

## 68<sup>th</sup> LCA Discussion Forum

### LCA of key technologies for future electricity supply

Monday, 16 April 2018, ETH Zürich, Alumni Pavillon

We cordially invite you to the **68<sup>th</sup> Discussion Forum on Life Cycle Assessment**  
The official language of this event is English

In the recent past, many countries increased the share of renewable energy sources in the electricity mix substantially and will continue to do so in the future. Intermittently producing technologies such as photovoltaic or wind power plants are a challenge for electric utilities and ask for new concepts regarding grid operation, dispatching and storage. This forum will cover the full range from life cycle assessments of specific components namely photovoltaic panels, geothermal power stations and battery storage facilities to promising concepts of system integration in electricity networks such as smart grids.

Main focus will be on the future environmental performance of these key technologies, on the main environmental challenges faced and on the way how electric utilities will facilitate the energy turnaround to comply with the ambitious target of the Paris Agreement and the due phase out of nuclear power. This forum aims at facilitating discussions among different domain experts in view of creating new ideas.

This forum is targeted to technical experts in the electricity sector and LCA practitioners.

We look forward to meeting you in Zürich



Rolf Frischknecht, treeze Ltd.  
Organizing Committee



Christian Bauer, PSI

## Programme (as of 3 April 2018):

Time	Title	Speaker [Moderator]
8:45	Registration, coffee & croissants	
9:15	Welcome and introduction	Rolf Frischknecht, treeze Ltd.
	<b>Challenges and solutions in greening the grid</b>	<b>[Rolf Frischknecht]</b>
9:20	The Swiss Energy Strategy and Climate Policy in a global Context	Lukas Gutzwiller, BFE
9:40	PV (and batteries?) integration into electricity grids	Dr. Christof Bucher, Basler & Hofmann AG
10:00	New challenges for electric utilities with special focus on power management	Britta Heimbach, ewz
10:20	Integration of stochastic renewables in the Swiss electricity supply system	Evangelos Panos, PSI
10:40	Discussion	
11:00	Coffee break	
	<b>LCA of key technologies I: battery storage</b>	<b>[Christian Bauer, PSI]</b>
11:30	Future battery storage technologies - performance prospects and LCAs of batteries suited for stationary applications	Marcel Weil, ITAS/KIT Karlsruhe
11:50	Lilon battery LCA	Linda Ager-Wick Ellingsen, NTNU
12:10	Economic and environmental assessment of different battery technologies for different grid network applications	Tobias Schmidt, ETH Zürich
12:30	Discussion	
12:45	Lunch	
	<b>Short presentations</b>	<b>[Rolf Frischknecht]</b>
13:45	SURFER – Assessing the impacts of the French energetic transition – Key challenges	Jacques Villeneuve, BRGM
13:55	LCA of Power to Gas	Xun Liao, EPFL
14:05	Environmental impacts of the integration of photovoltaics into the Swiss electricity grid	Valentin Stahel, ZHAW
	<b>LCA of key technologies II: PV electricity</b>	<b>[Rolf Frischknecht]</b>
14:15	PV electricity LCA	Andreas Wade, Solar Power Europe
14:35	Highly efficient multi-junction solar cells using silicon heterojunction and perovskite tandem: prospective life cycle environmental impacts	René Itten, ZHAW
14:55	LCA of PV plus battery storage	Philippe Stolz, treeze Ltd.
15:15	Discussion	
15:25	Coffee break	
	<b>LCA of key technologies III: geothermal electricity</b>	<b>[Christian Bauer]</b>
15:50	Geothermal power LCA	Karin Treyer, PSI
16:10	Environmental risk assessment of enhanced geothermal systems (EGS) incl. seismic risks	Stephan Pfister ETHZ
16:30	Discussion	
16:40	Wrap up and announcements	Rolf Frischknecht
16:45	Farewell	

\* on video

## Practical information

### Registration

To register for the whole year or a single LCA Discussion Forum, please use the following link:  
<https://www.converia.ethz.ch/frontend/index.php?sub=65>

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](mailto: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.

For all questions regarding the registration process, please do not hesitate to contact: [lcaforum@ethz.ch](mailto:lcaforum@ethz.ch)

Programme updates will be available at: [www.lcaforum.ch](http://www.lcaforum.ch)

### Lunch

Vouchers for lunch at the ETH restaurant will be provided to all participants. A vegetarian meal option is always on offer.

### Location

The DF will take place in the Alumni (GEP) Pavillon, Swiss Federal Institute of Technology Zurich, 8001 Zurich.

<https://maps.google.ch/maps/ms?msa=0&msid=205813047619347088253.0004e0af154b1fc2c1968&ie=UTF8&ll=47.376616,8.546441&spn=0.00287,0.006968&t=m&z=18&vpsrc=6&iwloc=0004e0af154df9d0190e4>



For further information, please contact Barbara Dold: [lcaforum@ethz.ch](mailto:lcaforum@ethz.ch)