

# Imperial Network of Excellence in Sustainability through Life Cycle Approaches **‘Imperial Life Cycle Network’**

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 [www.imperial.ac.uk/life-cycle-network](http://www.imperial.ac.uk/life-cycle-network)

 @ICL\_LifeCycle

 Group: ‘Life Cycle Community UK’



SUSTAINABILITY  
THROUGH LIFE CYCLE APPROACHES

# Seminar Series

**13<sup>th</sup> October 2020, 17.30-18.30 (GMT)**

*Dr. Carly Whittaker (UK Department for Transport)*

'Life Cycle Assessment, counterfactuals and policy making'

**10<sup>th</sup> November 2020, 17.30-18.30 (GMT)**

*Dr. Serenella Sala (European Commission, Joint Research Centre)*

'Life Cycle Assessment in EU policies: past, present and future'

**8<sup>th</sup> December 2020, 17.30-18.30 (GMT)**

*Dr. Llorenç Milà I Canals (UN Environment Programme, Life Cycle Initiative)*

'UNEP Life Cycle Initiative's work to support progress towards the SDGs with life cycle approaches'

➔ For all events please visit: [www.imperial.ac.uk/life-cycle-network/events/](http://www.imperial.ac.uk/life-cycle-network/events/)



**SUSTAINABILITY**  
THROUGH LIFE CYCLE APPROACHES



**Thank you all for your attention and participation!**

✉ [lifecycle@ic.ac.uk](mailto:lifecycle@ic.ac.uk)

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# Supporting the 2030 Agenda with Life Cycle Approaches

Llorenç Milà i Canals, Head of Secretariat – Life Cycle Initiative  
Economy Division - UN Environment Programme

8<sup>th</sup> December 2020, Virtual  
Imperial Life Cycle Network Seminar Series

Life Cycle  
  
Initiative

# Contents

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Life Cycle Approaches underpin the 2030 Agenda

How is UNEP contributing to LCA?

How can you contribute?

# Life Cycle Thinking in the agenda for Sustainable Development

Life Cycle Thinking is relevant to many **Sustainable Development Goals** and other **global priorities** (resource efficiency, pollution, climate change...)

United Nations Environment Assembly resolution 2/8 on sustainable consumption and production, **encourages “all Member States to promote life-cycle approaches...”**, May 2016



SDG 12.4: *By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle...*

# Fourth UN Environment Assembly (UNEA 4): coming of age for LCA

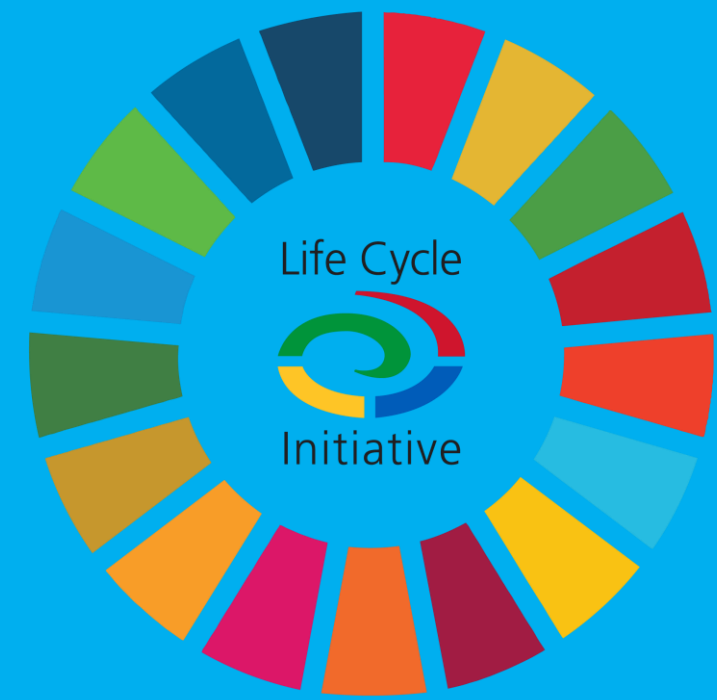


**#SolveDifferent**

- 2019 UN Environment Assembly.  
“*Innovative solutions for environmental challenges and sustainable consumption and production*”  
One of three focus areas: “Life-cycle approaches to resource efficiency, energy, chemicals and waste management”
  - High-level events
  - Ministerial Declaration: need for life cycle approaches to resource management strategies
  - 29 Resolutions and Decisions approved: 20 references to life cycle approaches / LCA across 8 resolutions:
    - Res1 sust. consumption and production, Res3 sust. mobility, Res4 sust business practices, Res5 sust. infrastructure, Res6 marine plastic litter, (Res7 waste management), Res8 chemicals and waste, Res9 single use plastic products, Res22 mineral resource governance

<http://web.unep.org/environmentassembly/>

# Sustainable Development underpinned by Life Cycle Approaches



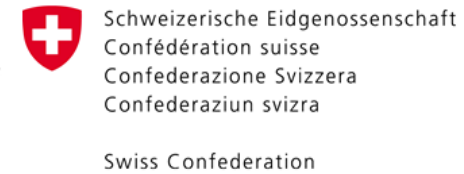
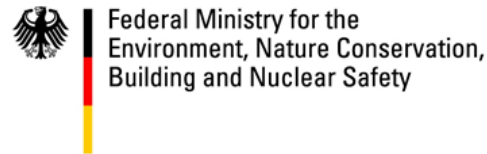


# Life Cycle Initiative, hosted by the UNEP



Launched in 2002 to enable the global use of credible life cycle knowledge by private and public decision makers

## Platinum Sponsors



## Gold Sponsors



## Silver Sponsors

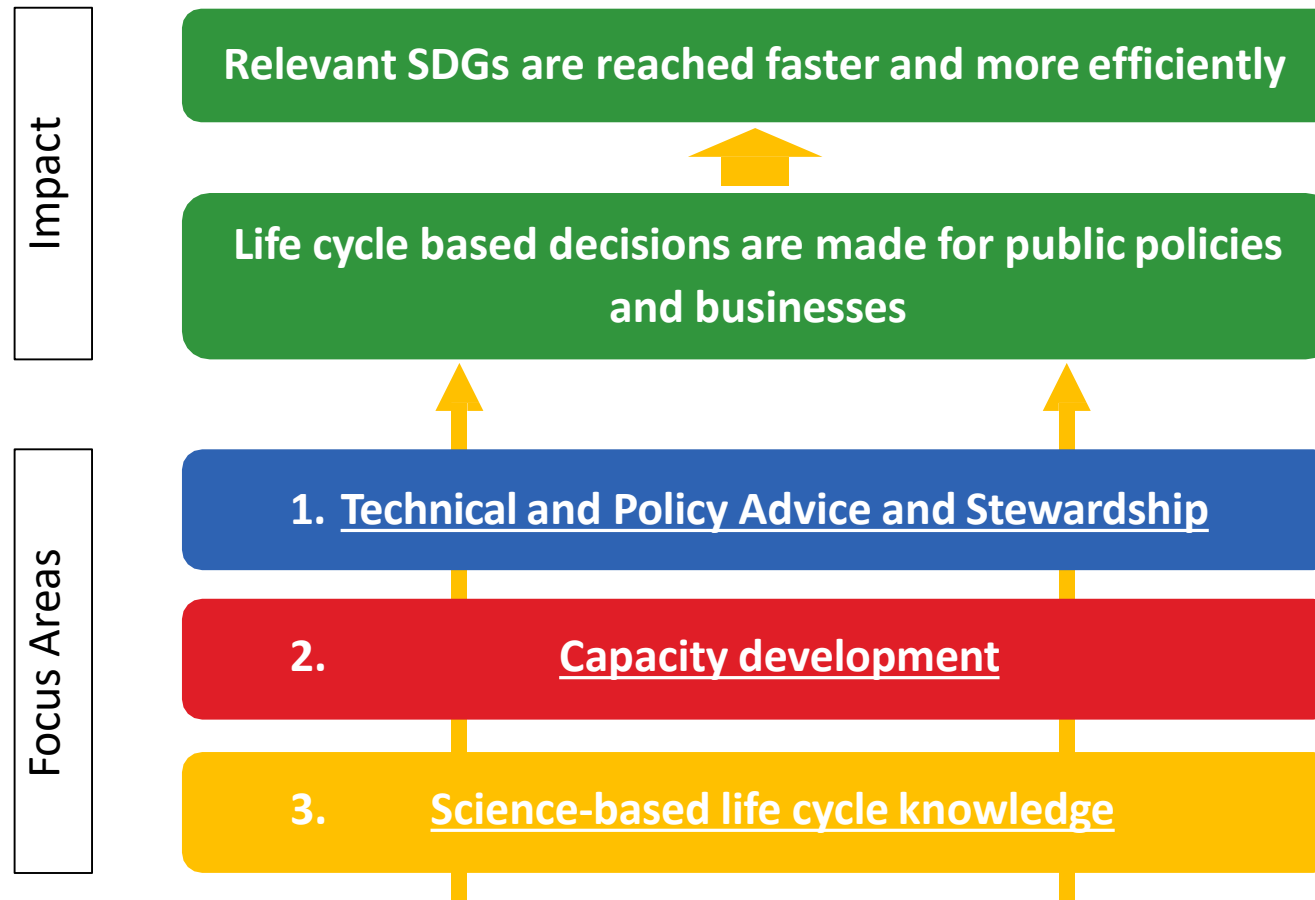


## Bronze Sponsors

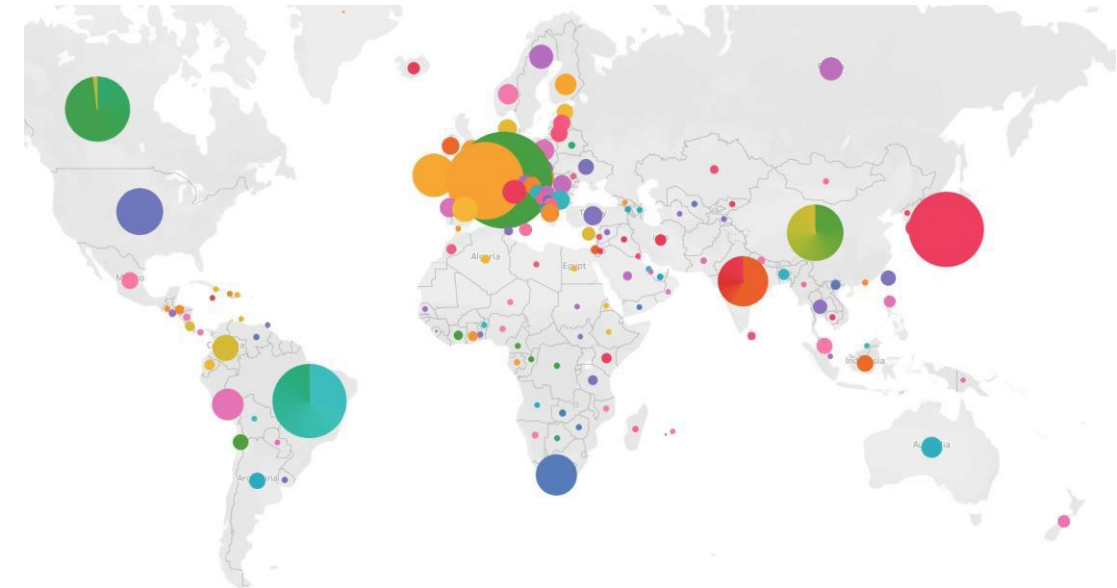
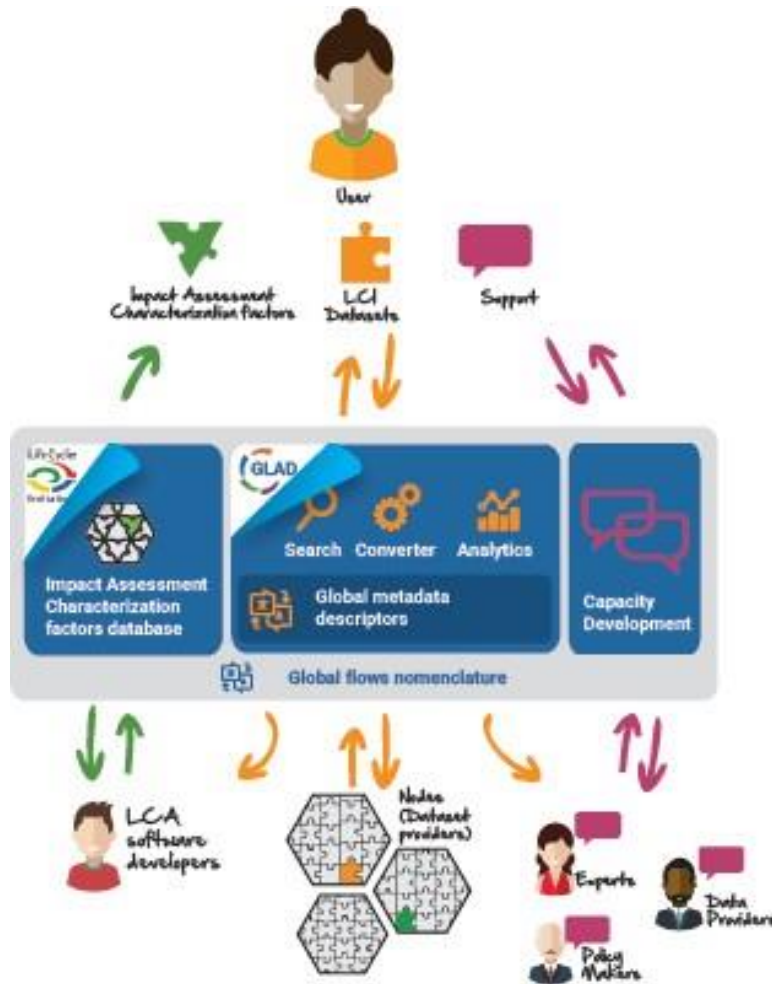
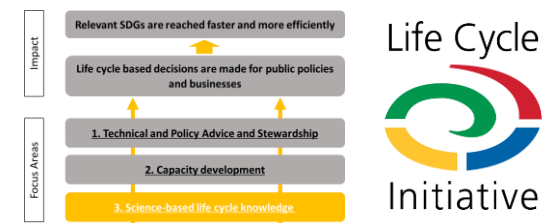


# Life Cycle Initiative: VISION

From the 2017-2022 Strategy



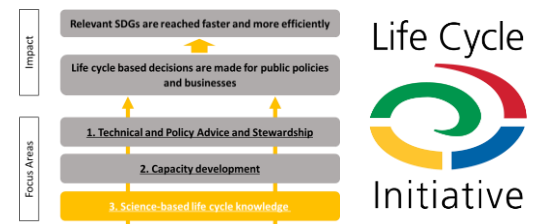
# Enabling Conditions: Life Cycle Knowledge Platform



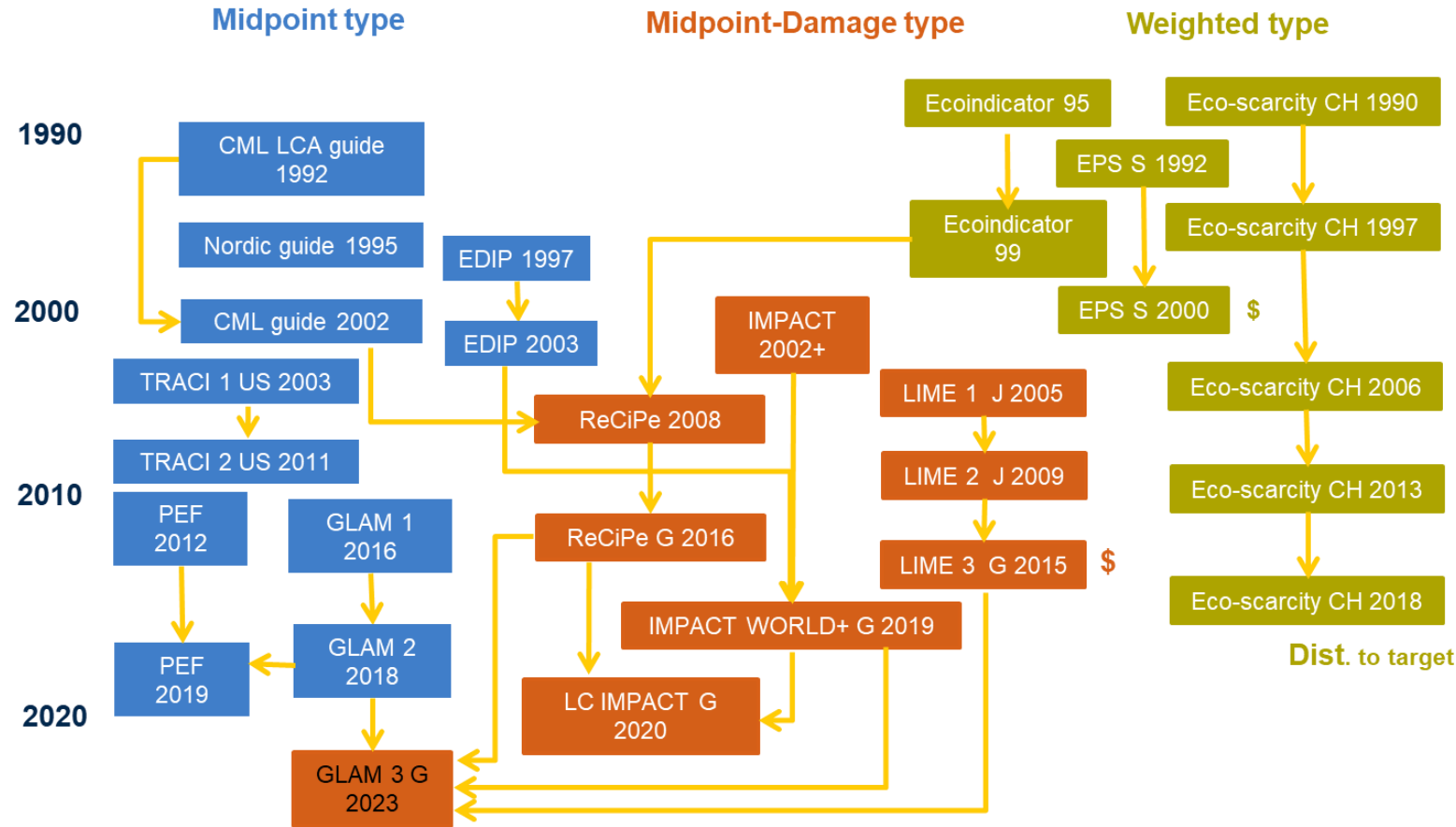
*“offering a solution to access all interoperable LCA databases globally with a library of recommended impact assessment factors linked through a nomenclature system”*

- Open source
- Public good

# Towards the Creation of a Global LCIA method



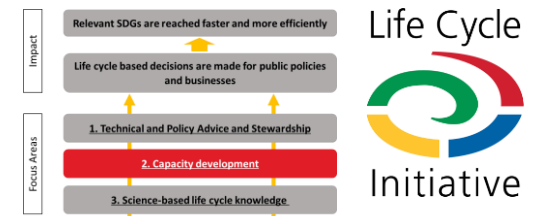
## Comparison of LCIA Methods



Adapted from Itsubo, 2013.

Geographical scope: No mention =Europe, CH=Switzerland, S=Sweden, J=Japan, US=USA, G=Global

# Capacity Development: E-learning modules



<https://www.learnlifecycle.com/>

Life Cycle Initiative Free  
Introduction to Life Cycle Thinking

-  Arabic
-  English
-  French
-  Spanish
-  Portuguese

Life Cycle Initiative Free  
Life Cycle Thinking in Business  
Decision Making

-  English
-  Spanish

Life Cycle Initiative Free  
Life Cycle Thinking in Policy Making

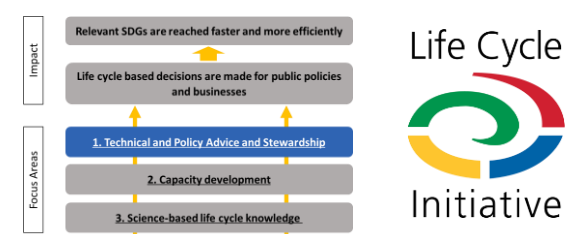
-  English
-  Spanish

The project received financial support from the European Commission under the GPGC and SWITCH-MED projects

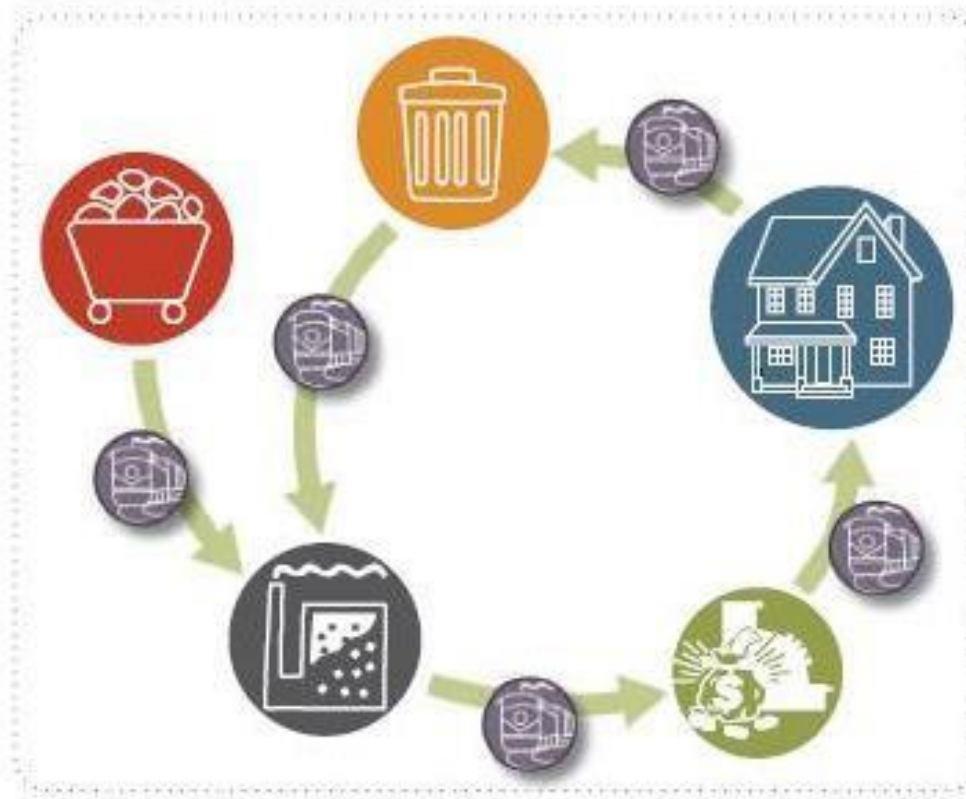




# Life Cycle Thinking (LCT) provides priority areas with greatest potential and value



## A. Product level LCA



- Eco-design
- Product Sustainability Information
- Cleaner products and production

Science, **344**, 1109 (2014)

# [UNEP/EA.4/Res.9](https://www.unep.org/ea4/res9)

Addressing single-use plastic products (SUPP) pollution



<https://www.lifecycleinitiative.org/single-use-plastic-products-studies/>



Life Cycle Initiative



About Us ▾

**Our Activities ▾**

Resources ▾

Awareness & Training ▾

News & Events ▾

Get involved ▾



Download the publications



Single-use plastic bags and their alternatives: Recommendations from Life Cycle Assessments



Single-use plastic bottles and their alternatives: Recommendations from Life Cycle Assessments



Single-use plastic take-away food packaging and its alternatives

October 7, 2020

> [Webinar Series on Single Use Plastic Products and Learnings from LCA – October 2020](#)

September 28, 2020

> [2 Internship posts at the Life Cycle Initiative](#)

September 28, 2020

> [Register now! Upcoming webinars on plastics](#)

September 26, 2020

> [September – October LC Net newsletter is out!](#)

September 6, 2020

Knowledge partners:



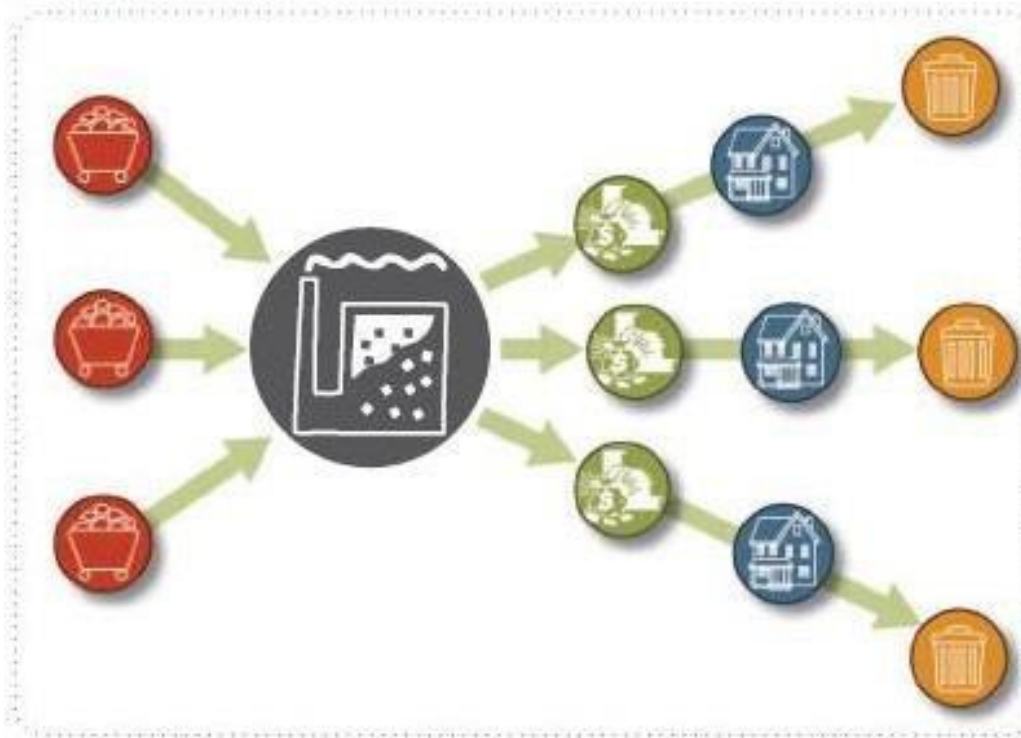
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## B. Organizational LCA

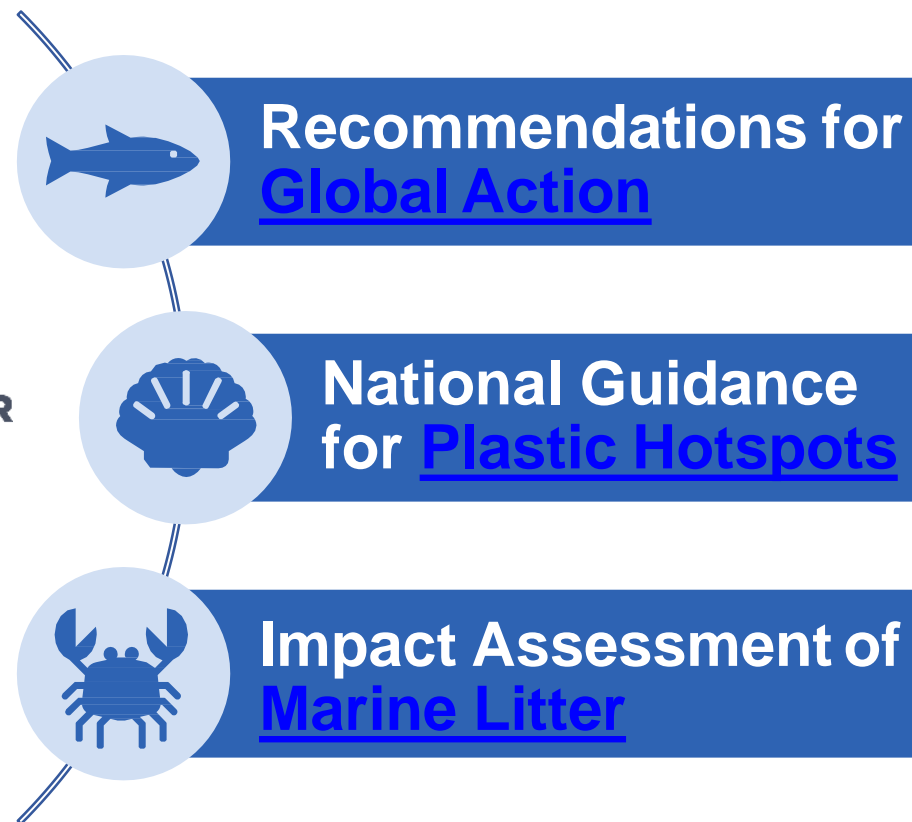
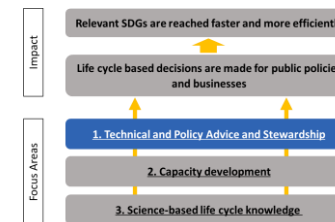


- Eco-innovation, Sustainability Reporting
- Sustainable Procurement
- Sector approaches: plastics, tourism, textiles, food...

Science, **344**, 1109 (2014)



# Fighting Plastic Pollution from a Life Cycle Perspective



## C. Consumer/lifestyle LCA

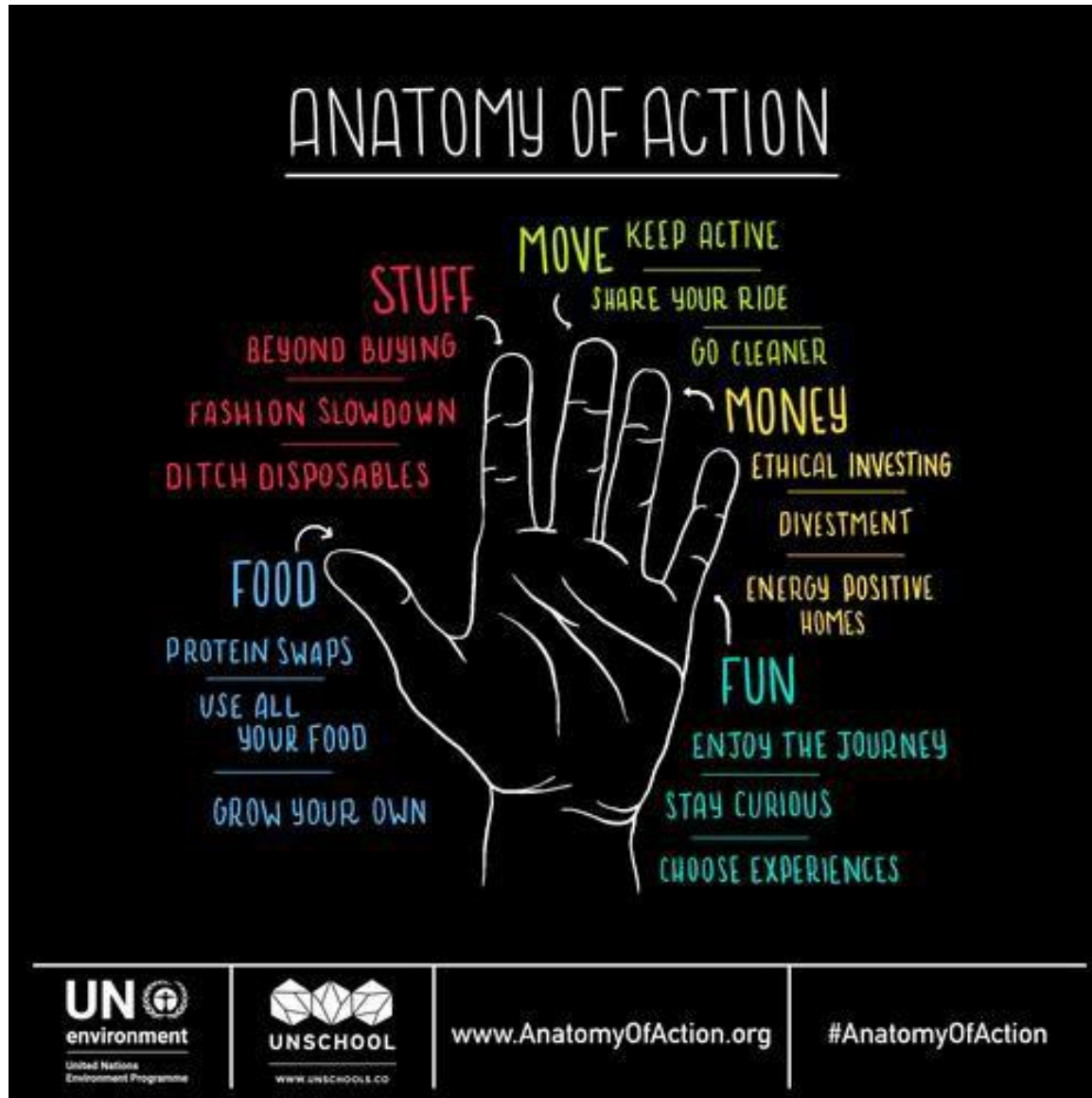


Science, **344**, 1109 (2014)

- Guiding “nudges”
- Informing lifestyles and education
- Helping green citizenship



# Informing Sustainable Lifestyles: #AnatomyofAction



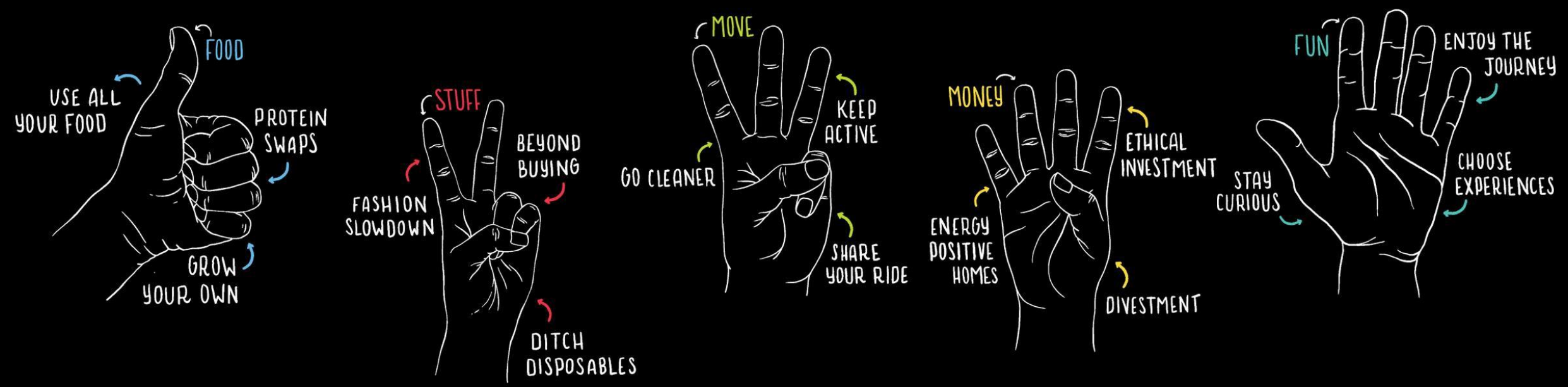
<https://www.anatomyofaction.org/>

Based on an extensive review of the scientific data (**LCA studies**) on what actions, when taken individually and accumulated across the globe, **can and will** have positive impacts on the health and sustainability of our planet.

[Download the Validation Report](#)

# Action interlude:

What is your Anatomy of Action? Make a pledge (in the chat!) on an action in one or two of your key action areas to shift your lifestyle towards more sustainability





## D. Country LCA



- Guiding SCP / Green Economy Policy
- Informing Trade debates
- City-level!
- Nationally Determined Contributions (NDCs) and Climate Change Strategies

Science, **344**, 1109 (2014)

# HOTSPOT ANALYSIS TOOL FOR SUSTAINABLE CONSUMPTION AND PRODUCTION

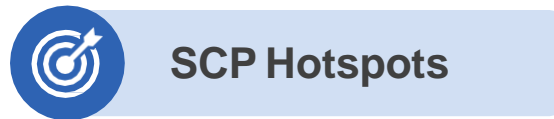
to support science-based national policy frameworks

VIEW MODULES

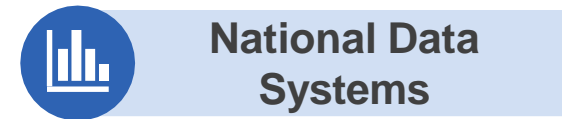
[scp-hat.lifecycleinitiative.org](http://scp-hat.lifecycleinitiative.org)



Country Profile



SCP Hotspots



National Data  
Systems

A screenshot of the National Data Systems dashboard, showing an 'Insert data' form. It includes a table with columns for 'Country', 'Year', and various data points. The table contains data for multiple countries and years, with some cells highlighted in blue.

One planet  
handle with care



International  
Resource  
Panel



Life Cycle Initiative

## Three Global Crises, Consumption

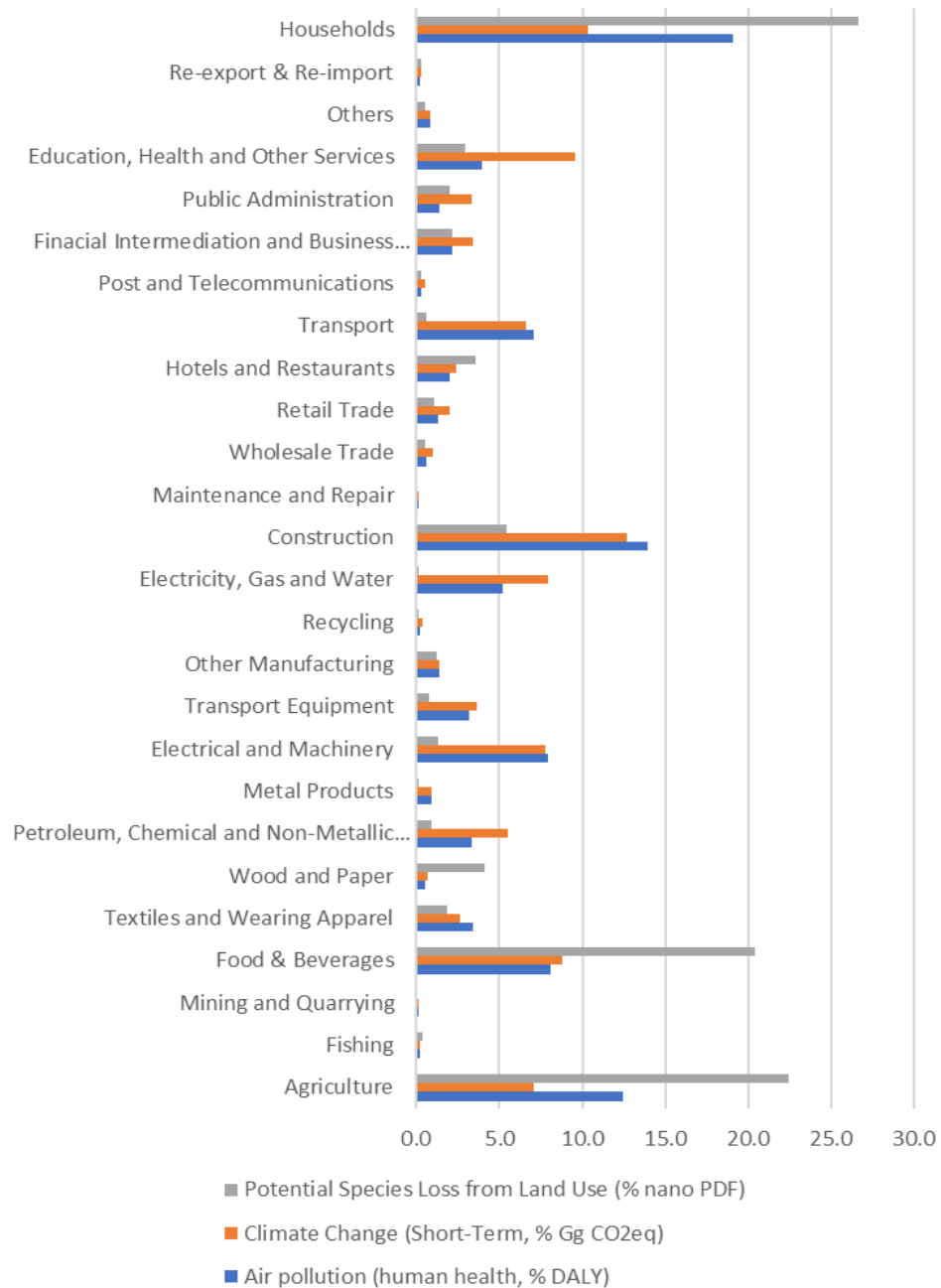
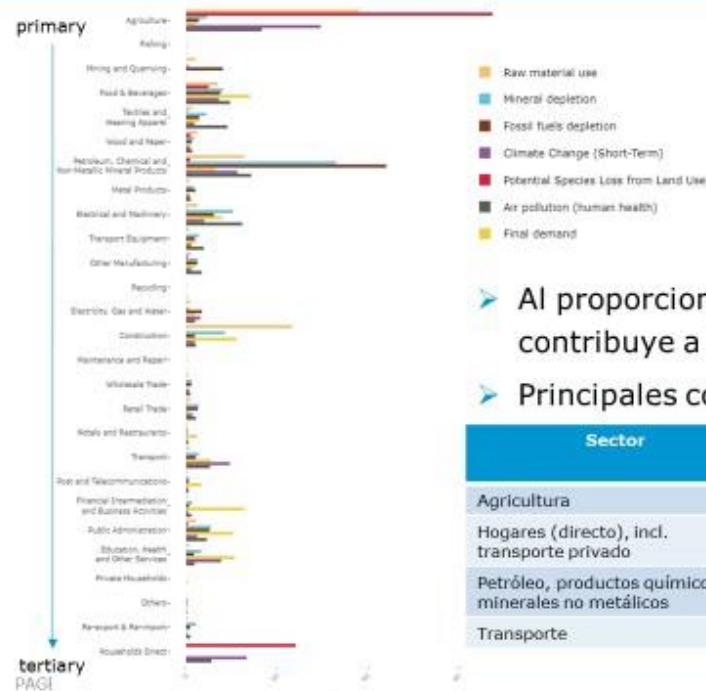


Figure 1: Contribution (%) of each of the 26 sectors in the economy to 3 Global Crises: Climate, Nature, Pollution. Consumption Footprint perspective. Data from SCP-HAT.

# % Contribution of economy sectors to Three Global Crises, Footprint perspective

[scp-hat.lifecycleinitiative.org](http://scp-hat.lifecycleinitiative.org)

## Presiones e impactos ambientales: sectores críticos (perspectiva de consumo, huella)



- Al proporcionar bienes para el consumo final, un sector contribuye a la huella ambiental del país.
- Principales contribuyentes a la huella de carbono:

Sector	Parte de huella de carbono	Parte de producción total en términos monetarios
Agricultura	29,6 %	2,1 %
Hogares (directo), incl. transporte privado	13,4 %	-
Petróleo, productos químicos y minerales no metálicos	11,3 %	6,5 %
Transporte	9,6 %	5,4 %

# Wrapping up, we need the LCA Community to...



Further develop  
impact assessment  
(e.g. Biodiversity  
and Ecosystem  
Services)



Consider system-  
wide applications:  
what shifts the  
needle?



Bring in social and  
economic aspects  
over the whole life  
cycle



Push the systems  
transformation  
agenda:  
**APPLY LCA!**

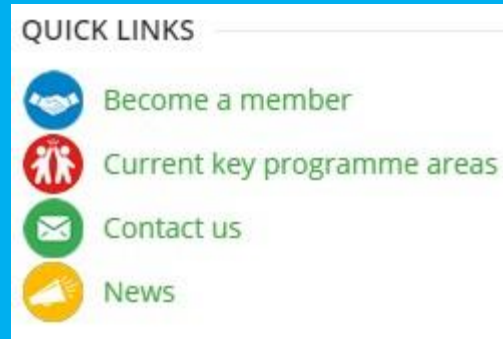


# THANK YOU!

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