

LIFE CYCLE INITIATIVE STRATEGY DOCUMENT 2022-2027



Life Cycle Initiative

The Life Cycle Initiative 2022-2027

Strategy document

Version 1, 27 September 2023

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1. The Life Cycle Initiative

1.1 Introduction

The Life Cycle Initiative was launched in 2002 by UN Environment Programme and the Society of Environmental Toxicology and Chemistry (SETAC), gathering a growing community of experts and users from around the world, to enable the global use of credible life cycle knowledge by private and public decision makers. Since its inception, the Initiative has helped to generate global consensus on methodologies, tools, and guidance on applying Life Cycle Assessment (LCA). It has also worked on applying life cycle thinking and approaches in various industrial sectors and policies.

1.2 Strategy development

1.2.1 Approach

The strategy development process entailed the following steps:

Step 1: Analysis of context, problem, challenges and opportunities

Step 2: Identification of the priority solutions, impact areas and objectives

Step 3: Mapping and analysis of the key stakeholders and target audiences

Step 4: Derivation of the most effective role(s) for the Life Cycle Initiative

Step 5: Identification of the strategies to increase the Life Cycle Initiative's impact

1.2.2 Methodology

The strategy development methodology is comprised of:

1. Desk review: Key contextual, background and strategic document provided by the Life Cycle Initiative Secretariat and publicly available information, mostly from the Initiative's website.
2. Membership consultation survey: Yielding 60 responses from the Initiative's members.
3. Group discussions: At the General Assembly and with the Steering Committee.
4. Semi-structured 1:1 interviews: 22 informants, including partners, donors, Steering Committee members, civil society, private sector, UNEP leadership and Life Cycle Initiative.
5. Presentation of the evaluation of context and proposed strategic approaches: Steering Committee and Life Cycle Initiative Secretariat.

1.3 Understanding the context

There are compelling opportunities for the achievement of the Life Cycle Initiative's strategic goals in 2022-2027 and beyond. Externally, there are crucial big-ticket processes and players that are available to influence important policy-making, business, and scientific areas. Circularity and value chains are gaining traction, and Life Cycle Thinking and Circular Economy concepts are taken more seriously now than ever before. Climate change debates have brought forward the possibility of finding ways of

quantifying environmental impacts, and the private sector is increasingly adopting a greater and more vocal role in the lead up to Agenda 2030 and other global ambitions.

Internal to the Life Cycle Initiative, capacity development and science development aspects continue to be key strengths, as the science is solid, well-documented and rigorous thanks to peer-review communities, giving rise to crucial and well-reputed tools such as GLAD, GLAM, and so on. The Initiative's network has expanded, increasing its ability to outline crucial aspects and make effective recommendations, not in the least for UNEP's priority work streams. The science-policy interface for Life Cycle Thinking is getting stronger, increasing the potential for targeted engagement and better positioning of the Initiative in policy communities, to economic operators and to businesses that wish to support organizations with shared values.

However, the context in which the Life Cycle Initiative operates is not without significant barriers. External to the Initiative, decision-makers view Life Cycle Approaches as complicated and difficult and adoption often entails a steep learning curve for policymakers as well as public authorities that have to implement it. Decision-makers are also often lacking in time, capacity or knowledge to translate Life Cycle Knowledge and Data into policy solutions and applications on their own. Private sector engagement is challenging and there has been little corporate engagement through sponsorship as businesses prefer bilateral and bespoke cooperation opportunities.

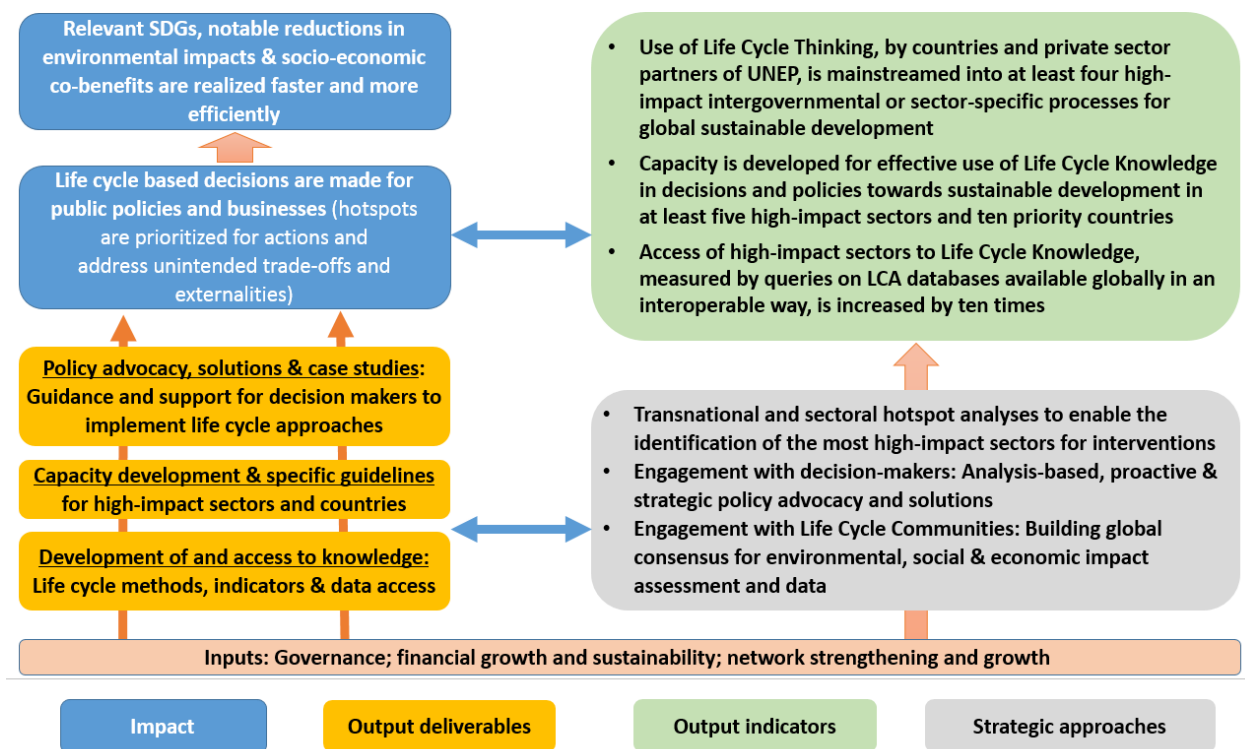
In addition to these external challenges, the Life Cycle Initiative is underfunded and its scalability is constrained, giving rise to substantial gaps between its ambitions and available resources and capacity. The sustainability agenda is moving fast and in order to catch up, the Initiative needs to scale up and expand. Whilst the focus on science appears to be adequate, there is not enough focus on public policy and business engagement and the science-policy interface remains a challenge. Searching for Life Cycle Assessment data can be challenging and not always helpful, so hotspot analyses are needed as they could be more compelling. A concrete advocacy piece is missing and there is an urgent need to translate the Life Cycle Knowledge and expertise for decision-makers (policy solutions, communication, engagement) into more accessible language and solutions in order to convincingly convey value. Finally, compelling, transnational, and sector-focussed success stories are missing, as the current cases focus mostly on countries.

1.4 Vision and Mission of the Life Cycle Initiative

Vision: The Life Cycle Initiative works in partnerships to achieve Sustainable Development Goals and Nationally Determined Contributions for the Paris Agreement faster and more efficiently by bringing Life Cycle Thinking to the mindsets of decision makers with the practical knowledge and tools to enhance the sustainability of their decisions.

Mission: The Life Cycle Initiative is a public-private, multi-stakeholder partnership fostering progress towards sustainable development through (1) advancing the understanding, influence and adoption of life cycle thinking by private and public decision makers; and (2) building consensus on and facilitating the access to environmental, social and economic life cycle knowledge (LCA data, methods, indicators, etc.).

2. Theory of change 2022-2027



2.1 Impact and Outcomes 2022-2027

Life Cycle Approaches are increasingly gaining visibility and traction, with the Fourth session of the United Nations Environment Assembly (UNEA-4) making 20 references across eight resolutions under the overall theme of ‘Innovative Solutions for Environmental Challenges and Sustainable Consumption and Production.’ More momentum is expected at UNEA-5 ‘Strengthening Actions for Nature to Achieve the Sustainable Development Goals,’ with opportunities for high-level impact for nature recovery, climate stability and a pollution-free planet using Life Cycle Approaches.

The Life Cycle Initiative aims to enable notable reductions in environmental impacts and enhanced socio-economic co-benefits, where environmental resources, human capital and economic capital are used efficiently. This would require the increased implementation of policies addressing the three planetary crises (climate change, biodiversity loss and pollution) and the implementation of sustainable consumption and production practices. The desired outcomes of the Initiative are that public policies and business decisions adopt and apply life cycle thinking, by increasingly prioritizing actions on key impact hotspots, addressing unintended trade-offs between social, environmental and economic impacts, and accounting for externalities.

2.2 Sustainable Development Goals and the Private Sector

In the 2022-2027 period, the Life Cycle Initiative aims to promote the adoption and implementation of Life Cycle Thinking for the achievement of not only Goal 12 of the Sustainable Development Goals, on ensuring Sustainable Consumption and Production, but also several other SDGs and global priorities pertaining to environmental and social impact. The Initiative’s role is key to ensuring that unintended trade-offs are prevented and that problems are decreasingly shifted to other stakeholders and impact dimensions with science-informed and comprehensive adoption of solutions:

- SDG 6 Ensure availability and sustainable management of water and sanitation for all

- SDG 7 Ensure access to affordable, reliable, sustainable and modern energy for all
- SDG 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- SDG 11 Make cities and human settlements inclusive, safe, resilient and sustainable
- SDG 12 Ensure sustainable consumption and production patterns
- SDG 13 Take urgent action to combat climate change and its impacts
- SDG 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- SDG 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Although the SDGs are at the country and public policy-levels, their successful achievement relies on the strategies, participation, and contribution by other key stakeholders such as business and civil society. The Life Cycle Initiative’s 2020 report *LCA-based Assessment of the Sustainable Development Goals: Development update and preliminary findings of the project “Linking the UN Sustainable Development Goals to Life Cycle Impact Frameworks”* notes that while it is already possible to use life cycle assessment (LCA) to assess environmental and social impact at the product level, using LCA-based metrics for the SDGs is a new challenge¹. In addition to the 2030 Agenda, there is opportunity to engage businesses in non-multilateral and sector-specific processes such as the World Circular Economy Forum and the Global Plastics Treaty², to promote the adoption of Life Cycle Thinking.

2.3 The Paris Agreement

The Paris Agreement is another high-impact multilateral process for the Life Cycle Initiative because of its aim to bring all nations together to undertake ambitious efforts to combat climate change and adapt to its effects. Its implementation requires economic and social transformation and innovation, based on the best available science, of which Life Cycle Knowledge is a crucial part. Nationally determined contributions (NDCs) submitted every five years are at the heart of the Paris Agreement and report on the countries’ efforts to reduce national emissions and adapt to the impacts of climate change, including domestic mitigation measures. In order to be effective, decarbonization strategies need Life Cycle Thinking³, which applied to assess hotspots at the national level, strategically supports countries to focus on the areas where emissions can be reduced most efficiently, even outside of the country’s borders (e.g. influencing the way in which imported commodities are sourced or products manufactured). In this, the Initiative’s Sustainable Consumption and Hotspot Analysis Tool (SCP-HAT) supports science-based national policy frameworks.

Life Cycle Assessment of specific technologies also helps to identify the most efficient technologies to address emission hotspots, while managing potential trade-offs by avoiding single-metric blindness. The Paris Agreement requires quantification and the Initiative can help avoid confusion around calculations ahead of 2030 by harmonizing how countries calculate and say they will fulfil commitments by 2030. With the help of UNEP’s leverage, the Initiative can help make the NDCs as specific as possible and diminish generic data.

¹ <https://www.lifecycleinitiative.org/wp-content/uploads/2021/01/LCA-SDG-21.1.21-sml-1.pdf>

² <https://www.plasticpollutiontreaty.org/>

³ Finkbeiner, M., Bach, V. Life cycle assessment of decarbonization options—towards scientifically robust carbon neutrality. *Int J Life Cycle Assess* 26, 635–639 (2021). <https://doi.org/10.1007/s11367-021-01902-4>

2.4 Building Back Better: Post-COVID recovery and resilience plans

As the COVID-19 related health crisis has become more manageable in several countries, in particular OECD nations, there have been concrete policy responses focussed on economic recovery and resilience. According to the OECD policy brief on Building Back Better, economic recovery from the COVID-19 crisis can be durable and resilient if a return to ‘business as usual’ and environmentally destructive investment patterns and activities can be avoided, as climate change and biodiversity loss could cause social and economic damages far larger than those caused by COVID-19⁴. The OECD explains the dimensions for assessing whether recovery packages can “build back better” and includes alignment with long-term emission reduction goals, factoring in resilience to climate impacts, slowing biodiversity loss and increasing circularity of supply chains under the key dimensions. Circularity, or Circular Economy, is gaining popularity across the OECD and other nations and the Building Back Better plans present a promising opportunity for sustainable production and consumption. The opportunity for the adoption of Life Cycle Thinking is noted in the Life Cycle Initiative’s position paper ‘Using Life Cycle Assessment to achieve a circular economy.’ In this, LCA as a methodology is promoted as a way “to build more robust circularity strategies that consider potential upstream and downstream impacts and encompass all relevant resources and impact categories, leading to better decisions for sustainability.”⁵

The post-COVID recovery and resilience plans in OECD countries have substantial focus on ICT and the digitalization of societies, and could provide an important area for focus for Life Cycle impact and resource mobilization. The Initiative can make recommendations for investments into Life Cycle Approaches, engage the policy-makers responsible for the Building Back Better plans to tap into the available resources and approach the private sector to provide support in reporting their progress in a scientific way.

3. Strategic Approaches and Outputs

The main strategic approach for 2022-2027 is to enhance the impact of the Life Cycle Initiative, knowledge base and network with the power of advocacy and engagement. This requires an expansion of the role of the initiative from that of an expert, advisor, and facilitator of Life Cycle knowledge to that of influential and strategic advocate. The Initiative will achieve this role shift firstly by using analyses to identify high-impact sectors and then by developing detailed sector-specific and impact-specific advocacy strategies to inform the implementation of programmes that can help achieve the ambitions of the 2022-2027 strategy.

3.1 Key Target Audiences

The target audiences for the Life Cycle Initiative will continue to include high-level decision makers (policy makers and regulators; business strategists) as well as LCA practitioners. Importantly, the Initiative will seek to identify the most impactful policy communities and actors, using detailed stakeholder mapping and power analysis for each of the high-impact sectors, and aim to engage and influence them throughout the course of this strategy period. To enhance its impact, the Life Cycle Initiative will enhance its partnership and engagement with UNEP, by contributing Life Cycle Thinking to its priorities and work streams, in addition to leveraging opportunities to engage Member States.

⁴ OECD. (2020, June 5). Building back better: A sustainable, resilient recovery after COVID-19. Retrieved from OECD website: <https://www.oecd.org/coronavirus/policy-responses/building-back-better-a-sustainable-resilient-recovery-after-covid-19-52b869f5/>

⁵ Peña, C., Civit, B., Gallego-Schmid, A., Druckman, A., Pires, A. C. -, Weidema, B., ... Motta, W. (2021). Using life cycle assessment to achieve a circular economy. The International Journal of Life Cycle Assessment. <https://doi.org/10.1007/s11367-020-01856-z>

The Initiative will support UNEP across all the high-impact sectors defined in the Mid Term strategy 2022-2025, such as transportation, buildings and construction, food, textile, and plastics.

3.2 High-impact analyses

The 2022-2027 strategic period requires critical interventions in the lead up to the 2030 Sustainable Development Goals. For this, the Life Cycle Initiative will drive analyses to identify the areas which matter the most and where Life Cycle Approaches can have the greatest impact, both in terms of major environmental as well as social footprint, eventually making links with key sectors.

Transnational and sectoral hotspot analyses will enable the Life Cycle Initiative to identify where interventions would be the most helpful, which stakeholders would most benefit from specific Life Cycle knowledge and tools, and which intersectional solutions for upstream areas could be the most effective. These big-ticket hotspot analyses are precursors to effective policy advocacy, including the identification of the problem, opportunities, development of recommended solutions and specific areas for further Life Cycle Assessment. Between 2022 and 2027, the Initiative aims to use the insights from transnational and sectoral analyses to shape the priority areas for deepened engagement, resource mobilization, and science development.

3.3 Methodological strength

A core aim of the Life Cycle Initiative is that mature and robust LCA methodology is agreed by the LCA community and accepted by decision-makers. The strategy development consultations indicated that Life Cycle tools have an adequate level of readiness, even if the science and application is continuously evolving, and the most compelling barrier in achieving greater impact is to get decision-makers to use the available knowledge and tools.

3.4 Enhanced programmes

The updated Life Cycle Initiative Theory of Change seeks to enhance core programmes with analysis-based, proactive and strategic policy advocacy, intervention, advice and recommendations to policy communities and private sector stakeholders. This strategic approach is buttressed by a more proactive outreach strategy that combines advocacy, engagement, accessibility and communication with scale to make a greater impact.

The 2022-2027 strategic approach seeks to build on the strengths of the Initiative, across its key programme areas, to enhance political involvement, package policy solutions, provide guidance on interventions, develop skills for the adoption of LC approaches and increase access to harmonized LCA data and methods. Broadly, these enhanced programmes include:

1. Policy advocacy, solutions and consolidation of transnational and sectoral success stories, building on the Life Cycle Initiative's work on Technical and Policy Advice, and Stewardship for Life Cycle Approaches.

In order to improve knowledge exchanges between LCA science and policy and building demand for LCA, the Life Cycle Initiative will aim to alleviate the perception of LCA as being too technical and complex. This entails the identification of priority impact areas and sectors followed by the targeted advocacy with decision-makers supported by clear science-informed recommendations, benefits, and success stories. The Initiative will take a proactive approach to translating to clear and concise policy solutions, including advocating for funding to further develop the science. The Initiative will also develop and promote concrete cases and facts about the application and benefits of LCA in terms of capacities, impact and social benefits, making a shift from single country cases to success stories of

sector- and industry-influenced systemic approaches to value chains across countries. These solutions and success stories will create an understanding and consensus on benefits of Life Cycle Thinking and help translate LCA results to show the benefit for public policies and business decisions.

2. Engagement of stakeholders and dissemination of implementation guidelines, building on the Initiative's Life Cycle Capacity Development successes.

The Life Cycle Initiative aims to ensure that public and private decision-making spheres are equipped to yield results with the adoption and implementation of Life Cycle Approaches. In this, the Initiative will build on its capacity development efforts and go beyond core trainings, workshops and e-learning courses to include specific and detailed guidelines for working across ministries or business units, including roles and responsibilities of all parties. LCA information will be supported with clear articulation of which actor can do what to address it, along with templates for implementation where possible, followed by targeted training. Whilst the increased political pressure for stakeholders to account for environmental impacts is an opportunity for the Life Cycle Initiative, advocacy for Life Cycle Thinking-informed solutions will depend on the availability of simple and concrete guidance and tools that stakeholders can easily understand and implement. In the 2022-2027 period, the Initiative will prioritize the capacity development for public and private sectors in the high impact areas such as plastics, food systems, chemicals, transport and so on.

3. Development of and access to Life Cycle Knowledge and Platform, in addition to resources available for building this knowledge base.

Increasingly globalized value chains, as identified by the Life Cycle Initiative's analyses, strongly indicate the need for harmonized data, tools and methodologies, which will continue to play a foundational role in the Initiative's core programmes and will remain its core value proposition. Further consensus and maturity of the methods and indicators would be key to continue making a compelling argument to policy makers and business leaders. Easy and free access to data sets will continue to be prioritized in 2022-2027, with potential links to the global digital revolutions, including Artificial Intelligence, for more intelligent and efficient calculations. The Initiative will aim to increase access to the platforms, in particular in the high-impact sectors, and seek resource mobilization-based partnerships to build knowledge for specific problems.

3.5 Priority outputs

To increase the scale of impact in the 2022-2027 strategic period, the Initiative will prioritize efforts to inform and contribute to global processes, with the assumption that there will be sustained political will and opportunity to adopt and implement sustainable development policies across the Member States and beyond. The Initiative will seek to inform intergovernmental and multilateral processes via UNEP, and the non-multilateral processes with entities such as the European Commission, which remains a key partner. The Initiative will continue to engage with businesses, and will streamline its approach to a collaboration and contribution model from that of a support and sponsorship model, based on the assumption that the private sector continues to engage in the 2030 Agenda through its perceived responsibility to deliver the Sustainable Development Goals. The Initiative will drive private sector engagement directly as well as through industry associations and other groups.

By 2027, the Life Cycle Initiative will achieve the following outputs:

1. Mainstream the use of Life Cycle Thinking, by countries and private sector partners of UNEP, into at least four high-impact intergovernmental or sector-specific processes for global sustainable development (for example, the Paris Agreement, Building Back Better plans, the Global Plastics Treaty, and the World Circular Economy Forum).

- **Output #1** will be achieved with the support of analysis-based policy advocacy, specific solutions and transnational/sectoral case studies directed to public and private sector decision makers.
2. Develop the capacity for effective use of Life Cycle Knowledge in decisions and policies towards sustainable development in at least five high-impact sectors and ten priority countries.
 - **Output #2** will be achieved with the support of bespoke, sector-specific/country-specific and detailed guidelines, trainings and templates for implementation (including roles and responsibilities).
 3. Increase by ten times the access of high-impact sectors, measured by queries on LCA databases, which are available globally in an interoperable way.
 - **Output #3** will be achieved with the support of developing the knowledge base and interoperability of data, and increasing the engagement and outreach to increase awareness and skills relating to the LCA databases.

4. Inputs

4.1 Governance

The Life Cycle Initiative is a partnership of institutional members from government, business, and science and civil society, also including individual members from science and civil society. The membership is represented in an assembly, where members elect their representatives to the Steering Committee and are informed of progress of the Initiative.

In the 2022-2027 strategic period, the governance of the Life Cycle Initiative will not change as such. However, the new strategic approach and enhanced programmes will require some adjustments in the roles of the various constituents. The Steering Committee makes the necessary decisions to deliver the mandate of the Initiative, allocates resources and endorses programme implementation. In addition, the Steering Committee will represent and play a stronger role in high-level policy advocacy. Programmes are led by co-chairs appointed by the Steering Committee, and are responsible for delivering the work of the Initiative – regularly reviewed by ad hoc committees. These will provide the technical expertise and implementation for policy advocacy, engagement and capacity development, and development and access to knowledge. The Secretariat hosted by UN Environment will continue to coordinate the different bodies and remain in charge of internal and external communications, in addition to driving high-impact partnership with UNEP’s work streams.

The Life Cycle Initiative will further leverage the global perspective and credibility of being a UN-hosted partnership and link to global policy-level processes such as the Sustainable Development Goals. Given UNEP’s role and potential to increase the influence of Life Cycle Thinking among Member States and major corporations, the Initiative will build on the convening power of UNEP to coordinate action from a multi-stakeholder partnership in order to achieve enhanced collective impact, leading to fewer high-impact areas rather than dispersing efforts too widely.

4.2 Financial growth and sustainability

The 2022-2027 strategic period takes an optimistic view for the financial growth and sustainability of the Life Cycle Initiative given the increasing visibility of Life Cycle Thinking across multilateral and business spheres, the growing adoption of concurrent concepts such as circular economy, the extensive knowledge and technical advice of the Initiative developed over the past decades, the increasing involvement of UNEP in mainstreaming Life Cycle Thinking across its work streams, current and near-future opportunities for engaging big and transnational actors, and the high-impact

ambitions of the Initiative's strategy in the lead up to 2030. The main funding sources of the Initiative are annual contributions from funding partners (approx. 40%) and funding from UNEP agreements (approx. 60%).

4.2.1 Costs

The operating costs of the Initiative's Secretariat – including staffing, resource mobilization, advocacy, communications, reporting and evaluation costs, as well as meetings (where in-kind contributions from organizing members are also expected) – are roughly estimated at USD 600,000 per year for the 2022-2027 strategic period. Given the ambitious targets for the next five years, the Secretariat will engage expert fundraising capacity to develop value propositions, bespoke cases for support and fundraising approaches for both public and private sources of income. Detailed estimates for running the Initiative's programmes to meet the enhanced goals for policy advocacy, capacity, knowledge and access are provided in the project document.

4.2.2 Core and programme funding

The Life Cycle Initiative will continue to ensure a transparent funding and spending structure, providing firewalls between its different functions such as steering, coordinating, execution or review. In this, core funding is used to run the structure of the Initiative (Secretariat staff, travel, communication, evaluation and administration costs) as well as to provide some seed funding to initiate projects. On the hand, programme funding earmarks a certain percentage of contribution to specific programme/s of the Initiative, while allocating at least 15% of the contribution or USD 25,000 per annum, whichever is higher, to core funding.

4.2.3 Value proposition

The Life Cycle Initiative will profile itself as a source of knowledge and a source of evidence for in support of policy developments and to showcase where lifecycle approaches can actually be helpful in bringing forward certain substantive developments. The value proposition will be further developed to meet the needs of specific public and private sector entities, based on the following core principles:

- The Life Cycle Initiative provides science-based and **expert application of life cycle knowledge** in the global Sustainable Development agenda in order to achieve global goals faster and more efficiently.
- Delivers **authoritative insight on effective solutions**, tools, guidelines, implementation templates and approaches by engaging its multi-stakeholder partnership (including governments, businesses, scientific and civil society organizations).
- **Global interface and forum of users and experts** of Life Cycle approaches, ensuring a science-based, consensus-building process to support decisions and policies towards the shared vision of sustainability as a public good.
- **Proven success stories** from a wide range of sectors, countries and contexts.
- Extensive experience in building capacity and knowledge.

4.2.4 Phasing out of bronze and silver sponsorship levels

The Life Cycle Network continues to play a key role in articulating and presenting the value of the Initiative. In order to increase the visibility and reach of the network and to ensure that resource mobilization efforts in 2022-2027 focus on fewer but larger funding opportunities, the Initiative will phase out bronze and silver sponsorships by the end of 2022 and 2023 respectively. This will also help in removing the barriers to the engagement and participation of SMEs and businesses from developing economies and enable the network to grow in the Global South. Instead, the Initiative will develop its capacity for high-value collaboration and co-creation based business engagement, based on mutually

important business, compliance and multilateral reporting results, including on the Agenda 2030, the Paris Agreement and Building Back Better plans.

4.2.5 Public sector opportunities

In order to multiply its impact, open more doors and access more resources relating to multilateral processes, the Life Cycle Initiative will seek to narrate closer alignment with UNEP's strategic priorities in nature, climate and pollution. It will promote Life Cycle thinking across work streams to help meet strategic goals and connect with the bigger initiatives of UNEP such as those of the Green Climate Fund, Plastics, etc. For this, the Initiative will require greater support and organizational commitment of staff and other resources from UNEP. Externally, the Initiative will leverage UNEP for engagement and resource mobilization relating to the Building Back Better initiatives, harmonizing calculations for the Paris Agreement, and so on. There is also the opportunity to move from bilateral to industry-wide partnerships with the help of the Initiative's analyses, recommendations and solutions, with the potential to liaise with UNEP's corporate partnerships teams.

Private sector opportunities: The Life Cycle Initiative will lead with hotspot analysis to engage businesses and industries, and subsequently raise funds for problem-specific Life Cycle Assessments, capacity development and network coordination. In this manner, hotspot analyses will help to start resource mobilization and policy advocacy engagement with the private sector and enable the Initiative to advocate for analysis-based initial recommendations and form collaborative partnerships for further resourcing of Life Cycle Assessments by demonstrating relevance and benefits to decision-makers. Whilst not necessarily limited to private sector funding streams, the Initiative will develop funding propositions and opportunities connected to non-UN and non-multilateral processes such as the World Circular Economy Forum, Global Plastics Treaty, etc.

4.3 Network strengthening

The Life Cycle Initiative will aim to increase its membership base - across academia, business and policy-making – to increase its reach and engagement across different contexts around the world and allow its members to tap into each other's work. In the 2022-2027 period, this will entail stronger community management and engagement from within the network, with more room for decentralization based on regional sub-networks, thematic interests, and other focus areas.

ANNEX 1:

Box 2 illustrates situations where absence of life cycle thinking leads to unintended negative consequences.

Box 2: Examples of situations where absence of life cycle thinking leads to unintended consequences.

- Focusing on the introduction of electrified vehicles as conventional internal combustion engines had most emissions in the use of the products neglects the fact, that emissions of electric cars are much more relevant from the production. The reduction of emissions lead to the unintended consequence of an increase of emissions in the ;
- In the context of educating consumers for sustainable lifestyles, and in relation to water scarcity, life cycle approaches show that 85% of water consumption linked to an average consumer is linked to food production (mainly in the agricultural stage), and only 5% is consumed directly at home (mostly in showering/washing, as well as toilet flushing). Thus, consumer should be made aware of their impact due to both direct and indirect consumption of water, e.g. being informed that acting on their dietary choices (e.g. reducing meat, coffee and tea consumption) may bring greater benefits compared to simply acting on the direct use of water at home;
- Promoting bio-fuels as an alternative to fossil fuels to get a theoretically carbon neutral fuel, then generating trade-offs with other impacts such as water consumption, loss of biodiversity due to land use expansion; in this case, a life cycle thinking perspective could be illustrating the kind of potential trade-offs between SDG 7 (sustainable energy for all) or SDG 13 (combat climate change and its impacts) and SDGs 6 (sustainable water for all) and 15 (protect terrestrial ecosystems and biodiversity);
- Another important hotspot is associated with the production of the materials that compose the building, including insulation materials that help reduce the energy related hotspot. A circular economy will incentivize to build the building in such way that facilitates the recovery of as much of those materials at the end of the building's useful life, and thus reduce the hotspot of new buildings that use those recovered materials. At some point, however, the impacts associated with the recycling process may become bigger than the impacts saved through recovering the materials; i.e. Recycling may become a hotspot when it is too resource-intensive to recover the resources.

ANNEX 2: Further narrative on Life Cycle Thinking Contribution to sustainability decisions

Life Cycle approaches can be used all the way from micro to macro levels by governments, businesses and civil society, as they aim towards the Sustainable Development Goals. Crucially, Life Cycle Thinking is a holistic “systems perspective” which maximizes synergies among SDGs, as opposed to simply approaching each SDG individually (see Figure 1 below). Life Cycle Thinking is especially relevant to SDGs such as: clean water and sanitation (SDG 6); affordable and clean energy (SDG 7); decent work and economic growth (SDG 8); industry, innovation and infrastructure (SDG 9); sustainable cities and communities (SDG 11); responsible consumption and production (SDG 12); climate action (SDG 13) and life on land (SDG 15).

Life Cycle Thinking may also be a means to support the definition of Nationally Determined Contributions for the Paris Agreement (see Figure 2) and decision making in the private sector (Figure 3).



Figure 1: Examples of SDGs supported by Life Cycle Thinking.

LCT contribution to SDG 8 (good jobs and economic growth), and specifically target 8.4 (decouple economic growth from environmental degradation) and its indicator 8.4.1 (Material footprint / GDP); also indicator 12.2.1:

- LCT is essential to measure resource use and environmental degradation over the life cycle, to avoid domestic improvement of efficiency at the expense of exporting polluting and resource intensive processes, and avoiding burden transfer
- LCT allows prioritizing actions and thus achieving Resource Efficiency more efficiently (more improvement per investment): hotspots in country / economy --> hotspots in key sectors --> actions / actors in those sectors.
- International agreement and harmonization is required in terms of life cycle-based protocols and data to calculate and report material footprints.

LCT contribution to SDG 12 (responsible consumption and production), LCT is required across the board and targets of SDG 12. Some of the most specific contributions may be defined as:

- LCT supports the definition of what a sound management of chemicals along their life cycle (SDG 12.4) means, and provides the tools to implement it. It may take the shape of information tools

to share information on chemicals in products across the supply chain, or informing extended producer responsibility approaches, or identifying business models that enhance the benefits and reduce the risks linked with chemicals at each stage of the life cycle, etc.

- Sustainability Reporting (promoted in 12.6) may be strengthened with materiality assessment supported with LCT. Again, Organizational Life Cycle Assessment applied at the reporting unit level provides a picture of the key environmental (and social) issues linked to the organization's activity, which should then be addressed in its sustainability report. Incorporating LCT in the indicators for 12.6 will enhance their credibility and guide corporations faster and more efficiently towards sustainable development
- In Sustainable Public Procurement (SPP, target 12.7), LCT supports the prioritization exercises to decide on what aspects of products/services (eg. power source, manufacturing etc.) should sustainability criteria be decided for. E.g. a local government designing a SPP plan may apply Organizational Life Cycle Assessment approach to identify the key drivers of environmental / social impacts. Once specific products and services contracted / purchased by the local government are identified (e.g. vehicles for public transport), LCT helps defining procurement criteria / conditions to include in tender processes. If no LCT considered, the government uses only purchase price, and the costs may come later (e.g. operational costs of buildings, costs related to toxicity impacts, ...) PLACEHOLDER for Rutt to provide examples comparing specific products from GHG, water, toxicity... so when purchaser needs to select they can see the differences, and total cost of ownership.

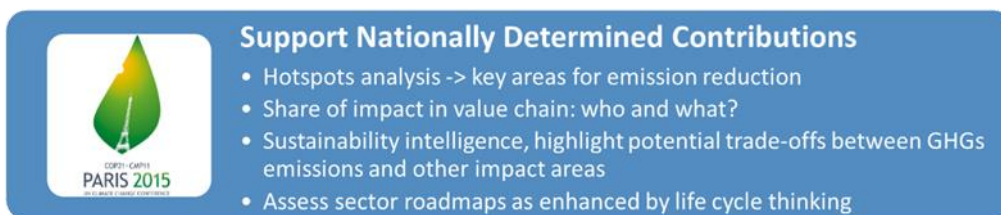


Figure 2: Life Cycle Thinking supports the implementation of Nationally Determined Contributions.

LCT contribution to the Paris Agreement, supporting the Nationally Determined Contributions (NDC):

- Life Cycle based Hotspots analysis at the country- and then sub-country- (e.g. sector-) level help focus on the areas where emissions can be reduced most efficiently (in and outside national borders).
- Understanding shares of impact in different value chains: identifying where the problem is and who are the gate-keepers
- More generally, LCT structures the sustainability intelligence to identify and develop innovative solutions, while highlighting trade-offs and avoiding the single-metric blindness that may be generated by focusing only on greenhouse gas emissions.



Figure 3: Life Cycle Thinking informs tools that support strategic and operational decision-making in the private sector.

LCT contribution to Sustainability in Industry and SMEs, by providing a value chain perspective, LCT allows any company, including SMEs, to identify better options and technologies for concrete

challenges, as well as possible alliances and actions across the value chain to improve their position. Some examples include:

- A food manufacturing company in South Africa conducted a Life Cycle Assessment (LCA) study on packaging for their national tomato sauce brand, supporting the selection of packaging technology and material from an environmental standpoint. This informed a technical change that is now being supported by a marketing strategy.
- A textile company manufactures fabric for school uniforms, importing their yarn from India. These suppliers are audited for environmental impacts by the company. It was realised through a LCA study that the biggest impacts are at the supply side (yarn manufacturing). The owner of the company is now working with the key suppliers and addressing their resource consumption.

ANNEX 3: Rules and Responsibilities for the Life Cycle Initiative Governance

The following text highlights the guiding principles for the Initiative:

Core values of the Life Cycle Initiative (which are to be preserved and applied in every action and work area of the Initiative, and also by every partner associated with the Initiative):

- **Impactful:** Focusing work on those areas where the Initiative can add value and make a difference
- **Relevant:** Specific attention to using LCT in supporting / enhancing work towards specific goals in the 2030 Sustainable Development Agenda where biggest effect can be achieved
- **Objectivity and Integrity:** The Initiative's work is based on critical, unbiased reviews of the best available science; the Initiative members uphold the integrity of the scientific process and identify any conflicts of interest. The Initiative ensures regular review of its deliverables by independent experts.
- **Scientific rigour coupled with practicality:** LCT as applied science, we push for approaches rooted in science that can be applied by governments and businesses
- **Systemic and holistic:** following the nature of Life Cycle Assessment (life cycle approach, large spectrum of environmental impacts), and including environmental, social and economic considerations
- **Multi-stakeholder:** providing the interface between science for sustainability, governments and businesses and civil society
- **Collaborative and open:** the Initiative builds on partnerships which enable the delivery of the mission and collective impact. A lot of the outputs are delivered in-kind and this is recognized accordingly.
- **Inclusive:** to ensure that all communities can contribute to and benefit from the LCI initiative

Operational principles (for the design and implementation of activities from 2017 onwards):

- Delivery will **focus** on those areas that use the **core value added** of the Initiative, e.g. because they need the legitimacy, the convening power, the link to international processes to ensure scale-up and collective impact...
- Delivery is **designed with users** (businesses and governments), and its practical application / **uptake** is embedded since its inception

Some principles about governance:

- **Balanced:** Make tripartite nature evident (Government – Business – Science & Civil Society), giving a fair say to all constituencies, developing and developed countries, and genders.
- **Transparent:** in decision making and clearly separating roles (funding; steering; coordinating; implementing; reviewing work and deliverables) so as to avoid conflict of interest.
- **Open:** Operationally, the Initiative is open in its membership base and in contracting work, for the sake of transparency and to enable as many as possible to collaborate with the Initiative
- **Lean:** Keep governance lean and simple.

Annex 3.1: Assembly: Membership of the Life Cycle Initiative, modalities and Rules

The Assembly is the ensemble of all members of the Life Cycle Initiative. Membership is open and free to both public and private institutions and individuals that express their interest in writing, and in the case of most institutional members also pay a membership fee (see membership form in Annex 4). Members commit to the vision and mission of the Initiative, abide to its code of ethics (see Annex 4), and commit to support the activities of the Initiative in various ways (sponsoring, delivering specific activities, fund-raising, promoting and using the Initiative approaches, etc.), depending on their possibilities. Members will find significant value in the Initiative as summarized in the bullets below:

- vote for representatives to the Steering Committee (influencing)
- early access to the deliverables of the Life Cycle Initiative
- community transforming the economy through life cycle thinking, both regionally and globally
- associated to the global processes influenced by the Initiative's deliverables
- experts influencing a stronger consideration of life cycle thinking into policy- and decision-making
- Life Cycle expert Community of Practice informing the needs of Users, thus getting their science applied
- users needing to identify best approaches for specific policy- and decision-making processes get access to top experts in the global life cycle community

The Secretariat keeps track of active membership through expressions of interest and records of activity (supported by the Programme co-chairs), mediates conflicts between members, and may raise to the Steering Committee the need to dismiss members who violate the code of ethics or work against the vision/mission of the Initiative. Members wishing to leave the Initiative should officially notify the Secretariat of their decision in writing.

- ***Institutional members*** support the activities of the Initiative in one or more of the following ways:
 - leading the delivery of Initiative activities;
 - funding activities of the Initiative (i.e. becoming a sponsor); specific rules for sponsors apply (see section 4.4), or contribute in-kind according to their resources and institutional capacity;
 - fund-raising to support Initiative activities;
 - promoting the use of the Initiative's deliverables in own decision- and policy-making processes; all institutional members commit to briefly report on the ways in which they promote the Initiative's vision and mission, at least when joining the Initiative and as required by the Initiative's processes (no more than once every two years)
 - hosting or co-organizing face-to-face meetings of the Initiative;
 - seeking synergies with their own activities (e.g. presenting the activities of the Initiative through own channels and public events; organizing back-to-back or joint events; etc.);
 - providing feedback and participating in Initiative's stakeholder consultations;
 - other ways that are identified as beneficial for the Initiative.
- ***Individual members*** are most likely to actively contribute to the Initiative through support of specific programmes, or other institutional activities of the Initiative. Specific ways in which Individual members support the activities of the Initiative include:
 - leading the delivery of Initiative activities;
 - fund-raising to support Initiative activities;
 - seeking synergies with their own activities (e.g. presenting the activities of the Initiative through own channels and public events; organizing back-to-back or joint events; etc.);
 - providing feedback and participating in Initiative's stakeholder consultations;
 - other ways that are identified as beneficial for the Initiative.

Annex 3.2: Rules for Voting for Steering Committee members

Each constituency in the Assembly votes for its representatives to the Steering Committee. I.e., private institutions vote for Industry Steering Committee members; governments / governmental bodies vote for Government Steering Committee members; and individual members vote for two representatives of Science / Civil society Steering Committee members, whereas academic institutions and NGOs

becoming institutional members in this constituency, vote for one representative in this constituency. All members have one vote; institutional members vote for institutional representatives (8/10 seats in the Steering Committee) and individual members vote for individual representatives in the Science and Civil Society constituency (1/10 Steering Committee members); UN Environment holds a permanent seat in the Steering Committee.

To ensure geographical representation, members of each constituency have to be from different regions (Africa; Asia/Pacific; Europe; Latin America and Caribbean; North America; West Asia). Global institutions do not use the space of any region (regardless of where their headquarters are), but there can only be one global institution in each constituency. In practice, one member of each constituency is replaced every year; thus only candidates from regions not represented by the two remaining members may stand for election.

Annex 3.3: Terms of Reference of the Steering Committee

The main duty of the Steering Committee is decision making towards the implementation of the Initiative's vision, mission and planned outputs – allocating resources, appointing co-chairs and projects to deliver programmes, endorsing deliverables and so on. It represents three key constituencies and the host organization (UN Environment) in a balanced way:

- 3 seats for Government;
- 3 seats for Business;
- 3 seats for Science / Civil Society;
- 1 seat for UN Environment as host organization.

The Steering Committee members select two co-chairs among themselves to chair the meetings, aiming for geographical and gender balance. The composition of the Steering Committee seeks balance at many levels: constituency (equal seats for Government, Business, Science and Civil Society); geography (same region cannot be repeated within the same constituency's seats); and gender (strive for gender parity in steering committee as far as possible). Steering Committee members provide their time to the Initiative in-kind. In order to ensure openness and rotation also at the top of the decision-making structure, one third of the Steering Committee is to be elected each year (1 member of each constituency: Government; Business; Science and Civil Society). *I.e. after initial election of 9 members in year 1, three of the seats are to rotate in year 2; three more seats in year 3; and the last three of the original seats in year 4; then successively... Thus, after the initial phase, steering Committee members act in principle for 3 years each, and may opt to be re-elected for their post only once. I.e. members serve terms of three years unless they elect to step down or are removed for cause.* UN Environment is normally represented by the Director of the Economy Division, or an alternate delegated by the Director.

Members of the Steering Committee have to pay their own travel costs; and those who cannot fund themselves can always participate virtually in Steering Committee meetings.

Responsibilities of the Steering Committee:

- The Steering Committee members take overall responsibility for the delivery of the Initiative's vision, mission, and programme of work.
- Decide on allocation of funds between the different programmes depending on possible gap between the available funds and initial estimated budget, as well as performance of the different work areas against agreed performance indicators (see 2.3.3.).
- Identify synergies between programmes of the Initiative, as well as with external partners who may need to be approached / engaged. In relation to this, the Steering Committee may designate one of its members to represent the Initiative in other partnerships (e.g. the Multi-stakeholder Advisory Committees of 10YFP programmes).

- Meet through teleconference at least every 2 months, and face-to-face once per year during Initiative Assembly meetings. Steering Committee members may delegate their presence to calls or face-to-face meetings to an alternate in writing to the Secretariat.
- Steering Committee members are expected to actively participate in the discussions and decisions of the Steering Committee. Members who do not provide an alternate or justification for absence in 3 meetings / calls in a year (or 2 in a row) may be invited to give up their position in the next election process.
- To the extent possible, Steering Committee members strive to liaise with their constituencies in order to represent their views.
- Consensus is sought for decisions; if consensus is not achieved, a decision may be postponed until the next meeting at the latest (i.e. 2 months' delay maximum), where the decision may be made by 6 votes in favour/against (out of 10 potential votes) if consensus is not reached in the process.
- Review and approve new project proposals or components within the existing Programmes of the Initiative, ensuring that funds will be available for successful completion of the project.
- Resolve major issues, for example, topics that are not in line with the vision and mission or the Code of Ethics of the Life Cycle Initiative, or that deviate from the original project proposal endorsed.
- In cases where external review of a deliverable is needed, the Steering Committee will appoint the reviewers and decide on the approval of deliverables based on the recommendations given by the ad hoc review teams about the deliverables reviewed.
- The Steering Committee decides on the eventual endorsement of deliverables from the Programmes, which do not undergo a review, for them to be officially backed by the Life Cycle Initiative.
- The Steering Committee reviews the work programme and Resource Mobilization Strategy of the Initiative every 4-5 years in order to ensure it continues to deliver towards the Vision and Mission of the Initiative, and adapts to external drivers as far as relevant. In these exercises the SC may define the way to fully review the strategy of the Initiative and the transition process to the new structure if necessary, or to close the Initiative altogether once its Vision is achieved.
- The Steering Committee may decide to modify the governance of the Initiative and any rules therein by consensus only.

Annex 3.4: Terms of Reference for Programme co-chairs and Programme set-up

The work of the Life Cycle Initiative is delivered through programmes, one for each of the key deliverables of the Initiative. Each programme has two co-chairs, appointed by the Steering Committee based on their expertise and track record. Depending on the programme structure, it is also possible that co-chairs are elected from the implementing partners delivering into that programme.

Responsibilities of the Programme co-chairs:

- Seek synergies with other Initiative programmes, as well as with external projects which are aligned with the Initiative Vision and Mission, to present them to the Steering Committee to decide on potential partnerships.
- Conduct fundraising efforts related to their Programme areas in coordination with the Secretariat.
- Ensure the successful delivery of tasks.
- Stay in close contact with task and project leaders within their Programmes and support them on the processes needed to present the deliverables to ad hoc Review teams, and to complete them by taking into consideration feedback received.
- Report regular status updates to the Secretariat on current projects, and prepare

- communication materials with the Secretariat when relevant.
- Represent the respective Programme of the Initiative, but not the Initiative as a whole unless given permission / requested by the Steering Committee.
 - Further strengthen the participation of the community by inviting newcomers to engage with the Initiative.
 - Maintain records of members actively contributing to each Programme and update the Secretariat on these members once a year.

The implementing partners are selected by the Steering Committee through open calls and based on transparent criteria; they have the implementing capacity to receive and spend funds to deliver the necessary activities and outputs to achieve the goals of the programmes. The programme set up is geared to enabling the combination / coordination of projects by the partners for collective impact, by identifying on-going projects and project proposals that deliver the programmatic ambition of the Initiative. In some cases, projects may be integrated within the Initiative, whereas in other cases collaboration agreements may be established where the Initiative goes alongside new partners on ad hoc collaboration terms.

Thus, three broad levels of integration / governance of projects delivering the key deliverables of the Initiative may be envisaged:

1. Fully funded through the Life Cycle Initiative, 100% governance by the Steering Committee.
2. Projects with funds raised by Initiative partners, with partial funding to the Initiative's core budget, and shared governance with the Initiative's Steering Committee. Project deliverables may be considered as the Initiative's, to be decided by partner and the Steering Committee. E.g. the REAL project (TBD).
3. Collaboration agreements between an external partner (or a partner within the Initiative) and the Initiative, where synergies are identified towards achieving one of the key delivery areas of the Initiative and ad hoc collaboration terms are agreed for the partnership. In this case the partner is not considered as a sponsor of the Initiative. E.g. GLAD (TBD).

The Steering Committee will evaluate such proposals with criteria in line with the core values and operational principles of the Initiative (see above), and decide on the project portfolio and allocation of the Initiative's own funds. The co-chairs of each programme provide their time in-kind (i.e. paid by their own institutions). Depending on the complexity of the programme's delivery, several sub-projects may be envisaged to contribute to the programme, as long as the overall complexity does not make them unmanageable. Implementing partners will be selected through open, transparent and inclusive bidding-process, based on evaluation criteria aligned with the principles of the Initiative, and avoiding potential conflicts of interest. Box 3 illustrates some potential examples of programme funding.

E.g. 1: Government X funds a project with UN Env that delivers to capacity development and data accessibility; the Initiative SC is in overall project Steering Board, and may appoint specific technical advisors on the specific topics of the project; the project funds 30% of Secretariat staff for duration of the project. X is listed as sponsor of the Initiative, and the reporting to X may focus on the specific project delivery, as well as an overall reporting “on the overall progress of the Initiative”

E.g. 2: Government Z provides an annual contribution to fund the Secretariat of the Life Cycle Initiative. In addition Government Z funds directly an Initiative Pellston workshop© for impact assessment indicators. Z is listed as sponsor, and receives specific report on the Pellston workshop in addition to general progress of the Initiative

E.g. 3: Private institutional member Y provides annual contribution to the Secretariat. In addition, partner Y is funded by its members to deliver practical guidance and capacity on Life Cycle Thinking within sustainable value chains. The Initiative SC is engaged in the steering of such project; UN Env and other Initiative partners are sub-contracted to deliver specific components of the project (e.g. capacity development of SMEs in emerging economies), but a cash contribution to the Initiative core funding is not possible for Y. Y is NOT listed as sponsor of the Initiative, but it is acknowledged as contributor.

E.g. 4: Academic partner H develops a project proposal in line of the Impact Indicator area of the Initiative and obtains funding from the Horizon 2020 programme. The project proposal engages the steering and governance bodies of the Initiative, including funds for the Technical Review Committee to ensure robust delivery of the final output; however, no payment to the core funding of the Initiative is possible for H2020. H is NOT listed as sponsor of the Initiative, but it is acknowledged as contributor, and the outputs of the project are communicated as outputs of the Initiative.

Box 3: Potential cases of programme funding.

When necessary, programme deliverables must be subject to stakeholder consultations where enough time and openness is allowed to ensure relevant stakeholders may have a say in what the Initiative is delivering. Feedback from such consultations must be taken into account by the Technical and Policy Review teams when making recommendations for endorsement by the Steering Committee.

Annex 3.5: Terms of Reference for the Secretariat

The Secretariat of the Life Cycle Initiative is hosted by UN Environment, and provides the backbone, coordination and communication activities required to deliver the collective impact of all the partners. The main role of the Secretariat is to act as record keeper and report on activities in support of the needs of the Steering Committee, manage the funds and provide information on the financial status to the Steering Committee and the programme co-chairs, as well as to provide the communication needs of the Initiative. The Secretariat is also responsible for ensuring that activities executed through the programmes are accurately and efficiently monitored through regular calls with the Programme co-chairs. The Secretariat staff is funded by the Life Cycle Initiative’s core funding.

Responsibilities of the Secretariat:

- Organize and conduct teleconference calls, as needed, with the Steering Committee, Programme co-chairs and ad hoc Technical / Policy Review groups; take minutes of the calls, distribute for review and revise as needed.
- Take minutes of face-to-face Steering Committee meetings, distribute for review and revise as needed.
- Execute, with support of the Programmes and Steering Committee, outreach to stakeholders, sponsors and potential partners.
- Manage the funds deposited in the Life Cycle Initiative, as well as any necessary contracts and funding agreements that are necessary to deliver the Initiative’s Programmes. With a UN Environment hosted Secretariat, funds and contracts management is done according to UN Rules and Regulations.
- Support the ad hoc Technical / Policy Review teams regarding the review of deliverables,

following the request of the Review Chair.

- Facilitate the discussion between the Steering Committee and the Technical and Policy Review ad hoc teams, and support the latter with the follow-up of incorporation of feedback in the final version of a deliverable.
- Support the Programme co-chairs in the follow-up, monitoring and regular report to the Steering Committee on planned and ongoing activities of the Life Cycle Initiative.
- Maintain web-based information and a knowledge management system including a database of members. Lead on internal and external communications for the Life Cycle Initiative.
- Reception of completed deliverables to be reviewed and request for review by ad hoc Technical / Policy Review teams.
- Ensure monitoring and evaluation of the programme delivery according to agreed impact indicators, in liaison with UN Environment's evaluation office.
- Keep track of membership through expressions of interest and records of activity.
- Mediate conflicts, and potentially dismiss members who violate code of ethics or go against the vision / mission of the Initiative, in agreement with the Steering Committee.

Annex 3.6: Terms of Reference for the ad hoc Technical / Policy Review teams

The ad hoc Technical/ Policy Review teams are appointed by the Steering Committee as necessary to ensure that the deliverables are consistent with the Life Cycle Initiative's mission and objectives. They also ensure international acceptance and acknowledgement of robust and consistent deliverables on life cycle methodologies and on issues of scientific / policy concern. The ad hoc Technical / Policy Review teams act as independent advisory resource and report to the Steering Committee. The Steering Committee will decide on the most adequate number and profile of reviewers depending on the complexity and policy relevance of the deliverable to be reviewed.

The reviewers are appointed *ad hoc* for specific deliverables and the time they devote to the coordination of the review tasks is expected to be provided in-kind. Acknowledgement of the reviewers' time is provided in the Initiative website and any publications linked to the specific deliverable. The reviewers should meet the following criteria:

1. In-depth knowledge of the Initiative and of life cycle approaches
2. Proven technical, scientific and policy objectivity
3. Proven skills in managing reviews and solving conflicts
4. Available time to cover the role of reviewer
5. No conflict of interest with the deliverables of the Initiative object of review

Responsibilities of the ad hoc Technical / Policy Review teams:

- Ensure that the deliverables are consistent with the Life Cycle Initiative's mission and objectives.
- Ensure international acceptance and acknowledgement of robust and consistent deliverables on life cycle methodologies and on issues of scientific concern.
- A Review Team chair may be selected to act as the main contact point and oversee the roles and responsibilities of the ad hoc reviewers.

ANNEX 4:

Annex 4.1: Code of Ethics

The code of Ethics and Conflict of Interest Policy can be found in the following link: <http://www.lifecycleinitiative.org/about/code-of-ethics-and-antitrust-statement/>.

Annex 4.2: Membership form

The membership form may be downloaded from the [Life Cycle Initiative website](#).

Annex 4.3: Antitrust statement

As the Life Cycle Initiative may include multiple manufacturing partners from the same industry, UN Environment will monitor for risks of antitrust activities, and request its members to commit to avoid discussions potentially linked to such antitrust activities, including:

- Price fixing: to avoid price fixing, meetings will not include discussion or exchange of price from the private sector;
- Market allocation: industry participants will not agree to certain market shares, assign territories, and/or forego a product market in favour of a competitor;
- Group boycotts: Industry participants shall not boycott business with a particular supplier or other commercial entity.

If any member of the Initiative has any concerns of antitrust behaviour, they should not hesitate to discuss with the Secretariat at UN Environment.

ANNEX 5: Glossary

- Life Cycle Approaches: Life Cycle Approaches are techniques and tools to inventory and assess the impacts along the life cycle of products (UNEP, 2012), and include: i) Life Cycle Concepts (LCT, LCM, life cycle engineering, etc.); ii) Life cycle methods and models (LCA, LCC, SLCA, MFA, etc.) and iii) life cycle tools (databases, software, checklists, etc.).
- Life Cycle Assessment (LCA): Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle. (ISO 2006)
- Life Cycle data: life cycle inventory data, and raw information that is necessary to build Life cycle inventory datasets.
- Life Cycle Knowledge: science-based life cycle methods, indicators and data developed for different levels of application.
- Life Cycle methods: refer to life cycle impact assessment indicators (mostly environmental indicators, but social indicators and methods to monetize impacts into economic value for Life Cycle Costing fit here too).
- Life Cycle Thinking: Life Cycle Thinking is a mostly qualitative discussion to identify stages of the life cycle and/or the potential environmental impacts of greatest significance e.g. for use in a design brief or in an introductory discussion of policy measures. The greatest benefit is that it helps focus consideration of the full life cycle of the product or system; data are typically qualitative (statements) or very general and available-by-heart quantitative data. (Christiansen *et al.*, 1997).
- Life Cycle tools: specific applications / approaches to make application simpler / more meaningful... such as Organizational LCA; hotspot analyses, etc.