carbon	—	—	—	0.18	—	0.18	0.18	—	0.18
Rubber	—	—	—	1.69	1.69	—	0.98	0.98	—
Total	18.93	4	14.93	355.079	277.489	77.59	238.9	199.45	39.45

*Including office waste

**Including body iron, other iron, aluminum and copper

Waste diverted from disposal, Chengdu plant

Tonnes	2022			2021			2020		
	Onsite	Offsite	Total	Onsite	Offsite	Total	Onsite	Offsite	Total
Preparation for reuse	—	0.83	0.83	—	—	—	1.63	—	1.63
Total, hazardous waste	—	0.83	0.83	—	2.92	2.92	1.63	—	1.63
Recycling	—	3.17	3.17	—	2.92	2.92	—	—	—
Total, non-hazardous waste	—	3.17	3.17	—	274.57	274.57	—	197.82	197.82
Waste prevented	—	4	4	—	277.49	277.49	1.63	197.82	199.45

Waste directed to disposal, Chengdu plant

Tonnes	2022			2021			2020		
	Onsite	Offsite	Total	Onsite	Offsite	Total	Onsite	Offsite	Total
Incineration (without energy recovery)	—	—	—	—	—	—	—	39.45	39.45
Total, hazardous waste	—	9.65	9.65	—	63.19	63.19	—	39.45	39.45
Total, non-hazardous waste	—	5.28	5.28	—	14.4	14.4	—	—	—

Transparency

As the automotive industry is going through transformational change, we have decided to communicate openly about every step of our journey and to be transparent about the true environmental and social impact of the entire lifecycle of our electric cars, from production to end-of-life.

Transparency creates trust, demonstrates ownership and accountability for more and more sustainable development, and is becoming increasingly important to forge strong relationships with stakeholders. We have set out to be transparent, not only about what is confined within our own operations, but also what lies beyond.

It is only by tracing materials from raw material production to finished product, that we can ensure that our requirements regarding environmental impact and respect for human rights are met. Transparency alone is not enough; however, as it needs to be followed up with concrete actions to facilitate trust.

Transparency roadmap

Our ambition is to be the guiding star in our industry by being the world's most transparent car company. It is an ambition that might be hard to pin down and measure, but it pushes us to never settle and become complacent. As one of the four key focus areas in our sustainability strategy, Transparency currently includes the strategic initiatives: supply chain transparency, materials traceability, Product Sustainability Declaration, and sustainability reporting.

We have set several milestones in our Transparency roadmap. As a first step, we focus on becoming more data-driven by putting in place digital systems to handle the data around different sustainability aspects. We are also progressing on gaining visibility into our primary supply chains. We are constantly evaluating our material choices and improving traceability of risk materials in the supply chains of our critical components.

Supply chain transparency

Since transparency is an increasingly important tool for supply chain sustainability, we put a lot of effort into being transparent of where our risks lie. In 2022, 61% of our total greenhouse gas emissions originated from the extraction, refining and production of direct materials.

It is in the supply chains that some of the automotive industry's greatest sustainability risks occur. These include risks to both human rights and the environment, for example child labour, forced labour, hazardous working conditions, discrimination of indigenous people, resource depletion and pollution to air, soil and water.

The conditions surrounding the extraction and refining of minerals are especially precarious, and children and indigenous peoples are often disproportionately exposed to these risks. In some countries with raw mineral extraction, there are high-intensity conflicts funded by mining. The automotive industry's supply chains are long and have many tiers, ranging from direct suppliers such as component manufacturers to raw material producers such as mining companies located far upstream in the supply chain. The number of tiers in the supply chain, along with its complexity, complicate both the assessment and management of indirect impacts and risks. This includes risks related to modern slavery. We acknowledge these risks, particularly linked to the sourcing of minerals for battery cells.

Our electric vehicles are being manufactured in the state-of-the-art Taizhou plant that is owned by Volvo Cars. Polestar 2 and Polestar 3 have diversified and global supply chains with over 350 suppliers that are sourced by Volvo Cars. Most of the direct suppliers are in China, particularly in the regions around the production plant, whereas some components are sourced globally. Polestar also has suppliers delivering indirect products and services, and currently there are over 1,300 indirect suppliers that have gone through screening on trade sanctions. Further due diligence processes and tools are being implemented to manage the indirect suppliers that are spread out globally.

In November, Polestar participated in the 2022 Green Supply Chain and Action Forum in Beijing. At the forum, the Institute of Public and Environmental Affairs (IPE) released the ninth annual Green Supply Chain CITI (Cooperate Information Transparency Index), in which Polestar ranked first in the automotive industry. The 2022 evaluation covered 650 Chinese and global companies in 20 industrial sectors.

The forum has become an invaluable yearly resource for discovering how various industries and suppliers are tackling the climate crisis. It brings industry and stakeholders together to discuss for example policy trends, supply chain environmental management challenges, corporate low-carbon transformation practices, and data-driven solutions.

Tools for greater transparency

In 2022, we joined the Responsible Business Alliance (RBA) and Drive Sustainability. Our membership in RBA gives us access to its multi-stakeholder initiatives such as the Responsible Minerals Initiative and the Responsible Labour Initiative. These are vital to provide us with greater insight into our supply chains and a platform to further strengthen our supplier assessments. Through our collaboration with Volvo Cars, Responsible Mining Initiative's tools and resources are already implemented in our supply chains.

We use the RBA Risk Tool to assess potential sustainability risks in the supply chain. Risk factors include generic risks such as geographical risks related to labour rights, business ethics, health and safety and the environment, as well as specific commercial risks such as spending and supplier dependency. The risks assessment is used to prioritise our due diligence efforts and to select suppliers for sustainability audits.

Polestar's main suppliers play a major role in the design and production of our products. Sustainability is therefore a vital part of the procurement process. The Code of Conduct for Business Partners provides the foundation for our supplier requirements and expectations. We require our suppliers to protect working conditions and human rights, care for the environment and carry out business with integrity. The Code of Conduct for Business Partners is included in the contract package for all new suppliers.

In addition to The Code of Conduct for Business Partners, we have a sustainability Self-Assessment Questionnaire (SAQ) and our own Supplier Sustainability Index. Together, these three elements comprise our sustainability assessment programme, which was developed to promote Polestar's values and sustainability goals in the supply chain.

We are also looking at enhancing our supplier due diligence process through international benchmarks and new digital systems. This will enable us to improve business partner due diligence and provide us with better insight into the sub-suppliers further down the supply chain.

Due diligence of suppliers is performed with focus on trade sanctions, corruption risk and adverse media. The SAQ on sustainability is part of the sourcing process. Existing suppliers are required to conduct the SAQ bi-annually. The SAQ has been developed as part of the collaborative initiative Drive Sustainability. It covers areas such as business ethics, human rights, environmental management and responsible sourcing. All answers in the SAQ are validated by an external assessor and the suppliers are provided with recommendations on how to improve. Our aim is to have all active supplier sites delivering production materials submit a completed SAQ. If the rating is below 70 percent, action plans on identified topics need to be agreed and implemented by suppliers within certain timeframes.

Polestar's Supplier Sustainability Index (SSI) measures suppliers' maturity in relation to our four sustainability focus areas: climate neutrality, circularity, transparency and inclusion. Prospective suppliers are required to commit to our sustainability approach, track their progress and implement initiatives related to the focus areas in their business and supply chains. The SSI is filled out and submitted by the supplier and analysed and assigned a score by Polestar's Global Sustainability Procurement Lead.

The Volvo Cars Supplier Evaluation Model (SEM) supports the Volvo Cars selection of suppliers. The model evaluates potential suppliers from a holistic perspective, covering areas such as working conditions, business ethics and environmental impact.

Materials traceability

Critical minerals used in the manufacturing of electric vehicles are essential for the transition to a low-carbon economy, yet the economic wealth generated from mining often does not benefit the local communities. Around half of the world's known cobalt reserves are in the Democratic Republic of Congo, and Russia is a leading country in the global production of sheet mica.

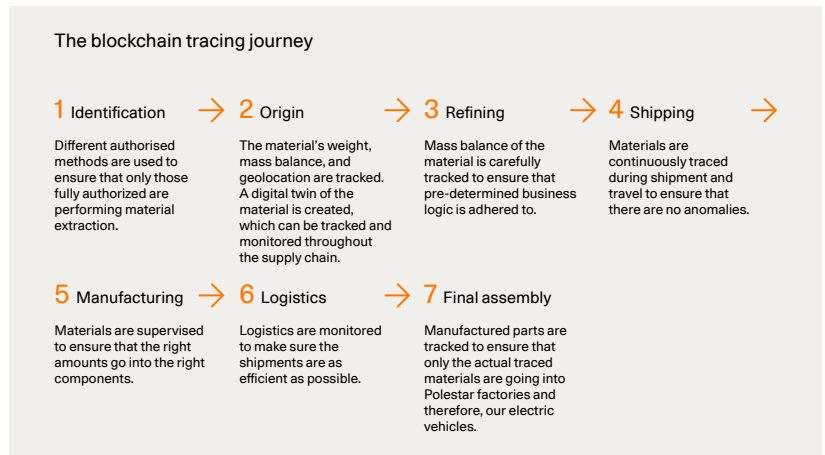
We recognise that the extraction, handling, processing, transportation and trade of metals and minerals can contribute to or result in adverse social and environmental impacts. We are committed to the responsible sourcing of materials and minerals used in the operation of our business and the manufacture of our products. This includes legally defined 'conflict minerals' such as tin, tungsten, tantalum and gold, also commonly known as 3TG, as well as other minerals such as cobalt, mica, lithium and nickel. In politically unstable areas, the mineral trade can be used to finance armed groups, fuel forced labour and other human rights abuses, and support corruption and money laundering. Materials traceability is one of our greatest tools in the fight against this.

The materials traceability initiative is led by Polestar's Procurement department with support from Polestar's Transparency Lead. Traceability targets are set for all new Polestar models and our list of prioritised risk materials is constantly evolving in line with new knowledge and awareness about associated risks. We are constantly looking for robust chain of custody methods to trace the materials on our list.

Blockchain technology

For some risk materials, we use established standards and certifications to create traceability from raw materials to finished product. Where these standards are not well-developed, we opt for blockchain technology-based traceability. It has revolutionised supply chain visibility by offering an unchangeable, digital and efficient way of creating transparency. Blockchain is a proven data collection system that allows us to effectively trace materials in our cars, as we strive to be more sustainable. Coupled with audits, this will enable responsible sourcing.

We collaborate with Circular, a traceability-as-a-service provider, to employ blockchain technology to trace the origins of the cobalt and mica used in Polestar 2 batteries. The traceability service tracks origin, mass, size and chain of custody. In Polestar 3 batteries, we will trace cobalt, mica, lithium and nickel. It lets us trace risk minerals used in battery production so that we can understand the origin of these materials, which over time will enable more circular batteries.



Tracing upholstery materials

Polestar 3, which was launched in 2022, features consciously chosen interior materials. These include bio-attributed MicroTech, animal welfare-compliant wool upholstery and animal welfare-secured leather.

MicroTech

Made from renewable vinyl and recycled polyester textile, the bio-attributed MicroTech is a vegan alternative to leather and comes as standard in the Polestar 3. Polyvinyl chloride (PVC) is a multi-purpose plastic commonly made from fossil resources and used for synthetic vinyl materials. The MicroTech upholstery, by contrast, is made from 100 percent fossil free, bio-attributed PVC, in which the crude oil component has been replaced with pine oil from certified renewable sources.

Leather

In 2022, we introduced the possibility for Polestar 2 customers to choose traced leather as optional upholstery. All hides we use have full traceability and are sourced from suppliers in the United Kingdom and Ireland which rank high in the Animal Protection Index⁷. The leather is traceable via a process that controls and monitors the farms and tanneries from which the leather originates. The leather is tanned using a chrome-free production process. We do not contribute to deforestation of the Amazon rainforest and so do not use leather from cattle raised in the Amazon biome.

Wool

Wool also classifies as a risk material predominantly due to the associated animal welfare risks. The wool in Polestar 3 is made from animal welfare-certified yarn that comes from farms with a responsible approach to managing their land and animals. The yarn contains 80 percent wool and 20 percent recycled content.

All our leather and wool adhere to the strictest standards on animal welfare and the Five Freedoms.

For increased transparency, the material source and carbon footprint are printed on the surface material of the upholstery in Polestar 3.

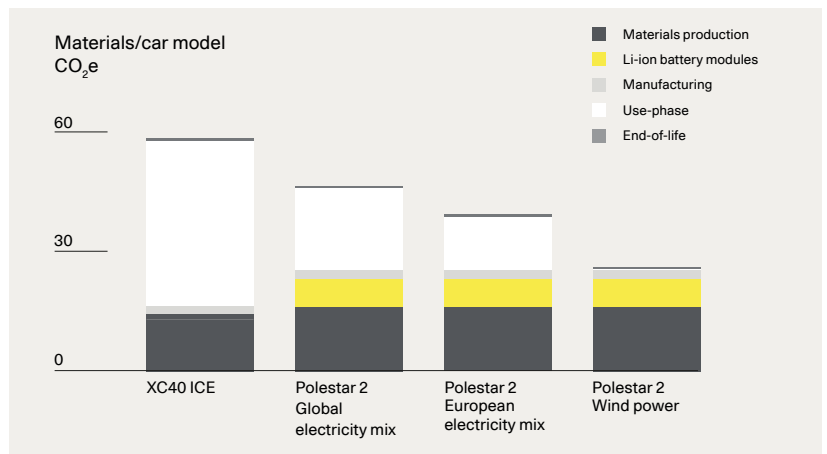
Product Sustainability Declaration

We believe in transparency as a means to drive change throughout our industry, and to help our customers to make informed choices. Polestar's Product Sustainability Declaration helps customers assess the sustainability performance of our cars. The declaration, displayed both in spaces and on our website, discloses the cradle-to-gate tonne greenhouse gas emissions, traced risk materials and other sustainability aspects. As we make progress in data transparency, we aim to add more parameters to the declaration.

⁷ The Animal Protection Index (API) ranks 50 countries according to their animal welfare policy and legislation.

The carbon footprint of our models and variants is an essential part of the Product Sustainability Declaration and is based on our lifecycle assessments (LCA). The full methodology behind these calculations is described in the LCA report that we publish on our website, to provide consumers with full transparency on assumptions and underlying data. When launching Polestar 2 in 2020, we took the unprecedented decision to publish the results together with the full methodology of the LCA for the car. Since then, we have been advocating other car makers to do the same, to enable consumers to understand the climate impact of their choice.

The Product Sustainability Declaration also helps our customers understand how they can maximize the climate impact of their choice by explaining that where the electricity for charging comes from has a significant impact on the lifecycle emissions of an electric vehicle, highlighting the importance of charging with renewable electricity.



In line with Polestar's commitment to transparency, a complete lifecycle assessment (LCA) will be completed on Polestar 3 when production begins. The LCA for Polestar 3 will also be third-party verified.

Inclusion

Inclusion is diversity, representation and equality working in harmony. It makes innovation prosper and can create positive impact on people and communities. Biases and corruption however, foster discrimination.

A car consists of some 30,000 components and rely on complex layers of supplier and sub-manufacturers. As the transition to a low-carbon economy accelerates, demand for the minerals that support the energy transition is ramping up and sourcing minerals in a responsible way is key. Due to the complexity of the supply chains, we need to build strong human rights partnerships, as we recognise that breakthrough solutions to these issues will require collective action across private and public sectors. We protect human rights, fight for diversity, insist on equality and embed social justice principles at the heart of the transition.

Inclusion roadmap

We see inclusion as a powerful tool to promote human rights. By committing to this strategic focus area, we strive to stand up for the rights of people throughout our value chain – from the workers producing the materials in our cars, to our employees in factories and Polestar Locations, to customers and consumers around the world.

Within the focus area Inclusion, we have launched four strategic initiatives: ethical business practices, human rights in the supply chain, inclusive workplace, and inclusive customer experience. All strategic initiatives are managed by their respective department, making it a priority throughout the company. The departments are supported by our Inclusion Lead.

Ethical business practices

Polestar is committed to acting responsibly, competing fairly and to adhere to applicable laws and regulations. We are committed to fostering a compliance and ethics culture that permeates all operations, both Polestar's and our business partners'. All employees and consultants working on behalf of Polestar must adhere to Polestar's Code of Conduct and the applicable policies. Key compliance areas for Polestar include anti-corruption, competition law, data privacy, human rights, environmental compliance, trade sanctions and export control. Certain countries have implemented strict laws restricting trade and export activities with specific countries, organisations and individuals. These rules aim to prevent violation of international law, human rights, proliferation of weapons of mass destruction, international terrorism or flows of items that could be used for military or internal repression purposes.

During 2022, the world has been affected by Russia's invasion of Ukraine. Polestar immediately formed a task force to analyse the situation and prepare the organisation to handle any impact on our business, staff, consultants and supply chains.

Code of Conduct for Business Partners

The requirements and guiding principles for our business partners, with regard to working conditions, human rights, business integrity and the environment, are expressed and defined in our Code of Conduct for Business Partners. It includes principles on for example preventing child labour, preventing forced labour or modern slavery, non-discrimination and equal opportunities, the right to freedom of association and collective bargaining, and proper management relating to terms of employment, wages, benefits, working hours and health and safety.

Polestar's Code of Conduct for Business Partners is included in all contracts with Polestar Locations operators and handover centres, as well as production material suppliers, and is also communicated to all potential production material suppliers requested to provide a quote to Polestar. For indirect material suppliers, Polestar's Code of Conduct for Business Partners is referenced in Polestar's purchasing terms and conditions.

Business Partners are required to conduct their business in compliance with applicable laws and regulations and maintain awareness of laws and regulations. They are required to ensure that their employees and subcontractors are made aware of the Code; in particular, Business Partners are expected to choose the suppliers they retain in relation with Polestar business with appropriate due diligence,

Inclusion

communicate the principles set out in the Code (or equivalent principles) to their suppliers and ensure compliance with the principles.

Business partners in high and medium risk markets (based on Transparency International's Corruption Perceptions Index) are assessed through our Business Partner Due Diligence process.

Anti-corruption

Corruption and bribery, whether it involves government officials or private individuals, is a fundamental threat to achieving progress on sustainability. Corruption is not just wrong and a threat to social development and a well-functioning market economy, it is also generally illegal in the countries where we do business.

We do not tolerate any form of payment or incentive that is offered with the intention to improperly influence a business decision. Our business relationships must be based on trust, transparency, honesty and accountability, and we are committed to following applicable laws and rules in all countries where we operate. Employees will never face any adverse consequences for refusing to pay or accept a bribe, even if it would lead to a loss of business.

The most significant risks of corruption in Polestar's value chain occur in the extraction of minerals and materials in the supply chain, and the distribution of vehicles. Specific activities that are considered high risk include the mining of raw materials, the establishment of production facilities and the production of vehicles. There are also corruption risks associated with logistic partners, tolls and customs, and interactions with governmental actors. During the year, all relevant employees have received training on anti-corruption.

In 2022, there were two (2021: 0) confirmed incidents of a violation of the Code of Conduct related to corruption brought to the attention of management, of which one had merit. Actions taken included improving our control framework, conducting compliance training and disciplinary actions up to and including dismissal.

SpeakUp – our whistleblowing system

Polestar encourages a speak-up culture where our employees ask questions and raise concerns without fear of retaliation. We encourage employees and other stakeholders to report, via several channels, any suspected breach of laws or regulations as well as any conduct that is not consistent with our Code of Conduct, corporate policies and directives. Suspicions of severe violations can be reported through the global whistleblower system SpeakUp, which guarantees anonymity and complies with the European Union's Whistleblower Directive (Directive (EU) 2019/1937).

There were 30 (2021: 9) reported cases in 2022, of which 27 were through SpeakUp. Of these cases, 2 (2021: 2) cases were closed with merit, whereas the other cases were either closed without merit or were open at year end. Of the reported cases, three were related to suspicions of corruption. Others were related to discrimination and harassment, as well as conflicts of interest or misuse of company assets. The rise in cases from 2021 to 2022 can be attributed to the ease of anonymous reporting in the whistleblower system that was launched in mid-2021, together with increased awareness of the whistleblower system and the growth in business.

Human rights in the supply chain

Many of the automotive industry's greatest sustainability risks relate to human rights in the supply chain and include child labour, forced labour, and bad and hazardous working conditions. Migrant workers, including domestic migrant workers, children and indigenous peoples, are often disproportionately exposed to these risks, and the conditions surrounding the extraction and refining of minerals are particularly precarious. In some countries with raw mineral extraction, there are high-intensity conflicts funded by mining.

We address human rights and labour rights in the supply chain through key strategies and processes such as our sustainability strategy, sourcing strategy, procurement process and product development process.

Inclusion

Polestar is committed to respecting and complying with international human rights principles, including the Universal Declaration of Human Rights, the United Nations Convention on the Rights of the Child and the International Labour Organization's fundamental conventions. We are also committed to observing the UN Global Compact's Ten Principles and conducting due diligence in line with OECD guidelines. As a responsible business, we expect the same level of commitment from our business partners including our suppliers.

We have introduced the requirement that all new direct suppliers located in select regions, based on a sustainability risk assessment, must have a third-party onsite social audit. The audits cover suppliers in tier 1 and direct material suppliers in tier 2. A Responsible Business Alliance Validated Assessment Programme audit (RBA VAP), or similar system agreed and accepted by Polestar's Inclusion Lead, consists of management interviews, document review, plant walkthrough and worker interviews. We expect our business partners to ensure continual improvement of working conditions within their organisations. If non-conformance is found during the audit, the supplier must analyse the root causes of non-observance, and agree on a remediation plan and to following up on the progress of the remediation. The corrective action plan (CAP) shall be shared with and agreed by Polestar Procurement. If CAPs are not remediated, this might lead to termination of the relationship.

As the sustainability performance of the final product always starts with the design and product specifications of a new product, we are also looking to include findings from the supply chain assessments into our product development, and to factor in human rights and inclusion considerations into the materials selection processes.

Procurement for Polestar 2

In total, 180 suppliers manufacture components and materials used in Polestar 2. Volvo Cars has contracted these suppliers and all have agreed to follow the Volvo Cars Code of Conduct. Most of the direct suppliers are in China, particularly in the regions around the production plant in Taizhou, and some components are sourced globally.

At year-end 2022, 100 percent (2021: 71) of Polestar's suppliers were included in the Volvo Cars risk assessment tool and all suppliers have gone through screening against trade sanctions.

66 percent (2021: 63) of Polestar's suppliers have completed a SAQ developed by the Drive Sustainability Initiative. 23 percent are still in progress and 11 percent have not started. The completed assessments' average score is 82 percent. Seven suppliers have a score below 70 percent, meaning that improvement actions are needed. 99 percent of suppliers have a policy of no forced labour, no child labour and the right to freedom of association.

At the end of 2022, 18 percent of all suppliers in high-risk regions had valid third-party onsite audits conducted to verify adherence to the Code of Conduct. High-risk regions are defined using RBA's risk assessment platform and global map scoring. The onsite audits that have been conducted are RBA VAP audits. Most of the violations are associated with working hours and emergency preparedness.

Procurement for Polestar 3 and 4

In 2022, Polestar 3 and 4 had not yet gone into production, but sourcing and nomination of suppliers is completed. Volvo Cars and Geely have contracted these suppliers. Prospective suppliers are assessed using a wide array of tools such as the Risk Assessment Tool developed by Responsible Business Alliance and the Sustainability Self-Assessment Questionnaire (SAQ) by Drive Sustainability Initiative, as well as sustainability audits carried out by third-party auditors.

At year-end 2022, 100 percent of suppliers for Polestar 3 and 90 percent of suppliers for Polestar 4 have so far signed agreements on human rights and code of conduct. 100 percent (2021: 79) of the suppliers were included in the risk assessment tool. For Polestar 3, 63 percent (2021: 63) and for Polestar 4, 99 percent (2021: 99) had completed the sustainability self-assessment questionnaire.

Inclusion

At the end of 2022 and before start of production, 13 percent of Polestar 3 suppliers in high-risk regions have had valid third-party onsite RBA VAP audits and eight suppliers for Polestar 4 have had audits that are being verified.

Procurement for Polestar 5

Polestar has built inhouse procurement capability and developed procurement processes ahead of the production of Polestar 5, which is expected to be launched in 2024. The selection of new suppliers will be completed in 2023.

Sustainability aspects are embedded into Polestar's existing business processes. Implementation of these business processes with the support of digital tools is in progress. One of the first ones to be implemented would be the Procurement process.

Conflict minerals

Our ambition is to only source components containing tantalum, tin, tungsten and gold (so-called conflict minerals) from supply chains with third-party validated, conflict-free smelters and refiners. Every year we request our manufacturers, their suppliers and our suppliers of components containing conflict minerals to declare their due diligence measures and disclose the smelters used in their supply chain in a Conflict Minerals Reporting Template (CMRT). For current car programmes, Volvo Cars follows a due diligence process for conflict minerals to identify potential discrepancies, select suppliers for independent OECD-aligned audits and follow up on risk mitigation action plans to address adverse impact. The current level of Responsible Minerals Assurance Process compliant smelters is 78 percent, as concluded by Volvo Cars based on its aggregated evaluation of disclosed supplier data.

Please read more on how we work with mineral and other risk materials in the supply chain on page 26.

Inclusive workplace

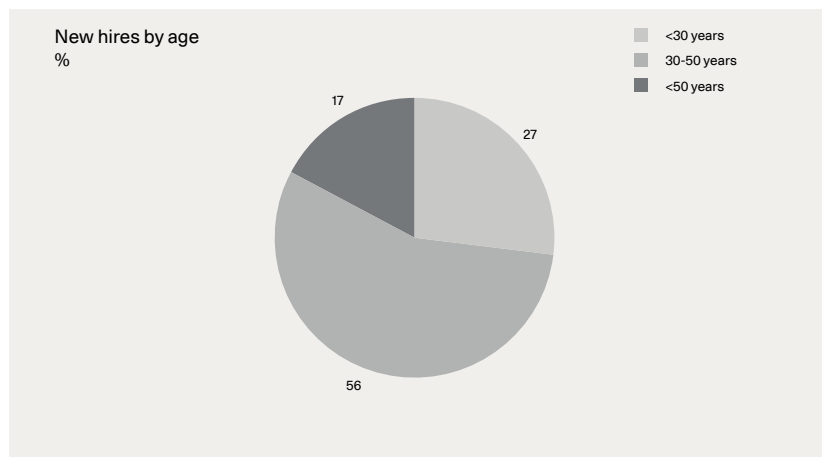
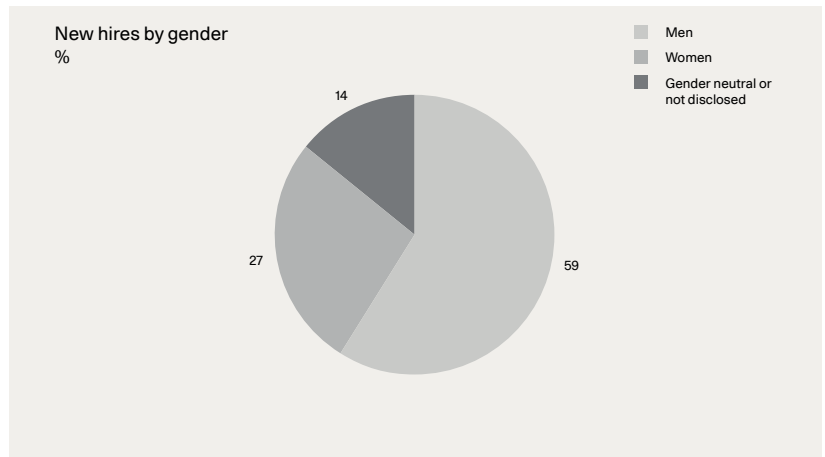
We are focused on building a workforce that better represents our customers and employees, and we strive to bring in different personal experiences, perspectives and backgrounds. Diversity of talent in our workforce strengthens our creativity and supports our innovative and inclusive global culture. Our work on diversity and inclusion is driven by the active involvement of management across Polestar. Our stance on this issue is described in our Diversity and Inclusion policy and is managed by Polestar HR.

We have set out key priorities such as inclusive recruitment, inclusive retention and inclusive leadership to ensure that we find the right competencies and secure continued employee engagement, a prerequisite for our continued success. Our aim is that all Polestar employees should feel comfortable and connected, and that their contribution to the workplace is appreciated. Our approach to diversity and inclusion is to be reflected in all aspects of our internal everyday work, as well as in our daily relations and communication with all employees, customers and business partners.

Inclusive recruitment

We are growing our global teams and all our recruitment processes comply with the relevant local regulations and standards. We also believe our work on diversity and inclusion makes us a preferred employer. Therefore, we actively seek people with varied competencies, backgrounds, cultures, genders, experiences and personalities.

Currently, our top priority is to ensure gender diversity in our recruitment. Even if the share of female employees at Polestar exceeds the industry standard, we are convinced that an improved gender balance will make us a better company. There are ongoing challenges when it comes to finding female applicants in engineering and digital. We have altered the recruitment process to ensure that job advertisements and interviews are not biased, and implemented further employer branding initiatives to encourage more women to consider the automotive industry as a viable career path.



Inclusive retention

At Polestar, we aim to be an attractive employer, not only for those who are new to the company but for everyone who works at Polestar. We have zero tolerance for discriminatory behaviour, such as bullying and harassment, and all employees must follow our Code of Conduct.

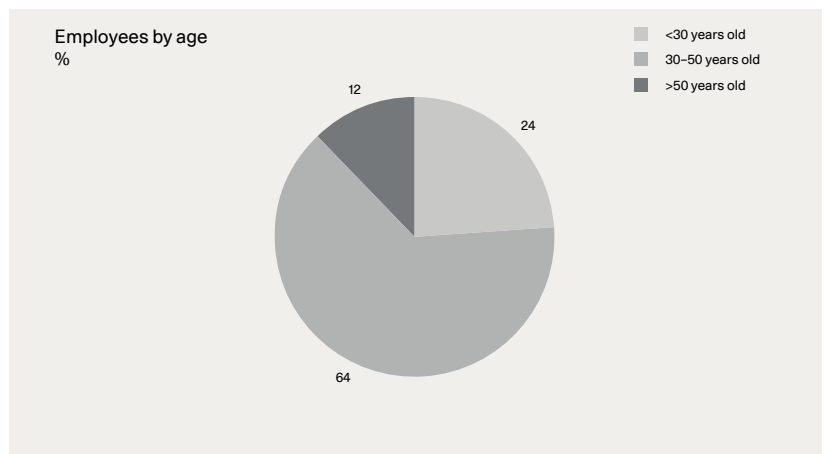
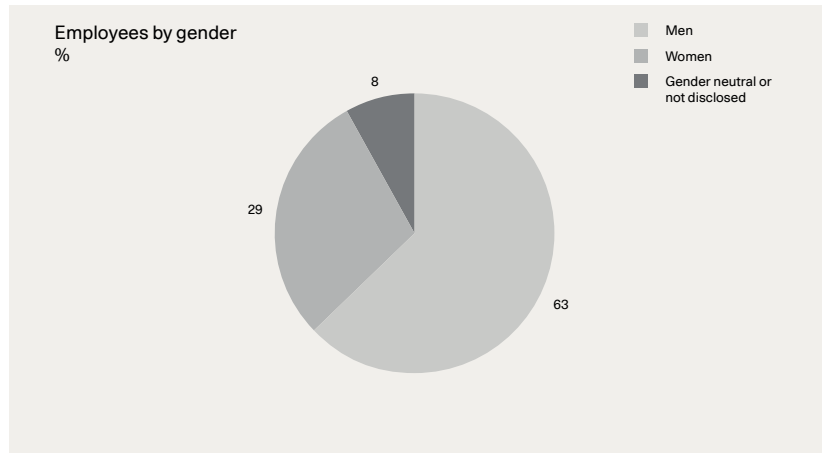
Working conditions and terms of employment should as far as possible allow equal opportunity for all and facilitate a sound balance between work and private life.

We strive to give every employee the same rights and equality of opportunity regardless of gender, gender expression, ethnicity, religion, age, disability, sexual orientation, nationality, political opinion, union affiliation, social background or other characteristics protected by applicable law.

With a commitment to provide a sustainable working environment with fair terms of employment, the human resources department at Polestar drives the People agenda and is responsible for Polestar's People Policy. The policy is complemented by other specific directives and guidelines addressing Polestar's role as a responsible employer.

An important aspect of diversity is fair and equal pay for all employees. This is why we have clear remuneration principles and a structured salary process.

A new employee survey tool is under development and will be used as the basis of Polestar's own Inclusion index.



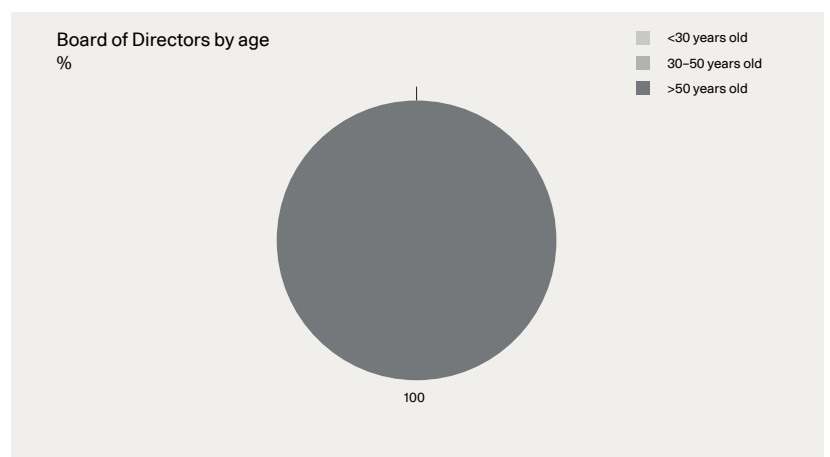
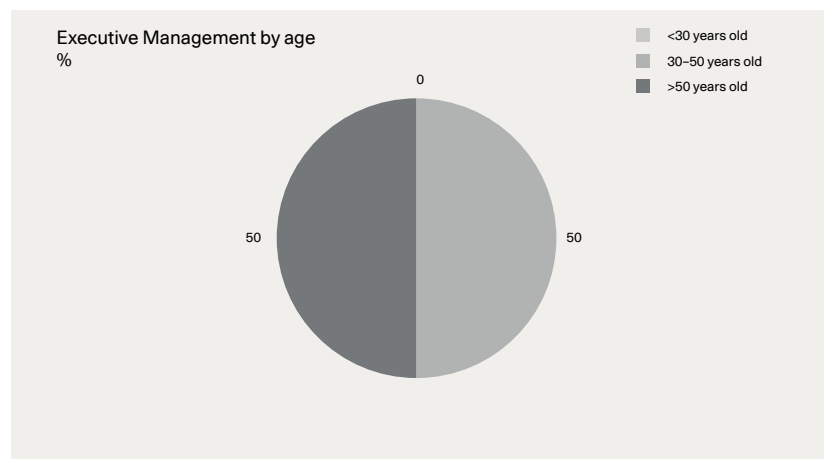
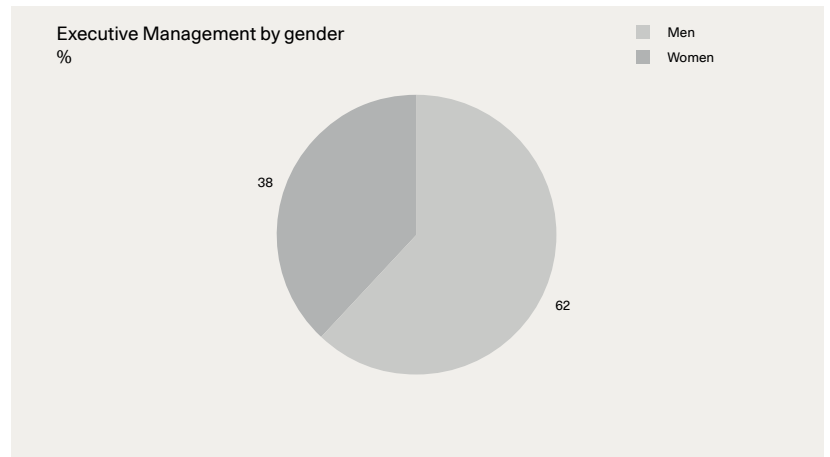
Inclusive leadership

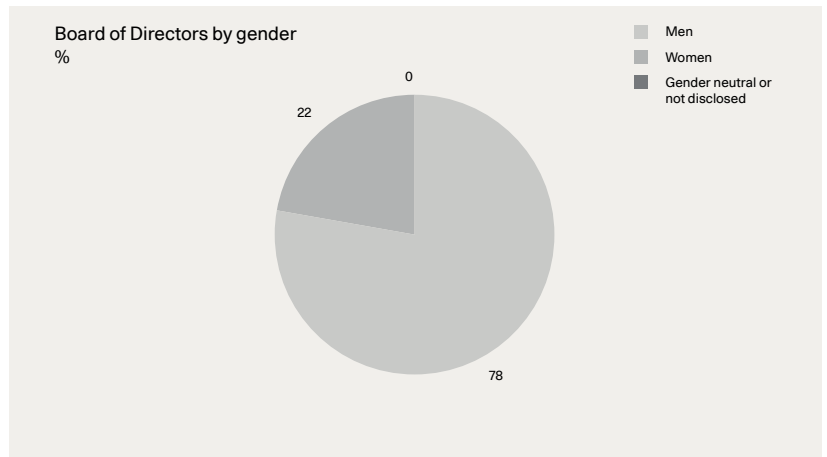
Our work on diversity and inclusion is driven by the active involvement of management in all parts of Polestar, and all managers have participated in training on inclusion. We foster a leadership style where leaders make our people feel that they are contributing, that their input and ideas are valuable, their work is important, and their efforts are recognised.

Throughout the year, we work with continual performance management. The Polestar Performance Management process describes the way in which targets and results are followed up for each employee. The 360-feedback process describes the continual communication and evaluation between managers and employees, but also employee to employee.

Continual performance management is employee driven and consists of three main components: setting clear priorities, continual dialogue and feedback, and regular performance evaluations.

We use 360-feedback to increase data validity for performance reviews and internal promotion. This provides us with perspectives and insights in addition to the assessment by the respective manager, which is crucial for us to ensure that we have fair and non-biased promotion and evaluation processes.





Health & safety

Health and safety are the highest priority in all our operations. We all have a right to a healthy, safe and secure work environment, regardless of geographic location. All our operations, employees and contractors are governed by our global health and safety standards as well as relevant regulations.

Polestar's long-term objective is to ensure that nobody is fatally or seriously injured at work, and we work proactively to achieve a safe and secure workplace. Our Work Environment Directive covers all employees as well as agency personnel who work at Polestar's premises or under the direction of Polestar. At every site, a systematic work environment programme is employed and followed up annually.

The Work Environment Committee or Safety Review Board (SRB) in the line organisation of each unit approves objectives and action plans for the work environment. Risks are investigated and assessed regularly, and in the event of changes, necessary steps are taken. Polestar offers all employees the introduction and training they need to work safely. Managers are provided with the skills, resources and powers to work for a good and safe working environment. Employees must follow instructions and procedures and report any risks identified.

We strive to provide a sustainable work-life balance and prevent work-related illnesses that lead to long-term sick absenteeism. Managers are responsible for implementing rehabilitation programmes at an early stage and employees are expected to contribute and participate in the activities. Every unit has guidelines and routines in place for work-related rehabilitation. The line organisation sets objectives and decides on action plans to follow up the rehabilitation of each individual.

Each Polestar site has an occupational health service provider that offer both preventive and rehabilitation care. Employees are also offered annual health benefits and blue-collar employees are offered occupational health check support.

Our largest R&D development site, which is in the UK, was recognised by both the UK Royal Society for Accident Prevention (RoSPA) and the British Safety Council, in their annual awards for exceptional health and safety performance. In 2022 our high levels of employee training and robust risk assessment procedures helped ensure no notifiable or lost-time accidents. There were no fatalities or work-related injuries at Polestar. This includes Polestar employees as well as consultants and agency personnel. There have been no stoppages or days idle.

Inclusion

Activities supporting Ukraine

Following Russia's invasion of Ukraine, Polestar made a SEK 1 million contribution to support the humanitarian efforts in Ukraine and the work of UNICEF. This donation was matched by the Akelius Foundation, to a total contribution of SEK 2 million. Polestar employees also engaged in activities where the revenue was donated to non-government organisations such as Save the Children.

In addition, to support the Ukrainian people who had to leave their country, Polestar targeted its recruitment activities through ads on LinkedIn in several countries, including Ukraine.

Engaging employees

At Polestar we want to invest in our employees and provide them with the opportunities to further boost their competence by developing specific skills. This benefits both our employees and Polestar, and it provides us with the opportunity to address weaknesses in workplace skills and increase workplace productivity and adherence to quality standards.

We regularly conduct townhall gatherings where all Polestar employees take time out from their day-to-day work to learn more and receive information and training on various subjects. Throughout the year we have arranged townhall meetings related to Polestar's sustainability strategy areas Climate neutrality, Circularity, Transparency and Inclusion to raise awareness and engagement on sustainability.

During the year we have developed more detailed and deeper training on sustainability strategies, ambitions and goals for designers and engineers. Deeper sustainability training is also part of the onboarding training for new employees at Procurement. Those involved in supplier evaluations also receive specific training on the subject, including the risks of modern slavery and human trafficking.

In conjunction with the launch of the updated Polestar Code of Conduct, group-wide training was rolled out. All employees and consultants were invited to an e-learning. The Code of Conduct, anti-corruption policy and compliance also constitute a part of the mandatory onboarding training for new employees. A similar introduction to compliance is provided to all new Board members on appointment to Polestar's Board of Directors. Each year, everyone working at Polestar is given training on our Code of Conduct.

In 2022, Polestar offered employees around 100 webinars for continued learning. These include product training, commercial training and onboarding for new employees. In addition to this, employees are offered regular training in accordance with their personal needs, identified together with their respective manager.

During the year we have developed a new internal tool for training, for which the content is now being created and populated. The tool will help evaluate and review progress on training much more efficiently.

People by numbers

In 2022, Polestar had 2,377 employees, of which 48 (2021: 40) percent were covered by collective bargaining agreements. Countries with collective bargaining agreements are Austria, Belgium, Finland, Italy, Netherlands and Sweden. There are no significant seasonal variations in the number of employees during the year.

Number of employees by region, and year

		2022	2021	2020
Total all employees	Total employees (HC)	2,377	1,283	679
	Permanent employees	1,972	1,274	657
	Temporary employees	405	9	22
	New hires	1,213	722	—
	Rate of recruitment %	51	56	—
	Employee turnover %	13	12	—
	Total by region			
Europe (incl EMEA)	Total employees (HC)	1841	945	456
	Permanent employees	1,780	936	434
	Temporary employees	61	9	22
	New hires	954	551	—
	Rate of recruitment %	52	58	—
	Employee turnover %	10	5	—
	Total by region			
Asia (incl APAC)	Total employees (HC)	437	284	204
	Permanent employees	93	284	204
	Temporary employees	344	0	0
	New hires	207	129	—
	Rate of recruitment %	47	45	—
	Employee turnover %	22	32	—
	Total by region			
Americas	Total employees (HC)	99	54	19
	Permanent employees	99	54	19
	Temporary employees	0	0	0
	New hires	52	42	—
	Rate of recruitment %	53	78	—
	Employee turnover %	16	11	—
	Total by region			

We have zero non-guaranteed hours employees

Polestar has previously reported that HR-numbers are calculated as FTEs (Full time equivalents). However, the correct term is HC (Head count), why the heading has now been changed.

Employees by gender

		Men	Women	Gender neutral or not disclosed
2022	Total number (HC)	1,510	687	180
	Executive Management Team %	63	38	0
	Board of Directors %	78	22	0
	Permanent %	85	85	58
	Temporary %	15	15	42
	Full-time employees %	99	99	96
	Part-time employees %	1	1	4
	New hires	717	329	167
	Rate of recruitment %	47	48	93
	Employee turnover %	12	14	28
2021	Total number (HC)	830	359	113
	Executive Management Team %	75	25	0
	Board of directors %	83	17	0
	Permanent %	99.5	99	100
	Temporary %	0.5	1	0
	Full-time employees %	99.8	99	99
	Part-time employees %	0.2	1	1
	New hires	415	193	114
	Rate of recruitment %	50	54	101
	Employee turnover %	14	8	13
2020	Total number (HC)	468	155	56
	Permanent %	98	96	88
	Temporary %	2	4	13
	Full-time employees %	99	99	96
	Part-time employees %	1	1	4

Percentage of employees by age

%		2022	2021	2020
Employees		100	100	100
	<30 years old	24	28	24
	30–50 years old	64	60	56
	>50 years old	12	12	11
	Age not disclosed	0	0	9
Executive Management Team		100	100	100
	<30 years old	0	0	0
	30–50 years old	50	70	56
	>50 years old	50	30	44
Board of Directors		100	100	100
	<30 years old	0	0	0
	30–50 years old	0	0	70
	>50 years old	100	100	30

Inclusive customer experience

We want everyone in the Polestar universe to feel included. By basing our customer experience on our inclusive approach, we can build our brand and a more engaging customer experience. To do this, we created The Polestar Way, which is a credo that will permeate the company. The 'digital first, human always' approach in The Polestar Way was launched through company-wide training to create a deeper knowledge of how our decisions impact customer decisions.

Our inclusive customer experience initiative is meant to ensure that all customers, regardless of their background or identity, have a positive and equitable experience when interacting with Polestar.

The goal of the initiative is to create a culture of inclusiveness within the organisation and to eliminate barriers that may prevent certain groups of customers from fully engaging with the company's products or services. This might include developing training programmes for employees, creating resources for customers from underrepresented groups, or gathering feedback from customers to identify and address areas where we can improve.

To ensure that all customers feel valued and respected, and have their needs met, all team members need to be aware and trained to be inclusive. We continuously improve the customer experience based on customer feedback and data analysis, and monitor the experience across the shopping and ownership journey through a number of different metrics such as net promoter score and customer satisfaction.

Web accessibility

Polestar strives to ensure digital accessibility for everyone. Our digital department expends considerable effort and uses the Web Content Accessibility Guidelines (WCAG) 2.1 Level AA as a guide to ensure that people with disabilities will be able to use and enjoy our website. We run continual tests during development and perform manual audits several times per year to ensure the website is accessible for everyone. We identify and document any accessibility issues that we find on our website and prioritise them according to the overall impact they have for our visitors and the level of effort required to address them.

Product safety

At Polestar, product safety is included in the design from the start. We build our internal targets based around our customer base and industry test schemes which are a step beyond the legal requirements.

Led by the Safety team within Polestar's R&D department, we run an extensive crash testing programme during our product development phases. This work is supported by simulation activities with models that are regularly verified to match real-world performance. During a typical product development programme, we design and test our vehicles to meet several hundred safety requirements, supported by thousands of computer simulations.

Polestar's safety focus extends beyond the occupants of our vehicles to consider those sharing the road, especially those more vulnerable such as pedestrians. The advanced driver assistance system (ADAS) is key in enabling mitigation or even avoidance of a collision.

All Polestar 2 models to date have been awarded 5 Stars by the New Car Assessment Programmes in the major markets of the US, Europe and Australia (USNCAP/ Euro NCAP/ANCAP). According to Euro NCAP, a 5-star safety rating translates to an 'overall excellent performance in crash protection and well equipped with comprehensive and robust crash avoidance technology'.

In 2022, 100 percent of safety-related defect complaints have been investigated by Polestar, and in total, 4,010 vehicles were recalled. Remediation work continued to rectify vehicles affected by voluntary recalls issued in 2022. The voluntary service recalls addressed the risk of displaying the wrong vehicle velocity, failures in the parking assist camera, and possible overheating of the battery cells. These recalls were carefully coordinated, communicated and implemented to adjust the situation and provide a safe and compliant product to customers.

Sustainability governance and compliance

Our core pillars, Design, Technology and Sustainability form the basis of all operations at Polestar. Our corporate policy landscape comprises policies adopted by the Board of Directors, such as the Polestar Code of Conduct and the Polestar Code of Conduct for Business Partners, directives adopted by the Management Team, and guidelines, instructions and process documents adopted by specialist departments.

Through our policies, directives and processes, we adhere to the International Labour Organization's fundamental conventions, the Universal Declaration of Human Rights, the United Nations Convention on the Rights of the Child, OECD Guidelines for Multinational Companies, the United Nations Guiding Principles on Business and Human Rights, and the precautionary principle. Polestar is also a member of Exponential Roadmap Initiative and the United Nations' Race to Zero.

Sustainability is a global function and our Head of Sustainability is a member of the Management Team and reports to the CEO. The Sustainability Team comprises a Climate Lead, Circularity Lead, Inclusion Lead, Transparency Lead, Sustainable Chemicals Lead, Compliance & Reporting Lead, and Life Cycle Assessment specialists. Our aim is to embed sustainable thinking and processes in Polestar operations, and to implement this approach across our governance structure. Subject-matter experts, such as our sustainability leads and lifecycle assessment specialists, guide the organisation in implementing our strategy to foster a culture of sustainability at Polestar.

Sustainability is steered through the Polestar Management System including governance structure, processes and policies. Each global function at Polestar is accountable for setting action plans and securing resources in line with Polestar's sustainability policy and strategy, and also for ensuring compliance with sustainability related laws and regulations applicable to their areas.

Annually, each department is tasked with putting together a climate action plan, setting out the path and initiatives for the coming year. In line with our integrated approach, climate investments are allocated from the departments' regular budgets. The climate action plans are approved by the relevant management forum and followed up twice a year. Climate neutrality is also included as a key performance indicator in the global employee bonus programme. This integrated way of working enables action in all departments and ensures we take the necessary steps to reach our targets.

Updated policies

To strengthen our corporate values, core behaviours and sustainability strategy, and to ensure compliance with expectations on Polestar as a listed company, we launched an updated Code of Conduct in December 2021, approved by the Board of Directors. At the same time, a number of policies were updated, including the Conflict of Interest Policy and the Speak Up Policy. Additionally, the messaging relating to human rights was further developed.

Group-wide training on the updated Code of Conduct was rolled out within Polestar during 2022, where all employees and consultants were invited to an e-learning. Read more about our training for employees at page 36.

Our contribution to Agenda 2030

The United Nations' Agenda 2030 is an ambitious global framework aiming to end extreme poverty, reduce inequalities and injustice, and stop climate change. It was adopted by all UN Member States in 2015. We are now halfway to the target year 2030 and immediate action is required to meet its 17 goals and the 169 targets. Through a Sustainable Development Goals materiality assessment, we have defined the goals and targets where Polestar has the greatest impact. In this report, we present the sustainable development goals and Polestar's impact on them. Going forward, we aim to continue to evaluate our progress in relation to the identified goals and targets annually, and to develop our strategy to ensure that we are optimising our contribution.

Compliance with laws and regulations

Polestar's Compliance & Ethics function manages Polestar's compliance programme, which includes anti-corruption, competition law, data privacy, trade sanctions and export control. The Audit Committee of the Board of Directors receives twice-yearly reports on Polestar's compliance programme, whistleblowing cases and internal control.

In addition to the Polestar Code of Conduct, Polestar has a set of corporate policies and directives covering the compliance areas. Polestar also regulates its labour law governance in its People Policy, and the whistleblower system in its Speak Up Policy.

Competition law and fair business practices topics are important to Polestar, not least because there are legal provisions in the markets Polestar is active in regarding the exchange of information with competitors and the abuse of dominant positions of undertakings. Trade sanctions prohibit trade with selected countries, organisations and individuals. Through our Business Partner Due Diligence process, we screen business partners against trade sanctions lists.

Environmental compliance, which is managed by Polestar's Sustainability function, includes regulations on car environmental performance, site permits and other environmental regulations. All Polestar cars meet strict international environmental requirements and are approved by the relevant certifying authorities in each sales market.

The plants where our cars are being manufactured have ISO 14001 certifications that ensure compliance with environmental laws and regulations, while also guaranteeing ongoing improvements. Polestar's environmental management system at its headquarters in Gothenburg is also certified to ISO 14001.

There have been no significant fines or non-monetary sanctions for non-compliance with environmental laws or in the other compliance areas in 2022.

Customer data privacy

With increasingly connected vehicles, the use and integrity of personal data must adhere to the various privacy regulations applicable around the world to build and retain customer trust. We are committed to respect and safeguard the privacy of our customers, prospects, employees and business partners. Customer data privacy is managed by our Compliance & Ethics team.

The greatest risks concern the collection and use of customer data linked to the different business processes and from the connected vehicles. Data breaches, both in relation to vehicle data and to customer data, as well as security incidents, remain threats to customer privacy. In addition, connected vehicles are subject to increased attention from supervisory authorities, as they contain ample possibilities for data collection using cameras, sensors or other measuring points. Vehicles as a potential data source also open possibilities for data monetisation, which adds another perspective to customer privacy.

Polestar's data privacy compliance programme, which is based on the data privacy and data protection laws in each country Polestar operates, contains key principles such as data processing activities having a clear and defined purpose, processing activities having a legal basis, individuals being informed of Polestar's processing activities, setting retention times for data, and honouring individuals' rights. Data privacy regulations generally apply to all of Polestar's use of customer and prospect data, as well as vehicle data from its vehicles on the road. Polestar is adapting its data compliance programme to the legislative developments globally, including the new comprehensive data privacy laws in US states which enter into force in 2023, and the recent laws on information protection and data security in China.

At the end of 2022, Polestar rolled out a significant update to the Customer Privacy Policy, starting with the European markets, to improve transparency, clarity and compliance of its information to customers.

In 2022, there were 28 (2021: 11) substantiated breaches of customer data privacy. Two of them met the threshold for reporting to relevant regulatory bodies and were reported to the Swedish Authority for Privacy Protection (IMY). The breaches of customer data privacy included cases resulting from human error in disclosure of data to unauthorised recipients, as well as single cases of data merge issues or unauthorised access by unknown actors. Polestar is implementing measures to reduce the risk for human error by for example limiting data types and improving security of the sharing mechanisms, and is improving its technical security environment. There were no complaints from regulatory bodies.

Risk assessment and due diligence

Sustainability risks are identified, assessed and managed throughout the organisation, by individual departments and by the Sustainability team. We have a dedicated Enterprise Risk Management & Internal Controls function, who together with Internal Audit, periodically assesses risks to the business and reports on top risks to management.

We are developing a new risk assessment method when entering new sales markets, to define actions necessary in markets assessed as high risk. The risk assessments are shared with the management team to gain insights on labour and geographical risks, freedom risks, governance indicators, gender equality and sexual orientation law, as well as compliance risks associated with for example sanctions and corruption.

During 2022, Polestar was rated on ESG by Sustainalytics, resulting in a risk rating of 17, which places the company in the low-risk section. We also achieved a business sustainability rating of Silver from Ecovadis.

Materiality assessment and stakeholder dialogue

It is vital that we focus where we have the greatest sustainability impact to ensure we meet our stakeholders' expectations. Following the first structured stakeholder dialogue and materiality assessment in autumn 2020, we conducted a new stakeholder dialogue in autumn 2021 and a follow-up in 2022.

The participants represented employees and consultants, individual Polestar owners, fleet owners, shareholders, suppliers, NGOs and industry associations, and were identified based on their dependency and influence on Polestar. The topics raised in the stakeholder survey were drawn from various reports such as the life-cycle assessment of the Polestar 2 and electric vehicles in general, sector guidance from the reporting frameworks GRI and SASB, a comprehensive EV consumer study commissioned by Polestar, and peers' sustainability reporting. The respondents were also invited to add more topics in the survey.

An Agenda 2030 materiality assessment was also carried out in 2021, where Polestar's impact on each sustainable development goal and its targets were analysed. It was conducted to account for all of Polestar's impacts, direct and indirect, positive and negative. The analysis was conducted by Polestar's sustainability subject-matter experts together with researchers at Gothenburg Centre for Sustainable Development, a research hub of Chalmers University of Technology and Gothenburg University in Sweden.

In 2022 the materiality assessment was updated in accordance with GRI Standards 2021. Polestar's context was analysed, and stakeholders and external experts were consulted to verify the material topics. These were weighted and prioritised, resulting in the list of most important sustainability topics below.

Stakeholder group	Means of dialogues	Most important sustainability topics
Fleet owners	<ul style="list-style-type: none"> • Day-to-day operations • Customer service 	<ul style="list-style-type: none"> • Modern slavery • Circularity • Sourcing of risk materials (including mining) • Human rights and health impacts in the supply chain • Sustainable charging infrastructure • Carbon footprint reduction • Customer service
Individual customers	<ul style="list-style-type: none"> • Customer service • Continual dialogues through Polestar.com and social media 	<ul style="list-style-type: none"> • Risk materials • Human rights and health impacts in the supply chain • Sustainable materials • Battery disposal, reuse and recycling of batteries • Carbon footprint reduction
Employees and consultants	<ul style="list-style-type: none"> • Day-to-day operations • Intranet • Digital stakeholder dialogue 	<ul style="list-style-type: none"> • Support for consumers in making sustainable choices • Employee health and safety • Product safety • Circularity • Environmental and eco-system impacts in the supply chain • Energy consumption of Polestar's vehicles
Shareholders and potential investors	<ul style="list-style-type: none"> • Investor relations • Regulatory communications 	<ul style="list-style-type: none"> • Passenger and product safety • Energy consumption of Polestar's vehicles • Fleet emissions • GHG reduction programme • Charging infrastructure • Employee health and safety • Political influence on green mobility solutions
Suppliers	<ul style="list-style-type: none"> • Day-to-day operations • Supplier assessments and audits 	<ul style="list-style-type: none"> • Passenger safety • Human rights and health impacts in the supply chain • Employee health and safety • Customer complaint management • Greenhouse gas emissions
NGOs and industry associations	<ul style="list-style-type: none"> • Topic-specific dialogues 	<ul style="list-style-type: none"> • Passenger safety • Circularity • Charging infrastructure • Support for consumers in making sustainable choices • Energy consumption

EU taxonomy voluntary report

Reporting in accordance with the Taxonomy Regulation

To facilitate financing of more sustainable businesses, the European Union has developed the EU Taxonomy Regulation on sustainable activities. The taxonomy defines sustainable activities in relation to six environmental objectives:

1. Climate change mitigation (climate mitigation)
2. Climate change adaptation (climate adaptation)
3. The sustainable use and protection of water and marine resources (water)
4. The transition to a circular economy (circularity)
5. Pollution prevention and control (pollution)
6. The protection and restoration of biodiversity and ecosystems (biodiversity)

For Fiscal Year 2022 reporting, the technical screening criteria for economic activities relating to climate mitigation and climate adaptation are available.

To be considered taxonomy aligned, Polestar's economic activities must substantially contribute to one environmental objective and do no significant harm (DNSH) to the other five environmental objectives. Polestar must also comply with the minimum safeguards at the organisation level to be considered aligned.

Polestar and the EU taxonomy

Polestar is not captured within the scope of the EU Taxonomy Regulation. However, we fully support its intentions and have chosen to voluntarily report alignment for FY2022. Our first EU Taxonomy disclosure was reported in the Sustainability Report FY2021. The voluntary disclosures are part of our company's ongoing focus on transparency in reporting. For FY2022, we have focused on substantial contribution to climate mitigation as we consider this best aligns with our business activities. We have identified the following activities as eligible for 2022:

- Activity 3.3 Manufacturing – Manufacture of low carbon technologies for transport. This relates to Polestar's design and manufacturing of BEVs.
- Activity 6.4 Transport – Operation of personal mobility devices, cycle logistics. This related to Polestar's sales and design of bikes in partnership with CAKE.
- Activity 6.5 Transport – Transport by motorbikes, passenger cars and light commercial vehicles. This relates to Polestars operating lease arrangements where vehicles are sold with repurchase obligations.
- Activity 7.4 Construction and Real Estate – Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings). This relates to the temporary charging station for electric vehicles in Grums, Sweden, in use during February 2022.

All disclosures are based on our current understanding and interpretation of the regulation, which may change over time as market practice develops and new regulatory guidance becomes available.

Accounting policies

Turnover

Turnover refers to the total turnover of Polestar Automotive Holding UK PLC. for FY2022. For calculating taxonomy eligibility, the total turnover has been defined as the denominator. Hence, the turnover primarily includes Polestar 2 but there is also a small part that relates to Polestar 1, leasing, software and performance engineered kits, carbon credits and other turnover. Polestar 2 is manufactured by Volvo Cars AB, but the product specifications are owned by Polestar.

The numerator for the calculation of eligible turnover includes turnover from the economic activities 3.3 Manufacture of low carbon technologies for transport and 6.5 Transport by motorbikes, passenger cars and light commercial vehicles. This comprises of the items 'Sale of vehicles' and 'Vehicles leasing revenue' (Note 1, F-4).

The turnover related from Polestar 1 has been excluded from alignment assessment and calculations.

See Section Additional Commentary for more details.

See Table on page 50 for the breakdown of eligible turnover.

Capital expenditure (CapEx)

The denominator used for calculating eligible capital expenditure (CapEx) consists of additions to right-of-use assets (Note 10, F-4), intangible assets (Note 13, F-4) and property, plant and equipment (Note 14, F-4). The numerator includes CapEx relating to the economic Activity 3.3 Manufacture of low-carbon technologies for transport, which consist of additions to property, plant and equipment and acquired intellectual property.

Please note that the calculations of taxonomy eligible CapEx differ from FY2021 calculations. In FY2022 we have excluded internally developed intellectual property from the numerator and the denominator.

See Table on page 51 for the breakdown of eligible CapEx.

Operating expenses (OpEx)

OpEx refers to operational expenditure such as non-capitalised costs relating to research and development, short term leases, and maintenance and repair. Thus, in the calculation for eligible OpEx, these items were included in the denominator. In the numerator we included non-capitalised R&D expenses and maintenance and repair relating to 3.3 Manufacture of low-carbon technologies for transport, 6.4 Operation of personal mobility devices, cycle logistics, and 7.4 Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings).

See Table on page 52 for the breakdown of eligible OpEx.

Additional comment

Polestar has ensured that there is no double counting when calculating the Taxonomy KPIs. For example, we have considered only one environmental goal for substantial contribution and removed depreciation and amortization from OpEx calculations.

For FY2022 we have included Polestar 1 for eligibility calculations but excluded it from the alignment assessments and calculations for several reasons. We lack the data to assess alignment, we consider it to be immaterial to our business, and we do not plan to manufacture any more Polestar 1 or any other PHEV going forward. The only KPI that is related to Polestar 1 is turnover, where 21 MUSD is related to it. No CapEx or OpEx were attributed to it. We therefore assume Polestar 1 – and the related turnover of 21 MUSD – to not be aligned with the taxonomy. Excluding Polestar 1 from alignment assessment and calculations does not affect the final financial taxonomy results. This taxonomy report therefore only includes Polestar 2 in all alignment assessments and disclosures related to our vehicles.

Assessment of Compliance Activity 3.3. Manufacturing

For our manufacturing activities, we rely on our manufacturing partner to provide us with most of the information, particularly relating to production plants. During 2022, we manufactured Polestar 2 and hence our assessment of compliance for substantial contribution and DNSH criteria focuses only on this vehicle. We used Volvo Cars information to assess DNSH for water, circularity, pollution, and biodiversity. For climate adaptation we required reports on a physical climate risk assessment for the plant where Polestar 2 is manufactured but we also do our own physical climate assessment of our business operations. You can find our climate change risk assessment in the Climate neutrality section on pages 7–17.

Substantial contribution: climate mitigation

We assessed compliance with substantial contribution by checking that light-duty vehicles (M1 and N1) have specific emissions⁸ ('tailpipe emissions') lower than 50 g CO₂/km. The tailpipe emissions requirement for lower than 50 g CO₂/km applies until 31 December 2025 and reduces to 0 g CO₂/km from 1 January 2026. Polestar 2 meet the criteria of 0 g CO₂/km.

DNSH criteria

Climate adaptation

Compliance with the climate adaptation criteria was assessed through screening

⁸ As defined in Article 3(1), point (h), of Regulation (EU) 2019/631 of the European Parliament and of the Council

of physical risks and physical risk assessments. These have been done where physical risks that may affect our business have been identified for the short term (2023–2025), medium term (2025–2030), and long term (2030–2050). Climate risk and vulnerability assessment has been conducted to assess the materiality of the physical risks on Polestar’s business. However, we have not yet done an assessment of adaptation solutions that can reduce the identified physical climate risks. Based on our assessment we have concluded that we are not compliant with the criteria.

Water and biodiversity

Compliance with the biodiversity criteria was assessed through collecting data from Polestar’s supplier(s) and our own environmental impact assessments. Based on Volvo Cars’ assessment of their manufacturing plants, we conclude that they, and therefore also we, are in compliance with the water and biodiversity criteria for Polestar 2.

Circularity

Compliance with circularity criteria was assessed through the availability and adoption of techniques that supports circular economy, such as reuse and use of secondary materials, designing for circularity, recycling in waste management and management of substances of concern. For assessing the traceability of substances of concern we are dependent on the documentation and assessment from our suppliers and manufacturers. Polestar, as well as our manufacturers, are using the online tool International Material Data System (IMDS) to track substances of concern in the components and materials in our vehicles. Based on our assessment we concluded we are compliant with the criteria for Polestar 2.

Pollution

Compliance with the pollution criteria was assessed by comparing the substances within Appendix C (i.e., the chemicals list) to those used within our manufacturing activity. Polestar is reliant on the information from our supplier for all requirements within Appendix C. However, we have developed our own interpretation of criteria (f) and (g) in the chemicals list. Based on our assessment we concluded we are not compliant with the pollution criteria, due to the use of substances on the candidate list and other substances that meet the criteria in reach Article 57. Polestar has not been able to evaluate whether all uses of candidate list substances and other substances meeting the criteria in Article 57 are essential to society.

We are aware that this is a strict interpretation of the criteria, especially when comparing with industry peers. However, we remain vigilant in being a transparent, trusted brand. Moving forward Polestar plans to strengthen our sustainability strategy relating to chemicals by taking action to engage with our supply chains to investigate those substances that are feasible to phase out in the near future.

Assessment of compliance Activity 6.4 Transport (bicycles)

Substantial contribution: climate mitigation

We assessed compliance with substantial contribution by confirming that the propulsion of CAKE Makka Polestar edition bike comes from the physical activity of the user. The vehicles are allowed to be operated on the same public infrastructure as bikes. Therefore, Polestar complies with the substantial contribution criteria for Activity 6.4 Operation of personal mobility devices, cycle logistics.

DNSH criteria

Climate adaptation and circularity

Compliance with climate adaptation and circular economy was dependent on the data that was available to us. Our bikes are in partnership with suppliers that, to the best of our knowledge, are not in scope of the Taxonomy and hence data around manufacturing sites and management of waste is limited. Currently the bikes are financially immaterial to our business and hence we have not undertaken our own climate risk assessment, nor do we have our own measures in place for waste that are separate to our suppliers. For this reason and due to data limitations, we have assessed that we are not in compliance with the climate adaptation and circularity criteria.

Water, pollution and biodiversity

The criteria are not applicable for Activity 6.4.

Activity 6.5 Transport

Substantial contribution: climate mitigation

The substantial contribution criteria for Activity 6.5 is the same as for Activity 3.3; lower than 50g CO₂/km. All of our vehicles meet the criteria of 0g CO₂/km.

DNSH criteria

Climate adaptation

Compliance with the climate adaptation criteria was assessed by applying our assessment of our manufacturing activity. We used supplier information and our own climate change assessment to assess that we are compliant. Just as with climate adaptation for Activity 3.3 we have assessed that we are not compliant with the climate adaptation criteria.

Circularity

Compliance with circularity criteria was assessed by whether Polestar 2 is recyclable to a minimum of 85% by weight, and recoverable to a minimum of 95% by weight as defined in Directive 2005/64/EC. We also assessed whether waste was managed both in the use and end-of-life phase.

Pollution

Compliance with pollution criteria was assessed by investigating Polestar 2's compliance with the following: Euro 6 light-duty emission type-approval, emissions threshold for clean light-duty vehicles, external rolling noise requirements, Rolling Resistance Coefficient⁹ that can be verified from the European Product Registry for Energy Labelling (EPREL) and sound level requirements¹⁰. Polestar has three different types of tires, out of which one tire is compliant all criteria. The other two are compliant with all criteria except one: the external rolling noise resistance criteria and the Rolling Resistance Coefficient criteria respectively. Based on our assessment we concluded that all our tires for Polestar 2 are not compliant with the criteria due to the external rolling noise resistance and Rolling Resistance Coefficient. Even though one of Polestar's tires is compliant with the pollution criteria, Polestar cannot report any alignment for Activity 6.5 due to not meeting the climate adaptation criteria.

Water and biodiversity

The criteria regarding water and biodiversity are not applicable for Activity 6.5.

Activity 7.4 Construction and real estate

Substantial contribution: climate mitigation

The criteria for substantial contribution is that the company has engaged in the installation, maintenance or repair of charging stations for electric vehicles. We have assessed that Polestar has substantially contributed; however, we note that the charging station that was installed in 2022 was a temporary installation.

DNSH criteria

Climate adaptation

The charging stations were a temporary installation in 2022 and were financially immaterial to our business operations. Due to this we did not undertake a comprehensive climate risk assessment that aligns with the Taxonomy requirements. We have assessed that for our charging stations, we are not compliant with the criteria.

Water, circularity, pollution and biodiversity

The criteria regarding water, circularity, pollution, and biodiversity, are not applicable for Activity 7.4.

⁹ As referenced in Regulation (EU) 2020/740

¹⁰ As referenced Regulation (EU) No 540/2014

Minimum safeguards assessment

Compliance with minimum safeguards is assessed at the organisation level by ensuring the following points are considered.

Relating to human rights:

- The company has adequate human rights due diligence processes in accordance with UN Guiding Principles on Businesses and Human Rights (UNGP) and OECD Guidelines
- The company has not been found finally liable or in breach of labour law or human rights in certain types of court cases
- To the best of our knowledge, Polestar has not been approached by stakeholders that are integral to the UNGPs, such as OECD National Contact Points and The Business and Human Rights Resource Centre (BHRRC), but we are committed to engage with them in the future if needed.

Relating to corruption, tax and fair competition:

- The company has anti-corruption processes in place and neither the company, nor their senior management, have finally been convicted in court on corruption
- The company treats tax governance and compliance as important elements of oversight, there are adequate tax risk management and strategies in place and neither the company nor its subsidiaries has been found violating tax laws
- The company promotes employee awareness of the importance of compliance with all applicable competition laws and regulations, and that neither the company nor its senior management has been finally found convicted on violating competition laws

We assessed that Polestar is aligned with the OECD and UNGP, and to the best of our knowledge have not found any indicators that we are not in compliance with human rights, bribery and corruption, tax or fair competition requirements. Based on this we have assessed that we are compliant with the minimum safeguards.

Looking ahead

We have chosen to voluntarily report according to the taxonomy because as a company we maintain our commitment to transparency. In our report, we have also been transparent on our interpretation of the EU Taxonomy and for FY2022 we have assessed that the Polestar 2 is not aligned with the EU Taxonomy based on our interpretations.

In 2023, we will assess the market capabilities, focusing also on our suppliers, for our vehicles to be aligned with the EU Taxonomy. The candidate list and better alignment with the EU Taxonomy requirements will be a focus for us in 2023. We understand that the requirements to comply with minimum safeguards will be increased with the proposed Corporate Sustainability Due Diligence Directive (CS3D) and we plan to continue to develop our due diligence process to align with the CS3D.

We are closely following the European Union's new delegated acts and guidance, which may further clarify certain definitions and boundaries in the Taxonomy Regulation, including the technical screening criteria for the additional four environmental goals.

The results for FY2022 will inform our sustainability strategy and in 2023 we plan on updating the strategy to include targets related to the EU Taxonomy. These targets will set our ambition for future alignment with the EU Taxonomy and will be based on the full EU Taxonomy technical screening criteria.

[illegible]

Proportion of OpEx from products or services associated with Taxonomy-aligned economic activities – disclosure covering year 2022																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
OpEx	Criteria regarding substantial contribution		Criteria regarding DNSH						Minimum safe-guards		Taxonomy-aligned proportion of turnover, year 2022	Taxonomy-aligned proportion of turnover, year 2021	Category (enabling activity or activity or)	Category (trans-actual activity)																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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	Economic activities	Code(s)	Absolute OpEx USD m	Proportion of OpEx	Climate change mitigation	Climate change adaptation	Water and marine resources	Circular economy	Pollution	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

Greenhouse gas reporting principles

Scope 1 (Direct GHG emissions) includes:

Company owned facilities:

Consists of the GHG emissions from Polestar's manufacturing plant in Chengdu and includes refrigerant leakage and natural gas for heating. The consumption is multiplied by an emission factor for each type of energy or refrigerant.

Company vehicles:

Comprises GHG emissions from company vehicles which are related to the fuel consumed by Polestar 1 cars owned by Polestar. The consumption of petrol is calculated based on WLTP data and an assumed travel distance of 15,000 km per car and year. Emissions related to the use of electricity as well as production and end-of-life treatment of test cars are reported in scope 2 as well as scope 3 respectively. The consumption is multiplied by an emission factor for each energy type.

Scope 2 (Indirect GHG emissions from energy) includes:

Purchased electricity for own use:

Includes the electricity consumption at the manufacturing plant in Chengdu, the electricity consumption of Polestar owned cars. Regarding the manufacturing plant in Chengdu, only solar and hydro power is used, so there are no scope 2 emissions from owned facilities. The electricity consumption of Polestar owned cars is from test driving, events and company cars that are used by employees (mileage allowance). For test driving and events, Polestar 1 consumption is based on WLTP data and an assumed travel distance of 15,000 km per car and year. For Polestar 2 consumption it is assumed that every car is charged with 12,168 kWh per year. The consumption is multiplied by an emission factor for each different energy type and country of use. For mileage allowance calculations, the total distances driven are used together with data on electricity use and emission factors for the Nordic energy mix.

Other facilities used by Polestar are leased and therefore included in scope 3.

Scope 3 (Indirect GHG emissions) includes:

Purchased goods and services:

This category includes the emissions from the manufacturing of parts and materials for Polestar 1 and Polestar 2 as well as the emissions from other purchased miscellaneous goods. The calculation of emissions from Polestar 2 is based on the LCA for different car variants from Polestar multiplied by the number of cars sold in 2022. The Polestar 1 calculations are also based on the Polestar 2 LCA but modified to better reflect the material composition of the Polestar 1, and the lower battery capacity. The GHG emissions caused by materials and services not directly relating to the car are calculated on a cost-based approach using emission factors from US EPA.

Fuel and energy related activities:

Includes the GHG emissions from fuel and energy related activities that are allocated to scope 2 – the Well-to-Tank (WTT) emissions of the fuel consumed by Polestar's own cars and scope 3 emissions of the energy used at the manufacturing plant in Chengdu.

Transportation and distribution:

GHG emissions from logistics include inbound and outbound transport managed by Volvo Cars and paid for by Polestar. Emissions data is provided by Volvo Cars and is revised by a third party.

Waste generated in operations:

This category includes the waste generated at the manufacturing plant in Chengdu. GHG emissions from waste generated in Polestar's Chengdu operations are calculated by categorising waste volumes into types and treatment methods (landfill, material recovery and energy recovery), as well as using external generic emissions factors from DEFRA.

Business travel:

GHG emissions from air travel are calculated by using number of flights, routes and travel distance (extracted from Polestar's travel agencies). Calculations are based on flight distances between airports and emissions factors from NTM. The radiative forcing has been calculated with a factor of 2.7. Emissions from rental cars are based on emissions data provided from the travel agency based on number of renting days. Emissions caused by other modes of business travel, as well as some emissions from air travel and rental cars, are calculated based on spend data from Polestar together with emission factors from US EPA, among others.

Employee commuting:

GHG emissions from employee commuting are based on assumptions of the Polestar employees' travel distance, mode and pattern. The assumptions are based on number of employees, type of personnel and country. Emission factors for public transport and commuting with ICE cars are from the Swedish Transport Administration and NTM. For electric vehicles, average country-specific electricity mixes are used, together with the WLTP electricity consumption for Polestar 2.

Leased assets:

This category includes Polestar offices and the Geely-owned manufacturing plant in Taizhou, and some spaces that Polestar operates but where the facility is leased. Most of the energy data for offices are based on actual amounts of purchased electricity, district heating and, for one office, natural gas. Where no actual energy data is given, energy emissions are extrapolated based on the average energy use per square metre for the offices where actual energy data is provided. Where no information on office area is given, an assumption is made based on the offices with actual energy data together with number of employees for each office. District heating has been removed for some offices, assuming that offices in these countries use direct electricity for heating.

The GHG emissions from the manufacturing plant in Taizhou include waste generated in operations (calculated using the same method as the waste for the Chengdu factory) and energy (electricity and heating, calculated in the same way as for the Chengdu factory). Emissions from refrigerant leakage have been calculated in the same way as for the Chengdu factory.

GHG emissions from spaces are based on data on purchased electricity. For spaces where no energy data has been provided, emissions are extrapolated based on the spaces with energy data together with area and number of months of operation. For district heating and natural gas usage, only the reported data is accounted for in the calculations. Spaces that Polestar operates in, but does not own, are classified as leased spaces¹¹. Emission factors are based on emissions from electricity mixes for the different markets.

¹¹ Includes some spaces in Austria, China, Denmark, The Netherlands, Norway, Germany, Switzerland and Sweden

Use of sold products:

In this report, data on sold cars refers to cars handed over to the consumer as there is no use phase emissions before that. Average GHG emissions from use of sold products are based on official data (WLTP) of Polestar's manufactured cars. The WLTP consumption is multiplied by an assumed average mileage of 200,000 km per car. The total GHG emissions from use of sold products are calculated by multiplying the lifetime consumption per car by the number of sold cars as well as the average electricity mixes for each specific country (see table below). For Polestar 1, litres of petrol is also included. Refrigerant leakage during lifetime has been included and is based on leakage assumptions.

The accuracy of the calculation method can be influenced by real-world factors not covered by the official data, such as driving behaviour and different usage of auxiliary loads. Polestar's ambition is to increase knowledge and accuracy over time and to be as transparent as possible regarding the GHG emissions from the use of Polestar's products.

End-of-life treatment of sold products:

GHG emissions caused by the end-of-life treatment of sold products are estimated based on LCA data and number of sold cars. This category also includes potential refrigerant leakage in the end-of-life treatment process.

¹² Includes some spaces in Austria, Belgium, Canada, China, Denmark, Finland, Germany, Iceland, Ireland, Israel, Luxembourg, the Republic of Korea, the Netherlands, New Zealand, Norway, Singapore, Spain, Sweden, Switzerland, UAE, UK and US.

Polestar spaces

This category includes emissions from the Polestar spaces operated by third parties¹². Emissions are calculated the same way as for leased spaces (see section above). Emission factors are based on emissions from electricity mixes for the different markets.

The table below shows emissions from specific electricity mixes, used for calculating emissions from manufacturing, leased offices, the Polestar spaces and use of sold products. For use of sold product, average mixes are used. For manufacturing, offices and spaces, residual mixes are used where no guarantees of origin are present. If no data for emissions from residual mix is available, average mix is used.

Country	gCO ₂ e / kWh
Australia – Average mix	840
Austria – Average mix	118
Belgium – Average mix	162
Belgium – Residual mix	216
Canada – Average mix	120
China – Average mix	537
Denmark – Average mix	143
Denmark – Residual mix	529
Finland – Average mix	95
Finland – Residual mix	285
Germany – Average mix	339
Germany – Residual mix	706
Guarantees of Origin – Hydro	3
Guarantees of Origin – Renewable mix Sweden	10
Guarantees of Origin – Solar	27
Guarantees of Origin – Wind	14
Iceland – Average mix	0
Iceland – Residual mix	492
Ireland – Average mix	377
Ireland – Residual mix	657
Israel – Average mix	607
Italy – Average mix	307
Italy – Residual mix	566
Korea – Average mix	416
Luxembourg – Average mix	99
Luxembourg – Residual mix	441
Netherlands – Average mix	374
Netherlands – Residual mix	370
New Zealand – average mix	110
Nordic average	90
Nordic residual	403
Norway – Average mix	4
Norway – Residual mix	405
Portugal – Average mix	164

Country	gCO ₂ e / kWh
Portugal – Residual mix	362
Singapore – Average mix	408
Spain – Average mix	153
Spain – Residual mix	373
Switzerland – Average mix	12
Switzerland – Residual mix	41
UK – Average mix	196
UK – Residual mix	386
United Arab Emirates – Average mix	418
USA – Average mix	424
Renewable mix	10

1) Country average production mixes are used..

GRI Content Index

STATEMENT OF USE	Polestar has reported in accordance with the GRI Standards for the period 1 January 2022 to 31 December 2022.
GRI 1 USED	GRI 1: FOUNDATION 2021.

			OMISSION		
GRI STANDARD/ OTHER SOURCE	DISCLOSURE	LOCATION, PAGE	REQUIRE- MENT(S) OMITTED	REASON	EXPLANATION
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GRI 2: General Disclosures 2021	2-1 Organizational details	4			
	2-2 Entities included in the organization's sustainability reporting	1			
	2-3 Reporting period, frequency and contact point	1			
	2-4 Restatements of information	1			
	2-5 External assurance				
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	2-7 Employees	32–39			
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	2-10 Nomination and selection of the highest governance body	41–44			
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	2-12 Role of the highest governance body in overseeing the management of impacts	41–44			
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	2-14 Role of the highest governance body in sustainability reporting	41–44			
	2-15 Conflicts of interest	41			
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	2-19 Remuneration policies	Form 20-F			
	2-20 Process to determine remuneration	Form 20-F			
	2-21 Annual total compensation ratio	Form 20-F			
	2-22 Statement on sustainable development strategy	6			
	2-23 Policy commitments	41–44			
	2-24 Embedding policy commitments	41–44			
	2-25 Processes to remediate negative impacts	41–44			
	2-26 Mechanisms for seeking advice and raising concerns	41–42			
	2-27 Compliance with laws and regulations	41–42			
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	2-29 Approach to stakeholder engagement	43–44			
	2-30 Collective bargaining agreements	29, 38			
Material topics					
GRI 3: Material Topics 2021	3-1 Process to determine material topics	43–44			
	3-2 List of material topics	44			
Anti-corruption					
GRI 3: Material Topics 2021	3-3 Management of material topics	30			
GRI 205: Anti-corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	30, 37, 41			
	205-3 Confirmed incidents of corruption and actions taken	30			
Materials					
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SASB Automobiles Standard 2018: Materials sourcing	TR-AU-440a.1 Description of the management of risks associated with the use of critical materials	18–19, 26–27			
SASB Automobiles Standard 2018: Materials Efficiency & Recycling	TR-AU-440b.2 Weight of end-of-life material recovered, percentage recycled	22–23			
	TR-AU-440b.3 Average recyclability of vehicles sold	19, 22			
Energy					
GRI 3: Material Topics 2021	3-3 Management of material topics	22			
GRI 302: Energy 2016	302-1 Energy consumption within the organization	12			
	302-2 Energy consumption outside of the organization	13			
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GRI 3: Material Topics 2021	3-3 Management of material topics	18–19			
GRI 304: Biodiversity 2016	304-2 Significant impacts of activities, products and services on biodiversity	18–19, 21			
Emissions					
GRI 3: Material Topics 2021	3-3 Management of material topics	7–8			
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	10–11, 53			
SASB Automobiles Standard 2018: Fuel Economy & Use-phase Emissions	305-2 Energy indirect (Scope 2) GHG emissions	10–11, 53			
	305-3 Other indirect (Scope 3) GHG emissions	10–11, 53			
	305-4 GHG emissions intensity	10			
	TR-AU-410a.3 Discussion of strategy for managing fleet fuel economy and emissions risks and opportunities	14–17, 53			

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GRI 3: Material Topics 2021	3-3 Management of material topics	22-23			
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	22-23			
	306-2 Management of significant waste-related impacts	22-23			
	306-3 Waste generated	22-23			
	306-4 Waste diverted from disposal	22-23			
	306-5 Waste directed to disposal	22-23			
SASB Automobiles Standard 2018: Materials Efficiency & Recycling	TR-AU-440b.1 Total amount of waste from manufacturing, percentage recycled	22-23			
Supplier environmental assessment					
GRI 3: Material Topics 2021	3-3 Management of material topics	25			
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	25, 46			
Employment					
GRI 3: Material Topics 2021	3-3 Management of material topics	32-37			
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GRI 3: Material Topics 2021	3-3 Management of material topics	36			
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	36			
SASB Automobiles Standard 2018: Labour Practices	403-2 Hazard identification, risk assessment, and incident investigation	36			
	403-3 Occupational health services	36			
	403-4 Worker participation, consultation, and communication on occupational health and safety	36			
	403-5 Worker training on occupational health and safety	36			
	403-6 Promotion of worker health	36			
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	36			
	403-9 Work-related injuries	36			
	TR-AU-310a.1 Percentage of active workforce covered under collective bargaining agreements"	29, 38			
	TR-AU-310a.2 (1) Number of work stoppages and (2) total days idle	36			

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Training and education					
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GRI 404: Training and Educa- tion 2016	404-1 Average hours of training per year per employee	37			
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GRI 3: Material Topics 2021	3-3 Management of material topics	24, 29–31			
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	24, 30			
Forced or compulsory labor					
GRI 3: Material Topics 2021	3-3 Management of material topics	29–31			
GRI 409: Forced or Compul- sory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	24, 26			
Rights of indigenous peoples					
GRI 3: Material Topics 2021	3-3 Management of material topics	29–31			
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	24, 26			
Supplier social assessment					
GRI 3: Material Topics 2021	3-3 Management of material topics	25–26			
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	25–26			
Customer health and safety					
GRI 3: Material Topics 2021	3-3 Management of material topics	40			
SASB Automobiles Standard 2018: Product Safety	TR-AU-250a.1 Percentage of vehicle models rated by NCAP programs with an overall 5-star safety rating, by region, %	40			
	TR-AU-250a.2 Number of safety-related defect complaints, percentage investigated	40			
	TR-AU-250a.3 Number of vehicles recalled	40			
Customer privacy					
GRI 3: Material Topics 2021	3-3 Management of material topics	42–43			
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	42–43			
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