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Life Cycle Inventory for India

GreenCo summit

Hyderabad, India

17 June 2016
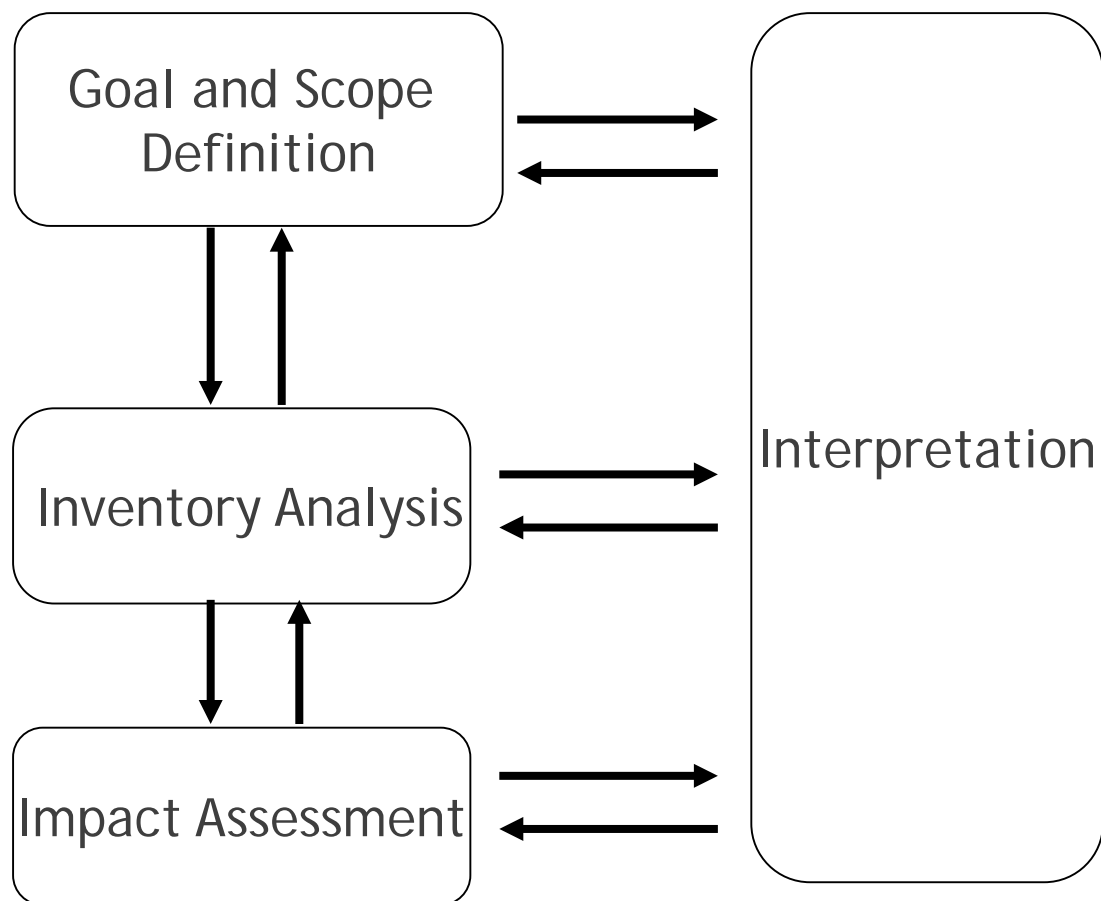
Amir Safaei

Internationalization Project Manager

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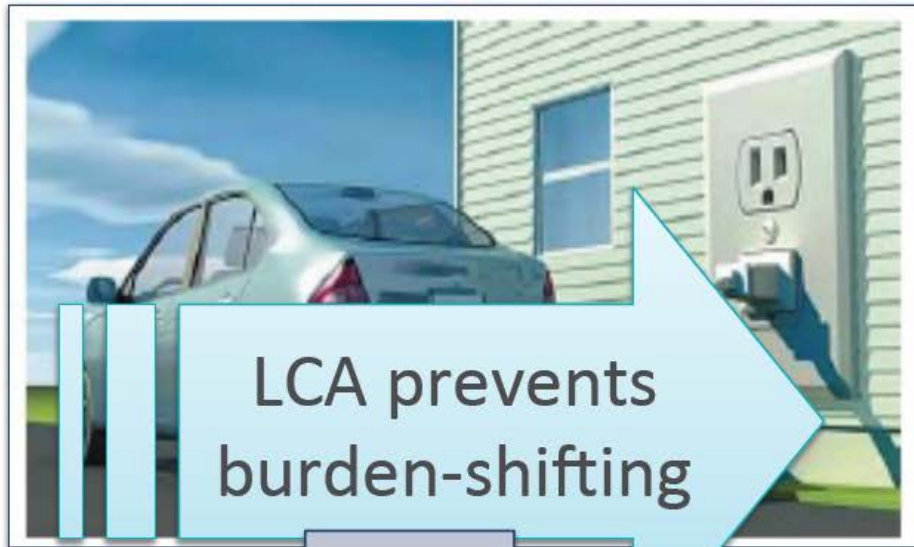Agroscope   EMPA   EPFL   ETH   PSI

" Green" makes sense!

But how do you measure greenness?

Life Cycle Assessment

LCA is a methodology to assess the environmental (economic/social) impacts of products & services through their life cycle
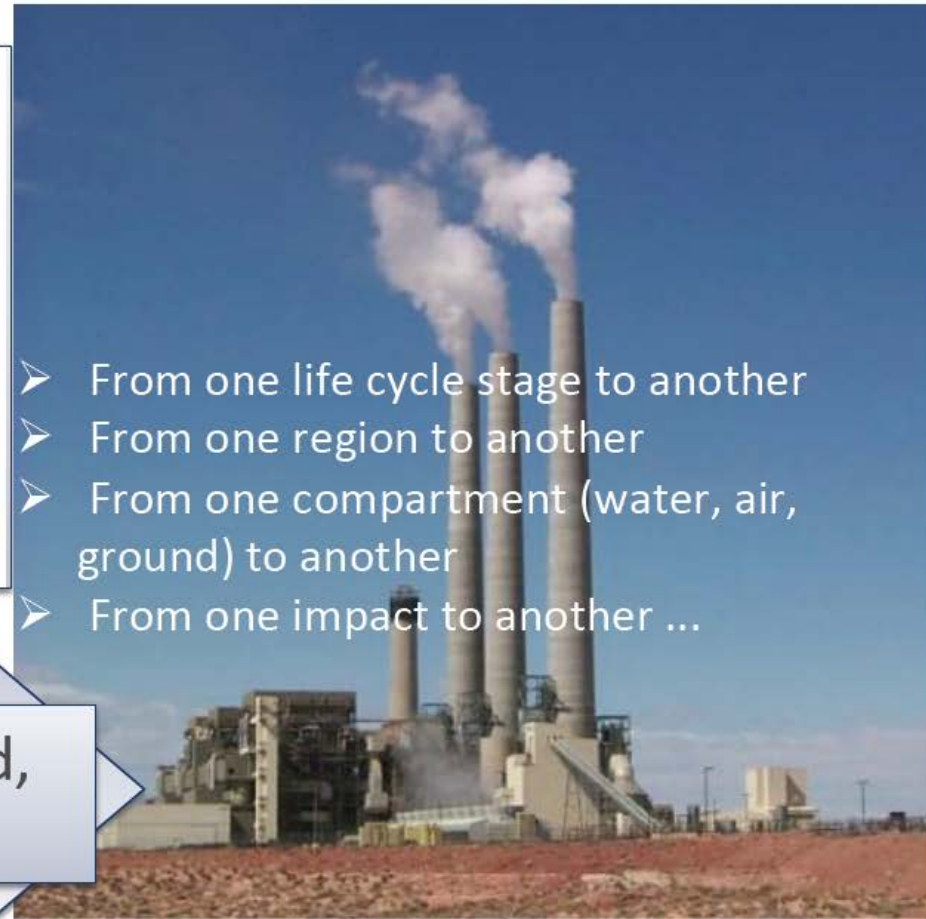
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LCA prevents burden-shifting

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?

I will contradict my self!

Stay with me

INDIA
RULING PARTIES IN
DIFFERENT STATES

Sustainable Recycling Industries

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

- # <u>Life Cycle Inventories</u>

  ‣ Brazil, <u>India</u>, Latin America, South Africa

- # Recycling Initiatives

- # SRI Roundtable

Until the end of 2017

http://sustainable-recycling.org/
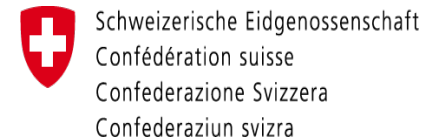
SRI project overview

- 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

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

EMPA
Materials Science & Technology

WORLD RESOURCES FORUM

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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

Mon	Tue	Wed	Thu	Fri	Sat	Sun
16	17	18	19	20	21	22
		Green building congress				
		Ahmedabad CII & gov't of India		**Ahmedabad** Sustainability Industry		
23	24	25	26	27	28	29
	Bangalore Sustainability Industry		**Hyderabad** LCA practicioners	**Hyderabad** LCA experts & Data suppliers		
30	1	2	3	4	5	6
New Delhi Sustainability Policy makers & gov't	**New Delhi** LCA practicioners &					

- for private sector **TG1**
- for Gov't & policy assessment **TG1**
- for LCA practicioners **TG2**
- for LCA experts & Data providers **TG3**

Trust in Transparency!

SRI SUSTAINABLE RECYCLING INDUSTRIES 10

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

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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, buidling 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 <u>validation</u> and <u>publication</u> of the data (as part of the ecoinvent database)

SRI project – data rights

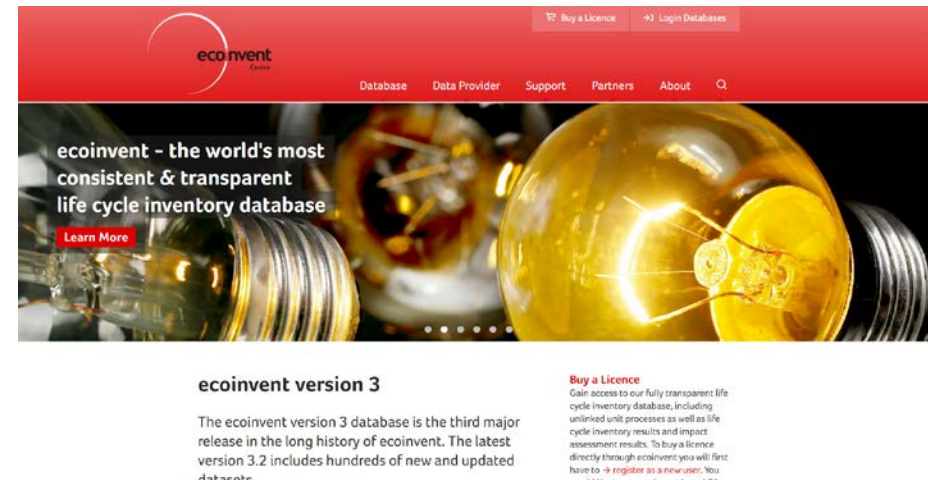LCI data **freely available** to Indian community

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
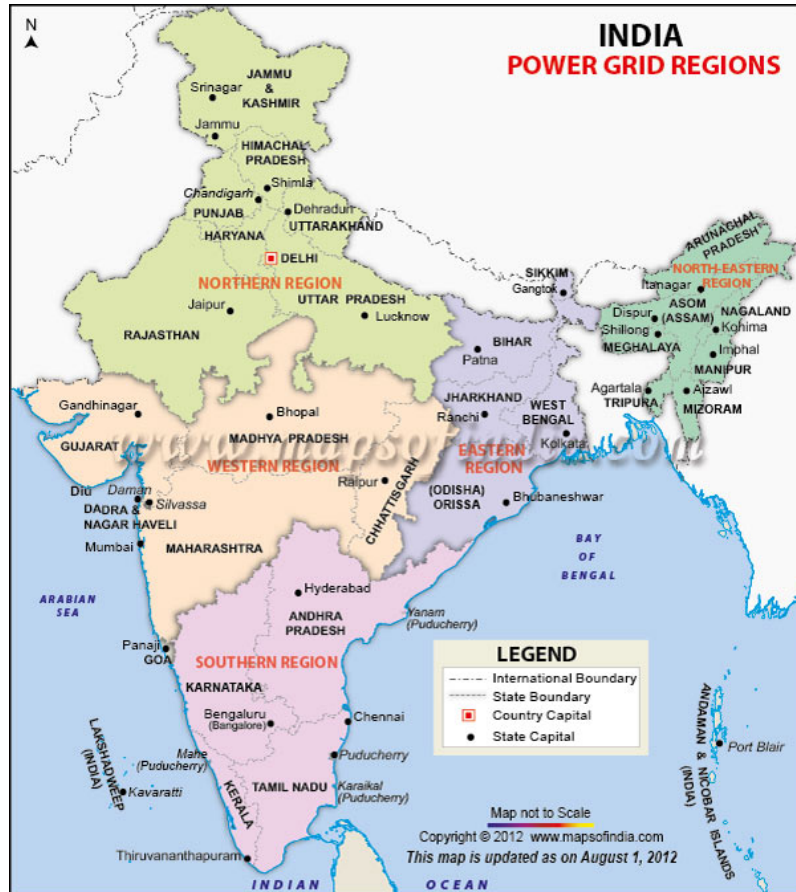
- Available in all the major LCA softwares

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 <u>generate LCI datasets for steel production in India.</u>
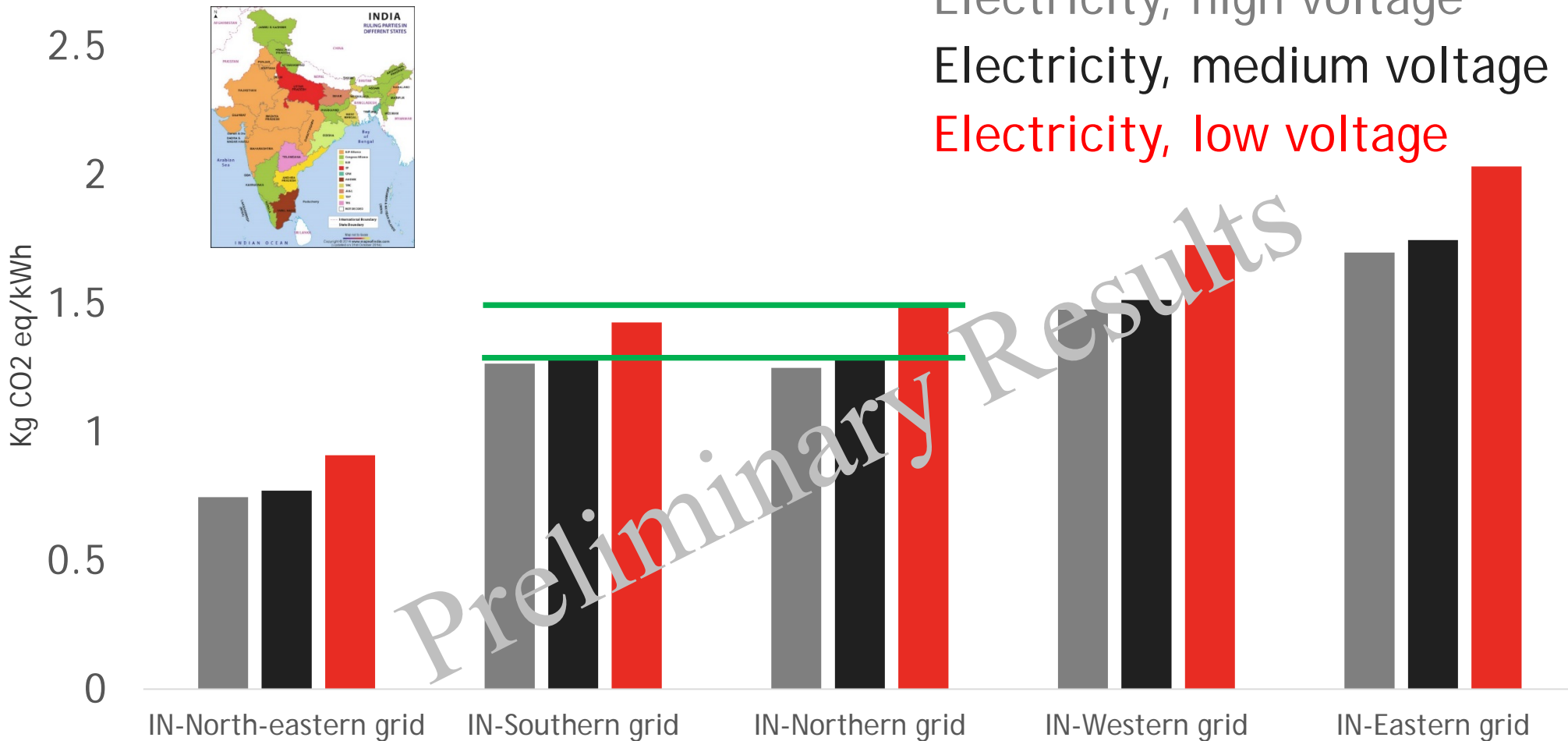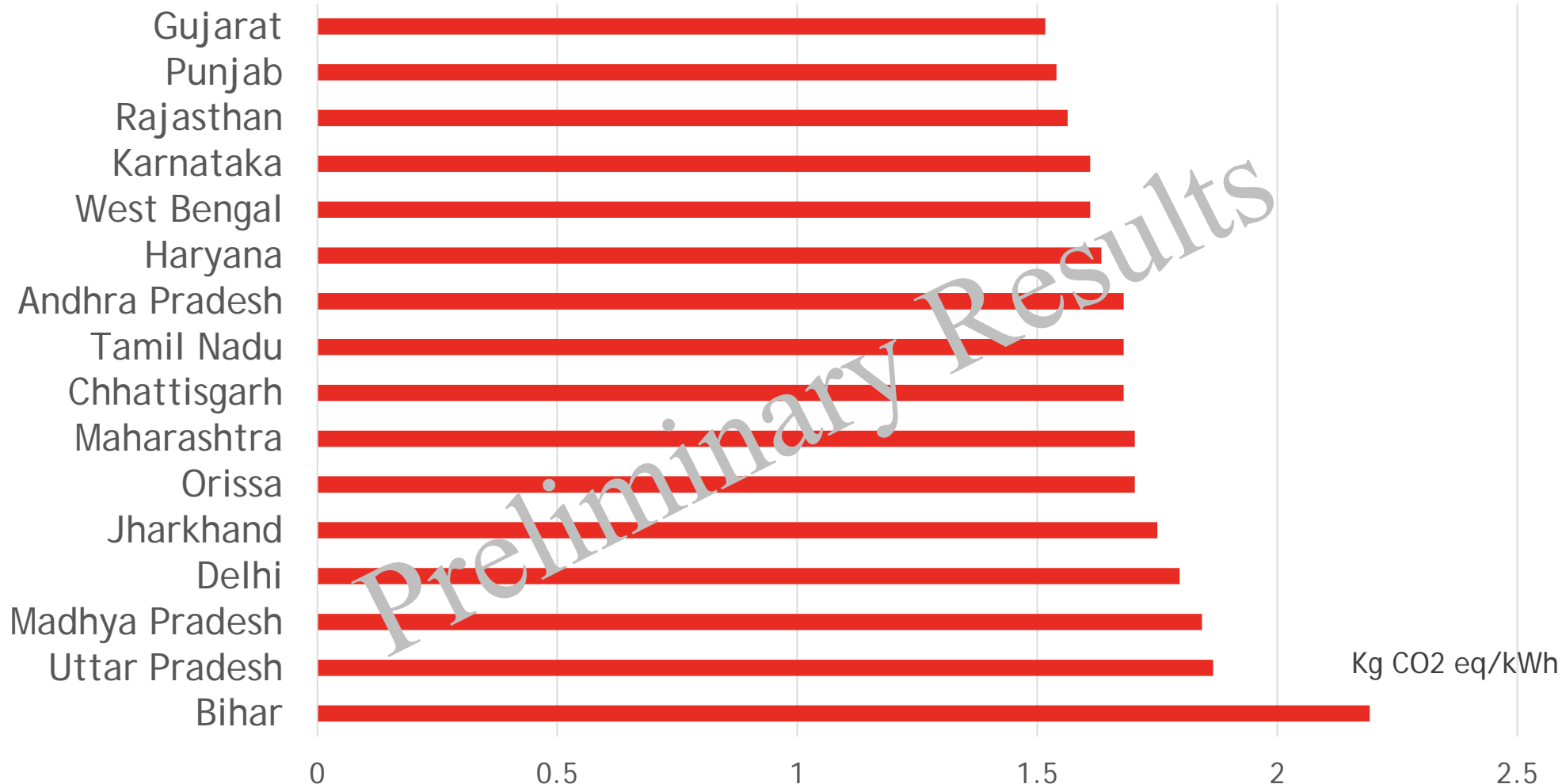
Ecoinvent, SRI and India; electricity datasets

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

GWP score
electricity per state – coal production

Kg CO2 eq/kWh

Preliminary Results

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

ecoinvent

SUSTAINABLE RECYCLING INDUSTRIES

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Agroscope   EMPA   EPFL   ETH   PSI