LIFE CYCLE INITIATIVE PROGRESS REPORT 2021

Life Cycle Initiative

WHAT IS THE LIFE CYCLE INITIATIVE?

The Life Cycle Initiative is a public-private, multi-stakeholder partnership enabling the global use of credible life cycle knowledge by private and public decision makers.

Hosted by the United Nations Environment Programme (UNEP), the Life Cycle Initiative is at the interface between users and experts of Life Cycle approaches. It provides a global forum to ensure a science-based, consensus-building process to support decisions and policies towards the shared vision of sustainability as a public good. It delivers authoritative opinion on sound tools and approaches by engaging its multi-stakeholder partnership (including governments, businesses, scientific and civil society organizations and individuals).

The Initiative facilitates the application of life cycle knowledge in the global sustainable development agenda in order to achieve global goals faster and more efficiently.

CONTENTS

Foreword 3
2021 highlights 4
Our Organisation 4
- Steering Committee 4
- Members 4

Join us! 6
Communications engagement 6
- Social media networks 6
- LC Net newsletter 6
- Publications and reports 6

New strategy 7
2021 Activities 8
- 1. Technical and Policy Advice 8
- 2. Life Cycle Capacity Development 13
- 3. Knowledge and Consensus Building 14

What can you expect to see in 2022? 16
2022 Outlook 16
Thank you to our funding partners! 17

FOREWORD

COP26 and Covid-19 have shown the relevance of solving the triple planetary crises of climate instability, nature loss, and rising pollution levels. The world is slowly moving forward towards circularity and to making sustainable consumption and production the norm. There is more focus now than ever before on sustainability. Life Cycle Thinking and a Life Cycle Approach is imperative to inform decision making and lead the world towards both environmental and social sustainability.

A Life Cycle Approach is the scientific underpinning of the circular economy to achieve the Sustainable Development Goals of the 2030 Agenda. Using a life cycle approach allows decision makers- both private and public- to make informed choices about where, when, and how action is needed and will be most impactful. The Life Cycle Initiative provides technical and policy advice, develops life cycle capacity, and strives towards life cycle knowledge consensus, and provides a platform to advance the understanding and application of life cycle thinking by private and public decision makers.

In 2021 Life Cycle Initiative (LCI) released its newly updated Version 2.0 of the Sustainable Consumption Hotspot Analysis Tool (SCP-HAT). This updated version provides a more extensive time and sectoral coverage than the first version and it much more user-friendly. This tool continues to provide guidance to decision makers worldwide, for example, aiding them to update their Nationally Determined Contributions and helping them to gain a comprehensive understanding of which sectors must be prioritised. The Global Guidance for Life Cycle Impact Assessment Indicators and Methods (GLAM) project entered into its third phase, establishing international consensus on a life-cycle impact assessment method. Whilst also of these project tackle the issue of widespread access to Life Cycle Assessment data, the Global LCA Data Access network (GLAD) took on this problem head-on, adding numerous databases to its network for public use.

A key undertaking for the Initiative in 2021 was developing advice on a wide range of environmental issues such as our work on plastic pollution and single-use plastic products. Our work on the plastic sector was advanced aggressively, in particular in response to the demands by member states on clarifying what a life cycle approach applied to plastic pollution looks like in practice.

All this great work would not be possible without the greater life cycle community. On behalf of the Initiative, I would like to personally show my gratitude to all the Steering Committee members for their input and commitment when guiding the Initiative's activities and their dedication to the cause. Your contributions and that of the Life Cycle community are critical to the Initiative's success. I would also like to thank and acknowledge the funding partners of the Initiative, without whom much of this work could not be possible.

Together with our members, partners, funders and the wider life cycle community, a life cycle approach is building momentum, and its importance known. Stay tuned and stay with us on this journey to promote a fuller understanding and use of life cycle approaches.

Steven Stone
Deputy Director, Economy Division
UNEP

OUR ORGANISATION

The Life Cycle Initiative partners with governments, businesses, academia and civil society to support public and private decision makers. The main goals are to generate consensus on life cycle assessment methodologies and to provide technical and policy support. A Life Cycle Approach can benefit organisations as they can see the impacts at each stage along their value chain and strategise accordingly to improve their efficiency and reduce their negative environmental and social impacts . For policy-makers this approach is beneficial as it gives a holistic view of their country or region and the sectors which need to be focused on the most. The goal of this is to help achieve the 2030 Agenda of Sustainable Development faster and more efficiently. For example, we have seen governments make use of Life Cycle data when developing their green recovery plans post-pandemic, and when enhancing their Nationally Determined Contributions to ensure their most effective contribution to the Paris Agreement. The Initiative is guided by a Steering Committee and supported by a wide and diverse membership base.

Steering Committee

The Initiative's Steering Committee provides guidance and technical advice. It is comprised of ten members from the Life Cycle Initiative's membership and includes UNEP. Each year, members elect three new representatives to the Steering Committee at the annual General Assembly. The General Assembly is a great opportunity to showcase the Initiatives achievements to all members, to get important feedback from members, and to discuss future activities and vision. Results of the General Assembly Survey shows the satisfaction or our members. Like every year, the General Assembly was held online, showing great engagement with the elections. In Table 1, you can find the new Steering Committee members.

Members

The membership of the Initiative is made up of governments, businesses, civil society organisations and individuals- like the Steering Committee. These members come from a broad range of disciplines and regions.

2021 HIGHLIGHTS

February | In the context of UNEA5.1, the report Addressing Single-Use Plastic Products Pollution using a Life Cycle Approach was launched in a webinar co-hosted by the Government of India (sponsor of the resolution 4/9 on the same topic) and the European Union.

June | SUPP and Nappy Alliance webinar on nappies. The meta-study, "Single-use nappies and their alternatives" gained a lot of attention worldwide, which resulted in a webinar in partnership with the UK Nappy Alliance that presented and discussed the findings. This webinar gained a lot of interest and highlighted the importance of these studies on every-day products.

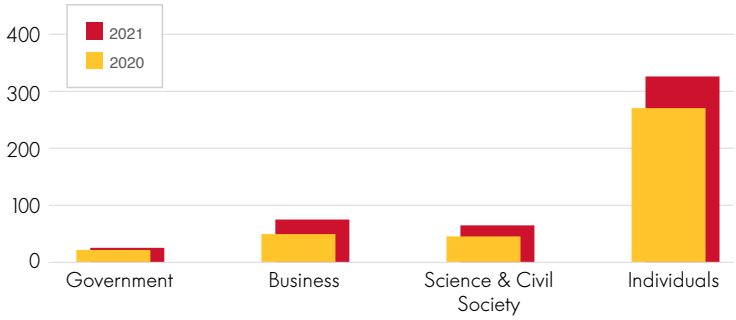
July | Plastic Pollution – Webinar requested by member states in the context of the ministerial Conference on marine litter and plastic pollution – 'What does a life-cycle approach applied to address marine litter and plastic pollution look like?'

Table 1: Composition of the Life Cycle Initiative Steering Committee for 2022

Region	Government	Business	Science/Civil Society/ Individuals
Africa			Nasser Ayoub [mandate until 2024]
Asia and Pacific	Thailand- NTSDA [mandate until 2024]	FICCI [mandate until 2022]	
Europe	European Commission – DG Environment [mandate until 2023]	EcoInnovazione [mandate until 2023]	World Resources Forum [mandate until 2023]
Latin America and the Caribbean		HUB EPD of Latin America [mandate until 2024]	
North America	United States – Department of Agriculture (USDA-ARS-NAL) [mandate until 2022]		CIRAIG [mandate until 2022]

In 2021, we have seen a fast growth of memberships, with four new governments, 26 new businesses, 20 new science and civil society institutions, and over 50 new individual members. A record-breaking year for the Initiative, which is showing our growing relevance.

Graph 1: Comparison of Membership levels in 2020 vs 2021



Providing Information and tools on Life Cycle Thinking

Singe Use Plastic products (SUPP) meta-studies: Two meta-studies were released during 2021 on the LCA of single-use plastic products and their alternatives: one on nappies, and the other on menstrual products.

July | The release of various papers on the toxicity of chemicals by USEtox on the project with SAICM. These papers explored subjects such as 'Chemical of Concern in Plastic Toys' and 'Life Cycle-based Alternatives Assessment (LCAA) for Chemical Substitution'.

December | Launch of SCP-HAT Version 2.0. The updated version 2.0 contains extended time and sectoral coverage and various additional features such as ready-made reports and explanatory videos which will increase the value of the tool to policy and business decision makers.

December | Social LCA Event in Brussels with over 50 guests in person and 300 online participants. The event launched the translated Social LCA Guidelines in French, Dutch and Italian and the Methodological Sheets and Pilots Report.

JOIN US!

Join the Life Cycle Initiative and become a part of the team! We warmly welcome participants from governments, businesses, civil society institutions and individuals and the unique experience and perspective you can all bring to the Life Cycle table! Active in-kind contribution is all that is required to be a member. There are many benefits to becoming a member of the Life Cycle Initiative, such as fantastic networking opportunities, access to the latest information and events on Life Cycle Thinking and to be part of a like-minded community driving this science-based approach.

Become a member

The Life Cycle Initiative relies on generous funding partners and projects to provide the funding for our Initiative and activities. Core funding is needed to run the structure of the Initiative as well as the availability to have a budget to provide seed funding to get projects up and running. Direct project funding represents the largest share of the Initiative budget. Become a funder today and aid in advancing these projects to promote the uptake of sustainable consumption and production patterns worldwide.

What are the benefits of being a funding partner?

- Having an influence- maintain close links and influence to various debates, discussions spaces and assembly.
- Gaining visibility to the public in various ways such as through reports, newsletters, our website and at conferences.
- Access to top quality advice and expertise through a global community of experts and practitioners.

Become a funding partner

COMMUNICATIONS ENGAGEMENT

Engagement and the interest in our information and project activities continued to rise throughout 2021. With most of life still taking place online this year, we utilised the LC Net newsletter, our website, and our various social media networks to share important news, webinars, reports and publications coming up. In addition to this, we held many events throughout the year- virtual and hybrid.

Social media networks

Our social media channels gained a dramatically larger amount of engagement this year.

With our LinkedIn followers rising by over 50% from 2,000 in 2020 to over 3,100 by the end of 2021, we saw a huge number of these new followers coming from Latin America which showcases how much we have been engaged with this region in 2021.

Our Twitter engagement has also hit an all-time high reaching over 1,400 followers. We will continue to recognise the importance of social media networks to spread our research in 2022.

LC Net newsletter

As for the Initiative's LC Net newsletter, we saw interest growing. Open (38,8%) and click rates (16,7%) have increased slightly over 2020, and we have received 1,741 new subscriptions.

Publications and reports

Publications and reports are one of the most important outputs of the Initiative. We saw increased engagement with the LCA meta-studies of single use plastic products and their alternatives. The two meta-studies released this year on nappies and menstrual were downloaded, together over 2,000 times. The Social LCA Guidelines from 2020 were downloaded over 3,000 times in 2021.

NEW STRATEGY

2021 marked the last full year of the 2017-2022 Life Cycle Initiative Strategy. The Initiative was successful in completing project activities and ensuring the wider public was aware of these outputs and impacts through strategic communication and social media campaigns.

The Initiative saw shifts in course of action internally and externally. With big milestones ahead – the Life Cycle Initiative's 20th and UNEP's 50th anniversary this year in 2022 – it is the perfect opportunity for the wider community to consider the path we are on, and the path on which we strive to continue.

UNEP's Medium-Term Strategy (MTS) for 2022-2025 was approved at UNEA5.1 (February 2021) and structures UNEP's work around three main pillars addressing the triple planetary crisis:

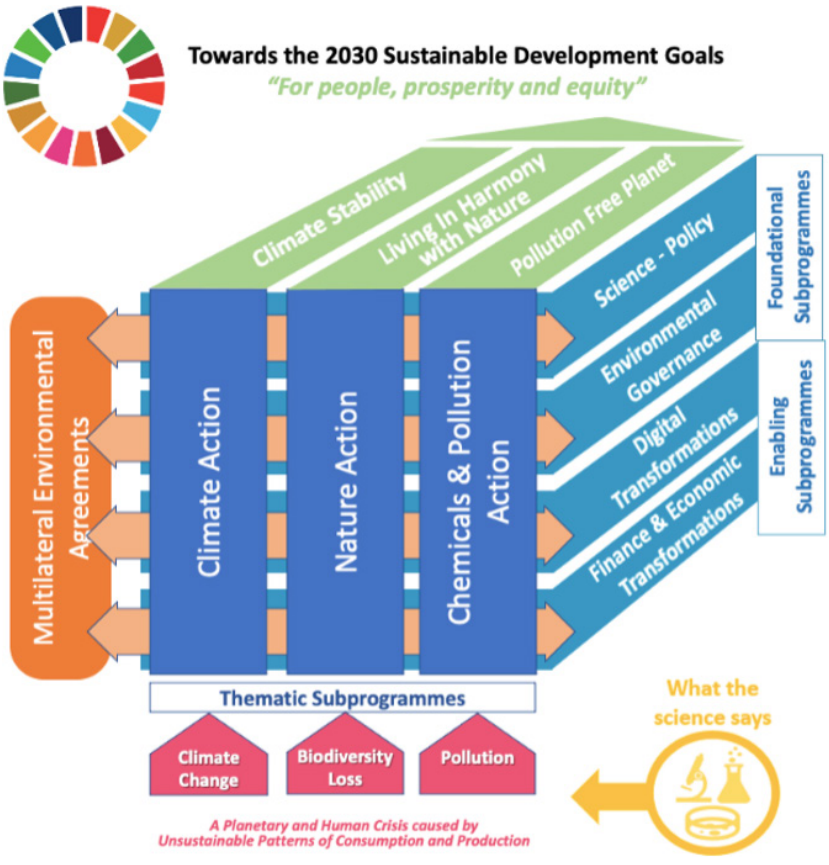
1. Climate Action towards Climate Stability
2. Nature Action towards Living in Harmony with Nature
3. Chemicals and Pollution Action towards a Pollution Free Planet

This figure is a summary of UNEP's new Medium-Term Strategy 2022-2025. It clearly identified that the triple planetary crises are caused by unsustainable production and consumption. To revert the triple planetary crises and to align with the 2030 Agenda, a Finance & Economic Transformation is called for to centre around the well-being of people and the planet. The MTS is also focussing on coherent approaches along the value chains to high-impact sectors like Plastics, Textiles, Transport/ Mobility, Food, Buildings & Construction etc.

20 Years of the Life Cycle Initiative

UN environment programme | 50 1972-2022

The work of the Life Cycle Initiative fits very well in this strategy and contributes to the solving the triple planetary crises. The new MTS offers the opportunity to connect with ongoing projects along high impact sectors to upscale the work and impact and will be considered strongly in the design of the Initiative Strategy 2022-2027. This redesign has benefitted from an extensive stakeholder consultation led by our strategy consultant Bina Emanvel and will be presented and launched in the first half of 2022.



UNEP's new Medium-Term Strategy 2022-2025 clearly identifies that the triple planetary crises are caused by unsustainable production and consumption

2021 ACTIVITIES

The Life Cycle Initiative delivers on three broad activity areas:

1. Technical and Policy Advice

The Initiative collaborates with many partners towards mainstreaming Life Cycle Thinking and approaches into both decision and policy making. This collaboration takes a diversity of forms, such as the creation of a global forum for life cycle user groups, a repository of best practice and global guidance, tools and position papers developed collaboratively by life cycle experts and users.

2. Capacity Development

For life cycle approaches to gain widespread adoption, skills and capacity must be developed. Diverse channels and products are provided for the various audiences of capacity development programmes, such as policy makers, practitioners, and business decision makers.

3. Knowledge and Consensus Building

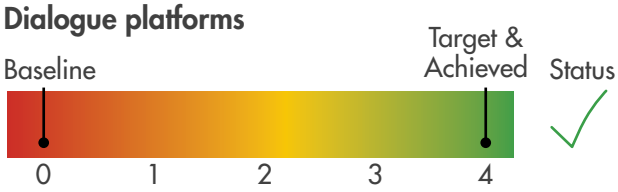
The Life Cycle Initiative ensures science-based, global consensus building for the basic knowledge necessary to underpin life cycle approaches. Access to Life Cycle Knowledge is a public good and endorsed by the Initiative.

The following sections outline the progress made in each of these three areas in 2021.

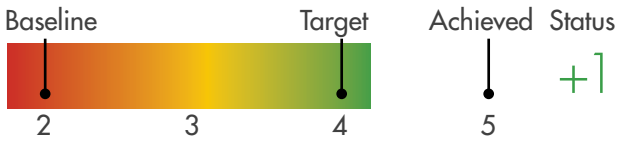
Progress on goals at end-2021

Life cycle knowledge-based technical and policy support delivered through dialogue platforms in joint projects with the LC Initiative.

Dialogue platforms



Global guidelines and tools



Sectoral/policy hotspots analysis

1. Technical and Policy Advice

SCP Hotspots Analysis Tool (SCP-HAT)

2021 was a particularly exciting year the SCP-HAT with Sustainable consumption and production being seen as the key to solving the three planetary crises. The SCP-HAT helps countries identify 'hotspots' or high impact areas. Regional workshops were held in the UN regions – each workshop was adapted to the respective regional policy priorities. The first SCP-HAT workshop was held at the beginning of March for the Latin America and Caribbean region in Spanish, with live English translations. The recording is available on the Initiative's YouTube channel. Following this, workshops continued throughout the year for the other regions. They all had an overwhelmingly positive response.

The uptake of the SCP-HAT continued to pick up momentum throughout the year, in supporting the

design of national development plans. The UN Development Programme applied SCP-HAT in several countries to enhance Nationally Determined Contributions (NDCs). Country reports are available for Vanuatu and The Gambia. UNEP also collaborated with the Partnership for Action on Green Economy to support green recovery strategies in Kazakhstan, India and Thailand using the SCP-HAT. Argentina also released their new SCP-Strategy towards the end of 2021, which was built on knowledge and data from the SCP-HAT. In addition to these developments, capacity to apply the SCP-HAT has been built through the GO4SDGs project. This continued exposure led to the SCP-HAT being utilised in other instances, such as being the key data source for the development of the EQuiP Tool 8 by UNIDO, a tool that policymakers can use to measure, design and evaluate the green transition of their manufacturing industries. The data within the SCP-HAT are also being embedded in the Common Country Analyses of UNEP's World Environment Situation Room.

Given this continually growing interest in the SCP-HAT, it was decided in the latter half of 2021 to develop SCP-HAT Regional Centres of Excellence. These RCoE's will offer a unique opportunity to establish a global partnership with scientific institutions to support its further applications in countries and, as a result, to strengthen the science-policy

interface required to support an effective shift to sustainable consumption and production practices.

To finish off a fantastic year for the SCP-HAT, the Initiative was thrilled to launch Version 2.0 of the tool. This updated tool has extended time and sectoral coverage, as well as the number of environmental and socio-economic indicators having been extended. Version 2.0 was launched alongside explanatory videos and ready-made reports. Check out these newest features of the SCP-HAT!

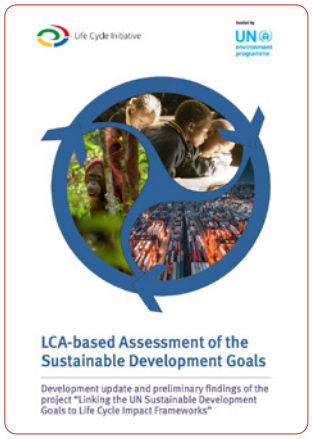
We know 2022 will be an even more exciting and progressive year for this tool.

SAICM-USEtox

SAICM (the Strategic Approach to International Chemicals Management) was launched in 2006 with the overall objective of achieving the sound management of chemicals throughout their life cycle. Progress in the development of USEtox-related tools in the context of the SAICM project was seen in 2021, with a key deliverable being a new open access study on "Enabling a circular economy for chemicals in plastics", which provides a systematic overview of current knowledge gaps, challenges and a list of more than 6000 chemicals found in plastics. Alongside this was another paper on "Estimating mouthing exposure to chemicals in children's products". A third key paper was released on "Chemicals of concern in building materials: A high-throughput screening", addressing the exposure of humans worldwide to a wide range of chemicals in building materials. This important work in the vital area of chemicals' toxicity will continue in 2022.

Linking UN SDGs (Sustainable Development Goals) to life cycle impact pathway frameworks

The objective of this project is to develop a clear link between the top-down process that led to the creation of the SDGs and all the bottom-up knowledge, data and methodology in the Life Cycle Sustainability Assessment Area. The main objective is to aid businesses and governments to integrate the SDGs into their decision-making processes. The working publication on LCA-based Assessment of the Sustainable Development Goals was a key deliverable released in 2021, linking the UN SDGs to Life Cycle Impact Frameworks.

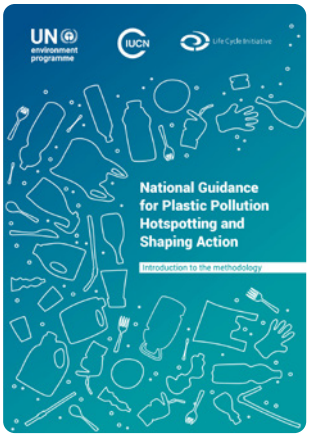


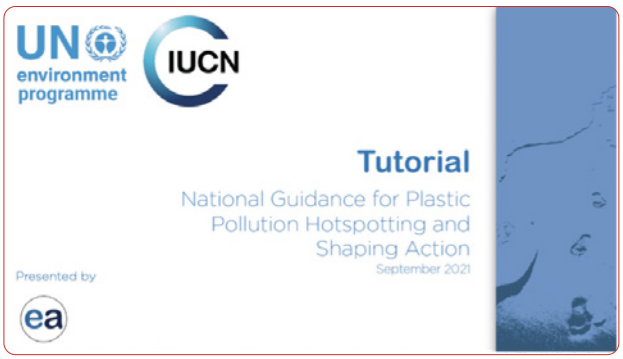
Within the project, two complementary approaches have been developed to help businesses measure their performance on the SDGs they care about: the Life cycle SDG Screening and the Life cycle SDG Assessment. After two successful rounds of case studies, and a final consultation round, the project is now finalized, and has resulted in operational methods that can be used to evaluate companies' contributions to the SDGs. This work has made the SDGs more practical and applicable to businesses, as they were not created with businesses in mind. We look forward to seeing it progress in 2022.

National Guidance for Plastic Hotspotting and Shaping Actions

The Life Cycle Initiative launched this project to develop guidance and a methodological framework to facilitate a process of prioritising solutions for plastic pollution. The Guidance was released jointly with IUCN in 2020, alongside its associated modules and tools. In 2021 the pilot reports of many countries were released which are available on the project website.

In June 2021, the National Guidance for plastics pollution Hotspotting received even more attention at a webinar co-hosted by the South Africa Plastics Pact and the country's Ministry of Environment on 'LCA as a tool to evaluate single-use plastic products in South Africa'.





A tutorial manual is now also available on the Guidance website . This tutorial manual has been created to assist new users to getting started with the application of the Guidance. It aims to guide users step by step through the Hotspotting assessment by following a linear workflow.

This Guidance is important in highlighting how it is imperative to take a holistic approach, covering major types of plastic polymers and products as well as their leakages and impacts along the full value chain.

Single-Use Plastic Products Studies

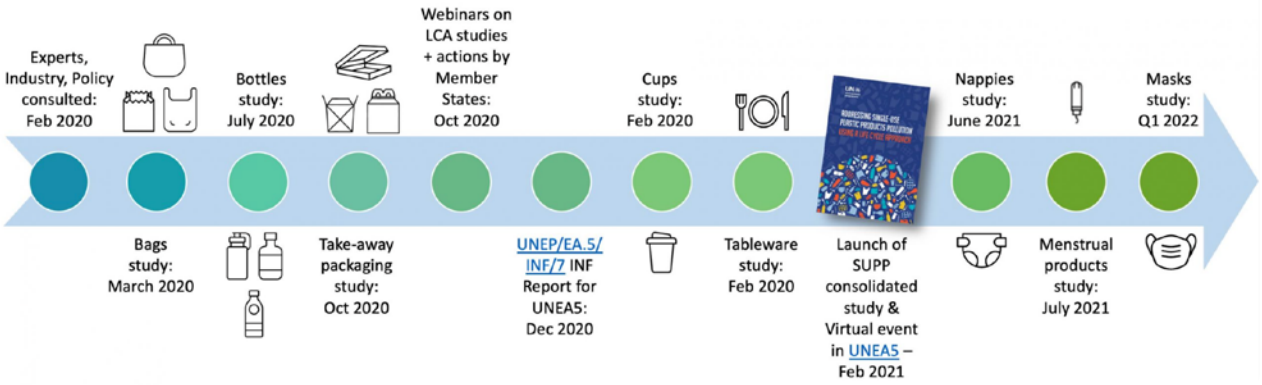
At the beginning of the year, there was the Side event 'Addressing Single-use Plastic Products with a Life Cycle Approach' at UNEA5 on the 19th of February. This dynamic and insightful event had more than 350 people in attendance from around the globe, and saw the launch of UNEP's integrative report on "Addressing Single-Use Plastic Products Pollution using a Life Cycle Approach". This report was part of a series of meta-studies in response to the 2019 UN Environmental Assembly Resolution on addressing single use plastic products pollution (UNEP/EA4/Res.9).

Following this there was the release of the meta-study on Nappies – an LCA study on single-use nappies and their alternatives. The meta-study on nappies shows that the contribution of single-use nappies to plastic waste is substantial. Reusable cloth nappies have lower environmental impact when washed in an energy efficient manner that also minimizes water use. This meta-study gained a lot of traction in the public and resulted in the findings of the report being discussed further in a public and interactive online event organised in collaboration with the UK Nappy Alliance.

Later in 2021 a new meta-study was released on menstrual products, finding that reusable menstrual cup is the best option for the environment.

The results of this study were presented by the Life Cycle Initiative at Environmenstrual Week 2021, during the webinar 'What About Periods', organised by Zero Waste Europe. The high turnout for this webinar illustrated the high interest in this topic.

This work was complemented towards the end of the year with the release of two sets of videos that distil the key findings of the LCA meta-studies on single-use plastic products that the Life Cycle Initiative published in 2020 and 2021. In Ukraine, Zero Waste L'viv translated parts of the report and its corresponding video to Ukrainian. Also, in South Africa, the Daily Maverick published a two-part article based on the findings of the study on nappies to highlight the important of shifting to reusable options. These are examples of the global interest in the work of the Initiative on single-use plastic products (SUPP).

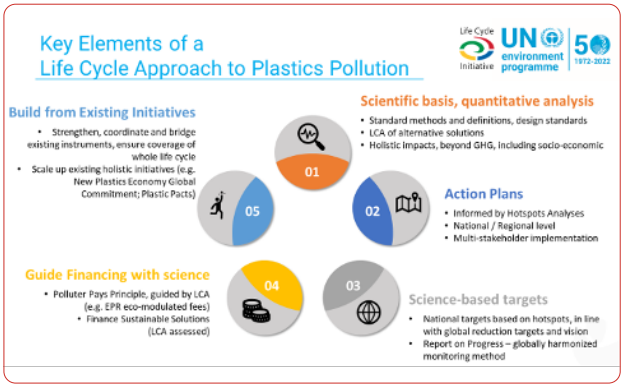


The Single-use Plastic Products (SUPP) project has already produced several deliverables, with one more to come in 2022 on medical masks.

Life Cycle Approach to Plastic Pollution

The Life Cycle Initiative contributed to a lively event co-hosted by UNEP, the British High Commission in Dar es Salaam and the FlipFlopi project, on Preventing Plastic Pollution. The role of LCA in informing policies to prevent plastic pollution was the key topic of the Initiative's presentation, based on the latest reports published on our website.

The first ever Ministerial Conference on Marine Litter and Plastic Pollution, co-convened by the governments of Ecuador, Germany, Ghana and Vietnam, and supported by UNEP was held in September 2021. Given its loud and clear call to consider plastic pollution across the entire life cycle of plastics, the Life Cycle Initiative was requested to delve further into this topic. The strong participation in the conference and its preparatory process is a testament to the high interest on the topic.



The Initiative hosted a webinar on 'What does a life-cycle approach applied to address marine litter and plastic pollution look like?' in July 2021. This webinar brought together a multi stakeholder panel of speakers, including government, industry, a Plastic Pact organisation, as well as the Ellen MacArthur Foundation.

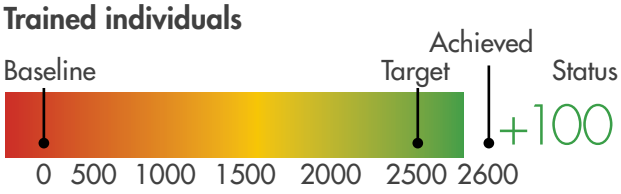
The messages from participants made it very clear that plastic pollution is not seen only as a waste-in-the-sea issue, but that the impacts across environmental media as well as socio-economic aspects must be considered across the whole life cycle of plastic products and of their alternatives. This is nicely illustrated in UNEP's Executive Director address to the Ministers, which stresses that plastic pollution "fuels the triple planetary crisis of climate change, nature and biodiversity loss, and pollution".

2. Life Cycle Capacity Development

Progress on goals at end-2021

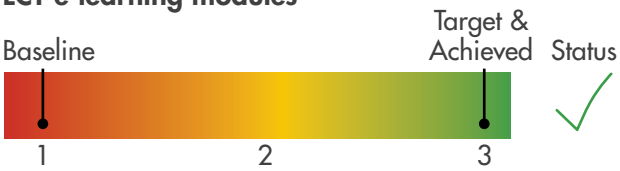
Life cycle capacity development products and delivery of capacity for policy makers, business decision makers and life cycle practitioners.

Trained individuals

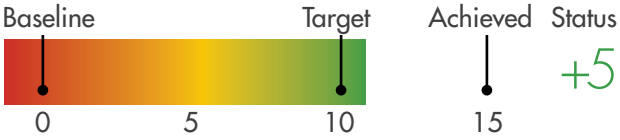


Governments/countries supported through technical helpdesk

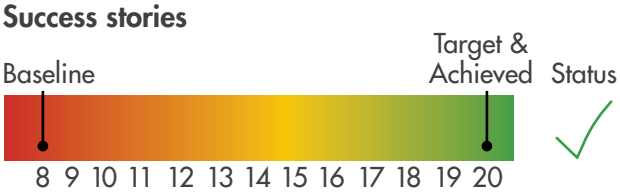
LCT e-learning modules



Pilot projects on LCT



Success stories



E-learning

The E-Learning courses have shown great progress in 2021. The Initiative interviewed Rima Manneh, Associate Professor and chairperson of the chemical engineering department at the University of Balamand, Lebanon to learn about her experience using the e-learning course as part of her teaching. Rima used our e-learning course to introduce her students to LCA methodology and received overwhelmingly positive feedback.

Throughout the year we saw more and more people taking advantage of the e-learning courses. In 2021, over 1170 participants completed the e-learning courses offered by the Initiative. This represented a 65% increase from the number of participants in 2020, and this is in large extent thanks to the many partnerships with our University members, using the modules as part of their formal education.

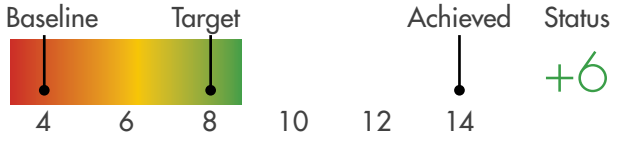
Three e-learning courses are offered in different languages: Introduction to Life Cycle Thinking, Life Cycle Thinking in Business Decision Making, and Life Cycle Thinking in Public Policy Formulation. The e-learning courses can be accessed through Learn Life Cycle Thinking. In addition to all the funding partners of the Life Cycle Initiative, the e-learning modules have been largely funded by the European Commission.

3. Knowledge and Consensus Building

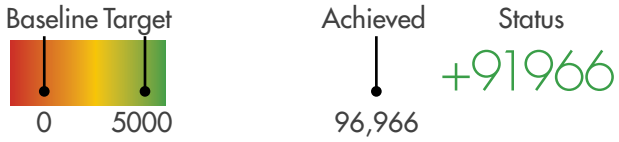
Progress on goals at end-2021

LC knowledge products (data, impact assessment factors) available and interoperable on a knowledge sharing platform.

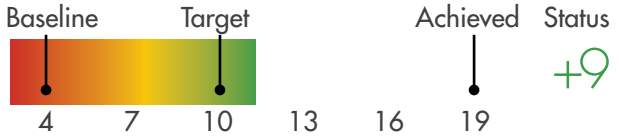
Databases interoperable through Global LCA Data Access network (GLAD)



LCA datasets accessible



LCIA indicators available through e-platform linked through global nomenclature system



Guidelines for Social Life Cycle Assessment (S-LCA)

Since the launch of the first edition by the Life Cycle Initiative in 2009, the relevance of S-LCA has only increased over time. We have seen a plethora of initiatives promoting value chain due diligence positioning social issues as a central concern, for both the private and public sector. In 2021, we continued to see this area grow. The 2020 edition of the guidelines facilitates understanding for non-experts and ensures that the right tools are in the hands of decision-makers.

In 2021, these guidelines were further progressed, with the launch of the translated Social Life Cycle Assessment guidelines in French, Dutch and Italian on December 7th at the Residence Palace in Brussels as well as online. This is a huge step in increasing the capacity for Social Life Cycle Assessment. Alongside these translated guidelines, there was the release of the UNEP 2021 S-LCA Methodological Sheets and the Pilots Report. This event was hosted by Mrs.

Global Guidance for Life Cycle Impact Assessment Indicators and Methods (GLAM)

The Global Guidance for Life Cycle Assessment Indicators and Methods (GLAM) aims to generate tangible and practical recommendation for different environmental and characterization factors used in Life Cycle Impact Assessments. In 2021, GLAM continued its focus on establishing a comprehensive, consistent, and global Environmental Life Cycle Impact Assessment (LCIA) method, covering classification, midpoint and damage characterisation, normalisation and weighting to assess the life cycle impacts of products and services on human health, ecosystems, and natural resources.

GLAM is organised into working groups, each addressing specific cross-cutting aspects. Different teams of researchers, now totalling approximately 90 members, are taking part in these working groups, and efforts are ongoing to meet the planned objectives, for which preliminary results and recommendations are foreseen for mid-2022, along with the first publications in scientific journals.

The Methodological Sheets and several translations of the Guidelines were launched at an event in Brussels.

Zakia Khattabi, the Belgian Minister of Climate, Environment, Sustainable Development and Green Deal and co-organised with the Life Cycle Initiative and the Quebec Government Office in Brussels. The event was extremely successful with over 50 people in attendance in person, and over 300 people attending virtually. All of these documents are available on the Life Cycle Initiative website.

Global Life Cycle Assessment Data Access network (GLAD)

Since the launch of the Global LCA Data Access Network (GLAD) in 2020, it has become the largest directory of LCA datasets, from independent providers, around the world. The focus of GLAD is to achieve better data accessibility and interoperability. The network is comprised of independently operated LCA databases from around the world. In January 2021, over 12,000 datasets of the commercial GaBi database were added to GLAD. At the beginning of 2021, the United States Federal LCA Commons published its U.S. Electricity Baseline on GLAD's platform. This was a major milestone in advancing consistency and quality in U.S. federal LCA. This was followed by 200 new free datasets from ESU Services being added in June.

In September, members of the metadata Working group of GLAD held the first Focus Group with LCA practitioners from around the world. Participants came from wide and far with participants connecting from Ireland, Chile, India, France, the US, and Sri Lanka. They provided us with valuable information about the most required functionalities of GLAD and their inputs were extremely useful and insightful.

The GLAD team expresses their heartfelt thanks to all the participants who took their time to participate in the focus groups. Results of the focus groups are being used to identify key areas for improvement on GLAD, to promote its further use and encourage the application of LCA in decision-making towards sustainability.

Marine Impacts in LCA (MarILCA)

The Marine Impacts in Life Cycle Assessment (MarILCA) project aims to harmonise the development of environmental impact pathways and characterisation factors of marine impact assessment in LCA, specifically from marine litter. In 2021 the MarILCA released its first publication in the Journal of Industrial Ecology entitled *Aquatic micro-and nano-plastics in life cycle assessment: Development of an effect factor for the quantification of their physical impact on biota*.

Importantly, the MarILCA project also published its framework paper in 2021 entitled *A framework for the assessment of marine litter impacts in life cycle impact assessment*, in Ecological Indicators. The MarILCA project co-leads Anne-Marie Boulay, Francesca Verones and Ian Vázquez-Rowe continue to shape the LCA research in marine litter with a letter to the editor published in September 2021 in The International Journal of Life Cycle Assessment, entitled *Marine plastics in LCA: current status and MarILCA's contributions*.

Specific projects within the Scientific Committee of MarILCA are currently advancing with different impact pathways to ultimately produce characterisation factors to cover the gap that marine litter currently represents in Life Cycle Assessment.

2022 OUTLOOK

2022 marks the first year under the new strategy of the Life Cycle Initiative (2022-2027). We look forward to pushing our boundaries even further with these new goals and continuing to increase our influence on both policy and business decision makers, including the Three Action Pillars of the UNEP Medium Term Strategy for 2022-2025, to see sustainability goals reached faster and more efficiently with life cycle approaches.

WHAT CAN YOU EXPECT TO SEE IN 2022?

- The development of Regional Centres of Excellence for the increased uptake of the SCP-HAT
- Increased database coverage on GLAD
- Progressive work on Plastic Pollution particularly with the considerations of a life cycle approach in UNEA5.2 decisions
- Various case studies documenting results from companies applying Social-LCA Guidelines and linking the Sustainable Development Goals to life-cycle approaches
- Stronger uptake of Life Cycle Thinking in both the private and public sectors
- The presence of the Life Cycle Initiative at UNEP's 50th Anniversary Stockholm+50, plus various other events such as UNEA5.2
- The Life Cycle Initiative turning 20!

THANK YOU TO OUR FUNDING PARTNERS!

Work under the Life Cycle Initiative would not be possible without our funding partners.

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