



Nestlé Good food, Good life



# Nestlé's 2022 Climate risk and impact report



# Introducing Nestlé's 2022 Climate risk and impact report



This Task Force on Climate-related Financial Disclosures (TCFD) report serves as Nestlé's 2022 disclosure of the climate-related risks and opportunities to our business. It describes how climate change scenarios<sup>1</sup> may impact our business and outlines our strategy to mitigate those potential impacts while ensuring our resilience, based on our understanding of evolving challenges.

The report is structured in accordance with the TCFD recommendations. As such, it covers our governance structures, strategy and risk management, assessment of resilience, metrics and targets and a summary of our environmental performance.

We recognize that global food systems are deeply connected to the planet's health, and that a changing climate has profound implications for business and society. Therefore, this strategy concerns not only mitigating the transition and physical risks of climate change to our business, but also our actions to tackle climate change at source to help futureproof our business. For example, we continue to implement our ambitious *Net Zero Roadmap*, which aims to reduce in-scope emissions to zero by 2050, even as our business grows. This helps both to reduce our impact on the planet

but also accelerate our adaptation to a changing world, thus mitigating risks on our business.

In 2022, we took a significant step in building climate-based thinking across our business when we formally incorporated climate assessments into our Strategic Business Units' and Globally Managed Businesses' annual strategic portfolio reviews. Each unit considered how climate-related risks may impact their strategy and future business projections, and will continue to do so annually.

We also made progress on carbon sequestration through work to plant 12.5 million shade trees to protect crops in pulp, coffee, cocoa and palm sourcing locations in 2022. This will contribute significantly to our efforts to mitigate emissions by improving soil health and reducing chemical inputs, while providing carbon sequestration in regions

where we source raw materials. It also advances our broader progress to address deforestation. At the end of 2022, we secured 99.1% deforestation-free status for our five forest-risk raw materials: meat, palm oil, pulp and paper, sugar and soy.

In 2022, we also continued to pilot and implement solutions to mitigate emissions in our dairy supply chain. These included changing cattle feed to reduce emissions and using cattle manure as fertilizer to improve soil health.

These, and other initiatives, are helping our business transition into a low-carbon economy. While we recognize that climate change poses risks to current business models, we believe there are opportunities for companies like ours that proactively tackle climate change in a competitive environment.

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# Governing

# responsibly

Nestlé's oversight of climate-related risks and opportunities is embedded at the highest level of our company. We are continually evolving our corporate governance structure in recognition of the urgency of climate action and in response to our increasing understanding of the impact of climate change on our business.



# Our governance of climate-related risks and opportunities

## Board-level governance

The Board is responsible for Nestlé's strategy, organization and oversight of climate-related matters and monitors progress toward our climate change goals and targets.

The Board's Sustainability Committee reviews Nestlé's environmental, social and governance (ESG) agenda and progress against our internal targets in sustainability and how its long-term strategy relates to its ability to create shared value. The Audit Committee is informed of the content of our non-financial reporting and reviews the limited assurance process of selected assured metrics. This split reflects the importance of sustainability in Nestlé's corporate governance structure and allows Board members to dedicate time and focus to these topics. The Sustainability Committee and the Audit Committee each meet at least three times per year.

## Management-level governance

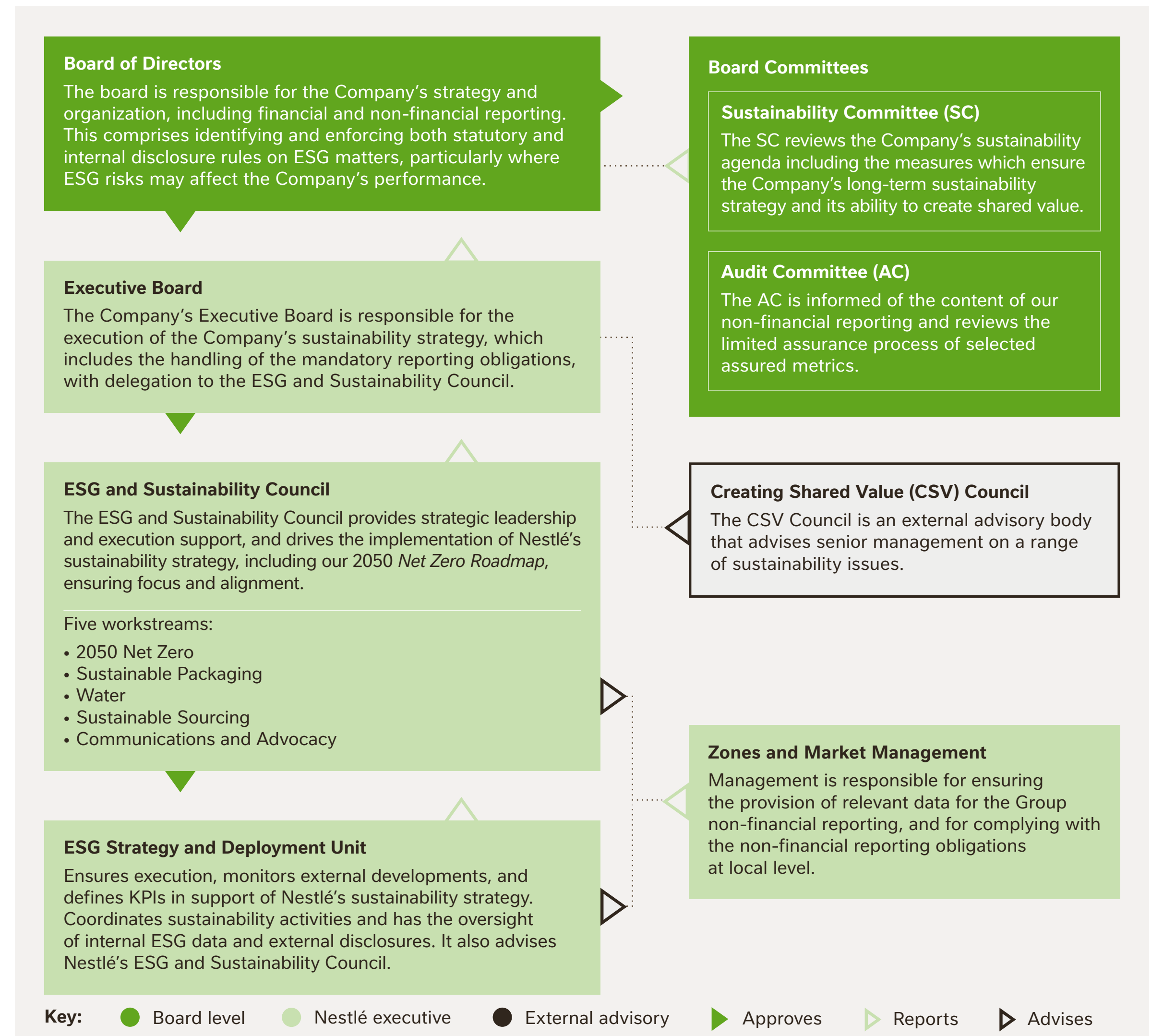
Nestlé's Executive Board is responsible for the overall execution of the sustainability strategy, which covers climate-related issues and includes the progress toward our climate change goals and targets. To ensure focused implementation of Nestlé's sustainability strategy, selected ESG-related key performance indicators (KPIs) are included in the Short-Term Bonus plan of the Executive Board (15% of the target). They are set annually by the Compensation Committee and reflect selected performance measures from the Company's ESG/Sustainability agenda. For Climate in 2022 they relate to deforestation, plastic packaging designed for recycling and reduction of water use in our factories.

The Executive Board is supported by the ESG and Sustainability Council. The Council provides governance, strategic leadership and execution guidance, makes recommendations to the Executive Board and takes decisions on behalf of the Executive Board within its delegated authority on climate-related issues and other relevant ESG matters. It coordinates the ESG sustainability-relevant activities and has oversight of internal ESG sustainability data gathering and external disclosures.

The ESG and Sustainability Council advises the Executive Board on making informed and science-based decisions and it drives focused and aligned actions to deliver on Nestlé's ESG targets, including Nestlé's *Net Zero Roadmap*. It is chaired by the Group's Executive Vice President (EVP) Head of Strategic Business Units and Marketing and Sales. The ESG and Sustainability Council coordinates between the Zones, Globally Managed Businesses and functions represented at the Executive Board level. It meets and reports progress to the full Executive Board monthly.

At an operational level, the ESG Strategy and Deployment Unit drives implementation and execution of strategies in support of Nestlé's sustainability commitments, with input from a cross-functional team of sustainability experts. It coordinates sustainability-relevant activities and has oversight of internal sustainability data gathering and external disclosures. It also provides advice to the ESG and Sustainability Council.

The ESG Strategy and Deployment Unit reports to the EVP Head of Operations with strategic oversight from the EVP Head of Strategic Business Units and Marketing and Sales. It coordinates closely with the functions in charge of financial reporting. Its work is complemented by other internal departments, including Legal and Compliance, the Public Affairs and ESG Engagement team as well as strategic steering committees.





# Advocating for change

## Advisory

Throughout the year, we engage regularly with a wide range of stakeholders on ESG matters. This includes consulting our CSV Council, an external advisory council. The council provides advice to the Executive Board and helps ensure the sound development of Nestlé's long-term sustainability strategy and its positive social and economic impact.

In 2022, we continued to organize virtual roundtable events to gain external perspectives from sustainability experts. For example, before launching The Nescafé Plan 2030, we held a session with key opinion leaders to gather feedback and refine the details. We carried out a similar exercise for Nescafé's Dolce Gusto's new Neo home compostable range to gather input on how to communicate the benefits of the new capsule system without overclaiming.

A concerted effort by the public and private sectors together is necessary to radically decarbonize economies. This is essential for avoiding the worst potential consequences of climate change and to safeguard our collective future.

External advocacy forms a critical part of our *Net Zero Roadmap* and helps to create the right framework conditions for both our own and broader societal efforts to reduce emissions and mitigate climate-related risks.

## Our advocacy priorities

We engage in climate-related advocacy to encourage government policies and private sector leadership that enable rapid and sustained reductions in greenhouse gas (GHG) emissions.

There are six key areas for our advocacy activities, designed to support delivery of most emissions savings necessary to hit our targets. These are (1) encouraging more regenerative forms of agricultural production, (2) ending deforestation risk and supporting forest positive restoration, (3) enabling more sustainable logistics, (4) supporting the rollout of renewable electricity and energy, (5) improving consumer communications and claims, and (6) advocating for higher ambitions from countries and companies and fair and clear rules for target setting and reporting progress.

Our advocacy priorities informed our engagement around the COP27 discussions in Egypt in 2022. We welcome the progress made on how best to adapt to the consequences of climate change. We also recognize there is much more work needed to fully realize the potential of food systems to help address climate change and related impacts, including biodiversity loss.

Further details can be found in our [Creating Shared Value and Sustainability Report 2022](#).



Colombian farmer transferring a coffee plant in the coffee farm.





# Strategy

## and risk management

Climate change is considered to bring material risks and opportunities for Nestlé, with potential impacts on our entire value chain over the short to long term.

We disclose these risks in the Principal Risks & Uncertainties section of the Group Annual Review (page 62). We conduct a regular group-wide climate change risk assessment to evaluate this potential impact and monitor its evolution over time.

This assessment influences how we implement our climate change roadmap in several ways. For example, it helps to confirm which geographic regions we prioritize for investment or action by showing us which raw material ingredients have the greatest short-term exposure to climate risks.

This risk assessment is then translated into a single group-wide financial impact that shows the potential gains or losses Nestlé could face. This figure is used to benchmark the financial resources to be invested into implementing our climate roadmap.





# Enterprise Risk Management

The Board of Directors is accountable for ensuring effective risk management at Nestlé. The Group's Enterprise Risk Management (ERM) Framework is designed to identify, assess and mitigate risks to minimize their potential impact and support the achievement of Nestlé's long-term business strategy.

Climate-related risks are treated the same way as other risks at Nestlé and are fully embedded in our holistic ERM Framework, which encompasses multiple complementary processes:

- A top-down assessment is performed at Group level to create a good understanding of the organization's key risks.
- A bottom-up assessment occurs in parallel, resulting in the aggregation of individual markets' assessments.
- A materiality assessment is carried out, where Nestlé engages with external stakeholders to better understand the issues of most concern to them. For each issue, the assessment rates the degree of stakeholder concern and potential business impact.

More information on ERM is reported in 'Information and control instruments vis-à-vis the Executive Board' on page 18 of our *Corporate Governance Report*.

The ERM Framework supports in the identification and assessment of the Group's principal risks. Both qualitative and quantitative factors are considered in determining a substantive risk:

- Does the risk have the potential to substantively affect the Group's strategy or its business model (either at a global level, category level or across multiple categories)?
- Does the risk have the potential to substantively affect one or more of the capitals the Group depends on (e.g. talented, engaged workforce, capital funding)?
- Does the risk have the potential to substantively influence the assessments and decisions of stakeholders?

We invest in Research and Development, for instance in Abidjan.



# Methodology: climate risk and opportunity assessments

In 2022, we continued to strengthen our approach and assessment tools to identify and assess our climate-related risks and opportunities. Aligned with our Group risk management processes, we conducted high-level assessments for product categories and in-depth scenario analyses across our value chain.

- **Top-down climate assessments** were formally incorporated into the annual strategic portfolio reviews for Strategic Business Units and Globally Managed Businesses. Each unit considered how climate-related risks may impact on their strategy and future business projections. The assessments considered risks at an individual Zone level and aggregated global level. They helped to align our understanding of the material risks and opportunities at product category level and helped in identifying transversal risks and opportunities across the Group; key outcomes were incorporated into the Group's strategic planning.

- **Bottom-up scenario analysis** was conducted across our value chain. The objective was to assess the resilience of the Group's strategy under different climate scenarios. Transition and physical risks were modeled with future cash flow impacts estimated under each scenario. The most significant climate-related risks were reviewed by the relevant operational teams, such as procurement, agricultural and business continuity management. We worked with third-party experts Risilience<sup>2</sup> and their academic partner the Centre for Risk Studies at the University of Cambridge Judge Business School, who provided the methodology, scenarios and modeling platform. The detailed modeling outcomes were incorporated into the Group's strategic planning.

The outcomes of these assessments were considered in the Group's annual enterprise risk assessment and the annual impairment review. For the latter, we considered how climate risks may impact business forecasts prepared for testing our goodwill and indefinite life intangible assets (see Note 9 of the Nestlé Group Consolidated Financial Statement).

		Transition risks		
Time horizon		10-year horizon		
Scenarios <sup>3</sup>	Emissions trajectory	High	Intermediate	Low
	Temperature increase by 2100 <sup>4</sup>	+4.0°C to +5.0°C	+2.0°C to +3.0°C	+1.5°C
	Global action against climate change	Few or no steps taken to limit emissions	Reliance on existing/ planned policies (not commitments)	Immediate and coordinated action to curb emissions
Business scope		<ul style="list-style-type: none"> <li>• Upstream, direct operations and downstream</li> </ul>		
Modeling simulations		<ul style="list-style-type: none"> <li>• Net Zero – Nestlé's 20% absolute emissions decrease by 2025 and 50% by 2030</li> </ul>		
Modeling metric		<ul style="list-style-type: none"> <li>• Directional cumulative 10-year discounted cash flow (DCF) impacts on net zero business model under the three different scenarios.</li> </ul>		
Risk categories		<b>Policy risks</b> Action to limit climate emissions include carbon tax, regulation linked to land and water use, restrictions and/or bans on specific materials, enhanced emissions-reporting obligations, etc. The scenario analysis modeled carbon tax as a proxy for policy risks.		
		<b>Technology risks</b> Costs related to decarbonization of the value chain, including replacement and substitution of emission-intensive assets, materials and services. The scenario analysis modeled the share of energy from renewables as a proxy for technology risks.		
		<b>Market risks</b> Shifts in supply and demand as consumers switch to more sustainable products, or shun specific categories, brands or materials due to environmental credentials. The scenario analysis modeled the proportion of consumers adopting more sustainable choices as a proxy for market risks.		

## Transition risks (10-year horizon)

Transition risks are driven by changes in policy (including carbon price and tax, license to operate), consumer behaviors and sustainable preferences or new technology (including better GHG performance), in the context of a transition to a low-carbon economy.

They are analyzed against low-, intermediate- and high-emission pathways and these can vary significantly depending on the nature and speed at which jurisdictions act to align to a Paris Agreement trajectory.



# Response to transition risk and strategic impact

CHF 7bn < High < CHF 11bn  
 CHF 3bn < Med < CHF 7bn  
 Low < CHF 3bn

	Impacts under climate trajectory*		Estimated directional cumulative 10-year discounted cash flow impacts with our current mitigation strategy		Mitigation strategy under our <i>Net Zero Roadmap</i>	Future opportunities
Risk category	Value chain	Impacts assuming no mitigation	Intermediate emissions +2.0°C – +3.0°C	Low emissions +1.5°C		
Policy	Operations Raw materials	<ul style="list-style-type: none"> <li>Increase in raw materials costs</li> <li>Restrictions to land use</li> <li>Increase in energy costs</li> </ul>	Med	High	<ul style="list-style-type: none"> <li>Switch to 100% renewable electricity by 2025; 78.4% achieved in 2022</li> <li>Support farmers in implementing agroforestry and increasing productivity without increasing land use through our broader regenerative agriculture program</li> <li>Advance regenerative agriculture at scale (20% of our key ingredients by 2025; 50% by 2030); 6.8% achieved in 2022                             <ul style="list-style-type: none"> <li>Prioritize deployment of climate-smart agriculture practices in highly exposed geographies</li> <li>Diversify sourcing origins from highly exposed geographies</li> <li>Switch countries of raw material origins</li> <li>Increased sourcing flexibility for raw and pack materials by almost 10% in 2022; 60% of materials can be bought from multiple vendors/origins</li> </ul> </li> <li>Product ingredient substitution: by 2030, plant-based proteins are anticipated to contribute 1.4 million tons CO<sub>2</sub>eq to our GHG reduction target</li> </ul>	<p>By implementing our Net Zero Roadmap, we are already addressing a significant part of the transition risks we could potentially face during this decade, resulting in a net reduction of our exposure.</p> <p>But we continue to review opportunities to reduce our risk exposure levels further, and address upside potential of the societal transition to a low carbon economy.</p> <p>On that basis we foresee:</p> <ul style="list-style-type: none"> <li>Reduced direct costs from lower-emissions sources of energy</li> <li>Working towards our Net Zero ambition may give us a competitive advantage versus some of our competitors that may not implement GHG emissions reductions at the same speed, and may be therefore highly exposed to regulatory changes and increased operational costs due to carbon price</li> <li>Increased revenues resulting from increased demand for low-emission products and services</li> <li>Growing consumer demand for low-carbon products such as plant-based foods and drinks</li> <li>We continue to upgrade our plant-based offering in terms of taste, texture, flavor and nutrition. We also leverage our expertise in plant protein to expand our dairy-alternative offerings.</li> </ul>
		Packaging				
	Market	Brands and portfolio				
	General	<ul style="list-style-type: none"> <li>Increase in cost of decarbonization due to high demand for carbon credits</li> </ul>			<ul style="list-style-type: none"> <li>Prioritize the reduction of emissions and rapid deployment of removals projects, such as reforestation projects, in our value chain instead of offsets</li> </ul>	
Technology	Operations	<ul style="list-style-type: none"> <li>Asset write-downs, investments in low-emission technology to meet market regulation</li> </ul>	Low	Low	<ul style="list-style-type: none"> <li>Switch to low-emission technologies</li> </ul>	

\* We do not display the High-level emissions scenario due to its low impact level.



The output of this modeling shows that in the short to medium term, transition risks may become increasingly material depending on the global action taken to address climate change.

However, assuming we at Nestlé meet our interim net zero roadmap targets by 2030, it suggests up to a 50% reduction of transition risks arising from the planned deployment of the *Net Zero Roadmap*.

Our Roadmap fosters our business's transition to a low-carbon economy. It involves accelerating the transformation of our product portfolio, as well as the work to reduce emissions from our sourcing, manufacturing, packaging and distribution. Our biggest intervention involves driving regenerative agriculture across our supply chain by investing CHF1.2 billion by 2025.

Acting in a way that is good for the planet is also good for business, as exemplified in our *Net Zero Roadmap*, which addresses aspects of our environmental footprint that may trigger financial risks, including:

- **Policy:** Reducing our carbon footprint brings us in line with evolving regulatory requirements and reduces our exposure to future carbon taxes and reliance on increasingly expensive carbon credits. It also addresses regulatory risks related to ending deforestation in particular commodity supply chains, as demonstrated by the recent EU regulations.
- **Market:** Offering our customers more foods and beverages that have a lower carbon footprint. We aim to continuously reduce the environmental footprint of our ingredients and recipes and investigate ways to communicate transparently about it.
- **Technology:** We are accelerating the introduction of low-carbon technologies to our factories and renewable energy sources to power our operations. Future competition for these technologies may raise prices.
- **Supply:** Transitioning to climate-smart agricultural practices to increase resilience to flood, drought and other factors. This work is directly correlated with supply risks that are material to our business.

Based on the current and outlined commitments and policies from the private sector and governments, we believe the current climate pathway is between the 'intermediate' and the 'low' emissions scenario modeled, which reinforces the suitability and timing of the *Net Zero Roadmap* to reduce both financial and regulatory exposures.

Lastly, Nestlé's leading *Net Zero Roadmap* and its rapid and efficient translation into concrete changes may unlock opportunities and competitive advantages in the marketplace, by answering consumer demands for low-emissions products and providing alternatives.



New Nescafé coffee factory in Veracruz uses state-of-the-art equipment to reduce water and energy consumption.



# Our response:

## Nestlé facilities

Our Nestlé Waters facility in Henniez, Switzerland, has continuously pioneered carbon-friendly technologies and innovations. In particular, the facility is part of a plan to protect water quality in aquifers by engaging with farmers and collecting their cattle manure. This manure is sent to a third-party biogas plant, together with other organic waste such as coffee grounds from *Nespresso*, to produce renewable energy and hot water. The hot water is sent to our Nestlé Waters factory in Henniez and represents 37% of the thermal energy consumption of the factory.

Nestlé Waters facility, in Henniez, Switzerland.



# Our response:

## lower-carbon products



Nestlé's plant-based strategy, which aims primarily to meet evolving consumer expectations, also contributes to mitigating transition risks. In 2022, we continued our rollout of plant-based launches. Selected examples include a soy-based Milo ready-to-drink product in Thailand (83%\* reduction in GHG emissions for the recipe) and a rice-based sweetened condensed milk in Brazil (80%\* reduction in GHG emissions for the recipe). Under our brand Garden Gourmet, we launched several new plant-based products such as Sensational Crispy Mini Filet (74%\* reduction in GHG emissions for the recipe) and Sensational Schnitzel (73%\* reduction in GHG emissions for the recipe) offering alternatives to animal proteins to our

consumer. In addition, we are test launching a hybrid milk powder in the Philippines (27%\* reduction in GHG emissions for the recipe).

In 2022, 3% of our total carbon reductions achieved has come from recipe reformulation and innovation.

We are also focusing our effort on packaging to reduce overall footprint of our products, for instance reducing the carbon footprint of *Nespresso* capsules.



\* Internal calculation vs standard recipe or equivalent meat product.



# Physical risks (2040 time horizon)

Climate-related risks such as heatwaves, drought and water stress may impact raw materials availability and quality through lower yields and greater yield variability.

Using the most likely 1.5°C scenario by 2040<sup>5</sup>, we modeled the evolution of climate across the globe to quantify certain physical risks related to sourcing raw materials.

We mapped our sourcing locations and volumes for our key commodities representing 90% of our total spend. These commodities were selected based on their materiality to our business as well as their vulnerability to climate change. We overlaid current and 2040 forecasted climate conditions to estimate the percentage change in expected yields<sup>6</sup>.



Nespresso is working on the agro ecological transition of coffee farmers, for instance in Guatemala.

Physical risk modeling	
<b>Time horizon</b>	2040
<b>Warming scenario</b>	<ul style="list-style-type: none"> <li>Projected 2040 climate assuming likely temperature increase &gt; +1.5°C by 2040</li> </ul>
<b>Footprint scope<sup>7</sup></b>	<ul style="list-style-type: none"> <li>Critical raw materials<sup>8</sup> – cocoa, coffee, dairy, palm oil</li> <li>Direct operations (facilities)</li> </ul>
<b>Modeling simulations</b>	Assumed current footprint remains static until 2040
<b>Modeling metric</b>	<ul style="list-style-type: none"> <li>Projected percentage change in crop yields in 2040 compared to 2020 for selected raw materials</li> <li>Projected change in annual impacts in 2040 compared to 2020 due to operational disruption and asset damage to facilities</li> </ul>







These initial results confirm that we are likely to see yield changes and shifts across commodities by 2040, driven by changes in growing conditions. This may impact raw material availability, quality and cost. It may also impact the communities we source from, requiring adaption of labor to new practices, crops and/or locations, as well as shortages of labor, depending on the speed of these shifts.

We will need to support farmers through these transitions and work with them to accelerate the deployment of agricultural best practices, including regenerative agriculture, to increase the resilience of their communities and our supply chains. More details on our mitigation strategy are provided in the table.

These same hazards may also disrupt our facilities and/or damage our assets. The modeling results, based on our 2021 footprint, show small increases in potential level of losses, but our current mitigation strategy remains appropriate. However, climate risk impact varies greatly by region and not all areas will experience the effects equally. In addition, we did not model extreme weather events.

Scope		Risks and impacts up to 2040	Mitigation strategy
Raw material sourcing	Coffee (Arabica, Robusta)	<p><b>Arabica:</b> Potential reductions in yield in many sourcing regions, which may impact global production and supply</p> <p><b>Robusta:</b> With a wider range of suitable growing conditions, global yields for Robusta are not expected to be significantly affected</p>	<ul style="list-style-type: none"> <li>• Increase farmers' resilience through:               <ul style="list-style-type: none"> <li>- Supporting the just transition toward regenerative agriculture practices (such as cover crops, use of organic fertilizers, agroforestry and intercropping practices for all crops) for our prioritized raw material volumes</li> <li>- Deployment of incentive schemes for living incomes</li> <li>- Development and distribution of plantlets that are more resistant to drought and disease (for example, for coffee, leveraging Nestlé's wide agronomic network), with 23.2 million distributed in 2022</li> </ul> </li> <li>• Agroforestry (for example, we will distribute 1.25 million native forest and local fruit trees in Côte d'Ivoire and Ghana)</li> <li>• Large-scale deployment of best management practices for manure in dairy value chains</li> <li>• Maintain sustainable sourcing and technical assistance programs enabling traceability, capacity building and stability of upstream supply chains</li> </ul>
	Cocoa	Potential negative implications for global production	
	Palm oil	Shift in the geographic distribution of oil palms; global yields are not expected to be significantly affected	
	Dairy	Limited impact on global productivity; shift in geographic distribution	
Water		Increase in water scarcity	<ul style="list-style-type: none"> <li>• Water regeneration program (Nestlé Waters)</li> <li>• Regenerative agriculture program</li> </ul>
Nestlé facilities		Small increase in the potential level of losses attributable to climate, heatwaves and drought/water stress-related risks	<ul style="list-style-type: none"> <li>• Property loss prevention plan</li> <li>• Business continuity plan</li> <li>• Water usage reduction in factories</li> </ul>



# Our response:

# manure management

Overall, one-third of Nestlé's carbon footprint arises from our dairy supply chain, with nearly all of it generated before the milk leaves the farm. In intensive systems like those found in the US, manure storage accounts for 30% of the total dairy footprint.

In 2022, we started the deployment of vermicomposting, a nature-based solution designed to better manage manure and limit the emissions of methane and other gases. This innovation uses worms and microbes to naturally degrade manure in the dairy farms in our supply chain.

While many manure GHG interventions need to capture and dispose of methane, this solution prevents the creation of methane entirely. The worms also remove up to 99% of wastewater contaminants and generate castings, which are a nutritious and valuable soil amendment that is utilized to improve crop yield, soil health and carbon sequestration, providing multiple benefits for farmers and local communities.

This practice targets one of the largest sources of emissions on many dairy farms and will continue to be deployed across the US and other sourcing geographies.

Using organic fertilizer made from cow manure and returning it to the farmers who then use it to grow crops.







# Our response:

# Global Reforestation Program

Our *Global Reforestation Program* is a pillar of our [forest positive strategy](#), building on our decade-long work to end deforestation in our primary supply chains, and aims to restore native ecosystems within the sourcing locations of our key raw material origins.

The program plants a diversity of tree species, with a focus on native species at a landscape level as well as in the form of agroforestry to provide shade to agricultural production trees, thus improving yield (lowering carbon intensity, sequestering carbon from the atmosphere and biodiversity).

In 2022, with our implementation partners One Tree Planted, Greening Australia and Canopy, we contracted for 10 million trees to be planted in regional areas of our raw material sourcing locations in Australia. These will be planted and grown over the next 28 years. This project alone is forecast to capture 2.1 million tons of carbon (removals) over its lifetime. In addition, in December, we secured 99.1% deforestation-free status for our five forest-risk raw materials: meat, palm oil, pulp and paper, sugar and soy.

Replanting trees.



# Our response: renewable electricity

Our journey to renewable energy is fundamental to meeting our net zero commitment as it is an efficient way to reduce our carbon footprint.

In 2022, we completed one large-scale solar energy farm in North America and invested in two more. Combined, these projects generate almost 800 MW of renewable energy for Nestlé, meeting approximately 80% of our electricity needs in the US and will result in an estimated carbon reduction of 3.3 million tons of (CO<sub>2</sub>eq).

The completed project – known as Taygete I – is a 2000-acre solar project developed by 7X Energy in Pecos County, Texas, US. This is Nestlé’s single largest direct investment in a renewable energy project to date.



Solar panels.



# Looking ahead: Assessing our resilience

Nestlé is uniquely positioned to accelerate the transition to a low-carbon economy. We have direct access to 500 000 farmers and source, through our suppliers, from millions of farms. This connects us with nature-based solutions, which will not only achieve climate impact mitigation but also enable new product offerings.

We will also continue to work toward our *Net Zero Roadmap*, though this is strongly influenced by external parameters, including evolving industry norms, alliances, regulations and government actions. Looking ahead, we believe our strategic response to climate change-related risks will continue to be influenced by the:

- **Pace of transforming the dairy industry:** Nestlé continues to roll out known solutions such as manure management, but we also test and pilot innovative ones, including feed additives, to accelerate the transition to a low-methane industry offering.
- **Policy uncertainty and inaction:** Nestlé continues to advocate for bold climate action from policymakers.
- **Competition for carbon reductions and removal projects across industries:** Nestlé will maintain our dialogue with supply chain partners to keep achieving carbon reductions and removals within the food value chain.
- **Transition cost:** Nestlé will continue to assist our farming communities to enable the necessary agricultural and economic transition to happen.
- **Increased recipe flexibility:** Nestlé continues to create recipes that allow for more sourcing flexibility and material substitution.
- **Crop adaptation:** Nestlé will look for areas with ideal growing conditions.

We have the resilience and agility to transition to a lower-carbon model and create new growth opportunities as part of our ambition to help deliver regenerative food systems at scale. We believe this is due to our broad geographic scope, supply chain flexibility, research and development, diversified product portfolio, leading brands and capital strength.



Coffee plantlets in the nursery.





# Metrics

## and targets

For over a decade, we have set ESG commitments for our company. We regularly measure and disclose our performance against these objectives. We will continue to monitor disclosure requirements in line with upcoming regulations such as EU Corporate Sustainability Reporting Directive, initiatives including International Sustainability Standards Board and best market practices. We will refine and regularly update the scenario analysis (approximately every two years) and develop the 2040–2050 hypothesis.

Further details can be found in our [\*Creating Shared Value and Sustainability Report 2022\*](#).



## How we measure and manage climate-related risks and opportunities

In addition to our existing metrics and targets, we continue to explore how best to disclose progress implementing our *Net Zero Roadmap*. We are improving our ability to identify and measure emissions, working with suppliers and customers, and exploring new ways to use analytics, automation and machine learning to enhance decision making and transparency.

In line with TCFD Guidance on Metrics, Targets, and Transition Plans (October 2021), we disclose the climate-related metrics and calculate our GHG metrics based on the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition).

Further details on ESG KPIs can be found in the [Creating Shared Value and Sustainability Report 2022](#), and in our [Reporting and Methodology for ESG KPIs](#).

Metrics	Unit	2022	2021*	2020*	Related Commitment
GHG reductions achieved compared with business as usual scenario and removals secured (CO <sub>2</sub> eq)	Mio t	6.4 reductions, 4.3 secured removals**	13.70	N/A†	<p>Our <i>Net Zero Roadmap</i> to reduce Nestlé's in scope emissions by</p> <ul style="list-style-type: none"> <li>• 20% by 2025</li> <li>• 50% by 2030</li> <li>• Net Zero in 2050 compared to 2018</li> </ul> <p>Part of our sustainable packaging strategy, we are committed to 33% virgin plastic reduction by 2025 compared to 2018</p> <p>We aim to reduce water use in our factories by 6 million m<sup>3</sup> between 2021 and 2023 (million m<sup>3</sup>)</p>
Total Scope 1 emissions (CO <sub>2</sub> eq)	Mio t	3.24	3.35 <sup>  </sup>	3.30 <sup>  </sup>	
Total Scope 2 emissions (CO <sub>2</sub> eq) (market-based)	Mio t	0.76	1.44 <sup>  </sup>	1.63 <sup>  </sup>	
Total Scope 3 emissions (CO <sub>2</sub> eq) <sup>††</sup>	Mio t	108.90	115.83 <sup>  </sup>	116.59 <sup>  </sup>	
Total (Scope 1+2+3) emissions (CO <sub>2</sub> eq) <sup>††</sup>	Mio t	112.90	120.62 <sup>  </sup>	121.52 <sup>  </sup>	
Percentage of key ingredients produced sustainably <sup>‡</sup>	%	22.0	16.3	N/A	
Percentage of our primary supply chains for meat, palm oil, pulp and paper, soy and sugar assessed as deforestation-free	%	99.1	97.20	90.00	
Percentage of ingredients sourced through regenerative agriculture <sup>§</sup>	%	6.8	N/A <sup>  </sup>	N/A <sup>  </sup>	
Renewable electricity sourced at year end	%	78.4	63.70	50.50	
Total energy consumed	GJ	80 131 120	82 779 476	81 385 568	
Energy consumed that is renewable energy	%	30.6	25.30	23.10	
Energy consumed that was supplied from grid electricity	%	6.0	10.20	12.20	
Virgin plastic reduction versus 2018 baseline	%	10.5	8.10	4.00	
Water use reduction in our factories	Mio m <sup>3</sup>	2.38	2.3	1.69	

\* As previously reported.

\*\* A change in our calculation methodology in 2022 means that data for 2021 and 2022 are not comparable.

† New metric for 2021, not reported in prior years.

|| Restated due to acquisitions, divestures, emissions factor restatements and adjusted scope.

†† Includes emissions not in scope for Net Zero Roadmap.

‡ Priority raw materials refers to 14 key agricultural raw materials that cover 95% of our annual sourcing by volume: cereals and grains; cocoa; coconut; coffee; dairy; fish and seafood; hazelnuts; meat, poultry and eggs; palm oil; pulp and paper; soy; spices; sugar; and vegetables.

§ For 2022, the priority raw materials in scope were fresh milk sourced directly from farmers, green coffee sourced from farmers already part of our field programs, plus cereals, grains and vegetables for Nestlé Nutrition, and cereals for Purina France.

|| New metrics for 2022.





# Summary

Nestlé aims to lead the industry in the transformation towards a low carbon economy. As such, achieving net zero emissions is imperative, as is evolving our strategic response to identified climate-related risks and opportunities, putting in place the right governance, risk management and measures to ensure resilience.

## Governance

- Oversight of climate-related risks and opportunities is embedded at the highest level of Nestlé's corporate structure.
- Our approach is governed by our Board of Directors, including its Sustainability Committee and our ESG and Sustainability Council.
- A dedicated corporate ESG Strategy and Deployment Unit drives operational execution of Nestlé's sustainability strategy.

## Strategy and risk management

- We continue to incorporate the risks and opportunities presented by climate change into our business strategies.
- Building on our scenario analysis, we assess and act upon transition and physical risks and opportunities for our business, including those affecting agriculture, our operations, and our products.
- In the short to medium term, we must navigate climate transition risks, which can vary significantly depending on the scenarios.
- In the longer term, physical risks could pose a greater threat in terms of raw material sourcing.
- Our assessment process evolves – we continuously update our five-year operational climate workplan to integrate external developments and insights.

## Assessment of resilience

- Our analysis further strengthens the importance and relevance of the climate-related actions we are implementing, and the necessity to act now to mitigate longer-term transition and physical risks.
- We are confident in Nestlé's ability to address these risks.

## Metrics and targets

- We provide an update on our relevant climate-related metrics and our 2022 performance against them in annual reports and submissions, including this TCFD report.
- Nestlé aims to lead the industry in the transformation towards a low-carbon economy.



# Footnotes

## Governance

1. The process of scenario analysis for climate change assessments is rapidly evolving and it is iterative. We expect the approaches, tools and data quality available to mature over time. Modeling the future is inherently uncertain and this increases over longer time horizons. We used hypothetical scenarios – actual events may be significantly different. The statements and results summarized in this report do not represent forecasts of expected risk and outcomes. The transition risk outlook relates to a 10-year rolling horizon related to the current reporting year.
2. Resilience is a SaaS platform used by global companies to facilitate strategic and financial decision making from climate change. Resilience uses a rigorous scenario-based framework that integrates a wide range of threat classes with the latest international standards in climate science to provide a competitive view of a corporation's balance sheet. Resilience works closely with its academic partner, the Centre for Risk Studies at the University of Cambridge

Judge Business School, to tackle complex issues of management science and business risk.

3. Scenarios were based on existing published scenarios, including the Intergovernmental Panel on Climate Change (IPCC), Socioeconomic Pathways and the International Energy Agency (IEA) World Energy Outlook scenarios.
4. Temperature increases provided for each scenario are the estimated global mean surface temperatures of Earth by 2100 depending on the different emissions trajectories.
5. As reported in the IPCC report: *Climate Change 2021, The Physical Science Basis, Summary for Policymakers*.
6. Modeling future climatic impacts on crops is complex. This approach was a pilot scenario analysis, and the assessment has a number of limitations. These include the availability of accurate data, both internal data linked with the traceability of our crops, and external data projecting climatic conditions 20 years in the future. The pilot was limited

to changes in temperature and precipitation. Other contributing factors that impact the crop yields include land availability for cultivation, weather variables on plant physiology, pests and diseases, etc. Raw material production may also be impacted by transition risks. Unsustainable agricultural production is one of the biggest contributors to tropical habitat loss. This analysis did not factor in potential policy and reputational factors that may also impact land availability for raw materials. The results summarized in this report should be reviewed in the context of these limitations.

7. Scope includes only Nestlé's current sourcing footprint.
8. The raw materials selected account for a significant portion of our global raw material costs and, in some cases, were identified as being more vulnerable to the potential impacts of climate change.
9. Nestlé reached peak carbon around 2019.

## Disclaimer

This report is focused on climate-related risks and opportunities following the recommendations of the TCFD. Further information on other ESG topics can be found in Nestlé's [Creating Shared Value and Sustainability Report 2022](#).

This report contains forward-looking statements based upon current expectations and assumptions regarding anticipated developments and other factors. They are not historical facts, nor are they guarantees of future performance since they are subject to numerous assumptions, risks and uncertainties, which change over time. Forward-looking statements speak only as of the date they are made, and various factors could cause actual performance to differ materially from that expressed or implied by these forward-looking statements. Nestlé assumes no duty to, and does not undertake to, update forward-looking statements. Nestlé aims to evolve its disclosures in the future to provide meaningful information to stakeholders by adapting it to new facts and regulation impacting the changing climate landscape.

We welcome and encourage our stakeholders to provide feedback on this report by contacting us via [ir@nestle.com](mailto:ir@nestle.com).



Improving access to clean drinking water in South Asia.





Nestlé Good food, Good life

