Polestar
Sustainability report

2024

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Introduction

Introduction

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This is Polestar

Polestar isn't just a car brand. Polestar is a new standard, one that makes the desirable choice the right one, by focusing on minimalist Scandinavian design, technology, and sustainability. We are proud of our racing heritage, but we're not stuck in the past. The performance cars of the modern era are defined by tech, rather than a loud engine.

We know that electrification is only the beginning and have set a progressive climate roadmap to decouple our growth from climate impact, aiming to cut emissions as we accelerate sales. Our sustainability strategy is built in and reflected across our models, and by sourcing and developing innovative and circular materials, we redefine premium. We believe our customers deserve transparency on sustainability and have published life cycle assessments (LCA) and advocated for change in our industry since we set out with Polestar 2. Since 2021, we have shaved off 3 tonnes of CO_2e from that model. With Polestar 3, we expanded the scope of materials we trace, and, for example in this car, we use blockchain technology to trace the risk materials Cobalt, Mica, Lithium, and Nickel. Polestar 4 isn't just our fastest car to date, with a 0–100 acceleration of 3.8 seconds, it also has the lowest carbon footprint of any Polestar car and really shows off our passion for innovative and sustainable materials.

Our products prove our dedication to delivering high-quality, exciting, pure performance cars made for the thrill-seeking, design-loving, tech-obsessed drivers of the future.

Contract manufacturing of our cars

Polestar 2: Taizhou, China
Polestar 3: Chengdu, China & South Carolina, USA
Polestar 4: Hangzhou Bay, China & Busan, South Korea (from 2025)

Markets

Australia
Austria
Belgium
Canada
China
Denmark
Finland
France (from 2025)
Germany
Hong Kong
Iceland
Ireland
Israel
Italy
Kuwait
Luxembourg
Netherlands
New Zealand
Norway
Portugal
Singapore
South Korea
Spain
Sweden
Switzerland
United Arab Emirates
United Kingdom
United States

About

HQ in Gothenburg, Sweden
Incorporated in the UK
Listed on the Nasdaq in New York, US (PSNY)

Employees globally

>2,200

Polestar Sales Points worldwide

175

Service points

>1,150

Michael Lohscheller
Chief Executive Officer statement

Climate change is real, and we see it every day. This should not have to be pointed out, but lately the world has been an unpredictable place, as regulators and policy makers have started to back-track on their climate promises.

When I started running marathons back in 1987, people didn't think it was normal. But because it was something I really wanted to do and that I was convinced it was good for me, I didn't care and kept on going. Today, marathon running is mainstream, and maybe even cool. These days, you hear about "sustainability fatigue" and that the topic isn't as cool and "in" as it was a few years ago. Luckily, much like me back in 1987, Polestar isn't practicing sustainability to be trendy. We do it because it is the right thing to do. Global climate goals can't be reached without a switch to electric vehicles, and I'll even take it even further – electrification isn't enough. We need to decarbonize the whole value chain! That is why we've set a progressive roadmap to decouple our growth from climate impact. Basically, we cut emissions as we accelerate sales.

The two objectives are compatible. It is not easy, and the path won't always be linear, but this year I am proud to say that we have reduced our relative carbon footprint with 25% since our base year 2020. That is one quarter of all emissions per vehicle sold.

When the world zigs, we have zagged.

One of the reasons I was so excited about joining Polestar last year was the company's strong vision on sustainability and how it was so clearly manifested in the cars. Sustainability combined with performance is hardwired into Polestar's DNA, in the same way that safety is for Volvo.

Our customers know they can trust that we do everything in our power to offer them the best product, with the utmost respect for the environment. That is premium. It is our job to make the desirable choice the right one, it should never be a concession for the customer. Our beautiful line-up represents the future of performance cars, where loud engines are replaced by tech, a human experience and fast acceleration. The design is Scandinavian and recognised by our passion for innovative materials that challenge old notions and standards. But also, just like in a good restaurant these days, where customers can peek into the kitchen and the menu states the origin of the ingredients, we stand for transparency in a way that makes us unique in the industry.

> "It is our job to make the desirable choice the right one."

Owning an electric car must be convenient, and one example of how we make it so, is Polestar Energy, a smart charging app that both has the potential of lowering charging cost with up to 30% and enables our customers to reduce CO_2e in the use phase of the car, by charging at times of lower grid demand, when the renewable energy mix often is higher and prices cheaper. Later this year, bi-directional charging, first targeted on Polestar 3, will allow customers to contribute to a more sustainable energy system by using their vehicle as storage, giving back excess energy to the grid or even powering their own home. A perfect example of sustainability and good business going hand in hand.

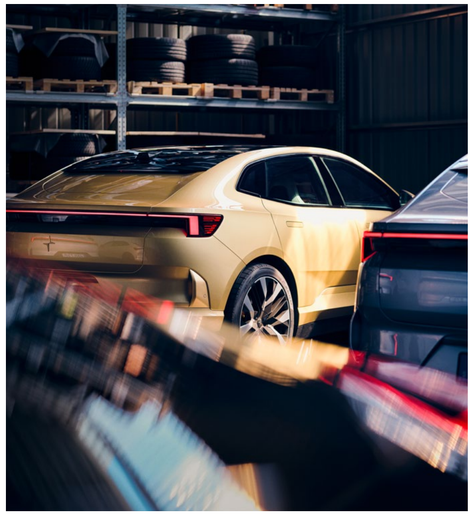
Financial sustainability is of course key to delivering on our targets and we have exciting plans for the year ahead, as we look forward to entering France, one of Europe's most attractive electric vehicle markets. In terms of manufacturing, we're developing too – upcoming model Polestar 7 will be produced in Europe. We have shifted to an active sales model and are expanding our retail footprint by 75% across Europe and North America by 2026.

With a wholehearted customer focus, committed colleagues and a strengthened business plan we look forward to the adventure ahead. Let's turn this marathon into a sprint!

2024 highlights

Polestar 4: lowest carbon footprint to date (CO_2e)

19.4 t



Absolute GHG emissions compared to last year

–16.5%

GHG emissions per vehicle sold compared to base year

–24.7%

GHG emissions per vehicle sold compared to last year

–1.7%

Polestar Energy launched

Read more →

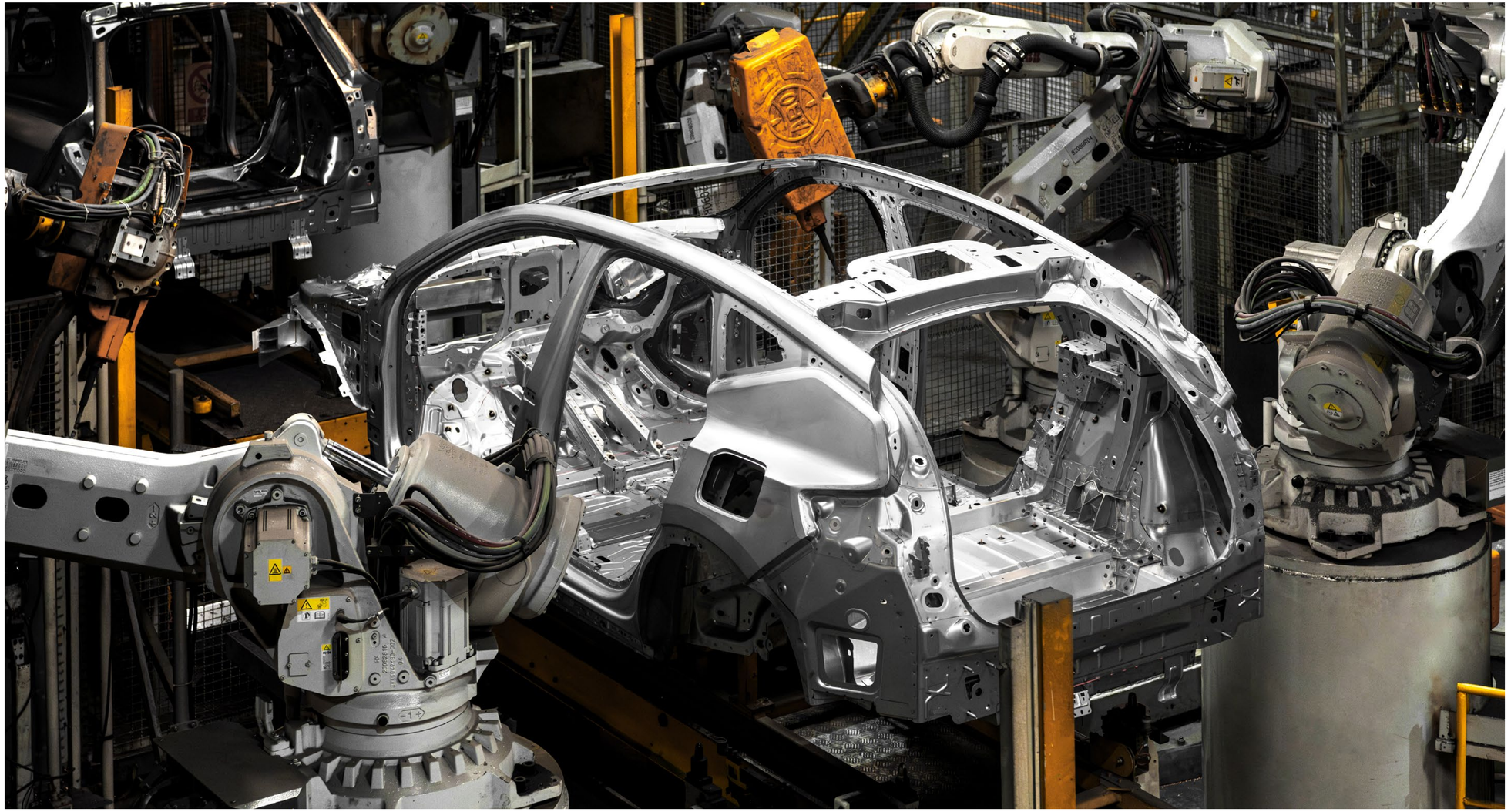
Joined the Initiative for Responsible Mining Assurance (IRMA)

Read more about the programme →

The quest

We aim to create an unparalleled car experience. From entering a cabin where every detail is thoughtfully designed, tested, and chosen, to a driving experience where the driver feels a profound connection with the car, a holistic form of electric performance that's about more than just acceleration. This endeavour is, for us, filled with the utmost respect for and care of the materials and resources we utilise.

For us, design is not just about performance and visual expression; how something is manufactured is just as significant. Nothing in our cars is there by chance. We are determined to lead the way by showing how climate neutrality, circularity, inclusion, and transparency are integral components of creating the electric performance cars of tomorrow. We are committed to creating an unmatched driving experience while setting a new benchmark for sustainability in our industry.



The context

Polestar is an electric vehicle brand that equally prioritises performance, responsibility, and quality. Our premium products are of the highest standard, offering customers a unique combination of innovative materials, Scandinavian design, and engineering excellence.

2024 was the first year when the world's average temperature exceeded 1.5 degrees compared to pre-industrial levels.* Despite this, greenhouse gas emissions continue to rise. The world is also marked by an inability to address other equally critical challenges such as preventing the loss of biodiversity, ensuring human rights are respected, and using resources in a wiser and much more efficient manner. In this context, the business sector, and particularly the electric vehicle industry, has an extremely important role to play. Especially at a time when the political will to drive the transition to sustainable development is no longer a given.

The EV industry faces both challenges and opportunities, where the former is mainly linked to macroeconomic factors. One of the main issues for the EV market in the short term is the current trend of falling oil prices, which could make traditional combustion engine vehicles more economically attractive. Simultaneously, the rising cost of electricity in many regions could increase the operational costs of EVs, potentially affecting consumer decisions. Furthermore, the reduction in EV subsidies in various countries could slow down the adoption rate, as these financial incentives have historically played a crucial role in making EVs more accessible to a broader audience.

On the other hand, the fact that the global EV market is projected to expand from USD 396.4 billion in 2024 to USD 620.3 billion by 2030, with a compound annual growth rate (CAGR) of 7.7 percent**, is in itself a great opportunity. The market's growth is not solely dependent on external economic factors. Technological advancements in electrification and the continuous decline in battery prices are pivotal in driving consumer demand. According to BloombergNEF's Long-Term Electric Vehicle Outlook, the shift from policy-driven to consumer-driven adoption is becoming more pronounced as technologies mature.*** This transition indicates a growing consumer preference for EVs, driven by their environmental benefits, lower maintenance costs, and advancements in vehicle performance.

BloombergNEF's projections further highlight the potential of the EV market, with EV sales expected to surpass 30 million units by 2027 and reach 73 million annually by 2040. This anticipated growth underscores the increasing acceptance and integration of EVs into mainstream transportation.

The shift towards sustainable mobility presents a myriad of opportunities for the market, driven by both legislative measures and evolving consumer preferences. Governments worldwide are increasingly implementing stringent environmental regulations aimed at reducing greenhouse gas emissions and promoting low-carbon transportation alternatives.

These policies not only encourage the adoption of EVs, but also stimulate innovation within the industry, as manufacturers strive to meet new standards and develop more efficient, eco-friendly technologies. While the EV market faces challenges from fluctuating energy prices and decreasing subsidies, its growth is underpinned by technological advancements and shifting consumer preferences.

As a high-performance, design-focused brand with high sustainability ambitions, we are well positioned to be a frontrunner in this shift.

*Source: The Copernicus Climate Change Service →

**Source: Markets and Markets: Electric vehicle market →

***Source: BloombergNEF Report →

Fredrika Klarén
Head of Sustainability statement

Polestar has now been around for eight exciting, challenging, groundbreaking years. We have three, soon to be four, cars on the market, each with its unique qualities, creating pure driving enjoyment. With every vehicle, we deliver an unparalleled driving experience, exquisite design, and impactful sustainability solutions.

As we look forward to 2025, it is with excitement and optimism. We will be launching the Polestar 5, the next milestone on our journey towards even more powerful electric performance. Additionally, in 2025, we will expand Polestar Energy, which enables smarter, cheaper, and greener charging for our customers while laying the groundwork for further developments to come, such as vehicle-to-grid functionality, which will play a pivotal part in a speedy transition to sustainable electricity supply.

Looking back at 2024, I feel proud of the way Polestar has persevered in the face of adversity and geopolitical uncertainty. Our commitment to sustainability and sense of what truly matters to us has never been clearer than after this year. We have been able to take important steps forward that drive true impact, for example, seeing our car with the lowest carbon footprint in our lineup, Polestar 4 hit the market , ready to replace fossil fuel cars.

As the first planned phase of the Polestar 0 project is coming to an end, we and our project partners are proud to announce that, across our combined initiatives, important low carbon solutions have been identified. The joint efforts show potential to produce an equivalent of Polestar 2 with a carbon footprint that could be 10 tonnes lower today than when the project started in 2020, where the largest contributions to the total potential are within aluminium and steel material manufacturing. But we have also learnt a sobering lesson from driving this type of project while the world has been grappling with economic crisis and political uncertainty. There has been a lack of support and partners to cover the full scope of the project, something we hope to change through wider collaboration in Mission 0 House. Read more about this further into the report.

> “We do not have a sustainability strategy. We have a sustainable business strategy.”

Looking outward, what strikes me the most is the shift in sentiment and attitudes toward sustainability we've seen during 2024. Reading the headlines it appears to be a year of stagnation or even regression for global sustainability efforts. Single cases of green tech companies' hardships have been opportunistically used to question the legitimacy of the entire green tech field. It's true that many businesses have been negatively affected during the year due to economic and political headwinds. The fanfare might have diminished, but if you look a little further, beyond the headlines, it is obvious that the real action continues. The wheels of the economic system have started to turn in favour of the green transition. Finance and business stepped up at COP29, NY Climate Week, and COP16. In financial reports, sustainability is mentioned as frequently as ever. Impactful legislation is coming in, evening the playing fields and requiring equal participation from companies to contribute to sustainable development. And the global EV market continues to grow significantly every year, showing how consumers are determined to lead more sustainable lifestyles even in tough economic times. I know that Polestar is well poised to help accelerate and benefit from these developments through our proactive sustainability agenda.

What I am witnessing from the “inside” of business and sustainability is a maturing of strategies. In a wider business context, focus now shifts from marketing and public proclamations to value creation and business strategy development. In fact, sustainability is becoming more business-critical, not less. Polestar sees climate change and human rights as crucial in terms of financial risk, as much so as geopolitical uncertainty and unstable supply chains. We are investing in sustainability for long-term value creation, not primarily in response to public debate and societal pressure.

Consequently, we do not have a sustainability strategy; we have a sustainable business strategy. This proactive, integrated approach benefits us significantly, particularly in terms of consumer engagement, revenue, and funding.

Perhaps most importantly to us, luxury consumers rank environment and sustainability as top emotional and functional drivers. Something that is also confirmed by our customers' positive reactions to the sustainability aspects of our cars, affirming that this is a valued and expected attribute. There is a specific quote from a customer survey that I think illustrates this well: “I love how it drives, how it looks, and Polestar's commitment to sustainability.”

As we see it, sustainability within the world of business is moving into a new, exciting phase, from grand statements to delivering results, something Polestar is well-prepared for. We want to reframe sustainability to accelerate the transition even further, moving beyond hopeless narratives and obstructive forces. It is 2025, and we will continue to pursue actual results and clear solutions, making the better choice the attractive one for existing and future customers.

Read more →
Mission 0 House

The cars

The cars

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Prelude

Our story is best told through our cars. The simplest way to grasp our ambition and drive is by sitting behind the wheel and being immersed in a world of design, carefully selected materials, details, and pure driving enjoyment. Polestar cars are a new form of electric performance. One defined by minimalistic design, technological innovations, sustainable solutions, and a complete lack of compromise. This is expressed in every choice we have made along the way. For us, design is much more than surface and appearance. Design is the tool used to create products that bring about a cleaner, more sustainable future. Our sustainability efforts must be understood in the context of this passion for the product itself. We want to create the best product possible, and that includes being as sustainable as possible and show what can be done when it comes to sustainable solutions. It is about dedication to every detail as well as the whole. That desire is the thread that weaves together our philosophy on design, innovation, and sustainability.

We are on a mission to create electric performance cars compatible with a climate-neutral future and a circular economy where human rights and the planet are fully respected. With every car we have developed and brought to market, our understanding and knowledge of these issues have increased. We are becoming increasingly adept at finding the synergies between sustainability, performance, and design, from concepts to production. We want to take this opportunity to share that journey with you. It is a journey filled with significant challenges, one that doesn't always move in a straight line. We are a small player in a large industry, but our vision is clear: to create a future where sustainable mobility meets uncompromised performance.

"The performance car of the future is defined by tech that promotes driving pleasure, an emotional design and a focus on sustainability."

Philipp Römers, Global Head of Design Polestar

Polestar 2

Designed for the joy of electric performance, it ensures a responsive, assertive driving experience. It was with Polestar 2 that we started to challenge the norms of the automotive industry in earnest. We conducted our first life cycle assessment in 2020, and that gave us a full picture of where our greenhouse gas emissions came from. Using that as a starting point, we built a roadmap for how each car programme would bring us a step closer to the goal of climate neutrality. We identified solutions ready to apply in car programmes, as well as areas where no solutions existed. The latter inspired us to start the Polestar 0 project to find the long-term solutions. We were eager to implement the existing solutions as well. Aluminium, for example, accounts for a significant part of an electric vehicle's footprint.

When Polestar 2 was launched, the cradle-to-gate carbon footprint was 26.1 tCO_2e per vehicle, but after the launch, our efforts to reduce the footprint continued. Purchasing aluminium produced with electricity from renewable sources, securing 100% renewable electricity for vehicle manufacturing, as well as improved battery chemistry, helped us reduce the footprint to 23.1 tCO_2e in model year 2024. But climate impact is just one aspect of our drive towards increased sustainability. Mica and cobalt are two minerals necessary for our current batteries. But their extraction is associated with risks for both human rights violations and negative environmental impact. The supply chains of these minerals are often murky, and increasing transparency and traceability is a prerequisite for driving sustainability. With the help of blockchain technology and our partners Volvo Cars and Circulor, we secured traceability from mine to vehicle for both mica and cobalt, an important step for us on our way to full traceability. Initially, we focused on mica and cobalt for Polestar 2, but later on, we managed to add more materials to the list of traced materials for the car.

We also started our work with reducing the negative impact of the interior while at the same time increasing the level of refinement. Materials like Light Ash Deco and Black Ash Deco reduce material waste while providing an elegant look and feel. For the seat upholstery, there are options like traceable, chrome-free Nappa leather, following strict animal welfare standards.

Polestar 2

Facts and figures for Polestar 2 Long Range Dual Motor

Emissions
Material production CO_2e

15.7 t

Emissions
Battery modules CO_2e

5.9 t

Emissions
Manufacturing and logistics CO_2e

1.6 t

Emissions total CO_2e

23.1 t

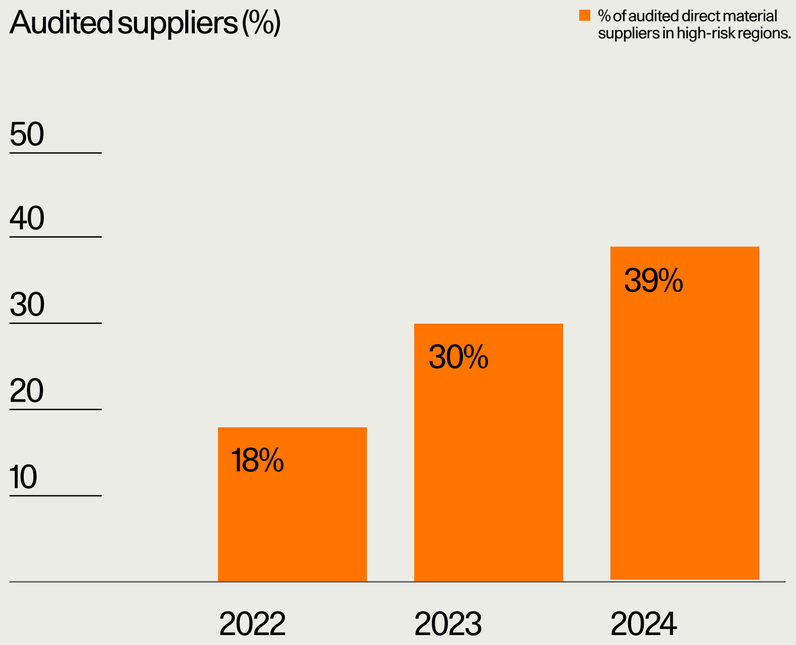
Read more: All motor types →

Traced risk materials

Nickel
Cobalt
Lithium
Mica
Leather
Tin
Tantalum
Tungsten
Gold

Read more →

Audited suppliers (%)



Read more →

Polestar 3

An SUV that drives like a sports car, with a spacious minimalistic design. Driving Polestar 3 is an experience of unparalleled road stability and smoothness. And with Polestar 3, we accelerated our sustainability efforts. We were able to scale our learnings from Polestar 2, set an even more ambitious agenda, and make progress across several areas. Despite Polestar 3 being a significantly larger car than Polestar 2, its cradle-to-gate footprint at launch was 24.7 tCO_2e, 1.4 tons lower than Polestar 2 at launch. This was made possible through continuous efforts to secure aluminium from smelters using hydroelectric power. Additionally, electricity from renewable sources was used in the production of battery cells, as well as in the production of cathode active materials and anode active materials. Another significant milestone in our journey began with Polestar 3; in addition to China, this luxury SUV is also produced in North Carolina, US.

Traceability of raw materials is crucial for managing human rights, related risks and minimising environmental impact. With Polestar 3, we managed to add nickel and lithium to the list of minerals that we can trace using blockchain technology and now have traceability on four high-risk materials used in EV production. We also use the same technology to trace the synthetic graphite in the battery from the anode supplier to our cars.

Also, our efforts to create a sophisticated interior with less negative impact gained significant progress. We developed a clearer vision of what we wanted to achieve and how. We began working more with recycled materials and natural fibre composites in Polestar 3, with a focus on creating an enhanced cabin experience. One example is that 80% of the aluminium for Polestar 3's interior deco panels, an option, come from post-industrial waste, giving post-industrial aluminium a new life as distinctive interior components. We also wanted our customers to be aware of our sustainability efforts, so we introduced a sustainability declaration on the seats. The design feature emphasises the environmental aspects of the interior materials, which, although a small part of the car's total impact, are chosen by the customer. By highlighting differences in carbon footprint, traceability, animal welfare, and bio-based content, the goal is to enable customers to make informed decisions.

Polestar 3

Facts and figures for Polestar 3 Long Range Dual Motor
(based on data from the Chengdu manufacturing plant)*

Emissions
Material production
CO_2e

17.9 t

Emissions
Battery modules
CO_2e

5.0 t

Emissions
Manufacturing and logistics
CO_2e

2.0 t

Emissions total
CO_2e

24.9 t

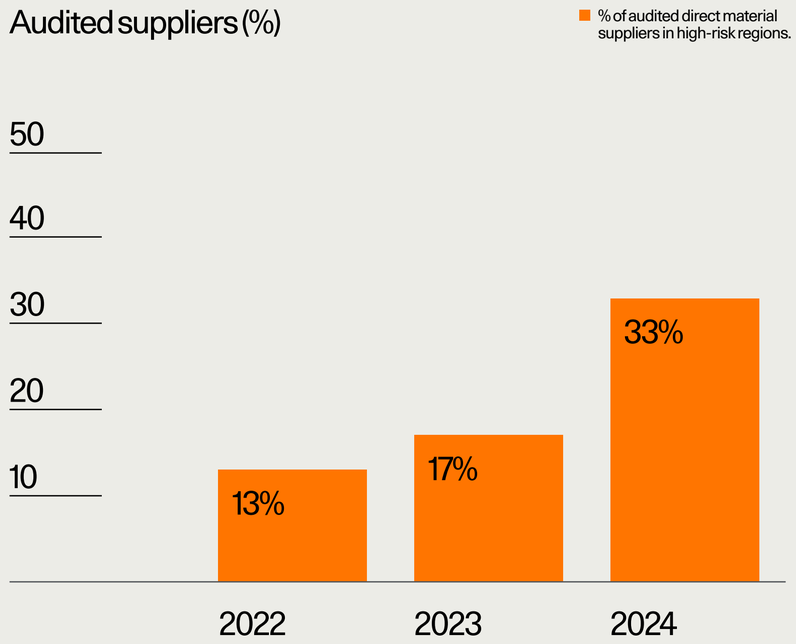
Read more: All motor types →

Traced risk materials

Nickel
Cobalt
Lithium
Mica
Graphite
Leather
Wool
Tin
Tantalum
Tungsten
Gold

Read more →

Audited suppliers (%)



Read more →

*Based on preliminary carbon footprint calculation, full life cycle assessment report to be published during Q2 2025.

Polestar 4

Polestar 4 combines the comfort of an SUV with the handling and performance of a sporty coupé. The result is a balanced and responsive car, but at the same time, it is both our fastest production car to date and the car with the lowest carbon footprint in our line-up. Just as Polestar 4 embodies progress in both design and performance, it also represents crucial steps made towards a climate-neutral future, as well as increased transparency.

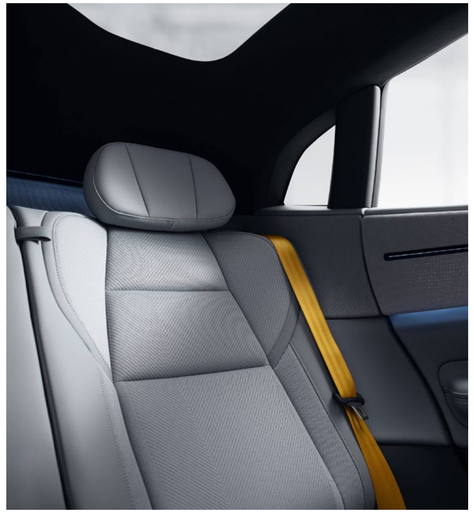
Throughout the product development of Polestar 4, its carbon budget influenced everything from material choices to stricter requirements on renewables for factory energy sources. The Polestar 4 Long Range Dual Motor model has a battery of 100 kWh and a total weight of 2,351 kg with a carbon footprint of 21.3 tCO_2e (cradle-to-gate).* So, despite Polestar 4 being almost 250 kg heavier and having 18 kWh greater battery capacity, the carbon footprint is 1.8 tCO_2e lower compared to the 2024 Polestar 2 and 4.8 tCO_2e lower compared to the launch edition Polestar 2. This is an achievement we are proud of, and it was made possible through the use of low-carbon aluminium from smelters using hydroelectric power, but also through the use of recycled aluminium (both post-consumer and industrial) and the use of electricity from renewable sources in the battery cell production.

With Polestar 3, we focused on using recycled materials and natural fiber composites. In the work with Polestar 4, we took the next step on our journey in line with our strategic focus areas for sustainability. One of our achievements in the development of the interior was our work with the door panel and lower instrument panel, where we managed to reduce material complexity by utilising materials from the same polymer family. We will continue our exploration to reduce material complexity, but also to design for recyclability. We were also able to create floor mats from mono-material. In addition to that, we continued our commitment to using recycled materials, with 100% recycled textile on all major textile surfaces in the interior (upholstery, headliners, speaker textiles, carpets, inlay mats.) For the upholstery, we've employed a tailored knit technique, commonly used in sneaker production but new to the automotive industry. This approach provides a modern aesthetic and is an example of how we look for inspiration outside of automotive. We are on a journey, taking new steps with each car model. Our exploration continues as we bring lessons learned from this car into the development of future Polestar cars.

> "In Polestar 4 interior the use of innovative, and sustainable materials and processes have given us a unique and new design expression."
>
> Maria Uggla, Head of CMF Design

The supply chain for Polestar 4 differed from that of previous models, which meant we needed to expand our toolkit. We did not have the same opportunity to use the blockchain technology as with earlier car models. But through manual mapping and system support, we were able to map the raw materials down to the country of mine, expanding our traceability efforts to also include battery materials such as manganese, aluminium (can and foil), and copper (foil). We are still opting for traceability with a clear chain of custody method, and when developing Polestar 4, we have witnessed how the regulatory landscape surrounding traceability is rapidly evolving. As a result, the entire automotive industry will soon be compelled to adopt higher transparency standards, which will significantly simplify our work also. Traceability is an area best advanced through collaboration, rather than competition.

*Based on preliminary carbon footprint calculation, full life cycle assessment report to be published during Q2 2025.



Polestar 4

Facts and figures for Polestar 4 Long Range Dual Motor*

Emissions
Material production
CO_2e

13.3 t

Emissions
Battery pack
CO_2e

5.5 t

Emissions
Manufacturing and logistics
CO_2e

2.5 t

Emissions total
CO_2e

21.3 t

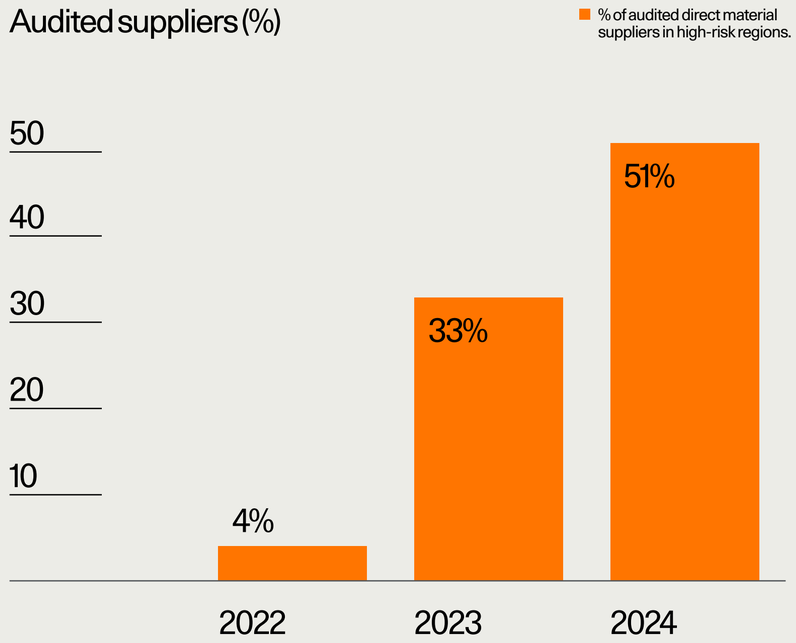
Read more: All motor types →

Mapped risk materials

Nickel
Cobalt
Lithium
Mica
Manganese
REE (Nd, Pr)
Graphite
Aluminium (Can & Foil)
Copper (Foil)
Leather
Tin
Tantalum
Tungsten
Gold

Read more →

Audited suppliers (%)



Read more →

*Based on preliminary carbon footprint calculation, full life cycle assessment report to be published during Q2 2025.

Looking ahead

Polestar 5

Polestar 5 marks the debut of a completely new platform. The entire chassis of Polestar 5 is constructed from bonded aluminium, a material traditionally reserved for limited-edition performance cars. This innovation makes the car lighter, extends its range, and reduces its energy consumption during driving. To reduce the carbon footprint from the aluminium used, we continue our focus on increasing the use of low-carbon aluminium from smelters using hydroelectric power, as well as using recycled aluminium. This breakthrough was made possible by the Polestar R&D team, who leveraged their racing expertise from bespoke sports car manufacturing to develop a process that integrates both body and platform development.

Our work on the interior continues to bring exciting innovations. For Polestar 5, we collaborated with Bcomp* to create a version of their ampliTex material with our own signature weave, a natural fibre composite made from flax and polypropylene. This blend is mouldable, strong, aesthetically pleasing, and has a lower carbon footprint compared to traditional, polymer-only materials and requires less virgin plastic than conventional materials.

Polestar 7

Our journey continues as we develop the next generation of EVs, with Polestar 7 being next in line. As Polestar's first compact SUV, Polestar 7 will propel us into the fastest-growing segment in the market, presenting a significant opportunity to drive sustainable development at scale.

"Sustainability is key for our Engineering team. We aim to minimize the environmental impact of our innovative and desirable cars."

Lutz Stiegler, CTO

Reinforcing the value of Polestar's asset-light business model, Polestar 7 is planned to be manufactured exclusively in Europe. With production already in place in the US and China, and with production in South Korea set to start in 2025, Polestar continues to strengthen its global position. By adding production in Europe for Polestar 7, we are further increasing our well-balanced international manufacturing footprint. Over time, from Polestar 7 onwards, we will gradually move from a multi-platform approach to one single architecture, reducing complexity, costs, and investments.

* Bcomp is a leading solutions provider for natural fibre reinforcements in high-performance applications from spanning from motorsports to aerospace.

Looking ahead

Polestar Energy

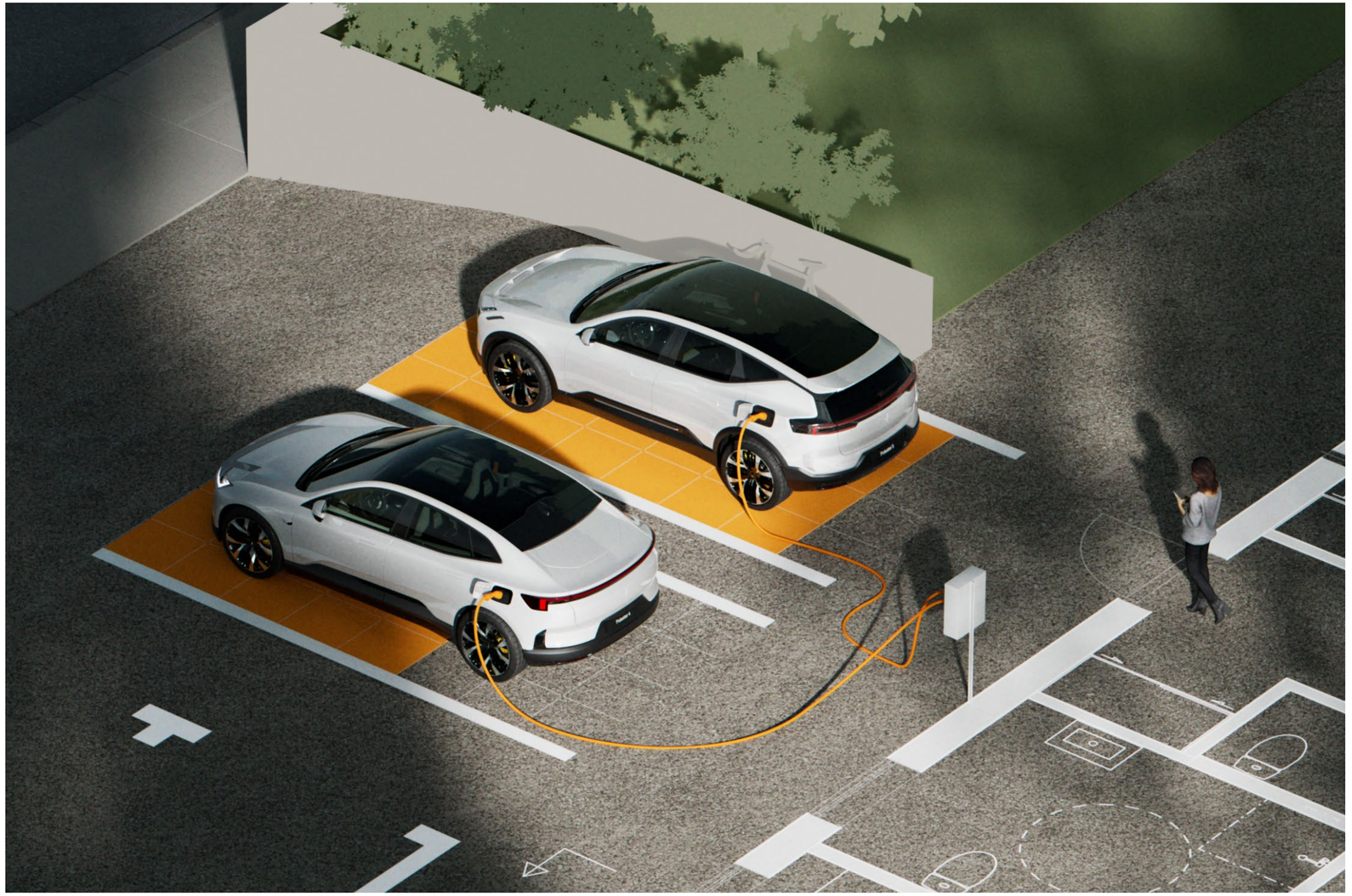
The shift to electrified mobility also presents opportunities to enable smarter energy use for both society at large and the individual car owner. One way for us to realise this potential is through Polestar Energy. The Polestar Energy app is an interface between a Polestar car and the charging setup that we have pioneered in selected of markets during 2024 and will launch in several markets during 2025. Electricity prices can change hour-by-hour. With Polestar Energy you simply select your departure time, preferred rate of charge, and then plug in for smart charging throughout the day when rates are at their lowest. Depending on the local energy supplier one may also receive grid earnings that reduce the electricity bill. With the help of a trained algorithm, the green energy produced by solar panels in a person's home can also be considered when smart charging a car. No additional hardware is required, and it works with any home solar panel setup. Furthermore, we will be able to introduce bidirectional charging in late 2025. With a compatible wallbox, Polestar 3 will be able to function as a home battery. It smart charges when energy rates are lower, then directs that power back to the customers' home (V2H) or grid (V2G) when rates rise. But at the same time it relieves the grid and enable a sustainable electricity transformation. Bi-directional charging will be connected with Polestar Energy in late 2025 and will bring even more savings to our customers while contributing to a more stable and secure energy grid, lower energy prices, and renewable energy availability.

According to a study in Nature Communications, electrical vehicle batteries alone could satisfy short-term grid storage demand by as early as 2030.* By 2050, 12–43% of all BEVs would satisfy the world's short-term grid storage demand, depending on how much storage capacity is needed. The important distinction here is "short-term", meaning that BEVs are considered to provide energy on an eight-hour basis; long-term storage would not be suitable for V2G BEVs. Long-term storage needs other solutions such as pumped hydro storage or more innovative solutions such as hydrogen gas, for example.

"With Polestar Energy we introduce smart charging – now customers can both lower their charging costs and the CO_2e footprint of the car's use phase."

Emanuella Wallin,
Product Owner Charging & Energy

*Source: nature.com →



Strategy

Strategy

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Strategy
Introduction

Our sustainability strategy is integral to our business agenda. It is built on the firm belief that ensuring fair and safe working conditions for people and eliminating negative environmental impacts is crucial for business success. And that to drive the transition to greater sustainability, transparency is key.

This by no means implies that we are close to our goal, but it does mean that we are constantly working and investing in order to achieve it. The strategy is based on our holistic view of sustainability: we perceive all sustainability challenges as interconnected and inseparable. The strategy also acknowledges that we have both the opportunity and responsibility to make an impact throughout our value chain, encompassing environmental and social sustainability.

The strategy builds on what we believe are four powerful drivers for sustainability: Climate neutrality, Circularity, Transparency, and Inclusion. Each area encompasses various sustainability risks and opportunities, and a series of strategic initiatives aimed at advancing our business's sustainability in the years to come. In this report, we describe our objectives, actions, challenges, setbacks and achievements in our journey to implement and develop this strategy.

Impact & Dependency

Manufacturing high-performance electric vehicles requires natural resources, energy, human thought, and labour in large quantities. We depend on both functioning ecosystems and societies. The extent of the resources we utilise, and the effort required to make these resources available, are hard to overstate. If you follow the various components of our products around the world, a network of relationships is formed that spans a large part of the globe. And wherever you look closer at that network, consequences, both positive and negative, for individuals, local communities, and eco-systems are revealed. Understanding how these relationships work and how we can enhance the positive effects and minimise the negative ones is one of the foundations of Polestar's strategy.

The most obvious positive consequence of our business is accelerating decarbonisation. Additionally, we contribute to job creation and thereby to economic prosperity. The negative consequences are often found among the people and ecosystems we are so dependent on for our business to function. Examples of such consequences include the negative climate impact of electric vehicle production, the effects of mining on both people and the environment, and poor working conditions in factories that manufacture cars or car components. Whether these are within our own organisation or somewhere in our value chain, our strategies need to be based on the understanding that these consequences exist.

Transparency

Transparency is a fundamental factor for our success. The value of transparency extends beyond building trust among stakeholders. It is also an essential internal governance tool and a catalyst for driving sustainability transformation. Manufacturing a car involves diverse materials, each with unique challenges and risks. The extraction and processing of these materials are often linked to severe challenges like child labour, unsafe working conditions, deforestation, corruption, and water pollution. These complexities, along with long supply chains, necessitate robust strategies to manage and mitigate these risks. To be able to trace and map materials is absolutely necessary to drive change and implement our strategy. A prerequisite for transparency is access to information and data, and the lack of accessible information in general is a core barrier across all our key focus areas. Our work is complicated by the fact that transparency in the automotive industry has historically been low. It also implies that actors and stakeholders within our value chain may lack awareness of our transparency expectations.

We face a delicate balance between obtaining necessary information for our due diligence processes and respecting the business-sensitive nature of suppliers' information. To some extent, this situation is a result of the complex nature of our work. A car consists of more than 30,000 components, assembled from raw materials sourced globally. Our focus is on addressing previously unsolved challenges and safeguarding traceability and transparency within global supply chains. As we continuously venture into uncharted territory, we devise new tools and methods. These challenges are not unique to us. Progressive companies in various industries such as fashion and electronics are also confronting similar obstacles. The most critical area of transparency is finding ways to collaborate and build trust between parties. Our strategy on transparency involves initiatives within materials traceability, supply chain visibility, and consumer transparency.

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Sustainability notes

Inclusion

Our operations impact people worldwide. We influence individuals and communities along our entire value chain, from mines around the world to the cityscape of Gothenburg. Through our actions and operations, we disseminate and reinforce values and sentiments. We consider ourselves to be a responsible citizen of society and aim to make a positive contribution to the communities in which we operate, regardless of their location. However, we also recognise that our operations can sometimes have a negative impact. In a world where human rights are frequently breached, and where local and global injustice is increasing, we aspire to be a counterforce through our actions. We advocate for human rights, diversity, and prosperity for all, which we see as the foundation for long-term business success. It is our ambition to become the world's most diverse and inclusive EV company, decreasing the gender gap, insisting on responsible supplier management to prevent human rights abuses, and giving all customers a positive and equitable experience.

Inclusion is both a focus area and an approach that we implement throughout our company and its value chain. It serves as a valuable tool, enabling us to uphold high ethical standards and make a positive impact on the world. Our strategy on human rights involves initiatives within human rights in supply chain and manufacturing, inclusive workplace, and inclusive customer experience.

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Sustainability notes

Circularity

At Polestar, circularity is a key solution to meet mobility demands while minimising resource impact. Our focus area Circularity also includes our work on pollution (i.e. emissions other than greenhouse gases) and biodiversity. Circular design is integral to our decarbonisation strategy, aiming to increase the share of circular (recycled and biobased) materials. We have identified two main levers of impact: increasing the share of circular materials and increase vehicle lifetime. Reaching our ambitions within circularity will require us to rethink the way we design, make, sell, and treat cars during the entire vehicle lifetime and customer journey. In terms of circularity, we strive to minimise waste and increase recyclability, utilise more circular materials, and limit the use of, and ultimately phase out, harmful chemicals. Raw material consumption lies at the root of all environmental problems, which also means that the actions we are taking regarding circularity have the potential to positively impact everything from biodiversity and climate change to water use and pollution of microplastics and chemicals.

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Sustainability notes

Climate neutrality

However critical electric mobility is in the transformation to greater sustainability, EVs still have a substantial climate footprint. From material extraction to manufacturing and usage, each stage in the lifecycle generates greenhouse gas emissions. Therefore, just like any other company that puts products on the market, we must consistently strive to reduce our emissions. At the same time, the shift to a climate-neutral society is an integral part of our business and our strategy. Climate change is a material topic for Polestar, to say the least, from an impact perspective as well as from a financial perspective, both considering our positive and our negative impact. This is understood as both an opportunity for us to help the world decarbonise and a financial and economic risk if the world fails to follow the trajectory necessary to stay within 1.5 degrees Celsius.

We aim to achieve climate neutrality by 2040, reducing per-vehicle-sold GHG emissions by at least 90% compared to the 2020 base year, with residual emissions neutralised through carbon removals of the highest quality and environmental integrity. This includes GHG emissions from the supply chain, manufacturing, and energy use during the car's lifecycle, but also GHG emissions stemming from our own activities such as energy usage in offices and spaces that we operate, business travels, events, and digital operations. From an industry perspective, two key goals must be achieved to fulfil the promise of electric vehicles and attain climate neutrality: vehicles need to be charged with electricity from fossil-free sources, and supply chains need to be decarbonised. Accomplishing this task is both complex and demanding.

To support Polestar's goal of climate neutrality across operations by 2040, the Polestar 0 project issued out a call to action across the industry in 2021, to gather partners that set out working together towards the elimination of CO_2e in automotive, with the ultimate goal of creating a climate neutral car.

As the first planned phase of the Polestar 0 project is coming to an end, the project partners and Polestar are proud to announce that, across the companies' combined initiatives, important low carbon solutions have been identified. The joint efforts show potential to produce an equivalent of Polestar 2 with a CO_2e footprint that could be 10 tonnes lower than when the car was launched in 2020, where the largest contributions to the total potential are within aluminium and steel material manufacturing.

In last year's report, not only did we share our roadmap, completed actions, and achieved goals related to the climate, but we also articulated how we plan to execute this roadmap and reduce our GHG emissions. In this year's report, we will follow up on all those data points.

Read more →
Sustainability notes: Climate targets and actions

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Mission 0 House

Sustainability notes

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General sustainability information

Basis for preparation
Introduction

This sustainability report ("this report", "the report"), published on 15 April 2025, constitutes Polestar's annual statutory sustainability report and contains information about material environmental, social, and governance-related impacts, risks, and opportunities, as well as governance and policies, actions, metrics, and targets relevant to these matters.

Polestar's previous sustainability report was published on 16 April 2024 and is available at polestar.com.

Basis for preparation
Reporting standards and adjustments in sustainability data

Reporting principles, scope, and external assurance

— Reporting principles and frameworks

This report has been prepared in accordance with the GRI Standards (2021) and in compliance with the Swedish Annual Accounts Act (Årsredovisningslagen), Chapter 6, Section 11. The report also provides disclosures aligned with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This report also references relevant disclosures applicable from the Sustainability Accounting Standards Board's (SASB) sector guidelines for the automobile industry.

— Scope and boundaries

This report covers the fiscal year 2024 and has been prepared on a consolidated basis. The reporting year aligned with Polestar Automotive Holding UK PLC ("Polestar Group")'s Annual Report and Accounts. This report encompasses all operations of Polestar Group, and the subsidiaries, including Polestar Performance AB, a company incorporated under Swedish law. Polestar Group, together with the subsidiaries, is a public limited company incorporated under the laws of England and Wales. Polestar Group operates principally in the automotive industry, engaging in research and development, manufacturing, branding and marketing, and commercialising and selling vehicles, technology solutions, and services related to battery electric vehicles (EVs). Polestar Group's management is headquartered at Assar Gabrielssons väg 9, 405 31 Gothenburg, Sweden. Polestar Group is listed on the Nasdaq in New York under the ticker symbol PSNY.

This report contains disclosures related to Polestar's upstream and downstream value chain activities, including suppliers, manufacturing, customers, and other business partners.

Certain sensitive supply chain information is under non-disclosure agreements with Polestar's sourcing business partners and suppliers. As a result, certain information, such as audit results or locations, cannot be disclosed in this report.

— External assurance

This sustainability report has undergone limited assurance in accordance with ISAE 3000 (revised) by our statutory auditors.

— Related reporting and disclosures

We publish other Sustainability-related statements and reports on our website, such as a Modern Slavery Statement, Conflict Minerals Report, and LCA reports.

List of entities included in the sustainability report:
The significant subsidiaries of the company as of the date of this Report are listed below.

Legal Name	Jurisdiction of Incorporation	Proportion of Ordinary Shares Held by the Company %
Polestar Holding AB	Sweden	100
Polestar Automotive (Singapore) Pte. Ltd.	Singapore	100
Polestar Performance AB	Sweden	100
Polestar Automotive Canada Inc.	Alberta, Canada	100
Polestar Automotive USA Inc.	Delaware, USA	100
Polestar Automotive US Investment Inc.	Delaware, USA	100
Polestar Automotive Belgium BV	Belgium	100
Polestar Automotive Germany GmbH	Germany	100
Polestar Automotive France SAS	France	100
Polestar Automotive Netherlands BV	Netherlands	100
Polestar Automotive Sweden AB	Sweden	100
Polestar Automotive Austria GmbH	Austria	100
Polestar Automotive Denmark ApS	Denmark	100
Polestar Automotive Finland Oy	Finland	100
Polestar Automotive Switzerland GmbH	Switzerland	100
Polestar Automotive Norway A/S	Norway	100
Polestar Automotive Korea Limited	South Korea	100
Polestar Automotive Australia PTY Ltd.	Australia	100
Polestar Automotive (Singapore) Distribution Pte. Ltd.	Singapore	100
Polestar Automotive Ireland Limited	Republic Ireland	100
Polestar Automotive Portugal Unipessoal Lda	Portugal	100
Polestar Automotive Poland sp. zo. o	Poland	100
Polestar Automotive UK Ltd.	United Kingdom	100
Polestar Automotive Spain S.L	Spain	100
Polestar Automotive Luxembourg SARL	Luxembourg	100
Polestar Automotive Czech Republic s.r.o	Czech Republic	100
Polestar Automotive Italy s.r.l	Italy	100
Polestar Automotive Shanghai Co., Ltd.	People's Republic of China	100
Polestar New Energy Vehicle Co., Ltd.	People's Republic of China	100
Polestar Automotive China Distribution Co., Ltd.	People's Republic of China	100
Polestar Automotive Consulting Service (Shanghai) Co., Ltd.	People's Republic of China	100
Polestar Automotive (Chongqing) Co., Ltd.	People's Republic of China	100
Polestar Automotive (Singapore) Investment Pte Ltd	Singapore	100

Basis for preparation
Reporting standards and adjustments in sustainability data

Changes in preparation or presentation of sustainability information

— Changes in methodology for the calculation of GHG emissions related to logistics services

In 2024, Polestar updated its calculation methodology for greenhouse gas emissions to align with ISO 14083, "Quantification and reporting of greenhouse gas emissions arising from transport chain operations." These changes make calculations more conservative and reflective of reality, primarily through the application of Distance Adjustment Factors, which account for transport modes not taking the shortest feasible distance from point A to point B. All emissions related to logistics services are calculated and reported in accordance with ISO 14083, except for air freight. A volumetric factor of 167 kg/m^3 is applied for air shipments, meaning all shipments by air freight with lower density are assigned a density of 167 kg/m^3 when calculating emissions. This is a conservative approach compared to ISO 14083, which recommends using actual weight only. The changes in methodology have resulted in higher emissions and are applied retrospectively, meaning all logistics-related emissions have been recalculated for the years 2020 to 2024.

— Improved data quality and availability of past GHG emissions related to logistics services

In 2024, Polestar received updated data for logistics services and activities for the years 2020 and 2021. This new data, combined with the updated calculation methodology in accordance with ISO 14083, has led to a significant increase in greenhouse gas emissions from logistics services for the reporting years of 2020 and 2021.

— Impact on GHG emissions in climate roadmap for base year 2020

Improved data quality regarding the number of vehicles sold, past logistics services, and the updated methodology for calculating greenhouse gas emissions related to logistics services have led to a significant increase in GHG emissions for the 2020 base year, both in absolute terms and relative terms (per vehicle sold). These updates have a substantial impact on Polestar's climate roadmap to reduce GHG emissions by 50% per vehicle sold by 2030 compared to the 2020 base year. The 2020 base year GHG emissions per vehicle sold now equate to 45.9 tCO_2e, compared to the previous value of 42.8 tCO_2e. Polestar's new target to halve GHG emissions per vehicle sold by 2030 now equals 22.9 tCO_2e, up from 21.4 tCO_2e per vehicle sold as stated in the previous sustainability report for the reporting year 2023.

— Updated methodology for recruitment rate reporting

We have introduced a revised approach to calculating the rate of recruitment. This method involves dividing the number of new hires (by headcount) during the reporting period by the total headcount at the end of the reporting year.

Changes in reporting of GHG emissions related to energy consumption

In 2024, Polestar assumed ownership and operational responsibility for six market-related spaces. As a result, fuel- and energy-related emissions that were previously reported under Scope 3 are in this report reported under Scopes 1 and 2, with upstream production of fuel and energy remaining in Scope 3.

The energy data for 2024 has been adjusted accordingly, with the six market-related spaces reported as energy consumption within the organisation instead of outside it, in accordance with the Global Reporting Initiative (GRI). These changes are not reflected in comparative figures from previous years, as the resulting impact is determined to be non-material.

Restatement of information

— Revised number of vehicles sold

The number of vehicles sold, used to calculate GHG emissions in the Sustainability Report 2023, has been revised to align with financial reporting principles. Additionally, the previously mentioned updates to calculation methods have led to adjustments in both absolute GHG emissions and GHG emissions per vehicle sold for the years 2020 to 2023. These changes are detailed in the table below.

— Recycled plastics in Polestar 4

The amount of recycled plastic in Polestar 4 has been revised, compared to last year's report. This reporting error stems from an incorrect number for the total amount of plastics in Polestar 4 for 2023. The numbers for the total amount of materials and the total amount of recycled materials have been verified with the LCA data in this year's report. In the 2023 Sustainability report, we reported 19% recycled plastics for Polestar 4. The updated share of recycled plastics in Polestar 4 is 9%.

— Updated headcount data

In the 2023 Sustainability report, page 87, the total headcount was only inclusive of EMEA and did not reflect the total headcount across EMEA, APAC, and the Americas. We have updated this data on page 118, revising the 2023 headcount from 1,422 men to 1,704, 624 women to 743, and gender-neutral or undisclosed individuals from 20 to 70.

Previously stated information

	2020	2021	2022	2023
Logistics, tCO_2e	45,931	84,398	119,536	143,614
Logistics, tCO_2e/sold vehicle	4.6	3.0	2.4	2.7
Total,emissions, tCO_2e	424,705	1,126,428	1,875,862	1,779,689
Total,emissions, tCO_2e/sold vehicle	42.8	40.2	37.1	33.7

Restated information

	2020	2021	2022	2023
Logistics, tCO_2e	77,128	116,685	129,312	156,071
Logistics, tCO_2e/sold vehicle	7.8	4.2	2.6	3.0
Total emissions, tCO_2e	455,903	1,158,715	1,885,070	1,856,786
Total emissions, tCO_2e/sold vehicle	45.9	41.4	37.3	35.2

Material impact, risks, and opportunities
Introduction

A double materiality assessment (DMA) is a comprehensive approach used to evaluate the significance of various environmental, social, and governance (ESG) factors from two distinct perspectives: financial materiality and impact materiality.

In 2023, Polestar conducted an impact materiality assessment, focusing on our effects on nature and society. In 2024, this analysis was further deepened with the addition of a financial materiality assessment, examining the potential financial implications of various environmental, social, and governance factors on the company.

The findings were compiled into a complete DMA. While the results largely confirmed existing understanding, they provided more nuanced insights into materiality, particularly from a financial perspective. The impact materiality assessment offered a deeper understanding of known challenges and highlighted issues where the understanding of severity was previously limited. Overall, the DMA concluded that eight out of ten topics are material to Polestar.

The material topics according to the DMA are:

- Business conduct
- Climate change
- Pollution
- Biodiversity & ecosystems
- Resource use & circular economy
- Own workforce
- Workers in the value chain
- Consumers and end users

Material impact, risks, and opportunities
Our material topics

Topic	Subtopic	Impact, risk, or opportunity	Description
Business conduct	Corporate culture	Financial: Risk	There are financial risks associated with the corporate culture at Polestar. The pursuit of short-term financial results could sometimes challenge our values and ethical standards. This, in turn, could affect both the corporate culture and employee well-being. The financial effect is predicted to decrease over medium and long term.
Business conduct	Political engagement	Financial: Opportunity	Polestar is advocating for increased electric vehicle adoption and sustainable mobility. Therefore, we are actively engaged in industry organisations such as The European Association for Electromobility (AVERE) and other associations and multi-stakeholder initiatives like the Exponential Roadmap Initiative, Race to Zero, and the Responsible Business Alliance (RBA). Through these engagements, we participate in roundtables, panel discussions, and sign letters to the EU Commission, advocating for increased EV adoption and sustainable mobility. The potential benefits associated with enhanced brand reputation, increased market share, and higher sales volumes can positively affect our profitability. The financial effect is deemed the same over short, medium, and long term.
Business conduct	Corruption and bribery	Financial: Risk	The financial impact of risks related to corruption and bribery is significant. The potential costs associated with legal penalties, regulatory fines, and reputational damage can affect profitability. Additionally, potential financial liabilities related to non-compliance with anti-corruption laws further amplify the financial impact. The financial effect is deemed the same over short, medium, and long term.
Climate change	Climate change mitigation	Impact: Negative/Actual	Despite efforts to reduce emissions, GHG emissions are still generated through operations and the value chain. These emissions contribute to an already saturated carbon cycle, albeit at a lower rate compared to traditional internal combustion engine vehicles. The overall negative impact on global warming remains significant because, although electric vehicles do not emit GHGs during the use phase, emissions are generated, particularly through the procurement of materials from process and extractive industries that rely on fossil fuels. The severity is deemed the same over short, medium, and long term.
Climate change	Climate change mitigation	Impact: Positive/Actual	Polestar's contribution to the climate neutral society through the production of electric vehicles has a significant positive impact on reducing GHG emissions. This impact is substantial as it directly addresses one of the largest sources of global emissions: transportation. Our electric vehicles significantly reduce emissions from this sector. By providing a low-carbon alternative to fossil fuel-based vehicles, we directly contribute to meeting the targets of the Paris Agreement. Our efforts in technological innovation, such as with the Polestar 0 project, and through the Mission 0 House, further enhance our positive impact on climate change mitigation. The positive impact is deemed the same over short, medium, and long term.
Climate change	Climate change mitigation	Financial: Risk	Over the medium term, the financial impact of climate change mitigation risks becomes more pronounced. Increased regulatory pressures and the need to comply with stricter emissions standards can lead to higher operational costs and significant investments in sustainable technologies. The accelerating regulatory and market pressures make the risks almost certain to materialise, with high financial repercussions. The financial effects are expected to increase in the medium and long term.
Climate change	Climate change mitigation	Financial: Opportunity	The medium- and long-term financial benefits of being a leader in climate change mitigation are considered substantial. As the global transition to a low-emission economy accelerates, Polestar can significantly increase market share and strengthen brand reputation. The financial effects are expected to increase in the medium and long term.
Climate change	Climate adaption	Financial: Risk	In the long term, the financial impact of climate change adaptation risks is expected to be significant. Rising sea levels, severe weather events, and sustained high temperatures can cause substantial disruptions to supply chains and production processes. Additionally, long-term policy shifts towards a low-emission economy can lead to increased operational costs and potential market share losses if perceived as not sufficiently contributing to sustainability efforts. The financial effects as a consequence of physical and transitional risks are expected to increase over time.

Material impact, risks, and opportunities
Our material topics

Topic	Subtopic	Impact, risk, or opportunity	Description
Climate change	Energy	Impact: Negative/Actual	A significant portion of material emissions originates from the use of fossil fuels in material extraction. While renewable energy powers all factories for electricity, there remains a reliance on natural gas for combustion processes, which is energy-intensive and a major source of emissions in manufacturing. Additionally, the use of refrigerants contributes to the negative impact. The severity is deemed the same over short, medium, and long term.
Climate change	Energy	Financial: Risk	The financial impact of these risks is substantial. Costs related to inadequate infrastructure, volatile energy prices, and the transition to renewable energy sources can significantly affect profitability and operational efficiency. The necessity for substantial investments in technology and infrastructure to mitigate these risks further amplifies the financial effect. The financial effects are expected to increase in the medium and long term.
Pollution	Pollution of air	Impact: Negative/Actual	Battery electric vehicles are generally heavier than internal combustion engine vehicles, which can lead to increased tyre wear and emissions of tyre particles. The operation of electric vehicles, like all vehicles, results in non-exhaust emissions such as brake dust, airborne road dust, and tyre erosion, contributing to particulate matter in the air and posing risks to respiratory health. The extraction of raw materials for electric vehicles, such as copper, involves processes like smelting that can emit sulphur oxides and other harmful air pollutants, including solid particles containing heavy metals, exacerbating air pollution. The severity is deemed the same over short, medium, and long term.
Pollution	Pollution of water	Impact: Negative/Actual	The negative impact of electric vehicle production on water pollution is significant due to the substantial water usage and contamination risks associated with lithium, cobalt, and nickel mining. The severity is deemed the same over short, medium, and long term.
Pollution	Pollution of living organisms and food resources	Impact: Negative/Actual	The negative impact of electric vehicle battery production on living organisms and food resources is significant due to the release of toxic chemicals and heavy metals during the mining of raw materials such as cobalt, lithium, and nickel. The contamination of water bodies and soil can lead to bioaccumulation in living organisms, affecting entire food chains. The severity is deemed the same over short, medium, and long term.
Pollution	Substances of concern	Impact: Negative/Actual	Substances of very high concern and substances of concern are utilised in various car components, including battery materials and electronic components. Their production and use are linked to a high risk of pollution. PFAS is one example of a highly problematic group of substances that is widely used in vehicle components and materials. The use of PFAS poses high risks of pollution in all steps of the value chain, from manufacturing of PFAS chemicals to the treatment of end-of-life vehicles. The use of PFAS also pose financial risks since PFAS is highly linked with increased regulatory and reputational risks and obligations in various markets globally. The severity is deemed the same over the time horizons. Polestar will likely phase out some substances, but new substances will be identified as of concern as new findings and research are published.
Pollution	Substances of very high concern	Impact: Negative/Actual	Substances of very high concern and substances of concern are utilised in various car components, including battery materials and electronic components. Their production and use are linked to a high risk of pollution. PFAS is one example of a highly problematic group of substances that is widely used in vehicle components and materials. The use of PFAS pose high risks of pollution in all steps of the value chain, from manufacturing of PFAS chemicals to the treatment of end-of-life vehicles. The use of PFAS also pose financial risks since PFAS is highly linked with increased regulatory and reputational risks and obligations in various markets globally. The severity is deemed the same over the time horizons. Polestar will likely phase out some substances, but new substances will be identified as of concern as new findings and research are published.
Pollution	Microplastics	Impact: Negative/Actual	The automotive industry is a significant source of microplastic pollution, particularly through tyre and brake wear, as well as from road markings. As vehicles travel on roads, the friction between tyres and the road surface causes tiny particles of rubber and other materials to wear off. Tyre wear particles are one of the largest sources of microplastic pollution, contributing significantly to environmental contamination, particularly in urban areas. The severity is deemed the same over short, medium, and long term.

Material impact, risks, and opportunities
Our material topics

Topic	Subtopic	Impact, risk, or opportunity	Description
Biodiversity	Direct impact drivers of biodiversity loss	Impact: Negative/Actual	Loss of biodiversity is a critical issue that affects the health and function of ecosystems. At Polestar, which manufactures electric vehicles, several direct impact drivers contribute to biodiversity loss. These include the production of materials such as copper, mining activities, infrastructure development, and energy production. On short and medium term the impact is the same, but the more Polestar uses recycled materials the less their impact will be.
Biodiversity	Impacts on the state of species	Impact: Negative/Actual	Polestar has a significant impact on species near our suppliers' production sites, as well as in areas where raw materials are extracted. Through the Biodiversity Screening on Sites assessment, we have identified a negative impact on species near the manufacturing sites in China, the United States, and South Korea. The severity is deemed the same over short, medium, and long term.
Biodiversity	Impacts on the extent and condition of ecosystems	Impact: Negative/Actual	Natural rubber is used in Polestar tyres, which can significantly impact the areas where the rubber is sourced. Rubber plantations can lead to deforestation and loss of natural habitats, affecting biodiversity and ecosystem health. We also rely on lithium for our batteries, and lithium extraction often occurs in desert areas. The extraction process requires large amounts of water, which can lead to desertification and negatively impact local water resources and ecosystems. Furthermore, the construction of roads and other infrastructure necessary for driving the cars leads to soil sealing and landscape fragmentation. This can affect the soil's ability to absorb water, lead to increased erosion, and fragment natural habitats, impacting the health and function of ecosystems. The severity is deemed the same over short, medium, and long term.
Biodiversity	Impacts and dependencies on ecosystem services	Impact: Negative/Actual	Polestar's operations impact various ecosystem services, which are essential for human well-being. Provisioning services are affected by the extraction of raw materials like lithium, cobalt, and copper for batteries, as well as significant water use in production and the use of natural rubber in tyres, highlighting the resource-intensive nature of manufacturing. Regulating services are disrupted by GHG emissions from production, water pollution from mining, and land degradation from infrastructure development, which collectively affect climate regulation, water purification, and erosion control. Supporting services, crucial for maintaining other ecosystem services, are impacted by biodiversity loss and land degradation from mining and deforestation, disrupting nutrient cycling, soil formation, and pollination processes. The severity is deemed the same over short, medium, and long term.
Resource use and circular economy	Resources inflows, including resource use	Impact: Negative/Actual	The electric vehicle industry relies heavily on a variety of raw materials, many of which are critical for the production of batteries, electric motors, and electronic components. We depend significantly on the mining of several metals and minerals. Automobile manufacturing is generally a material-intensive industry, and Polestar also produces relatively large vehicles. The severity is deemed the same over short, medium, and long term.
Resource use and circular economy	Resources inflows, including resource use	Financial: Risk	Polestar's operations and value chain rely heavily on various resource inflows, including raw and recycled materials. These dependencies can pose significant financial risks if these resources become scarce, expensive, or difficult to source. The potential costs associated with securing raw and recycled materials, addressing supply chain disruptions, and tariffs on materials and products imported from China to the US or EU can significantly affect profitability. The financial effect is deemed the same over short, medium, and long term.
Resource use and circular economy	Resources outflows related to products and services	Financial: Risk	Polestar faces challenges due to the lack of infrastructure for circularity. We aim to increase the use of recycled materials in our vehicles and reduce the mixture of materials to facilitate recycling. Designing vehicles from the outset to enable the recovery and reuse of certain parts is crucial for achieving circularity. However, the current infrastructure is insufficient to fully support these initiatives, leading to potential financial risks. The costs associated with managing end-of-life vehicles, increasing recycling rates, and adapting to changing consumer behaviour can also significantly affect profitability. The financial effect is deemed to increase over time with the increase in non-recyclable materials and potential shift in consumer behavior towards sharing solutions.

Material impact, risks, and opportunities
Our material topics

Topic	Subtopic	Impact, risk, or opportunity	Description
Own workforce	Working conditions	Financial: Risk	Polestar's future success partly depends on our ability to attract, integrate, and retain highly skilled personnel. Competition for such talent is frequently intense. The loss of key personnel or an inability to attract, retain, and motivate qualified individuals may impair the ability to expand the business. The financial effect is deemed the same over short, medium, and long term.
Own workforce	Equal treatment and opportunities for all	Financial: Risk	Lack of equal treatment might lead to high employee turnover, reputational damage, and reduced employee morale. Discrimination and unequal treatment can lead to low employee morale, decreased job satisfaction, and reduced productivity. Polestar has identified a gender pay gap within the organisation, indicating a potential negative impact on employees' equal treatment and opportunities. Furthermore, the global nature of our operations presents cultural challenges that can affect the inclusion and equal treatment of employees from diverse backgrounds. The financial effect is deemed the same over short, medium, and long term.
Workers in the value chain	Working conditions	Impact: Negative/potential	Polestar's value chain includes various high-risk materials and industries, which pose significant challenges to workers' conditions, including securing wages, social dialogue, freedom of association, collective bargaining, work-life balance, and health and safety. As the demand for minerals in the electric vehicle (EV) industry increases, so do the social challenges associated with their extraction and processing. In regions with less regulated labour markets, the risks to workers' conditions are higher. The further away from Polestar's direct oversight, the greater the risk of poor working conditions. The severity is deemed the same over short, medium, and long term.
Workers in the value chain	Working conditions	Financial: Risk	With a complex supply chain in high-risk regions, violations of workers' rights are an undeniable risk. Supply chain disruptions, increased operational costs, loss of business partnerships, and market access restrictions can lead to reputational damage and loss of consumer and investor confidence, resulting in loss of sales, divestment, and a decline in stock price. The financial effect is deemed the same over short, medium, and long term.
Workers in the value chain	Other work-related rights	Impact: Negative/potential	Given the high-risk nature of the industries involved, it is likely that workers in remote areas or industries with housing shortages may face challenges in accessing safe, healthy, and adequate housing, as well as limited access to water and sanitation. This is particularly relevant for workers in mining operations in regions like the Democratic Republic of the Congo and Indonesia. Privacy and data protection are also significant concerns. Therefore, we have a global privacy and data protection policy to protect the privacy rights of workers, in instances where Polestar does not have direct a direct contract with the supplier in question. However, the changing legislative landscape in many countries has introduced national security laws that may erode our ability to enforce our global privacy and data protection policy. Child labour and forced labour are significant risks in Polestar's value chain, particularly in high-risk regions where raw materials are extracted. The automotive industry relies on complex global supply chains, and vulnerable groups, including children, minority groups, and migrant workers, are disproportionately exposed to risks. These risks include hazardous working conditions, forced labour, adequate housing, and protection of employees' rights to privacy, including protection against unauthorised surveillance. The severity is deemed the same over short, medium, and long term.
Consumers and end users	Personal safety of consumers and/or end users	Impact: Negative/potential	Polestar has implemented extensive security measures to ensure consumer health and safety, but the connected nature of modern vehicles introduces potential risks. Cybersecurity vulnerabilities could allow remote control or disabling of vehicle functions, threatening driver and passenger safety. Additionally, defects in vehicle components could lead to accidents. The connected features, while convenient, pose personal security risks, such as the potential for an abusive partner to track someone through the car. Ensuring robust cybersecurity and privacy protections is therefore crucial. Another important safety aspect is guaranteeing that vehicles are equipped with child-specific safety features to protect children from physical and psychological harm. The severity is deemed the same overshort, medium, and long term.

Material impact, risks, and opportunities
Non-material topics

Out of the topics, only two were deemed non-material:

- Water and marine resources
- Affected communities

The impact on water was deemed as medium and marine resources as non-applicable. The scope of Polestar's impact on affected communities was deemed as limited. These topics were deemed as not material since Polestar's impact was considered relatively less severe, and the risks or opportunities were seen as less critical. However, both Polestar's impact on water-related issues and our impact on communities along the value chain are being monitored through existing sustainability initiatives.

Material impact, risks, and opportunities
Value chain overview

		Impact materiality									Financial materiality	
Area	Sustainability matters	Raw material supplier	Tier-N suppliers	Tier-1 suppliers	Upstream transportation and distribution	Own operations	Downstream transportation and distribution	Retail partners	Usage and maintenance	End of life treatment	Risks and opportunities*	Information on page
Climate change	Climate mitigation	●	●	●	●	●	●	●	●	●	●	
	Climate adaptation										●	66–87
	Energy	●	●	●		●			●		●	
Pollution	Pollution of air	●	●	●					●			
	Pollution of water	●	●	●								
	Pollution of living organisms and food resources	●	●	●					●			88–92
	Substances of concern	●	●	●		●			●	●		
	Substances of very high concern	●	●	●		●			●	●		
	Microplastics				●		●		●	●		
Biodiversity and ecosystems	Direct impact drivers of biodiversity loss	●	●	●					●			
	Impacts on the state of species	●	●	●					●	●		93–96
	Impacts on the extent and conditions of ecosystems	●	●	●					●			
	Impacts and dependencies on ecosystem services	●	●	●	●	●	●	●	●	●		

* Even though the causes of financial risks and opportunities can be found at various points in the value chain, it is always the risks and opportunities for Polestar that have been assessed. Therefore, these have their own column and are not distributed along the value chain.

Material impact, risks, and opportunities
Value chain overview

		Impact materiality									Financial materiality	
Area	Sustainability matters	Raw material supplier	Tier-N suppliers	Tier-1 suppliers	Upstream transportation and distribution	Own operations	Downstream transportation and distribution	Retail partners	Usage and maintenance	End of life treatment	Risks and opportunities*	Information on page
Resource use and circular economy	Resource inflows, including resource use	●	●	●	●	●					●	97–105
	Resources outflows related to products and services			●		●			●	●	●	
Own workforce	Working conditions					●					●	107–130
	Equal treatment and opportunity for all					●					●	
Workers in the value chain	Working conditions	●	●	●							●	131–144
	Other work-related rights	●	●	●								
Consumers and end users	Personal safety of consumers and/or end-users								●			145–152
Business conduct	Corporate culture					●					●	54–60
	Corruption and bribery	●	●	●	●	●					●	

* Even though the causes of financial risks and opportunities can be found at various points in the value chain, it is always the risks and opportunities for Polestar that have been assessed. Therefore, these have their own column and are not distributed along the value chain.

Material impact, risks, and opportunities

The process to identify and assess material impacts, risks, and opportunities

Step 1: Understanding and mapping the value chain and identifying relevant stakeholders

Identifying relevant stakeholders across the value chain, representing different stakeholder groups to Polestar, is crucial for obtaining a holistic view of the impacts, risks, and opportunities throughout the value chain. Stakeholder engagement should not be too limited, as this could lead to unidentified material topics and an incomplete or inaccurate assessment of the most material issues. We maintain an ongoing dialogue with a variety of stakeholders. However, for the double materiality assessment, some external stakeholders were contacted to provide specific input for the assessment. These were primarily selected due to their expertise and focus, or their relationship with Polestar. Examples include the Swedish environmental organisation Gröna Bilister, the multi-stakeholder initiatives Exponential Roadmap Initiative, Responsible Business Association, and Avere, the European association for electromobility.

For other stakeholders, valid proxies have been appointed. These were chosen from various functions within the organisation, for example, subject matter experts such as those in Polestar's sustainability team for the impact materiality and the financial department for the financial materiality. Additionally, various reports from non-governmental organisations and authorities served as input for the double materiality analysis, thereby ensuring that these stakeholders' perspectives were taken into account in the assessment.

We continuously map and document our value chain across several of our strategic initiatives. Through the Supply Chain Visibility initiative, efforts are made to maintain an overview of all upstream relationships in the value chain. Through the Materials Traceability initiative, Polestar specifically maps various risk materials. This is done to highlight both environmental and social risks. The downstream value chain is constantly monitored through Market Risk Assessments, which evaluate current and prospective sales markets, focusing on the sustainability-related risks and opportunities they present.

Within the strategic area of Inclusion, there is a risk assessment of human rights in the value chain, both upstream and downstream. Similarly, the value chain is continuously mapped both upstream and downstream within the frameworks of Climate and Circularity.

Read more →
Value chain overview

The basis used included qualitative interviews, scenario analyses for climate, biodiversity assessments, purchasing category data, employee surveys, supplier data, environmental and climate data, information from previous sustainability reports, as well as scientific studies and information from other credible sources.

Step 2: Creating a long list of material sustainability topics

The long list of material sustainability topics was created and categorised by topics, sub-topics, and sub-sub-topics to support the materiality assessment. Prior material topics reported in earlier reports, potential material topics related to GRI, applicable SASB sector standards, and risks from Polestar's prior risk assessments were mapped against the long list. This was done to ensure that all potentially material topics were covered.

If new topics emerged during stakeholder engagement processes, such as interviews and workshops, they were added to the long list. Conversely, if any topics were deemed immaterial during engagement with stakeholders and the assessment, they were not included in the final shortlist.

Step 3: Assessing material topics

All topics included in the long list were assessed from an impact and financial materiality perspective. Polestar has conducted impact assessments on an annual basis since 2021. This double materiality assessment used the impact assessment that was conducted in autumn 2023 as a starting point. The assessment was based on the topics in the long list, as well as experiences and findings from Polestar's human rights due diligence process and a stakeholder survey conducted in autumn 2023. This assessment was further deepened and supplemented by additional interviews with internal stakeholders, appointed proxies, and research during spring 2024. Using that input, the impact materiality was assessed by evaluating whether our impact on each sub-topic was positive and/or negative, and whether this impact was actual or potential. The severity of each impact was then scored based on scale (0–5), scope (0–5), irremediable character (0–5) for and likelihood (0–5) of potential impacts in the short, medium, and long term. The scoring was based on the assumption that severity should be assessed on an annual basis rather than an aggregated one. Irremediable character was only assessed if the impact was deemed negative. In the case of a potential negative human rights impact, the severity of the impact took precedence over its likelihood. The end score for each topic was calculated (0–5). The rationale and basis for the scoring were documented during the assessment. This reasoning and scoring were informed by stakeholder engagement, which primarily included workshops to evaluate prior scoring and the reasoning behind it, as well as interviews.

Financial materiality was assessed by evaluating whether the financial effect of each sub-topic on Polestar represented a risk or an opportunity. Each sub-topic was then scored based on the magnitude of the financial effect (0–5) and the likelihood (0–5) of potential effects in the short, medium, and long term. The magnitude of the financial effect was assessed from an operational, strategic, reputational, and regulatory perspective. These effects were then summarized into a score of financial effect (0–5). The scoring was based on the assumption that financial effect should be assessed on an annual basis rather than an aggregated one. The rationale and basis for the scoring were documented during the assessment. This reasoning and scoring were informed by stakeholder engagement, primarily through in-depth interviews. Through engaging the same stakeholders in the double materiality assessment as in our general risk process we ensured alignment between these two processes.

Polestar's impact on sustainability issues, as well as our dependencies on natural and social resources, have been considered in the financial analysis. The disruption of ecosystem services can lead to supply chain disruptions, increased costs for resource procurement, and potential production delays. For example, water scarcity or pollution can lead to increased costs for water procurement and treatment and the depletion of raw materials can lead to higher costs for sourcing these materials from alternative suppliers. At the same time, Polestar impacts the ecosystem services we depend on, such as raw material extraction of lithium, cobalt, copper, and other metals, as well as the use of water in production processes, particularly in battery manufacturing and lithium extraction

Step 4: Stakeholder and management validation

During the double materiality assessment, the assessment, scoring, process, and content from the interviews were documented. As previously mentioned, several different internal and external stakeholders have been involved in providing input, analysing, determining, reviewing, and validating the double materiality assessment. Throughout the process, the analysis was regularly evaluated and received input from two different groups of internal stakeholders. One group consisted of internal stakeholders, subject matter experts, and appointed proxies, while a formal Steering Committee comprised senior representatives from various relevant functions such as sustainability, finance, legal, and communications.

When the assessment was completed, the consolidated results were validated. In a first step, this was done by the group of internal stakeholders, subject matter experts, and appointed proxies. In a second step, this was done by the Steering Committee. Finally, the ultimate decision was made by the Group Management Team. The Steering Committee suggested, and the commercial and operational forum adopted, a threshold of 3.5 or higher for impact materiality and 2.0 or higher for financial materiality for what would be considered material, based on various factors:

- There was a relatively clear distribution and difference in scoring between the issues ranked higher versus lower.
- The issues that should be material based on Polestars' context, namely the electric vehicle industry, and our dependence on energy-intense raw material extraction, production and car manufacturing.
- Feedback from internal stakeholders, such as the executive management and the board, as well as external stakeholders, such as auditors, consultants, and industry peers.

Step 5: Integrating the results of the materiality assessment into reporting, strategy and overall risk management

The material sustainability topics identified through the annual double materiality assessment inform our sustainability strategy, which is implemented throughout the organisation through strategic sustainability initiatives. Each global function at the company is accountable for setting action plans and securing resources for the strategic initiatives in line with Polestar's sustainability policy and strategy, with guidance and support from sustainability experts.

The process of developing the 2024 sustainability report began with a gap analysis against reporting frameworks. This was done to identify updates and disclosures that would take this report significant steps towards compliance. The result is also integrated into Polestar's overall enterprise risk management process.

Step 6: Continuously review and update the materiality assessment

We will review the double materiality assessment annually and conduct a more comprehensive reassessment every third year. If new material topics or information are identified as part of the stakeholder dialogue or due diligence process, we will revise the assessment. The same applies if there are any material changes in our external environment or within the organisation.

Read more →
Risk management process

Material impact, risks, and opportunities
Our stakeholders

How Stakeholders' voices shape our sustainability strategy

Understanding the importance of clear and meaningful communication with both internal and external stakeholders is crucial. Commitment to building strong, constructive relationships is achieved through various engagement methods, ensuring responsiveness to their concerns and goals.

We actively engage with stakeholders through multiple channels, such as financial and sustainability reports, our website, partnership meetings, interviews, and day-to-day interactions.

In 2024, key topics raised by stakeholders included climate change mitigation, reducing carbon footprints across our value chain, human rights and modern slavery, sourcing and traceability of high-risk materials, and circularity. The feedback we receive informs our sustainability strategy and is integrated into our risk assessments, action plans, and priorities. By incorporating stakeholder input into our decision-making, we ensure our efforts align with both the expectations of those we serve and the broader environmental and social challenges we aim to address.

Stakeholder engagement overview

Stakeholder group	Channel for dialogue	Most important sustainability-related topics	
Employees & Consultants	• Day- to-day operations • Townhalls • Intranet • Employee surveys - Pulse checks	• Climate change mitigation and carbon foot print reduction • Environmental and biodiversity impacts • Human rights and health impacts in the value chain • Responsible sourcing	• Circularity; use of resources and waste management • Employee working conditions incl. health and safety • Diversity & Inclusion; equal opportunities for all • Anti-corruption and protection of whistleblowers
Stakeholders & Investors	• Investor relations • Capital markets days • Regulatory communications	• Climate change mitigation and carbon foot print reduction • Human rights in the supply chain • Passenger, data and product safety • Green energy in production • Energy consumption of Polestar's vehicles	• Battery life cycles • Charging infrastructure • Traceability of risk materials • Political influence on green mobility solutions
Regulatory bodies	• Topic specific policy meetings and roundtables	• Climate change mitigation and carbon foot print reduction • Regulatory updates affecting automotive industry	• Charging infrastructure • Chemical management and phase-out of SVHC
NGOs and industry associations	• Topic-specific dialogues • Mulitstakeholder initiatives • Membership meetings • Digital survey	• Climate change mitigation and carbon foot print reduction • Human rights impact in the value chain, including health & safety, forced labour, terms of employment, wages, child labour etc • Responsible sourcing • Product and passenger safety	• Charging infrastructure • Chemical management and phase-out of SVHC • Regulatory changes • Circularity; use of resources and waste management
Fleet owners	• Day- to-day operations • Fleet events • Customer service	• Carbon footprint reduction in manufacturing, products and logistics • Localised manufacturing with less reliance on production in China • Sourcing and traceability of risk materials • Modern slavery	• Human rights and health impacts in the value chain • Charging infrastructure and access to renewable energy • Circularity; use of resources
Individual customers and potential customers	• Customer service • Surveys - Voice of the customer • Continuous dialogues through .com and social media	• Carbon footprint reduction in manufacturing, products and logistics • Renewable energy in manufacturing • Battery disposal, reuse and recycling of batteries • Use of sustainable and recycled materials • Localized manufacturing with less reliance on production in China.	• Responsible sourcing and traceability of risk materials • Human rights and health impacts in the value chain • Animal welfare • Company ethos on sustainability • Emissions-free driving
Suppliers	• Day- to-day operations • Supplier assessments and audits	• Carbon footprint reduction • Supply chain traceability • Human rights and health impacts in the supply chain	• Water and waste management • Employee working conditions incl. health and safety • Product and passenger safety

Governance
Introduction

In Polestar's commitment to sustainability, governance plays a pivotal role in steering our strategic direction and ethical standards. The governance framework is structured around a three-tier system comprising shareholders, the Board of Directors, and the CEO & CFO, ensuring a robust oversight mechanism. The Board, with its ten members, is instrumental in strategic management and is supported by specialised committees: the Audit Committee, the Nominating and Governance Committee, and the Compensation Committee.

Polestar governs and steers sustainability by adopting a process grounded in the principle of due diligence, aligning with the OECD Due Diligence Guidance for Responsible Business Conduct. This approach embeds responsible business conduct throughout the organisation and involves conducting risk and impact assessments to address environmental and social impacts. This process informs an ambitious sustainability strategy, where strategic initiatives aimed at reducing negative impacts and amplifying positive outcomes are tracked and communicated.

This section addresses aspects such as:

- Corporate and sustainability governance
- The role of the administrative, management, and supervisory bodies
- Remuneration policies and incentive schemes
- Process for steering sustainability

Governance
Corporate structure and sustainability integration

Corporate and sustainability governance

Polestar's sustainability governance follows our overall corporate governance structure with a three-tier hierarchical approach:

- Polestar's shareholders
- The Board of Directors
- Polestar's CEO and CFO

The CEO and CFO are entrusted with powers according to the Articles of Association and the Companies Act 2006, and where necessary, every other statute from time to time in force and affecting the company. This governance structure has been established to support the running of Polestar as a publicly listed company and to follow the requirements as applicable under English and Swedish law, as well as any applicable listing requirements of the Nasdaq New York stock exchange, or legislation and regulation applicable to a US-listed company.

Read more →
Corporate governance

The role of the administrative, management, and supervisory bodies

— The Board of Directors

The Board of Directors is responsible for the overall strategic management of the company, acting within an effective internal control framework, with all directors providing an element of constructive challenge and helping to develop, achieve and communicate Polestar's strategic aims.

Polestar's Board of Directors consists of ten members:

- The Chair
- The Chief Executive Officer
- Eight Non-Employee Directors.

The Board does not include any representation of employees or other workers.

Together, the Board members bring significant experience from the automotive and technology industry including supply chain management, business development, finance, and operational management in China.

Polestar reviews the composition of the Board annually, with specific attention to independence, knowledge, skills, experience, and diversity. Four out of ten Board members are female, representing 40% of the Board.

All directors have regular access to our operations and personnel as needed. The Board members' biographies highlight their relevant corporate and industry experience including business conduct, providing judgement on strategy, performance, resources, and standards of conduct crucial to Polestar's success. The Board brings a wide range of expertise and experience and has sufficient knowledge to challenge the organization within sustainability matters. In addition, the Board actively engages with sustainability experts at the management level to inform decision-making and ensure the integration of sustainable practices across the organisation.

Seven out of ten Board members qualify as independent, as defined under the listing rules of Nasdaq, representing 70% of the Board.

Read more →
Board of Directors

— Board Committees

In addition to the primary oversight exercised by the Board, each of the Board's committees is involved, to some degree, in Polestar's sustainability strategy.

— Audit Committee

The Audit Committee oversees Polestar's accounting and financial reporting processes, internal controls, operational procedures, and enterprise risk management framework. It also oversees Polestar's Compliance & Ethics Programme and Whistleblowing, and reviews our risk management relating to cybersecurity and data privacy. The Head of Compliance & Ethics/Data Protection Officer reports to the Audit Committee twice a year. Additionally, the Chief Audit Executive (Internal Audit, Risk, Compliance and Control function) reports twice a year on Enterprise Risk Management and four times a year on the internal audit plan, and the Chief Information Security Officer reports twice a year on cybersecurity issues.

— Nominating and Governance Committee

The Nominating and Governance Committee is responsible for overseeing the director nomination process and Polestar's overall corporate governance. Its duties encompass selecting and recommending nominees for election or appointment to the Board, and conducting annual reviews of the Board's composition, including independence, knowledge, skills, experience, and diversity. The Nominating and Governance Committee also reviews corporate policies. From a sustainability perspective, the Nominating and Governance Committee also oversees our sustainability strategy, remaining informed about material impacts, risks, and opportunities, including the implementation of due diligence. They monitor the outcomes and effectiveness of actions, metrics, and targets adopted to address material sustainability topics, and are responsible for reviewing and approving Polestar's double materiality process and results, as well as the information reported in the sustainability report. Our Head of Sustainability reports to the Nominating and Governance Committee three times a year.

— Compensation Committee

The Compensation Committee oversees Polestar's executive compensation, incentives and equity plans, and employee benefit plans. It also oversees human capital management, including corporate culture, diversity and inclusion, recruiting, retention, attrition, talent management, career development and progression, succession, and employee relations. The Chief HR Officer is the Secretary of the Compensation Committee and is present and reports at every committee meeting, at least three meetings a year.

— Conflict of Interest

The Board of Directors has the obligation to report potential conflicts of interest to the company. Reported conflicts are assessed by Polestar in accordance with our Conflict of Interest Policy, and applicable laws and regulations. Directors are also obliged to request approval from the Nominating and Governance Committee before accepting a board position in another company. Conflicts authorised by the Board and the company are recorded in a conflict register, which is not public.

Each Board meeting begins with a review of potential conflicts of interest related to the topics to be discussed. The Board decides which members are excluded from voting or, if deemed necessary, excluded from discussions where conflicts arise, or decides to authorise voting despite such conflicts. These decisions are recorded in the meeting minutes.

— The Board's role in the stakeholder engagement

The Board delegates specific engagement responsibilities to dedicated Board Committees, the Executive Committee, including the Group CEO, and relevant Group Management Team members. These individuals provide the Board with updates on stakeholder developments and interests; this feedback helps inform the Board as it takes principal decisions, including strategy development. The Board recognises that proactive and two-way dialogue with stakeholders is a critical part of our long-term success. Thus, the Board will continue to take stakeholder interests and concerns into account as part of its decision-making process. The Board acknowledges that decisions must be made based on its conclusion of the best outcome for Polestar's stakeholders and that different stakeholders may have competing priorities.

— The CEO and the Management Team

The executive management structure comprises the Chief Executive Officer (CEO) and the Executive Committee (ExCom). Members of the ExCom are appointed by the CEO, subject to review by the Board. The ExCom supports the CEO in overseeing Polestar's strategic direction and overall management of the company.

Additionally, a broader Group Management Team (GMT) has been established, which includes the ExCom and key Global Functions. The GMT plays a critical role in delivering on the strategic direction, monitoring performance, and making decisions to drive execution and performance. Polestar's Head of Sustainability is a member of the GMT.

The CEO reports to the Board and is responsible for the day-to-day running of Polestar regularly reporting on the financial and operational, including sustainability, status to the Board. The ExCom holds the responsibility for approving the double materiality assessment and the identified material topics before it is brought to the Nominating and Governance Committee, the corporate sustainability strategy and associated company targets.

The material sustainability topics identified through the annual double materiality assessment inform our sustainability strategy, which is implemented throughout the organisation through strategic sustainability initiatives. Each global function at Polestar is accountable for setting action plans and securing resources for the strategic initiatives in line with Polestar's sustainability policy and strategy, with guidance and support from sustainability experts.

The ExCom and GMT regularly receive reports and updates on performance, progress, and challenges related to implementing the sustainability strategy, strategic initiatives, and associated targets during weekly management meetings. The Head of Sustainability is a permanent member of one of the management's key decision-making forums.

Governance
Remuneration policies and incentive schemes

The Remuneration Policy sets out a summary of Polestar's policy on remuneration for executive directors, non-executive directors, and other employees. The Policy is designed to attract, retain, and motivate our leaders and employees within a framework designed to promote the long-term success of Polestar and align with our shareholders' interests.

Annual Polestar Bonus programme ("STI")

To support our business objectives and drive our mission of accelerating electric mobility, Polestar offers a short-term incentive programme (STI). This programme is linked to operational targets and KPIs set by our management team and approved by the Board based on recommendations from the Compensation Committee. It is closely aligned with our strategic priorities. The KPIs vary annually, typically including one volume and one financial indicator, along with several operational indicators. In 2024, none of our short-term incentive KPIs were related to sustainability. No annual bonus (STI) was paid out in 2024.

Share-Based Long-Term Incentive Programme ("LTI")

To promote the long-term success of Polestar and meet the expectations of the market, a three-year long-term incentive programme (LTI) has been introduced with pay-out in Polestar shares. The purpose of the LTI programme is to attract, retain, reward and motivate executives, senior managers and selected top-performing employees. The ambition is to start a new 3-year programme every year, with the metrics set by the Compensation Committee before each launch. In 2024, one out of four of the KPIs were sustainability related. This target is the CO_2e reduction of the cradle-to-gate* GHG-emissions per average car programme.

Read more →
Annual Report

*Cradle-to-gate is an assessment of a partial product life cycle from resource extraction (cradle) to the factory gate (i.e., before it is transported to the consumer).

Governance
Process for steering sustainability

Driving sustainable development forward in practice involves continuously developing and maintaining a structured and methodical approach while remaining agile and open to change, new knowledge, and innovation.

Our process for steering sustainability reflects the principle of due diligence. This means we organise and act in a way that systematically identifies risks or actual negative impacts on people and the environment, takes measures to mitigate or prevent identified risks and cease actual negative impacts, restores damage caused, and continuously follows up on set goals and action plans.

Embed responsible business conduct

We embed responsible business practices at the core of our culture and business through establishing a clear set of values and a vision committed to sustainability.

Polestar's five core behaviours – Future Thinking, Courage, Passion, Collaboration, and Transparency – drive how we operate and guide all decision-making throughout the company. They define our commitment to environmental and social responsibility, challenging the status quo, executing with precision, working together as a team, and maintaining openness in all that we do. These behaviours guide our path to success and differentiate us in the industry.

We assign responsibility for sustainability into our governance structure, secure organisational resources and competences, adopt policies, directives, and guidance on key sustainability topics, and make sure to turn our sustainability ambition into expectations on our business partners.

Our corporate policy landscape comprises policies adopted by the Board of Directors, such as the Sustainability Policy, Polestar Code of Conduct and the Polestar Code of Conduct for Business Partners, directives adopted by the Management Team, and different types of guidelines created by specialist departments.

Read more →
Legal ethics

Polestar supports various multilateral collaborations and collective action efforts to enable sustainable development at scale. As a business, we have both the right and responsibility to enable and be supported by initiatives that can accelerate and strengthen sustainable development across industries, sectors, and in our global society. We are committed to adhering to the principles, standards, and guidance set out in the:

- United Nations Agenda 2030 and the 17 goals for sustainable development
- United Nations Declaration on Human Rights
- United Nations Global Compact, the ten principles
- United Nations Framework Convention on Climate Change, the Paris Agreement
- United Nations Race to Zero campaign
- International Labor Organisation Declaration on Fundamental Principles and Rights at Work
- OECD Guidelines for Multinational Enterprises
- OECD Due Diligence Guidance for Responsible Business Conduct
- OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas
- Exponential Roadmap Initiative Climate Solutions Framework
- Planetary Boundaries Framework
- Greenhouse Gas Protocol
- ISO 14001-standard

A dedicated Sustainability Compliance Process ensures Polestar's alignment with evolving legal requirements on various sustainability issues. This process identifies and evaluates legal obligations and assigns responsibility to our Global Functions to take action to comply and monitor compliance.

Identify and assess environmental and social impacts

All global functions at Polestar systematically evaluate risks to the business and determine necessary actions to address these risks through our Enterprise Risk Management framework. As part of this process, sustainability risks throughout our value chain are identified and evaluated. The risk list, along with corresponding action plans, is presented to the Group Management Team twice per year and submitted to the Audit Committee. The Risk Material Assessment identifies and evaluates the risk of adverse impacts on the environment, animal welfare, and human rights connected to the materials used in our products, considering both their commercial and technical significance.

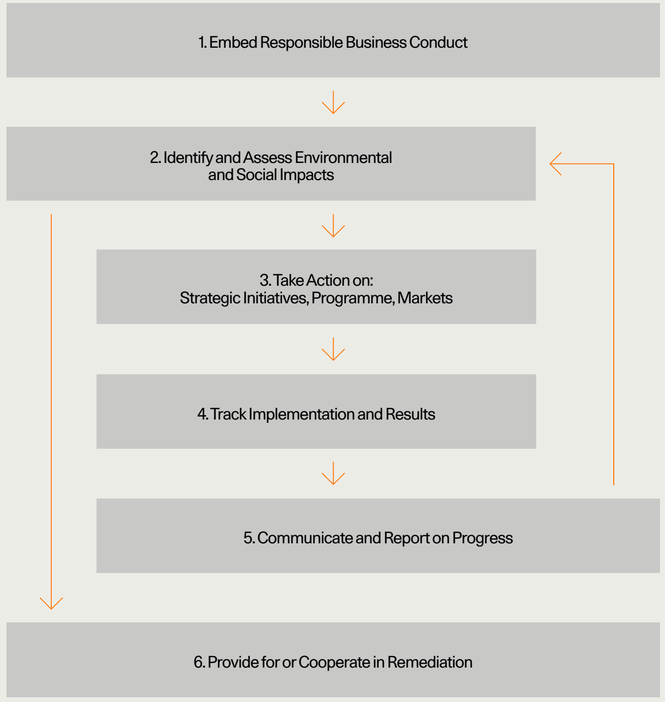
Annual Environmental Impact Assessments are conducted across all operations, including workshops, plants, offices, and Spaces, ensuring a comprehensive understanding of the environmental implications of our activities.

As described on page 44, Polestar performs an annual double materiality assessment (DMA) to identify sustainability topics that are material to the company. This includes assessing the impact of our business on the environment and society, as well as the impact of external factors on the business. The DMA process incorporates input from internal and external stakeholders affected by or influencing our operations. The results inform our sustainability strategy and enable the identification and assessment of actual and potential adverse impacts throughout the value chain.

We also calculate the climate impact of our business activities across the value chain annually, providing valuable insights into the primary drivers of GHG emissions. Life Cycle Assessments (LCAs) are conducted to measure the environmental impact of our products and explore solutions to improve the sustainability performance.

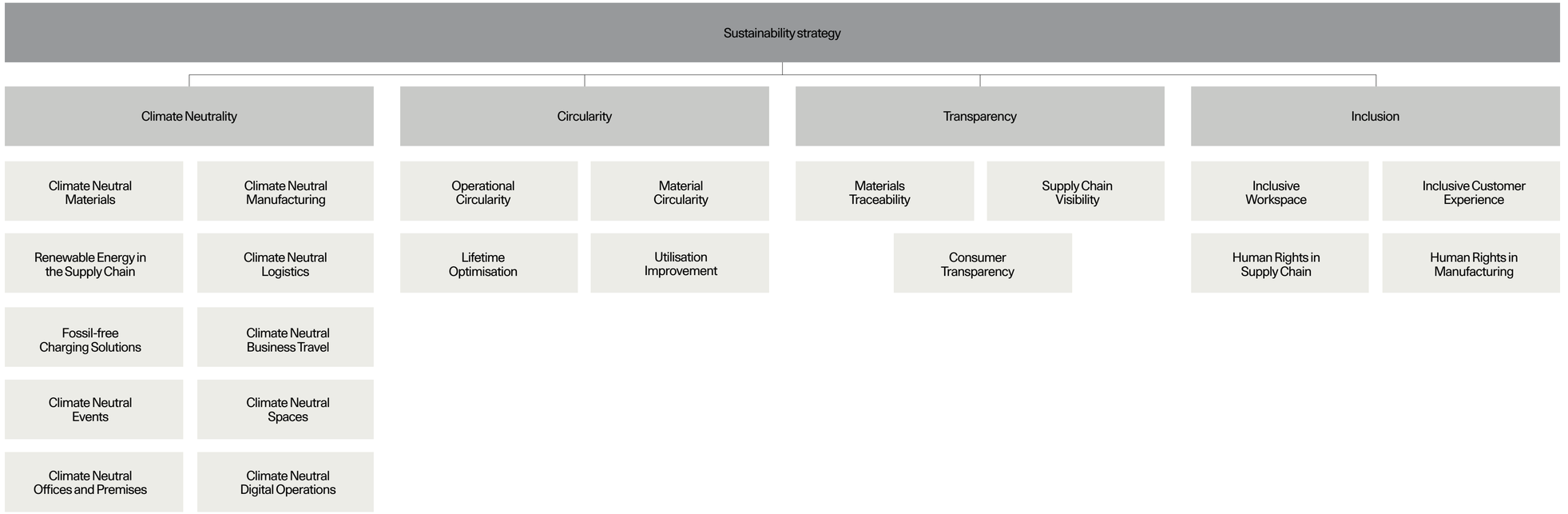
Due diligence and risk assessments on business partners are conducted continuously, addressing criteria such as sanctions, corruption and integrity. The sourcing process also incorporates detailed information on potential suppliers, obtained through self-assessment questionnaires and audits, ensuring responsible procurement practices.

Market Risk Assessments evaluate prospective new sales markets, focusing on the sustainability-related risks and opportunities they present. These assessments provide insights into labour and geographical risks, freedom risks, governance indicators, gender equality, and LGBTQ+ rights, as well as compliance risks associated with sanctions and corruption, to make informed decisions when entering a new market.



Governance
Process for steering sustainability

We use insights from our assessment of risks and opportunities to continuously inform our business strategy. A comprehensive sustainability strategy is designed to take action to cease, prevent, or mitigate potential negative impacts on the environment, people, and society, while enhancing positive impacts. This strategy is developed by the Global Function Sustainability and reviewed and approved by the Group Management Team. It is also regularly reviewed by the Board of Directors. Strategic initiatives are assigned to our Global Functions, enabling them to integrate sustainability into their core functions and create targets, KPIs, and a clear action plan that activates and enables all coworkers to contribute.



Governance
Process for steering sustainability

Tracking implementation to improve performance

We monitor the efficiency and results of our sustainability activities by retrieving data and insights from all parts of our value chain. This approach allows us to assess whether our actions are having the intended positive impact on sustainability or if course correction is needed.

All Global Functions monitor KPIs for each strategic initiative, taking corrective action when progress is insufficient. These functions report to the Head of Sustainability twice a year on the progress and efficiency of strategic initiatives. The Head of Sustainability, in turn, reports the overall status of the sustainability strategy and its initiatives to Polestar's Group Management Team and the Nominating and Governance Committee at least twice annually.

Communicating and reporting on progress

Transparency and advocacy are essential cornerstones for us, and we use all of our communication channels to inform and inspire key stakeholders regarding sustainability. Reporting and communication also provide the opportunity to meet legal requirements and receive feedback on sustainability efforts, enabling continuous development of the agenda in line with stakeholders' expectations.

Data collected and analysed is shared and discussed with higher management in designated forums, where the CEO and/or CFO are always present, to ensure a stream of relevant information within sustainability initiatives and as an effective way of improving due diligence standards. Insights are gathered, and the most relevant performance indicators are communicated externally through sustainability reports and web pages.

In addition to the Sustainability Report, a Modern Slavery Statement is published annually, focusing on efforts to respect human rights and combat modern slavery in the value chain. In accordance with OECD guidelines and in line with legislations and regulations such as the US Dodd-Frank Act and the EU Conflict Minerals Regulation, we also publish a Position Paper on Conflict Minerals and transparently report our status. This includes detailing due diligence in the supply chain to mitigate risks associated specifically with the use of tin, tantalum, tungsten, and gold.

Reporting on chemicals in products is conducted in line with legislation in different markets, such as the EU's REACH. Information is supplied to the EU's SCIP database if and when there is a certain concentration of substances of very high concern (SVHCs) in products.

To inform our customers about the impact of our cars, the sustainability credentials for each car model are available on our website. Here, the car's performance in terms of climate, circularity, transparency, and inclusion is described. We also publish life cycle assessments for the car and its variants. With this, we aim to enable conscious choices and create transparency for our customers.

Grievance mechanisms

Through the whistleblowing channel SpeakUp, Polestar can report grievances, suspected violations, or other concerns. Suppliers and other external stakeholders outside the organisation can also direct such reports.

A link to the channel is available in the Code of Conduct, the Code of Conduct for Business Partners, on our website, and in other communications with suppliers.

Following a documented procedure, should we determine that the reported acts have caused or contributed to an adverse impact, we would implement appropriate remediation mechanisms.

Read more →
SpeakUp reporting channel

Risk management and internal controls over sustainability reporting

Polestar is dedicated to maintaining the highest standards of accuracy in our sustainability reporting. To ensure reliability, our sustainability data undergoes limited assurance by an external auditor. We have implemented a robust sustainability data management process that systematically collects, validates, and analyses data pertaining to environmental, social, and governance (ESG) performance throughout our operations and value chain. This comprehensive approach enables us to transparently track our progress and uphold our commitment to sustainable practices.

We utilise a digital sustainability data management platform to ensure data accuracy and reliability by implementing the four-eye principle and applying data thresholds to signal potential inaccuracies.

Internal control mechanisms play a central role in overseeing this process by establishing robust governance structures, including defined roles and responsibilities and periodic audits. Regular reviews by cross-functional teams and leadership through the sustainability report Steering Committee ensure alignment with sustainability goals, regulatory compliance, and transparency in reporting. These mechanisms enable a proactive identification of risks, measurement of progress, and enhancement of accountability for our sustainability report.

Looking ahead, as we transition towards CSRD-compliant reporting, efforts are being made to formalise the governance procedures for sustainability reporting to be on par with financial reporting.

Governance
Our material topics in relation to Agenda 2030

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 assessment, we have defined the goals and targets where Polestar has the greatest impact.

Climate neutrality
Climate change

Circularity
Pollution
Biodiversity & ecosystems
Resource use & circular economy

Transparency
Business conduct

Inclusion
Own workforce
Workers in value chain
Consumers and/or end users

Governance information

Business conduct
Introduction

Introduction

The section on General Sustainability Information outlines the foundational framework for overseeing and tracking the strategy across all sustainability domains. Governance in this context pertains to particular elements of corporate behaviour, including the prevention and detection of corruption and bribery, management of the supply chain, ethical business practices, and initiatives aimed at enhancing transparency.

For Polestar, with a value chain extending across various global regions, establishing a strong corporate culture rooted in our codes of conduct is vital. The products require an international network of suppliers and subcontractors, making it imperative to uphold the highest ethical business standards while continually enhancing transparency and traceability.

Business conduct
Material impacts, risks, and opportunities

Corporate culture

There are financial risks associated with the corporate culture at Polestar. The pursuit of short-term financial results could sometimes challenge our values and ethical standards. This, in turn, could affect both the corporate culture and employee well-being. To prevent the development of an unfavourable business culture, it is important to include relevant stakeholders in the decision-making process to ensure optimal outcomes and avoid long-term negative effects. How we manage redundancy processes is also crucial in determining whether we succeed in maintaining employee trust. From an equity investor perspective, our complex corporate structure – encompassing Swedish operations, UK Listco, US listing, and Chinese majority ownership – along with our status as a young company, are factors taken into consideration to alleviate concerns regarding regulatory compliance.

Corruption and bribery

Corruption and bribery present complex financial risks. Legal penalties and regulatory fines from non-compliance with anti-corruption laws, such as the Foreign Corrupt Practices Act (FCPA) and UK Bribery Act, can result in substantial fines and legal costs. Additionally, reputational damage from corruption scandals can lead to a loss of market share and decreased investor confidence, as these issues are important and closely monitored by investors.

The involvement of intermediaries and business partners in corrupt practices complicates compliance efforts and increases the risk of indirect liability. Our reliance on suppliers and partners in high-risk regions further exacerbates these risks, necessitating robust due diligence and monitoring processes.

Political engagement

Polestar actively engages in associations and multi-stakeholder initiatives advocating for increased electric vehicle adoption and sustainable mobility.

The financial impact of opportunities related to political engagement is considered low. However, the potential benefits of enhanced brand reputation, increased market share, and higher sales volumes can positively influence our profitability.

Business conduct
Policy and position papers

Policies for responsible business conduct

We are dedicated to acting responsibly and complying with relevant laws and regulations. The commitment extends to nurturing a culture of compliance and ethics that permeates all operations at Polestar and among business partners. Corporate policies serve as minimum requirements and key principles that must be adhered to by all.

Polestar's Speak Up Policy details the process of speaking up, the various methods available, and the principles that apply when reporting suspected or confirmed misconduct. This policy is applicable to all Polestar employees, and business partners are also encouraged to utilise the appropriate reporting channels outlined in the policy. Additionally, these policies guide our organisation in their daily conduct, also concerning corruption, bribery, anti-competitive behaviour, and political engagement.

The policies addressing business conduct matters include:

- People Policy
- Code of Conduct
- Code of Conduct for Business Partners
- Anti-corruption Policy
- Speak Up Policy
- Conflict of Interest Policy
- Fair Competition Policy
- Sanctions & Export Control Policy

Business conduct
Actions and performance

Prevention and detection of corruption and bribery

Corruption and bribery, whether involving government officials or private individuals, pose a fundamental threat to progress in sustainability. Corruption is not only unethical and a hindrance to social development and a well-functioning market economy, but it is also generally illegal in the countries where business is conducted.

Business relationships must be founded on trust, transparency, honesty, and accountability, with a commitment to adhering to applicable laws and regulations in all countries of operation. No form of improper payment or incentive intended to influence a business decision is tolerated. Employees will not face any negative consequences for refusing to pay or accept a bribe, even if it results in a loss of business.

Throughout the year, all relevant employees have received training on anti-corruption.

— Corruption risk assessments uncover vulnerabilities

A fraud and anti-corruption risk assessment was conducted at the headquarters level. The primary risk factors identified included sales activities, interactions with government officials, and interactions with business partners, such as importers and dealers, as well as suppliers and the supply chain.

In 2024, there were zero reported incidents (2023: 1) of a Code of Conduct violation related to corruption. Zero legal cases concerning corruption were brought against Polestar or any of our employees.

Fostering a strong corporate culture

We are committed to cultivating a corporate culture that aligns with our core values and ethical standards, recognising the risks associated with prioritising short-term financial results over long-term sustainability. To mitigate these risks, we ensure that all new employees undergo Code of Conduct training during their onboarding process, with a mandatory annual refresher training to reinforce alignment with our common goals. We prioritise clear communication of company objectives to employees, ensuring consistency in our strategic direction.

Our corporate policies and directives, including a Diversity and Inclusion directive, set clear expectations regarding acceptable behaviors and contribute to an inclusive, respectful work environment.

Additionally, we conduct the Peakon Survey to measure employee engagement, ensuring that their well-being is continuously assessed and improved. Performance management plays a key role in maintaining alignment between individual efforts and the company's ethical and sustainability goals, while also helping to prevent potential conflicts between financial pressures and our organisational values.

We emphasise the importance of tone at the top, where senior leaders lead by example, acting ethically and responding appropriately to unethical behavior. Employees are encouraged to Speak Up and feel comfortable in reporting any concerns, with a clear procedure in place to investigate any reported misconduct. Our core behaviors, which guide all of us in our day-to-day activities, include Future Thinking, Passion, Courage, Collaboration, and Transparency.

Confirmed incidents of corruption and actions taken	Total	Unit
Total number of confirmed incidents of corruption	0	Incidents
Total number of corruption cases with no merit	0	Cases
Number of convictions of violation of anti-corruption and anti-bribery laws	0	Convictions
Total number of confirmed incidents in which employees were dismissed or disciplined for corruption	0	Incidents
Total number of confirmed incidents in which employees were dismissed for corruption	0	Incidents
Total number of confirmed incidents in which employees were disciplined for corruption	0	Incidents
Total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption	0	Incidents
Total number of public legal cases regarding corruption brought against Polestar and Polestar employees	0	Cases
Amount of fines for violation of anti-corruption and anti-bribery laws	0	USD

Business conduct
Actions and performance

— Enhanced anti-corruption training at Polestar

Annually, all Polestar employees receive training on the Code of Conduct, which includes anti-corruption and bribery. This year, a new group-wide training programme was introduced, featuring an enhanced and interactive e-learning module for all employees and consultants. The Code of Conduct, along with the anti-corruption policy and compliance, is also part of the mandatory onboarding training for new employees.

In 2024, all Board members participated in specialised training covering:

- Directors' Responsibilities
- Anti-Corruption
- Cybersecurity
- Insider Trading
- SOX compliance

Communication and training about anti-corruption policies and Code of Conduct*		Total	Unit	Share of Total %
Communication	Total number of governance body members who received communication on the organisation's anti-corruption policies and procedures	19	people	100%
	Total number of employees who have received communication on the organisation's anti-corruption policies and procedures	2,261	people	100%
	Total number of people in board of directors who have received communication on the Code of Conduct	10	people	100%
	Total number of people in management that has received communication on the Code of Conduct	18	people	100%
	Total number of employees who have received communication on the Code of Conduct	2,261	people	100%
	Total number of consultants who have received communication on the Code of Conduct	286	people	100%
Training	Total number of governance body members who have received training on anti-corruption	19	people	100%
	Total number of Employees who have received training on anti-corruption	2,124	people	94%
	Total number of people in board of directors who have received training on the Code of Conduct	10	people	100%

*Total number of governance body members and employees as of December 31, 2024.

Polestar's Code of Conduct and Code of Conduct for Business Partners are published on Polestar's website and available to external stakeholders.

Business conduct
Actions and performance

Polestar's whistleblowing system

Polestar fosters a culture where employees are encouraged to speak up, ask questions, and raise concerns without fear of retaliation. Employees and other stakeholders are urged to report any suspected breaches of laws or regulations, as well as conduct inconsistent with the Code of Conduct, corporate policies, and directives, through various channels. Suspicions of severe violations can be reported via the global whistleblower system, SpeakUp, which ensures anonymity and complies with the EU's Whistleblower Directive (Directive (EU) 2019/1937).

Since its introduction in 2021, the use of Polestar's whistleblower system has increased, reflecting business growth, organisational expansion, and active internal awareness campaigns.

Incidents are initially reviewed according to the SpeakUp Policy and the Compliance Investigation Procedure. The Compliance & Ethics function assesses whether a report could constitute a potential severe violation, such as breaches of the Code of Conduct, corporate policies, or laws, including discrimination, harassment, and bullying. It also evaluates whether the report is concrete enough to warrant investigation. Internal cases of discrimination and harassment are typically managed by the HR team, while external cases, or those involving allegations against the HR team, are handled by the Compliance & Ethics team. External advice is sought if necessary for individual cases.

Incidents of discrimination and corrective actions taken		Total	Unit
Incidents, complaints and severe human rights impacts and incidents	Total number of incidents of discrimination, including harassment	1	Incidents
	Number of complaints filed through channels for own workers to raise concerns (including grievance mechanisms)	1	Complaints
	Number of complaints filed through channels for own workers to raise concerns (including grievance mechanisms) to the National Contact Points for OECD Multinational Enterprises	0	Complaints
	Total amount of fines, penalties, and compensation for damages as a result of incidents and complaints	0	USD
	Number of incidents of discrimination/harassment under review	0	Incidents
	Number of remediation plans being implemented	1	Plans
	Number of remediation plans that have been implemented, with results reviewed through routine internal management review processes	0	Plans
	Number of incidents no longer subject to action	1	Incidents
	Total number of severe human rights incidents connected to the company's workforce	0	Incidents

Business conduct
Actions and performance

Business conduct and ethical practices

Polestar is dedicated to upholding the highest standards of business conduct and ethics, and avoid engaging in any unethical or illegal practices, such as anti-competitive behavior, including price fixing, bid rigging, and market division. As a general principle, confidential or sensitive information is not exchanged with competitors, as such exchanges may be considered anti-competitive and illegal, even if conducted through third parties.

In 2024, Polestar had zero legal actions related to unethical business conduct, including anti-competitive behavior, anti-trust violations, or monopoly practices.

Polestar's Business Partner Due Diligence

Polestar's approach to Business Partner Due Diligence is rooted in ensuring that all partnerships align with our core values, ethical standards, and sustainability goals. This comprehensive process consists of key elements aimed at fostering responsible business conduct throughout our supply chain and business relationships.

At the core of this due diligence process is the Code of Conduct for Business Partners, which outlines the expectations and requirements for ethical behavior, compliance, and sustainability. In addition to this, thorough risk assessments are conducted to evaluate potential business partners, ensuring they uphold the same high standards of integrity, transparency, and responsible business practices as Polestar.

— Code of conduct for business partners

We mandate that all suppliers and business partners safeguard working conditions and human rights, prioritise environmental care, and conduct business with integrity. The Code of Conduct for Business Partners is incorporated into the contractual package.

— Anti corruption and sanctions due diligence

We have established a Business Partner Due Diligence process to ensure that suppliers and business partners are evaluated and selected in alignment with our business standards.

Identified suppliers and business partners are screened against sanctions lists before contract signing and are continuously monitored throughout the business relationship.

We employ a risk-based approach to ascertain the level of due diligence required for potential business partners, considering factors such as the category of partners and country of operation, using the Corruption Perception Index by Transparency International. For business partners identified as higher risk, more thorough investigations are conducted to ensure that adequate policies and processes are in place to prevent corrupt practices and ensure compliance with laws and regulations in practice.

Additional selection criteria for suppliers

In addition to the Code of Conduct for Business Partners, sanction screening and integrity assessment, we use several tools to assess our suppliers' sustainability commitment and maturity. These include the Sustainability Assessment Questionnaire, commitments and audits, and our Supplier Sustainability Index (SSI).

Read more →
Collaborations

Polestar's Supplier Sustainability Index (SSI) is a tool utilised for direct material suppliers contracted by Polestar. It assesses suppliers' maturity concerning four sustainability focus areas: climate neutrality, circularity, transparency, and inclusion. Prospective suppliers must commit to our sustainability approach, track their progress, and implement initiatives related to these focus areas within their business and supply chains. Suppliers complete and submit the SSI, which is then analysed and verified, with a score assigned by Polestar's Global Sustainability Procurement Department.

Political engagement

Polestar actively participates in industry organisations such as E-mobility Europe, the European Association for Electromobility, and other multi-stakeholder initiatives like the Exponential Roadmap Initiative, Race to Zero, and the Responsible Business Alliance. Through these engagements, participation in roundtables, panel discussions, and various activities is undertaken, advocating for increased electric vehicle adoption and the shift to low-carbon mobility.

No financial or in-kind political contributions are made. Polestar is registered in the EU Transparency Register under registration number 360724050677-34, through Polestar Performance AB, a company incorporated under Swedish law.

Transparency
Introduction

Manufacturing a car requires a variety of materials and raw materials, each presenting unique challenges and risks. The extraction and processing of these materials are often linked to significant environmental, governmental, and social issues, including child labour, unsafe working conditions, deforestation, corruption, and water pollution. These complexities are compounded by long and intricate supply chains, making it necessary for companies like us to implement robust strategies to manage and mitigate these risks.

While transparency is not considered a material topic in our double materiality assessment, it remains a fundamental aspect of our business operations and a crucial tool for implementing and enforcing our strategy. Therefore, in this section of the report, we provide detailed information about our approach, tools, and methods for ensuring traceability and transparency.

Transparency
Addressing risks related to raw materials

The evaluation and management of raw materials have continuously evolved over the years, and in 2024, this process has been further accelerated. This has led to the development of a comprehensive approach to assess and evaluate risks associated with raw materials. The risk assessment is informed by insights and data from sources like the Raw Material Outlook, spearheaded by Drive Sustainability, and Material Insights, a collaboration between The Dragonfly Initiative Sustainability and the Responsible Minerals Initiative. Each material is evaluated based on 27 different criteria across four categories: Human Rights, Supply Chain Resilience, Governance, and Environment.

Once risks are identified, the raw materials undergo evaluation for technical business criticality. This evaluation uses a scoring system ranging from 1 to 10, with 10 indicating a material is highly critical. Materials that are not deemed business critical are placed on either the No-Go List or the Phase Out List, depending on their current application in vehicles. For materials identified as technically business critical, a due diligence-based action plan is developed. This plan aims to stop, prevent, or mitigate any negative impacts associated with the specific raw material.

The execution of the action plan involves various strategic initiatives, tailored to the specific areas where actions are required. For instance, the initiative on Materials Traceability explores different methods for tracing materials identified as high-risk. The comprehensive list of Risk Raw Materials, along with the corresponding action plan, receives approval from Polestar management.

Polestar's risk list of raw materials
The list of raw materials is assessed on a yearly basis.

Current list of risk raw materials	Component
Lithium	Battery
Nickel	Battery
Cobalt	Battery
Manganese	Battery
Graphite (natural)	Battery
Copper	Battery
Aluminium	Battery
Mica	Battery
Rubber (natural)	Tyres
REE's (Nd, Dy, Pr, Tb, Ce)	Magnet
Wool	Interior
Leather	Interior
Bioattributed PVC*	Interior
Cotton	Interior
Copper	All
Steel	All
3TG (Tin, Tantalum, Tungsten & Gold)	All
Silicon	All
Aluminium	All

*We acknowledge that bioattributed PVC is not a raw material and we will therefore reevaluate this during 2025, if it should be replaced with relevant raw materials used in the bioattributed PVC.

Transparency
Materials tracability

A key component of our transparency efforts is focused on traceability. The "Materials Traceability" initiative, led by the Procurement Sustainability team, with support from the Transparency Lead, aims to trace the origins of our risk raw materials. Through this initiative, we systematically enhance awareness and transparency across our supply chain.

Initiatives like Materials Traceability and Supply Chain Visibility are designed to mitigate geographical risks, and improve the sustainability performance of our suppliers. While the definition of traceability can vary, at Polestar, we employ diverse methods to ensure the traceability of raw materials.

Mapped raw materials

This definition pertains to a scenario where a risk raw material is comprehensively mapped throughout the supply chain, from the mine to the car, with detailed information such as the country, address, and/or supplier name for each tier. The extent of information shared with us can vary, impacting our ability to conduct thorough due diligence. For instance, there may be cases where mapping is only completed up to tier 4 out of 5, or where we have country information but lack a specific site address, resulting in an incomplete supply chain map. While this is not the ideal situation, as it provides insufficient information, and lacks a defined chain of custody, it is sometimes the reality we face in this industry.

Traced raw materials

This definition applies when a raw material is thoroughly mapped throughout the supply chain, and is accompanied by a clearly defined chain of custody. This chain of custody can be categorised into three different levels:

1. Certifications or other standardised methods: For certain raw materials, established chain of custody certifications and standardised methods are available in the market. Examples include the Aluminium Stewardship Initiative (ASI) Chain of Custody, the Copper Mark Chain of Custody, and the Responsible Wool Standard. These certifications can be utilised to ensure a reliable chain of custody.
2. Supporting documentation: If no established methods are available to verify the chain of custody, we can trace the supply chain using supporting documentation. This includes purchase orders, invoices, proof of origin, transportation documents, and payment records, as a means of ensuring the chain of custody.
3. Blockchain: Another method is using blockchain-enabled traceability providers, which we prefer, especially for raw materials with governance-related risks, such as a high risk of corruption or weak rule of law. Blockchain-enabled traceability offers an immutable, digital, and efficient way to create transparency throughout the supply chain. By collaborating with a traceability provider, we employ a data collection system, supported by blockchain, that enables the tracing of materials from the mine to the vehicles, thereby supporting efforts to be more sustainable and transparent. When combined with audits, this approach facilitates responsible sourcing.

How blockchain traceability works

- Identification: Various authorised methods are employed to ensure that only fully authorised individuals or entities are involved in the extraction of materials.
- Origin: The weight, mass balance, and geolocation of the material are tracked, and a digital twin is created. This digital twin can be monitored throughout the supply chain.
- Extraction: The mass balance of the material is meticulously tracked to ensure compliance with predetermined business logic.
- Shipping: Materials are supervised to ensure that the correct quantities are allocated to the appropriate components.
- Manufacturing: Materials are monitored to ensure that the correct quantities are allocated to the appropriate components.

Challenges with traceability

Even with traceability software in place, obtaining supply chain information and data can be challenging. Due to business sensitivity and commercial contracts, not all suppliers are willing to share information about their upstream supply chains. In such cases, we are likely to work with mapped raw materials rather than traced ones.

There is also a challenge related to the regulations of certain countries. For example, in China, which accounts for the majority of the world's rare earth element processing and refining*, many companies are state-owned and, as a result, do not disclose supply chain information down to the mine site level.

Our requirements for the traceability of risk materials are stringent, and it is evident that the landscape of transparent supply chains is continually evolving. We are optimistic about advancing this further with the support of emerging regulations, such as the new EU Battery Regulation and the CSDDD, which clearly emphasise the need for supply chain transparency.

Supply chain visibility

In addition to Polestar's risk material traceability initiative, which focuses on implementing the most suitable traceability solution for each material down to tier x, this initiative aims to gain insights into all supply chains, regardless of whether they contain a risk raw material or not.

The purpose of this initiative is to mitigate geographical risks associated with specific areas, regions, or countries, thereby avoiding biodiversity hotspots, indigenous peoples, and uncontacted tribes. It also serves as a tool to compile other supply chain sustainability information, such as supplier climate performance and the share of renewable energy used. This will be an ongoing effort, with the mapped supply chains from the Materials Traceability initiative feeding into this initiative. Together with increased regulations, this will support us in gathering more comprehensive information about the sustainability performance of our supply chains.

*material-insights.org

Transparency
The cars

Polestar 2

Polestar 2 is manufactured by Volvo Cars and is equipped with a battery from either CATL or LG. LG batteries are scheduled to be phased out by 2025. Conflict minerals, including tin, tantalum, tungsten, and gold, are reported through the Conflict Minerals Reporting Template (CMRT) via the Assent platform. Leather is sourced from Bridge of Weir, with origins traceable to farms in the UK and/or Ireland.

— Traceability of battery materials

The traceability of LG and CATL batteries involves a collaboration between Volvo Cars and Polestar, using Circulor as the traceability platform provider to track the following materials:

- Nickel
- Cobalt
- Lithium
- Mica

Polestar 3

Polestar 3 is manufactured by Volvo Cars, with batteries supplied by CATL. Conflict minerals, including tin, tantalum, tungsten, and gold, are reported through the Conflict Minerals Reporting Template (CMRT) via the Assent platform. Leather is sourced from Bridge of Weir, with origins traceable to farms in the UK and/or Ireland. The wool used in Polestar 3 is sourced from farms that adopt a progressive approach to land management and animal welfare, with traceability certified from origin to the yarn stage of production.

— Traceability of battery materials

Traceability of CATL batteries involves a collaboration between Volvo Cars and Polestar, using Circulor as the traceability platform provider to track the following materials:

- Nickel
- Cobalt
- Lithium
- Mica
- Graphite*

Polestar 4

Polestar 4 is manufactured by Geely, with batteries from CATL and VREMT. The VREMT batteries are no longer in production. Conflict minerals, including tin, tantalum, tungsten, and gold, are reported through the Conflict Minerals Reporting Template (CMRT) via the Assent platform. Our leather is sourced from Bridge of Weir, with origins traceable to farms in the UK and/or Ireland. The hides can be traced back to the farm they came from. For our battery risk materials, we have the following setup:

— Traceability of battery materials

VREMT battery traceability was conducted through supply chain mapping by Geely, with supporting traceability data from Geetracer, Geely's own traceability-as-a-service platform.
The materials included:

- Nickel
- Cobalt
- Lithium
- Mica
- Manganese
- REEs (Nd, Pr)
- Graphite*

CATL battery traceability is conducted through supply chain mapping by Geely and CATL for the following battery materials**:

- Nickel
- Cobalt
- Lithium
- Mica
- Graphite*
- Manganese
- Aluminium (Can & Foil)
- Copper (Foil)

Polestar 5

Polestar 5 is developed by Polestar and manufactured by Geely with batteries supplied by SK On. As production did not commence in 2024, conflict minerals, including tin, tantalum, tungsten, and gold, will be reported through the Conflict Minerals Reporting Template (CMRT) via the Assent platform starting in 2025. Leather will be sourced from Bridge of Weir, with origins traceable to farms in the UK and/or Ireland. The hides can be traced back to the farm they originated from.

— Traceability of battery materials

Traceability for Polestar 5 battery risk materials will begin in 2025 for the following materials:

- Nickel
- Cobalt
- Lithium
- Mica
- Manganese
- Graphite*
- Aluminium
- Copper

*Graphite used in electric vehicle batteries can be both natural and/or synthetic. Natural graphite is considered a risk raw material, necessitating a traced supply chain when used. For synthetic graphite, where mine traceability is not applicable, verification is required through audits or supporting documentation to prove its origin. This approach aligns with the EU Battery Regulation.

**As this level of traceability does not meet our preferences, efforts are underway to enhance the traceability for Polestar 4, transitioning from a mapped supply chain to a fully traced supply chain.

Environmental information

Climate change
Introduction

It is recognised that while our cars contribute to the climate transition, they can also introduce new sustainability challenges. There is a reliance on resources that are under increasing strain, and there is a responsibility to address these risks. A commitment is made to lowering our environmental footprint, protecting biodiversity, and using resources responsibly. By systematically addressing these risks and dependencies, actions are ensured to contribute to long-term resilience and align with the urgent need for sustainable development.

By having long-term incentive programmes tied to the reduction of greenhouse gas (GHG) emissions per car, we create awareness of our annual progress to the group management, and it highlights how important the transition to a climate-neutral society is for us. Our climate experts calculate the maximum level of GHG emissions per vehicle allowed each year, and our roadmap gives input to the target levels in this incentive programme.

Climate change
Material impacts, risks, and opportunities

Identifying risks and opportunities related to climate impact

As a part of our double materiality assessment (DMA), we identified and assessed risks and opportunities related to climate change. The assessment examined sub-topics such as climate change mitigation, climate change adaptation, and energy use.

Insights gained from the DMA together with our risk management process, assist us in reducing GHG emissions, enhancing resilience to climate risks, and supporting global efforts to combat climate change.

Read more →
Double materiality assessment

The subtopics

— Climate change mitigation

Polestar's operations and value chain generate significant GHG emissions, particularly from material sourcing and manufacturing. While electric vehicles can eliminate emissions during their use phase, the production process remains a key contributor to global warming.

To address these challenges, we are integrating renewable energy into production, reducing the cradle-to-gate* carbon footprint of our vehicles, and working with research towards GHG elimination through the Polestar 0 project and the Mission 0 House. Additionally, we face risks such as regulatory changes, rising carbon costs, and delays in innovation, which could impact profitability and reputation. However, the growing demand for low-emission vehicles and renewable energy adoption offers significant opportunities to enhance competitiveness and market share.

— Climate change adaptation

Physical risks, including increasing extreme weather events such as storms, floods, and heatwaves, pose significant threats to the supply chain and production processes. These events can disrupt operations and lead to increased electricity costs, as well as escalating operational expenses. Changes in precipitation patterns and rising sea levels further threaten the availability of raw materials and infrastructure, impacting production capacity. Additionally, rising temperatures can reduce the efficiency of facilities, resulting in interruptions and higher costs.

In addition to physical risks, transition risks arise as global climate policies evolve. These include potential increases in carbon pricing and changes in emissions trading systems, which can raise operational costs. Reduced government incentives for electric vehicles may also affect demand for products, and the transition to a low-carbon economy could lead to energy shortages that disrupt production.

Similar to our climate change mitigation efforts, we tackle these challenges by incorporating renewable energy in production, reducing the cradle-to-gate carbon footprint, and launching the Polestar 0 project. A significant insight, however, is that even though the evolution of climate policies poses risks for us, it also offers opportunities through the growing demand for low-emission vehicles and renewable energy, which can enhance competitiveness and increase market share.

— Energy

Polestar's reliance on natural gas for energy-intensive processes contributes significantly to our carbon footprint, despite renewable electricity being used across all facilities. Risks emerge from potential energy price volatility, inadequate grid capacity, and slow global adoption of renewables, which could hinder the achievement of emissions targets.

However, investments in energy efficiency, fast-charging technologies, and renewable energy solutions provide a clear pathway to reducing costs, mitigating risks, and supporting the global transition to sustainable energy systems.

*Cradle-to-gate is an assessment of a partial product life cycle from resource extraction (cradle) to the factory gate (i.e., before it is transported to the consumer).

Climate change
In-depth analyses

Resilience analysis

To evaluate Polestar's ability to withstand and adapt to the physical and transitional climate risks, a resilience analysis was conducted. This analysis includes a climate scenario analysis, evaluating the potential impacts of these risks on operations and strategic objectives. The scope of the analysis covers all operations of Polestar Automotive Holding UK PLC, "Polestar Group", and the subsidiaries, as well as our value chain.

Resilience in the business model

Polestar's business model is strategically designed to accelerate the shift towards sustainable mobility. Operations are continuously assessed and adapted to ensure access to capital at reasonable costs, leveraging innovative financing structures and collaborating with stakeholders to secure affordable financing. Through climate targets and our roadmap, coupled with the Polestar 0 project, progress can be monitored and necessary changes integrated into the business strategy.

Furthermore, the roadmap equips Polestar to handle transition risks in scenarios demanding lower emissions. These risks include potential increases in carbon pricing and the perception risks associated with not contributing effectively to a low-carbon economy.

As a light-asset company, a key to gaining resilience against a high-emission scenario is for us to engage with our suppliers and integrate climate risks into the due diligence process. Key manufacturing business partners are encouraged to adapt their sites to a changing climate, implement renewable energy and measures for energy efficiency, and maintain an active dialogue to manage the cost of goods and services. In addition, operating as a light asset company allows flexibility in manufacturing and provides the ability to adapt to future scenarios if needed.

By proactively responding and adapting to climate-related transition and physical risks, our business model and strategy are well positioned to manage these risks and realise the potential benefits from emerging climate-related opportunities.

Risk process and management*

The Task Force on Climate-related Financial Disclosures (TCFD) has developed recommendations to assist companies and organisations to better identify, prioritise, manage, and publicly disclose information about their significant climate-related risks and opportunities.

To identify and assess our climate-related risks and opportunities, we have undertaken several key actions:

- An initial comprehensive list of climate-related risks and opportunities was developed, directly informed by and aligned with the TCFD categories: transition risks, physical risks, and opportunities, along with their sub-categories. This list and the broader risk assessment process encompassed company-wide risks and opportunities, as well as the entire value chain, including direct operations, upstream, downstream, and end-of-life management, with a focus on our key suppliers and regions.
- We defined the likely potential financial impacts of each of these risks and opportunities for our business. Examples include higher operating costs, increased capital expenditure, and access to capital.
- We conducted an initial risk assessment to identify and prioritise Polestar's most significant climate-related risks and opportunities for the short term (2023–2025). Our climate risk assessment framework, aligned with our company-wide enterprise risk management (ERM) framework, employs a structured three-level scale (low, medium, high) for both likelihood and consequence. This approach ensures that we focus on material risks and opportunities classified as 'high' from both perspectives, supporting informed and proactive decision-making
- A company-wide climate-related scenario analysis was conducted to assess 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). In coming years, we intend 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.

Assumptions behind risk assessment

Polestar expects macroeconomic conditions to change due to new regulations and shifting consumer habits. This includes more government incentives for electric vehicles, carbon taxes, and stricter emissions regulations, which should drive the growth of the electric vehicle market and give sustainability-focused companies an advantage.

We assume that global energy systems will continue to transition to renewable energy. These calculations are based on how the energy mix changes in markets where Polestar aims to grow. Although these are assumptions, the global trend towards renewable energy, confirmed at COP28 by entities such as the International Energy Agency, shows that this is happening, particularly in China, the EU, and the USA.

The risk analysis mainly used regional and national climate data instead of site-specific coordinates. Specific site data was only used for the production site in Taizhou, China, where Polestar 2 is manufactured by Volvo Cars and where there is an extreme risk of storms and floods. When detailed data was unavailable, assumptions were made based on broader geographic data to estimate the risk of climate-related events.

*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. The risk assessment is reviewed annually and updated when necessary.

Climate change
In-depth analyses

Climate-related scenario analysis

Polestar has conducted a climate scenario analysis to evaluate the potential impacts of climate change on our business. This analysis aims to identify climate-related risks and opportunities that may emerge during different climate scenarios and time horizons: short-term, medium-term (2026–2030), and long-term (2031–2050). A scenario is a plausible description of how the future may develop based on a coherent and internally consistent set of assumptions.

These scenarios were chosen because they present divergent views on future levels of climate change and the associated policy responses. We selected two scenarios that represent distinctly different pathways and assumptions, enabling the exploration of various plausible outcomes.

The assumptions used in the scenario analysis for physical risks were consistent with the SSP5-8.5 scenario (a high-emission pathway characterised by continued fossil fuel use and significant climate impacts) and included, but were not limited to, qualitative narratives and/or quantitative indicators relating to drought, flooding, sea level rise, changes in mean temperatures, and changes in precipitation.

The assumptions used in the scenario analysis for transition risks were consistent with the Net Zero Emissions by 2050 Scenario (NZE) of the International Energy Agency (IEA). The NZE IEA is a pathway to achieve net zero emissions globally by 2050, involving rapid shifts to renewable energy, electrification, and policy measures like carbon pricing. These assumptions included, but were not limited to, qualitative narratives and/or quantitative indicators relating to carbon price, technology costs, global electricity demand and supply, and road transport-related assumptions such as the uptake of electric vehicles.

The scenarios applied in the Polestar analysis are designed to support stakeholders in comparing our climate resilience with that of other original equipment manufacturers (OEMs). These two scenarios were utilised to assess future impacts on our business over medium and long-term time horizons, considering Polestar's value chain and existing mitigation strategies. The assumptions made align with the climate-related risks stated in the UK annual report.

Both scenarios are widely used and accepted; however, like all climate scenarios, they include assumptions and uncertainties. This is particularly relevant for scenarios that represent upper and lower levels of temperature change.

Transition risks were evaluated 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 using the high-emission scenario, where higher levels of physical risks are likely to occur as a result of climate change. Polestar acknowledges that physical risks will be present in scenarios with lower temperature rises, but at this stage, the analysis is limited to focusing on a future with more severe potential physical impacts.

Climate scenarios

	Low-emissions scenario	High-emissions scenario
Scenario & underlying model	Net Zero Emissions by 2050 scenario (NZE) International Energy Agency (IEA)	Representative Concentration Pathways 8.5 (RCPB.5) and Shared Socioeconomic Pathways 5–8.5 (SSPS-8.5) 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

Climate change
In-depth analyses

We identified ten short-term material climate-related risks and opportunities, comprising:

- Transition risks (4)
- Physical risks (4)
- Opportunities (2).

The identified risks and opportunities are shown in the adjacent table.

We have also examined how these factors may impact our business model and strategy over time. Generally, compared to short-term risks, our:

- Transition risks may remain at the same level 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

The results from the analysis and how the business model and strategy withstand these risks are shown in the adjacent table.

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

Description of short-term risks

Transition risks (low-emission scenario)	Potential financial impact	Medium-term	Long-term	Impact on the business model and strategy to mitigate 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	↗	↗	Our business model builds on sales of EVs and has established a progressive climate roadmap positioning us at the forefront in terms of cutting greenhouse gas emissions to mitigate the risk of greenhouse gas emission related 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 Increased Revenues	↗	↘	We are working to set the right prices for each market and have implemented cost reduction programmes for our cars. To have and attractive offer and a strong brand is a key priority for us together with a clear business plan regarding market expansion and sales. In addition, we work with advocacy around EVs and the need for support in terms of incentives.
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	→	↘	Energy management and efficiency is considered when establishing or choosing a new production site. The implementation of environmental certifications such as LEED and other standards confirm our work with efficient use of energy in existing plants. We also set requirements on suppliers to meet targets on energy source and energy efficiency management.
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	→	↘	We have established a progressive climate roadmap to reach our target of becoming climate neutral in 2040 and halve emissions per vehicle sold by 2030. The company's target to produce a climate neutral car without offset by 2030 is key strategic focus together with the detailed climate targets set for each car model produced. Through our public LCAs and PSD as well as our Sustainability report we ensure transparency towards our stakeholders regarding progress against our targets.

↗ Risk exposure increases → Risk exposure stable ↘ Risk exposure decreses

Climate change
In-depth analyses

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

Description of short-term risks

Physical risks (high-emission scenario)	Potential financial impact	Medium-term	Long-term	Impact on the business model and strategy to mitigate risks
Increased severity of extreme weather events, leading to higher electricity prices	Higher operating costs, Lower revenues	→	↗	We have established a due diligence process for new markets/production facilities which includes consideration of climate-related physical risks. We keep an active dialogue with suppliers to manage the cost of goods and services.
Changes in precipitation patterns and variability in weather patterns leading to higher cost of raw materials from suppliers in affected regions	Higher costs	↗	↗	We have established a due diligence process for new markets/production facilities which includes consideration of climate-related physical risks. We keep an active dialogue with suppliers to manage the cost of goods and services.
Rising sea levels, leading to higher cost of raw materials from suppliers in affected regions	Higher costs	→	↗	We have established a due diligence process for new markets/production facilities which includes consideration of climate-related physical risks. We keep an active dialogue with suppliers to manage the cost of goods and services.
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	↗	↗	We are encouraging key manufacturing business partners to adapt their sites to a changing climate, implement renewable energy and measures for energy efficiency and keeps an active dialogue to manage the cost of goods and services.

↗ Risk exposure increases → Risk exposure stable ↘ Risk exposure decreses

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

Description of short-term risks

Transition opportunities (low-emission scenario)	Potential financial impact	Medium-term	Long-term	Impact on the business model and strategy to mitigate risks
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	↗	↗	We are working to set the right prices for each market and have implemented cost reduction programmes for our cars. To have an attractive offer and a strong brand is a key priority for us together with a clear business plan regarding market expansion and sales. In addition, we work with advocacy around EVs and the need for support in terms of incentives.
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	↗	↗	We have established a progressive climate roadmap to reach our target of becoming climate neutral in 2040 and halve emissions per vehicle sold by 2030. The company's target to produce a climate neutral car without offsets by 2030 is key strategic focus together with the detailed climate targets set for each car model produced. Through our public LCAs and PSD as well as our Sustainability report we ensure transparency towards our stakeholders regarding progress against our targets.

↗ Opportunity improves → Opportunity stable ↘ Opportunity decreses

Climate change
Policy and position papers

Policy and position papers underpinning Polestar's climate strategy

Polestar has adopted a Sustainability Policy outlining our commitment and expectations for managing and continuously improving performance in material sustainability issues, including climate change. This policy, approved by the Group Management Team, applies to all employees at Polestar Automotive Holding UK PLC and its subsidiaries.

The climate position paper fully acknowledges our responsibility and role in the transition towards a climate neutral future. It outlines our definitions of renewable energy, nuclear power, and carbon offsetting, as well as our commitment to becoming a climate-neutral company by 2040. This position paper has been approved by the Group Management Team and is under review for publication. A climate adaptation policy has not yet been established.

Climate change is specifically also addressed in the circularity roadmap, emphasising the importance of circular resource flows in order to operate within planetary boundaries and reduce our climate footprint.

In addition, Polestar supports the World Wide Fund for Nature (WWF) initiative on the moratorium of deep-sea mining, joining other leading companies in promoting environmental stewardship.

Climate change
Strategy

Levels of innovation

Our target is to achieve climate neutrality by 2040, striving to eliminate a minimum of 90% GHG emissions per vehicle sold compared to the 2020 base year. This allows for a maximum of 10% carbon removals in 2040 of the 2020 base year emission levels, provided they meet the highest standards of quality and environmental integrity.

From an industry perspective, two key goals must be achieved to fulfil the promise of electric vehicles and attain climate neutrality: vehicles need to be charged with electricity from fossil-free sources, and supply chains need to be decarbonised.

Accomplishing this task is both complex and demanding. We have classified the solution into three different levels.

Level 1
Solutions ready for car programme

This level involves well-known and widely adopted technologies, such as purchasing aluminium manufactured with renewable electricity and incorporating renewable electricity at various stages of material and vehicle production. To ensure maximum utilisation of existing solutions, continuous efforts are made to improve models already in production, while also using these solutions as fundamental requirements for future models.

Level 2
Applied Science

This pertains to processes that exist but have limited spread and application, or existing methods used for different purposes in another environment or industry. These methods need to be adjusted, tested, and proven effective to be implemented in a new industry with the ambition of eliminating GHG emissions.

Level 3
Research

Currently, components such as batteries, electronics, and even basic elements like tyres, glass, and plastics cannot be manufactured without leaving a carbon footprint. Therefore, long-term collaborative projects aimed at discovering innovative elimination methods are essential – not just for Polestar, but for the entire industry. Initiatives delivering on this hold the dual potential of benefiting the climate and generating business value, offering viable solutions in a world transitioning towards a climate neutral society.

We recognise that while carbon removals offer potential for reducing GHG emissions, reliance solely on them is not feasible. Instead, carbon removals are viewed as a final option for mitigating emissions in the value chain, particularly those beyond direct control. The carbon removal market is in its early stages, with uncertain future scalability. In light of this, we are vigilantly monitoring market developments to stay informed and adapt as necessary.

Climate change
Strategy

The roadmap

To support the transition towards a low-carbon economy, Polestar has developed a comprehensive roadmap outlining the necessary actions to reduce emissions and align business strategy and resource allocation with our targets. This climate roadmap is structured around five strategic initiatives:

- Climate neutral materials
- Climate neutral manufacturing
- Renewable energy in the supply chain
- Climate neutral logistics
- Fossil free charging solutions

In addition, we have five initiatives on a corporate level which include business travel, events, spaces, offices and premises, and digital operations. These initiatives are not substantial contributors to our roadmap as these areas are not determined to be a significant source of emissions.

Targets are based on directives from the Intergovernmental Panel on Climate Change (IPCC), and developments within the sector are closely followed to further align targets with scientific evidence and the 1.5°C Paris Agreement. The overarching climate target is to achieve climate neutrality across the value chain by 2040.

Read more →
Climate targets

However, there is a paradox shared with companies delivering clear climate solutions: each product sold contributes to the reduction of GHG emissions in the use-phase but also leaves an environmental footprint. To have a significant positive climate impact, substantial growth is necessary, which initially leads to a corresponding increase in absolute GHG emissions as production ramps up.

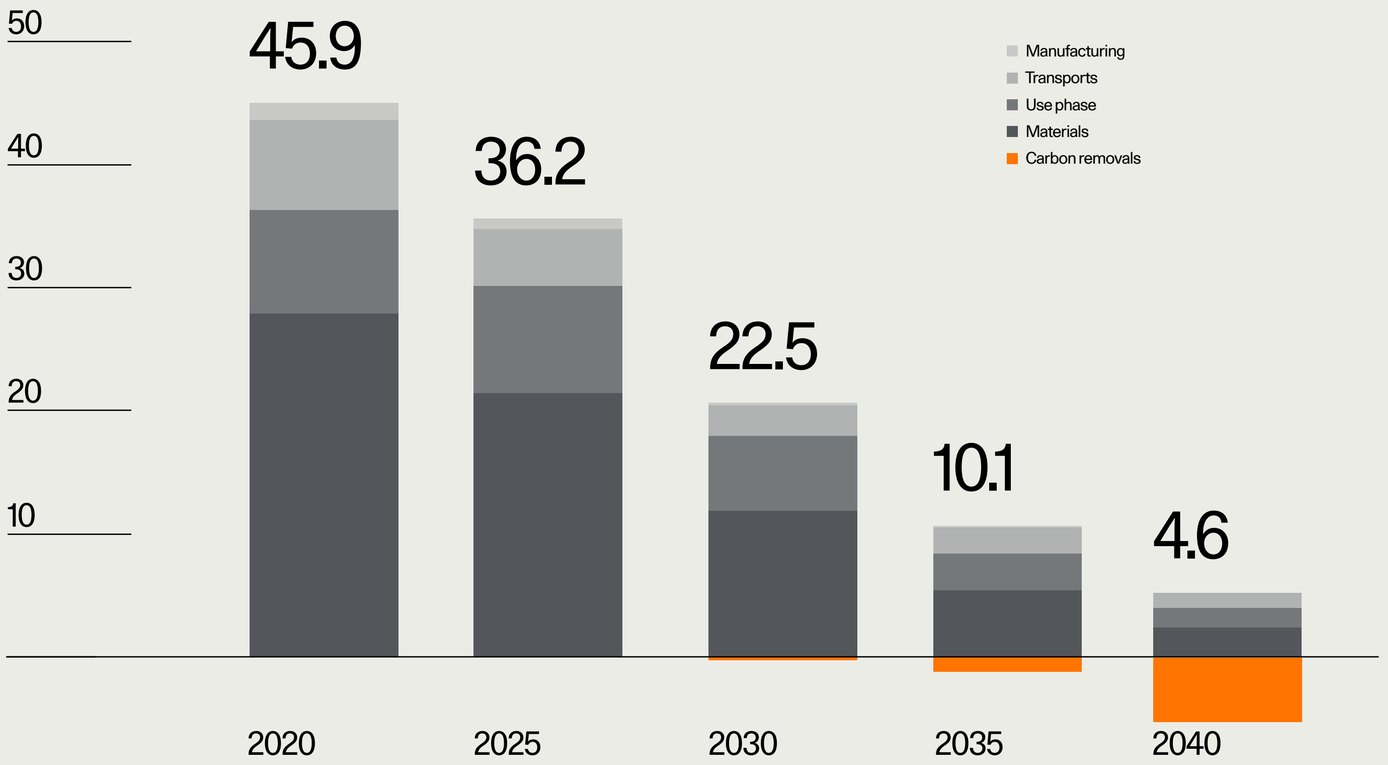
At Polestar, the relationship between growth and sustainability is emphasised, with a clear strategy to separate growth from the carbon footprint. Currently, a promising trend is being witnessed: economic growth is outpacing the rise in GHG emissions, indicating a decoupling effect.

Furthermore, the target is set to halve GHG emissions per vehicle sold by 2030, compared with the 2020 baseline. Achieving this requires economic decoupling, where economic growth no longer depends on increased GHG emissions. The necessary average emissions per vehicle sold for the years 2025, 2030, 2035, and 2040 are known to reach climate neutrality.

Based on these targets and sales volume projections, we are setting targets for tonnes of GHGs per car for each programme to be reached at the production start. The climate target for each programme is translated into specific actions and allocated resources within each business area.

*Increase in the GHG emissions per vehicle sold (reductions in use phase) in 2025 and forward is due to the change in the volume mix of cars sold in different markets. The base year 2020 had a high share of cars sold in Europe with a relatively clean electricity grid mix. From 2025 and forward the share of sales in other regions is estimated to increase, leading to a slight increase in the share of GHG emissions in 2025 before they start to decrease.

Roadmap targets per vehicle sold (tCO_2e)*



Climate change
Strategy

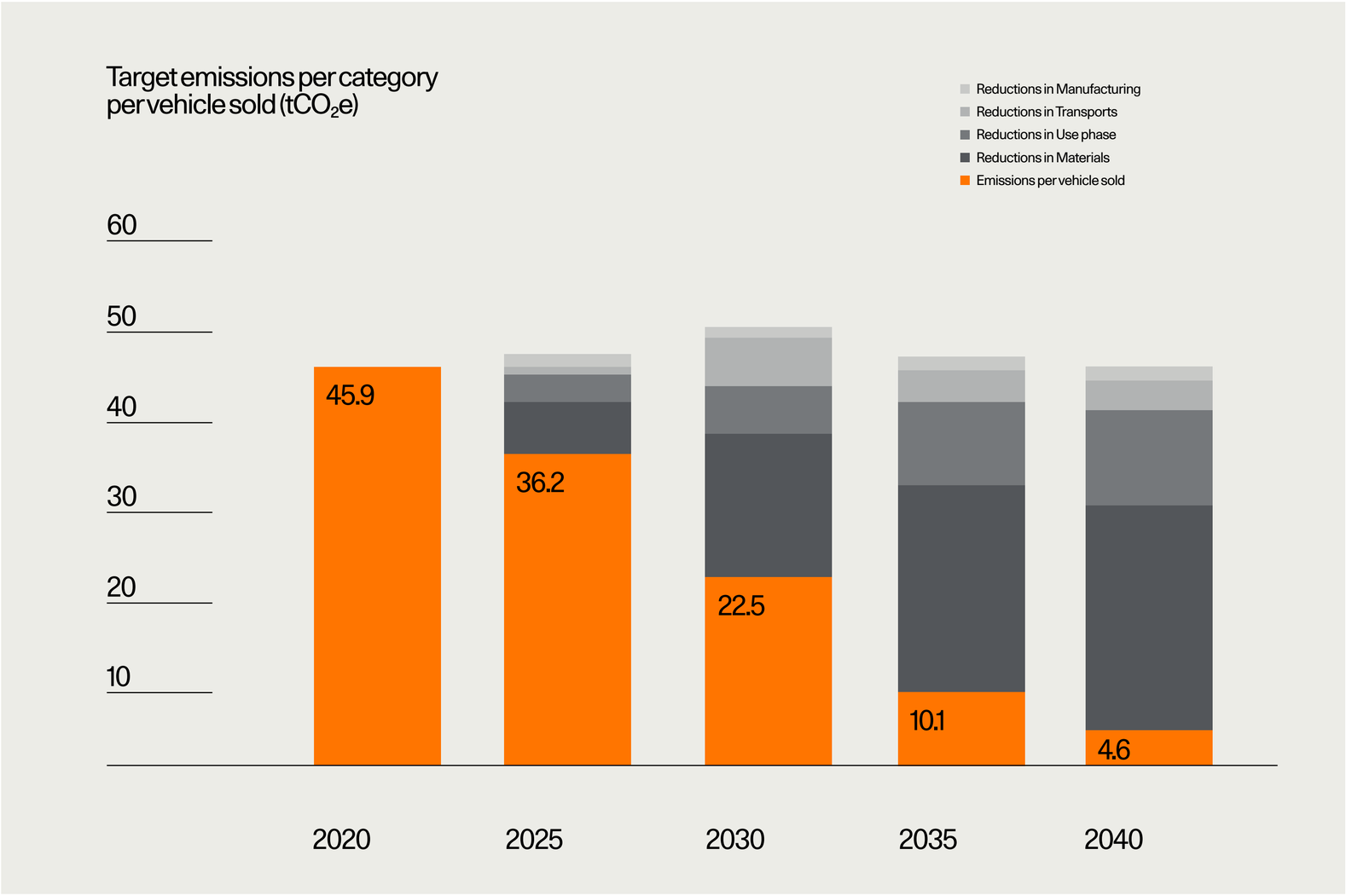
— Emission reduction per vehicle

The key to reducing overall GHG emissions is ensuring each car has the smallest environmental footprint over its lifetime. The diagram illustrates the footprint of Polestar cars and outlines the plan to reduce it by 2040.

As an automotive company, there is significant potential for CO_2 mitigation within the value chain, which is our highest priority. To reach our climate targets, the focus is on eliminating GHG emissions through a range of decarbonising levers, such as:

- Resource efficiency
- Energy efficiency
- Process and technology innovation
- Switching to fossil-free energy

Read more →
Actions



Climate change
Strategy

Most of our GHG emissions originate from the extraction and processing of materials. Detailed analysis of these emissions helps identify significant opportunities for impact, guiding focus and investments.

The second-largest category of GHG emissions is the use phase, which refers to the electricity customers use to charge their cars. Achieving our goals requires a transition from fossil fuel to fossil-free energy sources in the markets where our cars are sold.

Lastly, GHG emissions from logistics and manufacturing present distinct challenges. However, manufacturing is now undergoing a positive transformation towards lower emissions, and within logistics we continue to move towards more renewable fuels and further collaborate with stakeholders in the value chain to increase efficiency and lower emissions. We are dedicated to addressing the challenges ahead, with action plans in place that will enable us to fulfil the transition plan.

Exponential Roadmap Initiative

Polestar is a member of the Exponential Roadmap Initiative, a collaborative climate initiative which brings together some of the world's most progressive companies to drive exponential action to halve emissions by 2030. The initiative is an accredited partner of the Race to Zero, led by the High-Level Climate Champions, which is the largest ever alliance working to halve global emissions by 2030 in line with the Paris Agreement, with transparent action plans and near-term targets.

Recognising the critical role of supply chains in the climate transition, Polestar is part of the 1.5 °C Supply Chain Leaders partnership – founded within the Exponential Roadmap Initiative – alongside companies like Ericsson, IKEA, BT Group, and Unilever. Together, we are working to find innovative, scalable solutions to accelerate emissions reductions across global supply chains.

Science Based Targets initiative

While Polestar fully supports the purpose and ambition of the Science Based Targets initiative (SBTi) and recognises the challenges and opportunities presented by the SBTi Land Transport Guidance, we believe the current framework does not fully reflect the unique trajectory of a growing, pure electric vehicle company.

The updated SBTi Land Transport Guidance, released in 2024, introduces a new 1.5°C target-setting approach for automakers, with alignment to the Energy Research Institute and the UN's Race to Zero prioritised. However, the guidance, as it stands, does not distinguish between pure EV companies and traditional OEM manufacturers. Its strong emphasis on phasing out petrol and diesel vehicles is commendable, but it presents challenges for us to commit to the SBTi as a young, pure electric vehicle company in a scale-up phase, where our emissions trajectory is different.

Polestar's climate targets are based on the directives of the Intergovernmental Panel on Climate Change (IPCC), and we closely monitor sector developments to ensure our targets are aligned with the latest scientific evidence and the 1.5°C goal of the Paris Agreement. Our overarching target is to achieve climate neutrality across our entire value chain by 2040. However, we face a paradox common to companies providing clear climate solutions: while each electric vehicle we produce contributes to reducing GHG emissions in the use-phase, compared to the use-phase of traditional ICE cars, the ramping up of production necessary for significant climate impact results in an initial increase in absolute GHG emissions.

We remain committed to monitoring the development of the SBTi guidance and are actively evaluating the potential for future alignment with the Science Based Targets initiative.

Read more →
Climate targets

Climate change
Actions

Concrete steps towards becoming a climate-neutral electric vehicle company

Our focus is set on tangible actions to reduce GHG emissions across the lifecycle of our vehicles. From enhancing energy efficiency and integrating low-carbon materials to transitioning to renewable energy and setting production carbon budgets for car programmes, every step is designed to deliver measurable climate impact. These actions, underpinned by ambitious carbon budgets and renewable energy commitments, reflect a dedication to driving real progress.

Polestar's approach to minimising greenhouse gas emissions from materials

The majority of GHG emissions originate from the extraction and processing of various materials, with aluminium, steel, and battery materials, accounting for the vast majority. Following these are thermoplastics and electronics. Efforts at Polestar focus on implementing existing solutions, advocating for emerging solutions, and actively addressing what is currently considered unsolvable.

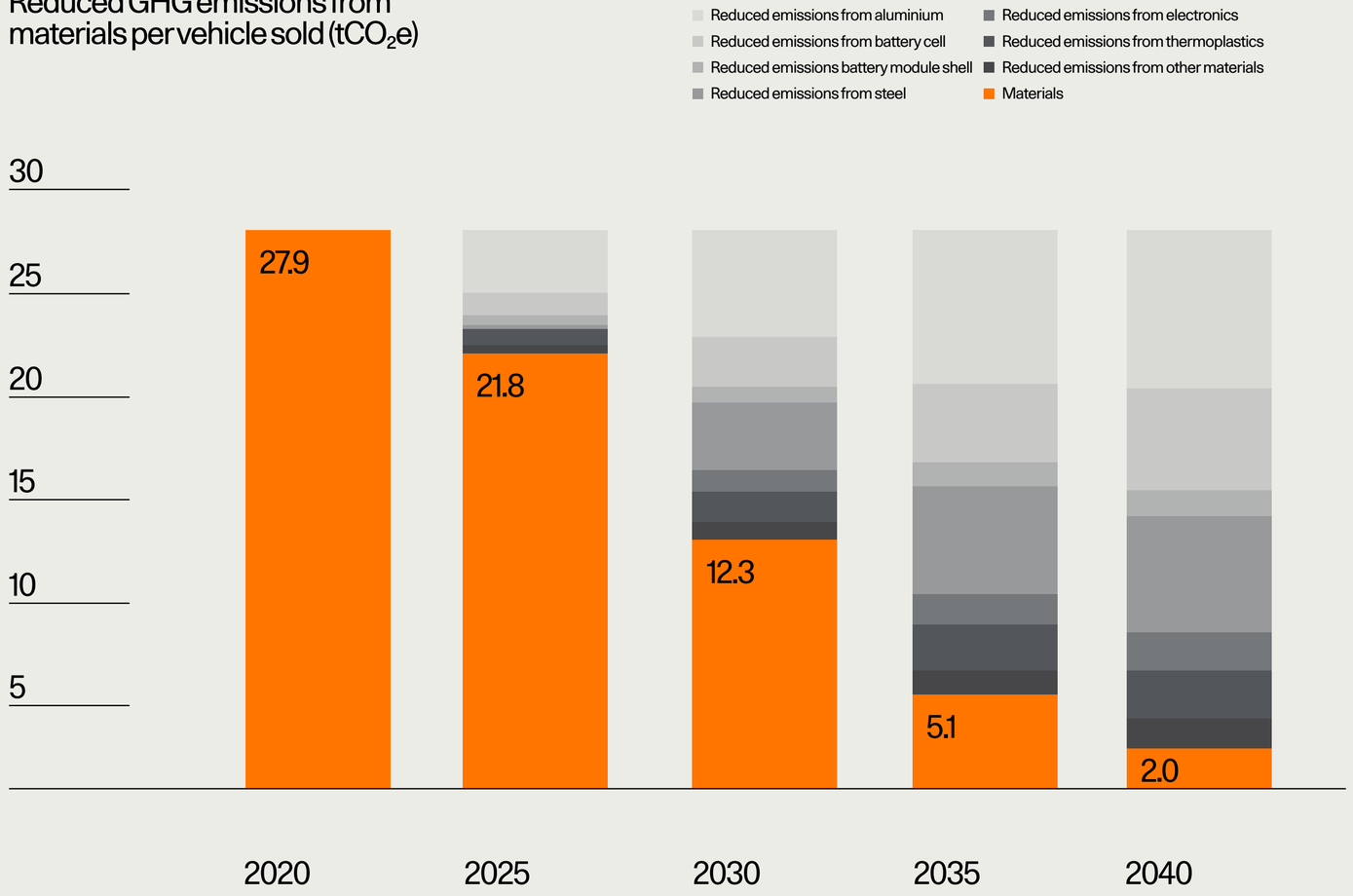
Existing solutions may involve purchasing aluminium produced using renewable electricity, emerging solutions could include fossil-free steel, and entirely new solutions may relate to electronics, tyres, and thermoplastics. The programme sustainability team is working closely to the vehicle programme with decarbonization efforts.

In 2024, we launched the Polestar 3 electric SUV with a cradle-to-gate carbon footprint of 24.7 tCO_2e compared to the 2020 Polestar 2 electric fastback at 26.1 tCO_2e. Material production and refining accounts for 68% of emissions, battery modules at 24%, logistics at 7%, and manufacturing at 1%. Within the material production and refining aluminium accounts for 35%, steel and iron for 24%, and polymers for 16%.

The approach to meeting the ambitious cradle-to-gate target for Polestar 3 drew on lessons from the carbon footprint reductions of Polestar 2. As a result, a significant portion of Polestar 3's total aluminium mass, along with the Li-ion battery cell module production and anode and cathode material production, uses 100% renewable electricity. This has eliminated 8.5 tCO_2e per vehicle.

In total, we reduced the relative emissions per vehicle sold to 21.0 tCO_2e (21.9) GHG emissions from materials in sold vehicles during 2024, a reduction of 4.1%, which aligns well with projections to reach the overall climate target. The decrease in relative emissions can be attributed to two key factors: the introduction of the Polestar 4, which boasts a lower material and battery carbon footprint compared to the Polestar 2, and the fact that the majority of Polestar 2 vehicles sold are from the 2023 and 2024 model years, both of which have a lower climate footprint than previous models.

Reduced GHG emissions from materials per vehicle sold (tCO_2e)



Climate change
Actions

Reducing use phase emissions

The second-largest category of GHG emissions occurs downstream in the value chain, during the use phase. By optimising the charging process based on external market signals, smart charging technology can reduce the environmental footprint of electric vehicle charging. For example, Polestar introduced the Polestar Energy app, which enables customers to engage in smart charging at home. This feature allows users to charge their vehicles when electricity is at its lowest cost, which most often correlates with a high degree of renewable energy in the grid. Customers can specify a desired departure time, and the app ensures the vehicle charges only when conditions are met. Moreover, by shifting energy consumption away from peak hours, smart charging alleviates strain on the energy grid, contributing to greater stability and security.

As an example, if a Dutch customer chooses to utilise smart charging and only charges at times of the lowest electricity price with their Polestar 3 Long Range Dual Motor throughout the car's lifetime, 4.5 tCO_2e (–34%) could be saved compared to not using the app and charging only during peak hours (18:00–22:00), when the portion of non-renewables in the electricity mix often is higher*.

During the year, Polestar launched a large-scale vehicle-to-grid (V2G) pilot project in Sweden in collaboration with key energy stakeholders. The project aims to explore scalable V2G business models, enhance grid flexibility, and promote the use of renewable energy. By utilising Polestar 3 cars with bidirectional charging, the initiative tests how electric vehicle batteries can support grid demand, reduce costs, and contribute to the energy transition. The results are expected to inform future grid planning and offer customers opportunities to monetise their vehicles while promoting renewable energy adoption. This project is a key step towards integrating electric vehicles into the broader energy ecosystem.

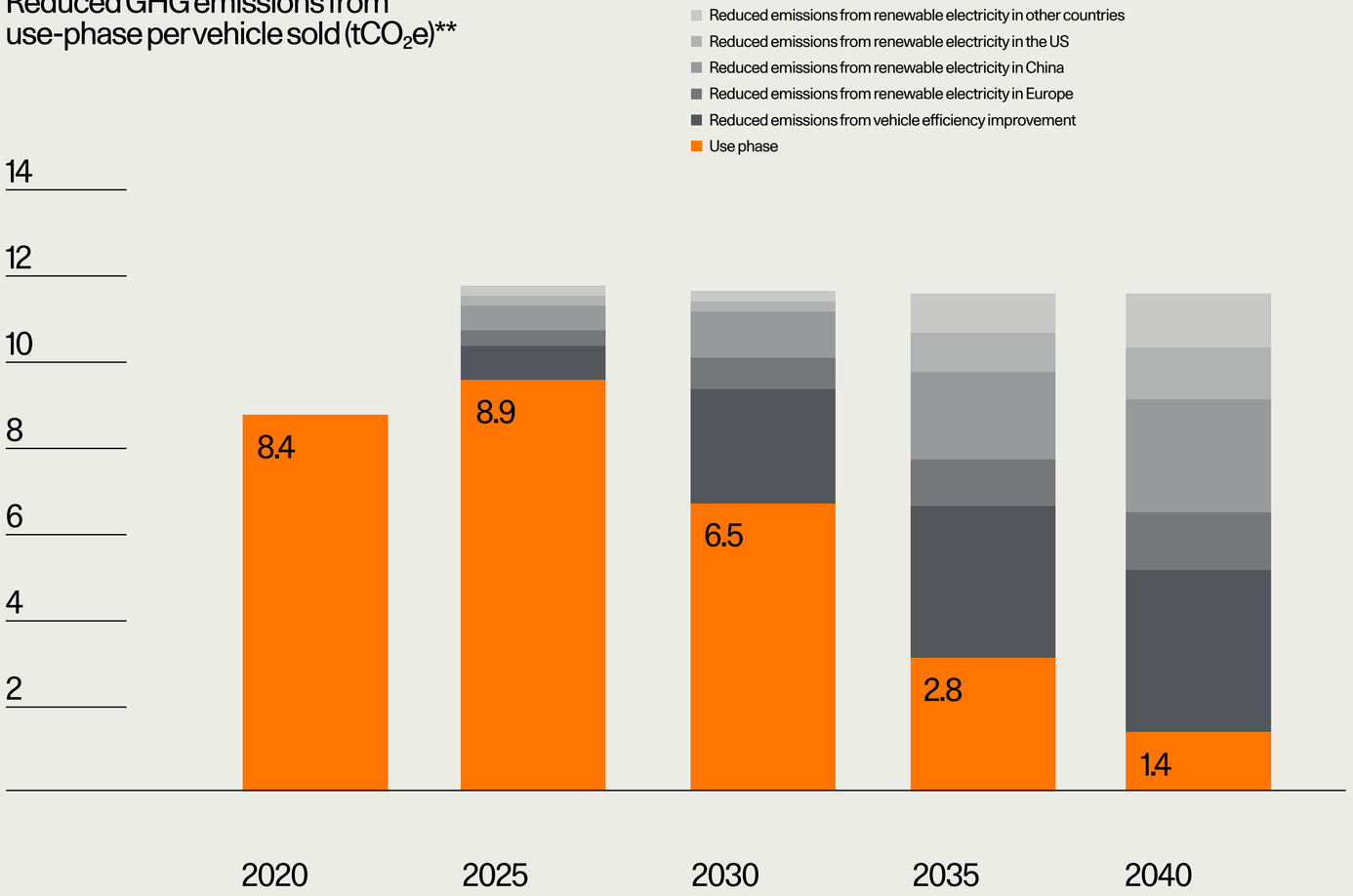
In 2024, we launched a renewable charging in-car app in the Netherlands to further support the transition to renewable energy usage when charging. The app shows real-time energy mix data, allowing drivers to charge when more renewable energy is available. For the Polestar 3, the use phase makes up 37% of its total climate impact when charged with a mixed energy grid, but this can be cut by up to 16 tCO_2e with renewable-only charging. Since changing behaviour is key to cutting global emissions by 40–70% by 2050, the app provides a practical way to promote more environmentally conscious charging habits and as a result reduce emissions during the vehicle's use phase.

In total, we reduced GHG emissions from the use-phase per vehicle sold by 15% compared to 2023 during 2024, which aligns with projections to reach the overall climate target. From 8.8 tCO_2e / vehicle sold in 2023 to 7.4 in 2024.

*Assuming a lifetime driving distance of 200,000 km, vehicle energy consumption of 19.6 kWh/100 km and the 2023 Dutch average hourly electricity mix, this assumes that the car on average charges between 11:00–15:00. This calculation assumes that the car will be charging during the four consecutive hours with the lowest cost /kWh over the course of an average day in the Netherlands in 2023. In reality if the car was connected to the charger for a full 24-hour period the car would charge at non-consecutive hours e.g., it would charge during the hours with the lowest cost regardless of whether they are consecutive or not, to meet the charge level and departure time set by the customer. The calculation assumes that the electricity mix does not improve over time, which it most likely will.

**The increase in GHG emissions per vehicle sold (reductions in the use phase) from 2025 onwards is due to changes in the volume mix of cars sold in different markets. The base year 2020 had a high share of cars sold in Europe, which has a relatively clean electricity grid mix. From 2025 onwards, the share of sales in other regions is expected to increase, leading to a slight rise in GHG emissions in 2025 before they begin to decrease.

Reduced GHG emissions from use-phase per vehicle sold (tCO_2e)**



Climate change
Actions

Manufacturing

— Switching to renewable energy

Securing renewable energy for our factories is crucial in achieving our climate targets. Consequently, we expanded our on-site solar photovoltaic power generation facilities in 2024.

Looking ahead, we will continue to increase solar power capacity at our sites to further enhance the share of renewable energy in our operations. Additionally, biomass gas made from food waste was introduced as an alternative source of heating at the Taizhou site, which is operated by VCC, and since 1 January 2024, biomass gas has provided reliable energy for this production site.

— Production site improvements

The body drying stage in automotive painting is a critical process that consumes a significant amount of energy and contributes substantially to GHG emissions. Traditionally, natural gas has been the primary energy source for this stage, but transitioning to renewable electricity can lead to a reduction in emissions by approximately 40% compared to conventional paint shops. This has been done in one of the Chinese production plants, resulting in it being the first in China to adopt electric drying ovens and Regenerative Thermal Oxidizer (RTO) exhaust gas incinerators. This innovative approach significantly reduces pollutant emissions.

In 2024, we implemented thermal oxidation and waterborne low-temperature paint to reduce volatile organic compounds (VOCs) generated from production processes. For instance, at our South Korea factory, a process was introduced to collect and recycle cleaning thinner, which reduced thinner usage and cut VOC emissions from body paint by 20%.

In total, we increased our GHG emissions from manufacturing per vehicle sold from 0.12 to 0.28 tCO_2e during 2024. This is mainly due to the Chongqing plant, which will produce the Polestar 5 later in 2025, not being operated using renewable electricity during 2024.This, in combination with only producing test vehicles instead of vehicles for sale resulted in increased total GHG emissions per sold vehicle. The plant is expected to source 100% renewable electricity once the production of Polestar 5 begins.

Logistics

To achieve climate targets and follow the roadmap, actions have been implemented to reduce the climate impact of logistics, Polestar's third-largest source of emissions. Since the start in 2020, Polestar has reduced the relative transport emissions per vehicle sold by 63%. This reduction is a result of several initiatives within the roadmap, focusing on shifting to more efficient transport modes and using alternative fuels. Furthermore, by aiming to source where production occurs, build where sales happen, and optimise packaging and loading, the transport need can be reduced, leading to a decrease in emissions.

In 2024, the Transport Climate Roadmap was updated to ensure alignment with long-term climate targets. This updated roadmap incorporates the development of a comprehensive emissions trajectory, enabling the modelling and forecasting of future emissions. We also conducted a detailed hotspot analysis to identify key areas of high emissions within transport activities. This analysis informs targeted actions to address these areas effectively. In addition, sustainability initiatives have advanced during the year by integrating renewable fuels into our ocean freight routes, which account for around 75% of Polestar's total logistics emissions.

— Inbound freight

The scope of one initiative includes all ocean bound inbound container shipping for Polestar 2 and Polestar 3 to the United States, EU, and China, as well as spare parts distribution. These routes now operate on 100% Fatty Acid Methyl Ester fuel, derived mainly from used cooking oil with no palm oil-related feedstock, resulting in an 84% emission reduction compared to fossil fuel.

— Outbound freight

An outbound freight initiative was launched at the beginning of 2024 and included 65% of the transportation from Asia to Polestar's Vehicle Processing Centre in Zeebrugge, Belgium. It is planned to expand to include all cars transported from the United States to Europe, starting in 2025. Through the utilisation of B30 Biofuel, which contains 30% Fatty Acid Methyl Ester, emissions from these shipping routes can be reduced by approximately 20–25% compared with conventional sulphur fuel oils.

In total, we reduced GHG emissions from logistics by 4.87% per vehicle sold during 2024, which aligns with projections to reach the overall climate target. The result is partly due to methodology changes made to align with the ISO 14083 standard, leading to an increase in sea and road transport. Furthermore, the results are explained by increased production levels during the second part of the year as well as higher inbound transport emissions for Polestar 3 due to limited localization and increased air transport.

Ongoing R&D to support decarbonisation

— Polestar 0 project

To support Polestar's goal of climate neutrality across operations by 2040, the Polestar 0 project issued out a call to action across the industry in 2021, to gather partners that set out working together towards the elimination of CO_2e in automotive, with the ultimate goal of creating a climate neutral car.

As the first planned phase of the Polestar 0 project is coming to an end, the project partners and Polestar are proud to announce that, across the companies' combined initiatives, important low carbon solutions have been identified. The joint efforts show potential to produce an equivalent of Polestar 2 with a CO_2e footprint that could be 10 tonnes lower today than when the project started in 2020, where the largest contributions to the total potential are within aluminium and steel material manufacturing.

The cradle-to-gate* carbon footprint of the 2020 launch edition Polestar 2 Long Range Dual Motor variant would go from about 26 tonnes to 16 tonnes of CO_2e by fully incorporating the solutions identified within the partnerships.

— Mission 0 House

Mission 0 House, initiated by Polestar, was created as a place where scientists from academia and engineers from the industry can work side by side, in the same office, in a true form of collaboration, with one single task– to eliminate anthropogenic greenhouse gas emissions from production of materials and products.

Led by Polestar and Lindholmen Science Park, Mission 0 House started as a pilot project in 2024. The initiative has allowed five Swedish universities to join Mission 0 House in Gothenburg: University of Borås, University West, Jönköping University, Karlstad University, and Mid Sweden University. The institutions will contribute scientific expertise and hire a total of 10 new postdoctoral researchers. These researchers, along with senior scientists, will work together to develop future emission-free manufacturing methods.

The companies Borgstena, Polestar, Sekab, and SSAB represent a broad industrial competence within the textile, automotive, chemical, and steel industries. Their involvement in Mission 0 House ensures that the research is relevant to real-world challenges, and the results have the potential to be effectively implemented by industry.

Two unique aspects of Mission 0 House are the emphasis on physical presence and close collaboration between industry and academia. This creates a dynamic environment where experts from different disciplines can meet and work together towards a common goal, promoting innovation and accelerating the development of solutions.

The ambition is to be able to expand Mission 0 House. More companies, institutions, and financiers are encouraged to join the initiative to contribute to a fossil-free future with modern materials and processes.

— R&D investments

Polestar exclusively sells EVs and according to CDP's definition* of low carbon products, it is assessed that 100% of the total company-wide R&D budget is invested in supporting the expansion of 'low carbon products' across various stages of development. We do not disclose the percentage of the R&D budget allocated to specific projects or stages of development.

— Financial Resources Dedicated to Our Climate Roadmap

Achieving the ambitions outlined in our climate roadmap requires substantial and sustained financial commitments, a responsibility we fully embrace. To meet our targets,financial resources are allocated to each strategic sustainability initiative and budgets are set up to align with our current and planned efforts within the roadmap. We acknowledge that delivering on our roadmap requires significant resources in the short, medium and long term. However, we are committed to making these investments to ensure that we fulfil our promise. In the coming years, we plan to develop our reporting further on the financial resources dedicated to our climate actions and roadmap.

*CDP's definition of 'low carbon product' is as follows: "CDP broadly defines a low carbon product/service as a product or service which has comparatively lower emissions across its entire life cycle (i.e. from material acquisition through to product end-of-life) when compared to a baseline (business-as-usual) scenario or reference product of a similar function. Note that a product can only be considered low carbon if its production and use does not prevent and/or contributes to reaching net-zero by 2050 or sooner".

Climate change
The cars

Our models' carbon footprint

Polestar is closely monitoring and setting targets for the car production footprint. This encompasses all GHG emissions from material extraction to when the car leaves the factory gate. Cradle-to-gate carbon budgets have been established for our car programmes, aligned with the Climate Roadmap, to motivate designers, engineers, and buyers to implement solutions that reduce emissions so the car is produced within its carbon budget. Additionally, the Sustainable Upgrades programme is being utilised to introduce more emission-reducing solutions through model year updates, ensuring improvements in the carbon footprint throughout the full production lifecycle.

— Polestar 2

- The 5-door electric performance fastback
- Reduced from 26.1 to 22.0–23.1 tCO_2e since 2020

The majority of a vehicle's GHG emissions originate from the extraction and processing of materials. Therefore, the approach to achieving the ambitious cradle-to-gate target for Polestar 3 incorporated insights from the carbon footprint reductions of Polestar 2.

— Polestar 3

- The electric performance SUV
- A lower footprint than Polestar 2 at launch 2020 (24.7 vs 26.1 tCO_2e)

Polestar 3 is manufactured by Volvo Cars in their Chengdu factory in China, and during 2024 the model started to be also produced in their South Carolina, USA factory. Both manufacturing plants use 100% renewable electricity. The carbon footprint of the Polestar 3 Long Range Dual Motor has increased since the publication of the first LCA report, with the Chengdu variant at 24.9 tCO_2e and the Charleston variant at 25.9 tCO_2e*, still lower than the Polestar 2 at launch. Polestar will continue to work with decreasing the carbon footprint of the Polestar 3.

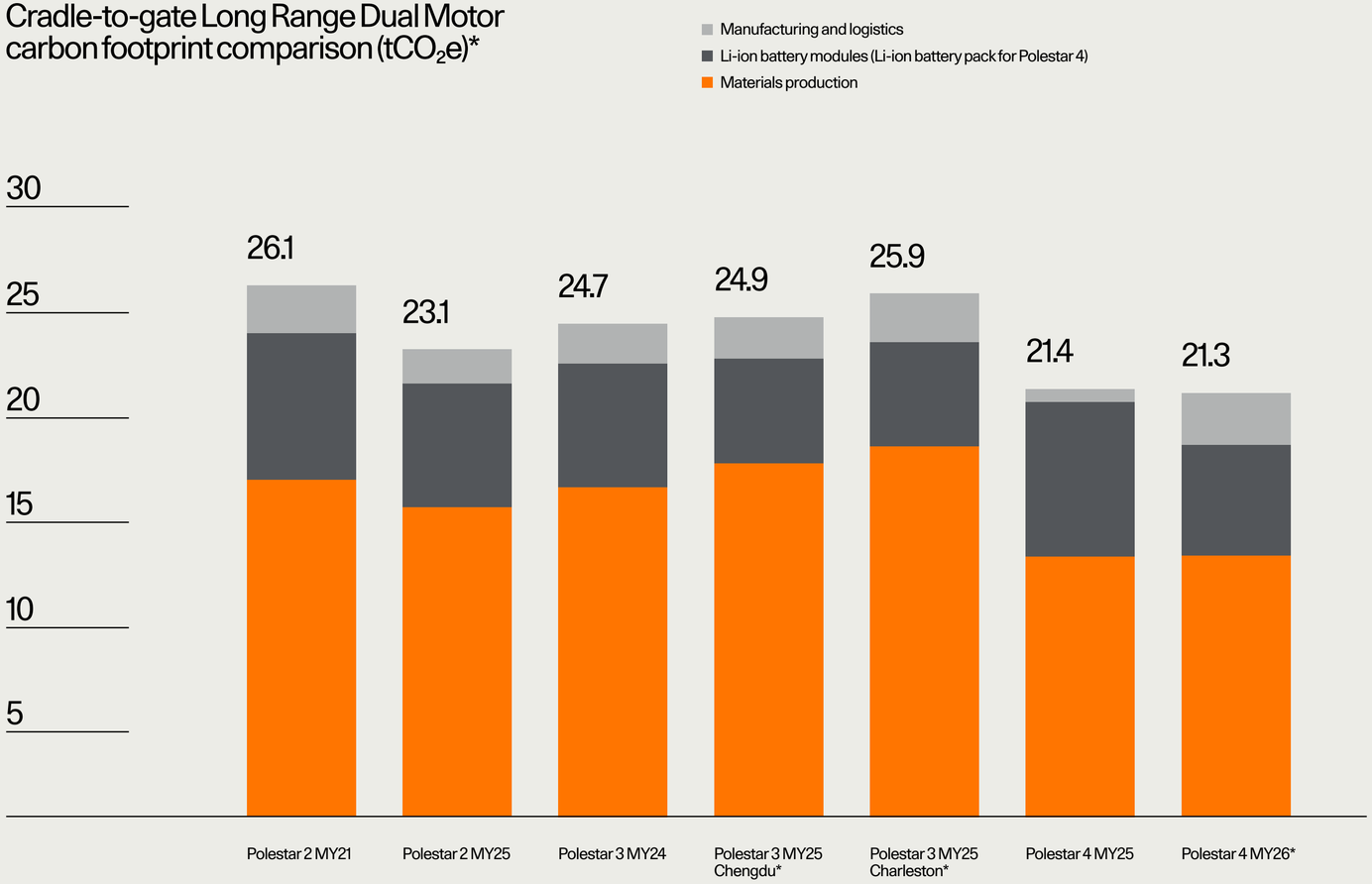
— Polestar 4

- The electric performance SUV coupé
- With the lowest launch footprint at 19.4–21.3 tCO_2e*

Polestar 4 is manufactured at Geely's SEA factory in Hangzhou Bay, China, where electricity from renewable sources is utilised through I-REC hydroelectric power certificates and solar energy from the plant's roof. The climate impact is further reduced by using low-emission aluminium from smelters powered by hydroelectric power. Next year, the production of Polestar 4 will also occur in Busan, South Korea. The Busan plant aims to halve its CO_2 emissions by 2030 and achieve carbon neutrality by 2040 through energy efficiency and renewable energy. Polestar 4 will be the first fully battery electric vehicle manufactured in Busan.

*Based on preliminary carbon footprint calculation, full life cycle assessment report to be published during Q2 2025.

Cradle-to-gate Long Range Dual Motor carbon footprint comparison (tCO_2e)*



Climate change
Targets

The climate roadmap is designed to support our financial and value creation goals, as well as to reduce GHG emissions per vehicle sold. The targets are well integrated within the core business, shaping and guiding how cars are designed, sourced, and manufactured within each programme. The targets are set based on the IPCC's recommendations, and developments in the industry are closely followed to further align targets with science-based methods. When setting the targets, several key stakeholders were involved, including the corporate sustainability team, internal experts within the car programmes, external experts, and the Group Management Team. The targets have not been externally verified.

Climate-neutral car by 2030

To support Polestar's target of climate-neutrality across operations by 2040, we collaborate with partners to eliminate greenhouse gas emissions from production of materials and products with the ultimate goal of creating a climate-neutral car.

Halving per-vehicle-sold GHG emissions by 2030

Polestar aims to halve GHG emissions per vehicle sold by 2030 compared to the 2020 base year, representing a 50% reduction in total GHG emissions (Scope 1, 2, and 3) per vehicle sold.

Climate-neutral company by 2040

Polestar aims to become a climate-neutral company by 2040 by reducing total GHG emissions (Scope 1, 2, and 3) per vehicle sold by at least 90% compared to the 2020 base year. This will allow for a maximum of 10% carbon removals in 2040 of the 2020 base year emission levels, provided they meet the highest standards of quality and environmental integrity. Polestar aligns with the Intergovernmental Panel on Climate Change's definition of "climate neutrality"*.

The climate roadmap is updated regularly to reflect the most recent product cycle plan and up-to-date volume plans. GHG emissions include all Scope 1, 2, and 3 emissions related to the production of cars, from raw material extraction to manufacturing, transportation, customer product usage, and eventual dismantling. The climate target therefore encompasses both our own operations and the value chain (upstream and downstream), without geographical boundaries on where activities occur.

Potentials for GHG emission reductions have been identified within all areas of the value chain, and the roadmap is based on this data. The remaining residual emissions per vehicle sold will be neutralised through carbon removals with high quality and environmental integrity. Ongoing efforts by entities such as the United Nations Framework Convention on Climate Change (UNFCCC), the GHG Protocol, and the EU Commission are actively tracked. During 2024, we did not procure any carbon removals. However, a potential and gradual phase-up is foreseen over time to neutralise residual emissions per vehicle sold by 2040.

Read more →
The roadmap

A consequence of efforts to reduce emissions is a surplus of carbon credits. By allocating these on the market, a revenue stream is created to finance parts of operations and scale-ups. This exemplifies how climate and business agendas are integrated.

*The IPCC defines "Climate neutrality" as a state where human activities have no net impact on the climate system. This involves balancing any remaining emissions with carbon dioxide removal and considering regional or local biogeophysical effects, such as changes in surface albedo or local climate. This concept is closely related to achieving "Net zero CO_2 emissions," where the amount of carbon dioxide emitted is equal to the amount removed from the atmosphere.

Progress 2024

Targets	Key performance indicators	Results 2024
Climate-neutral car by 2030	The actual outcomes of the Polestar 0 project are strictly confidential in order for us and our partners to develop them into real solutions. But the project also creates low carbon spinoff-solutions on the journey towards the target of greenhouse gas free solutions.	During 2024 the first part of Polestar 0 project phase ended, and the Mission 0 House came to light. So far, the research and the partnerships have shown potential of reducing future footprint with up to 10 tonnes CO_2e per car.
Halve carbon intensity by 2030	Polestar's annual Scope 1, 2 & 3 GHG emissions (tCO_2e) per vehicle sold	34.6 tonnes of CO_2e per vehicle sold
Climate-neutral company by 2040	Polestar's annual Scope 1, 2 & 3 GHG emissions (tCO_2e) per vehicle sold	34.6 tonnes of CO_2e per vehicle sold

Climate change
Metrics

Measuring and disclosing emissions

Polestar understands the significant impact of climate-related risks and opportunities on our business, the broader economy, and society. As a result, we:

- Measure and publicly disclose our direct and indirect (Scope 1, 2, and 3) GHG emissions in accordance with the GHG Protocol.
- Measure and publicly disclose our energy consumption, both within and outside our own operations.
- Measure a range of other indicators aligned with Polestar's material climate-related risks and opportunities.

Climate change
Metrics

The first table covers energy use within the organisation, i.e. where Polestar has operational control. This includes electricity and fuel from company-owned cars, and energy use (electricity and sometimes district heating or natural gas) in owned or controlled manufacturing plants, offices, and spaces. Energy data is collected locally in each market and consolidated for reporting at the group level. In case the actual data for the energy use was not available in time for the report, the energy use has been estimated. Compared to 2023, the energy use in this section has increased by 67% due to an increase in electricity usage as more offices and spaces are opened, and that the Chongqing plant has been established.

The second table covers energy outside the organisation, i.e. where Polestar does not have operational control. This includes energy use (electricity and sometimes district heating or natural gas) in manufacturing plants owned and operated by Volvo Cars or Geely and franchise or investor-owned and controlled spaces. Compared to 2023, the total energy use in this section has decreased by 19%.

The reported energy consumption in the first and third table are based on facilities under Polestar's operational control and is presented using two different methodologies and frameworks to ensure compliance with both existing and coming regulatory requirements.

Energy within facilities with operational control (MWh)

Table 1

	2020	2021	2022	2023	2024	Change % 2023–2024
Electricity	9,144	29,511	26,443	30,530	53,141	74%
District heating	786	1,587	1,546	2,303	3,282	42%
Fuels						
Natural gas	3,918	2,980	1,880	1,005	212	–79%
Petrol	65	65	9	48	21	–57%
Total non-renewable fuels	3,984	3,045	1,889	1,053	233	–78%
Ethanol (admixture in petrol)	0.3	0.3	-	0.4	-	–100%
Total renewable fuels	0.3	0.3	-	0.4	-	-
Total energy	13,913.6	34,143.0	29,878	33,887	56,656	67%

Energy within facilities without operational control and within use-phase (MWh)

Table 2

	2020	2021	2022	2023	2024	Change % 2023–2024
Electricity operations	19,940	35,505	45,396	43,175	48,526	12%
District heating, operations	-	-	-	343	1	–100%
Natural and biogas operations	14,795	22,306	23,471	25,169	24,400	–3%
Total energy operations	34,735	57,811	68,867	68,687	72,927	6%
Electricity use-phase	394,764	1,054,997	1,745,121	1,801,683	1,464,761	–19%
Petrol use-phase	1,712	260	1,909	-	-	N/A
Ethanol use-phase (admixture in petrol)	58	9	65	-	-	N/A
Total energy use-phase	396,534	1,055,266	1,747,095	1,801,683	1,464,761	–19%

Energy consolidation for activities with operational control

Table 3

Energy consumption and mix	2024
Fuel consumption from coal and coal products (MWh)	-
Fuel consumption from crude oil and petroleum products (MWh)	21
Fuel consumption from natural gas (MWh)	212
Fuel consumption from other fossil sources (MWh)	-
Consumption of purchased or acquired electricity, heat, steam, and cooling from fossil sources (MWh)	48,927
Total fossil energy consumption (MWh)	49,160
Share of fossil sources in total energy consumption (%)	87
Consumption from nuclear sources (MWh)	804
Share of consumption from nuclear sources in total energy consumption (%)	1
Fuel consumption for renewable sources, including biomass (also comprising industrial and municipal waste of biologic origin, biogas, renewable hydrogen, etc.) (MWh)	-
Consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources (MWh)	6,692
The consumption of self-generated non-fuel renewable energy (MWh)	-
Total renewable energy consumption (MWh)	6,692
Share of renewable sources in total energy consumption (%)	12
Total energy consumption (MWh)	56,656

Climate change
Metrics

Total greenhouse gas emissions

In 2024, absolute GHG emissions across our value chain decreased by 16.5% to 1,550,778 tCO_2e. The emissions intensity, including Scope 1, 2, and 3, was 34.6 tCO_2e (2023: 35.2) per vehicle sold, which is a decrease of 1.7% compared to 2023. As stated in the chapter "Basis for Preparation," there have been recalculations of previous years, including 2023, resulting in higher emissions in prior years than previously disclosed.

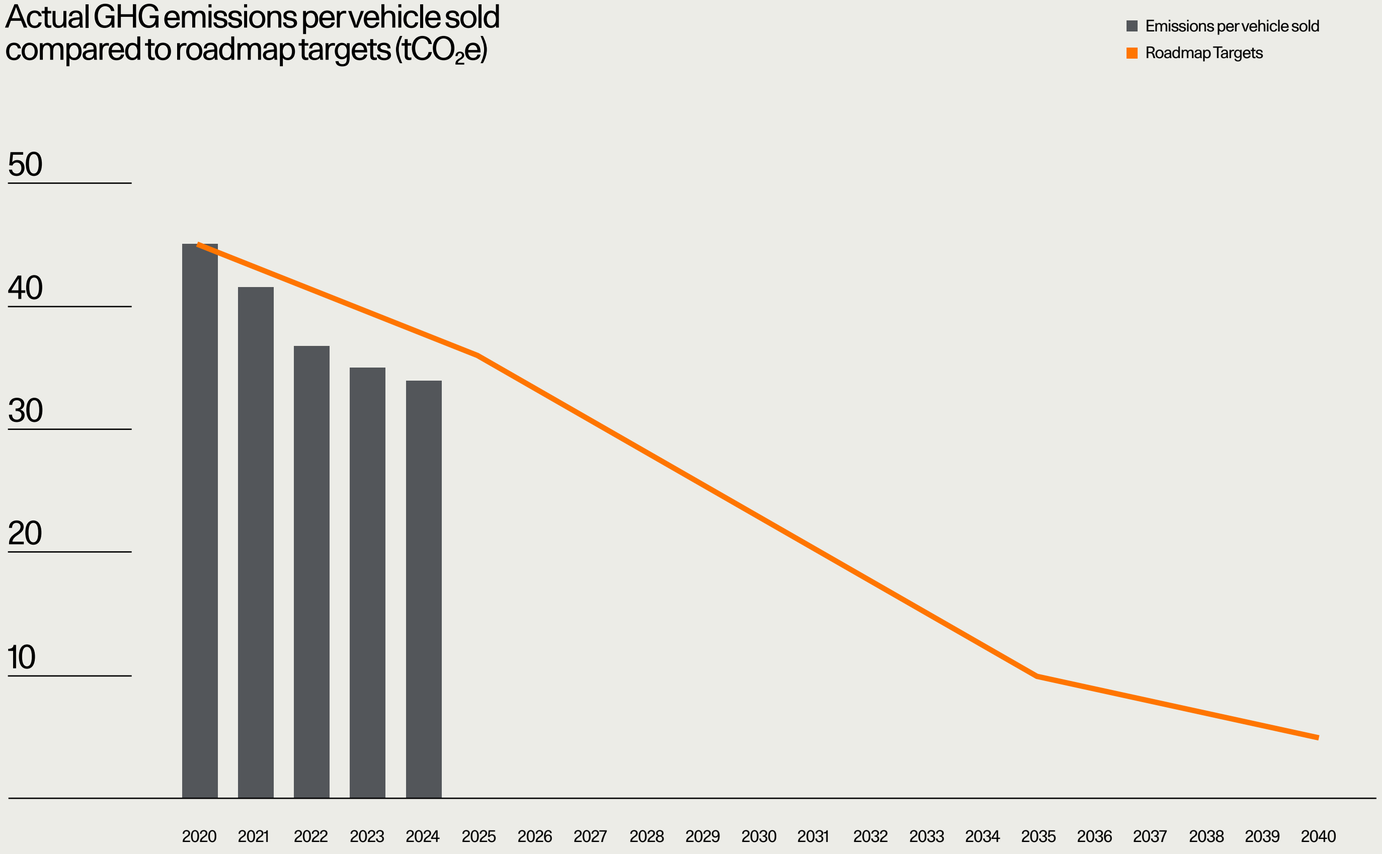
The reasons for this year's results include the Polestar 2 life cycle assessment (LCA) upgrades and the introduction of the Polestar 4, which has an even lower carbon footprint from materials compared to Polestar 2 which lowers total emissions from materials. In addition, we have achieved a reduction in use-phase emissions per vehicle, which is due to decreased electricity market emissions in some markets and improved energy efficiency of the vehicles sold.

Emissions are calculated based on the guidance of the GHG Protocol and include GHG emissions within operational control. The following categories have been excluded:

- Capital goods
- Processing of sold products
- Investments

Read more →
GHG emissions scopes

Actual GHG emissions per vehicle sold compared to roadmap targets (tCO_2e)



Climate change
Metrics

Greenhouse gas reporting principles

Polestar reports emissions of GHGs according to global standards:

- The GHG Protocol: A Corporate Accounting and Reporting Standard (2001, revised 2004)
- GHG Protocol Scope 2 Guidance (2015)
- Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011)

Emissions are reported in tCO_2e, thus accounting for all GHGs, including CO_2, CH4, HFCs, PFCs, SF6, and NF3. The operational control approach is used for reporting emissions, in accordance with the GHG Protocol. The global warming potential (GWP) rates from the IPCC's Fifth Assessment Report are used for all GHGs included in this report. The baseline year for our climate targets and the roadmap is 2020, marking the start of GHG emission calculations and the development of the climate roadmap.

— Scope 1 (Direct GHG emissions)

Company-owned facilities: This consists of GHG emissions from using fossil fuels in operated facilities, such as offices, for heating purposes. It also includes emissions due to refrigerant leakage in operated facilities. The consumption is multiplied by an emission factor for each type of energy or refrigerant.

Company vehicles: This comprises GHG emissions from company vehicles, specifically related to the fuel consumed by Polestar 1 cars owned by Polestar. The petrol consumption is calculated based on the Worldwide Harmonised Light vehicles Test Procedure (WLTP) data and an assumed travel distance of 15,000 km per car per year. GHG emissions related to the use of electricity, as well as the production and end-of-life treatment of test cars, are reported in Scope 2 and Scope 3, respectively. The consumption is multiplied by an emission factor for each energy type.

— Scope 2 (Indirect GHG emissions from energy)

Purchased electricity for own use: This includes emissions from the use of electricity and heating in offices and all spaces operated by Polestar, as well as the electricity consumption of Polestar-owned cars. The electricity consumption of Polestar-owned cars is related to test driving and events, with an assumption that each car is charged six days a week all year to 50% of its maximum capacity. The maximum capacity is based on the size of battery, which differs depending on car model. The consumption is multiplied by an emission factor for each energy type and country of use.

Most of the energy data for offices and spaces operated by Polestar is based on actual amounts of purchased electricity, district heating, and natural gas. Where no actual electricity data is available, electricity use is extrapolated based on the office area, combined with the average electricity use per square metre for offices where actual energy data is provided. If office information is not available, the average electricity use per office space is used.

In accordance with the GHG Protocol Scope 2 guidance, Polestar accounts for Scope 2 emissions using both market-based and location-based methods. The market-based method involves using Electricity Attribute Certificates (EACs) to verify the origin of purchased renewable electricity, along with specific emission factors for renewable electricity. Electricity purchased without EACs is accounted for as a country-specific residual mix. The location-based calculation method uses average emissions for country electricity mixes. Emission factors are based on country-specific residual and average mixes from International Energy Agency (2023).

The energy use in other facilities used by Polestar, such as franchise or investor-owned spaces and manufacturing facilities, where we do not have operational control, are included in Scope 3.

— Scope 3 (Indirect GHG emissions)

Purchased goods and services: This category includes emissions from the manufacturing of parts and materials for Polestar 2 and Polestar 4, as well as emissions from other purchased miscellaneous goods and emissions related to the production of Polestar cars in manufacturing facilities not operated by Polestar. The calculation of emissions from car materials is based on the LCA for different car models and variants from Polestar, multiplied by the number of cars sold in the reporting year. GHG emissions caused by materials and services not directly related to the car are calculated using a cost-based approach with emission factors from the US Environmental Protection Agency (EPA).

As Polestar does not own any production facilities, GHG emissions related to the production of Polestar cars in manufacturing facilities, such as Volvo Cars plants in Taizhou (China), Chengdu (China), Charleston (USA), and the Geely Hangzhou Bay Plant (China), are accounted for in this category. These activities are considered a purchased service and are thus included in Scope 3. Energy-related emissions from electricity and natural gas are proportional to the Polestar share of produced cars in the individual manufacturing plants.

Fuel and energy related activities: This includes the GHG emissions from fuel and energy-related activities allocated to Scope 1 and 2, specifically the Well-to-Tank (WTT) emissions of the fuel and electricity consumed by our own cars, and Scope 3 emissions of the energy used at the offices and spaces where we have operational control.

Transportation and distribution: GHG emissions from logistics include inbound and outbound transport managed by Volvo Cars and paid for, directly or indirectly, by Polestar. Emissions data, reviewed by a third party, is provided by Volvo Cars. It also includes inbound transport related to the manufacturing of Polestar 4, managed by Geely and paid for indirectly by Polestar. Transport-related emissions for Polestar 4 are estimated based on theoretical values. Outbound transport emissions within import markets are not included. Transportation of spare parts and test vehicles is managed and reported by Volvo Cars and is not included in this reporting.

Waste generated in operations: This category includes waste generated at the Chongqing plant, which Polestar had operational control over during 2024. It also includes waste in offices where Polestar has operational control. GHG emissions from waste-generated operations are calculated by categorising waste volumes into types and treatment methods, such as landfill, material recovery, and energy recovery, and using external generic emission factors from The United Kingdom's Department for Environment, Food & Rural Affairs (DEFRA).

Business travel: GHG emissions from air travel are calculated using the number of flights, routes, and travel distances, extracted from Polestar's travel agencies. Calculations are based on flight distances between airports and emission factors from the Network for Transport Measures (NMT). The radiative forcing is calculated with a factor of 2.7. Emissions caused by other modes of business travel, such as rental cars, taxis, trains, and hotel nights, are calculated based on spending data from Polestar and emission factors from Exiobase.

Employee commuting: GHG emissions from employee commuting are based on assumptions about Polestar employees' travel distance, mode, and pattern. These assumptions consider the number of employees, type of personnel, and country. Emission factors for public transport and commuting with internal combustion engine cars are sourced from the Swedish Transport Administration and NTM. For electric vehicles, average country-specific electricity mixes are used, along with the WLTP electricity consumption for Polestar 2.

Use of sold products: In this report, data on sold cars refers to vehicles handed over to the consumer, as there are no use phase emissions before that point. The calculation of average GHG emissions from the use of sold products is based on the official WLTP data for Polestar's cars, combined with Scope 2 emission factors corresponding to the average electricity market mix in each market where the cars are sold. The WLTP consumption is multiplied by an assumed average mileage of 200,000 km per car. The total GHG emissions from the use of sold products are calculated by multiplying the lifetime consumption per car by the number of cars sold, as well as the average electricity mixes for each specific country. Refrigerant leakage during the lifetime is 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. Our ambition is to increase knowledge and accuracy over time and to be as transparent as possible regarding the GHG emissions from using 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 the number of cars sold. This category also includes potential refrigerant leakage during the end-of-life treatment process. The estimations of GHG emission values differ between models, the largest difference being that the Polestar 2 has approximately 50% lower GHG emissions compared to the newer models Polestar 3 and Polestar 4. This is due to variations in methodological choices in the LCAs. Polestar intends to recalculate the GHG emissions for the Polestar 2 as of model year 2026 to increase comparability between the different models as well as increase the accuracy of the estimated emissions related to end-of-life vehicle treatment.

Franchise: GHG emissions from spaces owned and operated by franchises or investors are based on data concerning purchased electricity. For spaces where no electricity data is available, emissions are extrapolated using either historical data from the previous year, information on space area combined with an average value of electricity use per space area, or information on the number of spaces combined with an average value of electricity use per space.

Climate change
Metrics

*Due to rounding, the reported totals may not exactly correspond to the sum of the individual data points.

Total GHG emissions Scope 1, 2 and 3*

Base Year	2020	2021	2022	2023	2024	Change % 2023–2024
Scope 1 GHG emissions						
Gross Scope 1 GHG emissions (tCO_2e)	897	731	470	198	48	–76%
Scope 2 GHG emissions						
Gross location-based Scope 2 GHG emissions (tCO_2e)	4,175	9,646	6,065	7,401	15,365	108%
Gross market based Scope 2 GHG emissions (tCO_2e)	1,136	9,252	8,630	10,234	22,818	123%
Significant scope 3 GHG emissions						
Total Gross indirect (Scope3) GHG emissions (tCO_2e)	453,869	1,148,732	1,875,970	1,846,354	1,527,912	–17%
1 - Purchased goods and services	292,406	730,966	1,225,293	1,191,451	1,011,054	–15%
2 - Capital goods	0	0	0	0	0	
3 - Fuel and energy-related Activities (not included in Scope 1 or Scope 2)	382	605	1,091	1,927	3,792	97%
4- Upstream transportation and distribution	77,128	116,869	129,529	156,989	127,024	–19%
5 - Waste generated in operations	47	3	10	11	130	1,084%
6 - Business traveling	652	1,311	2,808	2,314	5,641	144%
7 - Employee commuting	170	971	1,619	1,727	984	–43%
8 - Upstram leased assets	0	0	0	0	0	
9 - Downstream transportation	0	0	0	0	0	
10 - Processing of sold products	0	0	0	0	0	
11 - Use of sold products	77,950	282,725	488,424	463,424	333,627	–28%
12 - End-of-life treatment of sold products	5,013	14,410	25,390	26,335	44,655	70%
13 - Downstream leased assests	0	0	0	0	0	
14 - Franchises	122	872	1,806	2,175	1,005	–54%
15 - Investments	0	0	0	0	0	
Total GHG emissions						
Total GHG Emissions (location-based) (tCO_2e)	458,941	1,159,110	1,882,505	1,853,953	1,543,325	–17%
Total GHG Emissions (market-based) (tCO_2e)	455,902	1,158,715	1,885,070	1,856,786	1,550,778	–16%

Climate change
Metrics

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 86% (2023: 89%) of our total GHG emissions.

*The total summation of GHG emissions share of total emissions differ due to rounding in individual emission categories.

Greenhouse gas emissions (tCO_2e)

Share of total emissions	2020	2021	2022	2023	2024	% 2024	Change % 2023–2024
Overhead	937	2,718	5,302	5,764	8,487	1%	47%
Manufacturing	16,518	16,762	9,078	6,525	12,447	1%	91%
Transportation and logistics	77,128	116,685	129,312	156,071	126,126	8%	–19%
of which inbound	6,300	1,218	26,365	22,828	21,165	1%	–7%
of which outbound	70,828	115,466	102,947	133,243	104,961	7%	–21%
Purchased goods	277,090	715,109	1,216,673	1,185,132	1,005,333	65%	–15%
of which direct materials	239,182	658,144	1,157,010	1,158,663	943,700	61%	–19%
of which indirect materials	37,908	56,965	59,663	26,469	61,633	4%	133%
Sales	1,266	10,306	10,891	13,535	20,103	1%	49%
Use of sold products	77,950	282,725	488,424	463,424	333,627	22%	–28%
of which EMEA	N/A	125,175	211,500	257,012	149,010	10%	–42%
of which China	N/A	59,830	20,352	10,783	44,867	3%	316%
of which APAC	N/A	1,914	87,975	89,720	51,904	3%	–42%
of which Americas	N/A	95,806	168,597	105,910	87,846	6%	–17%
End-of-life treatment of sold products	5,013	14,410	25,390	26,335	44,655	3%	70%
Total GHG emissions in Scope 1, 2 and 3	455,902	1,158,715	1,885,070	1,856,786	1,550,778	100%*	–16%

Pollution
Introduction

In addressing pollution, Polestar is committed to reducing environmental impact through strategic initiatives focused on material and operational circularity. By increasing the use of recycled materials and phasing out harmful substances, we aim to minimise resource consumption and pollution risks. Efforts include managing emissions from tyre wear to reduce non-exhaust emissions.

Pollution
Material impacts, risks, and opportunities

Identifying and minimising pollution in the value chain

Polestar has conducted a comprehensive double materiality assessment (DMA) to identify the impacts, risks, and opportunities related to pollution. The DMA builds on a range of evaluations and assessments, including Environmental Impact Assessments for Polestar operations, a circularity study for Polestar 2, participation in an external research project focusing on emissions of volatile organic compounds from vehicle materials and other relevant external resources. Key material topics identified include:

- Pollution of air
- Pollution of water
- Pollution affecting living organisms and food resources
- Substances of Concern
- Substances of Very High Concern
- Microplastics

Our interface with nature spans the entire value chain, with material production being a significant contributor to pollution-related impacts. The extraction and processing of raw materials, along with the manufacturing of components, materials, and vehicles, affect nature through land exploitation, water extraction, the use of chemicals, and emissions to both water and air. Upstream impacts include water extraction and emissions to water and air for managing workshop and R&D facilities, as well as emissions to water, air, and soil during vehicle use, including microplastic emissions from tyres and other particles from brakes.

Environmental impact also occurs at the end of a vehicle's life. The recycling process involves the use of chemicals, water extraction, and emissions to water, soil, and air.

Polestar relies heavily on nature for our operations. The extraction of natural resources, such as minerals and biomaterials, is essential for producing the materials used in our vehicles. Additionally, dependable and clean water sources are crucial for material acquisition and manufacturing processes. It is imperative to support nature's regenerative functions and strive to align our consumption and production with planetary boundaries*.

Pollution associated with electric vehicles

Water pollution from mineral mining: The mining of minerals such as lithium, cobalt, and nickel for the production of electric vehicles can result in water pollution due to the leakage of toxic chemicals at mine sites, airborne particulate matter, and the release of toxic metals from waste products like slag. The negative impact is significant due to the high water usage and associated contamination risks. Pollution of water resources can also lead to bioaccumulation in living organisms and disruption of food chains.

Microplastic pollution from tyre wear: The automotive industry is a notable source of microplastic pollution, primarily due to tyre wear. Emissions from tyre particles contribute to the pollution of air, water, and soil.

Non-exhaust emissions and health risks: Driving Polestar's electric vehicles leads to non-exhaust emissions, such as brake dust, airborne road dust, and tyre erosion. These emissions contribute to particulate matter in the air, posing risks to respiratory health.

Air pollution from material extraction: The extraction of raw materials for electric vehicles, such as copper, involves processes like smelting that release sulphur oxides and other harmful air pollutants, including solid particles containing heavy metals, thereby exacerbating air pollution.

Pollution risks from hazardous substances: Substances of Very High Concern and Substances of Concern are used in various car components, including battery materials and electronic parts, and their production and use are associated with a high risk of pollution. Per- and polyfluoroalkyl substances (PFAS) are an example of a highly problematic group of substances widely used in vehicle components and materials. The use of PFAS poses significant pollution risks throughout the value chain, from their manufacture to the treatment of end-of-life vehicles. Additionally, the use of PFAS presents financial risks, as they are closely linked with increased regulatory and reputational risks and obligations in various global markets.

Read more →
Double materiality assessment

*Planetary boundaries refer to the limits within which humanity can safely operate to avoid destabilising the Earth system.

Pollution
Policy and position papers

Policies for minimising pollution

Polestar has adopted a Sustainability Policy that outlines our commitment to managing and continuously improving performance in material sustainability issues, including pollution-related topics. This policy, approved by the management team, applies to all employees at Polestar Automotive Holding UK PLC and its subsidiaries. In addition to the Sustainability Policy, Polestar's Code of Conduct for Business Partners guides environmental management in our supply chain.

Pollution is recognised as a material topic in our circular economy position paper, and we acknowledge that resource extraction and the manufacturing of battery electric vehicles are closely linked with pollution.

Key aspects of the circular economy position paper include:

- Increasing the input of circular materials to reduce environmental impact.
- Decoupling economic growth from resource consumption.
- Protecting people and nature from harmful chemicals by using safer materials in vehicles, and phasing out harmful chemicals in Polestar's operations.
- Enhancing transparency around the chemicals used in Polestar materials, and addressing risks associated with pollution during the vehicle use phase.

Pollution
Actions

Addressing pollution through strategic initiatives

Material topics related to pollution are addressed through the strategic initiatives of Operational Circularity and Material Circularity. Additionally, we acknowledge that extending the lifetime and increasing the utilisation rate of our vehicles can also contribute to addressing these material topics, as extended lifetime and increased utilisation rates have the potential to decrease the risk of pollution, provided that economic growth is decoupled from resource consumption.

Polestar registers components and materials containing Substances of Very High Concern (SVHC) in the EU database known as the Substances of Concern in Articles as Such or in Complex Objects (Products) (SCIP). Information on the use of these substances is also published in the vehicle manual for each vehicle and model year, available on Polestar.com. This ensures that information is provided to customers in compliance with the requirements of EU REACH legislation. Phasing out SVHCs and SOCs, including PFAS, used in our vehicles is a high priority for us.

In 2024, Polestar developed and implemented a new Restricted Substance Standard. This updated standard builds on previous versions and incorporates additional information requirements for substances on ChemSec's "Substitute It Now!" list (SIN-list), PFAS (Per- and Polyfluorinated Alkyl Substances), and upcoming restrictions on PFAS and Substances of Very High Concern (SVHC). It will be used to establish chemical requirements in future vehicle programmes and in Polestar operations.

— Operational circularity

Under the strategic initiative for Operational Circularity, efforts are focused on addressing and minimising pollution associated with manufacturing sites and workshops. The main objectives of this strategic initiative are to reduce material consumption, waste, and water usage, and to ensure the responsible use of chemicals within our operations.

An important part of our efforts to minimise pollution risks is our Environmental Impact Assessment. It aims to identify aspects of Polestar operations that could impact the environment, enabling the implementation of robust controls to prevent pollution at Polestar sites. This assessment is conducted once a year and provides valuable insights to this strategic initiative. The process covers all operational aspects, from manufacturing to research and development, and retail, and includes actions to mitigate incidents and emergency situations.

In 2024, high-priority chemicals used within operations were reviewed and mapped for phase-out activities. The next step involves setting action plans for these phase-out activities, with a specific focus on reducing the number and use of Substances of Very High Concern (SVHC) in 2025. Efforts will also continue to target the use of Substances of Concern (SOC).

Our vehicle manufacturing plants hold ISO 14001 certifications, ensuring that environmental risks associated with their activities are thoroughly evaluated. Operational controls are implemented, and checks are conducted through a risk-oriented audit programme overseen by an independent organisation, with an annual management review process in place.

— Material circularity

The main objective of this strategic initiative is to design towards closed-loop recycling and to minimise our materials footprint on nature. This initiative includes actions to increase the use of recycled materials and phase out SVHCs and SOCs. Increasing recycled material content will minimise resource consumption and reduce pollution risks throughout the supply chain. We recognize that legacy chemicals pose a risk in recycled materials, especially plastics, and are committed to finding solutions that increase the use of recycled materials while minimising chemical risks. We are constantly evaluating new materials and collaborating with suppliers to find materials with reduced impact. During 2024, we have specifically targeted and mapped the use of PFAS in both Polestar operations and in our vehicles. This mapping will serve as a baseline for setting phase out activities.

Ongoing efforts to reduce tyre particle emissions

All vehicles emit tyre particles during use, and heavier vehicles generally lead to higher emissions. Although tyre wear is unavoidable, emissions of tyre particles are recognised as a material topic. Efforts are currently underway to explore methods for reducing these emissions and decreasing the toxicity of the emitted particles. In contrast, particle emissions from brake discs are significantly lower in electric vehicles due to regenerative braking, which potentially results in reduced emissions from disc brake wear.

Pollution
Use of SVHCs during 2024

The tables present the use of Substances of Very High Concern in Polestar vehicles and Polestar operations (workshops and R&D) during 2024.

The total amount of SVHC's that has entered the market as products is an estimation based on amount of substances per car and number of manufactured cars during 2024.

We plan to refine and expand our reporting of SVHC's and SOC's during the coming years. All SVHC's present in the cars are listed in the vehicle manuals, readily available on Polestar.com.

Phasing out 20% of SVHCs

Our target for 2025 is to phase out 20% of the Substances of Very High Concern (SVHCs) currently used in our workshops, compared to their usage in 2024. We recognise that the scope of this target is very limited, and we plan to expand it in the coming years.

Substances of Very High Concern

Car	Number of SVHC's	Total amount of SVHC's that has entered the market globally as products during 2024 (tonnes)
Polestar 2	46	
Polestar 3	54	998
Polestar 4	51	

Own operations	Number of SVHC's	Target 2025
Workshops and R&D	17	–20%

Biodiversity and ecosystems
Introduction

Polestar recognises the critical importance of biodiversity and ecosystems within our sustainability strategy. Our efforts are focused on assessing and subsequently reducing, the impact of our supply chain on biodiversity, with particular attention to material choices and the manufacturing sites of Polestar vehicles. A recent biodiversity screening at these sites revealed significant species presence, prompting further assessments.

Our policies emphasise circularity and resource efficiency to minimise ecological impact, while also supporting initiatives such as the moratorium on deep-sea mining. By prioritising sustainable practices, we aim to protect and restore biodiversity across our value chain.

Biodiversity and ecosystems
Material impacts, risks, and opportunities

Identifying risks and opportunities related to biodiversity and ecosystems

Polestar has conducted a comprehensive double materiality assessment (DMA) to identify the impacts, risks, and opportunities related to biodiversity and ecosystems. Topics related to biodiversity and ecosystems involve the direct causes of animal and plant species loss, the effects on different species, and the changes and conditions of ecosystems. They also concern how humans impact and depend on the services that nature provides, such as clean air and water.

Through the double materiality assessment, the key material topics identified include direct drivers of biodiversity loss, impacts on the state of species, and impacts on the extent and conditions of ecosystems. Additionally, they include both the impacts on and dependencies of ecosystem services.

The use of materials significantly impacts biodiversity throughout the product life cycle. Material extraction and processing contribute to habitat destruction, ecosystem imbalance, and species loss. These activities often occur in biodiversity-rich areas, intensifying the decline of flora and fauna and disrupting natural habitats. Pollution from material extraction, particularly from mining and metallurgical processes, contaminates ecosystems, affecting both terrestrial and aquatic life. This pollution also degrades soil and water quality, further impacting biodiversity.

Polestar's electric vehicle manufacturing impacts biodiversity through various stages, including the production of materials, mining activities, infrastructure development, and energy production. For example:

- The use of natural rubber in tyres can lead to deforestation and habitat loss, affecting biodiversity and ecosystem health.
- Lithium extraction for batteries, often in desert areas, requires large amounts of water, which can lead to desertification and negatively impacting local water resources and ecosystems.
- Copper has high ecotoxicity, leading to soil and water pollution that harms local flora and fauna.
- Extensive road networks for cars contribute to habitat loss and ecosystem fragmentation, with noise and power line construction disturbing wildlife.

To mitigate these negative impacts on biodiversity, a shift towards circular material use is essential. By prioritising the reuse and recycling of existing materials, the need for new raw material extraction is significantly reduced, thereby preserving natural habitats, protecting ecosystems, and maintaining the earth's biological diversity. The new EU Battery Regulation will mandate the use of recycled raw materials in batteries, which will help drive both the increased availability and use of recycled battery materials across industries.

Read more →
Double materiality assessment

Biodiversity and ecosystems
Policy and position papers

Policy for mitigating negative impacts on biodiversity and ecosystems

Polestar has adopted a Sustainability Policy that outlines our commitment to managing and continuously improving performance in material sustainability issues, including biodiversity-related topics. This policy, approved by the management team, applies to all employees at Polestar Automotive Holding UK PLC and its subsidiaries. In addition to the Sustainability Policy, Polestar's Code of Conduct for Business Partners guides environmental management in our supply chain.

In the circular economy position paper, we emphasise the need to reduce and eliminate dependence on finite resources, and we acknowledge that resource extraction and processing pose significant threats to biodiversity. Designing for circularity is recognised as essential to avoid waste, support ecosystem regeneration, and eliminate pollution. The material topics related to biodiversity and ecosystems are further addressed in this position paper and through strategic initiatives within circularity.

Studies show that propulsion, particularly the electric motor and battery, has the highest impact on biodiversity. Therefore, efforts must focus on increasing the use of recycled battery minerals, enhancing utilisation rates for batteries, and designing them for modularity and repairability to reduce impacts on biodiversity and ecosystems.

Different aspects of biodiversity and ecosystems are addressed through the strategic initiatives of Operational Circularity and Material Circularity. Operational Circularity emphasises the responsible use of chemicals and aims to minimise resource and water use, as well as waste. Material Circularity focuses on actions to reduce the impact of materials on nature, from resource extraction to end-of-life. While we are still in the exploration phase regarding our impacts on biodiversity and ecosystems, actions are underway to gain a better understanding of these impacts and to develop action plans.

Additionally, we support the World Wide Fund for Nature (WWF) initiative for a moratorium of deep-sea mining, joining other leading companies in promoting environmental stewardship.

Biodiversity and ecosystems
Actions

Screening reveals endangered species near manufacturing sites

Tools and methodologies are being explored to assess the biodiversity impact of our supply chain and to develop a comprehensive roadmap for biodiversity.

Polestar do not own, manage or lease any manufacturing sites. However, we do recognise that the manufacturing sites are major contributors to our impact on biodiversity and ecosystems. In 2024, a biodiversity screening was conducted for all existing and planned manufacturing sites of Polestar vehicles. The screening included all current and upcoming manufacturing sites and covered the International Union for Conservation of Nature (IUCN) Red List, Key Biodiversity Areas, and Protected Areas. The biodiversity screening revealed numerous species within a 50 km radius of these factories that are listed on the IUCN Red List.

Although no protected areas are within this range, key biotopes, especially for birds, make these regions sensitive to industrial activities. We will use these insights as we take the next steps.

Currently, we focus our actions on biodiversity around our direct impact, which includes our own operations and supply chain. Biodiversity offsets or credits have not been utilised, nor are they included in any upcoming action plans.

Resource use and circular economy
Introduction

Polestar is committed to advancing resource efficiency and the principles of a circular economy. By concentrating on recycled materials, reducing the material complexity, and using innovative interior materials, we aim to design for closed-loop recycling and minimise environmental impact. Collaborations with various partners enhance our ability to design for circularity, to manage end-of-life processes, and to comply with new regulations.

We drive our efforts towards resource efficiency and a circular economy within our strategic initiatives in operational and material circularity. Other important aspects of our Circularity Roadmap are to increase vehicle lifetime and to work for increased utilisation rates. These initiatives are designed to reduce dependencies on finite resources, increase the use of circular materials, and extend vehicle lifespans, all in alignment with our sustainability goals.

Resource use and circular economy
Material impacts, risks, and opportunities

Identifying risks and opportunities related to resource use and circular economy

Polestar has conducted a comprehensive double materiality assessment (DMA) to identify the impacts, risks, and opportunities related to resource use and circular economy. Key material topics identified include resource inflows including resource use, resource outflows related to production and services and waste.

Resource inflows and outflows

— Inflows

The electric vehicle industry is heavily reliant on a variety of raw materials, many of which are critical for the production of batteries, electric motors, and electronic components. This dependency necessitates significant mining activities for several metals and minerals. Automobile manufacturing is inherently material-intensive, and Polestar produces relatively large vehicles. Although it is challenging to make cars significantly less material-intensive due to current technological and industrial constraints, there is substantial untapped potential in efforts towards greater resource efficiency.

Polestar's reliance on both virgin and recycled raw materials poses significant financial risks if these resources become scarce. Global demand for battery minerals is set to increase rapidly, with forecasts indicating supply shortages of important battery minerals in the near future. Consequently, the global transition to electrified mobility will create challenges in the supply of critical battery minerals, and the limited availability of high-quality recycled materials exacerbates this issue. Therefore, resource use and the circular economy are business-critical to us. Dependence on global value chains may encounter risks from trade restrictions and political measures designed to protect domestic industries.

This is also an area where we see increased legal obligations, which pose challenges but also opportunities for diversified supply chains across industries, and increased supply of recycled raw materials. Examples include the European Critical Raw Materials Act and the EU Battery Regulation.

Diversifying the supplier base and strategic planning are essential to ensuring a stable supply of critical materials. However, this alone is insufficient, and business as usual is not an option. Polestar, along with the industry as a whole, needs to close material loops and invest in circular business models to secure the future supply of critical raw materials, and to strive towards operation within planetary boundaries*.

— Outflows

Resource outflows captures Polestars ability to provide products that are designed according to circular economy principles, how our products are handled at end of life and generated waste streams. It also includes packaging and generated by-products.

We put a lot of efforts in designing components and materials for longevity and closed loop recycling. It's imperative that we continue our efforts and succeed to transfer our business into a more circular business model, both to secure supply of critical raw materials, to reduce environmental impact and to stay competetive.

Polestar faces financial risks due to inadequate infrastructure for circularity and low rates of closed loop recycling. The lack of infrastructure hampers efforts to use recycled materials and design vehicles for easier refurbishment and recycling, leading to increased costs for raw materials and waste management. Additionally, the shift towards shared mobility solutions, such as car-sharing and ride-hailing services, may reduce individual car ownership. This change could impact sales and revenue, while simultaneously creating new business opportunities and decreasing environmental impact. Examples of opportunities include increased customer demand for pre-owned cars, increased material utilisation to decrease waste and lowered costs for handling waste.

We need to adapt our business model to this reality, ensuring that vehicles on the market can be reused, refurbished, and recycled. It is also crucial that end-of-life electric vehicles are properly managed, as these cars entering countries with low environmental policy stringency pose environmental, social, and reputational risks if not correctly recycled or disposed of. Closing material loops and adopting circular business models present untapped opportunities for both us and the industry as a whole.

* Planetary boundaries refer to the limits within which humanity can safely operate to avoid destabilising the Earth system.

Resource use and circular economy
Policy and position papers

Policy for minimising resource use and accelerating the circular economy

Polestar has adopted a Sustainability Policy outlining our commitment and expectations for managing and continuously improving performance in material sustainability issues, including topics covering resource use and circular economy. This policy, approved by the management team, applies to all employees at Polestar Automotive Holding UK PLC and its subsidiaries. In addition to the Sustainability Policy, Polestar's Code of Conduct for Business Partners steers environmental management in our supply chain.

Battery electric vehicles are associated with a range of negative impacts throughout the value chain, from resource extraction to the use phase and at end-of-life, including climate change, biodiversity loss, pollution, and socio-economic effects. Minimising resource use and accelerating the circular economy are business-critical, both to secure the future supply of critical raw materials and to operate within planetary boundaries. These material topics are addressed in the circular economy position paper, and within our strategic initiatives for circularity.

Key aspects of the circular economy position paper include:

- Designing for closed material loops and a reduced material palette.
- Increasing the inflow of circular materials.
- Phasing out harmful substances from materials, components, and processes.
- Increasing vehicle and component lifetimes.
- Decoupling economic growth from resource consumption and reducing dependencies on finite resources.

Resource use and circular economy
Strategy

Circularity roadmap

In collaboration with Circle Economy in 2022, a comprehensive assessment was conducted to determine the amount of raw material used in the production of a Polestar 2. This analysis considered the total raw material consumption upstream, encompassing all materials required to produce the final materials and products incorporated into Polestar 2. The findings from this study have shaped our Circularity roadmap. The study revealed that the battery and electric motor are the primary contributors to upstream resource consumption. Additionally, it introduced an important measure, Raw Material Consumption (RMC), measured in kilograms of raw material per car, which is used to monitor resource efficiency. The raw material consumption for a single Polestar 2 vehicle is estimated at 57,130 kilograms per car.

Polestar's Circularity Roadmap centres around a set of strategic initiatives, which guide actions related to circularity.

Operational circularity: Includes efforts to reduce resource consumption, waste, and water usage, and to enable the responsible use of chemicals throughout our operations. This is crucial for managing our resource inflows and outflows, and for minimising the direct environmental footprint of our operations. A key component of this initiative is to secure robust data collection and tracking of resource flows across all parts of our operations, including R&D facilities, workshops, handover locations, spaces and offices.

Material circularity: Involves efforts to decrease the footprint of the materials and components used in our cars. Efforts include increasing the amount of circular materials and reducing material complexity. Other important aspects of this initiative include designing for repairability, second life, and recycling. It is also essential to ensure that materials are chemically safe to protect both people and nature across the value chain, and to guarantee that materials can be recirculated at end-of-life.

Goals have been established to increase the use of recycled and renewable materials across all our car programmes, recognising the importance of sustainable material sourcing in reducing the environmental footprint. We have taken steps towards an increased share of recycled content with each car programme up until now, and we plan to continue our efforts in coming car programmes and model year upgrades of our existing cars. The status for recycled content per car model can be found under Circularity breakdown below.

We recognise that the design phase of vehicle production is crucial for minimising resource use and enabling circular solutions. Therefore, we are continually evaluating tools and guidelines to assist engineers and designers in assessing the circularity of materials used in products, thereby guiding more sustainable choices. Complementing this, we are also working to develop a reduced material palette to decrease material complexity and increase recyclability. A unique aspect of our strategy is to begin designing products with closed-loop recyclability in mind. We aim to create products that are not only efficient and functional but also provide the building blocks for making brand-new cars from the same materials without any loss of quality.

Recognising the importance of safe and sustainable design, the use of safe chemicals and chemical transparency are crucial components of this initiative. Safe chemicals are essential for advancing towards closed-loop recycling, ensuring that the materials designed today are safe for future use. Polestar became a member of the ChemSec Business Group in 2023. The membership is important, as it means a unique opportunity to collaborate with front runners to achieve concrete progress on toxic use reduction.

Other crucial aspects of our Circularity roadmap include efforts to increase lifetime and utilisation rates of our vehicles. We are currently in the exploration phase of these initiatives, and efforts are underway to incorporate these aspects better into our Circularity roadmap.

Lifetime optimisation: Is all about increasing product lifetime, which is imperative to decrease our overall material footprint. By focusing on longevity, disassembly, and repairability, we aim to extend the usable life of our vehicles and maintain the product's appeal over an extended period to encourage longer ownership cycles. To put it simply, making sure that our products are made to last.

We intend to explore ways to design our vehicles beyond standard industry practices concerning vehicle lifetime. This involves investigating innovative approaches and techniques to enhance vehicle functionality through durable engineering solutions. By preventing premature obsolescence and enabling upgrades, we want to keep our cars on par with newer models.

Utilisation improvement: Includes efforts to make better use of Polestar vehicles, as vehicles currently remain unused for the majority of their lifetime. The focus is on transforming the vehicles into multifunctional, sustainable assets, thereby enabling higher utilisation.

We are exploring various innovative ways to improve utilisation, aiming to make better use of materials and components while creating additional value for customers. Examples include implementing vehicle-to-grid integration for energy contribution and making vehicles available for cloud computing power. Ensuring that our cars are built to last, both aesthetically and technically, is crucial for enabling car sharing. These measures aim to provide more value to customers and society without increasing material consumption.

End-of-life vehicle management strategy

A crucial aspect of our efforts towards sustainable consumption and resource use is our strategy for end-of-life vehicles (ELV) management. Our strategy prioritises circularity principles in line with the waste hierarchy and includes our commitment to complying with relevant legislation, such as the EU Battery Regulation. It also provides strategies for handling different components at end-of-life. Key elements include adhering to the EU's Directive 2000/53/EC for the recycling and depollution of ELVs, managing restricted substances, and ensuring reusability, recyclability, and recoverability (RRR) in both design and end-of-life processes.

Resource use and circular economy
Actions

Operational circularity

As part of our strategic initiative for operational circularity, we have undertaken a series of actions to enhance sustainability practices within our operations. A key component of this initiative is the mapping and monitoring of primary resource and waste flows, as well as the use of harmful substances. In parallel with the mapping and monitoring, the implementation of new KPIs for resource inflows and resource outflows are underway. We plan to implement the new KPIs during 2025.

In 2024, we implemented measures to record the outflow of waste across our operations, enabling us to identify areas for reduction initiatives. We have also begun efforts to reduce packaging waste streams, with a particular focus on car covers used during transportation.

Material Circularity

We are continually evaluating new materials, seeking solutions to reduce our material palette while integrating more mono materials and increasing the rate of recycled content in our vehicles. This exploration is taking place both in ongoing vehicle programmes and advanced engineering projects.

In 2024, we initiated an internal project aimed at increasing the use of recycled plastics while simultaneously reducing the material palette. The goal is to identify a number of components where the same recycled material can be utilised. We also joined an external research project focused on the circular use of plastics in the automotive industry. The project aims to study the quality of plastics recovered from end-of-life vehicles (ELVs) and explore how to reconstruct components to facilitate cost-efficient recycling at the end of their life. Both projects will continue throughout 2025.

In 2024, we have also put resources into mapping hazardous chemicals used in materials and components, with plans to continue this mapping and develop phase-out strategies. We are specifically targeting per- and polyfluoroalkyl substances (PFAS) and Substances of Very High Concern (SVHCs).

Additionally, a new Restricted Substance Standard was developed and implemented at Polestar during 2024. This standard aims to increase transparency around hazardous chemicals by including new information requirements on substances listed in ChemSec's "Substitute It Now!" list (SIN-list) and PFAS. It also addresses upcoming restrictions on PFAS and SVHCs. This approach allows for proactive communication of future ambitions with suppliers and partners. The standard will be used to set chemical requirements in upcoming vehicle programmes.

Maximising value at End-of-Life

In compliance with the EU Directive on ELVs, at least 85% by mass of the materials used in each Polestar model is recyclable. We fully support the EU's intention to facilitate vehicle disassembly for the recycling and reuse of parts. However, while the EU currently permits the downcycling of materials at their end of life, our future ambition is to achieve at least 85% closed-loop recycling, which involves material recycling without any loss of quality. A significant challenge for the industry is maintaining material quality after recycling, which often results in downcycling, as well as identifying feasible recycling pathways for low-value materials such as plastics and textiles. Our aim is to develop a better understanding of these challenges to drive change.

Electronics present another challenging area, as they have a significant raw material footprint, impacting biodiversity and posing social risks associated with mining. Efforts are underway to improve the integration of electronics in cars to enhance the recycling rate, thereby reducing the raw material footprint.

Aluminium is also a crucial material in car manufacturing. Cars contain different grades of aluminium, each with specific attributes. However, recycling plants do not differentiate between these grades and recycle them as a single material, resulting in aluminium that is no longer suitable for high-grade applications. Consequently, only a small portion of this material returns to the automotive industry, as most of it is downcycled into lower-grade metals.

Re-use and recycling of batteries

The battery of an electric vehicle, even at the end of its life, retains significant value. For example, disused batteries from electric vehicles can potentially be repurposed for grid balancing, providing backup power for telecommunications, or supporting low-voltage mobility solutions.

Battery minerals are a scarce resource, and the availability of recycled material is limited. To address this challenge, we are collaborating with partners in industry and academia to develop improved concepts for the disassembly of batteries at the end of their life, ensuring that reuse and refurbishment are prioritised. In 2024, we joined a research project focused on the circular design of batteries. This project specifically examines methods of joining, disassembly, and re-assembly to enhance the efficiency of battery reuse, remanufacturing, and recycling.

For the handling and treatment of batteries, we collaborate with Producer Responsibility Organisations (PROs) and have also partnered with Volvo Cars to manage batteries at the end of their life. The PROs operate a network of Authorised Treatment Facilities (ATFs) that collect and responsibly process End-of-Life Vehicles (ELVs) and their batteries. Batteries retain inherent value, and in many cases, they can be resold or repurposed for second-life energy storage applications. If the batteries are no longer viable for reuse, the ATF can contact Polestar directly, and our team will ensure that the battery is collected and responsibly treated.

Very rarely, issues with batteries may arise before a vehicle reaches the end of its life, necessitating repair or replacement. In such cases, Polestar has partnered with Volvo Cars to manage the batteries. Volvo Cars' service centre networks will direct used batteries to three regional battery centres worldwide for repair, remanufacturing, or recycling. Currently, very few batteries have entered this system, as they are still in use.

In August 2023, the new Batteries Regulation came into effect in the EU, enhancing recycling efforts and promoting sustainable practices. In response, we have proactively established an internal task force to meet the regulation's requirements. This work has continued throughout 2024 and will extend into 2025.

Resource use and circular economy
Targets

Implementing KPIs by 2025

To enhance our understanding and improve our performance in resource management and environmental impact, we are actively working on improving how we measure our performance. We are currently implementing key performance indicatprs (KPIs) across various areas, and we plan to expand the scope of our measurements and idicators during 2025. As of now, we measure and report on:

- Resource inflows: material breakdown per car, recycled content per car programme and total amount of direct material input for all manufacturerd cars during 2024.
- Resource outflows: waste generated in Polestar operations and at the manufacturing sites of Polestar vehicles.

Resource use and circular economy
Circularity breakdown

The circularity breakdown show our material inflows per car programme, the share of recycled content per car programme and an assessment of our total inflow of materials for our car programmes during 2024. All data is based on the Long Range Dual Motor for each car.

The table “Material inflows” presents a material breakdown of the materials that make up our cars, detailing our direct material consumption.

Material inflows (kg/car)

	Polestar 2	Polestar 3	Polestar 4
Battery modules/ Battery pack	362	474	581
Polymers	336	421	336
Aluminium	342	547	322
Fluids and undefined	138	155	134
Steel and iron	902	888	883
Copper	64	71	49
Natural materials	7	10	38
Electronics	6	5	4
Other metals	10	21	4
Total	2,165	2,592	2,351

Resource use and circular economy
Resource inflows

The table “Recycled content per car programme” presents the share of recycled content per material category and car programme. Currently, we only have data for recycled content in plastic, steel, and aluminium. We are continuously working to improve data quality for more material categories, to capture the share of recycled content in all material categories. This work will continue over the coming years. The data is based on the Long Range Dual Motor.

We do not have data for recycled content in Polestar 2, which is why we report no recycled content for Polestar 2. In reality, all cars contain recycled content.

The amount of recycled plastics in Polestar 4 has been revised, compared to the 2023 Sustainability Report, due to an incorrect number for the total amount of plastic in Polestar 4.

Read more →
Restatement of information – Reporting errors in prior periods

The table Direct material input 2024 show an estimation of total direct material input for our manufacturerd cars during 2024. The data is based on the Long Range Dual Motor, which represents the vehicle type with the highest weight. Therefore, the numbers are overestimated.

The data is based on a material breakdown of the materials present in our cars. Actions are underway to capture Polestar’s full inflow of materials, including inflow for Polestar operations and total inflow of materials to our manufacturing sites.

Recycled content per car programme (%)

Car programme	Material category	Share of recycled material per material category	Total share of recycled material per car programme
Polestar 2	Plastic	0	0
	Steel	0	
	Aluminium	0	
Polestar 3 Chengdu	Plastic	9	5
	Steel	0	
	Aluminium	17	
Polestar 3 Charleston	Plastic	9	9
	Steel	13	
	Aluminium	15	
Polestar 4	Plastic	9	10
	Steel	12	
	Aluminium	18	

Direct material input 2024
Total amount of direct material input for Polestar 2, Polestar 3 and Polestar 4 (tonnes)

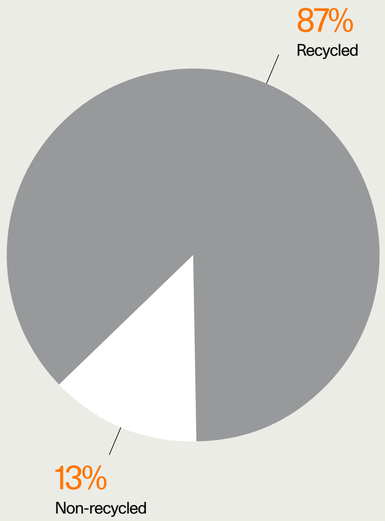
107,425

Resource use and circular economy
Resource outflows

The data and table for waste in Polestar operations includes waste generated at our R&D and workshop facilities in Sweden and the UK. Other relevant parts of our operations include offices, spaces and events and we plan to expand the scope of our data collection for waste to also include these locations and facilities in the coming years.

Although Polestar do not own or operate any manufacturing sites, we acknowledge that waste from manufacturing sites of Polestar vehicles is a significant part of our impact on resource use and our contribution to a circular economy. The data and tables for waste in manufacturing comes from Volvo Cars and Geely. Polestar's part of the waste in manufacturing is reported as own operations in their reporting. The data is based on total amount of waste per plant and Polestar's share of the total production capacity per plant.

Waste, Polestar operations



Waste fraction	Amount (tonnes)
Hazardous waste	60
Non-hazardous waste	173
Non-recycled waste	30
Recycled waste	204
Total amount of waste	234*

*might not add upp due to rounding

Waste, manufacturing

Waste fraction	Amount (tonnes)
Hazardous waste	354
Non-hazardous waste	5,772
Recycled waste	5,229
Non-recycled waste	898
Total waste	6,126*

*might not add up due to rounding

Social information

Own workforce
Introduction

Polestar aims to be a responsible employer of choice to secure future growth and success. We seek to champion diversity and insist on equality to ensure a positive social impact. The aim is to build a workforce that reflects the diversity of the world, bringing in varied personal experiences, perspectives, and backgrounds. Thriving in differences is a core belief. Key priorities include inclusive recruitment, retention, and leadership to secure the right competencies and maintain employee engagement, which are essential for ongoing success. The objective is for all employees to feel comfortable, connected, and valued for their contributions to the workplace.

Own workforce
Material impacts, risks, and opportunities

Identifying risks and opportunities related to own workforce

As a part of our double materiality assessment (DMA), we identified and assessed risks and opportunities related to own workforce. The assessment examined sub-topics such as working conditions, access to equal pportunities as well as other work-related rights.

Insights gained from the DMA assist us in defining actions and priorities to mitigate the identified risks such seeking to champion inclusion and being a responsible employer of choice.

The majority of our own workforce is situated in our offices and sales markets. Identified potential risks with regard to our workforce are related to working conditions and equal treatment and opportunities for all. As Polestar has robust processes within our operations and due to the characteristics of our workforce, the risk of other work-related rights and violations occurring is low.

Working conditions

Polestar aims to be a responsible employer of choice to secure future growth and success. The availability of the right skills is crucial, particularly given the global presence and operations spanning multiple countries, and the risk of employee turnover remains significant. Polestar's future success relies on attracting, integrating, and retaining highly skilled personnel. Therefore, establishing secure, fair, and favourable working conditions remains essential for us. Working conditions encompass the work environment and employment terms, including job security, working hours, fair wages, social dialogue, freedom of association, collective bargaining, work-life balance, and health and safety. Risks on employees may arise from issues such as excessive overtime, work-life balance challenges, and the absence of collective bargaining agreements in certain markets. Without these agreements, employees may lack essential protections. Working committees in certain countries may not wield the same influence as independent trade unions, leading to weaker representation. Parental leave statistics highlight challenges in balancing work and family life, as well as supporting employees with family responsibilities. Health and safety concerns also exist, related to stress and potential exposure to hazardous substances.

Equal treatment and opportunities for all

Polestar seeks to champion diversity and insists on equality to ensure a positive social impact, as a lack of equal treatment can have significant financial implications for Polestar. High employee turnover may result as talented individuals seek more inclusive and equitable work environments, leading to increased recruitment and training costs, as well as a loss of institutional knowledge and expertise. Additionally, a reputation for discrimination or unequal treatment can severely damage our brand, resulting in a decline in sales and market share. Discrimination and unequal treatment can also lead to low employee morale, decreased job satisfaction, and reduced productivity. Employees who feel undervalued or unfairly treated are less likely to be engaged and motivated, negatively impacting overall business performance. Furthermore, a diverse and inclusive workforce is often more innovative and creative. Failing to promote equal treatment and opportunity can stifle innovation, as a homogeneous workforce may lack diverse perspectives and ideas. This limitation can hinder our ability to develop new products and services, ultimately affecting long-term competitiveness.

Own workforce
Policy and position papers

Policies for responsible employment

The aim is to be an attractive employer for both new and existing team members. 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. Efforts are made to provide every employee with equal rights and opportunities, irrespective of gender, gender expression, ethnicity, religion, age, disability, sexual orientation, nationality, political opinion, union affiliation, social background, or other characteristics protected by applicable law.

All employees are expected to adhere to the Code of Conduct, which ensures that working conditions and employment terms promote equal opportunity and support a healthy work-life balance. Additionally, there is zero tolerance for discriminatory behavior, including bullying and harassment.

A commitment to providing a sustainable working environment with fair employment terms guides the Human Resources department at Polestar in driving the People agenda. This department is responsible for the People Policy, which is complemented by specific directives and guidelines that outline the role as a responsible employer. The policies apply to all own workforce globally.

In addition to the People Policy, several other policies and documents help instill responsible social business conduct and set expectations for employees, including:

- Code of Conduct
- Discrimination, Harassment, and Bullying Directive
- Diversity and Inclusion Directive
- Inclusion Position Paper
- Responsible Employer Directive
- Speak Up Policy
- Work Environment Directive
- Sustainability Policy

We work to ensure that our actions are sustainable and ethical. As outlined in our policies, we support internationally recognised principles on human rights, labour, and environmental standards. Our actions are guided by the United Nations Guiding Principles on Business and Human Rights, the OECD Guidelines for Multinational Enterprises, and the core labour conventions of the International Labour Organisation.

Own workforce
Strategy

How risks inform our strategy

The Inclusive Workplace initiative is designed to drive change within the full workforce across all operations, aiming to mitigate negative human impact, with reporting to management at least twice a year. The Chief HR Officer holds accountability for HR-related topics and the Inclusive Workplace initiative and is part of Polestar's executive management structure.

Regular materiality assessments are conducted with various stakeholders, recognizing the workforce as a key stakeholder. Working conditions, equal treatment, and opportunities for all are identified as material topics. The outcomes from these assessments, along with risk analyses related to human rights, grievance channels, and employee survey results, inform the strategy and help prioritize actions and resources within the Inclusive Workplace initiative.

— Fair employer

Polestar strives to be a responsible employer of choice by creating job opportunities with equal treatment for all and fair employment terms that comply with statutory requirements. Polestar's ambitions include work-life balance, fair remunerations, and a healthy environment where individuals can thrive, feel safe, and where freedom of association and collective bargaining are encouraged. The objective is for all employees to feel comfortable, connected, and valued for their contributions to the workplace.

— Inclusive workplace

Polestar works to ensure equal treatment and opportunities; the ambition is to become the world's most diverse and inclusive electric vehicle company.

- We seek feedback on inclusion through our employee surveys, and the ambition is to reach an Inclusion Index target of 9.0, with 10 being the highest possible score.
- Given the male dominance in the automotive industry, closing the gender gap is a key priority. We aim to implement an unbiased recruitment process with the ambition to achieve a 50/50 gender balance among new hires and increase the number of hires of individuals with diverse sexual orientations.
- Aim for 40% female representation in the overall global workforce as well as in leadership roles.
- Conduct a gender wage gap analysis.

The lack of gender representation in the industry is still a challenge for us, especially as the shift to electric vehicles calls for major factory growth and additional hiring in the global market. New technologies and products are emerging daily that transcend traditional car manufacturing, yet males are still dominant in STEM industries (science, technology, engineering, and mathematics) and education. All this combined makes our achievements even more noteworthy.

Own workforce
Actions

Processes for engaging with own workforce and workers' representatives

Efforts and encouragement regarding ethical business practices, diversity and inclusion are propelled by active management involvement across all areas, with all managers having participated in inclusion training. A leadership style is cultivated where individuals feel their contributions are valued, their input and ideas are important, and their efforts are recognised.

Continuous performance management, employee surveys, competence development, and work environment management are integral parts of the year-round efforts.

— Continual performance management

At the end of 2024 Polestar Performance Management process has been updated and launched which effect we will be able to capture in 2025.

The new Polestar Performance Management process outlines how targets and results are tracked for each employee. To enhance data validity for performance reviews and internal promotions, 360 feedback is utilised. The 360-degree-feedback process outlines the ongoing communication and evaluation between managers and employees, as well as among employees themselves. Performance management is driven by employees and comprises four mandatory meetings:

- Setting clear priorities
- Maintaining continual dialogue and feedback
- Conducting regular performance evaluations
- Year-end review This approach offers additional perspectives and insights beyond the manager's assessment, which is essential for ensuring fair and unbiased promotion and evaluation processes.

Own workforce
Actions

— Polestar's pulse-checks

Our employee surveys, referred to as pulse-checks, are conducted biweekly for most of the year and provide a data-driven method for all employees at Polestar worldwide to give feedback. The surveys include questions and feedback on engagement, accomplishment, freedom of opinion, management support, workload, recognition, inclusion, peer relationships, work environment, and more. This approach enables teams to learn, leaders to listen, and everyone to take action to enhance engagement and change when needed.

Our pulse-check and employee engagement tool provider, Peakon, facilitates the distribution of surveys and transforms feedback into valuable, actionable insights, capturing honest opinions in an unbiased and non-hostile manner. Peakon provides global industry benchmarks, drawing from a database of over 200 million employee responses across 23 industries.

Polestar's surveys have yielded an average score of 7.5 (2023: 7.9) on a scale from 1 to 10, where a higher score is considered desirable. The employee survey also assesses our performance in managing diversity and equality, with an inclusion index of 8.7, aiming to achieve a target score of 9.0.

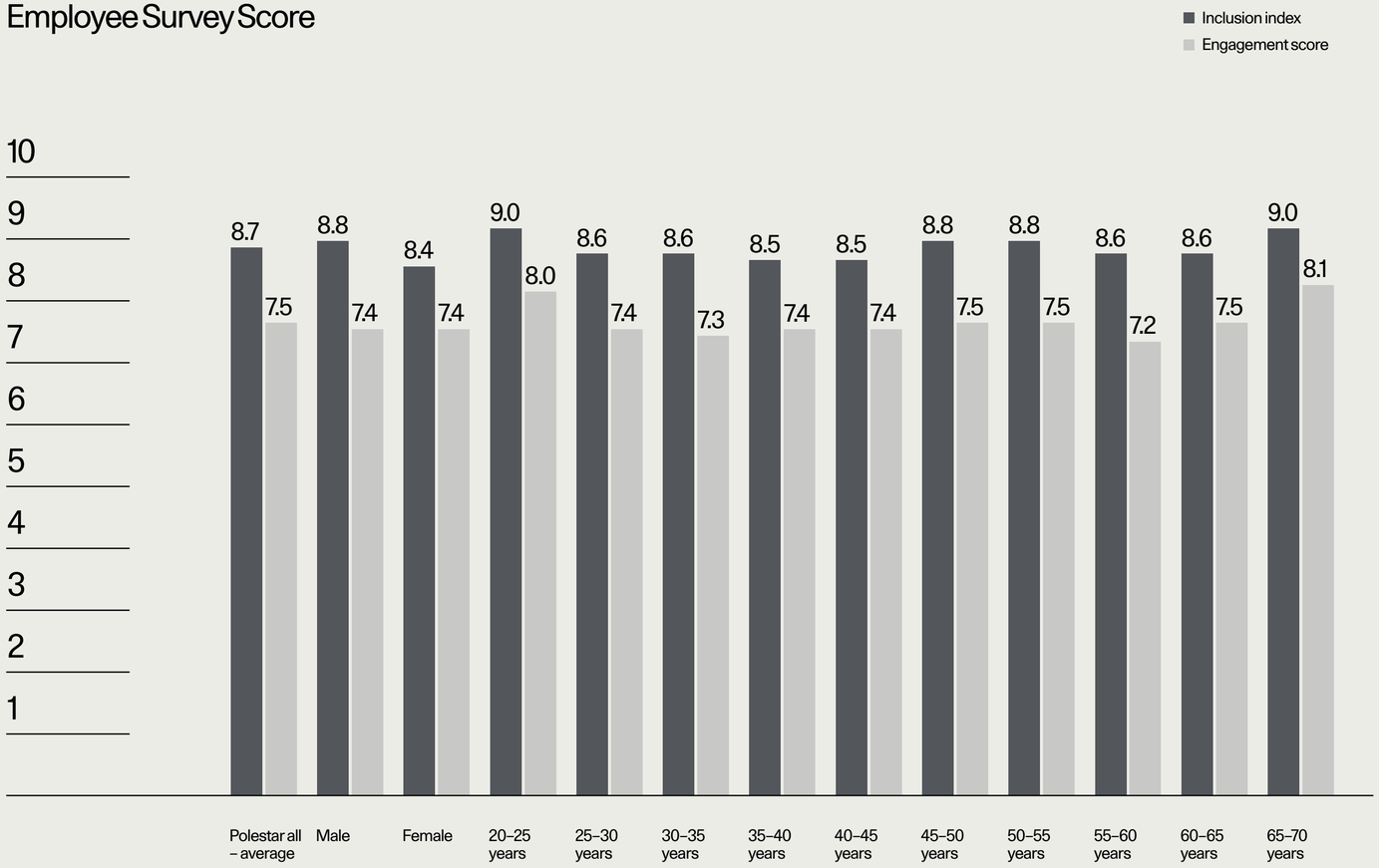
Leaders are expected to track results together with their team at least twice per year. The questions are categorized into four "drivers" consisting of:

- Engagement
- Diversity & Inclusion
- Health & Wellbeing
- Core Behaviours.

Consequently, the responses can be viewed and analysed by these same "drivers".

After the end of each pulse-check, Peakon will determine the "drivers" that are strengths for each team and will suggest "drivers" that could be improved. A full list of the drivers is available on the manager dashboard, and each driver has its own dashboard, which can be viewed to better understand the team's feedback and from there initiate possible improvement actions.

Employee Survey Score



Own workforce
Actions

— Competence development

A Learning Management System (LMS) has been established to enhance support for the organisation in competence development. The system offers our employees learning opportunities for their current and future roles. The LMS provides a wide variety of courses, with new courses being developed and added continuously.

Managers will be able to assign courses, create customised learning paths for their teams, and measure their teams' learning progress. All of our workforce is encouraged to utilise the LMS to share knowledge within the company. Eventually, each employee's learning record will be connected to their performance management.

Representatives from all departments within the organisation are included in an established learning forum, which serves as a sounding board and decision-making body for competence development at Polestar. With regular meetings held quarterly throughout the year, the forum makes decisions regarding Learning and Development that concern the entire organisation. Updates are consistently communicated to the representatives, covering learning updates, frequently asked questions, and the exchange of ideas and thoughts.

There are various methods of learning that can be performed through the system:

- E-learning
- Webinar – One-way communication
- Workshop – Interactive sessions
- Forums – Broadcast
- In-classroom – Face-to-face sessions

There is also a Training Corner on Polestar's intranet to increase awareness and engagement with the learning activities available. The Training Corner helps drive traffic to the courses, thereby enhancing learning participation globally.

— Health and safety engagement

The Work Environment Committee or Safety Review Board (SRB) within each unit's line organisation approves objectives and action plans for the work environment. Risks are regularly investigated and assessed, with necessary steps taken in response to any changes. All employees receive the introduction and training required to work safely.

Managers are equipped with the skills, resources, and authority to ensure a good and safe working environment. Employees are expected to follow instructions and procedures, and report any identified risks.

— Other channels of communication

On our company intranet, Parallax, employees are informed on an ongoing basis about changes, announcements, or general information. Various documents, processes, and policies can be found here. Employees have the opportunity to post, comment, and interact.

Global Company Townhalls occur quarterly. These are live sessions designed to keep all employees informed. They are also recorded so that people can watch them at their convenience. The sessions include a Questions and Answers segment, allowing employees the opportunity to ask their own questions.

Global Leadership Townhalls also occur quarterly and are dedicated to employees with a leadership role. These sessions include information sharing and occasionally feature a Q&A or workshop, providing leaders the opportunity to ask their own questions.

Own workforce
Actions

Channels for workforce concerns

— Freedom of association

Polestar strongly believes that employees should have the right to form and join unions, or other associations, of their own choice and negotiate labour agreements collectively, as well as the right not to do so. Properly managed worker committees are steps towards improving the climate in labour-management relations, especially in countries without an adequate institutional and legal framework for recognising trade unions and for collective bargaining.

The union clubs that have formed local clubs in Sweden are Unionen, Akademikerna and Ledarna. Affiliation with or membership in these unions is voluntary, and they are member-driven organisations. The board members are elected, and the structure is built on representative democracy.

The club can represent individual members in discussions with the employer and address concerns raised by the members. They can help negotiate topics such as reorganisations, replacements, and manager hires with the employer, which are subject to co-determination. They support members in individual problem situations and assist in finding solutions. Additionally, they inform members of their rights and duties related to labour law and collective agreements.

— Speak-up culture

A speak-up culture at Polestar ensures that everyone feels comfortable asking questions or reporting misconduct, regardless of their position or the person involved. The Code of Conduct and Corporate Policies apply equally to all. If a violation is noticed or suspected, raising concerns as early as possible is encouraged. The first point of contact for raising concerns is the manager. If speaking to the manager is not an option, employees can approach their HR representative or the Legal Team. For those who prefer to report suspected misconduct anonymously, the whistleblowing system, SpeakUp, is available. The SpeakUp tool can be accessed by all Polestar stakeholders through our external webpage and the homepage on the Polestar intranet.

Read more →
Speak Up

We utilise our employee surveys to measure employee satisfaction and facilitate continuous improvements. The ongoing employee survey not only provides insights into our overall engagement and inclusion scores but also helps identify specific issues and feedback related to serious concerns such as harassment and discrimination.

Read more →
Employee surveys

— Providing remediation

Polestar does not retaliate against individuals who report suspected misconduct. This is clearly communicated to employees through the Code of Conduct, communication on our intranet, other internal communication channels, and annual training on the Code of Conduct. Our Code of Conduct for business partners is published on our external webpage and is available to all stakeholders. If Polestar identifies that it has caused or contributed to adverse impacts regarding human rights, it will take responsibility by either directly providing remediation or working with others to resolve it through legitimate processes.

Own workforce
Performance

Characteristics of Polestar's employees and non-employees

Most employees are based in well-functioning labour markets with low risk of corruption, which means that the labour market institutions are capable of developing legislative and policy frameworks, as well as delivering services that lead to well-functioning labour markets generating decent work opportunities. China, which accounts for 12% of our workforce, is the only region assessed by RBA as being high-risk, making the protection of our employees' human rights and the process to secure this is even more important in that market.

Polestar aims to balance the consultant workforce with permanent employees to ensure effective knowledge transfer, as having a high percentage of consultants in the workforce can pose several risks for organisations. Dependency on external talent might disrupt operations and projects, lead to budget overruns due to potentially higher hourly rates, lack of organisational commitment, security, and confidentiality are examples of associated risks when employees are not permanently employed.

The approach to reporting and tracking race and ethnicity in Sweden differs significantly from many other countries. Collecting data categorised by race, ethnicity, and religion is highly controversial and, to some extent, prohibited by law. This policy of not collecting racially disaggregated statistics is rooted in Sweden's historical context. As Polestar's headquarters and the majority of our workforce are based in Sweden, we are subject to these regulations and, therefore, do not report details on employee ethnicity, race, or religious beliefs with the exception for markets were its legally required. Instead, our focus is on promoting anti-racism, eliminating discrimination, and ensuring equal opportunities for all.

Most of Polestar's employees and non-employees are office staff and sales staff. Polestar has limited employees in its own manufacturing operations, reducing typical labour issues found in production settings. There is a strategic initiative established to secure human rights in manufacturing, including the workers in the value chain that are hired through our manufacturing business partners, Volvo Cars and Geely. Workers in manufacturing operations for Polestar 2, 3, and 4, as well as the blue-collar workers for Polestar 5, which has not yet entered production, are not part of our own workforce but part of the workers in the value chain.

Read more →
Human Rights in Manufacturing initiative

Own workforce
Performance

Characteristics of Polestar's employees and non-employees*

- There are zero seasonal variations in the number of employees throughout the year.
- There are zero employees with non-guaranteed hours.

Total all employees	2024	2023	2022
Total employees (HC)	2,261	2,517	2,377
New hires	266	606	1,213
Rate of recruitment %	12	24	51
Employee turnover %	24	19	13
Non-employees	286	484	981

*Fluctuations in the number of non-employees during the reporting period have been partly caused by the nature of voluntary turnover and heavily due to headcount reduction of 15% in all regions, on a company level.

Global breakdown of employees
North America 5%

	2024	2023	2022
Total employees (HC)	105	101	99
New hires	17	22	52
Rate of recruitment %	16	22	53
Employee turnover %	13	22	16
Non-employees	4	7	-

Number of employees per city (country)
12 Montreal (Canada)
93 California, Charleston, Florida, Mahwah NJ, Rockleigh, Sunnyvale (USA)

Global breakdown of employees
EMEA 81%

	2024	2023	2022
Total employees (HC)	1,835	2,066	1,841
New hires	203	500	954
Rate of recruitment %	11	26	52
Employee turnover %	24	14	10
Non-employees	272	470	-

Number of employees per city (country)
26 Vienna (Austria)
37 Brussel (Belgium)
34 Copenhagen (Denmark)
14 Helsinki (Finland)
46 Köln (Germany)
4 Dublin (Ireland)
21 Milano (Italy)
2 Luxemburg (Luxemburg)
52 Amsterdam (Netherlands)
38 Olso (Norway
4 Lisbon (Portugal)
19 Madrid (Spain)
1,037 Gothenburg, Malmö (Sweden)
31 Zürich (Switzerland)
470 Coventry (United Kingdom)

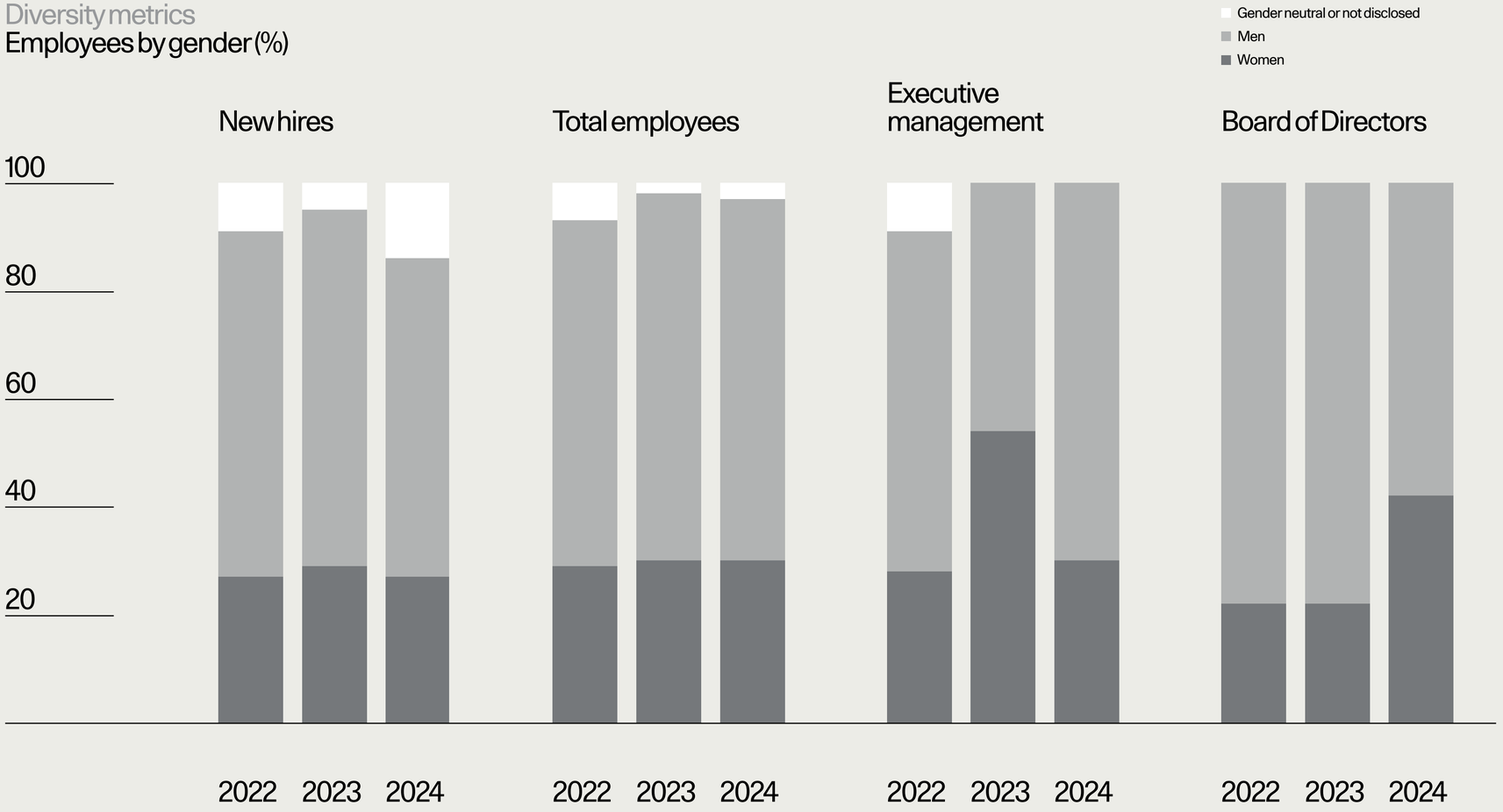
Global breakdown of employees
Asia Pacific 14%

	2024	2023	2022
Total employees (HC)	321	350	437
New hires	46	84	207
Rate of recruitment %	14	21	47
Employee turnover %	26	41	22
Non-employees	10	7	-

Number of employees per city (country)
24 Brisbane, Melbourne, Sydney (Australia)
281 Shanghai, Chongqing, Chengdu, Shenzhen (China)
15 Seoul (South Korea)
1 Singapore (Singapore)

Own workforce
Performance

Diversity metrics
Employees by gender (%)

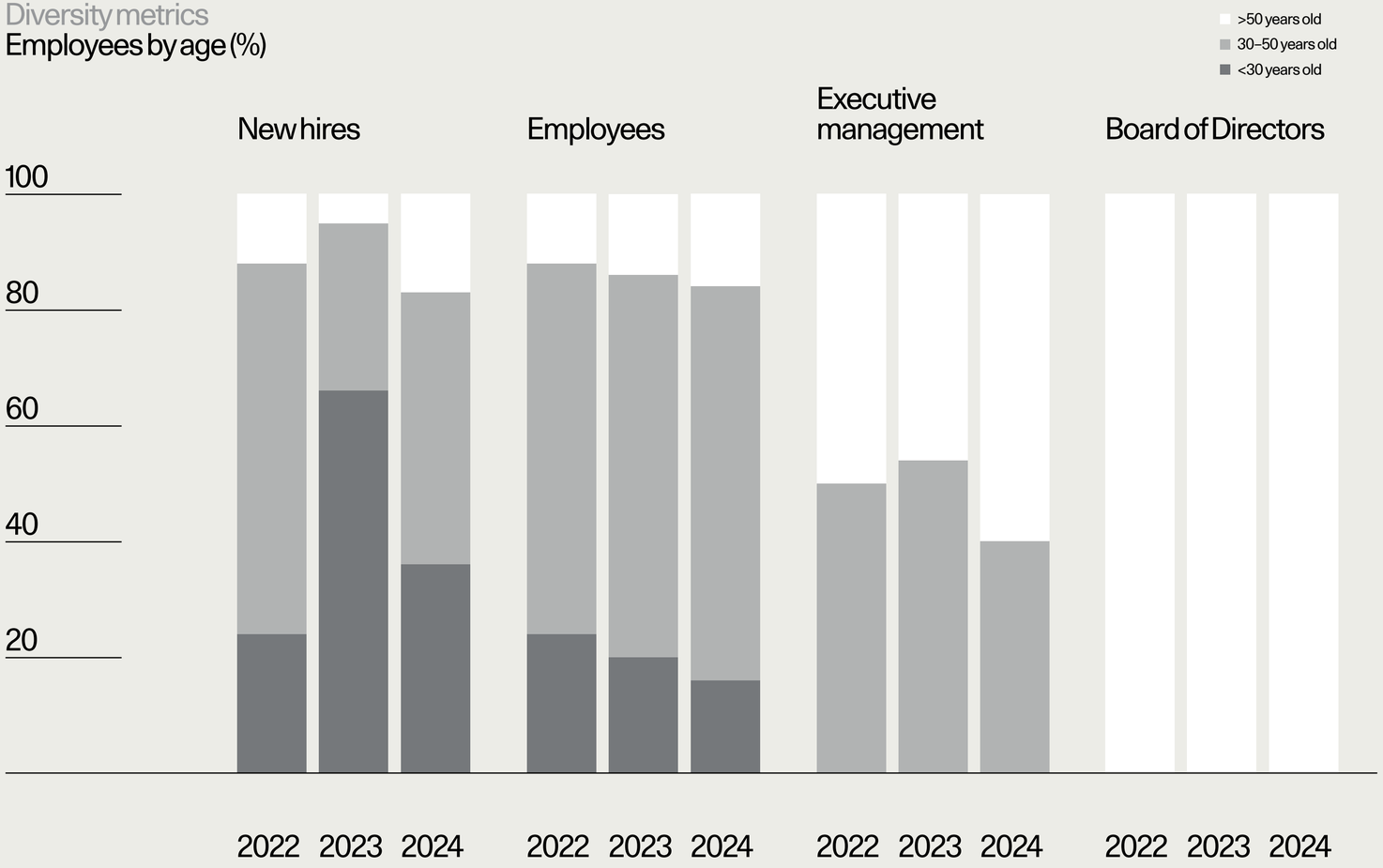


Own workforce
Performance

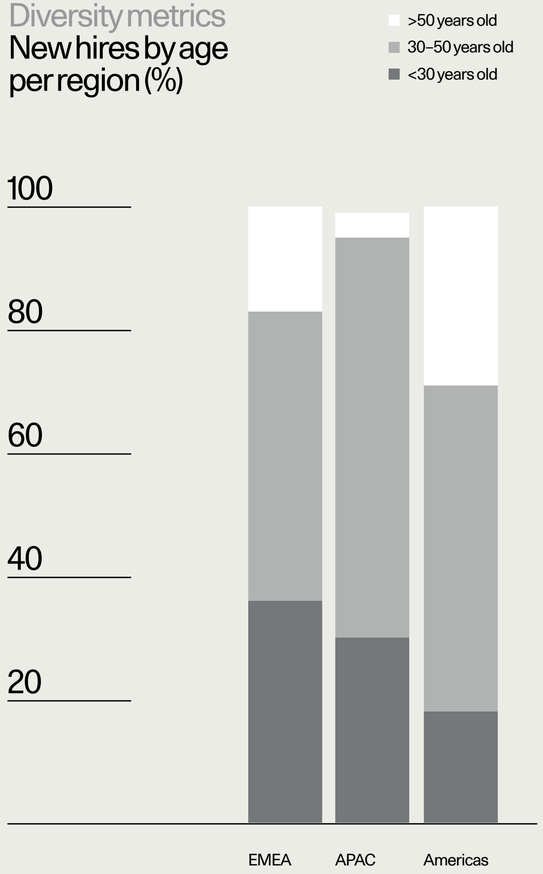
Employees by gender

	Men			Women			Gender neutral or not disclosed		
	2024	2023	2022	2024	2023	2022	2024	2023	2022
Total number (HC)	1,524	1,704	1,510	679	743	687	58	70	180
Out of total employees %	67%	69%	64%	30%	30%	29%	3%	1%	8%
Executive Management %	70%	46%	63%	30%	54%	38%	0%	0%	0%
Board of Directors %	42%	78%	78%	58%	22%	22%	0%	0%	0%
New hires	171	401	717	70	173	329	25	32	167
New hires, share per gender %	64%	66%	59%	26%	29%	27%	9%	5%	14%
Permanent employees	1,349	-	-	600	-	-	32	-	-
Temporary employees	175	-	-	79	-	-	26	-	-
Share of permanent employees %	89%	98%	85%	88%	98%	85%	55%	95%	58%
Share of temporary employees %	11%	2%	15%	12%	2%	15%	45%	5%	42%
Full-time employees	1,502	-	-	665	-	-	54	-	-
Part-time employees	2	-	-	2	-	-	2	-	-
Share of temporary full-time employees %	99%	98%	99%	98%	97%	99%	93%	95%	96%
Share of temporary part-time employees %	0.1%	1%	1%	0.3%	4%	1%	3.4%	5%	4%
Rate of recruitment %	11%	24%	47%	10%	23%	48%	43%	46%	93%
Total Employee turnover	356	-	-	156	-	-	21	-	-
Total Employee turnover %	23%	16%	12%	23%	18%	14%	36%	90%	28%

Diversity metrics
Employees by age (%)

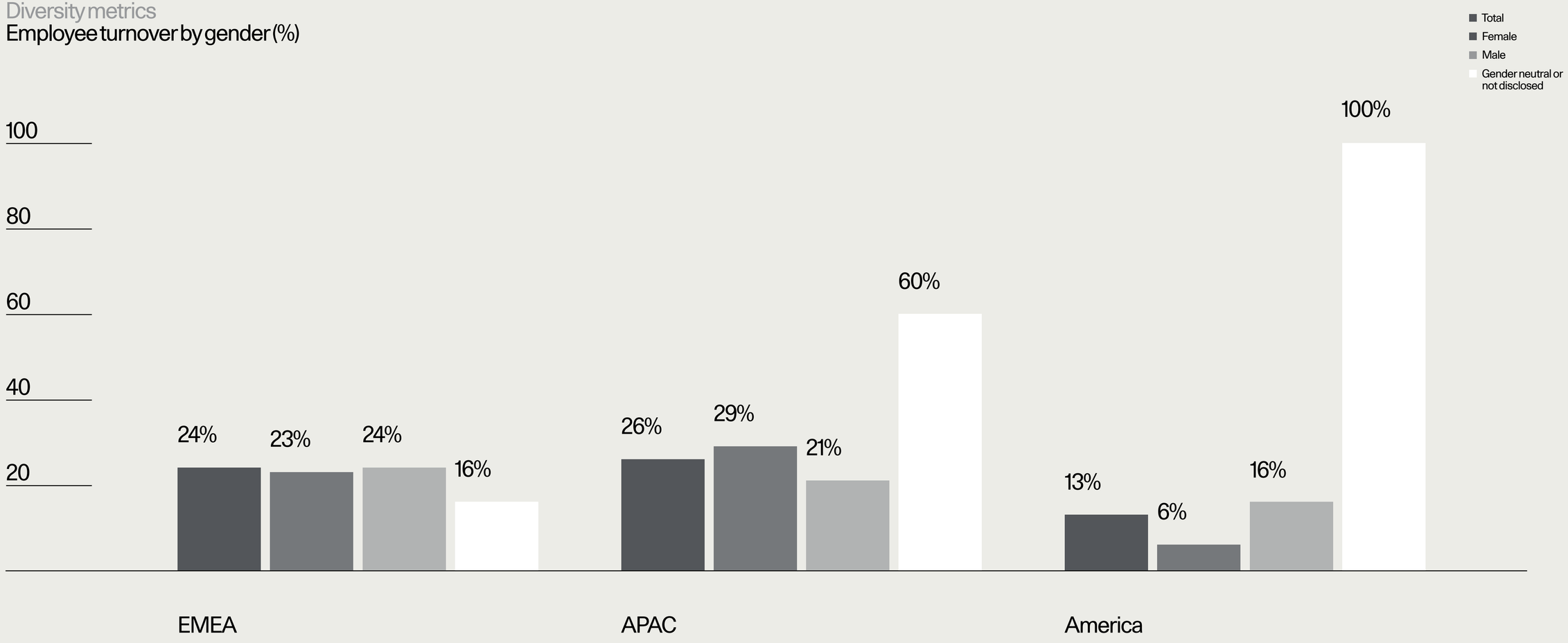


Diversity metrics
New hires by age per region (%)

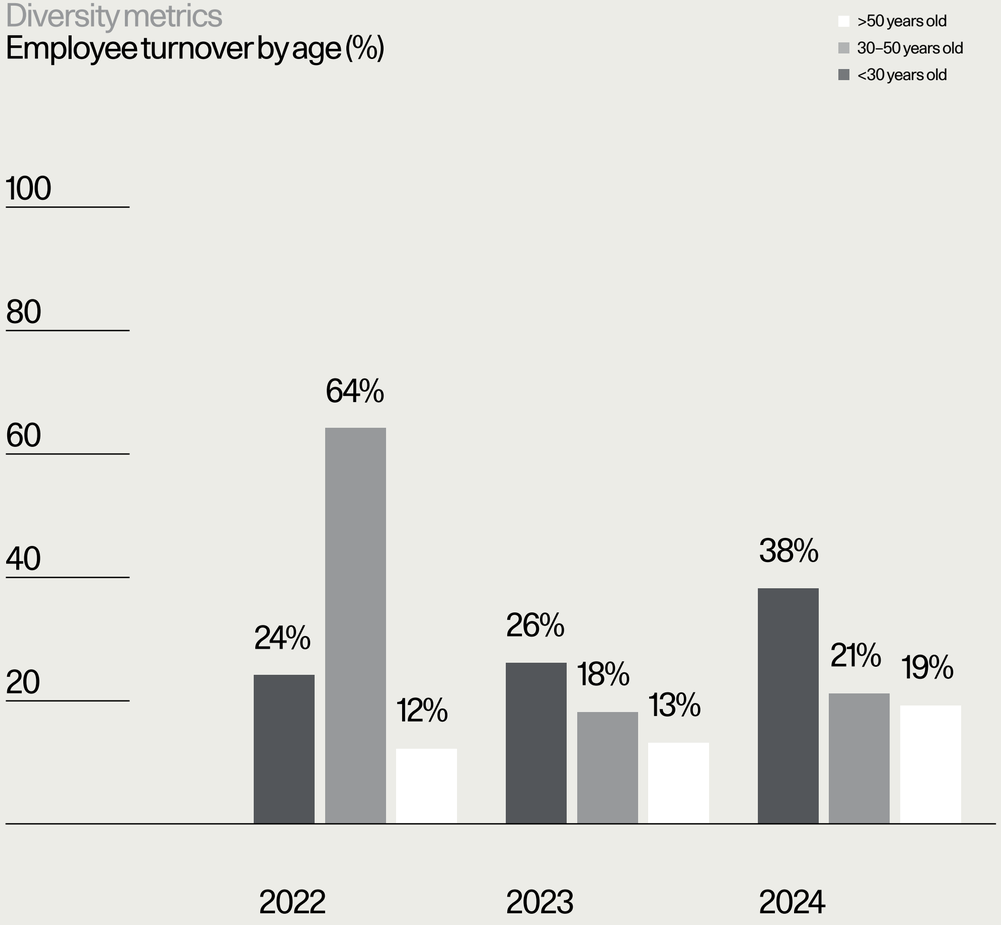


Diversity metrics

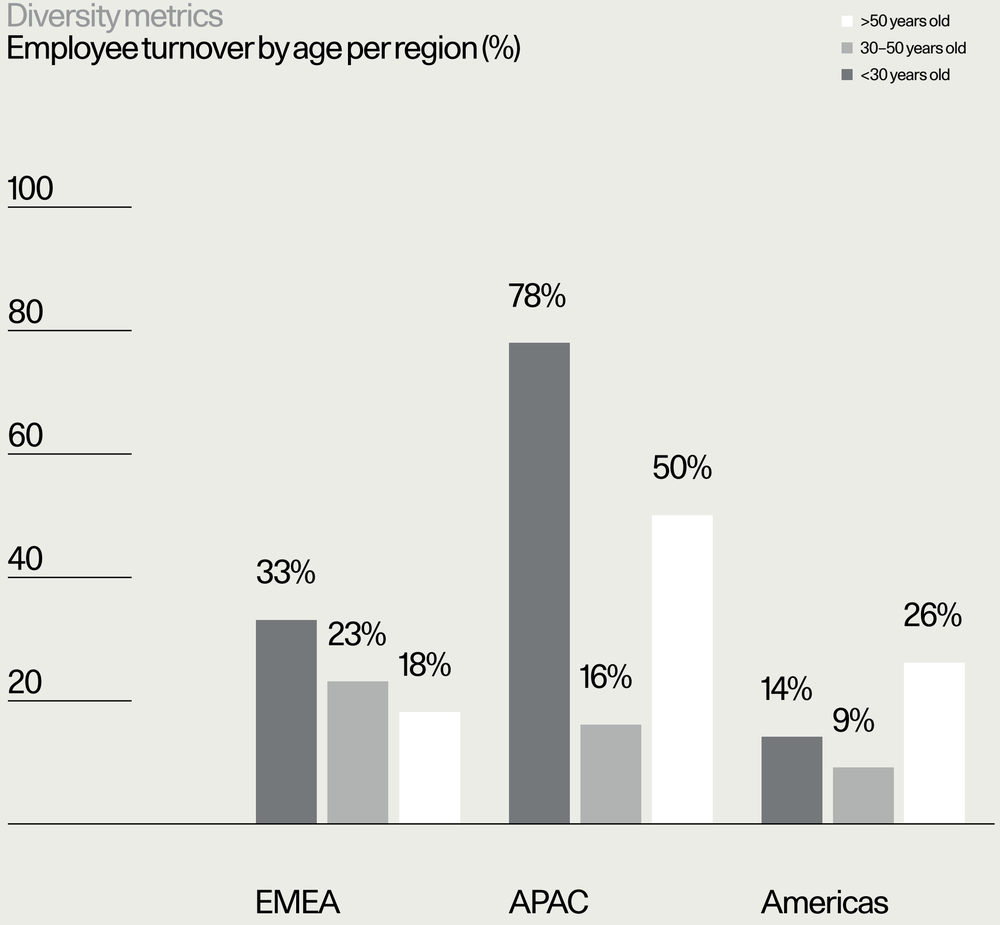
Employee turnover by gender (%)



Diversity metrics
Employee turnover by age (%)



Diversity metrics
Employee turnover by age per region (%)



Own workforce
Performance

Fair employment performance

Polestar strives to be a responsible employer with fair employment terms that support work-life balance with fair remunerations, in a healthy environment where individuals can thrive, feel safe, and where freedom of association and collective bargaining are encouraged. Polestar prohibits the use of forced labour and child labour. The objective is for all employees to feel comfortable, connected, and valued for their contributions to the workplace.

— Freedom of association and collective bargaining

Polestar employees have the right to form or join associations of their choice concerning the relationship between the employer and employees, and to engage in collective bargaining.

Disciplinary or discriminatory actions against employees who choose to peacefully and lawfully organise or join an association are not tolerated. Intimidation of any kind to obstruct other employees' right to freedom of association or the right to remain unorganised is prohibited.

In 2024, Polestar had 1,164 employees, of whom 51% (2023: 54%) were covered by collective bargaining agreements. The countries currently with collective bargaining agreements are Austria, Belgium, Finland, Italy, the Netherlands, and Sweden.

Countries with collective bargaining agreements

Country	Number of employees	% of employees covered by collective agreement
Polestar total	1,164	51%
Austria*	26	100%
Belgium*	37	100%
Finland*	14	100%
Netherlands*	51	98%
Sweden*	1,036	99.9%

*These countries are within the European Economic Area.

Own workforce
Performance

— Fair remuneration

Polestar is committed to providing compensation and benefits that attract, motivate, and retain the employees who are essential for successfully executing our strategies. The goal is to foster a sustainable and high-performing culture that recognises good performance and behaviour, in alignment with our ambitious long-term objectives.

Compensation, rewards, and recognition at Polestar are based on transparent and non-discriminatory principles. Discriminatory differences related to race, religion, gender, national origin, age, sexual orientation, disability, or any other unjust factor are never tolerated.

Our compensation structure is designed to optimise performance, both in the short and long term. We strive to offer flexible compensation and benefits solutions that cater to the diverse needs of our workforce. Recognising that these needs change with age and life circumstances, we make efforts to provide adaptable options to accommodate these differences.

Read more →
Compensation committee

An essential aspect of having an equitable work environment is ensuring fair and equal pay for all employees. Clear remuneration principles and a structured salary process are in place to support this commitment. As part of our dedication to transparency, we are actively working to fulfil the requirements set out in the Directive on Transparent and Predictable Working Conditions in the European Union ("EU Pay Transparency Act"), which aims to improve pay transparency across the EU and address the gender pay gap by ensuring workers have access to information regarding pay and conditions.

Employees receive working conditions that comply with statutory requirements, including written information in an easily understandable language about their terms of employment, salaries, and benefits before starting employment. There is a firm stance against forced labour, including debt bondage, trafficking, or other forms of modern slavery. Employees are not required to deposit identity papers at the start of employment and are free to leave after a notice period, as required by law and contract.

Salaries and benefits at Polestar are aligned with legal or industry standards and are always equal to or above the defined living wage. Employees are covered by a pension or employee savings trust plan and insurance benefits, provided either by Polestar or another entity. Information on salaries and benefits is accessible to individual employees in accordance with applicable law. Employees receive details of their salaries for each pay period. No salary deductions are permitted without the employee's express permission, unless provided for by national law, collective labour agreements, or in accordance with the employee's terms of employment.

Read more →
Gender pay gap

— Social protection

All Polestar employees, as well as non-employees in all countries where we have operations, are covered by social protection against loss of income due to major life events, either through public programmes or through benefits offered by the company.

Own workforce
Performance

— Work-life balance

We believe in and are aiming for working conditions and terms of employment that, as far as possible, provide equal opportunities for all and support a healthy balance between work and private life. There is a belief in freedom with responsibility, offering flexibility to manage private matters as long as it does not impact job performance. All employees are entitled to either 25 or 30 days of vacation each year, which can be taken as paid, unpaid, or loan/advance days.

To promote work-life balance, compliance with national legislation and collective bargaining on working hours is essential, and there is a commitment to respecting employees' right to leisure time and their availability outside working hours

Various types of absence are available depending on the nature of the leave, including vacation, sick leave, sick child leave, parental leave, short paid leave, leave with pregnancy allowance, second parental leave, time bank time off, and unpaid leave. Parental benefit is provided to allow employees to stay with their child instead of working. To ensure approval, all types of parental leave must be announced at least two months in advance by submitting a request. If eligibility requirements are met, a supplementary payment called Parental Pay will be provided in accordance with the collective agreement.

Parental Leave Statistics

KPI	Female employees	Male employees	Gender neutral or gender not disclosed	Total
Entitled to take family-related leave	679	1524	58	2,261
Employees that took family-related leave	265	454	0	719
Percentage of entitled employees that took family-related leave*	39%	30%	0	32%
Total number of employees that took parental leave	118	103	0	221
Total number of employees that returned to work in the reporting period after parental leave ended	109	96	0	205
Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work	105	85	0	190
Total number of employees that returned to work in the PRIOR reporting period after parental leave ended	28	71	1	100
Return to work rate	92%	93%	N/A	93%
Retention rate	89%	83%	N/A	86%

*Family-related leave consists of both long-term family-related leaves (parental, child-care, maternity, etc) but also short-term time-off (care of sick child, emergency leave, etc)

Own workforce
Performance

— Training and skills development

Our goal is to invest in our employees by providing opportunities to enhance their competence through the development of specific skills. We believe in harnessing internal talent, fostering growth, and creating a culture of continuous learning.

Polestar Learning Management System (LMS) offers our employees a variety of learning opportunities. The Training Corner on Polestar's intranet helps drive traffic to the courses in the system, thereby enhancing learning participation globally.

Polestar employees received 6,936 hours of training during 2024.

Throughout the year, mandatory training was conducted for all employees on the Code of Conduct, Information Security, and Procurement Policy. These training courses are essential for fostering a respectful, ethical, and compliant workplace, addressing key topics such as discrimination, human rights, and security concerns. Additionally, employees participated in Polestar's Ignite Onboarding Programme, designed for new hires, as well as specialised deep-dive sessions on areas such as transparency, health and safety, and other relevant topics for specific employee groups.

Read more →

Performance and career development

To help upgrade employee skills, we offer a range of opportunities, including online training, classroom training, external management training, mentorship programmes, individual training plans, leadership labs, and townhalls.

The scope of the programmes implemented to enhance employee skills covers a wide array of areas, including:

- Brand & Marketing
- Business & Strategy
- Development
- Customer Experience
- Design
- Digital
- Finance
- Global Communication & PR
- Global Sales
- Human Resources
- Knowledge Sharing
- Legal
- Manufacturing
- Operations
- Planning & Pricing
- Product Development
- Quality & Logistics
- R&D
- Sustainability

In addition to regular one-to-one meetings held throughout the year to upgrade employee skills, individual priorities are developed for each employee in collaboration with their manager at least once a year, along with a year-end performance review. Job shadowing, job swaps, referral programmes, exit interviews, and feel-good support are examples of transition programme initiatives aimed at supporting continued employability. Other transition assistance programmes are provided if and when there is a termination of employment. In Sweden, collaboration with Trygghetsrådet is established to help facilitate the management of career endings.

Average number of training hours per employee

Own workforce
Performance

— Health and safety

Health and safety are an essential priority across all of our operations. All operations, employees, and contractors are expected to adhere to global health and safety standards and relevant regulations.

The long-term objective is to ensure that no one is fatally or seriously injured at work, with a proactive approach to achieving a safe and secure workplace. The Work Environment Directive applies to all employees and agency personnel working at Polestar's premises or under our direction. A systematic work environment programme is implemented at every site and reviewed annually. An occupational health and safety management system, based on the recognised risk management and management system ISO 45001, has been voluntarily implemented, although it has not been externally verified.

Health and Safety Indicators	Employees	Non-employees	Other workers*
Number who are covered by a health and safety management system which is based on legal requirements and/or recognised standards or guidelines and which has been internally audited and/or audited or certified by an external party [Headcount]:	2,261	0	-
Fatalities as a result of work-related injuries	0	0	0
Fatalities as a result of work-related ill health	0	0	0
Recordable work-related accidents (excluding fatalities)	0	0	-
Total recordable work-related accidents	0	0	-
Rate of recordable work-related accidents	0	0	-
Cases of recordable work-related ill health	0	0	-
Days lost to work-related injuries and fatalities from work-related accidents and work-related ill health and fatalities from ill health	0	0	-
Total hours worked in the company's own workforce*	4,641,573	0	-

*Other workers would be required to report accidents / incidents when working on behalf of Polestar as per the requirements of regular employees.

Own workforce
Performance

The Work Environment Committee or Safety Review Board within each unit's line organisation approves objectives and action plans for the work environment. Risks are regularly investigated and assessed, with necessary steps taken in response to any changes. Work-related hazards posing risks of high-consequence injury include electricity, work equipment, use of company vehicles, working at height, hot work, and fire. Other identified work-related health issues include stress and conditions related to exposure to hazardous substances.

All employees receive the necessary introduction and training to work safely. A basic introduction outlining key health and safety policies and procedures is provided at the start of employment. Specific health and safety training is then delivered based on job role, function, or department, following a training needs analysis.

The training needs analysis evaluates employees' skills, knowledge, and abilities to determine the necessary training for performance improvement. This assessment can be conducted at three levels: organisational, occupational, and individual. The organisational level addresses the broader performance of the organisation, the occupational level focuses on specific job requirements, and the individual level concentrates on the employee's performance and development needs.

Effective training content is developed using visual aids, real-life examples, case studies, and interactive training sessions and workshops. The training content is structured with clear objectives to help employees learn about health and safety. Visual aids, such as videos and graphics, assist employees in understanding how to implement health and safety learning into their day-to-day work. Real-life examples and case studies reinforce the importance of health and safety. Interactive training sessions and workshops provide opportunities for employees to practice what they have learned. A variety of topics are covered to ensure a high level of safety competency, including various levels of electric vehicle safety and a specialist driver training programme.

Managers are equipped with the skills, resources, and authority to create a safe working environment. Employees are required to follow instructions and procedures and report any identified risks. A centralised information hub has been established on our intranet, providing access to relevant Occupational Health and Safety (OHS) materials. Critical OHS information is disseminated through clear communication channels, regular meetings, and training sessions, ensuring that information is easily understandable, up-to-date, and readily available to all workers.

Open communication channels are developed to ensure regular updates on OHS matters, including meetings and online platforms. Workshops are conducted with workers to collectively assess workplace risks and encourage discussions on potential hazards and effective control measures. Workers are included in incident investigations, as their firsthand experiences provide valuable insights into root causes and potential preventive measures. The performance of safety measures is collaboratively monitored, with indicators established and workers involved in assessing progress towards safety goals. By integrating workers into the development, implementation, and evaluation of the OHS management system, collective expertise and commitment are harnessed, fostering a safer and healthier work environment.

Quarterly meetings of the Work Environment Committee are held at Polestar headquarters, where the committee is responsible for collaboratively identifying and addressing workplace hazards, conducting regular risk assessments, reviewing safety policies, promoting employee training, investigating incidents, and facilitating ongoing communication between management and workers to ensure a safe and healthy work environment. The Work Environment Committee has the authority to decide on policies, allocate resources, and shape the direction of the entire organisation.

Applying the hierarchy of control is fundamental to the risk assessment process. The aim is to address hazards early to eliminate them before they become problematic. Substitution techniques are utilised within the chemical management process, and robust engineering controls are implemented across manufacturing and R&D facilities. Documented administrative procedures ensure employees are aware of necessary precautions. While Personal Protective Equipment (PPE) is considered a last resort, its use is mandated where necessary and provided free of charge to employees.

Efforts are made 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, with employees expected to contribute and participate in these activities. Each unit has guidelines and routines for work-related rehabilitation. The line organisation sets objectives and decides on action plans to follow up on rehabilitation.

Each Polestar site has an occupational health service provider offering preventive and rehabilitation care. Employees are also offered annual health benefits, and blue-collar employees receive occupational health check support. Additionally, all employees have access to non-occupational medical and healthcare services, including:

- Offering health insurance or health coverage benefits
- Providing information on local healthcare providers and clinics
- Arranging on-site health screenings or flu vaccination programmes
- Offering flexible work schedules to accommodate medical appointments
- Providing resources or assistance for appointment scheduling and transportation

We provide employees with voluntary health promotion services to address non-work-related health risks. These services include fitness classes, nutrition workshops, smoking cessation programmes, and mental health support.

These initiatives aim to improve overall well-being, enhance employee productivity, and create a healthier workplace culture by addressing major health concerns outside of work-related activities. Promoting employee engagement in Employee Assistance Programmes (EAPs) involves creating awareness, fostering a supportive culture, and providing resources that encourage employees to utilise the services. Polestar employs various techniques to achieve this, including communication and education, ensuring confidentiality, providing leadership support, conducting promotional campaigns, and incorporating mental health into the work culture.

Secure storage systems are utilised, with access limited to authorised personnel only, and encryption is ensured for electronic records. Strict adherence to privacy policies is maintained, with staff trained on confidentiality protocols and regular audits conducted to uphold privacy standards.

The electronic incident reporting system enables employees to proactively report near misses, unsafe conditions, and unsafe behaviours. Information within the system is reviewed to identify trends and patterns, using the data to prevent accidents before they occur. Continuous improvements to this process are sought, encouraging employees to identify workplace hazards. We clearly communicate our anti-retaliation stance internally, fostering a positive workplace culture by creating an open environment where employees feel comfortable voicing concerns without fearing reprisals.

Polestar operates an OHS policy known as STOP-CALL-WAIT, which encourages employees who identify hazards to cease the activity, communicate with the relevant party, and identify a suitable solution to proceed safely. This policy is applicable in various scenarios, including changes to the work scope, unscheduled events, incomplete understanding of the task, observations with potential safety impacts, identification of previously unrecognised hazards, or when there is a need to ask for help or assistance.

The main types of work-related injuries are:

- Hand and finger injuries
- Bruises and lacerations resulting from slips, trips, and falls

To investigate workplace incidents, relevant information is gathered from various sources, including witnesses, photographs, and documents. The collected information is analysed to identify the root cause of the incident, and based on this analysis, measures are identified to prevent similar incidents in the future.

An action plan is developed and implemented to address identified risks. When deciding on corrective actions, the hierarchy of control is considered to prioritise the elimination of hazards over less effective measures, such as PPE, wherever possible.

Continuous improvement in the OHS management system is identified through various methods, including risk assessment, incident reporting, inspection, audit, and management review.

— Health and safety Incidents

In 2024, high levels of employee training and robust risk assessment procedures contributed to achieving zero notifiable or lost-time accidents. There were zero reported cases of work-related ill-health or work-related fatalities, encompassing Polestar employees, consultants, and agency personnel. Additionally, there have been zero stoppages, days idle, or lost.

Own workforce
Performance

Inclusive Workplace performance

We are focused on building a workforce that better represents our customers and our world, and we strive to bring in different personal experiences, perspectives, and backgrounds. It is in our differences that we will thrive and we are committed to making diversity, equality, and inclusion part of everything we do. We have set out key priorities such as inclusive recruitment, inclusive retention, and inclusive leadership to ensure that we find the right competencies and ensure continued employee engagement, a prerequisite for our continued success.

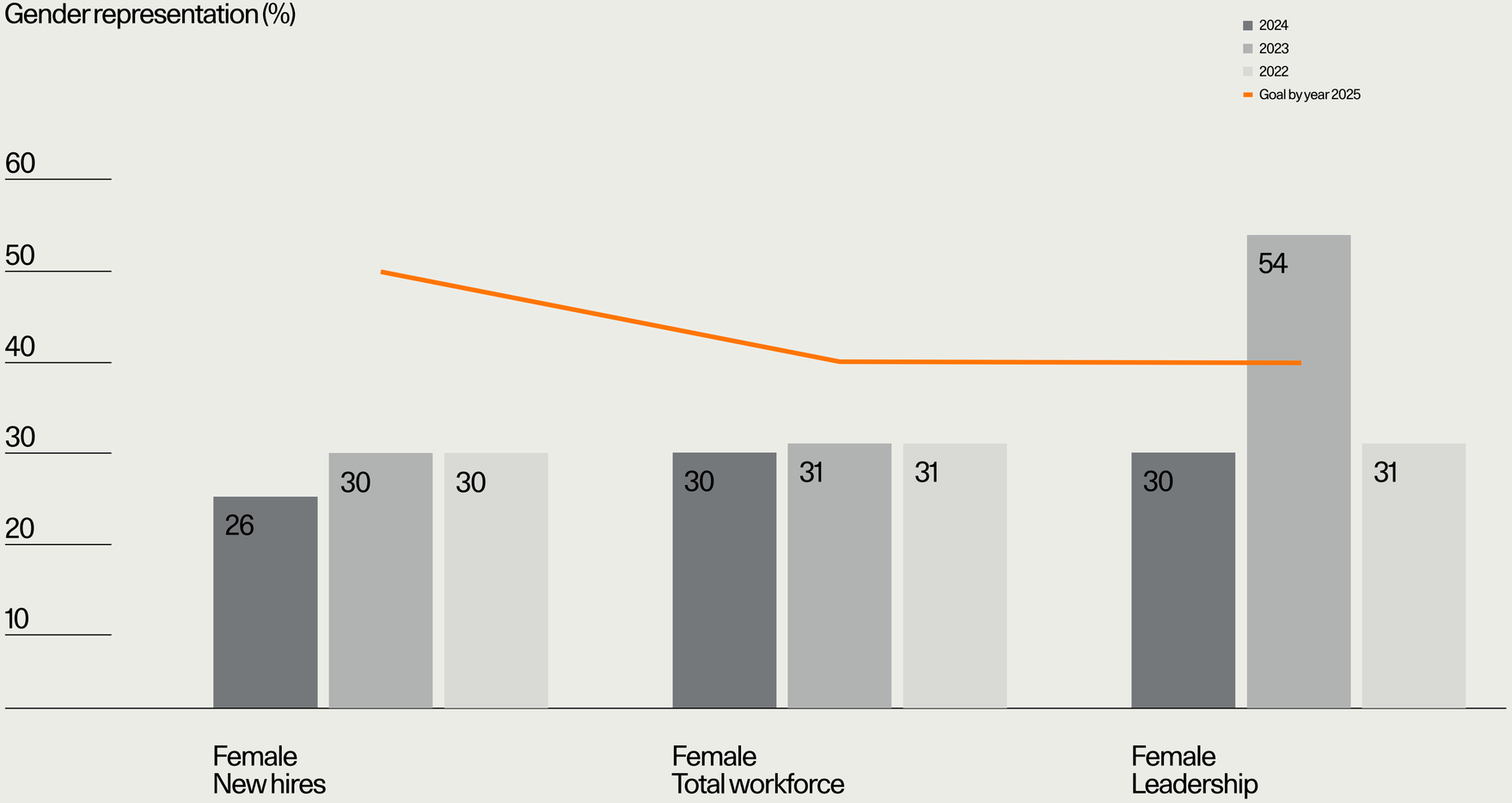
— Equal Opportunities

Polestar works to ensure equal treatment and opportunities; the ambition is to become the world's most diverse and inclusive electric vehicle company. We are relentlessly aiming to create an inclusive workplace and seek feedback on inclusion through our employee surveys (as described on page 112). We have achieved an Inclusion Index score of 8.7 (2023: 8.8), with a target to continuously strive for 9.0. The Inclusion surveys encompass questions related to diversity, inclusiveness, and non-discrimination.

Given the male dominance in the automotive industry, closing the gender gap is a key priority for us. We are implementing an unbiased recruitment process with the ambition to achieve a 50/50 gender balance among new hires as well as increasing the number of hires of individuals with diverse sexual orientations. The overall ambition is to create a total effect for at least 40% female representation versus men in the overall global workforce as well as in leadership roles.

The underrepresentation of various genders in the industry, coupled with the male dominance in STEM fields (science, technology, engineering, and mathematics) and education, presents a significant challenge for us.

Gender representation (%)



Own workforce
Performance

— Closing gender pay gap

The gender pay gap is a significant issue that affects women in the workforce globally. We are committed to promoting equal pay for equal work and reducing the gender pay gap within our organisation. Our compensation should not be affected by gender, race, religion, national origin, age, sexual orientation, disability, or any other unjust factor.

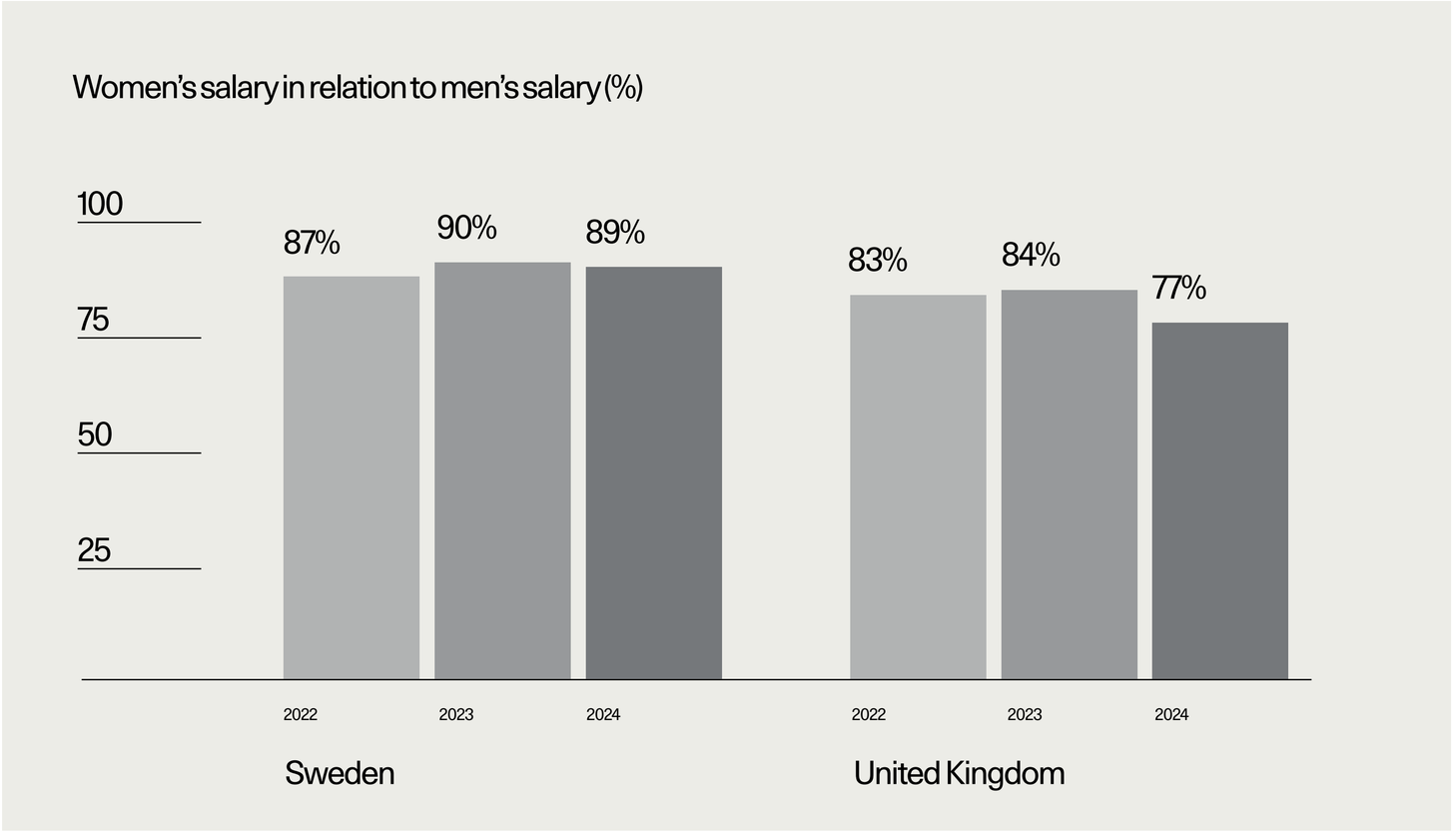
In 2024, our analysis of the raw gender pay gap showed a difference in median earnings between male and female employees. This difference is primarily due to a higher representation of men in senior leadership positions and in certain specialist roles with higher pay scales. The gender pay analysis was also made on a "similar job basis", and this analysis showed a lower pay gap.

In response to this issue, Polestar has taken several steps to address the gender pay gap and promote equal pay for equal work. These steps include regularly conducting pay equity analyses, offering leadership development opportunities to women and underrepresented groups, and implementing programmes aimed at increasing the representation of women in senior leadership positions.

We recognise that closing the gender pay gap is an ongoing effort that requires sustained attention and action. Moving forward, we will continue to monitor and address the gender pay gap through regular pay equity analyses and ongoing initiatives aimed at promoting diversity, equity, and inclusion in the workplace. We believe that a diverse and inclusive workplace, where all employees are valued and fairly compensated, is key to the success and growth of Polestar.

In 2024, a gender pay analysis was conducted in the two largest countries of operation, Sweden and the UK:

Country	% of female employees	% of male employees	Total number of employees
Sweden 2024	37%	63%	1,035
Sweden 2023	36%	62%	1,198
Sweden 2022	36%	62%	1,150
UK 2024	18%	82%	474
UK 2023	20%	80%	528
UK 2022	18%	82%	522



Own workforce
Performance

— Discrimination

Discrimination is not tolerated and is defined as a severe violation at Polestar. Discrimination in employment and occupation occurs when someone is treated differently or less favourably because of characteristics that are not related to merit or the inherent requirements of the job. Examples may include if female employees receive a lower salary than a male colleague with the same or equivalent job, if recruiting staff do not choose to call a person for an interview due to a foreign-sounding name, if an employee with a visual impairment is refused improved lighting, or if harassment and discrimination occur during a business trip. Polestar fosters a speak-up culture, encouraging employees to ask questions and raise concerns without fear of retaliation.

— Employment of persons with disabilities

Polestar does not track and report persons with disabilities unless it is a legal requirement to do so, as in Germany and Italy.

— Differences in the provision of benefits to employees with different employment contract type

Our philosophy is to offer the same benefits to all employees, as far as possible. We do not make any distinction between part-time and full-time employees. The standard benefit package in each country is based on local legislation, collective agreements, and the local market situation. We aim to offer a competitive benefits package, focusing on health, retirement, and car benefits. In our major countries, we offer a share matching plan, in which both part-time and full-time employees can participate.

Workers in the value chain
Introduction

Trade and investment, alongside social sustainability, have the potential to positively impact people and communities. However, significant income disparities persist, and vulnerable individuals within complex global supply chains face disproportionate risks. If the importance of inclusion is not recognised in business practices and decisions, there is a significant risk of discrimination, welfare disparities, worker exploitation, and human rights abuses.

We are committed to protecting human rights and embedding social justice principles in the transition to electric mobility as we build strong human rights partnerships. We recognise that breakthrough solutions to these issues will require concerted collaboration across private and public sectors. Through responsible sourcing, and together with our business partners and suppliers, we track results and actions with the purpose to mitigate negative human rights impacts in our value chain. Polestar is also part of several multi-stakeholder initiatives to have an even greater impact when we inspire and collaborate with others to drive change.

Workers in the value chain
Material impacts, risks, and opportunities

Identifying risks and opportunities related to workers in value chain

As a part of our double materiality assessment (DMA), we identified and assessed risks and opportunities related to workers in our value. The assessment examined sub-topics such as working conditions, access to equal opportunities as well as other work-related rights.

Identified negative potential impact relates to working conditions and other work-related rights. Working conditions also pose financial risks. Associated risks are particularly acknowledged within the supply chain of components and parts for cars. Migrant workers, including domestic migrants, children, and indigenous peoples, often face disproportionate risks. As demand for minerals in the electric vehicle industry rises, so do the social challenges linked to their extraction and processing, particularly in certain countries. The conditions surrounding mineral extraction and refining are particularly precarious and trading with high-risk materials, such as 3TG (tin, tantalum, tungsten, and gold), might fund high intensity conflicts.

Insights gained from the DMA assist us in defining actions and priorities to mitigate the identified risks such as seeking to secure fundamental principles of human rights in our supply chain and in our manufacturing.

Read more→
Our double materiality assessment process

Working conditions

Polestar has identified several areas where potential negative impacts on workers may occur. Within tier 1, 2, and 3 suppliers, concerns arise regarding excessive working hours and limited freedom of association. Among tier 2 suppliers, such as process industries and smelters, health and safety risks become more pronounced. As the distance from direct oversight increases, the risk of poor working conditions, inadequate wages, and lack of social dialogue also rises. These issues are exacerbated by severe conditions in sectors like mining. The risks are widespread across various tiers and regions, making the scope of the impact extensive. Violations of workers' rights can lead to strikes, protests, or other forms of labour unrest, causing disruptions in the supply chain and potential revenue loss. Negative publicity from worker rights violations can severely damage our reputation and lead to a loss of investor confidence. Ensuring ongoing compliance with labour laws and regulations requires continuous monitoring and auditing, which can be costly. Failure to comply can result in further financial penalties and operational disruptions.

Other work-related rights

Child labour presents a significant risk within the value chain, particularly in high-risk regions at the fringes of supply chains where raw materials are extracted. Forced labour is another critical issue. It is recognised that forced labour can occur across all sectors and industries. Workers in remote areas or sectors with housing shortages are likely to face challenges in accessing safe, healthy, and adequate housing, as well as limited access to water and sanitation. This is particularly relevant for those in mining operations within high-risk regions.

The changing legislative landscape in many countries has introduced national security laws that may erode the ability to enforce global privacy and data protection policies. The value chain might be difficult to influence on the topic of ensuring privacy and data protection, especially given these challenges.

Potential negative impacts of child labour, forced labour and lack of adequate housing are significant and widespread, prevalent across various tiers and regions, making the scope extensive. Addressing these negative impacts is challenging over the long term, requiring dedicated efforts, resources, audits, and supplier engagements. Failure to achieve this can lead to reputational damage, shipment detentions, and disruptions to normal business operations. The financial impact is considered medium, and the likelihood is relatively low due to the limited supply chain size, with severity expected to remain consistent over time.

Workers in the value chain
Policy and position papers

Policies for human rights in the supply chain

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
- The ILO'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, the same level of commitment is expected from our business partners, including our suppliers.

The requirements and guiding principles for business partners concerning working conditions, human rights, business integrity, and the environment are outlined in the Code of Conduct for Business Partners. This includes principles on:

- Preventing forced labour or modern slavery
- Preventing child labour
- Respecting the right to freedom of association and collective bargaining
- Non-discrimination and equal opportunities
- Requirements for proper management relating to terms of employment, wages, benefits, working hours, and health and safety

Polestar Sustainability Policy describes how we manage sustainability, conduct due diligence, and adopt principles for sustainability.

The Procurement Policy, together with our Human Rights Strategy, are additional documents that help, support, and guide the organisation on how to ensure the core principles of human rights in the value chain. During the procurement process, all suppliers need to acknowledge and agree to the Polestar Code of Conduct for Business before any orders are placed.

In addition to our existing policies, Polestar is actively engaged in addressing key issues through specific position papers, including:

- Inclusion Position Paper
- Position on Conflict Minerals

Read more →
Actions

— No forced or compulsory labour

Modern slavery is a comprehensive term encompassing forced and compulsory labour, child labour, servitude, human trafficking, and similar violations. Forced labour can involve unreasonable fees leading to debt bondage, restriction of movement, abusive living and working conditions, wage withholding, and retention of personal documents.

Read more →
Legal ethics

— No child labour

Businesses must collaborate to ensure employment is not offered to anyone younger than 15 years of age, or 14 where national law permits. As part of the recruitment process, robust age-verification mechanisms must be implemented to prevent the hiring of children and to ensure special care is taken for young workers. Young employees above 15 years must be protected from working conditions that are detrimental to their health, safety, morals, and development.

If child labour is discovered within Polestar's value chain, this is a violation of our agreements with our business partners. Measures must be implemented to ensure the protection of affected children while removing them from the workplace with care and in an appropriate manner.

— Freedom of association and collective bargaining

At Polestar, we recognise the fundamental rights to organise and bargain collectively. We respect our employees' rights to lawfully form, join, or choose not to join associations related to employer-employee relationships and to engage in collective bargaining, in accordance with local laws. We ensure that our employees have the opportunity to discuss their working conditions with management without fear of retaliation, discrimination, reprisal, intimidation, or harassment. To support this, we have established clear channels for reporting grievances and fostering an open and respectful workplace environment.

Workers in the value chain
Strategy

How risks inform our strategy

According to our Materiality Assessment, risks associated with workers in the value chain are acknowledged, particularly with regards to working conditions and other work-related rights within the supply chain of components and parts for cars.

To better manage risks related to workers, two strategic initiatives have been established in areas where the biggest risks in our value chain are identified:

- Human Rights in Supply Chain driven by the Procurement department. The Head of Procurement, who is part of the group management team, is accountable for the initiative and for securing necessary resources.
- Human Rights in Manufacturing, led by the Manufacturing department. The Head of Manufacturing, also part of the group management team, is responsible for the initiative and securing necessary resources.

Polestar is embedding responsible business conduct across our operations. The initiatives focus on assessing risks and developing action plans to cease, prevent, and mitigate identified risks. The materiality assessment, conducted in collaboration with stakeholders, guides the setting of priorities. Progress for each initiative is reported to management at least twice a year. Programme teams help and support the implementation of actions with our turnkey partners.

Job opportunities along the supply chain have the potential to create a positive impact on people and communities. However, major income disparities need to be addressed, as vulnerable individuals are disproportionately exposed to risks. Through a responsible sourcing process and effective supplier management, we aim to track results and actions to measure the status of human rights in the supply chain. We also strive to combat discrimination and implement business efforts to reduce and mitigate the risk of corruption throughout the value chain, driving positive progress in the area of human rights.

Fundamentally changing ingrained societal inequalities and addressing human rights violations requires multilateral collective action. Therefore, joint efforts are pursued with carefully selected business partners and non-governmental organisations, including:

- Responsible Business Alliance (RBA)
- Responsible Minerals Initiative (RMI)
- Drive Sustainability
- Initiative for Responsible Mining Assurance (IRMA)
- Better Mining

Assessing and addressing inclusion and human rights risks is an ongoing effort, involving engagement with and input from various stakeholders in our value chain. Through cooperation with multistakeholder initiatives, direct and indirect engagement from stakeholders and experts is facilitated. Polestar suppliers are invited to join forces in those global approaches and utilise their tools to conduct risk analyses and manage negative impact in order to help drive change for improvements within the industry.

Workers in the value chain
Actions

Processes to address negative impacts and channels for value chain worker concerns

— Procurement process

As part of Polestar's procurement policy and processes, suppliers and business partners are evaluated against various criteria, such as quality, cost, sustainability, and business ethics, through due diligence processes. These include sustainability assessment questionnaires, business ethics questionnaires, and sanction screening. During the Request for Quotation phase, suppliers and business partners are introduced to the requirements, and assessments are conducted to select those who can meet sustainability standards and adhere to the principles outlined in Polestar's Code of Conduct for Business Partners. Before placing orders, all business partners must agree to adhere to Polestar's Code of Conduct for Business Partners or similar principles and ensure these requirements are cascaded to their own partners.

— Assessments during the selection of suppliers

The Sustainability Assessment Questionnaires (SAQs) help evaluate the policies and processes that suppliers have in place. A direct material supplier must achieve a score of over 70% to qualify as a selected supplier. If a supplier scores below this threshold or lacks certain processes, there is an opportunity to clarify expectations during the procurement process. SAQs assist in selecting business partners and preparing suppliers for the expectations set. The SAQ, developed within Drive Sustainability, is assessed and verified by NQC and is valid for one year.

— Human rights onsite audit strategy

In addition to the SAQ and onboarding process for suppliers, more robust processes are necessary within this industry to secure core principles of human rights for workers in the value chain. Therefore, a requirement has been introduced that all new direct suppliers located in high-risk regions must undergo a third-party onsite human rights audit. These audits cover direct material suppliers with whom we have direct business contracts (tier 1 and tier 2). There is an ambition to verify human rights audits down the supply chain of specific risk materials at facilities in high-risk countries. Priorities, resources, budgets, and goals to mitigate, track, and report on identified risks are managed within each strategic initiative under the Inclusion focus area. Turn-key car programmes are managed by selected business partners for sourcing and manufacturing vehicles, components, and parts. For existing car programmes where requirements were settled before 2021, human rights audit strategies need to be re-negotiated and aligned with business partners and their supply chains. Continuous dialogues and actions with our business partners and suppliers aim to improve on a yearly basis and with every new car programme.

A human rights audit includes management interviews, document reviews, plant walkthroughs, and worker interviews to verify compliance with the Code of Conduct. The preferred standards are the RBA Validated Assessment Programme, RMI's ESG standard, IRMA audit, or a similar system agreed upon and accepted by the Inclusion Lead. Audits typically occur every 2–3 years, depending on the scheme used and the severity of the findings.

If non-conformance is identified during the audit, the supplier must analyse the root causes and agree on a remediation plan. The corrective action plan (CAP) must be shared with and agreed upon by the auditor and the audited facility. Polestar should verify and support the implementation of CAPs. The primary value of an on-site compliance audit lies not in identifying issues at a facility but in correcting them. However, if CAPs are not remediated, this may ultimately lead to the termination of the relationship.

Grievance

Suspicions of severe violations can be reported through the global whistleblower system, SpeakUp, which guarantees anonymity and complies with the EU's Whistleblower Directive (Directive (EU) 2019/1937).

Incidents are initially reviewed in accordance with the SpeakUp Policy and the Compliance Investigation Procedure. The Compliance & Ethics function assesses whether the incoming report could constitute a potential severe violation and if it is concrete enough to warrant investigation. External cases are managed by the Compliance & Ethics team, with external advice sought if necessary for the individual case. As of 2024, the whistleblowing system has not recorded any human rights violations within the supply chain. However, ongoing efforts are essential to ensure that any potential violations are reported and that the importance of reporting such incidents is widely understood.

As part of the RBA, RMI, and IRMA membership, and in addition to the internal complaints procedure, support is also extended to the RBA, RMI, and IRMA third-party multistakeholder initiatives and their grievance mechanisms, aiming to improve supply chain grievance processes. Their grievance channels are made available to workers during onsite audits. As of 2024, there have been no direct contacts via the member organisations concerning any issues reported in the supply chain.

If an impact on human rights were to occur, Polestar places great importance on providing effective response remedies. In such cases, efforts are made to update systems, due diligence processes, and practices to prevent similar adverse impacts in the future.

Read more →
Speak Up

Regional risk assessments

According to the materiality assessment, the identified risks in our value chain are not limited to specific suppliers but are widespread across various tiers and regions. It has been identified that many supply chains are situated in regions with significant income disparities and high risks of discrimination. The absence of functioning labour markets and the presence of corruption further exacerbate these inequalities. Therefore, Polestar has implemented processes to perform regional risk assessments, particularly for the supply chain of our car programmes.

— High-risk areas connected to human rights

Polestar uses the Responsible Business Alliance (RBA) risk assessment tool to evaluate a country's or region's risks. As a priority, all Polestar manufacturing plants, the locations of direct material suppliers, and the facilities of the traced supply chain for identified high-risk materials are assessed using the RBA risk assessment tool to prioritise further actions. The RBA risk assessment tool covers five crucial supply chain pillars:

- Labour
- Health and Safety
- Environment
- Ethics
- Management Systems

Each pillar has an aggregated index derived from credible public domain data sources, audit data, and sentinel data.

— Conflict-affected areas

Trading with high-risk materials, such as 3TG, might fund high-intensity conflicts. Therefore, we conduct a reasonable country of origin inquiry in good faith to determine whether any of the 3TGs in our products originate from Conflict-Affected and High-Risk Areas. Our service provider for conflict mineral reporting, the Responsible Minerals Initiative (RMI), provides us with tools for assessing these areas.

— Zones that pose extreme risks

We have also defined high-alert zones, which include regions with extreme risks such as trade sanctions, as well as areas where mitigation actions are extremely difficult to manage, such as regions of high biodiversity value or where there are uncontacted tribes. To uphold our commitment to protecting the right of Indigenous Peoples to grant or withhold Free, Prior, and Informed Consent, engagement with Non-Governmental Organisations has been initiated to explore the need to protect indigenous rights and uncontacted communities.

Workers in the value chain
Actions

Our upstream supply chain

The automotive industry's supply chains are extensive and multi-tiered, ranging from direct suppliers, such as component manufacturers, to raw material producers, like mining companies located far upstream. The number of tiers and the complexity of the supply chain complicate the assessment and management of indirect impacts and risks. Leverage down these supply chains is limited due to the lack of direct contracts with these suppliers. Our ambition is to verify human rights audits down the supply chain of identified high-risk components at facilities situated in high-risk regions.

The collaboration with Business Partners is crucial when addressing supply chain actions and implementing corrective measures if any violations of the Code of Conduct for Business Partners are identified. According to purchasing agreements, Polestar must obtain consent from the Business Partner before contacting suppliers directly regarding turnkey projects.

Another challenge involves safeguarding intellectual property, managing the risk of sharing excessive information, and navigating a political landscape that can impede transparency.

Due diligence in high-risk material supply chains located in high-risk areas has been facilitated by IRMA audits, Responsible Mica Initiative audits, RCS Global, and other approved audit programmes. These audits enable Polestar to identify, review, and analyse sustainability risks, and, in collaboration with the manufacturing partner, address critical risks when identified. However, due to non-disclosure agreements, Polestar cannot share information about these supply chains without consent from the involved stakeholders.

Our indirect purchases

In addition to direct material suppliers involved in sourcing components and parts for our car programmes, Polestar has suppliers and business partners delivering indirect products and services. During the reporting year there are 1,030 new identified suppliers, 100% out of these suppliers have been screened on trade sanctions, human rights and human trafficking.

There are also an additional 196 Business Partners where 100% have been screened on trade sanctions, human rights and human trafficking. Zero Business Partners is identified as having significant actual and potential negative social impacts with which relationships were terminated as a result of assessment.

Currently, there are over 2645 identified indirect suppliers. Totally 1,182 IDP suppliers, that is 45%, have been screened on trade sanctions, human rights and human trafficking. 6 suppliers, that is 0.2% IDP suppliers is identified as havings risks, but with remediation actions possible. Zero IDP suppliers with high risk had been terminated or not selected during the reporting period due to risk not acceptable.

Further due diligence processes and tools are being implemented to manage these globally dispersed indirect suppliers.

Workers in the value chain
Actions

— Polestar's Conflict Minerals Reporting

Our Conflict Minerals Reporting (CMR) and annual campaign focus on the 3TG minerals. Polestar aims to facilitate the transfer of information through the supply chain about the minerals' countries of origin and the smelters and refiners being utilised. The due diligence process identifies and promotes smelters validated to conform with the Responsible Minerals Assurance Process (RMAP), with the goal of stemming trade that risks financing armed conflict or mining with forced labour.

The ambition is to source components containing tantalum, tin, tungsten, and gold, known as conflict minerals or 3TGs, exclusively from supply chains with third-party validated, conflict-free smelters and refiners.

Each year, manufacturers, suppliers, and suppliers of components containing conflict minerals are requested to declare their due diligence measures and disclose the smelters used in their supply chain through a Conflict Minerals Reporting Template (CMRT). The CMRT assists in identifying potential discrepancies, selecting suppliers for independent audits aligned with OECD standards, and following up on risk mitigation action plans to address adverse impacts.

The conflict mineral due diligence process is developed by experts at the Organisation for Economic Co-operation and Development (OECD) in collaboration with industry, civil society, and other governments, ensuring compliance with legislation and regulations such as the US Dodd-Frank Act and the EU Conflict Minerals Regulation. As a listed company, Polestar submits a conflict minerals report to the US Securities and Exchange Commission (SEC).

The current level of the Responsible Minerals Assurance Process (RMAP) shows a 100% response rate for in-scope tier 1 suppliers, with 65% of smelters being compliant.

Read more →
Legal ethics

Response rate for in-scope tier 1 suppliers; VCC and Geely

100%

Status confirmed conformant smelters

65%

Workers in the value chain
Collaborations

Joint efforts to drive change

Recognising the potential for greater impact through inspiration and collaboration with others to drive change is essential. Fundamentally altering ingrained inequalities in society and addressing human rights violations require multilateral collective action. Therefore, joint efforts are sought with peers, business partners, governments, and non-governmental organisations.

— Drive Sustainability

The Drive Sustainability partnership aims to enhance sustainability across the automotive supply chain by promoting a common approach within the industry and integrating sustainability into the overall procurement process. The goal is twofold: to ensure that all individuals involved in manufacturing vehicles or components, or providing services, are treated with dignity and respect at work, while minimising the environmental impact of the industry.

— Responsible Business Alliance (RBA)

As an Affiliate Member, we support the RBA in driving sustainable value for workers, the environment, and business across the global supply chain. Collaboration with members, suppliers, and stakeholders aims to improve working and environmental conditions through leading standards and practices. We are committed to aligning our own operations with the provisions of the RBA Code of Conduct, and we encourage tier-one suppliers to do the same.

— Responsible Minerals Initiative (RMI)

We work with RMI to support the responsible sourcing of minerals. By providing companies with the necessary tools and resources to enhance compliance, RMI envisions mineral supply chains contributing positively to socio-economic development globally. The Initiative acts as an umbrella organisation for the voice of progressive industry, supporting best practices in mineral sourcing and convening stakeholders to continually shape dialogue.

— Responsible Labour Initiative (RLI)

Collaboration with the RBAs Responsible Labor Initiative focuses on ensuring that the rights of workers vulnerable to forced labour in global supply chains are consistently respected and promoted. To accelerate change, due diligence must be harmonised across multiple industries that share recruitment supply chains, driving labour market transformation through collective action.

— Initiative for Responsible Mining Assurance

IRMA supports a practical vision for the mining industry that upholds human rights and respects the aspirations of affected communities. Through independent, third-party audits of mines worldwide, using its Standard for Responsible Mining, IRMA promotes safe, healthy workplaces, minimises environmental harm, and leaves positive legacies. Rigorous IRMA audits require publicly announced on-site visits and broad stakeholder engagement, including affected communities. Investors and buyers who encourage mining companies to engage in IRMA's independent third-party assessment and transparent sharing of results support responsible sourcing in mining.

— Assent

Assent assists in tracing high-risk conflict minerals, such as 3TG, which are used in small volumes by many suppliers. This enables an assessment of how many smelters conform to the Responsible Minerals Assurance Process (RMAP) and helps to stem trade with potential links to armed conflict or human rights abuses.

— Better Mining

Better Mining works on ASM, Artisanal and small-scale mining, sites to directly improve conditions. Embedding safer and more equitable conditions across this complex segment of the global mining sector is crucial. Initiatives like Better Mining, which involve diverse stakeholders to identify risks and implement mitigation actions, are highly valued. These sites are not directly linked to Polestar's supply chain.

Workers in the value chain
Collaborations

A deep dive into IRMA's role in responsible mining

The Initiative for Responsible Mining Assurance (IRMA) addresses a global demand for more socially and environmentally responsible mining. It also meets Polestar's demand for such practices. IRMA independently assesses social and environmental performance at mine sites using an internationally recognised and comprehensive audit standard, developed in consultation with a wide range of stakeholders. IRMA's governance is equally shared by civil society, communities, organised labor, and the private sector.

IRMA aims to provide market value and recognition for responsible practices at mine sites. Purchasing companies play a significant role in advancing this vision. Polestar can contribute by clearly signalling its intent and interest in purchasing materials from IRMA-assessed mines.

IRMA's audit reports are transparent, and the publicly available results offer credible information to purchasers interested in responsibly sourced mined materials. These reports also meet civil society's desire for transparency and truthfulness about whether a mine is taking steps to reduce potential harm and make continuous improvements.

Membership in IRMA supports the achievement of its vision and mission, as members are required to take concrete actions to advance responsible mining:

- Vision: We envision a world where the mining industry respects the human rights and aspirations of affected communities, provides safe, healthy, and supportive workplaces, minimises harm to the environment, and leaves positive legacies.
- Mission: Our mission is to protect people and the environment directly affected by mining. We do this by creating financial value for mines independently verified to achieve best practices and sharing this value with the businesses that purchase material from these mines.

"For responsible sourcing of transition minerals: Become members of IRMA, require their suppliers to be audited by IRMA, and disclose commitments to source minerals from IRMA-audited mines," recommends Lead the Charge.

Collectively, the IRMA Buyers Group represents US$1.7 trillion in annual revenues. Given the important role of Downstream Purchasers in scaling the IRMA system, increased purchaser engagement amplifies the influence of the industry as a whole. IRMA's Downstream Purchasers have significantly contributed to scaling IRMA and driving mine-level engagement.

Led by the Mining Engagement Team, IRMA has conducted outreach to dozens of mining companies worldwide in multiple languages, encouraging them to learn more about and ultimately engage with IRMA.

Workers in the value chain
Performance

Direct material suppliers to Polestar's car programmes

- 99% (2023: 100%) of suppliers have signed agreements on core principles of human rights and the Code of Conduct, including requirements for no child labor and no forced labor.
- 79% (2023: 82%) of all suppliers have completed a SAQ verified by the Drive Sustainability Initiative. The decline in the SAQ completion rate is primarily due to a version update. Suppliers were required to resubmit their assessments following the latest standards, which has affected the overall completion rate. Some suppliers did not update their results in a timely manner, and with the transition to the new version, their old scores are no longer valid. Moving forward, we need to strengthen communication with suppliers to ensure they update their assessments on time, with the ambition to see improvements in the industry.
- 72% of all suppliers have an SAQ score >70%.
- 78% (2023: 78%) of suppliers are assessed to be in high-risk regions concerning human rights issues such as child labor, forced labor, freedom of association, and collective bargaining.
- 34% (2023: 22%) of all suppliers in high-risk regions have a valid third-party onsite human rights audit. The most frequent non-conformities found during onsite audits are concerning excessive working hours, as well as concerning wage and benefits. Together with our business partners we are monitoring CAP, Corrective Action Plan status in order to implement improvements.

— Freedom of association and collective bargaining:

- 99% (2023: 99%) of suppliers with a completed SAQ, verified by Drive Sustainability, have a policy of freedom of association.
- 100% (2023: 100%) of suppliers in high-risk regions with third-party onsite human rights audits have no priority findings related to violations of freedom of association and collective bargaining.

— Child labour and protection of young workers:

- 99% (2023: 99%) of suppliers with a completed SAQ, verified by Drive Sustainability, have a policy for no child labour.
- 100% (2023: 99.3%) of suppliers in high-risk regions with third-party onsite human rights audits have no priority findings of child labour or young workers exposed to hazardous work. Any findings are followed up with business partners and suppliers according to audit routines.

— Modern slavery, forced and compulsory labour:

- 99% (2023: 99%) of suppliers with a completed SAQ, verified by Drive Sustainability, have a policy of no forced or compulsory labour.
- 99.9% (2023: 97.6%) of suppliers in high-risk regions with third-party onsite human rights audits have no priority findings related to forced and compulsory labour. Any findings are followed up with business partners and suppliers according to audit routines.
- One supplier had a priority finding related to forced and compulsory labour. The finding concerns recruitment and hiring fees that are paid and not reimbursed within 90 days, as per the legal requirement. Instead, they were reimbursed within 150 days. The facility rectified these issues in the corrective action plan by revising the Employee Manual to clearly stipulate that the reimbursement of medical examination expenses for employees shall be completed within one month after entry.

Numbers of suppliers manufactured components and material

687

Suppliers that have completed Self Assessment Questionnaire with a score >70%

72%

Suppliers that have gone through screening against trade sanctions

100%

Suppliers that have signed agreements on human rights and code of conduct

99%

Suppliers located in high-risk regions

78%

Suppliers in high-risk regions with third-party onsite human rights audit

34%

Workers in the value chain
The cars

Polestar 2

At the end of 2024, there are 169 suppliers manufacturing components and materials for Polestar 2. Volvo Cars manufactures Polestar 2, and these direct material suppliers of car components and materials have been sourced and contracted by Volvo Cars. Quarterly reports on progress are received, and together with Volvo Cars, risks are assessed, and actions are implemented to prevent, cease, and mitigate negative impacts.

— Risk assessment

- 73% (2023: 73%) of suppliers have been assessed as being located in high-risk regions.
- 100% (2023: 100%) of all suppliers have undergone screening against trade sanctions.
- 83% (2023: 88%) of all suppliers have completed a SAQ verified by the Drive Sustainability Initiative. The decline in the SAQ completion rate is primarily due to a version update. Suppliers were required to resubmit their assessments following the latest standards, which has affected the overall completion rate. Some suppliers did not update their results in a timely manner, and with the transition to the new version, their old scores are no longer valid. Moving forward, we need to strengthen communication with suppliers to ensure they update their assessments on time, with the ambition to see improvements in the industry.
- 82% of suppliers reach a SAQ score above 70%.

— Agreements

- 100% (2023: 100%) of suppliers have contractually agreed to comply with the principles set in the Code of Conduct for Business Partners, including human rights

— Verifications and corrective actions

- 39% (2023: 30%) of all suppliers in high-risk regions have a valid third-party onsite human rights audit.

Numbers of suppliers manufactured components and material

169

Suppliers that have completed Self Assessment Questionnaire with a score >70%

82%

Suppliers that have gone through screening against trade sanctions

100%

Suppliers that have signed agreements on human rights and code of conduct

100%

Suppliers located in high-risk regions

73%

Suppliers in high-risk regions with third-party onsite human rights audit

39%

Workers in the value chain
The cars

Polestar 3

At the end of 2024, there are 305 suppliers manufacturing components and materials for Polestar 3. Volvo Cars also manufactures Polestar 3, with production having commenced at the beginning of 2024 in China, and mid 2024 in the US. We receive quarterly reports on progress and, together with Volvo Cars, assess risks and implement actions to prevent, cease, and mitigate negative impacts.

— Risk assessment

- 68% (2023: 70%) of suppliers have been assessed as being located in high-risk regions.
- 100% (2023: 100%) of all suppliers have undergone screening against trade sanctions.
- 83% (2023: 88%) of all suppliers have completed a SAQ verified by the Drive Sustainability Initiative. The decline in the SAQ completion rate is primarily due to a version update. Suppliers were required to resubmit their assessments following the latest standards, which has affected the overall completion rate. Some suppliers did not update their results in a timely manner, and with the transition to the new version, their old scores are no longer valid. Moving forward, we need to strengthen communication with suppliers to ensure they update their assessments on time, with the ambition to see improvements in the industry.
- 70% (2023: 88%) reach a SAQ score above 70%.

— Agreements

- 100% (2023: 100%) of suppliers have contractually agreed to comply with the principles set in the Code of Conduct for Business Partners, including human rights.

— Verifications and corrective actions

- 33% (2023: 17%) of all suppliers in high-risk regions have a valid third-party onsite human rights audit.

Numbers of suppliers manufactured components and material

305

Suppliers that have completed Self Assessment Questionnaire with a score >70%

70%

Suppliers that have gone through screening against trade sanctions

100%

Suppliers that have signed agreements on human rights and code of conduct

100%

Suppliers located in high-risk regions

68%

Suppliers in high-risk regions with third-party onsite human rights audit

33%

Workers in the value chain
The cars

Polestar 4

At the end of 2024, there are 205 suppliers manufacturing components and materials for Polestar 4. Polestar 4 is manufactured by Geely, and production started in late 2023. The direct material suppliers of car components and materials have been sourced and contracted by Geely. We receive quarterly reports on progress and, together with Geely, assess risks and implement actions to prevent, cease, and mitigate negative impacts.

— Risk assessment

- 99% (2023: 99.5%) of suppliers have been assessed as being located in high-risk regions.
- 100% (2023: 100%) of all suppliers have undergone screening against trade sanctions.
- 86% (2023: 99,5%) of all suppliers have completed a SAQ verified by the Drive Sustainability Initiative. The decline in the SAQ completion rate is primarily due to a version update. Suppliers were required to resubmit their assessments following the latest standards, which has affected the overall completion rate. Some suppliers did not update their results in a timely manner, and with the transition to the new version, their old scores are no longer valid. Moving forward, we need to strengthen communication with suppliers to ensure they update their assessments on time, with the ambition to see improvements in the industry.
- 86% of suppliers reach a SAQ score above 70%.

— Agreements

- 99% of suppliers have contractually agreed to comply with the principles set in the Code of Conduct for Business Partners, including human rights.
  - Two suppliers have still not signed.

— Verifications and corrective actions

- 51% (2023: 33%) of all suppliers in high-risk regions have a valid third-party onsite human rights audit.

Numbers of suppliers manufactured components and material

205

Suppliers that have completed Self Assessment Questionnaire with a score >70%

86%

Suppliers that have gone through screening against trade sanctions

100%

Suppliers that have signed agreements on human rights and code of conduct

99%

Suppliers located in high-risk regions

99%

Suppliers in high-risk regions with third-party onsite human rights audit

51%

Workers in the value chain
The cars

Polestar 5

Polestar has built in house procurement capability and developed procurement processes ahead of the production of Polestar 5, which is expected to be launched in 2025. Suppliers are sourced and nominated by Polestar. Currently, 223 suppliers have been nominated to manufacture components and material for Polestar 5 for whom we assess risks and put actions in place to prevent, cease and mitigate negative impacts.

— Risk assessment

- 86% (2023: 83%) of suppliers have been assessed as being located in high-risk regions.
- 100% (2023: 100%) of contracted suppliers have undergone screening against trade sanctions.
- 74% (2023: 78%) of all suppliers have completed a SAQ verified by the Drive Sustainability Initiative. The decline in the SAQ completion rate is primarily due to a version update. Suppliers were required to resubmit their assessments following the latest standards, which has affected the overall completion rate. Some suppliers did not update their results in a timely manner, and with the transition to the new version, their old scores are no longer valid. Moving forward, we need to strengthen communication with suppliers to ensure they update their assessments on time, with the ambition to see improvements in the industry.
- 70% of suppliers reach a SAQ score above 70%.

— Agreements

- 75% (2023: 100%) of suppliers have contractually agreed to comply with the principles set in the Code of Conduct for Business Partners, including human rights. Suppliers have changed a lot to get ready for SOP, Start Of Production. However, 98% of suppliers have acknowledged our COC, and the aim is to get these new suppliers to sign the agreement.

— Verifications and corrective actions

- 34% (2023: 30%) of all suppliers in high-risk regions have a valid third-party onsite human right audit.

Numbers of suppliers manufactured components and material

223

Suppliers that have completed Self Assessment Questionnaire with a score >70%

70%

Suppliers that have gone through screening against trade sanctions

100%

Suppliers that have signed agreements on human rights and code of conduct

75%

Suppliers located in high-risk regions

86%

Suppliers in high-risk regions with third-party onsite human rights audit

34%

Consumers and end users
Introduction

Consumers and end-users are at the heart of every successful business strategy, and their preferences and behaviour patterns shape how we design our cars.

Through our double materiality assessment and risk analysis, personal safety issues have been identified as critical, leading to the implementation of comprehensive safety measures to protect consumer health. Polestar prioritises safety throughout the vehicle's lifecycle, with particular attention to battery and electrical system safety, as well as advanced safety systems like airbags. To ensure the highest possible safety standards, our cars undergo international testing, with all models receiving top safety ratings.

To protect customer data, we have implemented strict data protection programmes and adapt to global legislative developments. The Privacy and Data Protection Policy regulates data minimisation, sensitive data, cross-border transfers, and data access requests from public authorities. Guidelines on the use of generative AI have also been developed to address associated risks.

Transparency is also a crucial aspect of our customers' safety, as it enables them to make informed decisions through easy access to relevant sustainability information. By publishing detailed reports on carbon footprints and sustainability data for each car model, our customers can compare and understand the environmental impacts. Through this, we aim to be an enabler for safer and more responsible choices.

Consumers and end users
Material impacts, risks, and opportunities

Identifying risks and opportunities related to consumers and end users

As a part of our double materiality assessment (DMA), we identified and assessed risks and opportunities related to consumers and end users. The assessment examined sub-topics such as information-related impacts, personal safety and social inclusion for consumers and/or end-users.

Through the double materiality assessment. the topic of personal safety for consumers and end users has been identified as material in our downstream value chain.

Addressing personal safety

Through our double materiality assessment (DMA), the topic of personal safety for consumers and end users has been identified as material in our downstream value chain.

We have implemented comprehensive security measures to safeguard consumer health and safety. However, the connected nature of modern vehicles introduces potential risks. Cybersecurity vulnerabilities could be exploited to remotely control or disable vehicle functions, posing significant threats to the physical safety of drivers and passengers. Defects or malfunctions in vehicle components could also lead to accidents and injuries. While the connected features of Polestar vehicles enhance convenience, they also introduce personal security risks.

Polestar vehicles are designed with safety features for all passengers, including children. However, cybersecurity vulnerabilities and misuse of tracking features pose risks to child passengers as well.

The potential negative impacts on personal safety are significant and can have severe consequences, including the risk of death in the event of a car accident.

Prioritising safety

The consumers and end users of Polestar vehicles form a diverse group, including private individuals, fleet operators, and shared mobility service providers. These groups engage with Polestar in various contexts, whether as owners, drivers, passengers, or maintenance personnel.

Personal safety considerations extend across the entire lifecycle of a Polestar vehicle. For end users, battery safety is crucial, as improper handling or accidents may lead to thermal runaway, fires, or exposure to hazardous materials. Additionally, electrical system safety must be addressed to prevent the risk of accidents during charging, operation, or maintenance. Structural integrity during collisions and the effectiveness of advanced safety systems, such as airbags and driver-assistance technologies, are also vital for protecting passengers. Charging infrastructure plays a pivotal role as well, with safeguards needed to mitigate tripping hazards, electrical faults, and potential exposure to harsh environmental conditions.

Consumers rely on transparency and education to ensure their safety. This includes clear operating instructions, emergency protocols, and training resources to guide the proper use and maintenance of Polestar vehicles. Additionally, addressing cybersecurity concerns is essential to ensure that personal data and vehicle systems remain secure from external threats. Polestar is required to adhere to various cybersecurity regulations e.g., UN Regulation No. 155 issued by the United Nations Economic Commission for Europe (UNECE). This regulation establishes strict cybersecurity requirements for the automotive industry, ensuring that modern vehicles are protected against cyber threats thru robust testing and certification processes during the full life cycle.

By prioritising personal safety, Polestar not only protects consumers and end users but also fosters trust and confidence in our products, ultimately supporting the transition to sustainable mobility solutions.

Consumers and end users
Policy and position papers

Policies related to consumers and end users

We have adopted several policies related to consumers and end users, including those concerning the respect for human rights, privacy, and data protection.

— Privacy and Data Protection Policy

It is important for us that customers always feel safe and informed about how personal data is processed. We have specific Customer Privacy Policies and Car Privacy Notices for each country of operation, tailored to comply with local regulations and data protection laws. These country-specific policies take precedence over the global policy within their respective regions.

Read more →
Privacy Policy

— Speak Up Policy

Polestar's Speak Up Policy outlines the process of speaking up, the different ways to do so, and the principles that apply when suspected or confirmed misconduct is reported. The grievance mechanism, Speak Up, can be used by both internal and external stakeholders, including consumers and end users, to report any suspected misconduct.

— Product safety

Our Quality Policy outlines a commitment to delivering safe, secure, and compliant products. In developing cars, reliance is placed on The Polestar Development System (PSDS) as the engineering framework that ensures a well-engineered product is delivered to production. PSDS operates under the umbrella of our quality policy. However, it does not define specific safety targets for products, as these are dynamic and vary from programme to programme, influenced by both vehicle type and the continuous advancement of technologies. Technical safety targets for each programme are outlined in the Product Definition document, alongside other attribute targets such as luggage volume, performance, and ergonomics.

— Web accessibility statement

We are committed to providing an inclusive digital experience for all users, ensuring that our website is accessible and usable for everyone, including individuals with disabilities. We continuously work on accessibility improvements and align our efforts with the latest Web Content Accessibility Guidelines (WCAG) 2.2 Level AA. We design and develop our website with accessibility in mind from the start, regularly auditing our digital platforms, and continuously implementing necessary enhancements to improve usability for people with diverse needs.

Read more →
Web accessibility statement

— Polestar Code of Conduct for Business Partners

Our business partners, including retailers, are required to adhere to the principles set out in our Code of Conduct for Business Partners, which relates to business conduct and includes the protection of customers' personal data.

Consumers and end users
Strategy

Inclusive customer experience

Inclusion is a strategic focus area within Polestar, and the Inclusive Customer Experience initiative aims to ensure that all customers, regardless of their background or identity, have a positive and equitable experience when interacting with the brand. The initiative seeks to foster a culture of inclusiveness within the organisation and to remove barriers that may prevent certain groups of customers from fully engaging with our products or services.

This may involve developing employee training programmes, gathering customer feedback to identify and address areas for improvement, and investigating accessibility with products in web design, physical locations, and in cars to create plans for improvements. The focus is on assessing these insights to inspire actionable practices. To ensure that all customers feel valued and respected, and to meet their needs, it is essential for all team members to be aware of and trained in inclusiveness.

Read more →
Customer satisfaction metrics

Consumer transparency

Polestar believes in transparency to drive change throughout the industry and to help customers make informed decisions. To achieve this, support is provided throughout the customer lifecycle by offering easy access to relevant sustainability information in the most suitable format. For example, when a customer is interested in a Polestar, they can effortlessly compare different models and their respective carbon footprints, either through the configurator or at Spaces. This is why the sustainability initiative, Consumer Transparency, is led by Brand & Marketing, with support from the Transparency Lead.

For every new car model, a Life Cycle Assessment (LCA) report is published on the website, detailing the carbon footprint of each car from both cradle-to-gate and gradle-to-grave. Consumers can also find the complete methodology, including assumptions and underlying data for the calculations.

Additionally, the website showcases the sustainability credentials for each car model, highlighting details such as which risk materials are being traced or what material innovations are incorporated into the car. As more validated data and information from supply chains are gathered, this content will be updated and expanded to further enhance transparency for customers. There is significant potential to advance this initiative, especially with upcoming laws and regulations, like the EU Battery Regulation, that are pushing for greater supply chain transparency.

Consumers and end users
Actions

Customer data privacy

Polestar's vehicles are connected and generate significant amounts of data, which can be associated with drivers or other individuals inside or outside the vehicles. Therefore, the use and integrity of personal data must comply with data privacy regulations worldwide to build and maintain customer trust. We are committed to respecting and safeguarding the privacy of customers, prospects, employees, and business partners. Customer data privacy is managed by the Compliance & Ethics team.

The greatest risks concern the collection and use of customer data linked to various business processes and connected vehicles. Data breaches, both in relation to vehicle data and customer data, as well as security incidents, pose threats to customer privacy. Additionally, connected vehicles are subject to increased scrutiny from supervisory authorities, as they offer numerous possibilities for data collection using cameras, sensors, or other measuring points. Vehicles as potential data sources also open possibilities for data monetisation, adding another dimension to customer privacy.

Polestar's data privacy compliance programme is based on the data privacy and data protection laws in each country where we operate. Data privacy regulations generally apply to all of Polestar's use of customer and prospect data, as well as vehicle data from the vehicles on the road. We are adapting our data compliance programme to legislative developments globally, including new comprehensive data privacy laws in US states and recent laws on information protection and data security in China.

Product safety

Product safety forms a fundamental cornerstone of Polestar design. Stakeholders considered in relation to product safety include not only customers, such as drivers and passengers, but also those outside the vehicles, including pedestrians and other road users. The legal framework for product certification is well developed, and all products meet the various international legal requirements necessary for market competition. These include Federal (FMVSS), European (ECE), and Chinese (GB) requirements, covering aspects from braking performance to battery safety. Additionally, international standards, such as those defined by ISO, are followed for areas like functional safety (e.g. ISO26262) and production conformity and quality (ISO 90001)

In many instances, Polestar surpasses these legal norms by drawing on market experience, insights from previous products, and industry and independent test schemes, such as the global New Car Assessment programmes (NCAP). The NCAP programmes are regional market focused consumer test programmes that subject vehicles to a suite of test scenarios and summarise their overall performance using a star rating with 5-star being the highest category, signifying a vehicle that performs well in all the safety areas. These NCAP ratings are well understood by consumers and the detailed test results and videos are published by the testing bodies and freely available to consumers.

Polestar draws on all the above to support the design and development of new products. Simply put, many internal product targets exceed legal obligations. When developing new car models, we use both physical tests and well-validated simulation techniques to ensure we achieve these goals.

With the above in mind, product safety encompasses a range of complementary categories:

- Passive Safety: This involves how the vehicle behaves during and after an accident or collision to protect those inside and outside the vehicle. Measures include designing a vehicle structure to accommodate impacts at significantly higher energies than the legal minimums, as well as impact scenarios that may not be considered within the legal framework.
- Active Safety: These measures intervene prior to an impending accident or collision to avoid it altogether or at least mitigate its severity. Systems such as the pre-collision technology "Autonomous Emergency Braking" fall into this category.
- Driver Aids: Driver workload and attention are key elements in the safety picture. Assisting and complementing the driver's task is an area of increasing interest. Road sign recognition and vehicle speed monitoring are examples of technology that help reduce driver workload, allowing greater focus on the traffic environment. We focus on developing systems that enhance the driver's experience, encouraging drivers to use these aids as often as possible.

Consumers and end users
Actions

Web accessibility

Polestar conducts regular development tests and manual audits to ensure our website meets accessibility standards. Issues are identified, documented, and prioritised based on their impact on users and the effort needed to resolve them. External auditors are regularly engaged to focus on addressing the most critical issues first.

Recent accessibility improvements include:

- Technical capability to provide alternative texts for images
- Adjustments of text and background contrast
- Updates to the heading structure for clear and correct marking
- Clear indications of visible focus on the website
- Improvements in tab order
- Improvements in keyboard navigation
- Ability to pause auto-play videos
- Technical capability to include ARIA labels on controls

Engaging with consumers and end users

We aim to inspire a customer-centric mindset and drive impact by unifying teams, business, and partners around customers and their priorities. The Customer Experience department at Polestar actively engages with consumers and end users in various ways, from training Polestar Specialists in the Spaces to working directly with customers and third parties representing Polestar, ensuring that customers receive the help and information they need through their preferred channels.

Polestar's Voice of the Customer programme comprises tools and processes used to gather, interpret, and communicate customer feedback across the organisation. By systematically collecting, analysing, and acting on customer feedback, we seek to enhance our products, services, and overall customer experience. The ultimate objective is to better understand and respond to customer needs and expectations, driving business success.

Collecting feedback allows us to learn about customer expectations and assess how well we deliver on our promises.

Remediating negative impacts and channels for concerns

All customers can raise concerns through various channels to Polestar, either directly at spaces and locations or through our support channels such as phone, email, and chat, as well as via the web, social media, and our apps. A dedicated customer care team is available to handle concerns in all markets.

In addition, our reporting channel "SpeakUp" is aimed to help both internal and external individuals, including customers, to report suspected severe violations of rules.

Read more →
Polestar's SpeakUp channel

Consumers and end users
Metrics

Customer privacy

In 2024, there were 14 (2023: 24) substantiated breaches of customer data privacy. 1 incident was reported to the relevant regulatory body meeting the applicable reporting thresholds. The breaches of customer data privacy were of a limited character and/or involved non-sensitive data sets. The most common type was sending of e-mails containing personal data to the wrong recipient, and the most common cause was human error.

To prevent future data breaches, we focus on security measures and process adjustments, such as internal training, access restrictions, and limiting the amount of personal data used in a given activity. During the year, there were 13 customer complaints logged, 9 of which were substantiated but referred to practices related to partners. There were zero complaints from regulatory bodies.

Product safety

In 2024, all safety-related defect complaints were investigated by Polestar, resulting in a total of 34,027 vehicles being recalled. Remediation efforts continued to address vehicles affected by voluntary recalls issued in 2024.

A voluntary service recall addressed the brake control module on a very limited number of Polestar 1 vehicles. The voluntary service recalls for Polestar 2 vehicles involved tightening seat bolts, correcting far side airbags, and improving the performance of the rear view camera. For a limited number of Polestar 3 vehicles, a voluntary service recall addressed the high to low voltage converter module. On a limited number of Polestar 4 vehicles, a voluntary service recall addressed the brake control module.

These recalls were carefully coordinated, communicated, and implemented to resolve the issues and ensure a safe and compliant product for customers.

Percentage of vehicle models rated by NCAP programmes with an overall 5-star safety rating, by region

Region	Reported value	Unit	Comment
Europe	33	%	All Polestar 2 models to date have been awarded 5 stars by the New Car Assessment Programmes (NCAP) in major markets, including the US, Europe, and Australia (USNCAP, Euro NCAP, ANCAP). Polestar 3 and Polestar 4 are both slated for testing by the New Car Assessment Programme in 2025.
North America	33	%	All Polestar 2 models to date have been awarded 5 stars by the New Car Assessment Programmes (NCAP) in major markets, including the US, Europe, and Australia (USNCAP, Euro NCAP, ANCAP). Polestar 3 and Polestar 4 are both slated for testing by the New Car Assessment Programme in 2025.
Asia	33	%	All Polestar 2 models to date have been awarded 5 stars by the New Car Assessment Programmes (NCAP) in major markets, including the US, Europe, and Australia (USNCAP, Euro NCAP, ANCAP). Polestar 3 and Polestar 4 are both slated for testing by the New Car Assessment Programme in 2025.

Product safety and regulatory compliance metrics

Measure	Reported value	Unit
Total number of safety-related defect complaints	6	complaints
Total number of safety-related complaints that has been investigated	6	complaints
Percentage of complaints that has been investigated (total)	100	%
Total number of recalls (total)	34,027	recalls
Total number of voluntary recalls	34,027	recalls
Total number of involuntary recalls	0	recalls
Share of voluntary recalls (%)	100	%
Share of involuntary recalls (%)	0	%
Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	100	%
Total number of incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services within the reportingperiod, by:	6	incidents
i. incidents of non-compliance with regulations resulting in a fine or penalty;	0	incidents
ii. incidents of non-compliance with regulations resulting in a warning;	0	incidents
iii. incidents of non-compliance with voluntary codes.	6	incidents

Consumers and end users
Metrics

Inclusion of consumers and end users

Continuous improvement of the customer experience is driven by customer feedback and data analysis. The experience is monitored across the shopping and ownership journey using various metrics, such as net promoter score and overall satisfaction score.

— Net Promoter Score

Net Promoter Score (NPS) measures the relationship between the Polestar brand and our customers, indicating how well the brand promise is upheld. The overall target is a moving target defined annually. The target is set based on our experience to improve from the current position, and is approved by the board each year.

Customers are contacted with their first NPS survey 45 days after using the car and again 700 days after delivery. This contact is not related to any specific touchpoint or journey; it serves as an emotional check-in on how they feel towards Polestar overall. The rating is on a scale from 0 to 10, ranging from detractors at the lower end to promoters in the higher grades.

— Overall SATisfaction Score

Overall Satisfaction Score (OSAT) is a new metric, replacing the previous Customer Satisfaction (CSAT) measure, and is set to be integrated in 2025. Overall Satisfaction measures the experience throughout the customer journey, providing insight into the business's strengths and opportunities for improvement. Surveys are sent after completing key moments of the journeys. By measuring the customer's overall journey instead of just the performance of a single touchpoint, a closer understanding of their levels of satisfaction is achieved. The rating is on a scale from 0 to 10, ranging from dissatisfied at the lower end to delighted in the higher grades.

Overall satisfaction score (OSAT)

71

Yearly 2024 target: 75

Net Promoter Score (NPS)

32

Yearly target: 39

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
General disclosures			Requirement(s) omitted	Reason	Explanation	Comment
GRI 2: General Disclosures 2021	2-1 Organizational details	34				
	2-2 Entities included in the organization's sustainability reporting	34				
	2-3 Reporting period, frequency and contact point	34, 163				
	2-4 Restatements of information	35				
	2-5 External assurance	34				
	2-6 Activities, value chain and other business relationships	5, 34, 42–43				
	2-7 Employees	107–130				
	2-8 Workers who are not employees	115–116				
	2-9 Governance structure and composition	46–47				
	2-10 Nomination and selection of the highest governance body	47				
	2-11 Chair of the highest governance body	47				
	2-12 Role of the highest governance body in overseeing the management of impacts	47				
	2-13 Delegation of responsibility for managing impacts	49–51				
	2-14 Role of the highest governance body in sustainability reporting	51				
	2-15 Conflicts of interest	47				
	2-16 Communication of critical concerns	47, 51, 135, 147				
	2-17 Collective knowledge of the highest governance body	47				
	2-18 Evaluation of the performance of the highest governance body	47	2–18	Information unavailable/incomplete	The performance of the board in overseeing the management of Polestar's impact on sustainability matters is not evaluated in accordance with the GRI Standards (2021) disclosure 2-18 definition.	
	2-19 Remuneration policies	48				

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
General disclosures			Requirement(s) omitted	Reason	Explanation	Comment
	2-20 Process to determine remuneration	48				
	2-21 Annual total compensation ratio	129				
	2-22 Statement on sustainable development strategy	6, 24–29				
	2-23 Policy commitments	56, 72, 90, 95, 99, 109, 133, 147				
	2-24 Embedding policy commitments	49–51				
	2-25 Processes to remediate negative impacts	49–51, 59, 135, 147				
	2-26 Mechanisms for seeking advice and raising concerns	51, 59, 135, 147				
	2-27 Compliance with laws and regulations	49–51, 57				
	2-28 Membership associations	76, 100, 138–139				
	2-29 Approach to stakeholder engagement	44–45				
	2-30 Collective bargaining agreements	122				
Material topics						
GRI 3: Material Topics 2021	3-1 Process to determine material topics	44				
	3-2 List of material topics	37–40				
Anti-corruption						
GRI 3: Material Topics 2021	3-3 Management of material topics	55–57				
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption		205-1 a 205-1 b	Information unavailable/incomplete	The information is currently incomplete. No risk assessments of this nature were conducted in 2024. A new approach will be developed and implemented in 2025.	
	205-2 Communication and training about anti-corruption policies and procedures	58				
	205-3 Confirmed incidents of corruption and actions taken	57				

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
Materials			Requirement(s) omitted	Reason	Explanation	Comment
GRI 3: Material Topics 2021	3-3 Management of material topics	98–99				
GRI 301: Materials 2016	301-1 Materials used by weight or volume	103, 104	301-1	Information unavailable/incomplete	We track and report the total amount of materials used in our products; however, data on recycled and biobased content remains limited. While we have made progress in increasing the availability of data on recycled content for each car program, currently, we only have data for recycled content in aluminium, steel, and plastic. Additionally, we do not yet have precise data on the total amount of materials required to manufacture our final products. We are working towards capturing material utilization rates in our future reporting, but we are unable to specify when this information will be available. In the interim, we report raw material consumption based on calculations derived from the Life Cycle Assessment (LCA) for Polestar 2 in 2022.	
	301-2 Recycled input materials used	104	301-2	Information unavailable/incomplete	We report recycled content for aluminium, steel, and plastic in Polestar 3 and Polestar 4. However, data for other material categories and for Polestar 2 is still unavailable.	
	301-3 Reclaimed products and their packaging materials	101	301-3	Information unavailable/incomplete	Information is partially available. Polestar is registered with Producer Responsibility Organizations in relevant markets to manage End-of-Life vehicles. Additionally, we have partnered with Volvo Cars for the collection and treatment of high-voltage batteries for reuse, repair, and recycling.	
Energy						
GRI 3: Material Topics 2021	3-3 Management of material topics	67				
GRI 302: Energy 2016	302-1 Energy consumption within the organization	83	302-1 c-iii, c-iv, d	Information unavailable/incomplete	The total energy consumption reported covers heating and electricity within the organization, as well as petrol from company owned cars. Any cooling from air conditioning in spaces or offices is reported under electricity. Polestar does not procure any steam and does not sell energy.	
	302-2 Energy consumption outside of the organization	83				
	302-3 Energy intensity		302-3	Information unavailable/incomplete	The energy performance and energy intensity of driving a Polestar car is followed up for each car program, however the energy intensity in production is not followed up per car, but is followed up on the total energy consumed during the manufacturing process.	
	302-4 Reduction of energy consumption		302-4	Information unavailable/incomplete	This KPI is not currently followed-up by Polestar. We do not have any tracking of specific projects regarding reducing energy consumption.	
	302-5 Reductions in energy requirements of products and services	83	302-5 b	Information unavailable/incomplete	Polestar has not set a baseyear for reductions in energy requirements of products and services and therefore the percentage change against the base year is omitted. The energy efficiency performance of each car model is followed up in each program and year.	

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
Biodiversity			Requirement(s) omitted	Reason	Explanation	Comment
GRI 3: Material Topics 2021	3-3 Management of material topics	96	3-3 e	Information unavailable/incomplete	Polestar does not currently have biodiversity related goals, targets and indicators, nor a process to track the effectiveness of actions in place. Polestar has started to look at tools and methodologies for assessing its biodiversity impact in our value chain. It is not possible to state when this information will become available.	
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	96	304-1	Information unavailable/incomplete	A recent biodiverity screening reveled significant species present within a 50 km radius of all of the manufacturing sites of Polestar vehicles. Insight from the screening will be used to prompt further actions. We plan to expand our understanding and actions in the coming years. It is not possible to state when this information will become available.	
	304-2 Significant impacts of activities, products and services on biodiversity	96	304-2 b.	Information unavailable/incomplete	A recent biodiverity screening reveled significant species present within a 50 km radius of all of the manufacturing sites of Polestar vehicles. Insight from the screening will be used to prompt further actions. We plan to expand our understanding and actions in the coming years. It is not possible to state when this information will become available.	
	304-3 Habitats protected or restored	96	304-3	Not applicable	Polestar has not executed any habitat restoration or protection activities.	
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	96	304-4	Information unavailable/incomplete	A recent biodiverity screening reveled significant species present within a 50 km radius of all of the manufacturing sites of Polestar vehicles. Insight from the screening will be used to prompt further actions. We plan to expand our understanding and actions in the coming years. It is not possible to state when this information will become available.	

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
Emissions			Requirement(s) omitted	Reason	Explanation	Comment
GRI 3: Material Topics 2021	3-3 Management of material topics	67–72				
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	85–86				
	305-2 Energy indirect (Scope 2) GHG emissions	85–86				
	305-3 Other indirect (Scope 3) GHG emissions	85–86				
	305-4 GHG emissions intensity	84, 86				
	305-5 Reduction of GHG emissions	74, 84, 77–79, 85				
	305-6 Emissions of ozone-depleting substances (ODS)		305-6	Information unavailable/incomplete	Data on emissions of these substances are not available. Polestar is reviewing the possibility of collecting such data for the annual report.	
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions		305-7	Information unavailable/incomplete	Data on emissions of these substances are not available. Polestar is reviewing the possibility of collecting such data for the annual report.	
Waste						
GRI 3: Material Topics 2021	3-3 Management of material topics	99–100				
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	104–105				
	306-2 Management of significant waste-related impacts	105	306-2 b.	Information unavailable/incomplete	We report on the waste generated during the manufacturing of Polestar vehicles, as well as waste produced at Polestar's R&D facilities and workshops in Sweden and the UK. Additionally, other relevant areas of our operations include offices, workspaces, and events. Currently, we do not have waste data for these areas, but we plan to broaden the scope of our reporting in the coming years.	
	306-3 Waste generated	105				
	306-4 Waste diverted from disposal	105				
	306-5 Waste directed to disposal	105	306-5 d.	Information unavailable/incomplete	Information unavailable. Polestar does not breakdown reporting on waste directed to disposal into onsite and offsite.	

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
Supplier environmental assessment			Requirement(s) omitted	Reason	Explanation	Comment
GRI 3: Material Topics 2021	3-3 Management of material topics	67–68				
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria		308-1	Information unavailable/incomplete	This KPI is not currently followed-up by Polestar.	
	308-2 Negative environmental impacts in the supply chain and actions taken	37, 42–43, 60, 140–143	308-2 b, d, e	Information unavailable/incomplete	These KPIs are currently not followed-up by Polestar.	The SAQ has been developed as part of the collaborative initiative Drive Sustainability and it includes environmental management. Existing suppliers are required to conduct the SAQ biannually. Additionally, the Supplier Sustainability Index (SSI) assesses suppliers' maturity regarding Polestar's all four focus areas.
Employment						
GRI 3: Material Topics 2021	3-3 Management of material topics	108–110				
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	116				
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	130				Our philosophy is to offer the same benefits to all employees, as far as possible. We do not make any distinction between part-time and full-time employees.
	401-3 Parental leave	124				

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
Occupational health and safety			Requirement(s) omitted	Reason	Explanation	Comment
GRI 3: Material Topics 2021	3-3 Management of material topics	108–110, 126				
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	127				
	403-2 Hazard identification, risk assessment, and incident investigation	127				
	403-3 Occupational health services	127				
	403-4 Worker participation, consultation, and communication on occupational health and safety	127				
	403-5 Worker training on occupational health and safety	126–127				
	403-6 Promotion of worker health	127				
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	127				
	403-8 Workers covered by an occupational health and safety management system	126–127				
	403-9 Work-related injuries	126–127				
	403-10 Work-related ill health	126–127				
Diversity and equal opportunity						
GRI 3: Material Topics 2021	3-3 Management of material topics	108–110				
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	47, 117–121, 128				
	405-2 Ratio of basic salary and remuneration of women to men	129				
Non-discrimination						
GRI 3: Material Topics 2021	3-3 Management of material topics	108–110, 130				
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	59				

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
Freedom of association and collective bargaining			Requirement(s) omitted	Reason	Explanation	Comment
GRI 3: Material Topics 2021	3-3 Management of material topics	108–110, 133				
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	122, 140				The majority of direct material suppliers located in high risk regions are situated in China (98%), then Mexico (1%) followed by Morocco, Thailand and Vietnam
Child labor						
GRI 3: Material Topics 2021	3-3 Management of material topics	132–134				
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	140				
Forced or compulsory labor						
GRI 3: Material Topics 2021	3-3 Management of material topics	132–134				
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	140				
Supplier social assessment						
GRI 3: Material Topics 2021	3-3 Management of material topics	132–134				
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	135–137, 140–144				
	414-2 Negative social impacts in the supply chain and actions taken	135–144				
Customer health and safety						
GRI 3: Material Topics 2021	3-3 Management of material topics	147–152				
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	151				
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	151				

Sustainability notes
GRI Index

GRI Standard	Disclosure	Page	Omission			
Customer privacy			Requirement(s) omitted	Reason	Explanation	Comment
GRI 3: Material Topics 2021	3-3 Management of material topics	147–152				
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	151				
Public policy						
GRI 3: Material Topics 2021	3-3 Management of material topics	55, 60				
GRI 415: Public Policy 2016	415-1 Political contributions	60				

Sustainability notes
SASB Index

Topic listed in the SASB sector guideline for the automobile industry

	Location	Code	Page reference for disclosure
Product safety	Percentage of vehicle models rated by NCAP programs with an overall 5-star safety rating, by region	TR-AU-250a.1.	151
Product safety	Number of safety-related defect complaints, percentage investigated	TR-AU-250a.2	151
Product safety	Number of vehicles recalled	TR-AU-250a.3.	151
Labour practices	Percentage of active workforce covered under collective bargaining agreements.	TR-AU-310a.1.	122
Labour practices	Number of work stoppages and total days idle	TR-AU-310a.2.	127

Cautionary note regarding forward-looking statements

This Polestar Sustainability Report for 2024 ("Report") includes statements that express Polestar's opinions, expectations, beliefs, plans, objectives, assumptions or projections regarding future events or future results and therefore are, or may be deemed to be, "forward-looking statements" as defined in Section 27A of the Securities Act, and Section 21E of the Exchange Act, that involve significant risks and uncertainties. These forward-looking statements can generally be identified by the use of forward-looking terminology, including the terms "believes," "estimates," "anticipates," "expects," "seeks," "projects," "intends," "plans," "may," "will" or "should" or, in each case, their negative or other variations or comparable terminology. These forward-looking statements include all matters that are not historical facts. They appear in a number of places throughout this Report and include statements regarding Polestar's intentions, beliefs or current expectations concerning, among other things: the measurement of material circularity; traceability; the simplification of car designs; material and component recycleability; the extension of vehicle lifetimes beyond standard industry practices; vehicle-to-grid integration; Mobility-as-a Service platforms; use of packaging; expectations and timing related to commercial product launches, including the start of production and launch of any future products of Polestar, and the performance, range, autonomous driving and other features of Polestar vehicles; future market opportunities, including with respect to energy storage systems and automotive partnerships; future manufacturing capabilities and facilities; future sales channels and strategies; and future market launches and expansion.

Such forward-looking statements are based on available current market information and the current expectations of Polestar including beliefs and forecasts concerning future developments and the potential effects of such developments on Polestar. Factors that may impact such forward-looking statements include:

- Polestar's ability to enter into or maintain agreements or partnerships with its strategic partners, including Volvo Cars and Geely, original equipment manufacturers, vendors and technology providers;
- Polestar's ability to maintain relationships with its existing suppliers, source new suppliers for its critical components and enter into longer term supply contracts and complete building out its supply chain;
- Polestar's ability to raise additional funding;
- Polestar's ability to successfully execute cost-cutting activities and strategic efficiency initiatives;
- Polestar's ability to continue to meet stock exchange listing standards;
- changes in domestic and foreign business, market, financial, political and legal conditions
- demand for Polestar's vehicles or car sale volumes, revenue and margin development based on pricing, variant and market mix, cost reduction efficiencies, logistics and growing aftersales;
- delays in the expected timelines for the development, design, manufacture, launch and financing of Polestar's vehicles and Polestar's reliance on a limited number of vehicle models to generate revenues;
- increases in costs, disruption of supply or shortage of materials, in particular for lithium-ion cells or semiconductors;
- risks related to product recalls, regulatory fines and/or an unexpectedly high volume of warranty claims;
- 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 in order for Polestar to be able to increase its vehicle production volumes;
- the ability of Polestar to grow and manage growth profitably, maintain relationships with customers and suppliers and retain its management and key employes;
- risks related to future market adoption of Polestar's offerings;
- risks related to Polestar's current distribution model and the evolution of its distribution model in the future;
- 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;
- changes in regulatory requirements (including environmental laws and regulations and regulations related to connected vehicles), governmental incentives, tariffs and fuel and energy prices;
- Polestar's ability to rapidly innovate;
- risks associated with changes in applicable laws or regulations and with Polestar's international operations;
- Polestar's ability to effectively manage its growth and recruit and retain key employees, including its chief executive officer and executive team;
- Polestar's reliance on the development of vehicle charging networks to provide charging solutions for its vehicles and its strategic partners for servicing its vehicles and their integrated software;
- Polestar's ability to establish its brand and capture additional market share, and the risks associated with negative press or reputational harm, including from electric vehicle fires;
- the outcome of any potential litigation, including litigation involving Polestar and Polestar Automotive US Investment Inc. (formerly known as Gores Guggenheim, Inc.), government and regulatory proceedings, tax audits, investigations and inquiries;
- Polestar's ability to continuously and rapidly innovate, develop and market new products;
- 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 SEC by Polestar.

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, except as may be required by law.

Auditor's Limited Assurance Report on Sustainability Report

To Polestar Automotive Holding UK PLC, corporate identity number 13624182

— Introduction

We have been engaged by the Board of Directors and Group Management of Polestar Automotive Holding UK PLC ("Polestar Group") to undertake a limited assurance engagement of the Polestar Sustainability Report for the year 2024, outlined on page 2–163 in this document.

— Responsibilities of the Board of Directors and the Group Management

The Board of Directors and the Group Management are responsible for the preparation of the Sustainability Report in accordance with the applicable criteria, as explained on page 34 and 153–161 in the Sustainability Report, and are the parts of the Sustainability Reporting Standards published by GRI (Global Reporting Initiative) which are applicable to the Sustainability Report, as well as the accounting and calculation principles that the Company has developed. This responsibility also includes the internal control relevant to the preparation of a Sustainability Report that is free from material misstatements, whether due to fraud or error.

— Responsibilities of the auditor

Our responsibility is to express a conclusion on the Sustainability Report based on the limited assurance procedures we have performed. Our engagement is limited to historical information presented and does therefore not cover future-oriented information.

We conducted our limited assurance engagement in accordance with ISAE 3000 (revised) Assurance Engagements Other than Audits or Reviews of Historical Financial Information. A limited assurance engagement consists of making inquiries, primarily of persons responsible for the preparation of the Sustainability Report, and applying analytical and other limited assurance procedures. The procedures performed in a limited assurance engagement vary in nature from, and are less in extent than for, a reasonable assurance engagement conducted in accordance with International Standards on Auditing and other generally accepted auditing standards in Sweden.

The firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We are independent of Polestar Group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

The procedures performed consequently do not enable us to obtain assurance that we would become aware of all significant matters that might be identified in a reasonable assurance engagement. Accordingly, the conclusion of the procedures performed do not express a reasonable assurance conclusion.

Our procedures are based on the criteria defined by the Board of Directors and the Group Management as described above. We consider these criteria suitable for the preparation of the Sustainability Report.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion below.

— Conclusion

Based on the limited assurance procedures we have performed, nothing has come to our attention that causes us to believe that the Sustainability Report, is not prepared, in all material respects, in accordance with the criteria defined by the Board of Directors and Group Management.

Gothenburg, date as per digital signing

Deloitte AB

Daniel Wassberg
Authorized Public Accountant

Adrian Fintling
Expert Member of FAR

Do you have questions or comments?
Please contact us at media@polestar.com
or ir@polestar.com.