76th LCA Discussion Forum

Thursday, 19 November 2020

THE USE OF LCA AS A DEVELOPMENT TOOL FOR EMERGING TECHNOLOGIES/ HOW TO DEAL WITH FORECASTS IN LCA?

Online conference – Detailed access information will be communicated to all participants

The official language of this event is English

We cordially invite you to the **76th Discussion Forum on Life Cycle Assessment**.

Emerging technologies may contribute to a reduction in human impact on the environment, but might also add to the existing environmental pressure. While LCA is a suitable tool for impact assessment of these technologies, the application of this data-intensive tool is challenging for the data-scarce early development stages. In addition, impacts of associated with these technologies are likely to change in the future, both in the foreground and background systems.

This discussion forum will focus on 1) Methods that can be used to compile LCIs of emerging technologies, for which no complete or conclusive LCIs are available; 2) application of methods in LCA case studies of new technologies and 3) Identifying perspectives on prospective LCAs.

Programme overview

The overarching objective of the LCA discussion forum is to identify which tools are currently available, what kind of methodological challenges are associated with them, and what further aspects can and need to be considered. The first half is divided into two sessions with presentations on how to compile LCIs of emerging technologies and what lessons have been learned from prospective studies. Two panel discussions will be held in the afternoon. The first session starts with short presentations on prospective models and software solutions, followed by a broad panel discussion. In the second session, challenges for application and decision making are elaborated. The day will be concluded with a summary of lessons learned and identified steps for advancing the field of research.

This DF will culminate in discussions between practitioners and researchers about prospective LCA methods and recommendations. It aims to accelerate the applicability of prospective LCA toward sustainable developments of emerging technologies.

We look forward to meeting you online,

TNO and ETH Zurich

Organizers of the LCA DF 76

Program DF 76 – The use of LCA for forecasting and steering new technologies

Time	Title	Speaker [Chair]
09.00	Welcome and intro	Raka Adrianto/Mara Hauck [ETHZ, TNO]
Session 1: Methods to evaluate environmental impacts of new technologies		Mara Hauck [TNO]
9.10	**Keynote:** The need for a prospective perspective in LCA	Rickard Arvidsson [Chalmers University, SE]
9.35	The coupling of optimization techniques and LCA	Gonzalo Gosálbez [ETHZ, CH]
9.50	The handling of uncertainties in ex-ante LCA: an alternative to scenario analysis	Carlos Blanco [Leiden University, NL]
10.05	Discussion	Mara Hauck/Toon van Harmelen [TNO]
10.25	Break-out/coffee	
Session 2: LCA applications and case studies for emerging technologies		Janot Tokaya [TNO]
10.55	A systematic approach to assess emerging technologies	Mitchell van der Hulst [Radboud University/TNO, NL]
11.10	Multi-valorization routes of reprocessing mine waste: a prospective LCA	Lugas Raka Adrianto [ETHZ, CH]
11.25	coffee	
11.40	Reconvene	
11.45	Superstructures: Making background scenarios practically viable	Bernhard Steubing [CML, NL]
12.00	Assessing emerging technologies – a policy/EU perspective	Serenella Sala [JRC, IT]
12.15	Discussion	Janot Tokoya/Mara Hauck [TNO]
12.30	Lunch Break	
Short presentations: open floor		Mitchell van der Hulst [TNO/RU] and Raka Adrianto [ETHZ/ CH]
13.30	A identification of relevant processes and upscaling approaches for biobased technologies	Nicolas Navarre [CML, NL]
13.40	Ex-ante LCA of emerging carbon steel slag treatment technologies	Matti Buyle [VITO, BE]
13.50	Integration framework for the development of safe and sustainable nanomaterials	Beatrice Salieri [Empa, CH]
14.00	LCA of emerging techs from an uncertainty perspective	Massimo Pizzol [Aalborg University, DK]
14.10	Soft-linking Life Cycle Assessment and Integrated Assessment Models for Prospective Modelling	Mohamad Kaddoura [Polytechnique Montréal, CA]
14.20	What future for primary aluminium production in a decarbonizing economy?	Julien Pedneault [Polytechnique Montréal, CA]

14.30	Break-out/coffee	
Panel session		Mara Hauck and Rickard Arvidsson
15.00 15.40 15.50	**Theme 1: Prospective models and software solution** Inclusion of future prediction from prospective models (e.e. IAMs, (G)CE) outside of the field of and what frameworks/ solutions can be developed to assist coffee **Theme 2: Challenges for applications and decision making** The link between prospective LCA and decision-making processes	1) Thomas Gibon [LIST, LU] (*) 2) Romain Sacchi [PSI, CH]* 3) Toon van Harmelen [TNO] 4) Bruno Van Parijs [Solvay, BE] 5) Roland Hischier [Empa, CH] (*) 6) Serenella Sala [JRC, IT] 7) Bernhard Steubing [CML, NL]
16.30	coffee	
Conclusions and Outlook		Raka Adrianto [ETHZ]
16.40	Lessons from Journal of Industrial Ecology Special Issue: “Bringing a life cycle perspective to emerging technology development”	Joule Bergerson [Calgary University, CA]
16.50	Syntheses and conclusions of the day	Mara Hauck [TNO]
17.00	Closing and farewell	Raka Adrianto [ETHZ]

*short pitches/introduction

Practical information

Registration

To register you need to create a profile, which is done in very few steps and is self-explanatory. In case you are not able to pay by credit card, please send an e-mail to lcaforum@ethz.ch with a short notice that you want to receive an invoice instead. Please provide the full invoice address as well as the chosen fee type. Programme updates at: www.lcaforum.ch

For all further questions regarding the registration process, please do not hesitate to contact: lcaforum@ethz.ch

Technicalities

Please note that all presentations and video recordings will be made available to the public via the LCA forum website (see http://www.lcaforum.ch, for example).

Meeting online

Pay attention that this DF is an **online conference**. All participants will receive detailed information on how to access the conference.

For further information, please contact Barbara Dold: lcaforum@ethz.ch