UNICEF SUPPLY
SCOPE 3
Greenhouse Gas Emissions
Baseline Narrative Report
CONTENT

1 Executive Summary 3

   1.1 Note to the reader 6

2 Rationale and Background 8

   2.1 Scope 3 emissions explained 9

3 UNICEF Supply Division Scope 3 Emissions Baseline 10

   3.1 Scope of Assessment 10
   3.2 Baseline Methodology 11
   3.3 Key findings 11

4 Scope 3 target-setting approach 13

5 Supplier engagement to implement supply chain emissions reductions 15

   5.1 Engage suppliers to ensure they set targets 15
   5.2 Other ways to engage suppliers: education and incentives 17
   5.3 Priority emissions reductions opportunities 18

6 Implementing a target will have resource implications for UNICEF 20

7 Conclusions and next steps 21

   Appendix 22
   Glossary of terms 22
1. EXECUTIVE SUMMARY

UNICEF’s mission is to build a better world for every child everywhere. The world’s poorest children will be those most affected by extreme weather and natural disasters, droughts, famine and conflict, and increased rates of infectious diseases due to rising temperatures. Globally, approximately 1 billion children – nearly half of the world’s children – live in countries that are at an ‘extremely high-risk’ from the impacts of climate change, according to the Children’s Climate Risk Index1. These children face a deadly combination of exposure to multiple shocks with high vulnerability resulting from a lack of essential services. The survival of these children is at imminent threat from the impacts of climate change.

Ensuring that UNICEF is playing its part to align to a 1.5°C world as agreed at the Paris COP in 2015, is crucial in safeguarding future generations of children from the worst impacts of climate change. Forecasting exercises demonstrate repeatedly that emissions that take global warming above 1.5°C will become increasingly catastrophic, particularly for the most vulnerable and especially for children.

Limiting global temperature rises to 1.5°C entails greenhouse gas emissions reductions of 90 per cent across all scopes 1, 2 and 3 (throughout operations and supply chains) by 2050, and shorter-term reductions of at least 45 per cent vs. pre-industrial levels by 2030. It will be crucial to focus emissions reductions on scope 3 — those created in the manufacturing, transportation, and use of products and services sent to children in need.

---

We know from this scope 3 baseline that UNICEF’s Scope 1 emissions (from owned vehicles and facilities) and scope 2 (from purchased electricity /heating), where much progress has already been achieved, and which will continue to be a major focus, drive a much smaller share of UNICEF emissions.

Scope 3 emissions for UNICEF’s international supply, which are calculated through Supply Division (SD), were estimated to be 3.9 million tons of carbon dioxide equivalent (Mt of CO2e) in 2019 — equivalent to approximately 870,000 cars in one year. This represents more than 98 per cent of UNICEF’s total emissions in 2019 (scopes 1 and 2 totaled 0.03 Mt of CO2e). The scope 3 estimate incorporates emissions within the operational control of UNICEF SD and excludes scopes 1 and 2, and scope 3 outside SD control.

International business travel is accounted for through UNICEF’s Environmental Footprint and Accessibility Assessment Tool (along with scopes 1 and 2 emissions), and is therefore not included in this assessment, nor are scope 3 categories determined to be non-material. UNICEF has more to learn on scope 3 emissions, but this analysis addresses the major drivers of UNICEF’s overall scope 3 emissions (the procurement of international goods and services via SD).

Four major product categories were found to drive 80-90 per cent of UNICEF’s international supply scope 3 emissions — vaccines, nutrition, cold chain equipment, and international freight. Emissions reduction efforts for scope 3 should therefore focus on these product categories where the emissions footprint is most concentrated.

The Science-Based Targets Initiative, which is the leading standard for effective mitigation target-setting, recommends three major approaches to set a 1.5°C aligned scope 3 target. The most practicable approach for UNICEF is a supplier-engagement target in the near-term. To pursue this approach, a target year (within 5 years of UNICEF’s commitment) will need to be specified by which time suppliers accounting for over 67 per cent of UNICEF’s scope 3 emissions will need to have set Science-based Targets themselves. Longer-term scope 3 targets would need to be ‘CO2e intensity’ or ‘absolute reduction’ targets. This will require close monitoring of emissions reductions in the supply chain and enforcement of abatement activities among suppliers.

Engaging suppliers on what can be done to reduce emissions is critical to moving towards a science-based emissions trajectory. The analysis suggests that there are nine major abatement levers most suppliers could implement to reduce emissions. Implementing energy efficiency measures, procuring clean power, using recycled materials, switching ingredients or mode of transport from air-to-sea may drive emissions reductions at relatively low cost, although the ability to achieve these in certain geographies may be more complex than in others, and access to appropriate long-term capital relatively more expensive or potentially unavailable for some suppliers. UNICEF’s significant role in emergency response, requiring rapid action and decision-making,
may also, at times, limit options for greener transport options, among others.

Monitoring progress and ensuring that UNICEF is creating the conditions for suppliers to implement targets is likely to require capability-building among staff and policy and advocacy activities in key markets, as well as with suppliers to build the capacity to measure, report and implement emissions reductions. The benefit of the insights contained in this report is that emissions are relatively concentrated in specific product markets and therefore initial actions where opportunities for carbon emissions reductions are greatest, can be instituted with a limited number of suppliers.

The baseline explained in this report is for Supply Division’s international procurement of products, and so while there is a high degree of confidence in the calculations and findings of this report, a potential science-based target for the whole of UNICEF requires further work to expand the baseline across all areas of UNICEF. Once a baseline is complete at the entity-level, UNICEF may seek verification by a third party.

It is essential to underline that there will be trade-offs for actions associated with scope 3 emissions reductions. Decisions made in planning, in product choice and design, in sourcing and distribution, and end of life disposal across supply chains will impact the ability for upstream value chains to deliver emissions reductions that benefit our planet and children. UNICEF’s responsibility for and accountability to emergency response requires prompt action to save lives, and will often require air freight, for example. As a core principle, recognizing trade-offs are inherent, UNICEF works toward science-based target alignment, and at the same time, will never compromise on its core commitment to children for access to high quality products and services.
Climate action is an essential component of UNICEF’s broader sustainability agenda, and many of the challenges in addressing scope 3 mitigation also apply to our related sustainability challenges. Climate action is pursued along with efforts in circular economy and waste reduction, elimination of hazardous and toxic exposures, access-to and reliability-of clean water, clean air, social priorities for labor and children, as well as localization in program countries, economic, ethical, and equity priorities, among others.

The report's external publication underlines UNICEF’s commitment to transparency, and to the global learning agenda on a highly complex topic. It also demonstrates UNICEF’s commitment to the climate agenda to our partners in supply chains, as outlined in the Sustainability and Climate Action Plan, in both mitigating the emissions from our supply chains and operations, as well as contributing to adaptation and resilience of national social services, through high quality products and services. UNICEF will play its part and hold itself accountable, together with partners, to influence sustainable supply chains that minimize environmental harm for the benefit of children today, and future generations of children.

1.1 Note to the reader

This Narrative Report is complemented by a compendium of slides with additional details on the methodology, assumptions, and findings for product categories identified as hotspots in the scope 3 baseline assessment. The analysis was conducted in 2023 for the 2019 baseline. Many of the recommendations are already underway, and thus, this Narrative Report and Compendium should be viewed as a snapshot. UNICEF is working to continually improve our analysis and ramp-up climate actions.

Please also note that climate action is an essential component of UNICEF’s broader sustainability agenda, and that sustainability encompasses more than just climate action, though this analysis focuses on climate impacts. UNICEF pursues climate actions along with efforts in circular economy and waste reduction, elimination of hazardous and toxic exposures, access-to and reliability-of clean water, clean air, social priorities for labor and children, as well as localization in program countries, economic, ethical, and equity priorities, among others.
Members of the Young Foresters Club, Fatima and Amina, showcase their commitment to addressing the climate crisis at Government Day Secondary School Kaita in Katsina, Nigeria. © UNICEF/UNI547293/Aliyu
2. RATIONALE AND BACKGROUND

UNICEF and our partners’ action on climate change and sustainability is imperative. UNICEF must meet the needs of children today without compromising the health and vitality of children in the future. The evidence is clear. UNICEF’s Children’s Climate Risk Index shows that more than 99 per cent of the world’s 2.2 billion children – almost every child on earth – are exposed to at least one environmental threat, including heatwaves, cyclones, flooding, drought, vector-borne diseases, air pollution and lead poisoning\(^3\). The impacts of the crisis are worsening and are felt most keenly by those who contribute least to the crisis.

Children are uniquely vulnerable and at significantly higher risk of harm than adults. Children eat and drink more and breathe more air per unit of body weight than adults. They are more likely than adults to be affected by malnutrition and succumb to illnesses that climate change may worsen, such as cholera, malaria and dengue. Children are at greater risk than adults from the respiratory, neurological and other diseases caused by air pollution.

The statistics underline the critical need to chart a new path on sustainability and climate:

- 600,000 children under 5 die each year from respiratory infections related to indoor and outdoor air pollution;
- 820 million children face high exposure to heatwaves;
- 240 million children face a high threat of coastal flooding;
- 920 million children suffer from water scarcity; and
- Nearly a third of the world’s children are affected by lead poisoning.

The challenges vulnerable children face are formidable, and the solutions require more than any one organization, government or business can provide. UNICEF has an important role to play. Since 2017, we have been contributing to Greening the Blue\(^4\) initiative by tracking and reporting GHG emissions from our operations, including resource consumption, emissions, and accessibility levels among others, from all UNICEF headquarters, regional, country and zone offices. In 2023 UNICEF launched a Sustainability and Climate Change Action Plan\(^5\). The Plan includes the daunting statistics above and charts a path to transform how communities, governments and global leaders can work together to prioritize the needs of children. The plan also highlights how UNICEF intends to evolve to center climate and sustainability in all of our work, including our supplies. With the largest procurement volumes in the UN, UNICEF has an important role to act on climate and sustainability through our supply chains. In 2022, UNICEF procured and delivered more than $7 billion in goods and services to some of the most remote regions in 162 countries.

---

2.1 Scope 3 emissions explained

Our first step to understand and prioritize climate action in our supply chain is to collect data. UNICEF undertook this comprehensive assessment of the GHG emissions embedded in our supply chains (or ‘scope 3’ emissions) in order to understand where our hotspots and exposures are, prioritize actions to address our hotspots, set evidence-based targets, and to initiate a monitoring and reporting framework that will allow us to transparently track changes over time.

Scope 3 emissions are defined by the GHG Protocol which identifies three different scopes for GHG measurement, reduction, and mitigation. See illustration below.

Figure 1. Scopes 1, 2 and 3 GHG emissions

Put simply, scope 1 is an organization’s direct emissions, produced, for example, by its fleet of vehicles, or its generators. Scope 2 are indirect emissions linked to the electricity, heating, and cooling used in offices, and scope 3 are indirect emissions, such as the emissions related to the production of purchased goods and services, staff travel, and the treatment of waste, etc. Calculating scope 3 emissions is the most complicated out of the three scopes and are also, often, 11.4 times that of a company’s direct emissions.

---

6 Corporate Value Chain (Scope 3) Accounting and Reporting Standard, World Resources Institute and World Business Council for Sustainable Development, September 2011, pp. 5

3. UNICEF SUPPLY DIVISION SCOPE 3 EMISSIONS BASELINE

3.1 Scope of Assessment

To estimate UNICEF’s scope 3 GHG baseline, the first step was to identify an organizational and time boundary in-line with the Greenhouse Gas Protocol. Through consultations with internal stakeholders and based on data availability, the baseline assessment covers emissions associated with upstream and downstream supply chains, as well as those within operational control. Given data limitations, the assessment only considers emissions from UNICEF’s international supply, or those that go through Supply Division. The baseline estimates contained in this report are based on UNICEF Supply Division’s international procurement spend. They do not capture estimates from UNICEF country offices’ local procurement, nor supplies purchased by UNICEF country and regional office local partners where these form part of the cooperation agreement. The scope is therefore not exhaustive but is significant. In addition to the GHG emissions baseline, an extensive market landscape and analysis was also conducted. This included development of targeted marginal abatement cost curves (MACCs), suppliers’ decarbonization reporting and target-setting landscape, peer benchmarking, mapping of potential partnerships and a supplier engagement pathway.

UNICEF SD contracted Boston Consulting Group (BCG) through Q3 2023 to help create this scope 3 GHG baseline, to recommend an approach to setting a scope 3 emissions target, and to create a high-level implementation plan to reach that target.
3.2 Baseline Methodology

The main steps in establishing a baseline include collection of data, establishment of a baseline year and quantification of emissions. Given data limitations, a hybrid of calculation methods was used to arrive at final emission estimates. The year 2019 was set as the baseline year as it was the most representative recent historic year that also excluded the impact of the COVID-19 pandemic from the operational records (these impacts were determined to be a one-time impact and risked a major skew for a representative baseline for the future). Given scope of operational control, cash and voucher assistance spend, along with procurement services spend was included in the baseline. Procurement services is a strategic programmatic and development platform that enables governments and other partners to leverage UNICEF’s procurement scale and expertise in order to meet essential supply needs, until national public or private supply systems can fully perform this role. In parallel, subject matter experts within SD were consulted to collect granular data (where possible), validate assumptions, and further determine emission drivers for priority commodities. This allowed a transition from solely spend-based estimates to a more accurate hybrid of spend and activity-based calculations for select product groups.

Emissions were calculated in line with the GHG Protocol. Most calculations were done using publicly available secondary emission factors as proxy estimates for Supply Division’s various categories. See Figure 2.

Figure 2: Emissions calculations based on spend/activity multiplied by emissions factors

Based on UNICEF’s knowledge of major materials groups used in some key commodities for children’s health and wellbeing, the following commodities used more advanced spend, activity, or supplier-specific methodologies: vaccines, syringes, ready-to-use-therapeutic food (RUTF), international freight, long-lasting insecticidal nets (LLINs), cold chain equipment and gloves. Remaining commodities were calculated using a simple spend-based approach. For calculations that were done outside of the spend methodology, the approach and assumptions were aligned and validated with UNICEF SD subject matter experts.

3.3 Key findings

Against a total spend of $3.8 billion in 2019, UNICEF SD’s estimated scope 3 emissions baseline is 3.9 million tons CO2e. The baseline encompassed all spend over which UNICEF SD has direct operational control — including UNICEF programs, procurement services and cash and voucher assistance administered by SD.

Five key product categories drive 90 per cent of total emissions, with vaccines accounting for the majority (71 per cent), followed by nutrition (11 per cent), LLINs (four per cent), international freight (two per cent), and cash and voucher assistance (two per cent). See Table 1. More than 90 per cent of emissions are concentrated in category 3.1 purchased goods and services, driven mainly by emissions related to upstream production and processing of commodities. The second biggest category is 3.4 transportation and distribution, which includes all transport emissions up to the point of delivery. The last major category of emissions is 3.12 end-of-life treatment of sold products, which includes all emissions that are a result of waste disposal and treatment.

One key challenge faced while estimating the baseline was the limited availability of emission factors in the public domain, especially for vaccines. This underlines the need for supplier engagement and collaboration to increase transparency around availability and accuracy.
of emission factors, without which the baseline may remain indicative for certain commodities and eventually undermine decarbonization efforts.

Combined with a supplier analysis, it is evident that emissions are concentrated in a relatively small number of key suppliers – 30 highest-emitting suppliers (in 2019) account for 80-90 per cent of UNICEF SD’s scope 3 emissions. These high emitting suppliers are spread across vaccines, international freight, nutrition, LLINs and cold chain equipment. It will be critical to engage with such suppliers, set supplier targets, share education and joint supplier solutions, as well as consider supplier incentives. This is discussed further in section 5.

Table 1: 5 key categories drive 90 per cent of total Scope 3 Supply Division GHGs

<table>
<thead>
<tr>
<th>UNICEF SD Commodity Group</th>
<th>Emissions by Scope 3 categories (ktCO2e)</th>
<th>Total emissions across all scope 3 categories</th>
<th>Percentage (%) of total emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Emissions in scope 3.1</td>
<td>Emission in scope 3.4</td>
<td>Emissions in scope 3.12</td>
</tr>
<tr>
<td>Vaccines</td>
<td>Purchased goods and services</td>
<td>2,666</td>
<td>61</td>
</tr>
<tr>
<td>Nutrition</td>
<td>419</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Long-Lasting Insecticidal Nets (LLINs)</td>
<td>110</td>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td>International Freight</td>
<td>0</td>
<td>90</td>
<td>0</td>
</tr>
<tr>
<td>Cash and voucher assistance</td>
<td>69</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Others</td>
<td>290</td>
<td>73</td>
<td>5</td>
</tr>
<tr>
<td>Total emissions by Scope 3 category (ktCO2e)</td>
<td>3,555</td>
<td>239</td>
<td>64</td>
</tr>
</tbody>
</table>
4. SCOPE 3 TARGET-SETTING APPROACH

The UN Secretariat has committed to reducing GHG emissions by 25 per cent by 2025 and 45 per cent by 2030, sourcing 40 per cent of its electricity from renewable energy by 2025 and 80 per cent by 2030\(^9\). While UNICEF is aligned with these targets related to emissions reduction in operations, we do not yet have explicit targets for scope 3 emissions. To set a robust target in line with the Paris Agreement, best practice is to follow the methodology of the Science-Based Targets initiative (SBTi)\(^10\), which is the de facto standard for corporate target-setting established by the World Wildlife Fund (WWF), UN Global Compact (UNGC), Carbon Disclosure Project (CDP) and the World Resources Institute (WRI). Science-based targets have been widely adopted, with over 5,000 companies and organizations formally joining SBTi, over 3,000 of which have SBTi approved targets. SBTi has historically focused on corporates, but UNICEF’s ambition to set a robust emissions target and engagement with SBTi to investigate opportunities for aligned targets, could provide an opportunity to pave the way for peers to set similarly robust targets over time.

To set a SBTi-aligned target, a near-term target (within the next 5- to 10-years) is needed for scope 3. SBTi offers three different approaches for scope 3 near-term targets, of which a “supplier engagement” target is the most practicable for UNICEF. This requires suppliers accounting for over 67 per cent of total UNICEF scope 3 emissions to set Science-Based Targets\(^11\). This approach is relatively

![Image of children participating in vocational skills training](https://example.com/image.jpg)

Nur participates in a vocational skills training on electrical work and solar panel repair at a multi-purpose centre in Cox’s Bazar, Bangladesh. © UNICEF/UNI517382/Sujan

---


10 The Science Based Targets initiative (SBTi), <https://sciencebasedtargets.org>.

straightforward to administer and supports suppliers who have not hitherto engaged on the topic of emissions disclosure or reduction efforts. SBTi provides guidance via the Science-Based Targets initiative portal, including a specific set of guidance for small and medium sized enterprises. For a longer-term target (by 2050) UNICEF would need to adopt a Net Zero target, achieved either through emissions intensity or absolute emissions reduction, reducing emissions in scope 3 on a CO2e/$ spend basis or on an absolute basis over time.

These approaches will require UNICEF to monitor supplier actions to understand how scope 3 emissions are changing in the manufacture and distribution of products. For long-term targets SBTi allows only these two approaches (intensity reduction or absolute emissions reduction) to ensure that organizations are not just engaging their suppliers by asking them to set targets, but also enforcing abatement activities longer-term.

Given UNICEF’s mandate and nature of operations, there are several considerations for target-setting. For instance, commodities such as RUTF may see larger procurement volumes in the future in line with growing nutrition needs of children. Similarly, cash and voucher assistance is a complex activity and challenging to abate due to its flexible nature. Based on an assessment of a humanitarian situation, cash and voucher assistance might be deemed a feasible and effective option for beneficiaries in lieu-of or in addition-to sending goods. While cash and voucher assistance is typically linked to a certain program (i.e., social protection, education, etc.), the transfers are typically unconditional and unrestricted, enabling beneficiaries freedom over how they want to use cash or voucher while also avoiding disruption to local markets with an influx of imports. For these reasons, this category could be excluded from SD’s target boundary.

---

12 Set a Target as a Small or Medium-Sized Enterprise (SME), Science Based Target initiative, <https://sciencebasedtargets.org/small-and-medium-enterprise-sme-target-setting-process>

5. SUPPLIER ENGAGEMENT TO IMPLEMENT SUPPLY CHAIN EMISSIONS REDUCTIONS

5.1 Engage suppliers to ensure they set targets

It is important to keep suppliers informed on SBT expectations. UNICEF can start to make suppliers aware of the need to set SBTs and monitor progress among the largest suppliers – even before it has itself aligned with the Science-based Targets Initiative to release a public target for the UNICEF organization overall.

Given the large number of suppliers that UNICEF works with, SD will need to prioritize engagement and forms of communications based on supplier emissions, climate maturity, market readiness, and UNICEF’s ability to influence the supplier in question.

As highlighted in section 3, the 30 highest-emitting suppliers (in 2019) account for 80-90 per cent of UNICEF SD’s scope 3 emissions. Of these, some are already well-advanced in their climate journeys – 12 already have SBTs in place14. Engagement with these 12 suppliers can be conducted

---

14 Based on current calculated baseline for Supply Division. As reporting of emissions evolves, per cent share may change, especially in the case of vaccine suppliers, given the difference in calculation methodologies between these suppliers.
at a high-level and focus on informing them of UNICEF’s requirements, monitoring their reporting and disclosures, and encouraging them to cascade targets upstream as they continue their own decarbonization journey. These suppliers can also be encouraged to share their experiences in relevant industry forums to help those suppliers less advanced in their climate journey with shared best-practices/tools – for example, the Pharmaceutical Supply Chain Initiative\(^\text{15}\) (PSCI) aims to bring together suppliers in the medical products industry to learn from each other.

The 18 suppliers that drive the next 25-40 per cent of scope 3 emissions should be a focus for UNICEF to engage more deeply, as these suppliers do not yet have SBTs. UNICEF can follow best practice by holding industry consultations with suppliers to share details about requirements, answer supplier questions, and share materials to support them in setting SBTs. One-to-one meetings may also provide guidance on developing an emission footprint, target-setting and disclosure/reporting, as well as discussing specific emissions abatement opportunities. See figure 3 for an illustrative supplier prioritization.

Figure 3: Supplier engagement: Prioritization by decarbonization potential and UNICEF’s ability to influence\(^\text{16}\)

---

\(^{15}\) The Pharmaceutical Supply Chain Initiative (PSCI), [https://pscinitiative.org/home](https://pscinitiative.org/home).

\(^{16}\) X-axis represents each supplier’s share of emissions in UNICEF SD’s total emission baseline, y-axis represents a composite score to indicate UNICEF’s ability to influence suppliers and bubble sizes represent number of suppliers per commodity group. Note that the visual is illustrative.
For the remaining long tail of suppliers UNICEF can keep engagement at a higher level (transactional suppliers in figure 4). UNICEF can make transactional suppliers aware of the need to set SBTs and any related changes to UNICEF procurement criteria, but rigorous one-to-one engagement and monitoring are lower priority with these suppliers than with the high impact and strategic ones.

Over time UNICEF’s top suppliers may change. As new major suppliers are added, it will be important to ensure they are aware of requirements to set SBTs and are monitored by UNICEF SD. To monitor supplier progress efficiently, UNICEF could for instance join CDP’s supply chain program – starting with the lowest level of membership. Through this program, the CDP will send UNICEF’s suppliers an annual reporting survey. To relieve some of the burden of completing this survey, UNICEF can direct suppliers to specific sections of the survey, capturing the most critical details (e.g., emissions, progress towards targets etc.).

UNICEF may also go beyond SBTs and ask suppliers to take actions to reduce their impact on e.g., water, waste, and energy use. These actions may also align with UNICEF’s broader non-carbon emissions sustainability focus on environmental, social, and economic pillars of sustainability. The Sustainable Markets Initiative (SMI) have a set of already-developed minimum climate and sustainability targets for suppliers that UNICEF, as a member of the SMI Health Systems Task Force, is reviewing to encourage broader supplier action.

5.2 Other ways to engage suppliers: education and incentives

Another way to drive decarbonization could be to share supplier education on reporting, target-setting, and abatement levers. For instance, PSCI has developed a capability building program that guides suppliers in the healthcare sector on GHG reporting and target-setting. Similarly, the SME Climate Hub provides online tools for GHG calculation, target-setting and reporting for small and medium enterprises. UNICEF can recommend collaborations to decarbonize, such as sourcing of green power.

Non-financial incentives for suppliers could also help to accelerate progress — such as a recognition program. Other organizations have also put in place beneficial contract terms for suppliers with robust sustainability practices. UNICEF’s supply chain finance programs could further be expanded to provide performance incentives. Any incentives approach needs to be aligned to public procurement policies that UNICEF abides by.

17 Sustainable Markets Initiative (SMI), <https://www.sustainable-markets.org>
19 SME Climate Hub, <https://businessclimatehub.org>
5.3 Priority emissions reductions opportunities

Abatement costs are a key tool to drive decarbonization and assess efficiency of levers. They identify what the levers might theoretically cost suppliers over the lifetime of an investment (e.g., an investment into switching from fossil-based heat sources to greener heat sources). Each action that a supplier may take to reduce emissions will have a cost associated with it – both in terms of upfront investment (CAPEX) and ongoing operational cost (OPEX). Over the lifetime of those investments the average costs of action can vary significantly from being overall cost-saving (e.g., after an upfront CAPEX investment may lead to OPEX savings that provide a positive business case) or could add significant cost for suppliers over the lifetime of the investment.

Across the highest-emitting product categories that UNICEF SD procures, there are broadly nine major actions that suppliers at different stages of the value chain would need to implement. It is also seen that some of those actions have a positive business case (e.g., would reduce overall cost for the supplier over the timespan of the action) while some others may add cost. Figure 4 below shows the most important actions suppliers may take in their business and frames the overall cost of those actions as an average cost per ton of CO2e reduced. This metric allows comparison between levers that will enable optimal value for suppliers’ investment.

Figure 4: Nine key levers to reduce emissions along product value chains

<table>
<thead>
<tr>
<th>Lever</th>
<th>Example</th>
<th>Average cost</th>
<th>Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product innovation</td>
<td>Low-carbon reformulation/substitution</td>
<td>&lt;0 to 10$/tCO2e</td>
<td></td>
</tr>
<tr>
<td>Process efficiency</td>
<td>Routing optimizing, engine efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewable power</td>
<td>Solar or wind</td>
<td>10 to 100$/tCO2e</td>
<td></td>
</tr>
<tr>
<td>Nature-based solutions</td>
<td>Regenerative agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewable heat</td>
<td>Biomass, electrification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circularity/recycling</td>
<td>Mechanical recycling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon capture</td>
<td>CCUS in oil refining</td>
<td>&gt;100$/t CO2e</td>
<td></td>
</tr>
<tr>
<td>New processes</td>
<td>Electric steam crackers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel switch</td>
<td>Sustainable aviation fuel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Academic and industry reports, expert interviews, BCG analysis
As the figure shows, some actions save costs for suppliers in the medium term, or at the very least can be introduced at close to neutral cost (assuming access to CAPEX investment at reasonable cost). The costs shown are global averages based on industry case studies and academic reports that may not always reflect the capital availability and cost of capital of any individual supplier context. In many geographies, long and short-term capital is not always available, profit ratios of suppliers to UNICEF may be lower, and returns to CAPEX in the form of operational cost savings may be relatively long run. The cost of actions represented here can therefore help UNICEF suggest what activities suppliers might want to take first or to prioritize based on what drives the most CO2 impact per dollar spent but does not provide a detailed bottom-up financial plan for each specific supplier situation.

The actions that have generally proven to be cost saving for suppliers at a global level include process efficiency or energy saving measures (e.g., LED lighting or routing optimization in transport and distribution, etc.). In most geographies there is now also a cost saving associated with switching to renewable power, although this varies considerably depending on the supplier location, energy demand, ability to access capital, and robustness of grid electricity. Innovations in product design or input materials can be another lever to significantly reduce emissions at low cost. As part of this assessment, product innovation as a lever reveals major cost benefits in the nutrition category, where some new recipe formulations being considered by experts could save between 30 and 70 per cent of the CO2e associated with each RUTF sachet.

Re-examining transport modes for each product category is another way to yield significant savings while also driving emissions reductions — analysis in this assessment suggested that around 20 per cent of total air freight emissions could be reduced with accompanying cost savings if UNICEF switches over most of their routine vaccine deliveries from air to sea freight.
6. IMPLEMENTING A TARGET WILL HAVE RESOURCE IMPLICATIONS FOR UNICEF

Internal resourcing and governance are critical steps. For instance, procurement functions will need to be allocated clear responsibilities and upskilled to ensure they have the requisite capabilities to engage suppliers on sustainability topics. It will be important to ensure there is a process for monitoring supplier progress. For example, UNICEF can ensure that category managers are equipped to drive supplier conversations around sustainability, including on how suppliers can report emissions, set targets, and implement abatement activities in their operations.

To track supplier engagement and progress against targets, effective supplier information or data collection solutions are important. This data is critical to building an effective supplier engagement program, both for target-tracking purposes and to enable visibility of supplier GHG program maturity. By working with key internal stakeholders, UNICEF can streamline supplier data requests, and optimize processes and costs.

In parallel, Supply Division can engage with the rest of UNICEF to share learnings and output from this process and align on a path forward to develop a broader baseline and set targets across the whole UNICEF organization.

External engagement is also critical. UNICEF can amplify broader UN engagement to share strategy and potential implications on relevant categories; non-UN engagement to share potential implications with donor and government partners and request their support through funding and advocacy efforts to catalyze change. UNICEF is also uniquely positioned to influence change amongst peers and other NGOs. Finally, given UNICEF’s large procurement footprint and market share in certain product categories, it has an important leadership role to play in advocating for changes in product specifications that would align with sustainability goals.

Thoughtful cost allocation is another important component. Even those suppliers for whom an action will yield a positive business case over time are likely to require some upfront support with initial investments. Some suppliers may already be committed to absorbing cost impacts of decarbonization themselves (e.g., larger companies who also supply private sector firms or high-income consumers), but others — especially SMEs with low margins, or those which serve the NGO sector exclusively — are likely to need to pass costs on through unit price increases to UNICEF. As suppliers progress in their climate journeys and enforce further decarbonization of their upstream suppliers, UNICEF may need to identify alternative funding solutions for a sustainable transition of our supply chain or discuss cost implications with donors.
7. CONCLUSIONS AND NEXT STEPS

UNICEF is starting to engage suppliers already, giving them ample time to start moving towards a 1.5°C compliant pathway and setting SBTs. Other high-profile examples include the United States government, which has publicly proposed requiring all major contractors to set Science-Based targets, without itself having set a ‘verified’ Science-Based target as a public sector organization. UNICEF can also update procurement criteria to ensure that suppliers are aware of the need adopt SBTs and go beyond CO2e alone to ask suppliers to address broader sustainability topics.

For UNICEF to eventually set a comprehensive SBT at an entity level, a critical next step will be to broaden scope 3 baselining efforts beyond international supply, or Supply Division, to encompass the whole UNICEF organization. UNICEF can then consider receiving third party verification of the baseline.

UNICEF has started to engage with the SBTi on a pathway forward as an UN agency and to discuss an approach that could be replicated for other UN bodies.

UNICEF is also working on mechanisms to start reporting publicly on emissions disclosure and target progress updates (e.g., on how suppliers are asked to set targets themselves). UNICEF could consider putting in place a longer-term carbon governance to steer decision-making in key parts of the organization that will have an impact on the emissions baseline and enable discussions around potential trade-offs.

UNICEF is planning how to engage the broader UN and major donor organizations to discuss our climate journey, including potential implications for cost of goods as suppliers implement decarbonization initiatives. It clear, however, that aligning to a 1.5°C emissions pathway is needed for UNICEF’s mission to protect future generations of children, while delivering life-saving support to children in need today.

---

## Glossary of terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abatement lever</td>
<td>Commonly used to describe opportunities to reduce greenhouse gas emissions (e.g., using solar power instead of fossil fuels)</td>
<td>EPA – GHG Reduction Programs &amp; Strategies</td>
</tr>
<tr>
<td>Absolute emissions target</td>
<td>Overall reduction in the amount of GHGs a company emits into the atmosphere by a target year relative to levels in a baseline year</td>
<td></td>
</tr>
<tr>
<td>Baseline year</td>
<td>Point in time that targets are measured against</td>
<td>SBTi Target Setting Manual</td>
</tr>
<tr>
<td>Carbon Disclosure Project (CDP)</td>
<td>Global non-profit that provides organization the option to self-report climate information into a proprietary questionnaire, covering topics such as climate governance, business strategy, targets, climate risks &amp; opportunities, emissions, etc.</td>
<td>CDP website</td>
</tr>
<tr>
<td>Climate change</td>
<td>Long-term shifts in temperatures and weather patterns that are currently primarily driven by human activities such as burning fossil fuels like coal, oil and gas</td>
<td>United Nations – What is Climate Change?</td>
</tr>
<tr>
<td>CO₂e</td>
<td>Amount of carbon dioxide (CO₂) and equivalent GHG (amount of a GHG whose atmospheric impact has been standardized to that of one unit mass of carbon dioxide (CO₂), based on the global warming potential (GWP) of the gas)</td>
<td>EPA - Pollution Prevention GHG Calculator Guidance</td>
</tr>
<tr>
<td>Greenhouse Gases (GHG)</td>
<td>Gases, such as Carbon Dioxide, Methane, and Nitrous Oxide, that trap heat in the atmosphere and cause global temperatures to increase</td>
<td>EPA – Overview of Greenhouse Gases</td>
</tr>
<tr>
<td>Intensity emissions target</td>
<td>Reduction in emissions relative to a specific business metric, such as production output or financial performance of the company (e.g., ton of CO₂e per ton product produced or value added). Target is achieved by a target year relative to levels in a baseline year</td>
<td></td>
</tr>
<tr>
<td><strong>UNICEF Supply Scope 3 Greenhouse Gas Emissions Baseline</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Net Zero</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduce absolute emissions by 90 per cent + relative to a baseline year; neutralize (remove)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Offsets**                                             |
| Tradable “rights” or certificates linked to activities outside of a company’s value chain that lower the amount of carbon dioxide (CO₂) in the atmosphere (e.g., land restoration, planting trees, direct air capture, etc.). These can be used to neutralize a company’s remaining CO₂ emissions, after fully exhausting abatement opportunities |

| **Science-based targets (SBT)**                         |
| Emissions reduction in line the goals of the Paris Agreement to avoid the worst effects of climate change by limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to below 1.5°C |

| **Science-based Targets initiative (SBTi)**            |
| Global body enabling businesses to set ambitious emissions reductions targets in line with the latest climate science. It is focused on accelerating companies across the world to halve emissions before 2030 and achieve net-zero emissions before 2050. It is a partnership between CDP, UN Global Compact, World Resources Institute (WRI), and World Wildlife Fund (WWF) |

| **Scope 1**                                             |
| Direct emissions from owned or controlled sources |

| **Scope 2**                                             |
| Indirect emissions from the generation of acquired and consumed electricity, steam, heat, or cooling |

| **Scope 3**                                             |
| All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions; comprised of 8 upstream categories and 7 downstream categories |