

Q1 2021 ESG Update for investors and analysts

April 28, 2021

Dear investors and analysts,

I hope you and your families continue to stay healthy.

In our Q1 ESG update, we summarize our progress on environmental sustainability and include our recent commitments addressing climate change risk, in the run-up to COP 26 later this year. This quarter **Sustainalytics**, **Bloomberg** and the influential access-related rating, the **Access to Medicine Index** have recognised our progress on ESG matters.

We are grateful for your continued engagement on ESG-related topics. We include your 'Top 10 ESG Questions' from the quarter with our corresponding responses.

We hope this update is of interest and we value your feedback.

Thank you.

Novartis commitment to environmental sustainability

Our approach to climate risk and impact

Environmental sustainability is fully aligned with our purpose to reimagine medicine to improve and extend people's lives. Our goals include **full carbon, plastic and water neutrality by 2030** and we are **committed to disclosing our progress in line with TCFD** (Taskforce on Climate-related Financial Disclosures).

Environment targets

- **Become carbon neutral** in our own operations (Scope 1 and 2) and include environmental criteria in all supplier contracts by 2025.
- **Achieve full carbon neutrality** across the value chain (Scope 1, 2, and 3) by 2030
- **Reduce water consumption** in our operations by half by 2025 (vs. 2016), with no water quality impacts from the manufacturing of our products
- **Be water neutral** in all areas of our operations by 2030 while enhancing water quality wherever we operate
- Eliminate polyvinyl chloride in packaging (secondary and tertiary packaging; primary packaging when feasible) by 2025
- **Reduce the amount of waste** sent for disposal by half by 2025 (vs. 2016)
- **Be plastic neutral** by 2030, with all new products meeting sustainable design principles

While the pharma sector is not primarily responsible for high carbon emissions, our ambition is to ensure that Novartis is energy and climate resilient for the future and to lower our global environmental footprint. We believe that this is the right thing to do.

We consider that our environmental responsibility does not simply end with setting ambitious targets and achieving them. Our challenge is to tackle scope 1, 2 emissions with scope 3 posing the biggest long-term hurdle, as it accounts for over 80% of our total emissions (as with most pharma companies).

To tackle our scope 1, 2 emissions, our first priority is to reduce the demand for energy in our operations by implementing new technologies and processes. For the remaining demand which can't be further reduced, we are implementing solutions that guarantee green energy and shifting to clean energy sources, where available.

To actively manage our scope 3 emissions, we have defined contractual requirements for third parties and collaboration with preferred suppliers. We are working with our manufacturing suppliers in transmitting our experience and expertise, where we have similar products and processes and implementing the same improvement principles.

We report on the current status of our environmental efforts versus targets. Our performance indicators can be found [here](#).

While providing access to healthcare globally is where we can have the most impact, we also recognize the role that we play in tackling climate change.

As a leading healthcare company, Novartis is acutely aware of the impact that climate change will have on human health and changing disease patterns. These include vector-borne diseases such as Dengue, Malaria and Chagas which have experienced a global increase due to warming weather patterns.

We have a broader responsibility to respond to the increasing risks of climate change on global healthcare and to ensure that we can serve the shifting unmet needs in medicine. For further details, please see our Novartis in Society 2020 [report](#).

Novartis Q1 climate commitments

Novartis has joined the Climate Group EV 100, in line with our ambition to achieving carbon neutrality by 2030. As we continue our journey on environmental sustainability, we aim to accelerate the adoption of electric vehicles by 2025, transitioning away from internal combustion engines.

We have also joined the RE 100 Initiative, to help accelerate our shift to renewable energy solutions for a zero-carbon future. The RE 100 Initiative is made up of 300 of the world's leading businesses committed to 100% renewable electricity and delivering market change. Novartis' path to carbon neutrality includes a strong commitment to energy efficiency and renewable energy solutions.

Update on AGM 2021

March 2021 AGM

Our 2021 Annual General Meeting (AGM) was held on 2 March 2021.

Shareholders agreed to the Board's recommendations for all proposed resolutions. Shareholders had the opportunity to send their questions to the Board electronically in advance via our 'Virtual Speakers Desk', with all questions addressed by the Chairman and the CEO during the AGM.

Shareholders re-elected Dr. Joerg Reinhardt as Chairman of the Board, and all members of the Board who stood for re-election, for one year. Shareholders approved the 24th consecutive dividend since the creation of Novartis in 1996, with an increase of 1.7% to CHF 3.00 per share. Shareholders approved the proposed amendment for **12-year limits for future re-elections of Board Members**, which replaces the age limit of 70 years. For a detailed listing of all resolutions at the 2021 AGM, please see [here](#).

Audit Tender Process: Following a fair, transparent and balanced tender process, the ACC plans to propose to the shareholders at the 2022 AGM the election of KPMG AG as the new external auditor commencing for the 2022 financial year.

Additionally, Novartis introduced a new **Lead Independent Director** role in January 2021 to support adequate control mechanisms from a board perspective and ensure clarity when needed.

Reflections on Q1

ESG Ratings upgrade for Novartis

ESG momentum continues, following our recent **Access to Medicines Index No.2** ranking ([details here](#)).

Sustainalytics, a leading ESG Ratings provider, ranked Novartis **1st in the Pharmaceuticals sub-industry category and amongst peers** with a similar market cap. Sustainalytics has assessed Novartis to be the only company amongst peers to be **'Low Risk' in 2021**, improving from 'Medium Risk' in 2020 and upgraded our overall score to 16.9 from 20.5 in 2020. Additionally, our negative controversy score has been downgraded to 'level 3' with neutral or positive outlook. Novartis was recognized for its significant improvement on metrics related to scope of social supplier standards, renewable energy use and our clinical trial program, amongst others.

Novartis recognized for its gender inclusion efforts

In January 2021, Novartis was included again in the 2021 **Bloomberg Gender-Equality Index**. 380 companies are recognised, and Novartis is one out of four large pharma companies. This index recognizes companies that achieve the highest standards in the measurement of inclusion, such as female empowerment and gender pay parity across 44 countries and regions.

Novartis was also recently ranked #36 on the **Equileap** top 100 list for gender equality and achieved 3rd rank among the largest pharma companies. Equileap's criteria included policies on gender balance, pay gap, parental leave and workplace harassment.

Novartis expands on its commitment to sickle cell disease

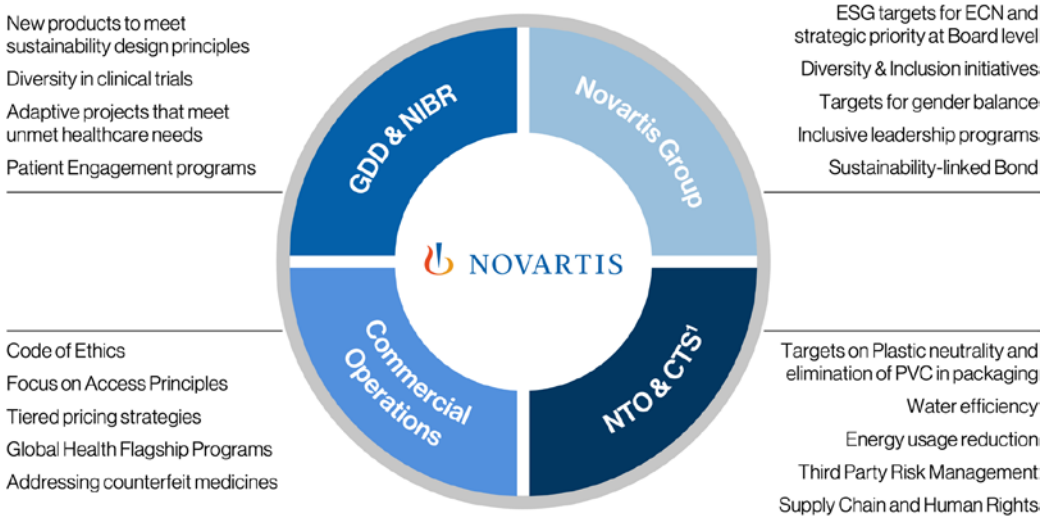
Novartis announced its collaboration with the Bill & Melinda Gates Foundation to address disparity in access to treatments and prioritize low-resource populations that bear the greatest burden of sickle cell disease (SCD). The partnership brings together Novartis drug discovery and gene therapy expertise and funding support from the Gates Foundation to develop a single-administration *in vivo* gene therapy to cure SCD.

SCD is a hereditary blood disease, which disproportionately affects people of African descent and Sub-Saharan Africa bears roughly 80% of the disease burden. It is also common among people with ancestry from South and Central America, India and several Mediterranean countries.

ESG Integration

One of the top questions asked by our stakeholders is how Novartis integrates ESG across its operations. We have incorporated our ESG objectives fully across our business and functions. Below are some select initiatives that form our ESG targets and long-term objectives. Further on, please see how we integrate our water ambition into the overall life cycle management.

ESG Integrated across Novartis structure and entire spectrum



¹ CTS (Customer & Technology Solutions) is our business services unit, formerly called NBS and now includes Digital. NTO (Novartis Technical Operations) is our manufacturing network and supply chain

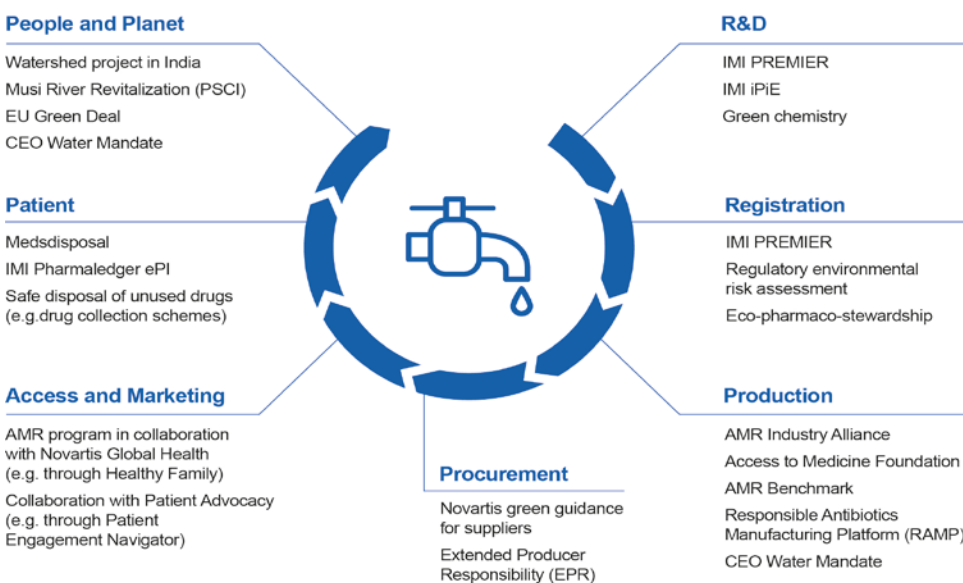
World Water Day

In recognition of World Water Day on 22 March, Novartis inaugurated an integrated watershed development project to help address water scarcity in the Telangana region of India, one of the world's most water-stressed countries. The project was managed jointly with India's National Agro Foundation and supports the Novartis 2030 water neutrality target through water conservation and efficient water utilization. The project is expected to generate 50,000 cubic meters of 'harvested' rainwater, which is the equivalent of the volume of water used in 1.4 million showers.

In addition to the watershed project, Novartis is supporting the State of Telangana's efforts to revitalize the Musi river, a vital water source to the Hyderabad area, which has been impacted by poor water management practices. More information on our water management programs can be found [here](#).

Novartis aims to be water neutral in all areas of our operations by 2030. Our efforts on water stewardship have been recognized by the CDP Water A list for the past two consecutive years. We have a comprehensive water strategy in place, which integrates 'responsible use' in our operations.

Water stewardship at every stage of the product life cycle



Looking ahead: Q2 ESG Events, US Diversity & Inclusion and Materiality Survey

Materiality Assessment

The Novartis Materiality Assessment (MA) is still ongoing and you can contribute to our ESG journey. Our MA takes place every four years to gather views from a range of external and internal stakeholders. Your inputs will help guide our strategic priorities and establish meaningful metrics for the long-term, to meet the expectations of all our stakeholders and society at large. [Click here to fill in our online survey](#). The survey takes approximately 20 minutes to complete and is available in seven languages. Please note that the survey closes on 3 May 2021.

US Diversity & Inclusion disclosure

We have recently published our Novartis in Society US Report, which can be found [here](#). As part of our ongoing commitment to Diversity & Inclusion and in the interest of transparency, we aim to publicly disclose our consolidated US EEO-1 information following its submission to the US Equal Employment Opportunity Commission in April 2021. This is a government-required submission filed by all companies with 50 or more employees in the US, that provides demographic information related to gender, race and ethnicity of a company's US population.

Novartis in Society Report physical copies

Novartis published its annual ESG report on 26 January, which reflects our disclosure against GRI, SASB and SDGS and shares our progress on ESG priorities over the past year. The report can be found [here](#). If you would like to receive a physical copy of the report, please email investor.relations@novartis.com.

Upcoming ESG Events

Our Investor Relations team is planning our virtual 2021 ESG Roadshows, planned for May 2021. The ESG roadshows will cover relevant topics for our stakeholders in Europe, North America and Asia. If you would like to participate, please email investor.relations@novartis.com

COVID-19 Manufacturing efforts

The COVID-19 situation continues to evolve and is taking differing courses across the multitude of geographies in which Novartis operates with ongoing lockdowns and disruptions. We continue to take strong actions to help address the pandemic.

Novartis joined several industry-wide efforts to meet global demand for COVID-19 vaccines and therapeutics. An initial agreement was signed to leverage Novartis manufacturing capacity to support the production of the Pfizer-BioNTech vaccine (*Comirnaty*), with production expected to commence in Q2 2021.

We have also signed an initial agreement to manufacture the mRNA and bulk drug product for the vaccine candidate CVnCoV from CureVac, with plans to produce up to 50 million doses in 2021, and up to a further 200 million doses in 2022.

Novartis is collaborating with Molecular Partners to develop, manufacture and commercialise two antiviral DARPin candidates, ensovibep and MP0423. These are designed to target multiple different sites on the SARS-CoV-2 virus for enhanced antiviral effects and potential use as treatments.

Most recently, we have signed an initial agreement with Roche to reserve capacity and implement the technology transfer for the production of the active pharmaceutical ingredient (API) for Roche's Actemra/ RoActemra (tocilizumab), a treatment for rheumatoid arthritis which is being tested in various clinical trials investigating the safety and efficacy in COVID-19 associated pneumonia.

We continue to value your feedback and look forward to engaging with you on our ESG efforts.



Samir Shah

Global Head of Investor Relations, Novartis

Top 10 ESG-related questions from shareholders and our responses

Question	Response
1 Any reflections from the 2021 AGM?	<ul style="list-style-type: none"> ▪ We actively engaged with our shareholders and proxy advisors in Q1, ahead of the AGM and listened to your concerns regarding board term limits, board independence and gender diversity. ▪ This is why the Board recently appointed Enrio Vanni as Lead Independent Director, in addition to his role as Vice Chairman effective 1 January 2021. The Board is focused on achieving further gender diversity and aims to increase the number of women on the board by 2022. ▪ The introduction of the 12-year term limit for our Board Members was very well received and considered as a step into the right direction.
2 How do you calculate the social impact of your medicines?	<ul style="list-style-type: none"> ▪ Novartis started measuring and valuing Social, Environmental and Economic (SEE) impacts in 2015. Impact valuation metrics are based on material topics identified through Novartis' materiality assessment. ▪ As a medicines company, the social impact of our medicines is significant for Novartis. The social impact calculation takes into account the health benefits of Novartis medicines in terms of Quality Adjusted Life Years (QALYs) gained and the number of patients reached. ▪ The valuation of the impact expresses the GDP contribution (through both paid and unpaid work) as a result of people becoming healthier. Further detail on our social impact of medicines calculation can be found here. ▪ A more comprehensive explanation is found in the WifoR Institute's 'meta-study on the social impact of innovative medicines', which can be found here.
3 Can you provide more detail on your participation in the Value Balancing Alliance?	<ul style="list-style-type: none"> ▪ Novartis is a founding member of the Value Balancing Alliance (VBA), consisting of multi-national companies, representing different industries and sectors. Since August 2019, the alliance has been working together to standardize impact valuation. The first set of proposed standards was published in March 2021. ▪ The VBA recently received a grant from the EU Commission, which aims to include the standardized environmental impact as part of the EU Green Deal. In April, the VBA and the World Economic Forum (Stakeholder Capitalism Metrics) released a joint statement, stating that both organizations share a common objective: systematic integration of stakeholder capitalism. ▪ By standardizing impact valuation, VBA seeks to contribute to a wider adoption of this practice globally. The VBA is also currently working on a process to reflect the dependencies on nature, social and human capital.
4 What is your approach to risk management?	<ul style="list-style-type: none"> ▪ Our continued success depends on our ability to detect and manage risk. In 2019, we created a new function for risk and resilience to establish a comprehensive and integrated risk management framework that is coordinated among risk functions and business units. ▪ The process resulted in a single holistic view of risks across the company, known as the Novartis Risk Compass, which summarizes the key risks across four important dimensions: strategic, operational, emerging and awareness risks. ▪ More information on our Enterprise Risk Management approach and the Novartis Risk Compass, including our top risks in 2020 can be found here.
5 Can you share your stance on anti-microbial resistance?	<ul style="list-style-type: none"> ▪ As a leading healthcare company, we are aware of the challenges associated with anti-microbial resistance (AMR). We believe in the need for a balanced approach to combatting AMR, working closely with other stakeholders across the four pillars of our global response strategy: ▪ Access: We believe that lack of timely access to appropriate treatments is a strong contributing factor to the spread of AMR. We want to do our part to ensure that essential antibiotics are readily available. Sandoz, the leading provider of generic antibiotics announced plans in 2020 to further invest in antibiotic production in Europe. ▪ Innovation: We believe that R&D will have a critical role in AMR. In 2020, Novartis became a founding member of the \$1bn AMR Action Fund, to invest in cross-industry antimicrobial R&D. This partnership between pharmaceutical companies, philanthropic & multilateral organizations and development banks aims to strengthen and accelerate antibiotic development and bring 2 – 4 new antibiotics to patients by 2030. ▪ Responsible use: We aim to safeguard and maximize the efficacy of our medicines. Sandoz works with global HCPs to promote appropriate choice and use of antibiotics in the context of local needs. For example, Sandoz is involved in an ongoing research project with ARES Genetics to develop patient-focused molecular diagnostic solutions to help physicians select the most appropriate antibiotic therapies on a case-by-case basis. ▪ Manufacturing: We have developed a comprehensive environmental risk-management approach to manage our manufacturing sites and suppliers, which is integrated into our audit protocol. We

	<p>aim to minimize the environmental impact of wastewater and solid waste from antibacterial manufacturing. Novartis sets discharge limits for antibacterials manufactured at its sites, based on predicted no-effect concentrations (PNECs) to limited AMR, as recommended by the AMR Industry Alliance.</p> <ul style="list-style-type: none"> ▪ We expect third-party suppliers of antibacterial APIs and drug products to follow the same standards and limits set.
<p>6 How do you integrate human rights into your supply chain?</p>	<ul style="list-style-type: none"> ▪ Novartis is committed to the protection of human rights and core labor standards as set out by the International Labor Organization and as a signatory of the UN Global Compact. We updated our Third-Party Code in November 2020 to strengthen and clarify the human rights expectations of our suppliers. ▪ We published our human rights guidelines in 2003, and are currently in our second year as Co-Chair of the Pharmaceuticals Supply Chain Initiative (PSCI) Human Rights and Labor Subcommittee. Human rights are monitored regularly by the Trust & Reputation committee, chaired by our CEO and embedded into executive remuneration. ▪ Since 2019, we have redesigned our human rights assessment program to include direct engagement with suppliers, communities, and civil society as part of our commitment to engage more regularly with suppliers at a local level. More recently, we have also launched pilot projects across Novartis to build capability with our key suppliers and to mitigate labor rights risks (modern slavery, etc.). We expect to engage further markets in 2021. More detail can be found here.
<p>7 How does Artificial Intelligence support your ESG objectives?</p>	<ul style="list-style-type: none"> ▪ We recently published the Novartis Principles for the Ethical use of Artificial Intelligence (AI). We believe that any development, application or use of AI systems should be governed within ethical principles, which are fully aligned to the Novartis Code of Ethics principles and commitments. ▪ Novartis is committed to enforcing human-centric design in the deployment and use of AI systems. As part of this, we will strive to design, develop and operate AI algorithms based on inclusive and representative data to eliminate possible biases and known discriminatory aspects such as race, gender, ethnicity, sexual orientation and political/ religious beliefs. ▪ We aim to minimize the environmental impact of our activities, supported by AI systems. In the short-term we will partner with sustainable technology platforms and in the long-term, we will assess how AI can be used to reduce our carbon footprint.
<p>8 Can you share your commitments on racial equity in the US?</p>	<ul style="list-style-type: none"> ▪ Novartis is committed to building and expanding access to healthcare in the United States. We have recently published our Novartis in Society US report, which details our initiatives in corporate responsibility. It can be found here. ▪ The US Foundation has provided funding to the NAACP Empowerment Programs for core healthy equity programming. The Foundation has also announced a longer-term commitment of \$15 million to address health equity, with a focus on the lack of diversity in clinical trials. ▪ Since 2019, the US Foundation has provided more than \$12 million to programs and related initiatives. One of our signature partnerships has been with the Institute for Healthcare Improvement, in support of the 'Pursuing Equity' initiative, which brings together healthcare organizations to determine and share solutions to drive change within the healthcare system.
<p>9 Can you share the ESG experience of the Novartis Board?</p>	<ul style="list-style-type: none"> ▪ ESG remains a strategic priority for the Novartis Board of Directors. Our board members are engaged in three committees that oversee ESG issues (Governance, Nomination and Corporate Responsibility Committee, Risk Committee, Audit and Compliance Committee). ▪ Several of our board members have direct ESG experience, as noted on our website. ▪ The Board and its committees conduct an annual self-assessment, in partnership with external consultants in order to ensure that board responsibilities, individual skills and processes remain both effective and current.
<p>10 Do you have any plans to increase diversity at ECN level?</p>	<ul style="list-style-type: none"> ▪ Diversity remains important to Novartis, and we consider it a key factor to our long-term success and responsibilities to shareholders. ▪ In March 2021, Novartis announced the appointment of Karen L. Hale as Chief Legal Officer. Ms. Hale will report to our CEO, Vas Narasimhan and will be a member of the Executive Committee (ECN) effective May 15, 2021. Ms. Hale brings over 20 years of global legal and compliance experience in the pharmaceutical industry, joining from AbbVie where she served as Vice President, Deputy General Counsel. Ms. Hale will be based in Basel, Switzerland and succeeds Shannon Klinger. Tom Kendris will continue as Chief Legal Officer ad interim until May.

The Novartis Investor Relations ESG team welcomes your feedback.

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