Life Cycle Inventory for India

GreenCo summit
Hyderabad, India
17 June 2016

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Internationalization Project Manager
ecoinvent
“Green” makes sense!
But how do you measure greenness?
LCA is a methodology to assess the environmental (economic/social) impacts of products & services through their life cycle.
Why a Life Cycle Approach ...

- LCA prevents burden-shifting
- Emissions displaced, not eliminated
- From one life cycle stage to another
- From one region to another
- From one compartment (water, air, ground) to another
- From one impact to another ...
Can electric cars reduce the greenhouse gas emissions?
Electric cars have more CO2 emission than a Petrol car in India

I will contradict myself!

Stay with me
Sustainable Recycling Industries

Funded by Swiss state secretariat for economic affairs (SECO) and jointly implemented by ecoinvent, Empa and WRF

- **Life Cycle Inventories**
  - Brazil, India, Latin America, South Africa

- **Recycling Initiatives**

- **SRI Roundtable**

*Until the end of 2017*

SRI project overview

- SRI Component A: Life Cycle Assessment
  - Centre for regional networks (with CII India)
  - LCA/LCI expertise
  - Data collection
  - Build LCA/LCI expertise and critical core of LCI data for newly industrialized countries

- Activities in Latin America, India, South Africa,
- Jan 2015 - Dec 2017
Regional centres and coordinator: CII
Capacity building activities

Regional centres and coordinator
facilitator and coordinator for the SRI project in India..

LCI/LCA expertise (capacity building)

- Raise awareness about the importance of LC thinking
- develop local LCA skills and LCI creation skills
- create the momentum and expertise for data collection
- Workshops, webinars, courses, educational material
# CB workshops in India

**November/December 2015**

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- **Green building congress**
  - Ahmedabad
  - CII & gov’t of India

- **Ahmedabad**
  - Sustainability Industry

- **Bangalore**
  - Sustainability Industry

- **Hyderabad**
  - LCA practitioners

- **Hyderabad**
  - LCA experts & Data suppliers

- **New Delhi**
  - Sustainability Policy makers & gov’t

- **New Delhi**
  - LCA practitioners

- **for private sector TG1**
- **for Gov’t & policy assessment TG1**
- **for LCA practitioners TG2**
- **for LCA experts & Data providers TG3**
SRI webinar series with CII

Free Capacity Building activities in India on

- Life Cycle Assessment; and
- Life Cycle Inventories

**LCA WEBINAR SERIES**

- Introduction to LCA & LCA Methodology
  20 May 2016 : 3 pm to 4 pm
  Speaker: Ms Harshita Soni, CII  Godrej GBC

- LCA Tools - Simapro
  27 May 2016 : 3 pm to 4 pm
  Speaker: Ms. Anneke Haringsma, PRe Sustainability

- Life Cycle Inventory Datasets
  3 June 2016 : 3 pm to 4 pm
  Speaker: Dr AmirSafaei, Ecoinvent

- LCA Applications
  10 June 2016 : 3 pm to 4 pm
  Speaker: Dr AmirSafaei, Ecoinvent
Data collection
Initial calls and future plans

• Data collection through Calls for Tender open to public
• Publish upcoming calls according to the time-schedule devised with regional coordinators

• Sectors to focus on for data collection…
  • Background data (energy, transportation, building sector and construction material)
  • Important sectors for the country (waster treatment, Recycling, agriculture, …)

• Value of the **calls**
  • Depends on the scope and level of details required
SRI project - data rights

• Data collection and submission by local stakeholders to...
  Build capacity for LCI data collection and preparation

• Starting from an existing base rather than starting from scratch!

• ecoinvent provides the necessary infrastructure for validation and publication of the data (as part of the ecoinvent database)
SRI project - data rights

LCI data **freely available** to Indian community

To be used as consistent base for...

- LCA studies
- For Green Labelling (*How can you do a label w/o data?*)
- etc...
Who is ecoinvent

- A not-for-profit association and holder of...
- ...the world’s leading transparent LCI database for over a decade; current version 3.2
- A major annual update of the database

http://www.ecoinvent.org/
ecoinvent - a global LCI database

- ecoinvent datasets from 40 countries
- Free to use for educational purposes in developing countries including India
- Available in all the major LCA softwares

Implementor of SRI-LCI project in India
Ecoinvent, SRI and India

- Currently 150 datasets in ecoinvent related to the geography of India
  - Agriculture, electricity and Textile

- As a part of the SRI project, we are increasing the availability of Indian LCI data

- First projects: electricity and Steel sector in India

- An LCI data collection project is started to generate LCI datasets for steel production in India.
The Indian electricity production mix, power plant technological level and local production condition vary considerably on the state level across the 29 Indian states and 7 Union Territories.
Electricity GWP score
Grid level analysis

Electricity, high voltage
Electricity, medium voltage
Electricity, low voltage

Kg CO2 eq/kWh

IN-North-eastern grid  IN-Southern grid  IN-Northern grid  IN-Western grid  IN-Eastern grid
GWP score electricity per state - coal production

- Gujarat
- Punjab
- Rajasthan
- Karnataka
- West Bengal
- Haryana
- Andhra Pradesh
- Tamil Nadu
- Chhattisgarh
- Maharashtra
- Orissa
- Jharkhand
- Delhi
- Madhya Pradesh
- Uttar Pradesh
- Bihar

Kg CO₂ eq/kWh
Near future plans

• Capacity building activities in LCA and LCI
  ‣ Sector specific training materials
  ‣ Workshops
  ‣ webinars

• Data collection with local and international partners
  ‣ Background data: transportation, energy, construction sector
  ‣ Important industries/commodities for each region
The world’s most consistent and transparent Life Cycle Inventory database

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