

Q2 2021 ESG Update for investors and analysts

July 22, 2021

Dear investors and analysts,

In our Q2 ESG update, we discuss our recent efforts on access to medicine and health equity, provide a summary of the Environmental Sustainability strategy that has just been published as well as the top 10 questions asked by you on ESG themes with our responses.

At Novartis, we see our purpose as reimagining medicine to improve and extend people’s lives. We aim to use innovative science and technology to address some of society’s most challenging healthcare issues, including unmet need.

We appreciate your engagement on all ESG-related topics, particularly in the increase on questions related to social issues.

We look forward to your feedback and to engaging with you on our ESG efforts, as we continue to reimagine global healthcare.

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Novartis dedication to access to medicines and health equity

World Sickle Cell Day

Novartis is committed to understanding sickle cell disease (SCD) and working towards treatment. SCD is a hereditary, lifelong and life-threatening blood disorder that causes chronic debilitating symptoms, disproportionately affecting people of African descent. Sub-Saharan Africa bears roughly 80% of the disease burden and it is estimated that SCD affects 1 in 365 births among African Americans.

Novartis innovation efforts include the **first and only targeted biologic for SCD, Adakveo** which was first approved in the US in 2019 and is now available in more than 40 countries around the world.

SCD remains poorly understood and patients face a complex set of health challenges especially in low and middle-income countries. To help bridge disease management and outcome disparities between Sub-Saharan Africa where 80% of the people with the disease live and the rest of the world, Novartis established the **Novartis Africa Sickle Cell Disease Program**. The program first launched in Ghana in 2019 and now includes partnerships in Uganda, Kenya and Tanzania with a goal to expand further. The program includes expanding access to hydroxyurea (a generic medicine that has shown to improve health outcomes of people living with SCD).

In recognition of **World Sickle Cell Day on 19 June** and to shine a spotlight on this debilitating disease, Novartis led on a range of activities globally, to better support patients, policymakers and healthcare professionals in better understanding and managing this disease. For more information, please see [here](#).

Diversity in Clinical Trials

Underrepresentation and lack of diversity in clinical trials, of both patients and investigators, is a key issue that healthcare and pharmaceutical industries must address to **reduce the health disparities in society**.

Novartis' main efforts to improve diversity include:

Building Strategic Partnerships

- Patient organizations, medical institutions and community organizations
- Companies to explore alternative recruitment models
- Improving access to our trials by expanding our engagement with clinical sites and investigators to include **geographical areas that represent patient diversity** and increased disease patterns

Leveraging Data and Digital

- Analyzing data, insights and using AI from Novartis' databank of over 2,800 clinical trials, covering over 3 million patient years of data to better understand disease burden, outcomes and differences in patient groups
- Enhance our demographic monitoring and reporting to identify and provide support where representation gaps exist

Remodeling our Process and Tools

- Embedding diversity evaluations along the development continuum from early stage to protocol-writing to tailored recruitment strategies
- Incorporating the patient perspective, where appropriate to improve and enrich clinical trial designs, access, participation, enrollment and retention of diverse populations
- Adopting enrollment and retention practices, that enhance inclusiveness and make trial participation less burdensome for participants, where appropriate.

Diverse and inclusive trials are critical to ensuring that we understand how those patients who are most likely to be treated for a disease or condition will respond to a medicine.

In the short term, we are **committing to first including diversity and inclusion principles for 100% of our Phase 3 studies with US country participation**, starting in the second half of 2021 with the goal to increase and embed this evaluation across our global trials. Further details are [here](#).

10-year commitment with Historically Black Colleges

Novartis and the Novartis US Foundation have joined forces with leading organizations such as Morehouse School of Medicine, the Thurgood Marshall College Fund and other Historically Black Colleges, Universities (HBCUs) and Medical Schools in the US to address root causes of disparities in health and education.

In 2019, Black and African Americans comprised 13.4% of the population, but only 6.2% of medical school graduates, 5% of practicing physicians and an even smaller proportion of clinical trial investigators.

Novartis US Foundation plans to invest USD 20 mn in scholarships, mentorships and research grants to help prepare up to 1,200 Black and African American students to become the next generation of leaders in health, science, technology and business.

Novartis US Foundation plans to invest approximately USD 13.7 mn to establish three digitally enabled clinical trial centers at Morehouse School of Medicine, including a clinical trial center of excellence that could be a model for possible expansion, to increase diversity among clinical trial investigators and participants and contribute to improved health outcomes for people of color.

Over the next 10 years, our collaboration will focus on 4 key areas:

- Enabling the next generation of Black and African American leaders
- Supporting the establishment of Digitally-Enabled Clinical Trial Centers of Excellence
- Researching and validating existing data standards
- Establishing Digitally-Enabled Research Centers on the impact of environment and climate change on health

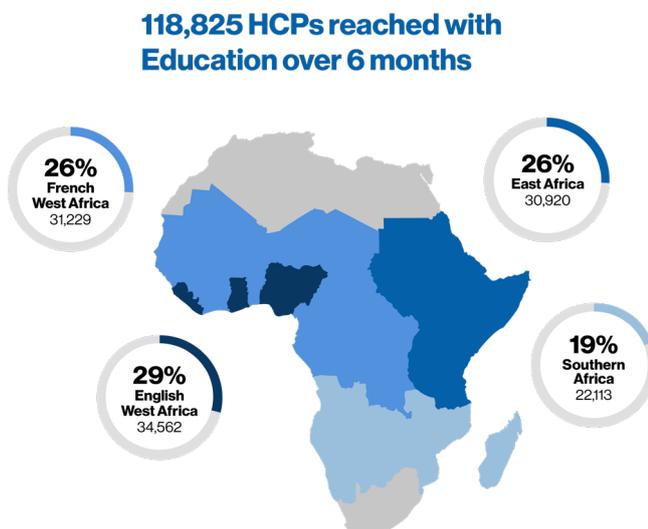
More details on our pledge can be found [here](#).

Healthcare system strengthening

Healthcare systems face significant changes in serving their populations with better health outcomes. Novartis is committed to reimagining patient reach, in order to deliver more medicines to patients who need them most. Our approach is to identify and lower health system barriers, elevate health systems engagement and build partnerships to improve quality care and access.

In December 2020, the Novartis Trust & Reputation Committee endorsed an enterprise-wide Health System Strengthening (HSS) strategy, framework and implementation plan. This will be adopted across Novartis, starting in Q2 2021.

To support our HSS efforts in Sub-Saharan Africa, Novartis embarked on a partnership with MedShr, a platform which provides free, interactive case-based learning and disease-specific discussion groups through a smartphone app. Our Heart Failure pilot education program enables healthcare professionals to share knowledge on cardiovascular disease diagnosis, treatment and care and has reached more than 118,000 doctors and community health workers in six months since 2020.



**1bn doses:
Malaria
milestone
reached**

On May 18, 2021 Novartis reached a significant milestone, having **delivered 1 billion courses of antimalarial treatment** which includes 430 million pediatric treatments, largely at no profit since 1999. More than 90% of the artemisinin-based combination therapy (ACT) was supplied without profit to malaria-endemic countries around the globe.

We continue to spearhead the use of ACTs to treat malaria. We are testing a new ACT formulation for infants weighing less than five kilograms in collaboration with PAMAFrica research consortium led by Medicines for Malaria Venture. This is one of the most vulnerable groups affected by malaria, for whom there is currently no approved treatment. Novartis currently leads five malaria development programs worldwide, featuring three compounds that employ new mechanisms of action and activity against artemisinin-resistance strains of the disease.

Further details are [here](#).

**Addressing
racial
disparities in
breast cancer**

Novartis recently announced its multiyear commitment to promote health equity in breast cancer care, where there is significant unmet need. Our dedication to reimagining medicine goes beyond developing therapeutics to helping close historical gaps in treatment and care of underserved communities. It is estimated that **racial disparities in health lead to an estimated USD 93 bn in excess medical care costs and USD 42 billion in lost productivity**.

Black women with breast cancer are approximately 40% more likely to die compared to white women with breast cancer in the US and are more likely to be diagnosed at a later stage with more aggressive disease. Black women under the age of 35 are diagnosed with breast cancer at twice the rate of white women at the same age.

Novartis will collaborate with leading multidisciplinary experts to raise awareness and create solutions that drive health equity across the continuum of breast cancer care and urge women to get the screening or care as soon as possible.

Environmental Sustainability Strategy 2021

Novartis has published our Novartis Environmental Sustainability Strategy, which sets our efforts to be a global leader in environmental sustainability, and the framework to deliver this aspiration between now and 2030.

The strategy incorporates climate, waste, water and biodiversity, which are all interdependent topics. To achieve our ambitions, **Novartis has committed to achieving 100% carbon neutrality in our own operations by 2025 and full carbon neutrality across the entire value chain by 2030.** This includes an approved **Science Based Target of 35% reduction of absolute emissions (without the use of offsets) across Scope 1, 2 and 3 by 2030.**

In addition, our strategy proposes solutions for our Scope 3 emissions, given the significant scale and complexity, addresses product sustainability and sets out how we are measuring our progress.

As part of the World Economic Forum Alliance of CEO Climate Leaders, Novartis has recently called on bolder action to deliver a net-zero world no later than 2050. In addition, Novartis has signed up to the Business Ambition for 1.5C campaign of the Science Based Targets initiative (SBTi) and joined the Race to Zero initiative championed by UNFCCC and COP 26. Further details are [here](#).

Our performance so far against targets

Q1 2021 vs 2016 baseline



28.5%

reduction in Scope 1 & 2 emissions vs 2016¹



42.9%

reduction in total waste disposal vs 2016



75.1%

workplace single-use plastic (SUP) eliminated and 29 sites now SUP-free



36.4%

less water consumed vs 2016



97.6%

reduction in emissions from business travel vs 2019

Our aspiration is to be a catalyst for positive change and a global leader in environmental sustainability

Planet

Global leader in environmental sustainability

Climate

| 2025 | 2030 |
|---|---|
| 100% Renewable energy used for Scope 1 & 2 | Supplier engagement based on Green Expectations document |
| 40% Electrical vehicles in fleet | 94% Electric vehicles in fleet |
| European Virtual Power Purchase Agreement -30% Scope 1 & 2 emissions 100% carbon neutrality | 70% of Innovative Medicines freight transported by sea |
| 80% Reduction in carbon emissions from thermal energy | 100% of supplier contracts to include environmental sustainability criteria |
| Implementation of natural climate solutions that benefit human and planetary health | 90% of Sandoz freight transported by sea |

Carbon neutral

Waste

| 2021 | 2025 |
|--------------------------------------|---|
| Eliminate Single Use Plastic by 2021 | 50% Reduction in waste disposal reduced by half |
| | Eliminate PVC from secondary and tertiary packaging across manufacturing facilities by 2025 |

Plastic neutral

Water

| 2025 | 2030 |
|------------------------------------|--|
| 50% Reduction in total consumption | 100% of water-stressed sites will be water neutral |

Water sustainable

Patients

Sustainable products delivered to our patients

- Evakate via Lifecycle Assessments (LCAs) the environmental impact of our products
- Develop and apply sustainable product and process design principles across R&D and Manufacturing

Environmental optimization of products during technical development

| Year | New products meet sustainable design principles |
|------|---|
| 2021 | 20 products |
| 2023 | 50 products |
| 2025 | 80 products |
| 2030 | All new products meet sustainable design principles |

End-to-end sustainable value chain

People

A mindset of sustainability embedded in how we operate

- Environmental sustainability learning journey
- Rewards and recognition
- My Green Lab certification program
- Green Ambassador Network
- Environmental Sustainability Office

Environmental sustainability consistently considered in the decision-making

Policy

A strong voice influencing the global environmental sustainability agenda

- Advocacy public affairs, global events
- Communications & stakeholder management
- Data maturity & reporting
- Education & professional development

Step up climate advocacy ahead of COP26 and beyond

Disclose all principal trade associations

Publish climate policy disclosures

Drive change through industry partnerships

Annual reporting on our progress

Recognized leaders of the human and planetary health agenda

Human health and planetary health are intrinsically linked

Catalyst for positive change and a global leader in environmental sustainability

Looking ahead: HP Partnership, Materiality Assessment, ESG Event

Hewlett Packard Collaboration

We are collaborating with Hewlett Packard Enterprise (HP) to accelerate the use of data and digital technologies to **improve access to healthcare and medicines**.

Our collaboration will focus on three global health enablers:

- Identifying and integrating complex data sources related to health
- Advancing the application of artificial intelligence, machine learning and geo-spatial analytics to these data
- Expanding access to technology in remote and underserved locations

The resulting real-world evidence will complement the drug discovery efforts of the Novartis Institute for Tropical Diseases.

The first use case for the partnership will seek to develop a **disease surveillance solution for dengue fever**, initially focusing on India. More than 3.9 bn people in over 129 countries are at risk of contracting dengue fever, with an estimated 400 mn cases and 40,000 deaths each year. The World Health Organization has identified dengue fever as one of the top 10 global health threats.

Materiality Assessment 2021

The Novartis Materiality Assessment (MA) is now closed for 2021. **We greatly appreciate your engagement** in helping to guide our strategic priorities and establish meaningful metrics for the long-term. Over 13,000 participants contributed to our findings, and we are currently analyzing the data to better understand how to integrate it into our ESG and business strategy. We aim to publish a comprehensive report about our process and key findings in due course.

Upcoming ESG Event: Sept 30

Our Investor Relations team is planning our annual ESG Event on September 30. Keynote speakers will include our CEO Vas Narasimhan, Group Head of Corporate Affairs and Global Health, Lutz Hegemann and Chief Ethics, Risk and Compliance Officer Klaus Moosmayer. If you would like to join and have any specific topics or questions to suggest, please [email us](#).

COVID-19 update

The COVID-19 situation continues to evolve and is taking differing courses across the multitude of geographies in which Novartis operates. While demand is starting to return to pre- COVID 19 levels in most geographies and therapeutic areas, we still see a slight impact on parts of our business in oncology, generics and certain geographies. We are assuming further easing of COVID-19 restrictions in the second half of the year, with a positive impact on business dynamics.

Novartis and Molecular Partners recently announced the start of EMPATHY clinical trial, a Phase 2 and 3 study to explore the use of its novel DARPin therapeutic candidate ensovibep (MP0420) for the treatment of COVID-19. Novartis will conduct the clinical trial program for ensovibep, with Molecular Partners as sponsor of the studies. More information can be found [here](#).



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Top 10 ESG-related questions from shareholders and our responses

Investor questions in Q2 on ESG have continued to evolve with increasing focus on social and environmental issues, reflecting what is most material to Novartis, changing societal expectations and leadership attributes in Healthcare.

| Question | Response |
|--|---|
| 1 What is your approach to patents in low-income countries? | <ul style="list-style-type: none"> ▪ Novartis does not file or enforce patents in least developed countries (LDCs), low-income countries (LICs) or in over 80% of the lower-middle income countries (LMICs). ▪ In the small number of remaining LMICs where we do file patents, we aim to restrict patent filings to those patent applications covering new molecules or new chemical entities. In addition, we are committed to granting non-exclusive licenses to qualified third parties for supply of our patented products exclusively to LDCs or LICs. ▪ We are a founding member of the ‘Patent Information Initiative for Medicines’ where will list patent information for all our small-molecule medicines. We are a founding signatory of the IP Principles for Advancing Cures and Therapies (IP PACT), which launched in April 2021. The IP PACT is a public statement of our patient-centric approach to IP that explains some of the ways in which we use the IP system for the benefit of patients and society. ▪ Novartis continues our pro bono efforts in the IP space through the Inventor Assistance program, a WIPO initiative. The program aims to match developing country inventors and small businesses with patent attorneys, who provide pro bono legal assistance. |
| 2 Can you share your efforts on Biodiversity? | <ul style="list-style-type: none"> ▪ Biodiversity is seen as a critical issue for our business, supply chain and sector and was identified as a strategic risk by Novartis’ Board and Executive Committee in 2020. Biodiversity is included in our enterprise risk management program, with regular updates provided to the Board on efforts that can reduce our risk exposure, across mitigation and adaptation efforts. ▪ We are focused on achieving our carbon, plastic and water neutrality targets by 2030. We are working to expand our portfolio of natural climate solutions through new and innovative projects to deliver health, biodiversity and climate resilience benefits. ▪ We have multiple forestry projects globally, owned and operated by Novartis which provide significant benefits to wildlife, nature and indigenous populations. In future, we aim to use Science-based Targets for Nature guidance to further investigate our value chain impacts and dependencies. |
| 3 Do you have a responsible tax policy? | <ul style="list-style-type: none"> ▪ Novartis believes profits should accrue where economic value is created and we continue to pay our fair share of taxes where we operate. We consider this part of our contribution to society. ▪ Novartis is committed to a collaborative and transparent approach to tax compliance and tax planning, including in our relationships with tax authorities. We support G7 and G20 initiatives on ensuring tax rights in markets where value is generated, on minimum tax standards and on tax dispute resolution by engaging directly with multilateral organisations and jurisdictions where we operate. ▪ The Novartis Tax Governance framework, which has been approved by the Finance and Governance committee chaired by the CEO, ensures that controls are in place to monitor and enforce adherence to the tax governance rules and procedures across Novartis. |
| 4 What is your approach to pricing? | <ul style="list-style-type: none"> ▪ At Novartis, we are committed to develop pricing based on a value-based framework, in line with affordability factors in the markets where we operate. We believe that it is necessary to ensure that pricing and access strategies are sustainable for patients and healthcare systems. ▪ Our approach is driven by our four value pillars: clinical value (improvement in mortality), patient value (improvement in quality of life), system value (reduction in hospitalization) and societal value (ability to lead productive lives). ▪ We are committed to transparency on pricing, and publish annually in our Novartis in Society Report. Additionally, we limit price increases to medical inflation in relevant markets. |
| 5 Do you measure social impact? | <ul style="list-style-type: none"> ▪ Novartis began measuring and valuing Social, Environmental and Economic (SEE) impact in 2015. Our impact valuation metrics are based on material topics identified through the Novartis Materiality Assessment. These include components such as greenhouse gasses, living wages, employee development and the social impact of our medicines. ▪ Our three objectives are a) to engage differently and deeply with a broad range of stakeholders, b) enhance our decision-making with additional impact-relevant quantitative insights and c) |

| | |
|--|---|
| | <p>meaningfully increase the transparency of our non-financial disclosures to build trust with society.</p> <ul style="list-style-type: none"> While our impact valuation approach continues to evolve, Novartis' SEE impact valuation has already resulted in valuable insights, and elevated ESG themes across core business functions. Our results are now available globally with specific data sets for 190 countries. In 2019, our total social impact was estimated at USD 221 billion. A considerable part of this (USD 219 billion) was contributed by the social impact of our Innovative Medicines and Sandoz product portfolios across 132 countries. The remaining USD 2 billion came from human impact capital. |
| <p>6 Can you share details on your anti-bribery and anti-corruption policies?</p> | <ul style="list-style-type: none"> Novartis does not tolerate bribery and any forms of corruption. Our Anti-bribery policy can be found here. It explicitly states expectations for all our associates. We also set out our standards in the Novartis Code of Ethics. Specific principles governing professional practices are set out in our Professional Practices Policy and third party risk is governed by our Anti-Bribery Third Party Guidelines. Our Ethics, Risk and Compliance program educates associates and monitors conformity with these standards and industry codes of practice. Additionally, our SpeakUp Office investigates all allegations of misconduct. We are committed to measuring the effectiveness of our anti-corruption programs, particularly on culture, risk management, impact on compliance and third parties. We aim to report on several of these indicators by 2022. |
| <p>7 What is your exposure to opioids?</p> | <ul style="list-style-type: none"> There is growing concern about the potential for misuse or abuse of opioid medications, in particular addiction and overdosing. Novartis will continue to work closely with healthcare authorities to establish appropriate risk management plans and monitor all our medications in line with well-established pharmacovigilance norms. Novartis does not have a material footprint in opioids, and we do not view this as a strategic segment for our business, having exited the US market in 2018. Currently, sales of opioids are only in our Sandoz division, which makes up approximately a fifth of overall Novartis sales. Opioid sales represent approximately 2% in global sales of Sandoz, mostly in Fentanyl in Western Europe. |
| <p>8 Are you transparent on payments to healthcare professionals?</p> | <ul style="list-style-type: none"> Novartis discloses payments to healthcare professionals (HCPs) and organizations (HCOs) in all countries, where it is required by law. We disclose on payments in 42 countries globally and have a roadmap in place for implementing appropriate processes in countries with emerging transparency regulations. Where applicable, Novartis complies with the Medicines for Europe Transparency Rules and Requirements, which defines disclosure rules for the generic, biosimilar and value added medicines industry and is an integral part of the Medicines for Europe's Code of Conduct. Novartis captures and reports spend related to interactions with US licensed physicians and teaching hospitals within the scope of the US Physicians Payment Sunshine Act. |
| <p>9 Do you disclose data on Diversity & Inclusion in the US?</p> | <ul style="list-style-type: none"> At Novartis, we aspire to have an employee population that reflects the populations we serve in terms of the representation of women and people of color, particularly at the leadership level. To help us realize this important goal, we have designed and implemented a number of initiatives that already are yielding results. In 2018, we became the first pharmaceuticals company to join the Equal Pay International Coalition (EPIC) to achieve equal pay for women and pay globally. We remain on track to meet our EPIC pay equity and transparency commitments by 2023, both in the US and globally. Novartis has taken the initiative to publicly disclose the consolidated US EEO demographics that we prepared for the US Equal Opportunity Commission. More detail can be found here. |
| <p>10 What is the feedback on your new performance management system?</p> | <ul style="list-style-type: none"> In 2021, we launched our new performance management system, Evolve as part of our culture transformation at Novartis. Our new system aims to empower our associates to be their best, take smart risks and execute on our strategic priorities. We regularly track feedback with our associates, with our most recent Evolve sentiment survey taking place in June 2021. The success of our system has been reflected by the overall positive feedback score of 71% among our associates. We continue to focus on areas that can optimize associate experiences better, such as usage of technology and internal systems. |

Thank you for your engagement. Please direct any feedback on our ESG update to: Madeleine Szeluch, Investor Relations ESG Director at madeleine.szeluch@novartis.com