

Joint COST ACTION FP1303&FP1404 Workshop Meeting
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Insights from the 57th LCA discussion forum, "Life cycle assessment in the building sector: analytical tools, environmental information and labels".

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57th LCA Discussion Forum was held in Zurich, Switzerland and focused on **life cycle assessment in the building**.

The **LCA Discussion Forum** is a Swiss platform to exchange and share ideas, concerns and best practices between LCA practitioners working in industry, consulting, legislation, and research.

WHO attended the 57th LCA Discussion Forum?

- European and Swiss legislators,
- LCA researchers,
- LCA practitioners and
- industry representatives

WHAT was discussed at the **LCA Discussion Forum**

- analytical tools,
- environmental information, and labels in the building sector

At the Forum's "open floor" session COST Action FP1303 was presented.

Videos of all publications are publicly available on <http://www.multimedia.ethz.ch/misc/lca/2014-57>.

Key aspects discussed at the LCA Forum

- an overview of different tools, information and labelling schemes applied in Switzerland, Germany, France, and Austria
- Swiss “2000-Watt Society”, which was developed at the Swiss Federal Institute of Technology (ETH) in Zürich
- future developments in European legislation, harmonisation and research
- global EPD Tool for cement and concrete, a web-based calculation tool
- modelling the use phase of building materials

A. Swiss “2000-Watt Society”, developed at the Swiss Federal Institute of Technology (ETH) in Zürich

The City of Zurich decided to use the “2000-Watt Society” approach to **tackle climate change and address resource availability in the future.**

This model for energy policy demonstrates how it is possible to consume only as much energy as worldwide energy reserves permit and is justifiable in terms of the impact on the environment.

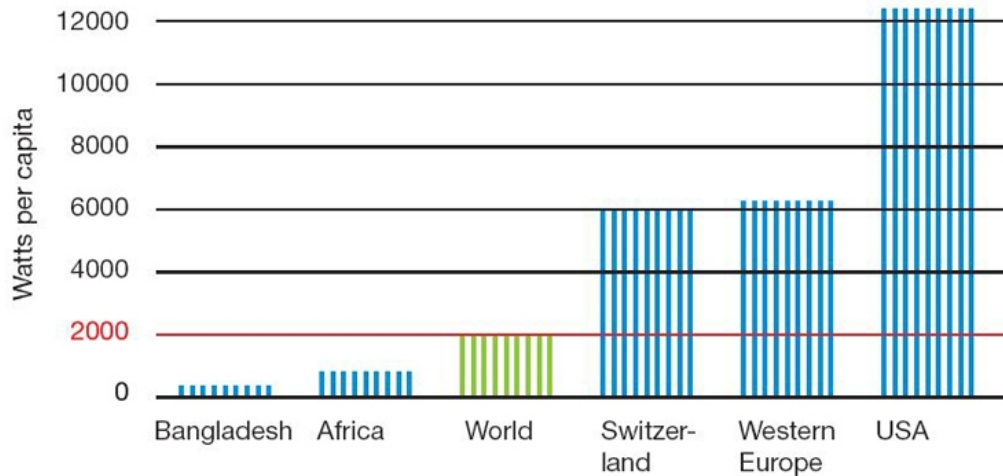
A. Vision of Swiss “2000-Watt Society”

It is possible when every person in every society limits their energy consumption to a maximum of 2000 watts.

At least 75% of energy needs need to be met using renewable energy sources, meaning that on an annual basis only one tonne of greenhouse gas is given off per person per year.

The 2000-Watt Society is Zürich’s approach to tackling climate change and the future conflict of resources.

A. Swiss “2000-Watt Society”

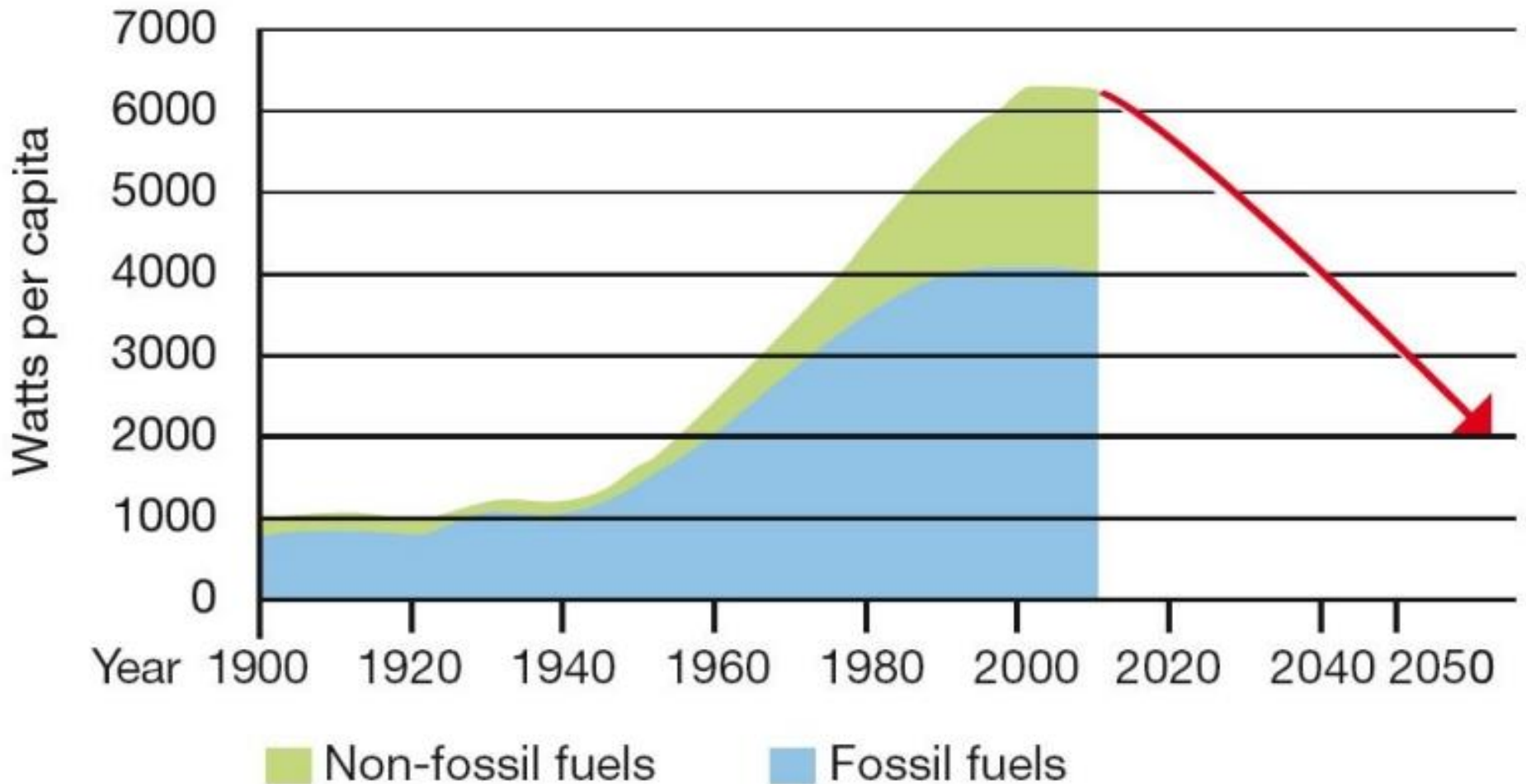


The vision of a 2000-Watt society makes it possible to **strike a balance** between industrialized and developing countries and for everyone to thus enjoy a good standard of living.

A. Swiss “2000-Watt Society”, developed at the Swiss Federal Institute of Technology (ETH) in Zürich

In the City of Zurich the “2000-Watt Society” is seen as a **tool to achieve a higher quality of life**. Therefore, among other activities, almost all new construction, including housing estates, school buildings and retirement homes in the City of Zurich follow the Minergie Standard (for low-energy housing).

A. Using 2000 watts for a higher quality of life



Primary energy consumption in Switzerland

A. To achieve the goal by 2050 Zürich is making commitments in:

Energy efficiency and renewable energies

Comprehensive energy services are offered along with consulting for construction companies to pass on the necessary expertise.

Sustainable buildings

Almost all new constructions such as housing estates, school buildings and retirement homes, correspond to the Minergie Standard (for low-energy housing).

A. To achieve the goal by 2050 Zürich is making commitments in:

Mobility for the future

Zürich promotes means of transport which make efficient use of urban spaces and energy resources, namely public transport, pedestrian and bicycle traffic.

Awareness

Regular events to increase public awareness are held, such as the annual environment days and the Zürich Multimobil action day (where the inner-city is closed to cars).

B. Future developments in European legislation

European research project '**EeBGuide – Operational guidance for Life Cycle Assessment Studies of the Energy-Efficient Buildings Initiative**' that aimed to develop guidance documents for energy-efficient building LCA studies.

[\(http://www.eebguide.eu/\)](http://www.eebguide.eu/)

B. EeBGuide Info Hub

The InfoHub is built on the **ISO 14040-44** standards, the **EN 15804** and **EN 15978** standards as well as the **ILCD Handbook**.

In the “EeBGuide Guidance Document Part B: buildings” **104 important aspects** have been identified for improving building LCA studies that aim to be compliant both with CEN TC 350 standards and with the ILCD Handbook.



B. EeBGuide Info Hub - 104 important aspects

They cover the aspects concerning

- Module A – Product and construction process stage,
- Module B – Use stage,
- Module C – End-of-life stage, and
- Module D – Benefits and loads beyond the system boundary.

For every stage the guidance suggests how to deal with specific issues, what should be taken into account when performing the LCA of a building.

C. Global EPD Tool for cement and concrete, web-based calculation tool

The representative of **Cement Sustainability Initiative** (CSI) presented a global **EPD Tool for cement and concrete**, a web-based calculation tool for primary data input based on **PCRs of unreinforced concrete, concrete, and cement.**

CSI - 24 leading cement producers, with operations in more than 100 countries. Collectively these companies account for around **30% of the world's cement production** and range in size from very large multinationals to smaller local producers.

C. Global EPD Tool for cement and concrete

The PCRs focus on the impact of production from **cradle to gate for B2B purposes**.

The CSI is providing the EPD Tool to its members and the wider industry to enable the development of EPDs.

The CSI PCRs are registered under the International EPD® System (Environdec). They are based on the ISO standard for EPDs (ISO 14025:2006) and comply with the European standard for construction products (EN 15804:2012).

D. Modelling use phase of building materials

A presentation about modelling the use phase of building materials discussed **the influence of indoor emissions on LCA of buildings** and delivered the conclusion that the emission **to indoor air cannot be assessed** with the existing ECO-factors and that data on **emissions over longer time periods of almost all building materials are missing.**

Main conclusions of the 57th LCA Discussion Forum

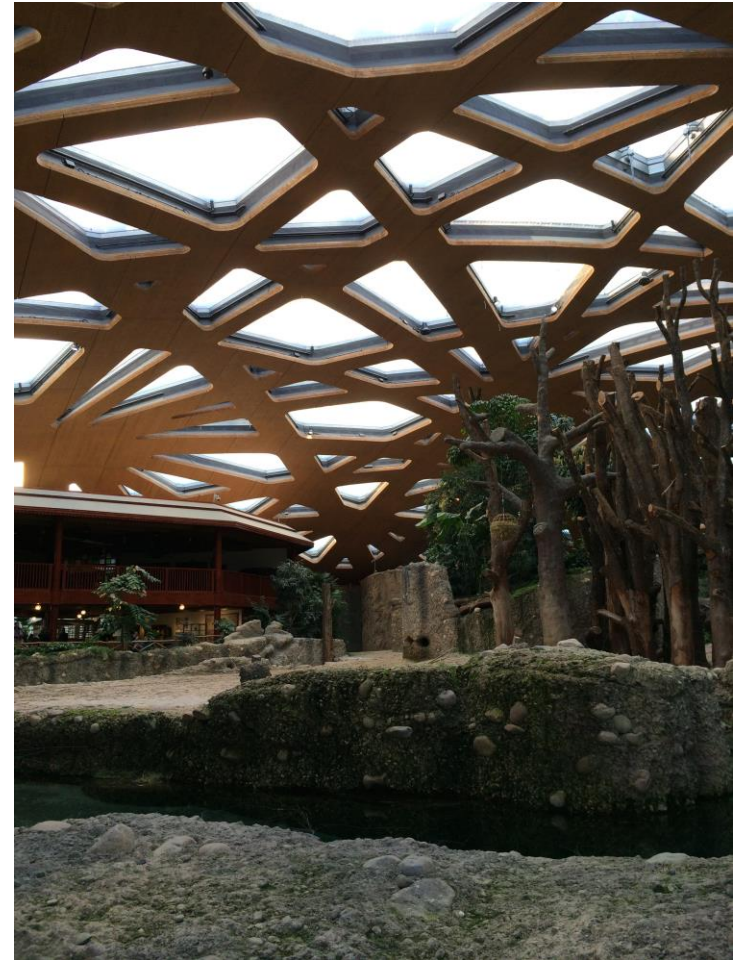
- There is a need for harmonization of LCA methodology in the building sector.
- **COST Action FP1303 was identified as network that aims to contribute to the harmonization.**
- Buildings are significant consumers of energy and are getting more and more attention in this regard.
- **COST Action FP1303 should take an active role in future development of analytical tools, delivering the environmental information of bio-based building materials, and development of labelling schemes.**

Main conclusion from the 57th LCA Discussion Forum

We should participate in the next LCA Discussion Forums that will take place in 2015, especially the

DF 60 Environmental use of wood resources,

which will take place on December 4th, 2015 in Zurich and aims to **provide new perspective on an ecological use of wood resources that is relevant to scientists, policy makers and practitioners.**



Thank you!