Novartis in Society

Integrated Report 2024

NOVARTIS

Contents

Cover: Kate Kostelyk and her labrador Dakoda in Mims, Florida. Kate has IgA nephropathy (IgAN), an autoimmune kidney disease. She works with the IgAN Foundation to raise awareness of the disease and push for better treatments.

About this report

The Novartis in Society Integrated Report is our main disclosure for nonfinancial information. It has been prepared in accordance with Art. 964*b* of the Swiss Code of Obligations, including the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) as required by the Swiss Ordinance on Climate Disclosures.

In addition, it has been prepared in alignment with the Integrated Reporting Framework and with reference to the Global Reporting Initiative (GRI) standards.

This report was subject to approval by the Board of Directors prior to publication. It is published in conjunction with our Annual Report and Form 20-F, which are filed with the SIX Swiss Exchange and US Securities & Exchange Commission (SEC), respectively. Our annual reports are available on our corporate website.

Scope, reporting boundaries and data

This report covers all business and consolidated entities in line with the Novartis Annual Report and Form 20-F. Annual performance data relates to our financial year (from January 1 to December 31, 2024). All information in this report reflects the continuing operations of Novartis, including any changes to the company's portfolio of activities. Further details on the basis for reporting are available in the Reporting Criteria document on our corporate website.

Environmental data for 2024 is based on actual January-September performance data, plus estimates for October-December (exceptions are indicated with a footnote). The 2022 and 2023 environmental comparative data reflects 12-month actual performance data.

Data on financial performance is consistent with the Novartis Annual Report and Form-20F, prepared in accordance with the International Financial Reporting Standards (IFRS®) Accounting Standards, as issued by the International Accounting Standards Board (IASB®). Novartis financial data is presented in US dollars (USD).

Comparative data for certain indicators in data tables (pages 60 and 62) include data for Sandoz, our former generics and biosimilars business, which was spun off in 2023. These indicators have been highlighted with a footnote. The 2016 baseline for environmental targets has been restated to remove Sandoz.

Some figures in this report have been rounded. Percentages may have been calculated using rounded numbers.

An overview of definitions and methodologies for ESG performance indicators in this report is available on our corporate website.

Certain ESG-related disclosures that are deemed outside the scope of Art. 964*b* of the Swiss Code of Obligations are published on the ESG Index on our corporate website. This includes information related to performance on our sustainability-linked bond targets.

References, abbreviations and trademarks

Where third-party sources are used, this is indicated in the text. A list of abbreviations can be found on page 74. Please note that all product names printed in italics in this report refer to trademarks owned by, or licensed to, Novartis.

Note on the Swiss Code of Obligations

On page 63, we summarize how this report complies with the requirements of Art. 964*b* of the Swiss Code of Obligations, including the Swiss Ordinance on Climate Disclosures. We also adhere to the requirements of Art. 964*j-l* of the Swiss Code of Obligations (Ordinance on Due Diligence and Transparency in relation to Minerals and Metals from Conflict-Affected Areas and Child Labour). We have determined that we are exempt from the obligations of due diligence and reporting on conflict minerals (see page 38). Our disclosure relating to due diligence on child labor can be found in a separate report available on our corporate website.

External assurance

KPMG AG provided limited assurance in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised) and ISAE 3410 on the performance indicators in the report. KPMG's independent assurance report is on page 72.

Chair's letter

In our first full-year as a pure-play medicines company, Novartis delivered strong results, with double-digit growth in sales and net profit in 2024. The performance validates our strategy and gives us confidence that we are well prepared to grow by focusing on our key therapeutic areas and technology platforms.

The strategic shift from a diversified life sciences company to a focused medicines organization over the last decade has proven to be the right path forward. With the divestment of our non-core activities in animal health, vaccines and generics, among others, we were able to free up resources and strengthen our position in fast-growing and highly innovative medical fields such as xRNA, radioligand therapy and gene and cell therapy.

Our recent breakthroughs in breast cancer and kidney and blood diseases demonstrate that our operational focus strengthens our ability to deliver high-value medicines that alleviate society's greatest disease burdens. As we continue to accelerate our research and development efforts and strengthen our commercial capabilities, we expect to continue to grow profitably in the long-term and create sustainable shareholder value.

Our efforts to more efficiently align our Research, Development and Commercial organizations advanced further. Besides strategic acquisitions to increase our technological capacity and broaden our pipeline, we integrated artificial intelligence more deeply into our day-to-day operations to more efficiently assess new molecules and accelerate drug development timelines.

" Our recent breakthroughs in breast cancer and kidney and blood diseases demonstrate our ability to deliver high-value medicines that alleviate society's greatest disease burdens."

In view of continuing geopolitical and economic volatility, we are further strengthening our global production and distribution network to withstand potential supply chain disruptions and improve overall resilience. We will stay disciplined in managing our technical and data infrastructure as well as our partner networks and build an agile footprint to quickly adapt to the changing environment.

Environmental, social and governance (ESG) matters remained high on our agenda. We deepened our commitment to vital topics: improving access to medicines, taking further measures in our fight against climate change and strengthening our ethics framework, among other things. Our efforts have been recognized by leading independent agencies and are reflected in consistently high rankings.

During my 12-year tenure as Chair, my priorities were, among others, to focus the company on its core pharmaceutical expertise, improve its governance, appoint strong executive leadership and help create a highly versatile Board of Directors to navigate the increasingly complex healthcare landscape. With Dr. Giovanni Caforio, who after shareholder approval is scheduled to join the Board as Non-Executive Chair in April 2025, Novartis has secured an outstanding leader to guide the company through its next phase.

I thank you for the confidence you have placed in our company and am pleased to be able to propose a dividend increase of 6% to CHF 3.50 at the next Annual General Meeting.

Sincerely,

Joerg Reinhardt
Chair of the Board of Directors

CEO's letter

2024 was a year of impact at Novartis. We reached nearly 300 million patients with our innovative therapies — more than ever before — as we built on the momentum from our successful transformation. We consistently delivered strong financial and operational performance, significant R&D achievements, and sustainable growth, and are well positioned to increase value for shareholders and society moving forward.

Core to our approach is a relentless focus on innovation. It allowed us to develop and expand access to new treatments in our key therapeutic areas and technology platforms.

In oncology, we built on the legacy of our work in areas like breast cancer and chronic myeloid leukemia with *Kisqali* and *Scemblix*, medicines developed by researchers in Novartis labs — a testament to the strength of our R&D engine. We secured our spot as a global leader in radioligand therapy (RLT), a platform we believe has the potential to transform cancer care. *Pluvicto*, our RLT therapy for advanced prostate cancer, showed strength in the US and Europe. We are exploring new referral pathways and investing in RLT manufacturing to broaden its global availability.

Our investments in cutting edge technology fueled innovation across therapeutic areas. We continue to prioritize platforms like RLT and RNA therapeutics, and increasingly integrate artificial intelligence and data science throughout our R&D activities. These tools are helping uncover potential ways to accelerate drug design and clinical trial processes.

Through a combination of in-house R&D and targeted acquisitions and licensing agreements, we now have more than 30 potential new high-value medicines in our pipeline and expect more than 15 submission-enabling readouts over the next two years.

We remain committed to environmental, social and governance (ESG) matters. We rank highly among industry peers in a range of key ESG ratings, and were honored to rank number one in the 2024 Access to Medicine Index.

Fostering a culture of innovation depends on people. We aim to recruit, retain, and cultivate the best talent in the world. It's why we've rebuilt our organization to meet tomorrow's global healthcare challenges through a simpler organization, targeted hiring efforts and investments in new facilities to serve patients around the world.

Our approach delivered solid financial results. This past year saw double-digit growth in net sales and core operating income and improved core margins. Importantly, we delivered strong total shareholder returns for our shareholders over recent years.

"We reached nearly 300 million patients with our innovative therapies — more than ever before."

Looking ahead, I'm confident we'll see sales growth average at least 5% annually over the five years to 2029, and reach 40% core operating income margin by 2027.[1]

We're proud of our record and excited about the future. I want to offer a special note of thanks to outgoing Board Chair Joerg Reinhardt, who steps down after decades of leadership at Novartis. His impact will carry forward, and I'm grateful for his years of mentorship.

In recent years, we've narrowed our focus, expanded our reach, and invested in the future. The result is a strong portfolio of innovative therapies that sets us up for sustained growth and finds new ways to improve and extend patients' lives.

Thank you for making that possible. We look forward to continuing our momentum in 2025.

Sincerely,

Vas Narasimhan
Chief Executive Officer

[1] Core results are non-IFRS measures. An explanation of non-IFRS measures can be found on page 50 of our Annual Report

About Novartis

Our company

Novartis is an innovative medicines company engaged in the research, development, manufacturing, distribution, marketing and sale of a broad range of innovative pharmaceutical medicines. In 2024, our medicines reached 296 million patients around the world.

PURPOSE AND VISION › **ORGANIZATION**

Purpose

Our purpose is to reimagine medicine to improve and extend people's lives.

Vision

Our vision is to become the most valued and trusted medicines company in the world.

Organization

Research and development

- **Biomedical Research** is our innovation engine, focused on creating new ways to fight disease and turning scientific breakthroughs into new medicines with the potential to change lives.
- **Development** oversees the development of potential new medicines, running clinical trials to confirm their safety and efficacy, and steering the way to regulatory approval for the treatment of patients.

Operations and global functions

- **Operations** manufactures and delivers our medicines to customers, while also overseeing IT, procurement, real estate and other support services. Novartis operates 33 manufacturing sites worldwide.
- **Global functions** provide support in areas such as finance; human resources; legal; ethics, risk and compliance; corporate affairs; internal audit; and strategy and growth.

Commercial

- **US** and **International** are our two commercial units, focused on their respective geographic areas. They work with customers to provide innovative medicines and services that improve treatment options and raise the quality of care for patients.

Our medicines

Our medicines treat serious diseases from cancer and heart disease to neurological conditions and rare genetic illnesses. We sell our medicines in approximately 120 countries worldwide.

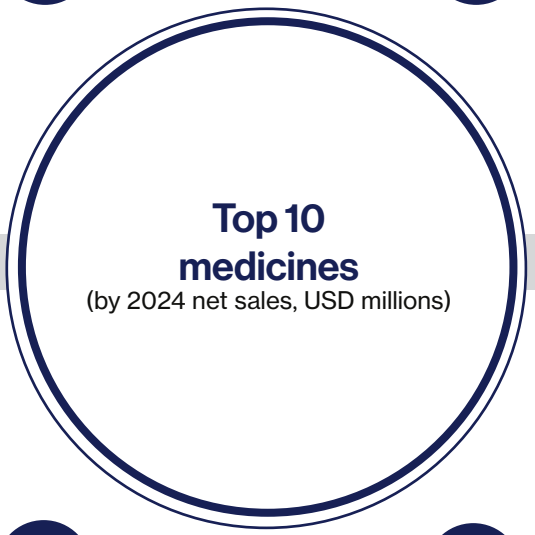
CORE THERAPEUTIC AREAS

- Cardiovascular, renal and metabolic
- Immunology
- Neuroscience
- Oncology

In addition, we have in-market products in:

- Ophthalmology
- Respiratory
- Global health

NOVARTIS TOP 10 MEDICINES



Kesimpta
Injectable treatment for relapsing multiple sclerosis
3 224

Cosentyx
Injectable treatment for inflammatory and immune conditions
6 141

Kisqali
Oral treatment for a type of breast cancer
3 033

Entresto
Oral medicine for heart failure and hypertension
7 822

Promacta/Revolade
Oral treatment for certain blood disorders
2 216

Ilaris
Injectable medicine for certain rare autoinflammatory disorders
1 509

Tafinlar + Mekinist
Oral combination targeted therapy for a certain type of cancer
2 058

Xolair[1]
Injectable medicine for certain respiratory and immunological conditions, including severe allergic asthma
1 643

Tasigna
Oral treatment for a type of chronic myeloid leukemia
1 671

Jakavi
Oral treatment for certain rare blood disorders
1 936

[1] Net sales from continuing operations reflect *Xolair* sales for all indications.

Our global operations

Novartis headquarters are in Basel, Switzerland. In addition, we have 197 operating sites worldwide, including manufacturing sites, R&D facilities and corporate offices.

Europe

Switzerland

Basel
Global company headquarters; International organizational unit headquarters; research and development; production of drug substances and drug intermediates

Stein
Production of sterile vials, pre-filled syringes and ampoules; capsules and tablets; active pharmaceutical ingredients; and cell and gene therapies

Schweizerhalle
Manufacture of small-interfering RNA drug substance for *Leqvio*

France

Huningue
Production of drug substances for clinical and commercial supply

Slovenia

Menges
Production of small molecules and large molecules drug substances and drug intermediates; R&D for biologics

Austria

Kundl and Schaftenau
Production of biotechnological products, active drug substances and nucleic acids, drug products, and finished products; product development

Italy

Ivrea
Galenic development and manufacture, package and release of radioligand therapy products in oncology (clinical & commercial) *Pluvicto* and *Lutathera* product

MAJOR FACILITIES

Major facilities and locations
(by size of site and/or number of employees)

North America

US

East Hanover, NJ
US organizational unit headquarters; research and development

Indianapolis, IN
Manufacture, package and release clinical and commercial *Pluvicto* and *Lutathera* product for US and Canada

Cambridge, MA
Research and development

Durham, NC
Manufacture, package and release commercial *Zolgensma* product and certain clinical development activities

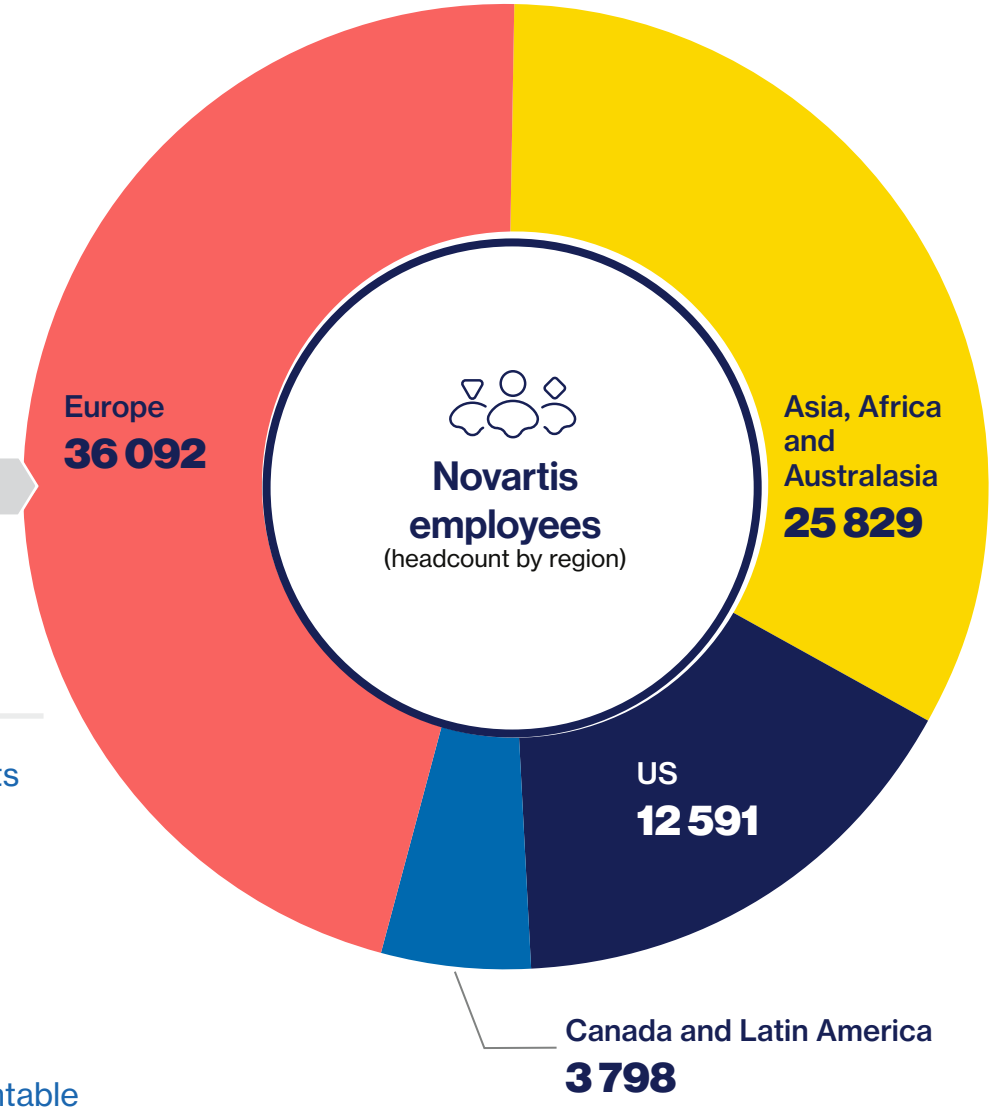
Asia

China

Shanghai
China country headquarters; research and development

Our people, culture and values

Our 78 310 employees[1] worldwide enable us to reimagine medicine to improve and extend people's lives.



PEOPLE, CULTURE AND VALUES

Our culture is based on core values and behaviors

Novartis employees are encouraged to be inspired, curious, unbossed and to act always with integrity.

Our Values	Our behaviors in action
Inspired	We create positive change for patients
Curious	We explore to improve
Unbossed	We take smart risks and learn
Integrity	We make each other extraordinary
	We hold ourselves and others accountable

[1] 75 883 full-time equivalent positions (FTEs)

Strategy and business model

Operating environment

Progress in science and technology raises the possibility of new types of medicines and more efficient drug discovery. At the same time, many people struggle to access healthcare, while aging populations are putting pressure on healthcare systems. On this page, we set out key trends shaping our industry.

Scientific progress is opening new paths to treat disease

Rapid progress in medical science is creating opportunities for new types of treatments. These advances highlight the importance of investment in R&D, including in next-generation technologies such as radioligand therapies and gene and cell therapies.

Demand for high-quality healthcare continues to rise

Demand for medicines in areas such as cancer, cardiovascular disease and immunology continues to grow in key markets. The US and EU markets are expanding. China is growing rapidly, while spending in Japan is forecast to remain stable.

Healthcare systems are under strain

In many countries, healthcare systems are under pressure. Long-term factors such as aging and lifestyle changes have led to a significant rise in noncommunicable illnesses such as cancer, diabetes and heart disease.

The policy landscape is changing

Evolving legislation and regulations are changing how governments pay for medicines. In the US, the Inflation Reduction Act will impose price controls on select drugs in the Medicare program. The EU is revising the legislative framework for medicines with the aim of improving access and affordability, while China has rolled out a volume-based procurement program to reduce prices for eligible medicines.

The market for healthcare is evolving

Customer groups have increasing influence on treatment decisions and guidelines, while patients continue to become more informed stakeholders in their healthcare decisions and look for solutions to meet their changing needs.

Access to medicines remains a challenge

Many people around the world struggle to access healthcare and medicines. The issue is linked to demographic, social and economic challenges such as aging, poverty and inequality, as well as to structural issues such as limited healthcare infrastructure, shortages of trained healthcare workers and the cost of healthcare and medicines. Improving access requires a holistic approach that acknowledges these complex factors and relies on stakeholder collaboration and partnerships.

AI is poised to reshape the industry

Across the biopharmaceutical industry, we are beginning to realize the benefits of new technologies such as AI in automating processes and generating insights that could help us design new compounds, predict drug safety or speed up drug discovery. The extent to which companies can harness this potential will depend on their ability to aggregate and analyze large volumes of anonymized health data.

Healthcare systems aim to build climate resilience

Healthcare systems are aiming to build climate resilience, with 45 countries committing to net-zero carbon emissions in their health systems, according to the WHO. At the same time, climate change and nature loss continue to have adverse effects on human health, mainly from malnutrition, malaria, diarrhea and heat stress, with respiratory illnesses also on the rise due to air pollution.

Strategy

Novartis is an innovative medicines business engaged in the research, development, manufacturing, distribution, marketing and sale of a broad range of innovative pharmaceutical medicines.

Focus areas

We focus on four core therapeutic areas with strong growth potential and high unmet patient needs — cardiovascular, renal and metabolic; immunology; neuroscience; and oncology. This focus enables us to build depth in these therapeutic areas, leveraging our scientific expertise to find new ways to treat and cure disease, intervene earlier in disease pathophysiology, and improve quality of life for patients.

We focus our exploratory research work on these core therapeutic areas but also look beyond them, recognizing that cultivating a robust pipeline and remaining on the leading edge of scientific discovery requires a slightly wider aperture in early research.

We are investing in technology platforms that we expect will deliver future high-value medicines. We focus on two established platforms (chemistry and biotherapeutics) plus three advanced platforms (radioligand therapy (RLT), xRNA, and gene and cell therapy) that will play an important role in delivering transformative new medicines.

We focus on priority markets — US, Germany, China and Japan — which together account for most of the expected growth in global healthcare spending over the next five years. Although these are our priority markets, we maintain a strong presence in other markets worldwide.

Strategic priorities

To support our focus areas, we have three strategic priorities:

Deliver high-value medicines to accelerate growth

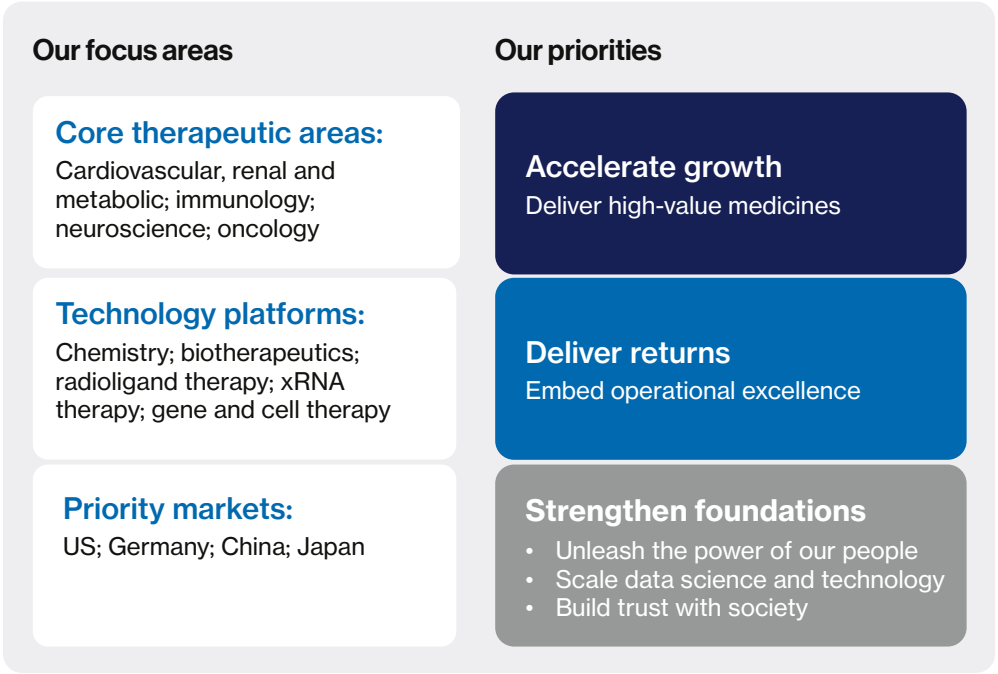
We aim to increase growth, driven by continued strong momentum in our existing portfolio of medicines — including *Entresto, Cosentyx, Kisqali, Kesimpta, Scemblix, Pluvicto* and *Leqvio* — and key upcoming launches. Over the longer term, we expect growth will come through delivering high-value medicines that sustain and replace our existing growth drivers.

Our R&D strategy focuses on an end-to-end approach, covering research, development, and commercialization. We concentrate resources on priority programs to maximize early-stage potential and ensure effective late-stage execution. We also focus on life-cycle management by enhancing the evidence base for key brands.

We increase our chances of discovering new medicines by collaborating with outside researchers and biotech companies. Our network consists of academic and industry alliances working on joint research and drug discovery.

Embed operational excellence to deliver returns

In an increasingly competitive environment, we are simplifying processes and reducing costs to become more efficient and effective in our decision-making and to free up resources for investment in new medicines. Our goal is to continue making attractive returns to shareholders while creating value for patients, healthcare systems and society.



In our manufacturing sites, we are expanding capacity in strategic focus areas such as biopharmaceuticals and advanced technology platforms. For example, we are investing to expand our platform for RLT, a type of precision nuclear medicine that requires quick delivery to patients, since the activity of the radioisotope it contains diminishes over time.

To ensure product quality, we maintain a quality management system for our medicines in compliance with requirements from health authorities and other regulators. We are also switching more of our production to renewable energy and reducing the environmental footprint of our sites.

Strengthen our foundations

We continue to invest in the foundations of our long-term success. We have made progress in strengthening our culture to attract and retain talent, while developing artificial intelligence capabilities across our value chain and continuing to build trust with stakeholders and society.

ESG strategy

Our ESG strategy is a fundamental component of our purpose to reimagine medicine and our strategic imperative to build trust with society. This strategy is integrated across the company to drive long-term sustainable value for stakeholders.

We aim to be a sector leader, with a focus on the areas where we can have the most impact through our core business: innovation to tackle serious diseases and making sure our medicines are accessible in different health systems.

Key elements of our ESG strategy

- Innovation and access to medicines: we are committed to expanding access to our medicines globally, working with our partners to employ a variety of strategies such as value-based pricing, patient support programs, and initiatives to strengthen healthcare systems.
- Human capital: we foster an inclusive workplace culture, believing it fuels innovation, drives engagement, and attracts talent.
- Environmental sustainability: recognizing the connection between planetary and patient health, we strive to minimize our environmental impact by working toward ambitious targets in climate and nature.
- Ethical standards: we uphold high ethical standards, effectively manage risks, and ensure compliance with applicable laws and regulations to meet societal expectations.

Our ESG strategy is designed to align with our corporate purpose, embedding sustainability into our operations and decision-making processes to create value for both society and the company.

Our ESG framework

Our biggest impact is through driving innovation and access, while performing well as a responsible business.

Innovation and access to medicines	Human capital	Environmental sustainability	Ethical standards
• Future-proof pipeline addressing unmet need • Enabling access to innovative medicines • Dedicated Global Health unit	• Culture • Inclusion • Talent	• Climate • Nature	• Ethics • Compliance • Human rights

Creating sustainable impact

Business model

Research and development

The discovery and development of a new drug usually requires approximately 10 to 15 years from initial research to launch.

Our research and early development program is conducted by our Biomedical Research unit, which is responsible for the discovery of new medicines that bring value for patients, healthcare systems and the company. We have 5 582 full-time-equivalent scientists, physicians and business professionals at Biomedical Research sites.

Our Development unit oversees and executes drug development activities, working collaboratively with Biomedical Research, our commercial units and other parts of the company on our overall pipeline strategy. It has 12 773 full-time-equivalent employees worldwide. Our development process consists of two stages: early development to build confidence in the overall properties of the compound, followed by confirmatory development to confirm the concept in large numbers of patients.

We continue to make significant investments to support our R&D strategy. In 2024, our core R&D expense from continuing operations was USD 9.3 billion, compared with USD 8.6 billion in the prior year.

Upstream	Own operations				Downstream
Supply chain	Research and development	Production	Regulatory submission	Marketing and sales	Healthcare systems and patients

Production

Novartis operates 33 manufacturing sites worldwide. Our primary goal is to ensure the uninterrupted and timely supply of medicines that meet all product specifications and quality standards, and that are produced in the most cost-effective and sustainable manner. The manufacturing of our products is highly regulated by governmental health authorities around the world. In addition to regulatory requirements, many of our products involve technically complex manufacturing processes or require highly specialized raw materials.

Regulatory submission

To register a pharmaceutical product, a registration dossier containing evidence establishing the safety, efficacy and quality of the product must be submitted to regulatory authorities. If approved, we generally have certain exclusive rights to market and sell the medicine for a defined period.

Marketing and sales

Novartis sells products in approximately 120 countries worldwide. Although specific distribution patterns vary by country, Novartis sells its prescription drugs primarily to drug wholesalers, retailers, private health systems, government agencies, managed care providers, pharmacy benefit managers and government-supported healthcare systems. We reach healthcare professionals and patients in many markets and across our core therapeutic areas through integrated channels including field-force operations, patient support programs and Novartis-owned digital platforms. Novartis also pursues co-promotion or co-marketing opportunities as well as licensing and distribution agreements with other companies in various markets.

We have 19 135 full-time-equivalent field-force employees, as of December 31, 2024, including supervisors and administrative personnel. These trained representatives present the therapeutic benefits and risks of our products to physicians, pharmacists, hospitals, insurance groups, managed care organizations and other healthcare professionals.

Upstream: supply chain

Novartis works with thousands of business partners. To reduce supply risk, we maintain multiple sources for key inputs and raw materials. We require our partners to comply with applicable laws and regulations, as well as Novartis standards, including those for quality, ethics, environmental sustainability and human rights.

Downstream: healthcare systems and patients

Our medicines are prescribed for use in patients by physicians or other healthcare professionals. In 2024, Novartis medicines reached 296 million patients worldwide.

Material topics

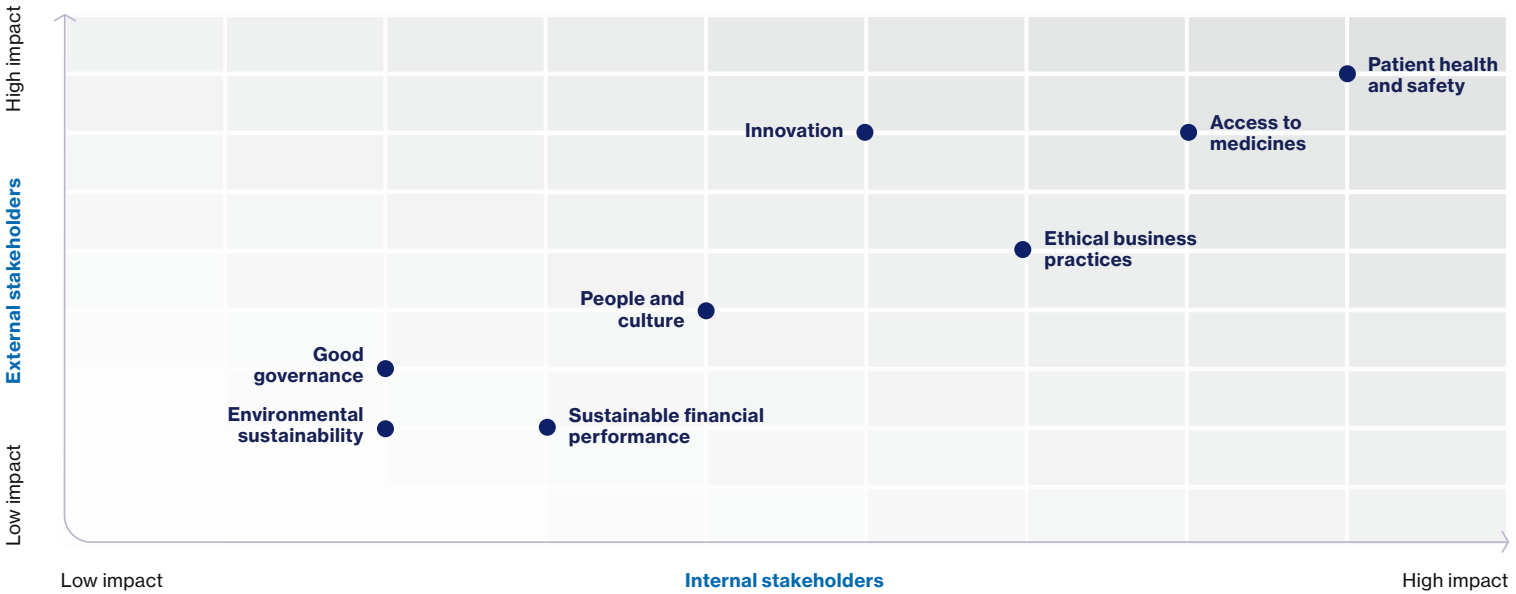
We continually review trends and changes in our operating environment and business model to identify and assess the relevance of our most material topics — those where we have the most impact on people and the environment and that could have the most significant potential impact on our business.

Results from this assessment inform both our strategy and our approach to reporting. The assessment complements our annual risk analysis (see page 53).

Our most recent materiality assessment, conducted in 2021, reflects the input of more than 500 external and 12 000 internal stakeholders. Respondents were asked to estimate the impact of Novartis on eight separate topic areas. The chart opposite shows the results.

External stakeholders were drawn from our main stakeholder groups, including patients, customers, partners and shareholders. Internal stakeholders were drawn from senior management, as well as units and functions.

Ranking of topic areas



Understanding of our material topics is also based on ongoing engagement with external stakeholders; our enterprise risk management process; social, economic and environmental (SEE) impact valuation analysis; and other sources. We are also conducting a detailed analysis of impacts, risks, and opportunities (IROs) that will inform our reporting obligations under EU law from 2025 onwards.

We believe our 2021 materiality assessment continues to reflect our most material topics. However, we continue to adjust and prioritize our disclosures to reflect the insights gained from our stakeholders, such as the increased importance of environmental matters.

Stakeholder engagement

Novartis works with stakeholders — including patients, healthcare professionals, employees, investors, suppliers and regulators — to understand their needs and expectations and to pursue common goals. The table on page 17 shows an overview of our key stakeholders and how we engage with them.

Overview of stakeholder engagement

Stakeholder group	Purpose of engagement	Means of engagement	Issues discussed
Patients	Identify needs and expectations and incorporate into research, development and commercialization; ensure benefit/risk profiles of medicines are relevant to patients	Dedicated teams; partnerships with patient organizations; post-trial access, managed access and patient support programs	Integrating patient views earlier into R&D strategies, commercial strategies and decision-making; meeting evolving regulator and payer guidance on patient involvement
Healthcare professionals (HCPs) and systems	Understand expectations, needs and potential constraints; remove barriers to access; ensure supply of medicines; enhance our commercial strategy	Regular contact with HCPs and payers; dedicated online platforms; conferences; training; health system strengthening initiatives	Sharing results from clinical trials; optimize disease management; innovative commercial partnerships
Employees	Understand and remove potential barriers to recruitment and retention; create safer, healthier, more inclusive working environment	Meetings and events; quarterly surveys; evaluations, training and feedback; discussions with employee representatives and unions	Our strategy as an innovative medicines company; updates to our organizational structure
Shareholders and investors	Explain our strategy, performance, growth outlook, pipeline, risk management and approach to ESG; maintain engagement with international capital markets	Meetings with portfolio managers, stewardship teams and analysts; conferences, roadshows and presentations; focus on top 100 investors comprising around 60% of shares	Financial performance, commercial execution and sustainable shareholder value creation; pipeline progress; capital allocation strategy; sustainability and governance practices; executive compensation and board changes
Suppliers and other business partners	Collaborate to accelerate R&D and support growth; obtain supplies	Network of alliances within industry, academia and nongovernmental organizations; contact with suppliers and other business partners	R&D partnering; business development and licensing; standards on quality, ethics, environmental management and human rights in our supply chain
Policymakers and regulators	Strengthen corporate reputation as a trusted partner; support business growth and mitigate risks; foster an environment conducive to innovation; expand access to medicines	Membership in trade associations; regular meetings with regulators, government officials, legislators and other policymakers	Value-based healthcare; life sciences competitiveness; measures to support innovation; constraints on healthcare spending and implications for innovation

Business review

Financial performance

Company overview[1]

Novartis delivered a strong performance in 2024. Full-year net sales were USD 50.3 billion, an increase of 11% in USD reported terms and up 12% measured in constant currencies (cc)[2] to remove the impact of exchange rate movements.

Novartis sales in the US grew by 18%. Sales in Europe grew by 5% (cc). Sales in emerging growth markets grew 15% (cc), including a 21% (cc) increase in China.

Operating income was USD 14.5 billion, up 55% (cc) from the prior year, mainly driven by higher net sales, lower impairments, amortization and restructuring charges, partly offset by prior-year one-time income from legal matters and higher R&D investments.

Net income was USD 11.9 billion, increasing by 45% (cc) from the prior year mainly driven by higher operating income, partly offset by higher income taxes from continuing operations, mainly resulting from higher income before taxes in the current year and non-recurring tax benefits in the prior year. Earnings per share were USD 5.92, up 49% (cc).

To help stakeholders better understand our underlying performance, we also present our core results, which exclude the impact of amortization, restructurings, acquisitions and other significant items.

Core operating income of USD 19.5 billion rose 22% (cc). Core operating income margin was 38.7% of net sales, increasing by 3.3 percentage points (cc). Core net income of USD 15.8 billion rose 21% (cc). Core earnings per share were USD 7.81, up 24% (cc). Free cash flow of USD 16.3 billion was up 24%.

For detailed information on our financial performance see the Annual Report 2024.

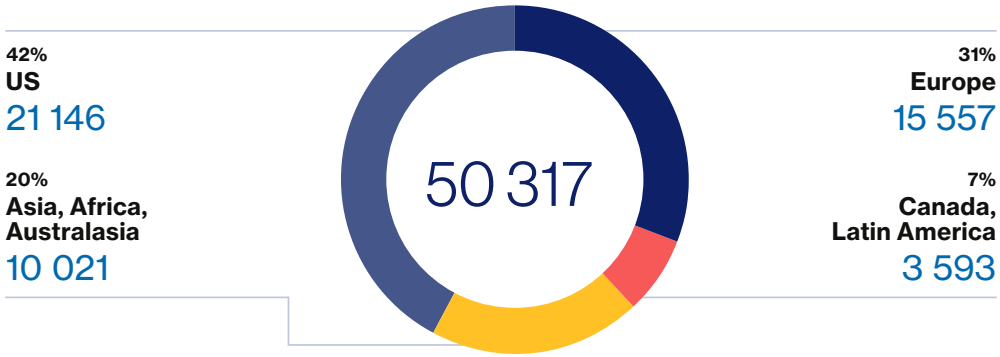
Cardiovascular, renal and metabolic

Entresto (USD 7.8 billion, +31% cc) penetration grew in the US and Europe through continued adoption of guideline-directed medical therapy in heart failure. In China and Japan, volume growth was fueled by heart failure and hypertension.

Leqvio (USD 0.8 billion, +114% cc) launch in the US and other markets is ongoing, with a focus on increasing account and patient adoption, and continuing medical education.

2024 net sales from continuing operations by geographical region

(% of net sales and in USD millions)



Key figures[2]

(in USD millions, unless indicated otherwise)	2024	2023	% Change USD	% Change Constant currencies
Net sales from continuing operations	**50 317**	45 440	**11**	**12**
Operating income from continuing operations	**14 544**	9 769	**49**	**55**
% of net sales from continuing operations	**28.9**	21.5		
Net income from continuing operations	**11 939**	8 572	**39**	**45**
Net income from discontinued operations		6 282	**nm**	**nm**
Net income	**11 939**	14 854	**nm**	**nm**
Basic earnings per share[3] (USD) from continuing operations	**5.92**	4.13	**43**	**49**
Basic earnings per share[3] (USD) from discontinued operations		3.02	**nm**	**nm**
Total basic earnings per share[3] (USD)	**5.92**	7.15	**nm**	**nm**
Core operating income from continuing operations	**19 494**	16 372	**19**	**22**
% of net sales from continuing operations	**38.7**	36.0		
Core net income from continuing operations	**15 755**	13 446	**17**	**21**
Core basic earnings per share[2] from continuing operations (USD)	**7.81**	6.47	**21**	**24**
Free cash flow from continuing operations	**16 253**	13 160	**24**	

Share information

	2024	2023	% Change
Share price at year-end (CHF)	**88.70**	84.87	**5**
ADR price at year-end (USD)	**97.31**	100.97	**– 4**
Dividend[4] (CHF)	**3.50**	3.30	**6**

[1] All figures in the commentary refer to continuing operations (i.e. excluding Sandoz).
[2] This Novartis in Society Integrated Report 2024 includes non-IFRS financial measures such as core results, constant currencies and free cash flow. Novartis believes that investor understanding of the company's performance is enhanced by disclosing these non-IFRS measures. A definition of non-IFRS measures used by Novartis, and further details, including reconciliation tables, can be found in "Item 5. Operating and Financial Review and Prospects" of the Novartis Annual Report 2024.
[3] 2024 weighted average number of shares outstanding: 2 018 million (2023: 2 077 million)
[4] Dividend 2024: proposal to shareholders for approval at the Annual General Meeting on March 7, 2025

Immunology

Cosentyx (USD 6.1 billion, +25% cc) sales grew mainly in the US, emerging growth markets and Europe, driven by recent launches and volume growth in core indications.

Neuroscience

Kesimpta (USD 3.2 billion, +49% cc) sales grew, reflecting increased demand for a high-efficacy product with convenient self-administered dosing.

Oncology

Kisqali (USD 3.0 billion, +49% cc) sales grew across all regions driven by increased demand and strong access.

Pluvicto (USD 1.4 billion, +42% cc) grew in the US and Europe, and is now on the market in several ex-US countries.

Scemblix (USD 0.7 billion, +68% cc) sales grew across all regions demonstrating the continued high unmet need in CML.

Innovation performance

Cardiovascular, renal and metabolic

In our renal portfolio, we are making progress in advancing new therapeutic options for rare kidney diseases, which may preserve kidney function and help people live longer without the need for dialysis or transplantation.

We received accelerated US approval for *Fabhalta* (iptacopan) to treat adults with immunoglobulin A nephropathy (IgAN), a disease in which the immune system attacks the kidneys, often causing inflammation and proteinuria (high levels of protein in urine). The approval was based on the interim analysis of a Phase III study that showed a reduction in proteinuria compared with placebo.

Fabhalta is the first of our renal pipeline to receive FDA approval. In 2024, we also submitted atrasentan, which has a different mechanism of action to *Fabhalta*, for approval in the US based on the interim results of a Phase III study that showed a reduction in proteinuria compared with placebo for patients with IgAN.

We also filed regulatory submissions in the EU, China, Japan and the US for *Fabhalta* to treat adult patients with C3 glomerulopathy, another rare kidney disease that initially presents in mostly children and young adults and currently has no approved treatment options. The submissions followed positive results from a Phase III trial in adult patients. Enrollment is ongoing in a separate cohort of adolescent patients with C3G.

Fabhalta, which was discovered and developed by Novartis, has the potential to treat multiple diseases, within the renal space and across broader therapeutic areas. In 2024, we also received regulatory approval for *Fabhalta* in the EU and Japan to treat paroxysmal nocturnal hemoglobinuria (PNH), a rare and serious blood disorder, building on the US approval for PNH in the previous year.

In our cardiovascular portfolio, we announced positive topline results from a Phase III study to evaluate the efficacy of *Leqvio* (inclisiran) as monotherapy in patients at low or moderate risk of developing atherosclerotic cardiovascular disease (ASCVD) who are not receiving lipid-lowering therapy. The trial adds to the growing body of evidence for *Leqvio* across the full spectrum of ASCVD as we strive to help more patients in need. *Leqvio* is registered in more than 105 countries and commercially available in 78.

Immunology

We announced data from two pivotal Phase III studies of remibrutinib to treat patients with chronic spontaneous urticaria (CSU), which showed significant improvements in patients who remained symptomatic despite H1-antihistamine use. CSU, also known as chronic hives, is an immunological disease, characterized by the sudden appearance of itchy hives and/or deep tissue swelling, that can severely impact quality of life.

We plan to submit remibrutinib for regulatory approval in the US and Europe in 2025. If approved, it has the potential to become the first of a new class of CSU treatment in a decade, offering an effective treatment option for the 60% of patients uncontrolled by H1-antihistamines.

Neuroscience

We announced data that continue to support the clinical benefit of OAV101 IT (onasemnogene abeparvovec) to treat spinal muscular atrophy (SMA), a rare, genetic neuromuscular disease and a leading genetic cause of infant death. The primary objective of the Phase III study was to evaluate the efficacy and safety of OAV101 IT in patients with SMA aged 2-18. Many patients with SMA currently rely on chronic treatments to manage their disease. These positive topline results from the STEER trial underscore the efficacy, safety and tolerability of OAV101 IT in patients with SMA aged two and above.

Oncology

We received approval in the US and Europe for *Kisqali* (ribociclib) for use with an aromatase inhibitor to treat people with HR+/HER2- stage II and III early breast cancer who are at high risk of recurrence. This decision was based on the Phase III NATALEE trial, which showed that *Kisqali* reduces the risk of the cancer coming back by 25% compared with hormone therapy alone. This approval means that more patients, including those without lymph node involvement, can now benefit from this treatment.

In addition, we received accelerated approval in the US for *Scemblix* (asciminib) to treat adult patients with newly diagnosed Philadelphia chromosome-positive chronic myeloid leukemia in chronic phase (Ph+ CML-CP). The expanded indication in Ph+ CML-CP, which now includes newly diagnosed and previously treated adults, increases the population eligible for *Scemblix* by

approximately four times. *Scemblix* is under regulatory review in this indication in key international markets worldwide, including in China and Japan.

During the year, we submitted our radioligand therapy (RLT) *Pluvicto* (lutetium Lu 177 vipivotide tetraxetan) for approval in the US to treat patients with a type of advanced prostate cancer called PSMA-positive metastatic castration-resistant prostate cancer in the pre-chemotherapy setting, underscoring the opportunity to expand the promise of *Pluvicto* to help more patients with prostate cancer.

Also in our RLT portfolio, we received approval in the US for *Lutathera* (lutetium Lu 177 dotatate) to treat pediatric patients 12 years and older with somatostatin receptor-positive (SSTR+) gastroenteropancreatic neuroendocrine tumors (GEP-NETs). This approval makes *Lutathera* the first therapy specifically approved for use in pediatric patients with GEP-NETs, which are rare tumors found in the digestive tract.

Novartis is investigating a broad portfolio of RLTs, exploring new isotopes, ligands and combination therapies to look beyond GEP-NETs and prostate cancer and into breast, colon, lung and pancreatic cancer.

Global health

We continue to advance potential new medicines for global health challenges such as malaria and leishmaniasis.

In 2024, we launched a Phase III clinical trial for ganaplacide/ lumefantrine (KLU156) for the treatment of patients with acute uncomplicated malaria. Ganaplacide/ lumefantrine is being developed in partnership with the WANECAM2 (West African Network for Clinical Trials of Antimalarial drugs) Consortium as well as the Medicines for Malaria Venture and their partners.

In partnership with the Drugs for Neglected Diseases Initiative, we are also conducting Phase II studies of LXE408, a potential oral treatment for visceral leishmaniasis. We expanded the trial to Ethiopia in 2024 after launching in India in 2023.

Operational performance

Novartis operates 33 manufacturing sites worldwide. As we execute our focused business strategy, we are expanding manufacturing capacity in key growth areas such as biopharmaceuticals and advanced technology platforms.

In 2024, we announced the construction of two new radioligand therapy (RLT) manufacturing facilities in the US to support growing demand for our RLT medicines. We broke ground on a new facility at our Indianapolis site for producing radioisotopes critical for RLT and we are establishing a new RLT manufacturing site – our third in the US – in Carlsbad, California.

The new facilities represent our continued investment in developing a robust infrastructure to support the expanding use of RLTs to treat cancer. These facilities will be built with room for further expansion to enable the potential production of different isotopes, ligands and RLTs. Once completed and approved, they will further strengthen the Novartis RLT manufacturing and global supply network.

Alongside our investments in RLT, we continued to advance our capabilities across our other strategic platforms, including increasing our cell culture manufacturing capacity in Austria and Singapore, and establishing a second viral vector facility and biological drug substance manufacturing using mammalian cell culture at our Menges site in Slovenia. We also started routine production of large-scale quantities of siRNA at our Schweizerhalle facility in Switzerland.

Data science and digital technology

We are investing to build a strong data, digital and IT foundation for our company. As part of our overall strategy, we focus on priority projects that can be scaled globally and have the highest impact.

One focus area is implementing artificial intelligence (AI) use cases across our business. For example, through our strategic research collaboration with Isomorphic Labs, we have developed an AI model predicting protein folding to reshape drug design. We are also exploring how AI can automate parts of clinical trial report writing.

As part of our AI strategy, we are empowering employees to leverage AI-powered tools effectively and securely to enhance productivity and decision-making. In 2024, we launched an enterprise-wide AI upskilling campaign for employees, which includes supporting the adoption of Microsoft Copilot. We also established a ‘Data Science Academy’ for data scientists and other employees.

Key assets in our R&D pipeline

The table below shows select R&D programs across our core therapeutic areas as well as select programs linked to our global health priorities. Please note that some assets are in development across multiple therapeutic areas. For more information on our R&D pipeline, see the Novartis corporate website.

Phase I ●○○ Phase II ●●○ Phase III ●●● Submitted for regulatory approval S

Product / compound name	Platform	Description	Potential indication(s)	Current phase
Cardiovascular, renal and metabolic				
EXV811 atrasentan	Chemistry	Potential oral therapy in development for IgA nephropathy (IgAN) and other rare kidney diseases. Added to the Novartis pipeline through the acquisition of Chinook Therapeutics.	**IgA nephropathy**	S
FUB523 zigakibart	Biotherapeutics	Potential subcutaneously administered therapy in development for IgAN. Added to the Novartis pipeline through the acquisition of Chinook Therapeutics.	**IgA nephropathy**	●●●
Leqvio inclisiran	RNA therapy	Approved to treat 'bad cholesterol' in conjunction with a healthy diet and statins. In development for other potential indications.	**Secondary prevention of cardiovascular events in patients with elevated levels of low-density lipoprotein cholesterol**	●●●
			Primary prevention cardiovascular risk reduction	●●●
Fabhalta iptacopan	Chemistry	Part of our broad renal R&D portfolio targeting the underlying causes of disease to preserve kidney function. Approved in the US to treat adults with IgAN, *Fabhalta* is in development for a range of additional rare diseases (see also 'Oncology').	**C3 glomerulopathy**	S
			IC-MPGN	●●●
TQJ230 pelacarsen	RNA therapy	Potential, first-of-its-kind investigational treatment to lower the risk of cardiovascular events in patients with elevated levels of lipoprotein(a), an inherited risk factor that cannot be effectively addressed by diet or other lifestyle changes.	**Secondary prevention of cardiovascular events in patients with elevated levels of lipoprotein(a)**	●●●
Immunology				
Cosentyx secukinumab	Biotherapeutics	Treatment for various autoimmune and inflammatory diseases.	**Giant cell arteritis**	●●●
			Polymyalgia rheumatica	●●●
LOU064 remibrutinib	Chemistry	Potential multi-indication investigational treatment for a variety of autoimmune and chronic inflammatory diseases. Also being studied in multiple sclerosis (see 'Neuroscience').	**Chronic spontaneous urticaria**	●●●
			Chronic inducible urticaria	●●●
VAY736 ianalumab	Biotherapeutics	Investigational therapy with unique, dual action being studied for the treatment of certain autoimmune and hematological conditions (see also 'Oncology').	**Lupus nephritis**	●●●
			Sjögren's syndrome	●●●
			Systemic lupus erythematosus	●●●
			Systemic scleroderma[1]	●●○
YTB323 rapcabtagene autoleucel	Cell therapy	Novel, autologous CAR-T cell therapy that has shown potential to reset immunity in severe refractory autoimmune diseases.	**Severe refractory lupus nephritis / systemic lupus erythematosus**	●●○
			Systemic scleroderma[1]	●●○
			Myositis[1]	●●○
Neuroscience				
OAV-101 onasemnogene abeparvovec	Gene therapy	Investigational gene therapy being studied in a broad patient population with spinal muscular atrophy (SMA). Potential for OAV101 IT to be the first one-time gene therapy for older patients with SMA.	**Spinal muscular atrophy (intrathecal formulation)**	●●●
LOU064 remibrutinib	Chemistry	Potential multi-indication investigational treatment for variety of autoimmune and chronic inflammatory diseases (see also 'Immunology').	**Multiple sclerosis**	●●●
			Myasthenia gravis[1]	●●●
Fabhalta iptacopan	Chemistry	Potential treatment targeting autoimmune disease affecting the neuromuscular junction.	**Myasthenia gravis**[1]	●●●

[1] Project added to selected development projects table in 2024 – entered Confirmatory Development

Key assets in our R&D pipeline (continued)

Phase I ●○○ Phase II ●●○ Phase III ●●● Submitted for regulatory approval S

Product / compound name	Platform	Description	Potential indication(s)	Current phase
Oncology				
Pluvicto lutetium (^{177}Lu) vipivotide tetraxetan	Radioligand therapy	Approved for treatment of a progressive form of prostate cancer known as mCRPC. Development is ongoing in several indications for certain other types of prostate cancer.	**Metastatic castration-resistant prostate cancer, pre-taxane**	S
			Metastatic hormone-sensitive prostate cancer	●●●
			Oligometastatic prostate cancer[1]	●●●
Fabhalta iptacopan	Chemistry	Potential multi-indication treatment targeting part of the immune system involved in triggering inflammation (see also 'Cardiovascular, renal and metabolic'). Approved to treat adults with paroxysmal nocturnal haemoglobinuria.	**Atypical hemolytic uremic syndrome**	●●●
Lutathera lutetium Lu 177 dotatate/ lutetium (^{177}Lu) oxodotreotide	Radioligand therapy	Approved to treat somatostatin receptor-positive gastroenteropancreatic neuroendocrine tumors, which are rare tumors found in the digestive tract.	**Gastroenteropancreatic neuroendocrine tumors**	S
VAY736 ianalumab	Biotherapeutics	Investigational therapy with unique, dual action being studied for the treatment of certain autoimmune and hematological conditions (see also 'Immunology').	**Immune thrombocytopenia**	●●●
			Warm autoimmune hemolytic anemia (wAIHA)	●●●
YTB323 rapcabtagene autoleucel	Cell and gene therapy	Novel, autologous CAR-T cell therapy that has shown preserved T cell stemness and enhanced CAR-T cell efficacy in hematological malignancies.	**High-risk large B-cell lymphoma, 1st line**	●●○
Vijoice alpelisib	Chemistry	An oral α-specific class I PI3K inhibitor with potential to treat patients with lymphatic malformations associated with PIK3CA mutations who require systemic therapy. Accelerated approval has been granted in the US to treat patients 2 years and older with severe manifestations of PIK3CA-related overgrowth spectrum (PROS) who require systemic therapy.	**Lymphatic malformations**	●●●
DAK539 pelabresib	Chemistry	Investigational selective small-molecule therapy aimed at promoting anti-tumor activity in development for myeloproliferative neoplasms. Added to the Novartis pipeline through the acquisition of MorphoSys.	**Myelofibrosis**	●●●
Global health				
KLU156 ganaplacide + lumefantrine	Chemistry	Antimalarial combination therapy with novel mechanism of action to address threat of artemisinin resistance and potentially block disease transmission. Phase III trial expected to start in early 2024.	**Malaria, uncomplicated**	●●●
Coartem artemether + lumefantrine	Chemistry	New optimized formulation of artemisinin-based antimalarial treatment developed for infants weighing less than 5kg, for whom there is currently no approved treatment.	**Malaria, uncomplicated (<5kg patients)**	S[2]
LXE408	Chemistry	Potential new treatment for visceral leishmaniasis, a neglected tropical disease spread by sand flies that is typically fatal without treatment.	**Visceral leishmaniasis**	●●○
Beovu brolucizumab	Chemistry	Anti-Vascular Endothelial Growth Factor A (VEGF-A) inhibitor approved to treat neovascular age-related macular degeneration and diabetic macular edema.	**Diabetic retinopathy**	S
KAE609 cipargamin	Chemistry	Antimalarial therapy with a novel mechanism of action to address the threat of artemisinin resistance. Under investigation as an intravenous infusion to treat severe forms of malaria.	**Malaria, uncomplicated**	●●○
			Malaria, severe	●●○

[2] Submission will use the MAGHP procedure in Switzerland to facilitate rapid approvals in the developing countries who are included in the MAGHP procedure

Sustainability matters

Environmental matters

Our environmental sustainability strategy has three priorities:

- **Planet:** Achieve climate and nature targets, including net-zero greenhouse gas (GHG) emissions by 2040
- **Patients:** Develop sustainable products for patients, applying sustainable design principles for new products
- **People and policy:** Transform the sustainability mindset across our organization and collaborate with industry partners to influence change in our sector

Oversight of our environmental sustainability strategy, including climate and nature topics, ultimately lies with our Board of Directors. The Board has delegated certain duties and responsibilities to some of its committees, who report back to the full Board on their activities and findings.

At management level, the Chief Executive Officer (CEO) is responsible for implementing the environmental sustainability strategy. The CEO chairs the ESG Committee, a management committee on all ESG matters, that reviews the company's ESG performance and strategy.

Performance against ESG-related targets, including those on climate and nature, is integrated in the Executive Committee's compensation system as one of four equally weighed strategic objectives that account for 40% of the 2024 Annual Incentive. For further information on corporate governance, see page 48.

Climate

Impact and risk management

Climate change affects the planet and human health while presenting various risks and opportunities for our business. We have incorporated the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) to strengthen climate governance, strategy and risk management processes, and to measure progress with relevant metrics and targets that align with our approach.[1]

Climate change has triggered, and may continue to trigger, the adoption of new regulatory requirements across the globe, as well as rapidly evolving societal expectations. Consistent with the goal of the Paris Agreement to limit the global temperature increase to 1.5˚C compared with pre-industrial levels, we aim to mitigate our contribution to climate change. Failing to meet our commitments or societal expectations for climate mitigation could affect our reputation, recruitment, retention, operations, financial results and share price. We have a transition plan to become net zero by 2040 that will require significant operating and capital expenditures to implement.

Climate change may also require adaptations to our business. Increased heat and changes in air pollution may lead to changes in disease risk factors, resulting in both risks and opportunities for our portfolio depending on disease and geography, among other factors.

As many of our products are produced using technically complex manufacturing processes and require a supply of highly specialized raw materials, there is a risk of failures in the production and supply of critical raw materials. These risks are exacerbated by chronic (e.g., water and heat stress) and acute (e.g., cyclones, flooding, or drought) physical risks that can impact assets and activities along our value chain, with the potential for supply disruptions.

For more information see "Material topics" (page 16) and our Enterprise Risk Management (ERM) risk factors on "Environmental, social and governance matters" (page 54), "Manufacturing and product quality" (page 55), and "Supply chain" (page 55).

Climate change mitigation

Main policies

We aim to reduce our environmental footprint to mitigate our impacts and become a net-zero company by 2040. Our near- and long-term ambitions have been approved by the Science Based Targets initiative (SBTi) (see page 28). We have established a transition plan to achieve our near- and long-term targets. We measure progress using changes in climate-related indicators such as Scope 1, 2, and 3 emissions.[2, 3]

To meet our near-term target, we are committed to using 100% renewable electricity across our operations by 2025, following RE100 principles.[3] Further, we are reducing energy demand through efficiency initiatives and process innovations, and implementing green technologies across our operating sites. We are transitioning our fleet to electric vehicles[4] by 2030, in line with our EV100 commitment.

1 See page 64 for an overview of our disclosures in line with the TCFD and the Swiss Ordinance on Climate Disclosures
2 In accordance with the TCFD's "Guidance on Metrics, Targets and Transition Plans" (October 2021)
3 Further details on the basis for reporting are available in the Reporting Criteria document on our corporate website
4 Where technically feasible, which will be assessed for each market based on parameters such as availability of public charging, feasibility of home charging, capability to drive electric vehicles (EV), availability of original equipment manufacturer/EV models, existing lease agreements

While we prioritize absolute emission reductions, we plan to neutralize any Scope 1 and 2 emissions from energy that remain in 2025, using a mix of high-quality biomethane certificates and nature-based carbon removal solutions.

Of the emissions associated with our business, 95% are generated outside our own operations (Scope 3). To address these emissions, we have been integrating environmental sustainability criteria in supply contracts since 2022 and aim to complete this for all suppliers in scope by 2025. We further engage with suppliers to support them in reducing their own emissions, and are leveraging partnerships to drive product and process innovation.

We systematically integrate life-cycle assessment (LCA) methods in our R&D pipeline to calculate and improve the environmental impact of our products. We have implemented measures to reduce waste and emissions resulting from our clinical trials, and have obtained My Green Lab certification for 96% of our laboratories in technical R&D.

To accelerate progress across the pharmaceutical sector and other industries, we work closely with organizations that share our ambition to reduce the effects of climate change and nature loss, such as the World Business Council for Sustainable Development (WBCSD), the Sustainable Markets Initiative (SMI), the Pharmaceutical Environmental Group (PEG), and the Pharmaceutical Supply Chain Initiative (PSCI).

We apply a shadow carbon price of USD 100/tCO_2e in decisions on strategic capital expenditure over USD 20 million. This price is reviewed annually. We further factor climate change risks and opportunities into our financial planning by means of

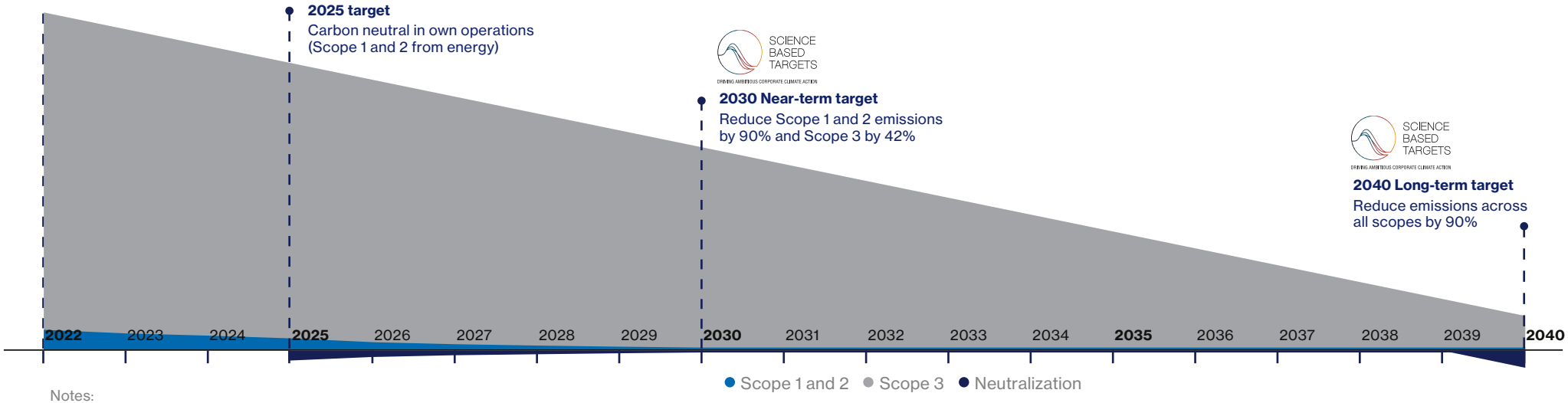
Our path to net zero

2022 – 2030

- Demand reduction in Scope 1 and 2 emissions through efficiency programs, implementing green technologies, adopting renewable energy and transitioning to electric fleet where feasible
- Engagement with suppliers to reduce Scope 3 emissions, with focus on energy efficiency initiatives, process innovations and adopting green technologies
- Early product design considerations and decision-making to reduce product footprint
- Life-cycle assessments as basis for product specific environmental sustainability roadmaps

2031 – 2040

- Continue to innovate and execute decarbonization initiatives via external partnerships and supplier collaboration
- Leverage partnerships to drive product and process innovation
- Invest in high-quality carbon removals to neutralize unavoidable emissions in 2040 and beyond (<10% of our 2022 base year)



Notes:
Progress for our 2025 target is measured against a 2016 base year, while 2022 is the base year for our 2030 and 2040 targets.
We will invest in biomethane certificates and nature-based carbon removal offsets in 2025 and beyond to achieve our carbon neutrality target.

budgeting to achieve our climate targets (see tables opposite).

We estimate the planned investment needed for implementing our net-zero transition plan based on three time horizons: medium term (up to 2030), aligned with our near-term target; long term (up to 2040), transitioning to net zero across our value chain; and maintaining net zero up to 2050, in line with the Paris Agreement.

To reduce our Scope 1 and 2 emissions by 90% from a 2022 base year by 2030, we rely on green transport, energy efficiency initiatives, scaling up renewable electricity and thermal solutions, and operational improvements. To reduce Scope 3 emissions, we rely on supplier engagement, sustainable product design, low-carbon procurement, and mitigation measures across the value chain. Our initial assessment indicates a substantive increase in operating expenditure until 2030, supported by targeted capital investment projects.

We assess the resilience of our strategy annually through quantitative and qualitative climate scenario analysis. Where applicable, we use climate scenarios that reflect low-, medium-, and high-emission pathways. Results from our 2024 scenario analysis show a potentially significant risk exposure from carbon pricing in the short, medium and long term. Carbon prices can affect Novartis as a direct charge on Scope 1 emissions or indirectly as higher overall costs passed through from suppliers.[1]

At the same time, prices for electricity generated from renewable energy are lower than those from fossil-fuel energy, presenting an opportunity from potentially lower operating costs through lower market prices, cheaper Power Purchase Agreements (PPAs) or on-site renewable energy generation.

We can significantly reduce our exposure by implementing our climate transition plan. Considering recent progress, we have no reason to believe that we will not achieve our near- and long-term absolute emission reduction targets. The table opposite provides an overview of the anticipated financial effects.

We identified climate litigation as potentially significant in the long term. Climate change lawsuits can have negative effects on enterprise valuation. While there is a lack of evidence to date linking companies outside of high-emitting sectors to climate-related litigation, it is possible that companies in lower-emitting sectors will fall under the same scrutiny in the future.

Main activities in 2024

In 2024, we continued our progress against our net-zero transition plan (see page 26). We deployed capital expenditure of USD 40 million on environmental projects to improve energy efficiency, adopt renewable energy solutions across our operations, and reduce consumption of natural resources. Our activities led to a reduction of our own emissions and those from purchased energy (Scope 1 and 2) by 20% from the prior year and 71% from a 2016 base year.

In line with our SBTi-approved target boundary, we have reduced our Scope 1 emissions by 22% and our Scope 2 emissions by 72% from a 2022 base year.

In 2024, 96% of our purchased electricity consumption was renewable, compared with 92% a year earlier, after sourcing renewable electricity for sites in several countries in Asia and South America, which are not included in the scope of our virtual power purchase agreements in

Anticipated investment for our transition plan

	Estimates in USD millions	2024–2030	2031–2040	2041–2050
Emission reduction Scope 1+2	Operating expenditure	150	15	20
	Capital expenditure	330	10	–
Emission reduction Scope 3	Operating and capital expenditure	Analysis ongoing		
Carbon certificates[1]	Operating expenditure	8–19	58–203	289–936

Anticipated effects from our climate-related transition risks and opportunities

	Estimates in USD millions	2024–2030	2031–2040	2041–2050
Carbon pricing risk[2]	Operating expenditure	70–184	117–311	72–213
Electricity cost opportunity[3]	Potential savings in operating expenditure	133–228	281–504	187–384

1 Operating expenditure calculated by multiplying the volume of credits required per year by forecast offset prices considering multiple variables. The lower end of the range reflects the Bloomberg New Energy Finance (BNEF, 2024) voluntary market scenario, inelastic demand for nature-based solution (NbS) offsets, and offset costs based on bioenergy with carbon capture and storage for engineering removals. The upper end reflects the high-quality segment of the BNEF bifurcation scenario, inelastic demand for NbS offsets, and offset costs based on direct air capture for engineering removals

2 Carbon pricing exposure for residual emissions in accordance with our transition plan, based on the following three scenarios by the International Energy Agency (IEA): Stated Policies, Announced Pledges, and Net Zero Emissions by 2050

3 Represents potential additional savings across the timeframes from having switched to 100% renewable purchased (beyond the savings generated from the grid itself changing to more renewables over time). Uses projected technology costs from the IEA (2024), Global Energy and Climate Model Documentation 2024 (IEA), and electricity generation from the Network of Central Banks and Supervisors for Greening the Financial System's REMIND-MAgPIE model for Net Zero 2050. The lower end of the range represents the values under the IEA's Net Zero Emissions by 2050 scenario and the upper range represents the values under the IEA's Stated Policies scenario

1 Including costs from electricity generators (Scope 2)

Climate targets [1,2]

	2024	2023	2022	Baseline	Target	Progress vs. base year		
Become carbon neutral in our own operations by 2025								
Scope 1 and Scope 2 GHG emissions from energy (1 000 tCO_2e) [3]	**230.9**	287.7	365.3	797.8	Neutrality	– 71%	On track	Δ
Include environmental criteria in all supplier contracts by 2025								
Supplier emissions covered by contracts that include environmental criteria (%)	**76**	57	46	n/a	100%	n/a	On track	Δ
Reduce absolute Scope 1 and 2 GHG emissions by 90% from a 2022 base year by 2030								
Scope 1 and Scope 2 GHG emissions (SBTi) (1 000 tCO_2e) [4]	**232.8**	289.8	365.3	365.3	– 90%	– 36%	On track	Δ
Reduce absolute Scope 3 GHG emissions by 42% from a 2022 base year by 2030								
Scope 3 GHG emissions (SBTi) (1 000 tCO_2e) [5,6]	**4 221.1**	4 438.2	4 872.4	4 872.4	– 42%	– 13%	On track	Δ
Achieve net-zero GHG emissions (90% reduction) across our value chain from a 2022 base year by 2040								
Scope 1, Scope 2 and Scope 3 GHG emissions (SBTi) (1 000 tCO_2e)	**4 453.9**	4 728.0	5 237.7	5 237.7	– 90%	– 15%	On track	

Δ 2024 data in scope for external limited assurance

1 Environmental data for the current year is based on actuals from January to September, with estimates for October to December, unless indicated otherwise. Any significant deviations from 2024 data against these estimates will be restated the following year. 2022 and 2023 data reflect full year actuals data
2 Excludes emissions generated at the Novartis entity Abadia Retuerta
3 Measured against a 2016 base year, adjusted for the Sandoz spin-off
4 Excludes emissions from fugitive sources (Science Based Targets Initiative (SBTi) approved)
5 Excludes emissions from investments and categories not considered relevant in 2024, as permitted within the SBTi framework
6 Scope 3 emissions are calculated based on actual performance data and estimates as outlined in the environmental performance table

Europe and North America. We use 100% renewable electricity in North America (US and Canada) and Europe through our virtual power purchase agreements.

To address our Scope 3 emissions, we have embedded environmental sustainability into our core procurement processes and established the related governance. Contracts that include environmental sustainability criteria now cover 76% of Scope 3 emissions, which represents an increase of 19 ppts versus the previous year.

Our sourcing practices have also evolved to reflect environmental sustainability criteria consistently, and they are now a standard requirement in supplier selection.

We also continued to engage our suppliers to participate in Energize, an industry initiative by major pharmaceutical companies, aimed at enhancing capability and facilitating market access for renewable electricity procurement.[1]

In addition, we are participating in the development of the WBCSD's Partnership for Carbon Transparency Pathfinder Framework, enabling primary data exchange across value chains.

We have introduced an Environmental Sustainability Supplier Playbook, which is designed to provide comprehensive

1 In partnership with Schneider Electric

Environment performance indicators

	2024	2023	2022
Energy use (million GJ) [1]			
Energy use – on site and purchased	**5.8**	6.3	6.8
Greenhouse gas (GHG) emissions (1 000 tCO_2e) [1,2]			
Total Scope 1 emissions	**207.0**	251.1	263.2
Total Scope 2 emissions (market-based)	**30.0**	44.1	106.6
Total Scope 2 emissions (location-based)	**200.4**	194.9	259.7
Total Scope 1 and Scope 2 emissions	**237.0**	295.2	369.8
Total Scope 3 emissions [3]	**4 350.3**	4 573.7	4 994.0
Total Scope 1, Scope 2 and Scope 3 emissions	**4 587.3**	4 868.9	5 363.8

1 Environmental data for the current year is based on actual performance data from January to September, with estimates for October to December, unless indicated otherwise. Any significant deviations from actuals data against these estimates will be restated for 2024 in our sustainability report the following year. 2022 and 2023 reflect full year actuals data. Data from the Novartis entity Abadia Retuerta is included in the 2024 environmental data
2 Novartis follows the GHG Protocol for calculating the greenhouse gas emissions unless adjustments are required to comply with local regulations
3 Scope 3 emissions are calculated based on actual performance data and estimates as outlined in the environmental performance table

guidance to our suppliers on transitioning to sustainable business models. The playbook has been shared with more than 1 000 suppliers and integrated into the Pharmaceutical Supply Chain Initiative's (PSCI) standard supplier learning plans.

We engage with key suppliers on their carbon footprint that contribute significantly to our Scope 3 emissions. We have so far onboarded and engaged with suppliers covering more than two-thirds of Scope 3 emissions.

In 2024, our total Scope 3 emissions decreased by 5% from the prior year (13% compared with the 2022 baseline).[1] The calculation of the purchased goods and services and capital goods categories, which account for 85% of total Scope 3 emissions, is still largely based on proxy data (spend) and statistical modelling through the Environmentally Extended Input Output model. The share of emission factors sourced from suppliers has increased to 33%.

Climate change adaptation

Main policies

Our approach to climate change adaptation involves assessing the evolving challenges posed by climate-related shifts in disease patterns and their potential implications for our portfolio and sales. Additionally, we evaluate the potential financial impacts of physical climate risks on our assets, inventories, operations and supply chain, including risks of potential supply disruption that may result in lost revenue.

Shifts in temperature and air pollution affect disease patterns. This is likely to influence the prevalence and severity of certain health conditions, in particular cardiovascular diseases, respiratory conditions, kidney diseases, lung cancer, and communicable diseases such as malaria and dengue.

To understand the potential financial impact of these trends on our business, we have modelled the change in the disease burden of health conditions due to climate change as a proxy for changes in demand and hence in sales across three time horizons — 2030, 2040 and 2050. We used scenarios from the Institute of Health Metrics and Evaluation (IHME) on trends for climate-related, disease-specific, disability-adjusted life-years (DALYs) from 2023 to 2050, together with the Intergovernmental Panel on Climate Change (IPCC) intermediate and very low GHG emissions scenarios.[2]

Across all time horizons, on average we see a potential sales decrease for medicines used to treat ischemic heart disease and asthma due to expected declines in pollution levels. For lung cancer, results vary by region, with a potential decrease in sales driven by particulate matter levels in the US and Europe, and an increase in the regions Asia, Africa and Australasia, and Canada and Latin America.

Meanwhile, across all regions, a potential increase in sales driven by climate-related factors could occur for renal diseases. This effect is expected to be most pronounced in Asia, Africa and Australasia, with a potential increase in sales of 2.7% to 2.8% per USD million in sales by 2050.

Climate-related events can also threaten the uninterrupted and timely supply of medicines that meet all product specifications and quality standards.

We have established policies and processes to support the quality and resilience of our supply chain and manufacturing processes. For instance, we have mitigated physical risks to our sites by putting in place infrastructure (e.g., shelters, flood defenses), supported by administrative procedures (e.g., business continuity plans). Further, we have an active energy management system to optimize energy consumption based on site-specific requirements.

Time horizons for analysis of climate risks and opportunities

Time horizon	Period	Rationale
Short term	Up to 1 year	Period adopted in our financial statements
Medium term	Up to 5 years	Aligned with our 2030 near-term targets
Long term	More than 5 years	Aligned with our 2040 net-zero transition plan and up to 2050

As for our supply chain, its broad geographic footprint, dual supply for key products, and inventory level and stock policies make it resilient. In addition, suppliers are being required to follow environmental sustainability criteria that include the implementation of action plans with mechanisms to monitor and report on progress, mitigate risks and remediate failures.

To further assess the resilience of our operations and supply chain to changes in physical climate events, we conduct annual climate-related scenario analyses. In 2024, we assessed all Novartis operating sites and warehouse inventories for vulnerability to 18 physical climate-related hazards across three time horizons (see table above).[3] We used climate metric projections under three different IPCC socio-economic pathway (SSP) emissions scenarios that reflect low-, intermediate-, and very high-emission pathways.[4]

Two chronic (water and heat stress) and three acute (cyclones, flooding, and drought) physical risks were shortlisted for financial impact analysis, which focused

1 In line with SBTi target boundary
2 SSP2-4.5 (corresponding to an increase in global surface temperature of 2.1°C–3.5° by 2100) and SSP1-1.9 (1°C–1.8°C increase)
3 Including changing temperature (air, freshwater, marine water), heat stress, temperature variability, permafrost thawing, heatwave, cold wave, wildfire, changing wind patterns, cyclones, storms, changing precipitation patterns (rain), changing precipitation patterns (hail), precipitation or hydrological variability, sea level rise, water stress, drought, heavy precipitation, and flooding (coastal, fluvial, pluvial, groundwater)
4 Low emission pathway (SSP1-2.6): Emissions stay below 2.0°C warming relative to 1850–1900 (median) with implied net zero CO^2 emissions in the second half of the century; Intermediate emissions pathway (SSP2-4.5): Scenario approximately in line with the upper end of aggregate Nationally Determined Contribution (NDC) emission levels by 2030; Very high emissions pathway (SSP5-8.5): A high-reference scenario with no additional climate policy. CO^2 emissions roughly double from current levels by 2050

Anticipated financial effects from physical risks on our own operations[1]

	2025	2030	2050	
Acute physical risk effects				
PPE exposed [mUSD]	37.5–38.6	38.5–40.3	43.6–44.8	Δ
PPE exposed [%][2]	0.4	0.4	0.5	Δ
Inventories exposed [mUSD]	21.9–22.1	22.3–22.4	23.4–24.0	Δ
Inventories exposed [%][3]	0.4	0.4	0.4	Δ
Revenue exposed [mUSD]	40.8–59.8	57.4–82.2	188.6–228.3	
Revenue exposed [%][4]	0.1	0.1–0.2	0.4–0.5	
Chronic physical risk effects				
Operating cost [mUSD]	23.5–23.9	28.7–30.7	44.5–72.1	
Operating cost [%]	0.2	0.2–0.3	0.4–0.6	

Δ 2050 upper limit data in scope for external limited assurance
1 Coverage of our physical risk assessment included all our own operations globally, across manufacturing sites, offices and R&D sites, as well as warehouse locations. Please see the TCFD appendix for details on physical risks modelled (page 65)
2 Percentage of property, plant and equipment, as disclosed in our 2023 Annual Report/Form 20-F
3 Percentage of inventories, as disclosed in our 2023 Annual Report/Form 20-F
4 Percentage of revenue, as disclosed in our 2023 Annual Report/Form 20-F

on sites with high or very high exposure to these risks by 2050 in an SSP5-8.5 emissions scenario. We modeled these to assess potential financial effects on assets (property, plant and equipment (PPE) and inventories), net revenue, and operating cost (see page 65).

For acute physical risks, we assessed the proportion of assets at significant physical climate risk over the short, medium, and long term before considering climate change adaptation actions by applying wind-related and flood-related damage functions to sites (see table above). We found the highest exposure to flooding at our manufacturing sites in Bangladesh, Belgium, Italy and Switzerland; at our office sites in Argentina, Bangladesh, Canada, France and Japan; and at an R&D site in the US.

To assess potential revenue at risk from effects of physical climate risk, we used site-level revenue estimates and downtime assumptions tailored to each risk.[1] We found USD 40.8-59.8 million of our revenue to be exposed in 2025, rising to USD 188.6-228.3 million by 2050. However, with climate adaptation actions, we anticipate the actual revenue at risk to be considerably lower.

The analysis of our upstream value chain focused on assessing the current economic exposure levels to physical risk events.[2] We found that 427 first-tier suppliers, representing 9% of our total third-party spend, are exposed to significant climate risk, including 12 with very high risk. In total, we found suppliers representing USD 119 million of revenue to be at risk.[3]

Main activities in 2024

Our actions to ensure the resilience of our own sites and supply chain are regularly monitored through our enterprise risk management (ERM) processes. We capture impacts from climate-related and other environmental events through our health, safety, and environment (HSE) processes. In 2024, we did not experience any significant climate-related events.

To mitigate the exposure of our own sites to physical risks, we are implementing initiatives across our operations such as optimizing heating, ventilation and air conditioning, and upgrading to energy-efficient equipment and improved building insulation.

To initiate site-specific action and strengthen business continuity plans, the detailed results of our climate-risk analysis (see page 65) across our operating sites were cascaded into our business operations. The results of our supply chain analysis were further cascaded to the relevant procurement and business continuity management teams.

Nature

Impact and risk management

The unsustainable use of natural resources can have negative long-term impacts on nature and society, and carries with it regulatory and reputational risk. While climate issues are better understood, with widely accepted approaches for action, those for nature are forming and evolving quickly.

We have begun assessing and evaluating nature-related risks and opportunities in our operations and upstream supply chain using the LEAP approach (Locate, Evaluate, Assess and Prepare) developed by the Taskforce on Nature-related Financial Disclosures (TNFD). We are assessing the role of biodiversity to complement water and waste as nature-related pillars of our environmental sustainability strategy as our understanding of impacts, risk and dependencies matures.

Main policies

We set minimum, mandatory requirements for the management of water, waste, wastewater and pharmaceuticals in the environment. Each part of the organization

1 Assessed for water stress, cyclones, flooding, and drought
2 Using the University of Notre Dame Global Adaptation Initiative (ND-GAIN, 2023) Country Index and an asset tangibility indicator from the OECD (2021) to proxy sector-level vulnerability to physical hazards based on industries' dependence on physical assets
3 Based on 2023 data

is required to protect the environment by reducing risk; to ensure individuals are appropriately skilled, competent and fit for performing their tasks properly; and to comply with environmental regulation.

We seek to minimize discharge of active pharmaceutical ingredients (APIs) into water systems, and do not dispose of waste containing APIs in landfill.

We regularly measure water and air quality to make sure we remain within limits permitted by applicable local regulation. Sites with established regulatory limits, conditions or specific limitations on discharges are responsible for collecting data on a periodic basis.

Sites also perform an annual self-assessment of their controls, and the assessments of a representative sample of sites are tested by an independent governance team each year. Conformance reviews and legal compliance audits are conducted at least every five years.

Water

We have a target to reduce water consumption[1] in our own operations by half by 2025, compared with our 2016 baseline. Other water targets include having no water quality impacts from manufacturing effluents[2] from our own manufacturing sites and key API suppliers by 2025. This target has been complemented by a target for 2030 that also includes own labs and all API suppliers.

By 2030, we plan to implement water use reductions for own and supplier sites based in water stressed basins that have potential material impacts on these basins. We will set site-specific targets for both our own and supplier sites in these areas. Sites are identified through our nature assessment, which follows the TNFD framework and guidance by the Science Based Targets Network (SBTN).

Waste

We have a target to reduce the amount of waste sent for disposal by half by 2025, compared with a 2016 baseline. To further reduce our impact, we have set a new target to reduce the amount of waste sent for disposal by 30% by 2030, compared with a more recent 2022 baseline.

Further, we aim to eliminate polyvinyl chloride (PVC), a long-lasting plastic, in secondary and tertiary packaging at Novartis sites by 2025.

Main activities in 2024

Water

In 2024, we reduced our water consumption[3] by 9% from the prior year, bringing the reduction to 57% since 2016. With this we have met, and seek to maintain, our 2025 target. In 2024, we continued to reduce consumption by using more recycled water (where local regulations allow) and adopting less water-intensive production techniques.

As of the end of 2024, 97% of Novartis manufacturing sites can demonstrate that they meet internal water quality standards.[4]

Further, we increased engagement with our manufacturing suppliers around their maturity in managing their impact on aquatic environments, particularly concerning effluents containing active pharmaceutical ingredients (APIs). As a result, 100% of our high-risk suppliers met our water quality standards in 2024, compared with 88% in 2023. These assessments are conducted in alignment with the framework to tackle antimicrobial resistance (AMR) laid out by the AMR Industry Alliance.

We have developed a plan to expand internal water quality standards to Novartis R&D locations and all API suppliers in scope.

Waste

In 2024, we reduced the amount of waste sent for disposal by 17% from the prior year, bringing the reduction to 72% since 2016. With this we have met, and seek to maintain, our 2025 target. Further, we reduced the amount of waste sent for disposal by 23% since 2022 (our baseline for 2030 targets).

As part of our continued commitment to waste reduction and the use of recycled materials, in 2024 we improved process efficiencies and used more recycled plastics and reusable shipping boxes.

By the end of 2024, we had eliminated 100% of PVC in packaging compared with 2016. Our 2025 target is applicable for 24 manufacturing sites handling final product packaging, all of which have already eliminated PVC in secondary and tertiary product packaging.

We have established a baseline for reducing plastics in packaging and devices and have continued to remove single-use plastics in workplaces.

Biodiversity

In 2024, we conducted a nature assessment for own operations and upstream supply chain, aligned with the TNFD LEAP approach. In 2025, we will conduct further analysis to understand the impact on Novartis, the environment and society, including an assessment of

1 Target water consumption includes water discharged via treatment and water lost through evaporation or other destinations
2 Includes all manufacturing sites within the Novartis network and high-risk suppliers of active pharmaceutical ingredients, including drug substance and drug product. Scope is aligned with the scope of ESO (External Supply Operations) Vendor Segmentation Process and includes strategic (long-term relationship) and selected tactical (key technology provider) ESO suppliers. In addition, high-risk suppliers also include antibiotic suppliers
3 2023 and 2022 water consumption data was updated after the prior year reporting date due to a revised estimate from the Sandoz/ Novartis split for manufacturing operations in Austria after segregated meter reading data was available
4 Assessment based on water maturity ladder for internal/external suppliers with Level 1: training, legal compliance; Level 2: quantification and risk assessment; and Level 3 (PEC/PNEC<1); PEC: Predicted Environmental Concentrations, PNEC: Predicted No Impact Concentrations

Nature targets – water [1,2]

	2024	2023	2022	Baseline	Target	Progress vs. base year		
Reduce water consumption in our operations by half from a 2016 base year by 2025								
Water consumption (in million m³) [3,4]	**4.4**	4.8	5.2	10.3	– 50%	– 57%	Achieved (maintain in 2025)	
No water quality impacts from manufacturing effluents by 2025 [5]								
Manufacturing sites meeting water quality standards (%) [6,7]	**97**	94	94	n/a	100%	n/a	On track	Δ
High-risk suppliers meeting water quality standards (%) [6,8]	**100**	88	26	n/a	100%	n/a	On track	Δ
No water quality impacts from manufacturing effluents by 2030 [5]								
Own sites meeting water quality standards (%) [9]	**n/r**	n/r	n/r	n/a	100%	n/a	New target	
All suppliers meeting water quality standards (%) [10]	**n/r**	n/r	n/r	n/a	100%	n/a	New target	
Implement water use reduction for own and supplier sites based in water stressed basins [11]	**n/r**	n/r	n/r	n/a			Site specific targets to be set	

Δ 2024 data in scope for external limited assurance | n/r: data not reported in 2024 and previous years

1 Environmental data for the current year is based on actuals from January to September, with estimates for October to December, unless indicated otherwise. Any significant deviations from actuals data against these estimates will be restated for 2024 the following year. 2022 and 2023 data reflect full year actuals data
2 Excludes water usage at the Novartis entity Abadia Retuerta
3 Target water consumption includes water discharged via treatment and water lost through evaporation or other destinations
4 2023 and 2022 water consumption data was updated after the prior year reporting date due to a revised estimate from the Sandoz/ Novartis split for manufacturing operations in Austria after segregated meter reading data was available
5 Assessment based on water maturity ladder for internal/external suppliers with Level 1 (training, legal compliance), Level 2 (quantification and risk assessment) and Level 3 (PEC/PNEC<1); PEC: Predicted Environmental Concentrations, PNEC: Predicted No Impact Concentrations
6 The indicator is calculated using 12-month actual data
7 2022 and 2023 data has been updated after the prior year reporting date due to a revised assessment following the Sandoz / Novartis split
8 The scope includes high risk suppliers of active pharmaceutical ingredients, including drug substance and drug product. Scope is aligned with the scope of ESO (External Supply Operations) Vendor Segmentation Process and includes strategic (long term relationship) and selected tactical (key technology provider) ESO suppliers. In addition, high risk suppliers also include antibiotic suppliers
9 Including all manufacturing sites and labs
10 The scope includes all suppliers of active pharmaceutical ingredients, including drug substance and drug product
11 Basin-specific targets will be established for material sites in own operations and upstream suppliers

Nature targets – waste [1,2]

	2024	2023	2022	Baseline	Target	Progress vs. base year		
Eliminate polyvinyl chloride (PVC) in product packaging by 2025								
Sites that have eliminated PVC in packaging (%) [3]	**100.0**	78.0	93.0	n/a	100%	n/a	Achieved (maintain in 2025)	Δ
Reduce the amount of waste sent for disposal by 50% from a 2016 base year by 2025								
Total waste not recycled (in 1 000t)	**15.5**	18.6	20.0	54.6	– 50%	– 72%	Achieved (maintain in 2025)	Δ
Reduce the amount of waste sent for disposal by 30% from a 2022 base year by 2030								
Total waste not recycled (in 1 000t)	**15.5**	18.6	20.0	20.0	– 30%	– 23%	On track	Δ

Δ data in scope for external limited assurance

1 Environmental data for the current year is based on actuals from January to September, with estimates for October to December, unless indicated otherwise. Any significant deviations from actuals data against these estimates will be restated for 2024 the following year. 2022 and 2023 data reflect full year actuals data
2 Excludes wastage at the Novartis entity Abadia Retuerta
3 From Novartis owned and operated sites that are involved in secondary and tertiary packaging. This is supported by efforts to eliminate PVC from primary packaging where feasible

downstream value chain impacts. In parallel, we are working with industry peers and WBCSD on an industry-specific roadmap on nature.

Potential material impacts from our own operations and upstream supply chain include those related to climate, water and raw material use.

The impact from our own operations is driven by GHG emissions, water use and water quality. The impact in our upstream supply chain is mainly driven by GHG emissions, water use, water quality and land use from raw materials.

All but raw material use are covered by our existing environmental sustainability strategy. We therefore aim to implement a sustainable sourcing program, starting with a pilot in 2025. In parallel, we are conducting nature assessments at priority sites close to nature-sensitive areas. Where material, we will establish site-specific nature management plans.

Environment performance indicators

	2024	2023	2022
Water usage (million m³) [1]			
Total water withdrawals [2]	**33.3**	31.3	32.9
Total water discharges	**32.5**	30.4	31.2
Total water consumption [3]	**0.8**	0.9	1.7
Operational waste (1 000 t)			
Total waste generated	**31.1**	35.5	44.0
Total waste recycled	**15.6**	16.9	24.0
Total waste not recycled	**15.5**	18.6	20.0

[1] 2023 and 2022 water usage performance indicators have been updated from the prior year published performance indicators to include the Novartis entity Abadia Retuerta and a revised estimate from the Sandoz/ Novartis split for manufacturing operations in Austria after segregated meter reading data was available. This reduced the previously reported performance indicators of total water withdrawals by 5% in 2023 and by 8% in 2022, total water discharges by 5% in 2023 and 8% in 2022, and total water consumption increased by 3% in 2023 and 0% in 2022. Additionally, the definition for water consumption was changed to align with the GRI standards. In previous years, water discharged via treatment was included in water consumption and it has now been classified as water discharged

[2] Water withdrawal includes water used for cooling and returned to the environment without the need for additional treatment

[3] Total volume of water withdrawn by an organization, less any water discharged outside of the site boundaries through municipal waste water systems or directly to aquatic environments. This definition was changed to align with the GRI standards

Social matters

People and culture

Impact and risk management

To execute our strategy, we need to attract, develop and retain the most qualified people at all levels and in all functions. If we are unable to do so, our ability to achieve our business objectives may be affected. In addition, our brand and reputation could be negatively impacted, and the sense of belonging of our workforce may decline.

Equally, as a global employer we have a significant impact on people, both within our organization and our upstream and downstream value chain. Our business generates employment with fair working conditions, and we provide extensive training and development opportunities and contribute to the wellbeing of our workforce. Meanwhile, investing in fostering belonging and a sense of well-being promotes innovation and better understanding of the unique and varied perspectives of customers, patients and other stakeholders.

Our efforts in these areas are essential for our ability to identify, attract, develop and retain a highly skilled workforce. In addition, occupational health and safety incidents can occur, resulting in negative impacts on the workforce in our operations or our value chain.

Main policies

Talent management

Guided by global principles, we seek to create a fair and inclusive work environment by building an inspired, curious and unbossed culture (see page 10).

Our People & Organization Commitment Statement supports our commitment to fair and respectful treatment of employees and to their development and growth. It also outlines how we support our overall commitment to uphold human rights for employees, to treat them with dignity and respect, and to provide equal opportunities.

We measure employee engagement every quarter through a voluntary and anonymous survey. It is sent to all employees and carried out by an external vendor to ensure independence.

Aggregated results are used to identify potential risks and make improvements to working conditions, training and development, access to support programs and other areas where necessary.

Training and development

We recognize that preparing for the future requires a workforce with a depth and breadth of skills. That is why we invest in the development of our people for current and future skills, offering access to business-critical, personal and professional development training.

We also place emphasis on continuous learning, career development and employees taking full ownership of their growth, guided by their manager and supported through enterprise tools and solutions.

Employees can use internal AI-based platforms to manage how they learn, find new roles, and develop their skills and experiences through new projects, job rotations, mentoring or volunteering.

We invest in our leaders to strengthen their ability to lead and develop people, navigate complexity, and deliver collective impact. We develop our leaders based on their needs and role, through training programs and on-demand measures, such as individual coaching and team effectiveness resources.

Our approach to managing performance includes frequent check-ins between managers and employees on goals, career development, feedback and wellbeing. It is designed to focus teams on activities that create the greatest near- and long-term impact.

Mental health and wellbeing

We offer support and learning tools to help employees care for themselves and others by prioritizing their mental health and wellbeing. Through global and local campaigns and engagement activities, we build awareness and de-stigmatize the conversation around mental health.

We maintain a Wellbeing Index, based on our quarterly employee engagement survey, which monitors perceptions of work-life balance and our commitment to wellbeing.

This data is used to customize our mental health and wellbeing offerings. For example, we have a training program for Mental Health First Aiders, who are equipped with the skills and confidence to have supportive confidential conversations with coworkers and peers, and guide them to the appropriate professional support if needed.

Fostering belonging

To build a fair and inclusive workplace, we embed principles of fairness, equal opportunity, and belonging in internal policies and controls, including our Code of Ethics.

All employment decisions at Novartis are based solely on job-related factors, including the skills, qualifications, and experience of the individual, without

regard to gender, race, ethnicity, or any other protected characteristics, as defined by applicable local laws. Novartis, as a global company, complies with the laws of each country within which it operates.

Gender balance, which seeks to provide equal opportunities to both men and women and is a key element of our strategy for eliminating the gender pay gap globally, is an important part of our people strategy. This is exemplified by the commitments we made with the Equal Pay International Coalition (EPIC) in 2018 to help close the gender pay gap. These commitments included monitoring pay, excluding historical salary data from our recruitment processes, creating pay transparency, and achieving gender balance in management.

To sustain our progress, we renewed our EPIC pledge in 2023 with aspirational goals for 2027. These are: to maintain gender-balanced representation in management; to review our human resources practices beyond base pay to eliminate any further potential sources of bias from the system; and to make the requirements of the new EU Pay Transparency Directive our global minimum standard for pay equity and pay transparency reporting.

Novartis is a member of the International Labour Organization Global Business and Disability Network and the Valuable 500, promoting inclusion for people with disabilities in the workplace. We also collaborate with international partners, such as Disability:IN, Purple Space and Business Disability Forum, to identify and develop best practice solutions to enable people with disabilities to participate as equal members of our organization. Examples of this work include increasing physical and digital accessibility while integrating disability perspectives in relevant standards and practices.

In accordance with the UN Standards of Conduct for Business, we also strive to tackle discrimination against employees who are lesbian, gay, bisexual, transgender, queer and intersex (LGBTQI).

More than 80 employee resource groups for business-related and cultural topics, which are open to all employees from all backgrounds, create a sense of belonging while offering members an opportunity for personal growth and development.

Equal pay and benefits

Pay equity (i.e. paying employees fairly for similar work based solely on job-related factors) is a fundamental principle of our employment policies, reflecting a commitment in our Code of Ethics to treat all employees fairly and respectfully. In addition to our EPIC pledge, we are

Human capital aspirations

	2024	2023	2022	Progress
Maintain gender balanced representation in management [1,2]				
Gender representation female / male (%)	**48 / 52**	48 / 52	47 / 53	2024 human capital aspiration met Δ
Make the requirements of the EU Pay Transparency Directive our global minimum standard for internal pay equity and pay transparency reporting by 2027 [3]				
Employees covered by regular pay equity study for base pay (%) [4,5]	**99**	99	82	2024 human captial aspiration met Δ
Employees covered by regular pay equity study for total pay (%) [6]	**n/r**	n/r	n/r	2027 human capital aspiration Planning of global program started
Employees with base pay transparency to external benchmarks (%) [5]	**98**	98	45	2024 human captial aspiration met Δ
Employees with total pay transparency to internal benchmarks (%) [7]	**n/r**	n/r	n/r	2027 human capital aspiration Planning of global program started
Review our human resources practices beyond base pay to eliminate any further potential sources of bias from the system by 2027				
Recruitment without using historical salary data (%)	**100**	100	84	2024 human capital aspiration met Δ
Employees covered by review and remediation planning for key HR processes (%) [8]	**n/r**	n/r	n/r	2027 human capital aspiration Review of global policies and procedures started

Δ data in scope for external limited assurance | n/r: data not reported in 2024 and previous years

1 Maintain gender representation in management of 50% (+/–2% points)
2 All employment decisions at Novartis are based solely on job-related factors, including the skills, qualifications, and experience of the individual, without regard to gender, race, ethnicity, or any other personal attributes which are unrelated to the job. Novartis, as a global company, complies with the laws of each country it operates within; Management Level 5-10 (previously called GJFA4-NTL)
3 This commitment refers to the expectations of the EU directive, and not individual country legislation, which may impose stricter requirements
4 The 2023 data point has been adjusted down from 100% to 99% after alignment of reporting boundaries across all performance indicators. Further details on the basis for reporting are available in the Reporting Criteria document on our corporate website.
5 100% when considering exclusions mainly due to contractual or legal constraints and the ongoing integration of acquired businesses
6 Total pay for the purpose of these targets is defined as a minimum of base salary, short-term incentives and long-term incentives (where eligible). Some countries may apply a broader definition where required to meet local legal requirements or due to operational restrictions
7 Where data available and where cohort size >5 and no legal barriers
8 Applicable for employees in legal entities >100 employees; HR processes include: hiring, performance, career progression/promotion and exit

committed to paying employees a living wage that meets or exceeds the amount for basic living needs, in line with our UN Global Compact commitment.

We offer a range of competitive local and global benefits. Our local Novartis retirement, health and welfare plans protect employees against the financial consequences of disability or death, and provide attractive retirement benefits aligned with local social security requirements.

Our Employee Share Purchase Plan (ESPP) enables permanent employees to voluntarily purchase Novartis shares at a 15% discount. The plan covers a majority of Novartis employees and its rollout to additional countries is assessed annually.

We provide a flexible, hybrid work environment that allows employees to balance their professional and personal responsibilities.

Parental leave is available to all employees regardless of gender or sexual orientation. New parents get a minimum of 14 weeks paid leave following the birth or adoption of a child, ensuring greater flexibility for birthing and non-birthing parents.

Our global recognition program, Spark, encourages employees to recognize colleagues who have demonstrated behavior consistent with our culture and values.

Health and safety

We are committed to occupational health and safety and have built this into our Code of Ethics. We have an internal health, safety and environmental (HSE) management system that requires the implementation across our sites of strict health and safety controls that go beyond legal minimum requirements.

We carry out assessments to ensure compliance with relevant laws, regulations, and internal standards. To monitor progress, we use internal targets and program goals, and investigate safety incidents and near misses.

We actively encourage all employees to report incidents, near misses and safety improvement opportunities. We require sites to carry out annual self-assessments of their implementation of the HSE management system and a dedicated team conducts more focused audits on a four-year cycle.

We are also committed to protecting the safety of third-party personnel. We assess outside contractors and make sure they have the right resources and procedures in place to be working at our sites. Supplier contracts include specific occupational health and safety criteria.

Main activities in 2024

Novartis employed 78 310 people at the end of 2024, compared with 78 407 a year earlier. In 2024, employee turnover stood at 12%, down from 17% a year earlier.

People performance indicators [1]	2024	2023	2022
Headcount [2]	**78 310**	78 407	105 533
Full-time equivalent positions [2]	**75 883**	76 057	101 703
Turnover (%)	**12**	17	15
Annual average learning hours per employee [3]	**39**	38	42
Employees represented by an employee representative body or covered by a collective bargaining agreement (%) [4]	**54**	53	48
Gender representation (% female / % male)			
Board of Directors	**31 / 69**	31 / 69	31 / 69
Executive Committee	**18 / 82**	18 / 82	27 / 73
Top management [5]	**39 / 61**	40 / 60	39 / 61
Overall management	**48 / 52**	48 / 52	47 / 53
Overall headcount	**52 / 48**	51 / 49	51 / 49
Health and safety			
Lost-time injury and illness rate (per 200 000 hours worked): Novartis employees / third-party personnel	**0.13 / 0.16**	0.13 / 0.18	0.16 / 0.20
Total recordable case rate (per 200 000 hours worked): Novartis employees / third-party personnel [6]	**0.31 / 0.21**	0.33 / 0.28	0.31 / 0.28
Fatalities: Novartis employees / third-party personnel / contractors	**0 / 0 / 0**	0 / 0 / 0	0 / 0 / 0
Employees covered by an internally validated HSE system (%)	**99**	99	n/r

n/r: previous years comparative data not presented

[1] The term "employees" refers to headcount data presented in the table. Comparative figures for 2022 include Sandoz data
[2] "Headcount" reflects the total number of employees in payroll systems. "Full-time equivalent positions" adjusts headcount for employees employed for less than 100%
[3] Data includes Sandoz for the periods 2022 and January to September 2023
[4] Scope generally considers non-management employees only
[5] "Top management" refers to the senior managers, including the Executive Committee
[6] Data includes all work-related injuries and illnesses, whether leading to lost time or not

In 2024, we ramped up the opportunities for our people to learn and apply new skills through our AI-enabled talent marketplace. We also undertook initiatives to strengthen our talent attraction, development and retention efforts.

For example, we enhanced our Early Career program to identify, hire and develop early career talent linked to future skill gaps, so that the business has pools of early career talent with the right specialized knowledge, skills and experiences. Additionally, we launched AI upskilling efforts to equip our workforce with the skills to leverage AI technologies, driving innovation and improving efficiency.

The proportion of employees represented by an employee representative body or covered by a collective bargaining agreement rose slightly to 54% in 2024.

Pay equity and gender balance

We maintained a gender balance in management (providing equal opportunities for both men and women to advance), with women representing 48% of our overall management globally at the end of 2024.

Based on the latest data available as of December 31, 2023, women's earnings at Novartis in the aggregate are within one percent of men's, with a global mean pay gap of -0.3%.[1] This compares with a gap of -0.9% in 2022. Companies in the benchmark Bloomberg Gender Equality Index had a mean pay gap of +17% for the same period.

In 2024, we began reviewing our human resources practices beyond base pay to eliminate any further potential sources of gender bias from the system, starting with a review of global policies and procedures.

We also started planning a global program to make the requirements of the new EU Pay Transparency Directive our global minimum standard for pay equity and pay transparency reporting.

In 2024, we rolled-out an LGBTQI Ambassador program to provide allyship and support to our community across the organization.

Health and safety

The lost-time incident rate for employees remained stable and fell slightly for third-party personnel, reflecting the continued reinforcement of our internal HSE Management system at site level. In 2024, the implementation of the HSE system was reviewed via our internal controls process and this assessment covered more than 99% of Novartis employees.

Human rights

Impact and risk management

Noncompliance with human rights standards and applicable laws and regulations could result in negative labor and other human rights impacts, exposing us to reputational harm and financial losses.

Main policies

Novartis is committed to upholding and respecting human rights. In our Code of Ethics, we commit to "conduct our business in a manner that respects the rights and dignity of all people." This is reflected in our Human Rights Commitment Statement, which establishes our foundational commitment to the International Bill of Human Rights, the International Labour Organization's core labor conventions and the United Nations Guiding Principles on Business and Human Rights (UNGPs).

We manage our program through three pillars, aligned with the UNGPs: due diligence, internal empowerment, and stakeholder engagement.

Human rights priorities and key policies

Right to health

Access to medicine; clinical trials; product quality; falsified medicines

- → Novartis Access Principles
- → Commitment to Diversity in Clinical Trials
- → Quality Policy
- → Position on Falsified Medical Products

Labor rights

Freedom of association and collective bargaining; nondiscrimination and equal treatment in employment; occupational health and safety; living wages; child labor; modern slavery, including forced labor and human trafficking

- → People & Organization Commitment Statement
- → Our Equal Pay International Coalition (EPIC) commitments
- → Third Party Code
- → Modern Slavery Statement 2023 – Australia, Canada, and United Kingdom
- → Health, Safety and Environment Policy

Human rights and the environment

Environmental impact of our operations and products over their life cycle

- → Environmental Sustainability Strategy

Technology and human rights

Responsible use of personal information; ethical use of artificial intelligence (AI)

- → Ethical Use of Data and Technology Policy
- → Ethical and Responsible Use of Artificial Intelligence (AI) commitment

Due diligence: We conduct ongoing human rights due diligence across our business and ensure that we have policies and management systems in place to support our commitments. External partners are regularly assessed and monitored against the labor and human rights provisions set out in our Third Party Code.

We have a monitoring system in place that tracks remediation actions regarding human and labor rights at external partner sites, and their successful resolution through time-bound corrective action plans. We collaborate with industry partners such as the Pharmaceutical Supply Chain Initiative (PSCI) on topic-specific supply-chain projects.

Internal empowerment: We work to provide access to grievance mechanisms for those who may have been affected by human rights abuses.

Stakeholder engagement: We engage across industries, listen to stakeholder concerns, and take individual or collective action. We also engage in collaborative

[1] The global unadjusted gender pay gap is calculated as the average male pay minus the average female pay, expressed as a % of average male pay. Calculation uses prior year salary data

efforts with stakeholders from civil society, investor communities and international institutions (e.g., PSCI and Business for Social Responsibility's Human Rights Working Group) on our approach to human rights.

Main activities in 2024

In early 2024, we completed our company-wide annual human rights risk saliency assessment. This reaffirmed our focus on four previously identified priority areas, see the table to on page 37.

In alignment with the evolving regulatory landscape on value chain due diligence, we also enhanced our external partner labor rights due diligence and risk assessment framework.

We concluded a pilot project aimed at engaging directly with workers in our supply chain. This involved a comprehensive survey on working conditions. To address the survey's findings, we are actively providing ongoing capability-building support to strengthen our external partners' ability to implement effective solutions.

In 2024, we continued to develop human rights due diligence tools and processes to further support our operations in high risk and conflict-affected markets. These markets present unique challenges that require businesses to adapt their strategies to navigate and operate effectively.

We published a report on our efforts to address modern slavery under UK and Australian legislation, as well as reports on child labor and conflict minerals in our supply chain under Swiss and US legislation, respectively. We also published our second human rights report under the Norwegian Transparency Act.

We periodically assess our obligations under Switzerland's provisions on minerals and metals from conflict-affected areas, and have established that Novartis falls below the thresholds stipulated by the Swiss Code of Obligations Art. 964*j-l*.

Patient health and safety

Impact and risk management

Trust in the safety of our medicines is fundamental to our business. If we are unable to ensure the quality and safety of our medicines, we may negatively impact patient health and face product recalls or other consequences that impact our reputation and our business.

Main policies

We prioritize quality and safety at each stage of a medicine's life cycle. During clinical trials and after launch, we monitor the use of our medicines to identify possible adverse events and minimize risks to patients. In the production phase, we ensure product quality from raw material sampling and testing to packaging, testing and distribution of finished goods. We also work to identify and combat falsified medicines, which can pose a serious threat to human health.

Product quality

To ensure product quality, we maintain a robust quality management system for our medicines in full compliance with requirements from health authorities and other regulators.

We have licenses and relevant International Organization for Standardization (ISO) and Good Practice (GxP) certificates for all our activities, including clinical trials, manufacturing, medical devices, supply, warehouse and distribution operations. The licenses are typically issued after inspections by regulators such as the US Food and Drug Administration (FDA), the European Medicines Agency (EMA), Swissmedic, the Japanese Pharmaceuticals and Medical Devices Agency (PMDA) and the World Health Organization (WHO).

Health authorities regularly inspect our facilities to ensure we are complying with all relevant laws and standards. We conduct thorough investigations whenever there is any evidence of deviation from these standards, or if we detect failures in our processes. We take corrective and other measures where applicable, including proactively notifying health authorities.

All employees and third parties working in our facilities take part in comprehensive quality and safety training. We require all employees involved in manufacturing, supply and distribution to attend annual training sessions on quality standards. All third parties providing services or goods manufactured to GxP standards are required to have their own quality assurance and formal training process.

Following regulatory guidance (including FDA and EMA recommendations), we monitor chemical and biological medicines for impurities, including those classified as "probable human carcinogens" (e.g., nitrosamines). Any product identified with a potential risk undergoes further evaluation and risk management, with results submitted to the relevant health authorities as required.

We also routinely audit our own operations and those of suppliers and other partners to ensure quality standards and safety are maintained. Furthermore, we are regularly audited on our training procedures, and training is also included in our audits of third parties.

Pharmacovigilance

Pharmacovigilance involves monitoring the safety of medicines. Our approach to achieve effective pharmacovigilance relies on safety monitoring both during drug development and in the commercial setting, as well as the timely assessment and reporting of adverse events.

This enables us to detect and manage pharmacovigilance risks that may emerge at any stage of a drug's life cycle. In accordance with international regulations, we share periodic safety reports with the relevant health authorities. We also perform regular benefit-risk analyses for

our medicines to ensure their benefits continue to outweigh the risks.

Our pharmacovigilance systems are designed to comply with regulatory requirements for both individual case safety reports and periodic benefit-risk assessments. Reports of adverse events from various sources — including clinical studies, literature and spontaneous reports — are used to evaluate and optimize risk management actions for the proper use of our medicines.

We also support education programs for patients, providers and pharmacists, and provide regular training to employees in adverse-event reporting. For some medicines, post-approval studies may be conducted to collect more data on possible long-term adverse effects.

Falsified medicines

Falsified medicines pose significant health risks and are a growing global concern. The Pharmaceutical Security Institute reported a 4% increase in pharmaceutical crime incidents worldwide in 2023 — an increase for the third consecutive year.[1]

Our efforts to combat falsified medicines are focused on mitigating risks across three distinct areas: counterfeiting, theft and illegal diversion, where products intended for one market are intercepted and sold in another.

Our strategy is focused on greatly accelerating the timely authentication and reporting of counterfeit medicines. Trained local teams are equipped with mobile and digital field-testing solutions, including a mobile app (MoVe) for packaging verification and a hand-held testing device (*Authentifield*) for product authentication.

We also use intelligence tools and have equipped most impacted markets with toolkits to help them develop capabilities to mitigate the risks of illegal diversion.

Further, we have strengthened our supply chain security capabilities and governance to improve our ability to mitigate incidents of product theft in high-risk regions.

Overall, we continuously work with public and private stakeholders to encourage coordinated action on falsified medicines and protect patients' safety.

Main activities in 2024

Product quality

Over the course of the year, we experienced four recalls of nonconforming products, less than half the number in 2023. Of these, two were associated with moderate risk to patients (Class II recalls), though no patients experienced negative effects. Two batches of *Pluvicto* were recalled in the US before reaching patients due to a visual inspection error, and six batches of *Tegretol* were recalled at the request of the Panamanian health authority after we notified them of higher than normal ethylene glycol levels. None of the other 81 countries notified requested a recall based on the favorable risk-benefit assessment.

Product quality and patient safety performance indicators	**2024**	2023	2022
Recalls			
Total recalls	**4**	10	7
Class I recalls	**0**	1	0
Class II recalls	**2**	8	6

In 2024, health authorities including the EMA, Swissmedic and FDA carried out a total of 124 inspections of Novartis clinical and manufacturing operations. All the health authority inspections were deemed acceptable, compared with 99.1% in 2023.

We conducted 809 internal and external GxP audits in 2024, compared with 926 in 2023. External suppliers accounted for 88.4% of the audits. Should we discover any gaps during the audit, the audited entities are expected to resolve these through corrective and proactive actions (CAPAs). We monitor these and track adherence to the commitments to drive continuous improvement.

We successfully completed our first ISO 9001:2015 surveillance audit in 2024 without any nonconformities.

Pharmacovigilance

Novartis is working to transform its pharmacovigilance system, using technologies such as artificial intelligence to simplify processes and generate new safety insights for health authorities, healthcare providers and patients.

Falsified medicines

In 2024, we investigated every confirmed incident of falsified medicines reported to us — preventing falsified medicines from reaching and harming patients.

Counterfeits, which often lack active ingredients, continue to be a significant concern and represent the highest patient safety risk. In 2024, we significantly increased the number of countries in which *Authentifield* devices are deployed and activated to 69, expanding our timely field product authentication capabilities from packaging (MoVE) to drug product (*Authentifield*). As a result, we conducted more field authentication tests on most at-risk products that impact patient safety.

This solution was recognized as a key initiative for building supply chain capabilities in the 2024 Access to Medicines Index (ATMI).

[1] https://www.psi-inc.org/incident-trends

We also maintained our commitment to the timely reporting of incidents of falsified medicines in 2024. We promptly notified local health authorities as required while also voluntarily reporting 100% of reportable incidents to the WHO within the recommended 10-day window.

Access to medicines: a shared responsibility

Impact and risk management

Millions of people worldwide face significant barriers to accessing basic healthcare services and medicines. These challenges stem from a combination of demographic, social, and economic disparities — ranging from aging populations and poverty to inadequate healthcare infrastructure and workforce shortages. While pharmaceutical companies contribute through the development of innovative treatments, addressing these challenges requires the collective action of a larger ecosystem. Governments, payers, NGOs, and community organizations must all work together to develop the policies, infrastructure, and partnerships needed to ensure timely access to healthcare services and medicines.

These systemic barriers also extend to the complex process of registering and distributing medicines globally. To bring a pharmaceutical product to market, a registration dossier containing evidence of the product's safety, efficacy, and quality must be submitted to regulatory authorities. Depending on the country, this process can take months or even years, influenced by the efficiency of the regulatory body and nature of the product. Furthermore, the negotiation of selling prices or reimbursement levels with regulators and payers often delays availability, while cost-containment measures — such as government-imposed price reductions and reference pricing systems — can further limit access to medicines.

Failure to tackle these challenges collectively risks not only delaying access to medicines for patients but also impacting public trust, reputation and business sustainability. Therefore, a holistic effort — focused on patient-centered solutions, regulatory innovation, and shared accountability — is essential to bridging the gap between innovation and accessibility.

Access target	2024	2023	2022	
Implement a global access strategy for all new medicines launched (%) [1]	**100**	100	100	Achieved as an annual target Δ

Δ data in scope for external limited assurance

[1] Excluding cell, gene and radioligand therapies (RLT)

Access to medicines performance indicators	2024	2023	2022
Patients reached (millions)			
Patients reached [1]	**296**	284	267
Innovation			
Submissions (US, EU, Japan, China) [2]	**29**	18	24
Approvals (US, EU, Japan, China) [2]	**20**	22	23
New molecular entity (NME) approvals [3]	**0**	1	1

[1] Patients reached via third-party sales with the exclusion of contract manufacturing organization and contract manufacturing Sandoz brands, radioligand therapy brands and volumes for patients reached through donations, patient support programs, access foundations and samples

[2] Includes small molecules or biologics; new fixed-dose combinations of existing active pharmaceutical ingredients (APIs); and new target indications, defined as new disease or new line of treatment (e.g., first line vs. second line)

[3] Includes NMEs such as small molecules, biologics; in the EU, new fixed-dose combinations of existing APIs

Main policies

Our access policies are designed to ensure we do our part to address affordability, availability and equity in healthcare, while recognizing that meaningful progress requires collaboration across the entire healthcare ecosystem. Our commitment is guided by the belief that innovative medicines and healthcare solutions should be available to all who need them, regardless of geographic or economic barriers. To achieve this, we integrate access considerations into the various stages of our work, from research and development to distribution and pricing strategies.

Research and development

We systematically assess our R&D portfolio against unmet medical needs, integrating access considerations early in the development process. By the end of Phase II, we anticipate potential access barriers and enablers to ensure our investigational medicines have the potential to reach patients that could benefit the most.

Diverse patient representation in clinical trials is critical to our R&D efforts. Understanding how patients from different demographic groups respond to treatment is essential to developing effective and inclusive medicines. To this end, we incorporate diversity principles into all Phase III studies with US participation, aligning with FDA guidance. Our teams establish enrollment goals based on disease prevalence and demographic factors such as race ethnicity, sex and age to recruit a representative US population.

Additionally, we provide training for employees in R&D to ensure the inclusion of underrepresented populations in clinical trials, reinforcing our commitment to developing medicines that serve the broadest range of patients worldwide.

Access strategy for new product launches

For each new product launch, we work to address non-clinical barriers that may hinder adoption and uptake. By

collaborating with governments and healthcare systems, we develop innovative pricing and access solutions tailored to the needs of individual markets.

While we aim to make our products available globally, we recognize that access may vary by country. Factors such as regulatory requirements, healthcare infrastructure, and pricing frameworks can affect availability. In some cases, a product may be sold under a different brand name or be indicated for specific uses based on the needs and policies of a given country.

Pricing of our medicines

Our pricing strategy is grounded in a commitment to value-based approaches that prioritize the needs of patients, healthcare systems, and society. By linking the price of a medicine to the outcomes it delivers, we strive to facilitate access to innovative treatments while incentivizing healthcare systems to focus on effective, efficient and sustainable interventions.

We work closely with payers to implement system-level mechanisms that align payments with measurable health outcomes, helping reduce ineffective spending. Where feasible, we also use tiered pricing models to ensure affordability across diverse geographies and patient populations.

Intellectual property

Intellectual property (IP) rights are critical to our business as they safeguard the innovation and investment behind our research, development, manufacturing and marketing efforts.

Strong IP protections incentivize innovators to pursue local regulatory approvals, a prerequisite for selling medicines in most markets. As a founding member and signatory of the IP principles for Advancing Cures and Therapies, we support thoughtful and balanced approaches to patent practices that aim to promote innovation while addressing global healthcare needs.

To ensure more patients have the potential to benefit from our medicines, we do not seek to enforce patents in least developed countries (LDCs, as designated by the United Nations), low-income countries (LICs, as designated by the World Bank), or in around 80% of low- and middle-income countries (LMICs, as designated by the World Bank).

Main activities in 2024

Our medicines are sold in approximately 120 countries worldwide. Across our portfolio, in 2024, our medicines reached 296 million patients around the world.

In 2024, we received 20 approvals in the US, EU, Japan and China, including US approval for *Fabhalta* (iptacopan) to treat adults with immunoglobulin A nephropathy (IgAN), a progressive, rare kidney disease in which the immune system attacks the kidneys.

We received approval in the US and Europe for *Kisqali* (ribociclib) for use with an aromatase inhibitor to treat people with HR+/HER2- stage II and III early breast cancer who are at high risk of recurrence, as well as approval in the US for *Scemblix* (asciminib) to treat adult patients with newly diagnosed Philadelphia chromosome-positive chronic myeloid leukemia in chronic phase (Ph+ CML-CP).

We made 29 submissions for regulatory approval in our key markets, including in the US for atrasentan, which has a different mechanism of action to *Fabhalta*, to treat IgAN, and in the EU, China and Japan for *Fabhalta* to treat adult patients with C3 glomerulopathy, another rare kidney disease.

We implement global access strategies for all new medicines launched. For example, our global access strategy for *Fabhalta* explores ways to partner with healthcare systems to expand access to this novel treatment for patients with paroxysmal nocturnal hemoglobinuria.

Further information

Certain ESG-related disclosures that are deemed outside the scope of Art. 964*b* of the Swiss Code of Obligations are published on the ESG Index on our corporate website. This includes information related to performance on our sustainability-linked bond targets.

Governance and integrity matters

Ethical business conduct

Impact and risk management

Our commitment to high ethical standards benefits our people, patients and society by promoting trust, transparency and responsible practices. By embedding ethics in our decision-making, we strengthen our relationships with stakeholders and contribute to a fairer, more accountable healthcare ecosystem.

An ethical culture further reduces risks related to compliance, legal exposure, and reputational damage.

Artificial intelligence (AI) is rapidly transforming industries, including ours, by enhancing business processes and supporting innovation. The rapid adoption of AI has created new risks, such as amplified biases, non-explainable outputs (black boxes), and automated decision-making processes requiring strong human oversight. We are committed to establishing a responsible use and development of AI within an embedded compliance structure.

Main policies

Ethical culture

Our approach is rooted in our culture and values, encouraging our employees to always act with integrity. We have a Code of Ethics, which is a fundamental part of the terms of employment for all employees of Novartis globally. It has been developed with our employees and is anchored in behavioral and decision science.

The Code of Ethics sets out commitments that are applicable across our business. It applies to all employees, and we further clarify our expectations through a suite of internal policies and controls.

We conduct mandatory annual training for all employees on our Code of Ethics. Internal online tools, such as our Ethical Decision Explorer, have been designed to help employees navigate ethical dilemmas.

In addition, we conduct a global Ethics Survey on a regular basis to measure our progress in embedding our Code across the organization and strengthening our ethical culture. We use insights it provides to drive conversations at global and local levels and take action where needed.

To maximize the benefits of AI while minimizing the risks, we established an AI compliance governance structure together with diverse teams to assess and address the complexity arising out of such risks. This compliance governance structure helps us to mitigate risks within ethical guiding principles.

We have an Ethical use of Data & Technology Policy that, together with the AI Risk & Compliance Management Framework, contributes to the responsible use of AI across Novartis.

Anti-corruption and anti-bribery

Novartis does not tolerate any form of bribery, undue influence and/or corruption. Our Doing Business Ethically and Conflict of Interest policies outline these expectations for all employees. We also clearly set out our standards in our Code of Ethics.

Our Doing Business Ethically policy and its supporting handbooks comprise a risk framework covering four requirements: (a) define clear objectives; (b) identify and assess the risk; (c) act appropriately; and (d) monitor, reconcile and learn.

To support implementation across our organization, the process requirements outlined in the supporting activity handbooks have been embedded within our BeSure system platform. This approach ensures that policy, processes and systems are integrated and can be monitored.

Bribery and corruption risks in our supply chain are addressed by our Anti-Bribery Third Party Guideline and Third Party Code. The Code is an integral part of every supplier contract. Our suppliers are regularly surveyed through audits that we commission from external companies, applying a risk-based approach.

Working with Norges Bank Investment Management, we helped develop an anti-bribery reporting standard for the pharmaceuticals industry that was issued in 2022. We report against this standard, which is based on principles such as the UN Global Compact and the OECD Guidelines for Multinational Enterprises.

Complying with laws, regulations and controls – our integrated assurance model

We have an integrated assurance model, which involves a comprehensive and consistent approach across the company to governance, risk management, compliance and internal controls. The integration is supported by an efficient operating model, processes and consistent methods, enabled by collaboration and data insights.

The integrated assurance model is driven by members of the Ethics, Risk and Compliance (ERC) function as business stewards, in collaboration with Internal Audit.

As the basis of our integrated assurance system, we follow a model for managing our risks developed by the Institute of Internal Auditors that describes three lines of assurance.

Employees addressing potential risks that might arise through their business activities represent the first line. Second-line roles provide expertise, support, monitoring and challenge on risk-related matters. In the third line, our Internal Audit function provides assurance that other lines are operating effectively.

The Corporate ERC Assurance Team serves as the backbone of our second line of assurance, ensuring one functional standard for how we approach assurance, including internal review, external partner audit activities, and remediation.

Its scope comprises internal reviews of compliance with our Doing Business Ethically, Health, Safety and Environment (HSE), and Ethical Use of Data and Technology policies, guidelines and handbooks. Corporate ERC Assurance also initiates audits with external partners on anti-bribery, labor rights, and HSE.

Through our Enterprise Monitoring Coordination process, we avoid overlaps of activities carried out by different assurance functions, including Internal Audit.

As a third-line assurance function, Internal Audit assists the Board of Directors and the Executive Committee of Novartis (ECN) by providing assurance and advice on the effectiveness, efficiency and adequacy of processes and controls that support Novartis in achieving its strategy, managing major risks, and ensuring compliance with applicable policies, laws and regulations.

Internal Audit works according to an audit plan approved by the Board's Audit and Compliance Committee. During 2024, Internal Audit carried out 52 audits. These include the review of ethical standards.

Our processes — such as Compliance Risk Assessment and Monitoring, Corporate ERC Assurance reviews, internal auditing, and the grievance mechanism — are designed to detect and prevent misconduct. Where evidence of misconduct is detected, we take swift and appropriate action. Breaches of the Code of Ethics, policies, guidelines or local laws result in remedial, corrective or disciplinary action up to and including termination of employment.

We adhere to industry codes, including the Code on Interactions with Health Care Professionals published by the Pharmaceutical Research and Manufacturers of America (PhRMA) and the Code on Pharmaceutical Marketing Practices published by the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA). We also work through regional and local industry associations.

Our policies and programs are informed by the United Nations (UN) Convention Against Corruption and the Organisation for Economic Co-operation and Development (OECD) Convention on Combating Bribery of Foreign Public Officials. We are a signatory to the UN Global Compact (UNGC).

We are committed to respecting and implementing human rights approaches in our own operations and supply chain in accordance with the UN Guiding Principles on Business and Human Rights (UNGPs).

The Chief Ethics, Risk & Compliance (ERC) Officer of Novartis is also a member of the Anti-Corruption Leaders Hub, a leading group of senior executives from global enterprises established by the OECD and the US State Department.

The Hub promotes anti-corruption efforts through the exchange of strategic insights and the implementation of multistakeholder actions. The Chief ERC Officer is also Co-Chair of the Global Future Council on Good Governance of the World Economic Forum (WEF), serving a two-year term through December 2026.

Our comprehensive compliance management system is aligned with these recognized international standards and best practices, and is designed to prevent, detect and correct systemic misconduct.

The aim of this system is to ensure compliance not only with applicable laws and regulations, but also with our internal policies, controls, and the expectations of employees to do what is right. A core objective of our compliance management system is to maintain a culture of integrity designed to promote and enable ethical behavior.

We continuously evolve this system based on many factors, including insights from internal and external sources and changes in the risk landscape. To measure the maturity and effectiveness of our compliance management system, we conduct regular evaluations of our program across more than 270 leading indicators.

Our annual global compliance e-learning provides content to enable employees to make the right choices in the course of their work, and to perform with integrity. Global mandatory compliance e-learnings are rolled out to employees, including the ECN, and to the Board of Directors.

External contractors, who are hired through a temporary staff agency and supervised day-to-day by a Novartis employee, are also required to take these trainings. We mandate external parties who pose a risk classified higher than 'low risk' to complete anti-bribery training.

SpeakUp grievance mechanism

Employees are required to report actual or suspected incidents of misconduct and can do so in confidence while being protected against retaliation. The mechanism is also open to external parties. Regular surveys (Employee Engagement Survey and Ethics Survey) provide insights on how comfortable Novartis employees feel to speak up.

Grievances can be filed via webform or telephone with an independent external service, which is available 24/7. Allegations can also be raised with any manager or Country President, any employee of our ERC, People & Organization, Legal or Global Security teams, or any representative of the local workers council. Our process helps ensure that complaints are swiftly received, risk-assessed, prioritized, investigated and resolved.

Allegations that represent a higher risk to Novartis from a reputational, business, financial, legal, and/or quality or safety perspective are investigated centrally by dedicated investigators. Lower-risk cases are investigated or addressed locally.

After closure of an investigation, we have a remediation process that allows for both the allegation and the root cause to be addressed. Higher-risk cases that are substantiated undergo a central remediation process managed in close collaboration with our second line of assurance, the Corporate ERC Assurance team. This creates focus on ensuring that any remediation resulting from investigations is prompt, addresses the root cause, and is subject to follow-up.

The SpeakUp Office provides regular updates to the Executive Committee and to the Board's Audit and Compliance Committee.

Cybersecurity

We have a cybersecurity risk management program designed to respond to the threat of security breaches, the threat of cyberattacks, and to protect and preserve the confidentiality, integrity, and continued availability of information owned by, or in the care of Novartis.

We follow industry best practices to manage information security. Novartis has risk-based services continuity and systems recovery plans in place for key business processes, which are tested periodically. We also conduct ongoing internal vulnerability analyses (including simulated hacking), as well as external testing via a third-party to ensure the effectiveness of our cybersecurity controls.

As part of its enterprise risk management oversight, the Risk Committee of our Board is responsible for ensuring that Novartis has implemented an appropriate and effective risk management system and process, including annually reviewing updates on cybersecurity with the Chief Security Officer. For more information, see our Annual Report 2024.

Main activities in 2024

In 2024, the annual Code of Ethics training achieved a completion rate of 98.3%.

Mandatory compliance training topics during the year included external partner risk management; anti-bribery; conflicts of interest; ethical use of data and technology; antitrust and fair competition; insider trading; adverse events reporting, and; inclusion and belonging.

In 2024, the evaluation of our compliance management system confirmed it to be mature and well designed. We also updated our Antitrust and Fair Competition Policy to ensure we continue to engage in fair competition and comply with antitrust and competition laws worldwide.

In early 2024, we launched our updated Trade Sanctions and Export Controls Guideline and implemented associated internal controls. The Guideline helps Novartis employees, contractors and other third parties better understand where breaches of export controls and trade sanctions might arise. It also supports employees in making the right decisions for our patients, our people and society. We published our second anti-bribery report in early 2024.

See "Supply chain management" on page 46 for more information on assessments of suppliers in 2024 as part of our External Partner Risk Management process.

In July 2024, we introduced the Anti-Fraud Policy to reinforce our commitment not to tolerate any form of fraud. This policy follows the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Fraud Risk Management Guide that has a broad approach to fraud.

In November 2024, we introduced the Ethical use of Data & Technology Policy with a communication campaign and mandatory training.

In 2024, Novartis did not experience any material cybersecurity incidents.

An update of our Business Continuity Management (BCM) and Novartis Emergency Management (NEM) Handbook provides our employees with additional details and guidance on how to implement BCM and NEM across Novartis. It helps us to ensure an uninterrupted supply of key products and services and to secure our key assets and business processes.

In 2024, we updated the Internal Review Committee Handbook, the Investigations Handbook and the SpeakUp Guidance.

Grievance indicators [1]

	2024	2023	2022
Total allegations	**1 607**	2 059	1 384
Higher-risk allegations [2]	**946**	717	533
Higher-risk allegations substantiated	**921**	447	239

[1] "Higher-risk allegations substantiated" include allegations reported in previous years, whereas "Total allegations" and "Higher-risk allegations" refer to allegations reported within each calendar year
[2] Allegations are classified as "higher-risk" when a senior leader or manager is involved, or due to the level of severity of the allegation

We also launched the ListenUp and SpeakUp campaigns, under the umbrella of the updated Code of Ethics communication campaign. The ListenUp campaign aims to equip people managers to adequately respond to and address issues raised by their team members.

In 2024, a total of 1 607 allegations of misconduct were handled by the SpeakUp Office, compared with 2 059 in 2023. Of the total allegations in 2024, 946 (59%) were classified as higher-risk misconduct allegations warranting investigation by a central team. In 2024, 921 allegations related to higher-risk misconduct have been substantiated. These include allegations reported in previous years and concluded in 2024. Lower-risk allegations are addressed or investigated locally.

We observed an increase in IT and data privacy allegations being substantiated in 2024, predominantly linked to data loss cases (allegations opened in 2023 were also included). The majority of data-loss cases are internally classified as higher risk allegations, centrally investigated and have a high substantiation rate due to automated detection measures. The number of substantiated allegations indicates that the detection measures are effective at identifying data leakages. We devote substantial resources to monitoring for and addressing these cases. In addition, regular mandatory training on information management, data privacy and data use is in place to raise awareness.

Animal welfare

Impact and risk management

Animal research is a necessary element in the development of new treatments in pre-clinical research to ensure the safety of clinical trials. The use of animals in research carries the risk of causing physical and psychological harm, including pain, stress, or suffering, to the animals involved. Failure to uphold high welfare standards can result in ethical concerns and undermine public trust.

Main policies

We fully support the replacement of animals with alternatives wherever feasible, while meeting our obligations to patients and the expectations of regulatory agencies.

Our animal research is governed by our Animal Welfare policy, which applies to all Novartis-sponsored studies, whether internal or external. The policy commits us to applying the 3Rs principles — to replace animals with other methods where possible; to reduce the number of animals needed in our studies; and to refine study methods to minimize animals' distress.

We have a grant program to prospectively fund 3Rs research projects to validate alternatives to animal research, reduce animal numbers, and improve the animals' experience.

Main activities in 2024

In 2024, we awarded grants for 3Rs research to several proposals, including projects to reduce the number of animals needed by enhancing genetically modified mouse model validation, developing multi-cellular spheroid models to understand dengue-induced hepatotoxicity, and using precision cut tissue slices for drug discovery. Additionally, we recognized projects aimed at improving rodent wellbeing through transitional lighting and sheltering rodents from bright light.

Political engagement

Impact and risk management

The laws and regulations relevant to the healthcare industry are broad in scope, are subject to change, and could require us to incur substantial costs associated with compliance, or to alter one or more of our business practices.

Main policies

We engage in dialogue with policymakers and other external stakeholders on relevant policy topics, including conditions for innovation in the life sciences and expanding access to medicine. Our aim is to represent the Novartis perspective by providing data and insights that enable informed decision-making.

We assess political, legislative and regulatory decisions that have a potential impact on patients and our industry. Furthermore, we participate in policy discussions with partners through various stakeholder dialogues and industry platforms. Engaging with trade associations also facilitates a collaborative approach to highlighting and solving issues that affect people with disease, and to ensuring an environment conducive to

Animal welfare	**2024**	2023	2022
Animals involved in research [1]	**294 325**	320 691	332 668

[1] Data refers to animals involved in internally conducted studies

Political engagement [1]	**2024**	2023	2022
Political contributions (USD thousands)			
Global	**1 222**	1 155	1 150
Memberships in trade associations (USD thousands)			
Global	**52 820**	59 849	60 600

[1] Data includes political engagement expenditure for Sandoz for the periods 2022 and January to September 2023

biopharmaceutical innovation. Our focus is on jointly creating solutions that help communities and society tackle the burden of disease.

The respective Novartis global guideline outlines the ethical standards that we follow in our engagements with policymakers and applies to employees as well as external partners working on our behalf. External partners are also subject to our anti-bribery due-diligence process as per our External Partners Risk Management Framework before they can be engaged. Appropriate training is provided to employees.

For further details, see the Public policy page of our corporate website.

Main activities in 2024

In 2024, our primary focus areas included advocacy efforts supporting various initiatives and policies designed to advance healthcare, drive innovation and enhance accessibility.

These efforts involved, for example, engagement with European Union institutions through EU institutional policymakers with special focus on the Critical Medicines Alliance, Corporate Sustainability Due Diligence Directive, EU Pharmaceutical Legislation, Urban Wastewater Treatment Directive, and the Patent Package. These efforts aimed to strengthen supply chains, advocate for regulatory and intellectual property protections, enhance EU competitiveness, and support environmental goals.

In the US, we engaged at both the federal and state levels to shape policies on drug pricing (e.g., the 340B program), the Inflation Reduction Act, and Pharmacy Benefit Managers reform. We emphasized engagement with policymakers, advancement of patient access, and efforts to uphold innovation and intellectual property protections.

Supply chain management

Impact and risk management

We rely on thousands of external partners for key business functions and services, which poses risks to Novartis, our stakeholders and the environment — for example when third parties fail to comply with our ethical and business standards or external regulations related to environmental sustainability, human rights and other matters.

Main policies

Our external partner risk management (EPRM) framework enables risk management in a single, mandatory process and system as part of our integrated assurance system. The framework comprises governance, processes and internal controls, and applies a risk-based approach.

The due diligence efforts are applied in proportion to the level of identified risk, which is determined by the probability and severity of potential adverse impacts. We carry out risk assessments and selected audits among external partners in various risk areas including human rights; health, safety and environment; labor rights; information security; anti-bribery and corruption, and; business continuity management.

Our EPRM framework is supported by our Third Party Code, which sets out the standards we oblige external partners to comply with, including human rights and environmental sustainability. Our Third Party Code is consistent with the Pharmaceutical Supply Chain Initiative (PSCI) principles for responsible supply-chain management. It is also in line with the UNGPs, as well as the OECD due diligence guidance for responsible business conduct.

Main activities in 2024

In January 2024, we introduced a redesigned and largely automated process to risk assessments to gain speed, improve quality and cover additional risk areas (e.g., business continuity management and human rights risks related to certain raw materials).

All suppliers are subject to risk assessments when we engage with them and at a regular frequency thereafter. Suppliers flagged for high risk are subject to an onsite audit by our integrated assurance team.

Overall, we identified 2 615 remediation actions with our suppliers. Of these, 302 were associated with human and labor rights. The increase of remediation actions in 2024 was mainly driven by new assessment categories added by the Pharmaceutical Supply Chain Initiative (PSCI), as well as the finalization of legacy supplier assessments.

Supply chain performance indicators	**2024**	2023	2022
Actions taken			
Remediation actions with suppliers	**2 615**	888	1 251
Human and labor rights remediation actions	**302**	194	193
Human and labor rights remediation actions overdue (%)	**12**	n/r	n/r

n/r: previous years comparative data not reported

Corporate governance, risk management and compensation

Corporate governance

Novartis is committed to effective corporate governance, and our corporate governance framework is intended to support sustainable financial performance and long-term value creation for our shareholders, patients, employees and other stakeholders based on our Values and Behaviors. For more detailed information on corporate governance at Novartis, see our Annual Report 2024.

Our governance structure

Our primary governance bodies are the Annual General Meeting of shareholders (AGM), our Board of Directors, and the Executive Committee of Novartis (ECN). Each has different roles and responsibilities within our overall governance system:

At the **AGM**, shareholders approve dividend payments, maximum aggregate compensation for members of the Board and ECN, as well as financial statements, the nonfinancial report and other disclosures. They also elect the Board Chair, members of the Board of Directors, members of the Board's Compensation Committee, the Independent Proxy, and the external auditor. Shareholders meet at least once a year, usually in February or March.

Our **Board of Directors** has ultimate decision-making authority (for those decisions not reserved for shareholders). The Board operates through five permanent committees: Audit and Compliance (ACC); Compensation; Governance, Sustainability and Nomination (GSNC); Risk (RC); and Science & Technology (STC). The Board represents the interests of all stakeholders and oversees the work of the ECN. It is in regular contact with the ECN through meetings and monthly CEO reporting.

Led by our CEO, the **ECN** is responsible for operational management, including financial performance, as well as fulfillment of the company's purpose, strategic priorities and targets. The ECN has 11 members, including the CEO and Chief Financial Officer, the leaders of our organizational units — Biomedical Research, Development, Operations, US and International — as well as those of other functions.

In addition, our external auditor provides regular opinions to management and shareholders on the company's compliance with applicable reporting laws, standards and requirements.

Composition of the Board

All Board members are independent and nonexecutive (as defined under the Board regulations). Members are elected at the AGM for one year only; they may serve a maximum of 12 years.

When choosing new members to propose to the AGM, the Board aims for a balance of skills, expertise and experience. Twelve of 13 current Board members have experience in leadership and management. In addition, seven have experience in medicine, healthcare or R&D, and four in environmental, social and governance (ESG) topics. The Board considers gender, age, nationality, ethnicity, viewpoints, professional background and expertise in its selection process.

The Board of Directors is subject to an annual self-assessment; every third year, this assessment is carried out by an external consultant. Board members receive regular briefings and trainings on ethics, risks and compliance, ESG and other relevant topics. In 2024, topics covered included the US healthcare ecosystem, our updated Code of Ethics, and data ethics and information management.

Board highlights for 2024

During 2024, the Board of Directors discussed strategic, operational and financial issues:

- Oversaw the company's strategy to deliver high-value medicines that alleviate society's greatest disease burdens through technology leadership in R&D and novel access approaches
- Reviewed the development of the talent pipeline in the context of strengthening the Company's foundations
- Discussed longer-term Board succession planning and required profiles, including the nomination of a new Board Chair and a new Board member for election at the 2025 AGM
- Reviewed strategic considerations around mergers and acquisitions (including the acquisition of Mariana Oncology and MorphoSys), and the Company's larger strategic moves to drive sustainable growth
- Discussed updates from the US, International and Operations units
- Reviewed the Research Development Commercial Continuum Execution and

the focuses and priorities of the different therapeutic areas

- Discussed the Company's ESG strategy, plans and developments, including updates on nonfinancial disclosure regulations and the nonfinancial reporting governance of the Company.
- Discussed and reviewed the annual Board self-evaluation including the 2023 in-depth exercise performed by the external firm Egon Zehnder
- Discussed and assessed the geopolitical situation, with a special focus on the impact of the US election
- Received an update on the Southern Europe, Russia & Central Europe Cluster Business and the Company's strategic ambitions and technology platforms in Slovenia

Novartis shares

Novartis AG, the holding company, is a corporation organized under Swiss law, with its registered office in Basel. Our shares are listed on the SIX Swiss Exchange (using the symbol: NOVN) and on the New York Stock Exchange (NYSE) (symbol: NVS) in the form of American Depositary Receipts (ADRs), representing Novartis depositary shares.

Shareholder rights are guaranteed under Swiss law and our Articles of Incorporation. All shares have equal voting rights and carry an equal entitlement to dividends.

At general meetings, shareholders may vote in person, or nominate a representative of choice or the independent proxy to vote on their behalf. The next Novartis AGM is scheduled to be on March 7, 2025.

ESG governance

Board

Ultimate responsibility for our ESG strategy lies with the Board of Directors. The Board has delegated certain duties and responsibilities related to ESG to some of its committees.

The primary responsibility for the oversight of the ESG strategy and governance is held by the Governance, Sustainability and Nomination Committee (GSNC). The GSNC oversees the company's strategy, governance and progress on sustainability, including access to products and services, environmental sustainability (including matters related to climate and nature), people management, and other ESG matters. The GSNC also discusses emerging trends and regularly advises the Board on ESG matters.

The Audit and Compliance Committee is responsible for internal controls over financial and nonfinancial information, and reviews all performance indicators included

Primary governance and oversight of ESG topics

ESG material topic	Board committee(s)	ECN/management
Innovation	• Science & Technology	• President, Biomedical Research • President, Development, and Chief Medical Officer • Innovation Management Board
Access to medicines	• Governance, Sustainability and Nomination	• President, US • President, International • Chief Corporate Affairs Officer • President, Global Health • ESG Committee
People and culture	• Governance, Sustainability and Nomination • Compensation	• Chief People & Organization Officer • ESG Committee
Environmental sustainability	• Governance, Sustainability and Nomination	• President, Operations • Chief Corporate Affairs Officer • ESG Committee
Ethical business practices	• Audit and Compliance • Risk	• Chief Ethics, Risk & Compliance Officer • ESG Committee
Patient health and safety	• Audit and Compliance	• President, Operations • President, Development, and Chief Medical Officer

in this report. The Risk Committee oversees the company's risk management, including risks related to ESG.

The Science & Technology Committee is responsible for the oversight and evaluation of the company's scientific, technological and R&D activities, which are relevant to our material topic of innovation.

In addition, the Compensation Committee determines performance measures (including those related to ESG) for executive compensation and, together with the Risk Committee, reviews Novartis compensation systems to ensure they encourage behaviors that support sustainable value creation.

Management

The ECN is responsible for operational management of ESG matters. The ECN-level ESG Committee, chaired by the CEO, meets every two months to review the company's ESG performance and strategy.

Our Sustainability and ESG Office, which is part of the Corporate Affairs function, is responsible for embedding ESG into management decisions across the business. ESG issues are integrated into our Enterprise Risk Management (ERM) approach. In addition, we have internal policies and controls to minimize risks in areas such as human rights, health and safety, anti-bribery/corruption and environmental sustainability.

The table on page 16 provides an overview of the governance of ESG topics identified as part of our materiality assessment. For more information on the governance of environmental sustainability at Novartis, see page 25.

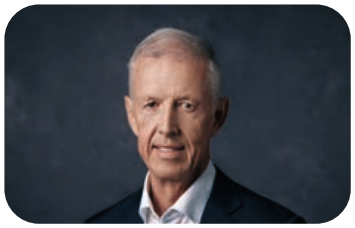
Website information

Share capital	→ Articles of Incorporation of Novartis AG → Share data and analysis
Annual General Meeting of Shareholders	→ Annual General Meeting of Shareholders
Regulations (Board of Directors)	→ Board Regulations
Novartis code for senior financial officers	→ Ethical Conduct Requirements for CEO, ECN and Senior Financial Officers of Novartis
Financial performance data	→ Novartis financial data
Media releases	→ Media releases and featured news → Email update service

Our Board of Directors

Joerg Reinhardt, Ph.D.
Board Chair

Nationality: German
Year of birth: 1956
Chair since: 2013



Simon Moroney, D.Phil.
Vice-Chair

Nationality: German/New Zealander
Year of birth: 1959
Board member since: 2020
Committees: 2 5

Nancy C. Andrews, M.D., Ph.D.

Nationality: American/Swiss
Year of birth: 1958
Board member since: 2015
Committees: 4 5

Ton Buechner

Nationality: Dutch/Swiss
Year of birth: 1965
Board member since: 2016
Committees: 1 4

Patrice Bula
Lead Independent Director

Nationality: Swiss
Year of birth: 1956
Board member since: 2019
Committees: 2 3

Elizabeth (Liz) Doherty

Nationality: British/Irish
Year of birth: 1957
Board member since: 2016
Committees: 1 4

Bridgette Heller

Nationality: American
Year of birth: 1961
Board member since: 2020
Committees: 1 2 3

Daniel Hochstrasser

Nationality: Swiss
Year of birth: 1960
Board member since: 2022
Committees: 1 3

Frans van Houten

Nationality: Dutch
Year of birth: 1960
Board member since: 2017
Committees: 1 5

Ana de Pro Gonzalo

Nationality: Spanish
Year of birth: 1967
Board member since: 2022
Committees: 1 4

Charles L. Sawyers, M.D.

Nationality: American
Year of birth: 1959
Board member since: 2013
Committees: 3 5

William T. Winters

Nationality: British/American
Year of birth: 1961
Board member since: 2013
Committees: 2 3

John D. Young

Nationality: British/American
Year of birth: 1964
Board member since: 2023
Committees: 4 5

Committees

1 Audit and Compliance Committee
2 Compensation Committee
3 Governance, Sustainability and Nomination Committee
4 Risk Committee
5 Science & Technology Committee

→ **For CVs of our Board members, see** www.novartis.com/about/board-directors

Our Executive Committee

Vasant (Vas) Narasimhan, M.D.
Chief Executive Officer

Nationality: American
Year of birth: 1976

Shreeram Aradhye, M.D.
President, Development, and Chief Medical Officer

Nationality: American
Year of birth: 1962

Victor Bulto
President, US

Nationality: Spanish
Year of birth: 1978

Aharon (Ronny) Gal, Ph. D.
Chief Strategy & Growth Officer

Nationality: Israeli/American
Year of birth: 1966

Karen L. Hale
Chief Legal Officer

Nationality: American
Year of birth: 1968

Patrick Horber, M.D.
President, International

Nationality: Swiss
Year of birth: 1970

Harry Kirsch
Chief Financial Officer

Nationality: German/Swiss
Year of birth: 1965

Rob Kowalski
Chief People & Organization Officer

Nationality: American
Year of birth: 1968

Steffen Lang, Ph.D.
President, Operations

Nationality: German/Swiss
Year of birth: 1967

Fiona H. Marshall, Ph.D.
President, Biomedical Research

Nationality: British
Year of birth: 1964

Klaus Moosmayer, Ph.D.
Chief Ethics, Risk & Compliance Officer

Nationality: German
Year of birth: 1968

→ **For CVs of our ECN members and other members of senior management, see www.novartis.com/about/executive-committee**

Risk management

Our approach

Our Enterprise Risk Management (ERM) framework is designed to generate a holistic view of risks for our company and drive a culture of informed risk-taking that advances our strategy.

Our annual ERM process is based on three main steps: understanding and adapting to the rapidly changing dynamics of our external environment; identifying, assessing and analyzing potential risks to the success of our strategy; and setting a clear risk appetite for each risk and taking actions to achieve our target risk exposure.

Throughout the year, we hold risk workshops with business leaders from countries, organizational units and global functions. This helps us integrate risk management into our activities and better understand our risk exposure through transparency on how key risks and opportunities are evolving.

Risk exposure is rated on a four-point scale — very high, high, medium, and low — based on likelihood and potential impact, using the 'most-probable worst-case' scenarios for each risk as reference points. We create mitigation plans and monitor each risk to achieve our target risk exposure.

Overall, our 2024 risk portfolio was similar to 2023. We continued to take mitigation measures to reduce our net risk exposure while updating our ERM framework and risk definitions to reflect changes in our strategic priorities and business environment taking into account risk amplifiers such as geostrategy, technology acceleration, climate change and evolving societal expectations.

Risk governance

The Board oversees risk management systems and processes through its Risk Committee. Alongside senior management, the Risk Committee reviews the risk portfolio, prioritization of risks, and actions taken to manage or mitigate risk. It also carries out ad hoc reviews of key risk areas.

The ECN assesses risks and fosters a culture of risk awareness, in line with our Values and Behaviors and Code of Ethics. The CEO reviews and validates the annual risk portfolio. ECN members are appointed as risk owners for relevant strategic risks.

The ERM process is the responsibility of the Chief Ethics, Risk & Compliance (ERC) Officer. It is managed by our internal Corporate Ethics, Risk & Compliance organization within the ERC function, with support from risk leaders in key markets, organizational units and functions.

Novartis 2024 risk portfolio

Strategic risks

Pricing, reimbursement and access
Pricing and reimbursement pressure, including pricing transparency and access to healthcare

Key products and commercial priorities
Failure to deliver key commercial priorities and successfully launch new products

Research and development
Failure to competitively discover and develop high-value medicines in our focus therapeutic areas and technology platforms

Alliances, acquisitions and integration
Failure to identify, execute and/or realize the expected benefits from our external business opportunities

Environmental, social and governance matters
Failure to meet rapidly evolving environmental, social and governance expectations

Operational risks

Cybersecurity and data protection
Cybersecurity breaches, data loss and catastrophic loss of IT systems

Talent and external workforce management
Inability to identify, attract, develop and retain qualified talent for critical roles or to effectively manage our external workforce could hinder our growth and result in increased information security, data and legal compliance risks

Strategic technology programs implementation
Failure to successfully implement our IT strategy may disrupt our core business processes

Legal, regulatory, ethics and compliance
Challenges posed by evolving regulatory requirements, innovative and disruptive technologies, and societal expectations regarding ethical behavior

External partners risk management and human rights
Failure to maintain adequate governance and risk oversight over external partner relationships, and failure of external partners to meet their contractual, regulatory or other obligations

Manufacturing and product quality
Inability to ensure proper controls in product development and product manufacturing, and failure to comply with applicable regulations and standards

Supply chain
Inability to maintain continuity of product supply

Risks in detail

Risk exposure:
- Very high
- High
- Medium
- Low

The table below provides further details on our 2024 risk portfolio. Further information on risks can also be found in our Annual Report / Form 20-F.

Risk	Context	Mitigation measures
Strategic risks		
Pricing, reimbursement and access	Pressure on the pricing of our medicines has many sources, including increasing healthcare costs, funding restrictions, increasing pressure on intellectual property protections, and policy changes. Legislative developments in the US, Europe and other countries may create further pressures on pricing and the availability of our products.	We seek to price our medicines based on the value they deliver to patients, health systems and society. We believe this incentivizes health systems to focus on interventions that deliver the most effective, efficient and sustainable outcomes. We also work through industry associations to advocate for policies that support a sustainable ecosystem for innovative medicines.
Alliances, acquisitions and integration	As part of our strategy, we may acquire and divest products or entire businesses and form strategic alliances and collaborations to strengthen our pipeline of new medicines and help sustain long-term growth. The market for biologics and new technology platforms within our core therapeutic areas is highly competitive and there is a risk we will miss out on opportunities or be unable to fully realize the strategic benefits of these transactions.	We have strengthened our internal organization to streamline and focus decision-making by creating a new Strategy & Growth function, single business development teams, and leadership teams for each of our core therapeutic areas. We have also implemented a single framework for portfolio assessment and prioritization.
Key products and commercial priorities	Delivering on our growth targets requires us to focus on priority brands and markets to support new launches and overcome potential barriers to the uptake of new medicines. This could be impacted by several factors, including (but not limited to) competitive pressures, changes in the prescribing habits of healthcare professionals, and slower than expected adoption after launch. Our commercial success depends, among other things, on effective transition of assets from development to launch, and sufficient market insight in pipeline and commercialization decisions. We operate in competitive and rapidly changing markets and could be adversely affected if we fail to keep pace with technological changes.	We have a clear strategic focus. We are aligning our research, development and commercial activities around priority assets in our core therapeutic areas and integrating new technologies such as AI into our commercial models. We are also focusing on priority geographies that represent key sources of growth in our industry.
Research and development (R&D)	R&D is vital to our strategy. Our ability to grow our business and advance our product pipeline depends in significant part on the success of our R&D efforts. We may be unable to develop the necessary clinical evidence to achieve the full potential of our assets. In addition, failure to successfully implement new technologies such as AI may put us at a competitive disadvantage and impact our productivity and pipeline value.	We are focusing our efforts on core therapeutic areas and shifting more of our portfolio to new technology platforms such as cell and gene therapy, radioligand therapy, and xRNA. To do this, we need to have clear strategic objectives, be efficient and set clear priorities, with a focus on projects that have the highest potential. We also have a clear AI strategy and are investing in the enabling infrastructure, capabilities, and external partnerships needed to scale our most promising AI use cases across the R&D continuum.
Environmental, social and governance matters	Increasingly, companies are being judged by their performance on environmental, social and governance (ESG) matters. Topics related to large societal changes such as climate change are increasingly important to a wide range of our stakeholders. Failing to meet our ESG commitments could adversely affect our reputation, recruitment, retention, operations, financial performance, and share price.	Building trust with society is part of our corporate strategy. We have developed an ESG strategic roadmap with clear targets on material ESG topics. We are also taking steps to further strengthen our approach to external partner ESG risk. We monitor changes to ESG regulations, particularly regarding new reporting and due diligence requirements. In addition, we have policies, controls and internal programs to ensure ESG is embedded in our decision-making.

Risks in detail (continued)

Risk exposure:
- Very high
- High
- Medium
- Low

Risk	Context	Mitigation measures
Operational risks		
Cybersecurity and data protection	We depend on critical, complex and interdependent IT systems, significant parts of which are outsourced to third parties. We also collect, store and transmit confidential information in the ordinary course of business, (including but not limited to intellectual property, proprietary business information and personal information). Cyberattacks or other IT issues could potentially lead to the unavailability of critical systems and/or the loss of confidential information.	We are taking steps to further strengthen cyber defenses by defining recovery and business continuity measures that enable us to respond to a catastrophic loss of IT and resume operations. We are modernizing our IT infrastructure and replacing end-of-life applications, as well as introducing tighter controls around the use of company devices. We are further strengthening network security and disaster recovery planning at key sites, including research labs and manufacturing facilities.
Talent and external workforce management	To execute our strategy, we need to attract, develop and retain qualified people — including members of our scientific and management teams, R&D specialists and employees with key capabilities in key markets. If we are unable to do so, our ability to achieve our business objectives may be affected.	We use strategic workforce planning in key areas to ensure we have the right skills and capabilities for our strategy. We have extensive succession planning and targeted talent scouting. We also monitor turnover risk and employee engagement, and have a system of regular evaluations and quarterly check-ins. In recent years, we have adopted new ways of working and increasingly recruit from a global pool of talent.
Strategic technology programs implementation	Some of our IT systems, platforms and applications may be complex and fragmented or nearing the end of their useful life. This may lead to inefficiencies and an increased risk of disruption to our operational stability. An inability to successfully implement new IT programs to replace outdated systems may prevent us from materializing expected benefits and could lead to disruptions.	We are modernizing our IT systems and processes. These foundational programs include our Lean Digital Core program to establish global end-to-end systems in the Enterprise Resource Management (ERP) space, and a program to update our human resources systems. We are working to harmonize data management and improve processes in other areas, including supply chain management, compliance and end-to-end Development.
Legal, regulatory, ethics and compliance	The laws and regulations relevant to the healthcare industry are broad in scope, are subject to change, and could require us to incur substantial costs associated with compliance, or to alter one or more of our business practices. Trust in Novartis and its medicines may be eroded if we fail to meet ethical standards or comply with applicable laws and regulations.	Our internal controls and policies are enforced through regular monitoring and training. We are further strengthening our compliance management system, and have launched our Doing Business Ethically policy framework supported by a new online platform that helps employees manage potential risks of inappropriate influence and bribery.
External partner risk management and human rights	We rely on external partners for key business functions and services, including in manufacturing, R&D and distribution. This poses certain risks, for example if external partners fail to comply with internal controls and regulatory requirements, or fail to meet standards on environmental sustainability and human rights.	We contractually oblige suppliers to abide by our standards on quality, ethical business conduct, and human rights. We carry out regular risk assessments and audits. We also work with suppliers to reduce their environmental impact. We are phasing in a new risk-based approach to make our assessments more efficient. We are also further improving our approach to human rights, including stronger grievance reporting.
Manufacturing and product quality	To maintain the quality of our medicines, we must ensure our manufacturing processes — and those of our business partners — meet all regulatory requirements, as well as our own strict quality standards. Healthcare systems, healthcare providers and patients rely on us to meet the highest quality standards. Failure to do so could result in product recalls or other measures, as well as harm to patients and our reputation.	Novartis has extensive policies, systems and controls to ensure product quality. These include a companywide Quality Management System, as well as relevant ISO and Good Manufacturing Practice certificates and licences for activities such as clinical trials, warehousing and distribution. In addition, we have a Quality Risk Management program and related risk mitigation actions commensurate with the level of risk. Our facilities are also subject to regular, external inspections. We are strengthening our M&A processes by implementing thorough reviews of quality systems and processes of acquired companies, products or assets.
Supply chain	Failure to maintain a reliable supply of our medicines may harm patient health and cause significant business disruption and negative reputational impact. Supply could be affected by various factors, including quality concerns, natural disasters or accidents, geopolitical developments, IT incidents, or failure to source key inputs or raw materials.	We apply minimum standards to suppliers through our Third Party Code. We assess climate and macroeconomic risks through regular risk assessments, and take mitigation measures where necessary. With suppliers, we diversify where possible, so that our business is not dependent on a single or limited number of supply sources. We continue to strengthen business continuity efforts to mitigate the potential impact of geopolitical developments on our supply chain.

Compensation

2024 company performance

Novartis delivered an excellent performance in 2024, driven by sales growth in key brands and more cost-effective operations. Compared with the prior year, net sales from continuing operations increased by 12% measured in constant currencies (cc), core operating income increased by 22% (cc) and free cash flow increased by USD 3.1 billion. Sales growth was mainly driven by *Entresto*, *Cosentyx*, *Kesimpta*, and *Kisqali*. The Company's performance led to two guidance upgrades for net sales and three for core operating income.

The compensation of the members of the Executive Committee of Novartis (ECN) is largely determined by performance evaluations conducted on both a short-term basis through the Annual Incentive and a long-term basis via the Long-Term Performance Plan (LTPP).

In 2024, our innovation highlights included the approval of *Fabhalta* in EU, China and Japan for adult patients with paroxysmal nocturnal hemoglobinuria (PNH), as well as in the US for adult patients with immunoglobulin A nephropathy (IgAN). We also received accelerated approval in the US for *Scemblix* for newly diagnosed patients with chronic myeloid leukemia (CML) and *Kisqali* was approved in the EU and US to reduce the risk of recurrence in people with early breast cancer.

The company's performance in 2024 resulted in a total realized compensation for the CEO of CHF 19 165 899, of which 88.5% was made up of variable components, which comprised an Annual Incentive at 160% of target and a 2022-2024 LTPP at 158% of target. The LTPP represents the largest component of the realized compensation.

The 2022-2024 LTPP cycle delivered strong results versus target, with both third-party sales CAGR (compound annual growth rate) and core operating income CAGR (both in cc) exceeding the level required for a maximum payout. Three-year sales performance from growth brands *Entresto*, *Pluvicto, Kesimpta* and *Kisqali*, all considerably exceeded expectations. Our bottom line was further strengthened through savings generated by our organizational transformation. Innovation performance was solid, as evidenced by the advances listed above. Our share price performance and year-on-year dividend increases resulted in a total return to shareholders of 54% over the performance cycle which ranked 5th out of our 15 global healthcare peer companies (including Novartis). In addition, the 2022-2024 LTPP cycle payout accrued a 15.5% increase in share price between grant and vesting. In line with our plan rules, an additional two-year holding period applies for the CEO (and CFO) vested shares (i.e. until January 2027). The Board of Directors did not make any discretionary adjustments to the incentive outcomes.

The performance outcomes described above also contributed to the total aggregated realized compensation of the other ECN members which was CHF 56 580 414.

Compensation system changes

At the beginning of 2024, the Board of Directors incorporated significant changes into our executive compensation system, which were shaped with input from our shareholders as described in detail in last year's Compensation Report. These changes were strongly supported at the 2024 Annual General Meeting (AGM). We are confident that the changes place us in a better position to attract and retain the best talent on a global scale. No further material changes were made to the 2025 Executive Committee compensation system.

Shareholder votes on compensation

As in prior years and in line with the Swiss Code of Obligations and our Articles of Incorporation, at the 2025 AGM, shareholders will be asked to approve the maximum aggregate amount of compensation for the Board of Directors of CHF 8 200 000, which is lower than the amount requested in the previous term. This is due to the Board Chair fee change as well as the lower number of nominated Board members (12 members will be nominated for election at the 2025 AGM compared to 13 at the 2024 AGM). For the members of the Executive Committee, the maximum aggregate amount proposed to shareholders is CHF 95 000 000, which remains the same as in the previous year.

Full details on compensation for the CEO, other Executive Committee members and Board members can be found in the Compensation Report of our Annual Report 2024, and in the compensation votes at the 2025 AGM.

2024 Executive Committee compensation system

	2024 fixed pay and benefits		Variable compensation	
	Annual base salary	**Pension and other benefits**	**2024 Annual Incentive**	**2024–2026 LTPP cycle[1]**
Purpose	Reflects responsibilities, experience and skill sets	Provide retirement and risk insurances (tailored to local market practices/ regulations)	Rewards performance against short-term financial and strategic objectives, and Values and Behaviors[2]	Rewards long-term shareholder value creation and innovation in line with our strategy
Form of payment	Cash	Country/individual-specific and aligned with other employees	50% cash 50% equity[3] deferred for three years	Equity, vesting following a three-year performance period[4]
Performance measures	–	–	Balanced scorecard comprising: • Financial measures (60%)[5] • Strategic objectives (40%)[6]	• Third-party sales CAGR (25%)[7] • Core operating income CAGR (25%) • Innovation (25%) • Relative TSR (25%)[8]

[1] LTPP = Long-Term Performance Plan
[2] The Novartis Values and Behaviors are also a key component of the Annual Incentive and are embedded in our culture. As such, members of the Executive Committee are expected to demonstrate these to the highest standard
[3] Executive Committee members may elect to receive up to 100% of their Annual Incentive in equity instead of cash. The Annual Incentive deferred in equity is granted under the Deferred Share Bonus Plan (DSBP) with 50% equity deferred for three years (or 70% cash and 30% equity deferred if the shareholding requirement is met before performance period starts)
[4] For the CEO and CFO an additional two-year holding applies after vesting.
[5] Financial measures are net sales (24%), core operating income (18%) and free cash flow (18%)
[6] Strategic objectives are aligned with the most important priorities in any performance year
[7] CAGR = compound annual growth rate
[8] The selected peer group for relative TSR (total shareholder return) consists of 15 companies (including Novartis) consistent with our global healthcare peer group, as follows: AbbVie, Amgen, AstraZeneca, Biogen, Bristol-Myers Squibb, Eli Lilly & Co., Gilead Sciences, GlaxoSmithKline, Johnson & Johnson, Merck & Co., Novartis, Novo Nordisk, Pfizer, Roche and Sanofi.

Executive Committee compensation governance

A summary of the compensation decision authorization levels within the parameters set by the AGM is shown below, along with an overview of the risk management principles.

Decision on	Decision-making authority
Compensation of CEO	Board of Directors
Compensation of other Executive Committee members	Compensation Committee

Executive Committee compensation risk management principles

- Rigorous performance management process, with approval of targets and evaluation of performance for the CEO by the Board of Directors
- Balanced mix of short-term and long-term variable compensation elements
- Novartis values and behaviors are a key component of the Annual Incentive and are embedded in our culture
- Clawback and malus principles apply to all elements of the variable compensation
- Performance-vesting Long-Term Incentives only, with three-year cycles
- All variable compensation is capped at 200% of target
- Contractual notice period of 12 months
- Post-contractual non-compete period is limited to a maximum of 12 months from the end of employment. Resulting compensation, if applicable, will not exceed the average annual compensation (annual base salary plus Annual Incentive) of the previous three financial years
- Good and bad leaver provisions apply to variable compensation of leavers
- No severance payments or change-of-control clauses
- Share ownership requirements; no hedging or pledging of Novartis share ownership
- No loans granted to current or former members of the Executive Committee and the Board of Directors or to “Persons closely linked” to them

2024 CEO pay for performance – outcomes

Measure	Target	Performance	Target achievement
2024 Annual Incentive			
Financial performance (cc) – 60% of total Annual Incentive, comprising:			
Net sales (24%) (USD million)	47 838	49 755	Significantly above
Core operating income (18%) (USD million)	17 512	19 025	Significantly above
Free cash flow as a % of net sales (18%)	30.1%	32.3%	Significantly above
Overall assessment of financial performance (cc)			**Significantly above**
Strategic objectives – 40% of total Annual Incentive, comprising:			
Maintain growth momentum and ensure successful launches (10%)			Significantly above
Deliver pipeline and drive R&D productivity (10%)			Met
Execute on operational excellence & productivity (10%)			Met
Strengthen foundations (ESG / Human Capital) (10%)			Above
Overall assessment of strategic objectives			**Above**
Overall assessment of CEO balanced scorecard			**Above**
TOTAL 2024 Annual Incentive payout:		**160% of target (payout range 0% – 200%)**	
2022-2024 Long-Term Incentive			
LTPP			
Third-party sales CAGR (25%)	4.2%	9.0%	200%
Core operating income CAGR (25%)	4.5%	17.5%	200%
Innovation (25%)			102%
Relative TSR (25%)		5th position	130%
TOTAL 2022-2024 LTPP cycle payout:		**158 % of target (payout range 0% – 200%)**	

2024 total realized compensation for the CEO

The 2024 total realized compensation for the CEO was CHF 19 165 899. It includes payouts of the Annual Incentive and LTPP based on actual performance assessed for cycles concluding in 2024.

	2024 fixed pay and benefits		**Variable pay: performance-related**		
CHF	2024 base salary	2024 pension and other compensation	2024 Annual Incentive	2022-2024[1] LTPP cycle	**Total realized compensation**
Vasant Narasimhan	1 865 483	337 472	4 494 788	12 468 155	19 165 899

[1] The shown amount represents the underlying share value of the total number of shares vested (including dividend equivalents) to the CEO for the 2022-2024 LTPP performance cycle.

2024 Board of Directors compensation

All fees to Board members are delivered at least 50% in equity and the remainder in cash. Board members receive no variable compensation and no additional fees for attending meetings. Board members do not receive any company pension or insurance benefits, unless mandated by local legislation.

CHF 000	**2024-2025 AGM, annual fee**
Compensation of Chair	3 800
Board membership	280
Vice-Chair	50
Lead Independent Director	20
Chair of the Audit and Compliance Committee	130
Chair of the Compensation Committee	90
Chair of the following committees: • Governance, Sustainability and Nomination Committee • Science & Technology Committee • Risk Committee	70
Membership of the Audit and Compliance Committee	70
Membership of the following committees: • Compensation Committee • Governance, Sustainability and Nomination Committee • Science & Technology Committee • Risk Committee	40

Total actual compensation earned by Board members in the 2024 financial year was CHF 3 803 784 for the Board Chair and CHF 4 818 133 for the other members of the Board.

Appendix

Performance indicators

Commentary on the indicators is provided in the section 'Sustainability matters' on pages 24-46. To read more about the definitions, methodologies and assumptions for the indicators assured by KPMG, see Reporting Criteria for Novartis in Society Integrated Report 2024 on our website.

Access to medicines performance indicators	2024	2023	2022	
Patients reached (millions)				
Patients reached [1]	**296**	284	267	Δ
Innovation				
Submissions (US, EU, Japan, China) [2]	**29**	18	24	Δ
Approvals (US, EU, Japan, China) [2]	**20**	22	23	Δ
New molecular entity (NME) approvals [3]	**0**	1	1	Δ

People performance indicators [4]	2024	2023	2022	
Headcount [5]	**78 310**	78 407	105 533	Δ
Full-time equivalent positions [5]	**75 883**	76 057	101 703	Δ
Turnover (%)	**12**	17	15	Δ
Voluntary turnover (%)	**6**	7	9	
Annual average learning hours per employee [6]	**39**	38	42	Δ
Employees represented by an employee representative body or covered by a collective bargaining agreement (%) [7]	**54**	53	48	Δ
Gender representation (% female / % male)				
Board of Directors	**31 / 69**	31 / 69	31 / 69	Δ
Executive Committee	**18 / 82**	18 / 82	27 / 73	Δ
Top management [8]	**39 / 61**	40 / 60	39 / 61	Δ
Overall management	**48 / 52**	48 / 52	47 / 53	Δ
Overall headcount	**52 / 48**	51 / 49	51 / 49	Δ
Health and safety				
Lost-time injury and illness rate (per 200 000 hours worked): Novartis employees / third-party personnel	**0.13 / 0.16**	0.13 / 0.18	0.16 / 0.20	Δ
Total recordable case rate (per 200 000 hours worked): Novartis employees / third-party personnel [9]	**0.31 / 0.21**	0.33 / 0.28	0.31 / 0.28	Δ
Fatalities: Novartis employees / third-party personnel / contractors	**0 / 0 / 0**	0 / 0 / 0	0 / 0 / 0	Δ
Employees covered by an internally validated HSE system (%)	**99**	99	n/r	Δ

People performance indicators [4]	2024	2023	2022	
Gender representation by age group (female / male) [10]				
Employees aged ≤ 30	**6 397 / 5 354**	6 664 / 5 551	9 162 / 7 479	Δ
Employees aged 31-50	**26 214 / 24 847**	26 006 / 24 893	35 215 / 33 368	Δ
Employees aged >50	**7 739 / 7 720**	7 564 / 7 702	9 866 / 10 478	Δ
Gender representation by contract type (female / male) [10]				
Permanent	**39 089 / 36 777**	38 930 / 36 932	52 311 / 49 549	Δ
Temporary	**1 262 / 1 143**	1 295 / 1 213	1 881 / 1 709	Δ
Contract type by regions (permanent / temporary)				
US	**12 544 / 47**	12 574 / 49	14 496 / 49	Δ
Canada and Latin America	**3 753 / 45**	3 735 / 41	5 381 / 112	Δ
Europe	**34 075 / 2 017**	34 365 / 2 130	50 849 / 2 856	Δ
Asia / Africa / Australasia	**25 533 / 296**	25 188 / 288	31 338 / 557	Δ

Δ 2024 data in scope for external limited assurance | n/r: previous years comparative data not reported

[1] Patients reached via third-party sales with the exclusion of contract manufacturing organization and contract manufacturing Sandoz brands, radioligand therapy brands and volumes for patients reached through donations, patient support programs, access foundations and samples

[2] Includes small molecules or biologics; new fixed-dose combinations of existing active pharmaceutical ingredients (APIs); and new target indications, defined as new disease or new line of treatment (e.g., first line vs. second line)

[3] Includes NMEs such as small molecules, biologics; in the EU, new fixed-dose combinations of existing APIs

[4] The term "employees" refers to headcount data presented in the table. Comparative figures for 2022 include Sandoz data

[5] "Headcount" reflects the total number of employees in payroll systems. "Full-time equivalent positions" adjusts headcount for employees employed for less than 100%

[6] Data includes Sandoz for the periods 2022 and January to September 2023

[7] Scope generally considers non-management employees only

[8] "Top management" refers to the senior managers, including the Executive Committee

[9] Data includes all work-related injuries and illnesses, whether leading to lost time or not

[10] Fewer than 0.5% of employees have unknown classification in our system and some indicators therefore do not add up to the total headcount absolute figure

Environment performance indicators [1]	2024	2023	2022	
Energy use (million GJ)				
Energy use – on site and purchased	**5.8**	6.3	6.8	Δ
Purchased renewable energy [2]	**3.0**	2.6	2.5	Δ
Renewable energy generated on site	**0.1**	0.1	0.0	Δ
Greenhouse gas (GHG) emissions (1 000 tCO_2e) [3]				
Total Scope 1 emissions	**207.0**	251.1	263.2	Δ
Total Scope 2 emissions (market-based)	**30.0**	44.1	106.6	Δ
Total Scope 2 emissions (location-based)	**200.4**	194.9	259.7	Δ
Total Scope 1 and Scope 2 emissions	**237.0**	295.2	369.8	
Total Scope 3 emissions [4]	**4 350.3**	4 573.7	4 994.0	Δ
Purchased goods and services [5]	**3 372.5**	3 498.4	4 113.2	
Capital goods [5]	**195.7**	208.6	181.6	
Fuel and energy related activities	**96.6**	178.4	178.2	
Upstream transportation and distribution	**166.0**	194.0	125.5	
Waste generated in operations	**10.4**	12.3	19.1	
Business travel [6]	**128.4**	116.3	84.6	
Employee commute	**85.3**	97.4	106.7	
Downstream transportation and distribution	**111.3**	77.2	29.8	
Processing of sold products	**8.5**	10.2	1.1	
End-of-life treatment of sold products	**75.5**	72.1	49.4	
Downstream leased assets	**0.1**	0.1	0.1	
Investment	**100.0**	108.7	104.7	
Total Scope 1, Scope 2 and Scope 3 emissions	**4 587.3**	4 868.9	5 363.8	
GHG emissions intensity (tCO_2e)				
Scope 1 and Scope 2 per million USD sales	**4.7**	6.5	8.8	
Volatile organic compounds (t)				
Volatile organic compounds (VOCs)	**87.2**	106.9	168.4	Δ
Halogenated VOCs	**0.8**	0.4	0.7	
Non-halogenated VOCs	**86.4**	106.5	167.7	

Environment performance indicators [1]	2024	2023	2022	
Water usage (million m^3) [7]				
Total water withdrawals [8]	**33.3**	31.3	32.9	Δ
Total water discharges	**32.5**	30.4	31.2	Δ
Discharged directly to surface water	**28.8**	26.2	26.5	
Discharged via treatment	**3.7**	4.2	4.7	
Total water consumption [9]	**0.8**	0.9	1.7	Δ
Water lost through evaporation or other destinations	**0.8**	0.9	0.9	
Operational waste (1 000 t)				
Total waste generated	**31.1**	35.5	44.0	Δ
Total waste recycled	**15.6**	16.9	24.0	Δ
Non-hazardous waste recycled	**11.4**	12.4	12.9	
Hazardous waste recycled	**4.2**	4.5	11.1	
Total waste not recycled	**15.5**	18.6	20.0	Δ
Non-hazardous waste not recycled	**4.9**	6.3	6.4	
Incineration	**3.6**	4.6	4.7	
Landfilling	**1.1**	1.5	1.5	
Other disposal options	**0.2**	0.2	0.2	
Hazardous waste not recycled	**10.6**	12.3	13.6	
Incineration	**10.3**	12.2	13.2	
Landfilling	**0.0**	0.0	0.0	
Other disposal options	**0.3**	0.1	0.4	

Δ 2024 data in scope for external limited assurance

[1] Environmental data for the current year is based on actual performance data from January to September, with estimates for October to December, unless indicated otherwise. Any significant deviations from actuals data against these estimates will be restated for 2024 in our sustainability report the following year. 2022 and 2023 reflect full year actuals data. Data from the Novartis entity Abadia Retuerta is included in the 2024 environmental data

[2] Reflects purchase of electricity that can be attributed to renewable sources in line with RE100 technical criteria

[3] Novartis follows the GHG Protocol for calculating the greenhouse gas emissions unless adjustments are required to comply with local regulations

[4] Novartis discloses Scope 3 emissions categories that are considered relevant in 2024 including newly disclosed categories. 2023 and 2022 data has been updated accordingly

[5] Scope 3 data for the current year is based on actuals from January to November, with estimates for December

[6] The indicator is calculated using 12-month actual data

[7] 2023 and 2022 water usage performance indicators have been updated from the prior year published performance indicators to include the Novartis entity Abadia Retuerta and a revised estimate from the Sandoz/ Novartis split for manufacturing operations in Austria after segregated meter reading data was available. This reduced the previously reported performance indicators of total water withdrawals by 5% in 2023 and by 8% in 2022, total water discharges by 5% in 2023 and 8% in 2022, and total water consumption increased by 3% in 2023 and 0% in 2022. Additionally, the definition for water consumption was changed to align with the GRI standards. In previous years, water discharged via treatment was included in water consumption and it has now been classified as water discharged

[8] Water withdrawal includes water used for cooling and returned to the environment without the need for additional treatment

[9] Total volume of water withdrawn by an organization, less any water discharged outside of the site boundaries through municipal waste water systems or directly to aquatic environments. This definition was changed to align with the GRI standards

Grievance indicators [1]

	2024	2023	2022	
Total allegations	**1 607**	2 059	1 384	Δ
Higher-risk allegations [2]	**946**	717	533	
Higher-risk allegations substantiated	**921**	447	239	Δ
Discrimination, sexual harassment and other employee relations	**16**	21	14	
Human and labor rights	**1**	0	0	
Bribery and kickbacks	**0**	1	0	
IT	**541**	246	99	
Data privacy	**218**	110	28	

Animal welfare performance indicator

	2024	2023	2022	
Animals involved in research [3]	**294 325**	320 691	332 668	Δ

Political engagement performance indicators [4]

	2024	2023	2022	
Political contributions (USD thousands)				
Global	**1 222**	1 155	1 150	Δ
US (Corporate)	**545**	492	478	
US (Political Action Committee) [5]	**227**	263	274	
Switzerland	**409**	395	346	
Australia	**38**	0	48	
Japan	**3**	5	4	
Memberships in trade associations (USD thousands)				
Global	**52 820**	59 849	60 600	Δ

Supply chain performance indicators

	2024	2023	2022	
Actions taken				
Remediation actions with suppliers	**2 615**	888	1 251	Δ
Human and labor rights remediation actions	**302**	194	193	
Human and labor rights remediation actions overdue (%)	**12**	n/r	n/r	Δ

Product quality and patient safety performance indicators

	2024	2023	2022	
Recalls				
Total recalls	**4**	10	7	Δ
Class I recalls	**0**	1	0	
Class II recalls	**2**	8	6	

Other data assured

	2024	
Climate		
Internal carbon price (USD)	**100**	Δ
Capital expenditure deployed towards environmental sustainability (USD millions)	**40.0**	Δ
Supply chain facing physical risks (%) [6]	**9**	Δ
Pay equity		
Mean pay gap (%) [7]	**– 0.3**	Δ
Ethical business conduct		
Code of Ethics – employees trained and certified (%)	**98**	Δ
Patient health and safety		
Total GxP audits [8]	**809**	Δ
Total inspections	**124**	Δ
Inspections found to be acceptable (%)	**100**	Δ
Business model		
Operating sites	**197**	Δ
Manufacturing sites	**33**	Δ
Countries with products sold	**118**	Δ

Δ 2024 data in scope for external limited assurance | n/r: previous years comparative data not reported

[1] "Higher-risk allegations substantiated" include allegations reported in previous years, whereas "Total allegations" and "Higher-risk allegations" refer to allegations reported within each calendar year
[2] Allegations are classified as "higher-risk" when a senior leader or manager is involved, or due to the level of severity of the allegation
[3] Data refers to animals involved in internally conducted studies
[4] Data includes political engagement expenditure for Sandoz for the periods 2022 and January to September 2023
[5] The US Political Action Committee is a voluntary and nonpartisan organization
[6] Based on total supply chain spend 2023
[7] Calculation uses prior year salary data
[8] Includes internal and external audits

Disclosures in accordance with Art. 964*b* Swiss Code of Obligations

The following sections comprise the report on nonfinancial matters in accordance with Art. 964*b* of the Swiss Code of Obligations. The advisory vote on the report at the annual general meeting is limited to the content of these sections.

Art. 964*b* content requirement	Section	Reference
General information required to understand our business	**About Novartis** **Operating environment** **Strategy**	**p. 6** **p. 12** **p. 13**
Description of the business model	**Business model**	**p. 15**
Environmental matters (incl. CO_2 goals)	**Environmental matters** Climate Nature **2024 climate scenario analysis in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)**	**p. 25** **p. 64**
Social matters	**Social matters** People and culture Human rights Patient health and safety Access to medicines: a shared responsibility	**p. 34**
Employee-related matters	**Social matters** People and culture **Our people, culture and values**	**p. 34** **p. 10**
Respect for human rights	**Social matters** Human rights **Governance and integrity matters** Ethical business conduct Supply chain management	**p. 37** **p. 42**
Combating corruption	**Governance and integrity matters** Ethical business conduct Political engagement Supply chain management	**p. 42**

Art. 964*b* content requirement	Section	Reference
Material risks	**Material topics** **Risk management**	**p. 16** **p. 53**
Main performance indicators	**Performance indicators**	**p. 60**
References to national, European or international regulations	**About this report**	**p. 3**
Coverage of subsidiaries	**About this report**	**p. 3**

Task Force on Climate-related Financial Disclosures (TCFD) index

The following sections comprise our disclosure in accordance with the Swiss Ordinance on Climate Disclosures under Art. 964*b*. Our disclosure is based on the report "Recommendations of the Task Force on Climate-related Financial Disclosures" (June 2017) and the annex "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures" (October 2021). It follows both cross-sectoral and sector-specific recommendations, as well as the "Guidance on Metrics, Targets, and Transition Plans" (October 2021). It includes our net-zero transition plan, which is comparable with the Swiss climate goals.

Area	Recommended disclosures	Reference
Governance Disclose the organization's governance around climate-related risks and opportunities.	Describe the Board's oversight of climate-related risks and opportunities.	**p. 25**
	Describe management's role in assessing and managing climate-related risks and opportunities.	**p. 25, 26**
Strategy Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	**p. 25, 26, 65**
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	**p. 27, 29, 30, 65**
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	**p. 25, 26, 27, 29**

Area	Recommended disclosures	Reference
Risk management Disclose how the organization identifies, assesses, and manages climate-related risks.	Describe the organization's processes for identifying and assessing climate-related risks.	**p. 25, 29, 30, 65**
	Describe the organization's processes for managing climate-related risks.	**p. 25–29**
	Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	**p. 25, 29, 30, 53**
Metrics and targets Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	**p. 27, 28, 30, 65**
	Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	**p. 27, 28, 30, 65**
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	**p. 25–28**

2024 climate scenario analysis in accordance with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

Physical risks – own operations

Emissions scenarios for physical risk analysis	IPCC SSP1-2.6 (low-emissions scenario, central estimate for temperature rise by 2100 +1.8°C); IPCC SSP2-4.5 (intermediate emissions scenario, central estimate for temperature rise by 2100 +2.7°C); IPCC SSP5-8.5 (very high emissions scenario, central estimate for temperature rise by 2100 +4.4°C)
Time horizons	Short term (2025), Medium term (2030), Long term (2040, 2050)
Data sources	Intergovernmental Panel on Climate Change (IPCC), Jupiter Intelligence ClimateScore™ Global, Novartis site-specific data
Coverage	All Novartis operating sites (including manufacturing sites, R&D sites, offices) and primary and secondary warehouses
Risks considered	We screened sites for exposure to 18 different temperature-, water- and wind-related acute and chronic physical risks;[1] risks with no or limited impact on sites were scoped out; the analysis focused on sites with high or very high risk by 2050 in SSP5-8.5
Financial impact	– **Revenue (water stress, cyclones, flooding, drought):** to estimate revenue loss, we mapped potential downtime resulting from the change in the chosen metric vs baseline,[2] across the time horizon and scenarios, and used this in conjunction with an estimate of site-level revenue. – **Operating costs (heat stress):**[3] to estimate an increase in operating costs from higher cooling costs, we used an economic impact metric from the Jupiter Intelligence ClimateScore™ Global, "annual cost of electricity used for cooling", in conjunction with site-level annual cooling cost estimates. – **Property, plant and equipment / inventories (cyclones, flooding):**[3] we used a damage function from Jupiter Intelligence ClimateScore™ Global in conjunction with site-level property, plant and equipment / inventory values to generate average annual loss (building and contents / inventory).

	Description, methodology and results discussion
Chronic risks	
Water stress	Water stress measures the scarcity of regional or local water availability, and is increasing under the impact of climate change and human activity. Lower efficiency or a shutdown of water-intensive production processes caused by such events could impact revenues. To quantify our exposure to water stress, we used "human water demand / water supply for the local and upstream watersheds". Our manufacturing sites in Pakistan, Belgium, Netherlands, Indonesia and China were classified as high or very high risk for water stress.
Heat stress	Extreme heat conditions could increase operating costs by augmenting our cooling needs and energy consumption to protect the health of employees and ensure processes and equipment operate efficiently. To quantify our exposure, we used cooling degree days indicating a need for air conditioning. Temperature rise is a significant risk across all sites. Heat stress exposure is most pronounced at our manufacturing sites in Singapore, Egypt, Indonesia, Pakistan and Bangladesh, and is seen increasing at these locations by 2050. Heat risk increases from high to very high at our R&D site in India, and at our offices and warehouses in Bangladesh, Pakistan, Malaysia, India and Saudi Arabia.

[1] Changing temperature (air, freshwater, marine water), Heat stress, Temperature variability, Permafrost thawing, Changing wind patterns, Changing precipitation patterns and types (rain), Changing precipitation patterns and types (hail), Precipitation or hydrological variability, Heavy precipitation (rain, hail, snow/ice), Sea level rise, Water stress, Heatwave, Cold wave/frost, Wildfire, Cyclones, hurricanes and typhoons, Storms (including blizzards, dust and sandstorms), Flood (coastal, fluvial, pluvial, ground water), Drought.
[2] Baseline represents the aggregate of the metric for each specific location of all years over a 20-year period from 1985 to 2005.
[3] This analysis is based on data obtained from Jupiter Intelligence, a trusted leader in climate risk analytics.

	Description, methodology and results discussion
Acute risks	
Cyclones	Cyclones and strengthened wind speeds can have potential financial implications through interruptions at our sites or via damage to our property, plant and equipment, and to our inventories. To quantify our exposure, we used the Jupiter Intelligence metric "maximum 1-minute sustained wind speed (in km/h) experienced at the 200-year return period". Two of our manufacturing sites in Japan and Pakistan, one R&D site in China, and four warehouses in Hong Kong, Taiwan, Philippines and India are exposed to high or very high risk of cyclones.
Flooding	With the increase in temperatures brought by climate change, flooding or extreme rainfall are set to become more common in different parts of the world. Flooding could lead to disruption or delays in manufacturing processes and interruptions in supply and distribution of products. Similar to cyclones, it could also result in damage to our property, plant and equipment, and to our inventories. To quantify our exposure to the flooding peril, we used the Jupiter Intelligence metric "depth of the water (in meters) at the 100-year return period". By 2050, three manufacturing sites in Switzerland, Italy and Bangladesh were classified as very high risk, and two in Belgium and Italy as high risk. Three offices, in Bangladesh, France and Japan, were classified as very high risk across the time horizon, and one warehouse in India sees a significant increase in its risk classification to very high by 2050. Similarly, one R&D site in the US is classified as high risk by 2030, in all scenarios.
Drought	Drought conditions are set to worsen in terms of frequency, length and severity due to the impact of climate change. They could potentially impact revenue through business interruption, should these events lead to temporary site closures. To quantify our exposure to the drought peril, we used a metric that characterizes extreme meteorological drought conditions, the Standardized Precipitation Evapotranspiration Index (SPEI), more specifically "months per year where the rolling 6-month average SPEI is below -2". Four of our manufacturing sites with low baseline risk — in Egypt, Belgium, Netherlands and Turkey — are classified as high risk in a middle-of-the-road SSP2-4.5 scenario by 2040. By 2050, in a very high emissions SSP5-8.5 scenario, 16 manufacturing sites are at high or very high risk. Meanwhile offices and warehouses that are already classified as high risk in countries including Greece, Israel and Turkey, become very high risk by 2050.

Physical risks – supply chain

Time horizons	Short term
Data sources	Country Index data from the University of Notre Dame Global Adaptation Initiative (ND-GAIN, 2023); asset tangibility data from Organisation for Economic Co-operation and Development (OECD, 2021); Oxford Economics database and models; Novartis procurement spend and data
Coverage	Entire Novartis procurement spend
Risks considered	ND-GAIN5 draws on more than 40 indicators to measure current vulnerability to disruptions and readiness to leverage private and public sector investment for adaptive actions[1]
Financial impact	Revenue: We mapped the revenue contribution of our tier 1 suppliers in conjunction with physical climate risk assessment from ND-GAIN

	Description, methodology and results discussion
Physical risk	To estimate the supply chain spend exposed to physical climate risk, we measured total procurement spend for 2023 and assessed supplier data for materiality using the criteria spend, asset tangibility (dependence on physical assets) and substitutability (existence of alternative suppliers). Shortlisted suppliers were assessed for climate risks using ND-GAIN data (2023), which measures country-level vulnerability and readiness based on over 40 indicators. OECD data (2021) on asset tangibility was used to gauge sector vulnerability. Country and sector risk scores were combined to produce a final score from 1 to 25, categorized from very low (<3) to very high (>15). Suppliers with high and very high risk, as well as suppliers with medium risk but high asset tangibility, were retained in the analysis.

[1] https://gain.nd.edu/our-work/country-index/methodology/

Transition risks and opportunities

Risks considered	We assessed 18 risks and opportunities[1] out of a longlist of 33 factors for impact materiality to Novartis. We drew up a shortlist of transition risks and opportunities for both climate mitigation and adaptation, and grouped these into three categories: litigation and reputational risk (qualitative assessment), carbon pricing and switch to low-carbon alternatives (quantitative), and changing demand for healthcare (quantitative).

Carbon pricing, carbon certificates pricing and electricity costs

Emissions scenarios for transition risk analysis	– **Carbon pricing, electricity costs:** ▶ IEA Net Zero Emissions by 2050 Scenario (NZE), a normative scenario describing a pathway for the global energy sector to achieve net-zero carbon dioxide emissions by 2050 and an emissions trajectory consistent with keeping temperature rise in 2100 below +1.4°C; ▶ IEA Announced Pledges Scenario (APS), describing energy system progression based on the assumption that all targets, pledges and announcements are to be achieved on time and in full, consistent with keeping temperature rise in 2100 below +1.7°C; ▶ IEA Stated Policies Scenario (STEPS), describing energy system progression based on the IEA assessment of current policies and other market circumstances, consistent with keeping temperature rise in 2100 below +2.4°C. – **Carbon certificates pricing:** ▶ Bloomberg New Energy Finance (BNEF) voluntary market scenario (inelastic demand); BNEF's BECCS (bioenergy with carbon capture and storage) offset cost scenario; BNEF high-quality bifurcation scenario (inelastic demand) and BNEF's direct air capture offset cost scenario
Time horizons	Medium term (2030), Long term (2040), Long term (2050)
Data sources	IEA Global Energy and Climate (GEC) Model scenarios; IEA carbon prices, levelized cost of energy (LCOE) costs, electricity generation, World Energy Outlook 2023 & 2024; BNEF long-term carbon offsets outlook
Coverage	– **Carbon pricing:** full Scope 1 and 2 coverage across Novartis sites and purchased energy; >84% of Scope 3 (category 1, purchased goods and services, and category 2, capital goods) – **Carbon certificates pricing:** full Scope 1, 2 and 3 coverage – **Electricity costs:** electricity consumed by Novartis sites globally

	Description, methodology and results discussion
Carbon pricing	Carbon prices, in the form of emissions trading or carbon taxes, are likely to continue to increase in major operating and supplier countries, which may lead to rising operating costs for Novartis. Carbon pricing can impact Novartis as 1) a direct charge on Scope 1 emissions that fall under emissions schemes such as the EU ETS, 2) via purchased energy as a pass-through cost from electricity generators; 3) as a charge on emissions of suppliers who pass through part of their costs to Novartis, and 4) as a charge to buy the necessary Carbon Border Adjustment Mechanism (CBAM) certificates for the emissions embedded in Novartis imports. To quantify our Scope 1 and 2 exposure to carbon pricing, we followed five steps: 1) we assigned carbon prices (IEA World Energy Outlook 2023 forecast prices) across the time horizon and scenarios to each country in which we had Scope 1 or 2 emissions; 2) we measured Scope 1 and 2 emissions by country; 3) we multiplied Scope 2 emissions by 100%, assuming a 100% pass-through rate from electricity suppliers; 4) we multiplied Scope 1 and 2 emissions by the corresponding country-level carbon price forecast; and 5) we multiplied the resulting carbon costs by our Scope 1 and 2 SBTi emissions reduction targets for 2030 (90%) and 2040 (90%), assuming we maintain emissions at the 2040 level also by 2050. This approach assumed that all sites have to pay the full carbon price and all site emissions are covered by the carbon price. Across all the jurisdictions considered in the analysis, the risk was highest in the following countries, due both to high carbon prices and country-level total emissions: US, Austria, Slovenia, Italy, France, Singapore, UK, Germany, Belgium and Switzerland. To quantify our Scope 3 exposure to carbon pricing, we followed similar steps: 1) we measured country-level Scope 3 emissions data for our Category 1 (purchased goods and services) and Category 2 (capital goods) supplies, representing more than 85% of our Scope 3 emissions; 2) we assigned carbon prices (IEA World Energy Outlook 2023 forecast prices) across the time horizon and scenarios to each country; 3) we multiplied Scope 3 emissions by 70%, assuming a 70% pass-through rate from our suppliers; 4) we multi-plied Scope 3 emissions by the corresponding country-level carbon price forecast; 5) we multiplied the resulting carbon costs by our Scope 3 SBTi emissions reduction targets for 2030 (42%) and 2040 (90%), assuming we maintain emissions at the 2040 level also by 2050; and 6) we estimated the percentage of our Scope 3 emissions imported to the EU in our baseline year, and using a sector-based approach, we assumed which percentage of these may gradually become subject to the CBAM across the time horizon, using the difference between the EU carbon price and the respective country's carbon price to calculate the impact.
Carbon certificates pricing	To meet our emission targets, our primary focus is on absolute reductions. For our 2025 target of carbon neutrality from energy in own operations, however, we will invest in carbon removal offsets for residual Scope 1 and 2 emissions. For our 2040 net-zero targets, we will align with SBTi's Corporate Net-Zero standard requirements for offsets e.g. max 10% of Scope 1, 2, 3 emissions. Novartis has an offsets outlook determined by a) the credit volumes required to meet its emissions reduction targets (2025, 2030 and 2040), b) the preferred contribution of nature-based solutions vs engineering removals to the total volume, across the time horizon and c) its opted-in offset prices. To calculate the potential risk or opportunity associated with our offsets outlook up to 2050, we stress-tested our baseline outlook against Bloomberg New Energy Finance offset price forecasts (BNEF) to 2050. Keeping the same relative nature-based solutions (NbS) vs engineering removal contribution as in our baseline, and the same volume of offsets required, we used the following BNEF forecasts: for the low price scenario – BNEF's voluntary market (assuming inelastic demand) for NbS offsets and BNEF's BECCS (bioenergy with carbon capture and storage) offset cost for engineering removals; for the high price scenario – BNEF's high-quality bifurcation scenario (inelastic demand) for NbS offsets and the BNEF direct air capture offset cost for engineering removals.

[1] Across the following categories: market, policy and legal, reputational, technological, energy source, resource efficiency, products and services

	Description, methodology and results discussion
Electricity costs	Prices for electricity generated from renewable energy are lower than those from fossil fuel energy and are expected to fall further. This may result in lower operating costs from electricity use, either through lower market prices, cheaper power purchase agreements (PPAs) or onsite renewable energy generation. To calculate this transition opportunity, changes in different electricity technology costs over time were applied to the respective electricity grid mix in each climate scenario. The model uses country-level IEA electricity generation data to show how the power mix changes in the different scenarios. It uses 2030 and 2050 IEA changes in levelized costs of energy (LCOE) as a proxy for changes in average costs of electricity in all countries. In all scenarios, renewables increase their share in the generation mix while their LCOEs decrease. The opportunity is measured as the percentage difference between the current electricity costs in each country and the electricity costs associated with the future grid. The model separately assumes that Novartis meets its 100% renewables target by 2025 and maintains it thereafter. Our final results show the additional cost savings, beyond those incurred already from the changes in the future electricity grid, by subtracting these from the changes incurred from switching to 100% renewables.[1]

Changing demand for healthcare

Scenarios considered	IPCC SSP1-1.9 (very low emissions scenario, central estimate for temperature rise by 2100 +1.4°C); IPCC SSP2-4.5 (intermediate emissions scenario, central estimate for temperature rise by 2100 +2.7°C); Institute for Health Metrics and Evaluation (IHME) scenarios "Reference" and "Safer Environment" from 2021
Time horizons[2]	Baseline, Medium term (2030), Long term (2040), Long term (2050)
Data sources	IHME's Global Burden of Disease (GBD, 2021) database and other scientific literature, Intergovernmental Panel on Climate Change (IPCC), internal Novartis sales
Coverage	Ischemic heart disease, asthma, lung cancer, chronic kidney disease due to glomerulonephritis
Changing demand for healthcare	Factors including changing temperature and pollution patterns are increasingly being analyzed for their correlation to the prevalence or severity of some diseases. To measure our exposure to such changes, we started with a longlist of products (top growth commercial products up to 2030 and our pipeline), and used IHME and other scientific literature to establish whether climate risk (temperature/pollution) is significant for the diseases treated by the respective products. Where there was a correlation, products were shortlisted for further analysis, along with other Novartis products treating a similar disease. These products were used as a proxy to determine climate-related demand associated with the disease area. Across all time horizons modelled, on average we see a potential sales decrease for medicines used to treat ischemic heart disease, asthma and lung cancer, due to expected declines in pollution levels. For lung cancer, results vary by region, with a decrease in disability-adjusted life years (DALYs) related to particulate matter in the US and Europe, and an increase in the regions Asia, Africa and Australasia, and Canada and Latin America. Meanwhile, across all regions, there is an opportunity to increase sales for products used to treat renal diseases, with the effect most pronounced in Asia, Africa and Australasia. For each disease area, we calculated the percentage of climate-related DALYs out of total DALYs, and multiplied this by country-level product sales to generate a climate-related sales baseline. To calculate how this might change, we multiplied the climate-related sales baseline by the percentage change in climate-related DALYs vs baseline across the time horizons and scenarios. For pipeline products, we calculated the revenue impact based on every future USD 1 million sales for the product in one year.

[1] The potential savings in electricity costs exclude the impact associated with our direct consumption of fuel (e.g. natural gas), primarily used to generate thermal energy
[2] We do not expect material risk in the short term from climate-related changes in demand for healthcare.

Global Reporting Initiative (GRI) content index

Novartis has reported the information cited in this GRI content index for the period January 1 to December 31, 2024 with reference to the GRI Standards. Data and information referenced are sourced from the Novartis 2024 annual reporting suite (Novartis in Society Integrated Report and Annual Report/Form 20-F), our corporate website, as well as Novartis public policies and positions. We also assess our contribution to the UN Sustainable Development Goals (SDGs) mapped against our activities (based on the latest GRI guidance).

Disclosure number	Disclosure title	UN SDG	Reference
GRI 1	**Foundation 2021**		
GRI 2	**General Disclosures 2021**		
The organization and its reporting practices			
2-1	Organization details		p. 7, p. 10
2-2	Entities included in the organization's sustainability reporting		p. 3 Reporting Criteria
2-3	Reporting period, frequency and contact point		p.3
2-4	Restatements of information		p. 60–62
2-5	External assurance		p. 72
Activities and workers			
2-6	Activities, value chain and other business relationships		p. 7, p. 15, p. 17
2-7	Employees	8 10	p. 10, p.60
2-8	Workers who are not employees	8	p. 60
Governance			
2-9	Governance structure and composition	5 16	p. 48–50
2-10	Nomination and selection of the highest governance body	5 16	p. 48 Annual Report
2-11	Chair of the highest governance body	16	p. 48 Annual Report
2-12	Role of the highest governance body in overseeing the management of impacts	16	p. 49
2-13	Delegation of responsibility for managing impacts		p. 49–50
2-14	Role of the highest governance body in sustainability reporting		p. 49–50
2-15	Conflicts of interest	16	Conflict of Interest Guideline
2-16	Communication of critical concerns		p. 42–44, p. 62
2-17	Collective knowledge of the highest governance body		p. 48 Annual Report
2-18	Evaluation of the performance of the highest governance body		p. 48, p. 56 Annual Report
2-19	Remuneration policies		p. 56
2-20	Process to determine remuneration		p. 57–58
2-21	Annual total compensation ratio		Confidentiality constraints: Novartis does not publicly disclose this data.
Strategy, policies and practices			
2-22	Statement on sustainable development strategy		p. 4–5
2-23	Policy commitments	16	p. 37, p. 42
2-24	Embedding policy commitments		p. 42–45
2-25	Processes to remediate negative impacts		p. 13–17, p. 43–45
2-26	Mechanisms for seeking advice and raising concerns	16	p. 43–45, p. 62
2-27	Compliance with laws and regulations		p. 42–43
2-28	Membership associations		p. 26, p. 37
Stakeholder engagement			
2-29	Approach to stakeholder engagement		p. 17
2-30	Collective bargaining agreements	8	p. 36
GRI 3	**Material Topics 2021**		
3-1	Process to determine material topics		p. 16
3-2	List of material topics		p. 16
3-3	Management of material topics		p. 13–14, p. 25–46
GRI 201	**Economic Performance 2016**		
201-1	Direct economic value generated and distributed	8 9	p. 19–21
201-2	Financial implications and other risks and opportunities due to climate change	13	p. 30, p. 65–68
201-3	Defined benefit plan obligations and other retirement plans		Annual Report

Disclosure number	Disclosure title	UN SDG	Reference
GRI 203	**Indirect Economic Impacts 2016**		
203-2	Significant indirect economic impacts	1 3 8	p. 40
GRI 205	**Anti-corruption 2016**		
205-1	Operations assessed for risks related to corruption	16	p. 42–45
205-2	Communication and training about anti-corruption policies and procedures	16	p. 42–45
205-3	Confirmed incidents of corruptions and actions taken	16	p. 62
GRI 206	**Anti-competitive Behavior 2016**		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	16	p. 42–45 Annual Report
GRI 207	**Tax 2019**		
207-1	Approach to tax	1 10 17	Novartis Tax Policy Statement
207-2	Tax governance, control, and risk management	1 10 17	Novartis Tax Policy Statement
207-3	Stakeholder engagement and management of concerns related to tax	1 10 17	Novartis Tax Policy Statement
207-4	Country-by-country reporting	1 10 17	Confidentiality constraints: Novartis does not publicly disclose this data.
GRI 301	**Materials 2016**		
301-1	Materials used by weight or volume	8 12	p. 61
301-2	Recycled input materials used	8 12	p. 32
301-3	Reclaimed products and their packaging materials	8 12	p. 32
GRI 302	**Energy 2016**		
302-1	Energy consumption within the organization	7 8 12 13	p. 28, p. 61
302-2	Energy consumption outside of the organization	7 8 12 13	p. 28, p. 61
302-3	Energy intensity	7 8 12 13	p. 61
302-4	Reduction of energy consumption	7 8 12 13	p. 61
302-5	Reductions in energy requirements of products and services	7 8 12 13	p. 61

Disclosure number	Disclosure title	UN SDG	Reference
GRI 303	**Water and Effluents 2018**		
303-1	Interactions with water as a shared resource	6 12	p. 30–33
303-2	Management of water discharge-related impacts	6	p. 30–33
303-3	Water withdrawal	6	p. 33, p. 61
303-4	Water discharge	6	p. 33, p. 61
303-5	Water consumption	6	p. 33, p. 61
GRI 305	**Emissions 2016**		
305-1	Direct (Scope 1) GHG emissions	3 12 13 14 15	p. 28, p. 61
305-2	Energy indirect (Scope 2) GHG emissions	3 12 13 14 15	p. 28, p. 61
305-3	Other indirect (Scope 3) GHG emissions	3 12 13 14 15	p. 28, p. 61
305-4	GHG emissions intensity	13 14 15	p. 28, p. 61
305-5	Reduction of GHG emissions	13 14 15	p. 28, p. 61
305-7	Nitrogen oxides (Nox), sulfur oxides (Sox), and other significant air emissions	3 12 14 15	p. 60
GRI 306	**Waste 2020**		
306-1	Waste generation and significant waste-related impacts	3 6 11 12	p. 30–33
306-2	Management of significant waste-related impacts	3 6 8 11 12	p. 30–33
306-3	Waste generated	3 6 11 12 15	p. 33, p. 61
306-4	Waste diverted from disposal	3 11 12	p. 32, p. 61
306-5	Waste directed to disposal	3 6 11 12 15	p. 32, p. 60
GRI 308	**Supplier Environmental Assessment 2016**		
308-1	New suppliers that were screened using environmental criteria		p. 46
308-2	Negative environmental impacts in the supply chain and actions taken		p. 46, p. 62

Disclosure number	Disclosure title	UN SDG	Reference
GRI 401	**Employment 2016**		
401-1	New employee hires and employee turnover	5 8 10	p. 36
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	3 5 8	p. 34–37
401-3	Parental leave	5 8	p. 36
GRI 403	**Occupational Health & Safety 2018**		
403-1	Occupational health and safety management system	8	p. 36
403-2	Hazard identification, risk assessment, and incident investigation	8	p. 36
403-3	Occupational health services		p. 36
403-4	Worker participation, consultation, and communication on occupational health and safety	8 16	HSE policy
403-5	Worker training on occupational health and safety	8	HSE policy
403-6	Promotion of worker health	3	p. 36
403–7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	8	p. 36
403-8	Workers covered by an occupational health and safety management system	8	p. 36
403-9	Work-related injuries	3 8 16	p. 36, p. 60
403-10	Work-related ill health	3 8 16	p. 36, p. 60
GRI 404	**Training and Education 2016**		
404-1	Average hours of training per year per employee	4 5 8 10	p. 36
404-2	Programs for upgrading employee skills and transition assistance programs	8	p. 34
404-3	Percentage of employees receiving regular performance and career development reviews	5 8 10	p. 34
GRI 405	**Diversity and Equal Opportunity 2016**		
405-1	Diversity of governance bodies and employees	5 8	p. 34–36
405-2	Ratio of basic salary and remuneration of women to men	5 8 10	p. 35
GRI 406	**Non-discrimination 2016**		
406-1	Incidents of discrimination and corrective actions taken	5 8	p. 62
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	8	p. 36

Disclosure number	Disclosure title	UN SDG	Reference
GRI 408	**Child Labor 2016**		
408-1	Operations and suppliers at significant risk for incidents of child labor	5 8 16	p. 37, p. 46 Child Labor Due Diligence Report
GRI 409	**Forced or Compulsory Labor 2016**		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	5 8	p. 37, p. 46 Modern Slavery Statement 2023 – Australia, Canada, and United Kingdom
GRI 410	**Security Practices 2016**		
410-1	Security personnel trained in human rights policies or procedures	16	p. 37, p. 46 Modern Slavery Statement 2023 – Australia, Canada, and United Kingdom
GRI 414	**Supplier Social Assessment 2016**		
414-1	New suppliers that were screened using social criteria	5 8 16	p. 37, p. 46
414-2	Negative social impacts in the supply chain and actions take	5 8 16	p. 37, p. 46
GRI 415	**Public Policy 2016**		
415-1	Political contributions	16	p. 45
GRI 416	**Customer Health and Safety 2016**		
416-1	Assessment of the health and safety impacts of product and service categories		p. 38–39
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	16	p. 38–39
GRI 417	**Marketing and Labeling 2016**		
417-1	Requirements for product and service information and labeling	12	p. 38–39
417-2	Incidents of non-compliance concerning product and service information and labeling	16	p. 38–39
417-3	Incidents of non-compliance concerning marketing communications	16	p. 38–39
GRI 418	**Customer Privacy 2016**		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	16	p. 45

Independent practitioner's limited assurance report on selected Sustainability Information of Novartis AG

To the Board of Directors of Novartis AG

We have undertaken a limited assurance engagement on Novartis AG's (hereinafter "Novartis") Sustainability Information on pages 28, 30, 32, 35, 40, and 60 to 62 marked with the symbol Δ (hereinafter "Sustainability Information") in the Novartis in Society Integrated Report for the year ended December 31, 2024 (the "Report").

Our assurance engagement does not extend to information in respect of earlier periods or to any other information included in the Report, the Novartis Annual Report, Form 20-F or displayed elsewhere on Novartis's website for the current year or for previous periods unless otherwise indicated, including any images, audio files or embedded videos.

Understanding how Novartis has Prepared the Sustainability Information

Novartis prepared the Sustainability Information using criteria as outlined here (hereinafter "Reporting Criteria"). The Reporting Criteria have been developed to assist Novartis in preparing the performance information for selected ESG performance indicators; and for ESG performance indicators used to measure progress against its ESG targets. Consequently, the Sustainability Information needs to be read and understood together with the Reporting Criteria. As a result, the Sustainability Information may not be suitable for another purpose.

Our Limited Assurance Conclusion

Based on the procedures we have performed as described under the *'Summary of the work we performed as the basis for our assurance conclusion'* and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Sustainability Information in the Report for the year ended 31 December 2024 is not prepared, in all material respects, in accordance with the Reporting Criteria.

Our conclusion is to be read in the context of the remainder of this report, in particular the "Inherent limitations in preparing the Sustainability Information" and "Intended use and distribution of our report" sections below.

We do not express an assurance conclusion on information in respect of earlier periods or on any other information included in the Report, Novartis Annual Report or Form 20-F, including any images, audio files or embedded videos.

Inherent Limitations in Preparing the Sustainability Information

Due to the inherent limitations of any internal control structure, it is possible that errors or irregularities may occur in disclosures of the Sustainability Information and not be detected. Our engagement is not designed to detect all internal control weaknesses in the preparation of the Sustainability Information because the engagement was not performed on a continuous basis throughout the period and the assurance procedures performed were on a test basis.

The nature of non-financial information; the absence of significant body of established practice on which to draw; and the methods of precision used to determine non-financial information, allow for different, but acceptable evaluation and measurement techniques and can result in materially different measurement, affecting comparability between entities and over time.

Novartis's Responsibilities

The Board of Directors of Novartis is responsible for:

- Selecting or establishing suitable criteria for preparing the Sustainability Information, taking into account applicable law and regulations related to reporting the Sustainability Information;
- The preparation of the Sustainability Information that is free from material misstatement in accordance with the Reporting Criteria;
- Designing, implementing, and maintaining internal control over information relevant to the preparation of the Sustainability Information that is free from material misstatement, whether due to fraud or error; and
- The contents and statements contained within the Report and the Reporting Criteria.

Our Responsibilities

We are responsible for:

- Planning and performing the engagement to obtain limited assurance about whether the Sustainability Information is free from material misstatement, whether due to fraud or error;
- Forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- Reporting our conclusion to the Board of Directors of Novartis AG.

As we are engaged to form an independent conclusion on the Sustainability Information as prepared by management, we are not permitted to be involved in the preparation of the Sustainability Information as doing so may compromise our independence.

Professional Standards Applied

We performed a limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the International Auditing and Assurance Standards Board ("IAASB") and, in respect of the greenhouse gas emissions information included within the

Sustainability Information, in accordance with International Standard on Assurance Engagements 3410 Assurance Engagements on Greenhouse Gas Statements, issued by the IAASB.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the International Ethics Standards Board for Accountants' ("IESBA") International Code of Ethics for Professional Accountants (including International Independence Standards), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our 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.

Our work was carried out by an independent and multidisciplinary team including assurance practitioners and sustainability experts. We remain solely responsible for our assurance conclusion.

Summary of the Work we Performed as the Basis for our Assurance Conclusion

We are required to plan and perform our work to address the areas where we have identified that a material misstatement of the Sustainability Information is likely to arise. The procedures we performed were based on our professional judgment. Carrying out our limited assurance engagement on the Sustainability Information included, among others:

- Inquiries of employees responsible for the determination and consolidation as well as the implementation of internal control procedures regarding the Sustainability Information;
- Inspection of selected internal and external documents to determine whether qualitative and quantitative information is supported by sufficient evidence and presented in an accurate and balanced manner;
- Assessment of the data collection, validation and reporting processes as well as the reliability of the reported data on a test basis and through testing of selected calculations;
- Analytical assessment of the data and trends of the Sustainability Information included in the scope of the limited assurance engagement;
- Considering the appropriateness of the carbon conversion factor calculations and other unit conversion factor calculations used by reference to widely recognised and established conversion factors;
- Reading the narrative within the Report with regards to the Reporting Criteria, and for consistency with our findings; and
- Evaluating whether Novartis's methods for developing key estimates were appropriate and had been consistently applied.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

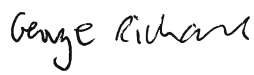
Intended Use and Distribution of our Report

Our report has been prepared for Novartis solely in accordance with the terms of our engagement. We have consented to the publication of our report within the Novartis in Society Integrated Report for the purpose of Novartis showing that it has obtained an independent assurance report in connection with the Sustainability Information.

Our report was designed to meet the agreed requirements of Novartis determined by Novartis's needs at the time. Our report should not therefore be regarded as suitable to be used or relied on by any party wishing to acquire rights against us other than Novartis for any purpose or in any context. Any party other than Novartis who obtains access to our report or a copy and chooses to rely on our report (or any part of it) will do so at its own risk. To the fullest extent permitted by law, KPMG AG will accept no responsibility or liability in respect of our report to any other party.

KPMG AG

Richard Broadbelt
Licensed audit expert



George Richards

Basel, January 30, 2025

Abbreviations

ACC	Audit and Compliance Committee
AGM	Annual General Meeting of shareholders
AI	Artificial intelligence
AMR	Antimicrobial resistance
API	Active pharmaceutical ingredient
ASCVD	Atherosclerotic cardiovascular disease
BCM	Business continuity management
C3G	C3 glomerulopathy
CAGR	Compound annual growth rate
CAPAs	Corrective and preventive actions
CC	Constant currencies
CEO	Chief Executive Officer
CHF	Swiss franc
CML	Chronic myeloid leukemia
CO_2e	Carbon dioxide equivalent
CSU	Chronic spontaneous urticaria
DALY	Disability-adjusted life year
D. Phil.	Doctor of Philosophy
ECN	Executive Committee of Novartis
EMA	European Medicines Agency
EPIC	Equal Pay International Coalition
ERC	Ethics, risk and compliance
EPRM	External partner risk management
ERM	Enterprise risk management
ESG	Environmental, social and governance
ESPP	Employee Share Purchase Plan
EU	European Union
EUR	Euro
FDA	Food and Drug Administration
FTE	Full-time equivalent
GHG	Greenhouse gas
GEP-NETs	Gastroenteropancreatic neuroendocrine tumors
GMP	Good manufacturing practice
GRI	Global Reporting Initiative
GSNC	Governance, Sustainability and Nomination Committee
HCP	Healthcare professional
HSE	Health, safety and environment
IASB	International Accounting Standards Board
IEA	International Energy Agency
IFPMA	International Federation of Pharmaceutical Manufacturers and Associations
IFRS	International Financial Reporting Standards
IgAN	Immunoglobulin A nephropathy
IPCC	Intergovernmental Panel on Climate Change
IROs	Impacts, risks, and opportunities
ISO	International Organization for Standardization
JP	Japan
LCA	Life-cycle assessment
LEAP	Locate, evaluate, assess and prepare
LDCs	Least developed countries
LGBTQI	Lesbian, gay, bisexual, transgender, queer and intersex
LICs	Low-income countries
LMICs	Low- and middle-income countries
M.D.	Doctor of medicine
MS	Multiple sclerosis
NEM	Novartis Emergency Management
NME	New molecular entities
OECD	Organisation for Economic Co-operation and Development
Ph.D.	Doctor of philosophy
PhRMA	Pharmaceutical Research and Manufacturers of America
PMDA	Pharmaceutical and Medical Devices Agency (Japan)
PNH	Paroxysmal nocturnal hemoglobinuria
PSCI	Pharmaceutical Supply Chain Initiative
PSMA	Prostate-specific membrane antigen
PVC	Polyvinyl chloride
R&D	Research and development
RLT	Radioligand therapy
RNA	Ribonucleic acid
SBTi	Science Based Targets initiative
SEC	Securities and Exchange Commission
SEE	Social, environmental and economic
siRNA	Small interfering ribonucleic acid
SMA	Spinal muscular atrophy
TCFD	Task Force on Climate-related Financial Disclosures
TNFD	Task Force on Nature-related Financial Disclosures
UN	United Nations
UNGC	United Nations Global Compact
UNGPs	United Nations Guiding Principles on Business and Human Rights
USD	US dollar
WBCSD	World Business Council for Sustainable Development
WEF	World Economic Forum
WHO	World Health Organization
xRNA	Our ribonucleic acids (RNA) therapeutics technology platform

Novartis reporting and transparency hub

Our annual reporting suite includes the Novartis in Society Integrated Report, Annual Report (filed with the SIX Swiss Exchange in Switzerland) and Form 20-F (filed with the Securities and Exchange Commission in the US). These and other documents are available on our online reporting and transparency hub.

www.novartis.com/reportinghub

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Forward-looking statements

This Novartis in Society Integrated Report contains certain forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995, that can generally be identified by words or phrases such as "potential," "expect," "will," "plan," "pipeline," "may," "could," "going forward," "target," "believe," "goal," "estimate," "intend," or similar expressions, or by express or implied discussions regarding potential new products, potential new indications for existing products, potential product launches, or regarding potential future revenues from any such products or indications; regarding potential future sales or earnings; or regarding the potential outcome, or financial or other impact on Novartis, of any of the transactions described; or by discussions of strategy, plans, expectations or intentions. Such forward-looking statements are based on the current beliefs and expectations of management regarding future events, and are subject to significant known and unknown risks and uncertainties. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may vary materially from those set forth in the forward-looking statements. You should not place undue reliance on these statements. In particular, our expectations could be affected by, among other things: uncertainties concerning trends toward healthcare cost-containment, including new laws and regulations and ongoing government, payer and general public pricing and reimbursement pressures and requirements for increased pricing transparency; uncertainties regarding our ability to competitively discover and develop high-value medicines and new indications for our existing products in our focus therapeutic areas and technology platforms; uncertainties regarding the success of key products, commercial priorities and strategy, including our ability to maintain and grow our business and to replace revenue and income lost to generic, biosimilar and other competition; our ability to obtain or maintain proprietary intellectual property protection; our ability to realize the strategic benefits, operational efficiencies or opportunities expected from our external business opportunities; uncertainties regarding development and adoption of advanced technologies, including artificial intelligence (AI); our performance on environmental, social and governance measures; uncertainties regarding potential significant breaches of information security or disruptions of our information technology systems and our ability to comply with cybersecurity and data privacy laws and regulations; uncertainties surrounding the implementation of our new IT projects and systems; our reliance on outsourcing key business functions to third parties; uncertainties regarding actual or potential legal or regulatory proceedings; safety, quality, data integrity or manufacturing issues; our ability to identify, attract, integrate, develop and retain key personnel and qualified individuals for critical roles; our ability to adapt to major geopolitical and macroeconomic developments; and other risks and factors referred to in Novartis AG's current Form 20-F on file with the US Securities and Exchange Commission. Novartis is providing the information in these materials as of this date and does not undertake any obligation to update any forward-looking statements as a result of new information, future events or otherwise.

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Prof. Dr. Ulf Landmesser (center) at the Charité hospital in Berlin, Germany, where he is conducting a clinical trial to assess the treatment of patients suffering from calcific aortic valve stenosis (CAVS), a disease with no approved pharmacological therapy.