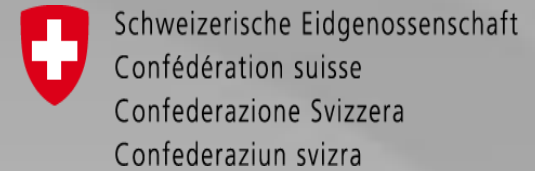


ecoinvent: Introduction, activities and key messages



Bangalore



24 November 2015



Amir Safaei

International project Manager

ecoinvent

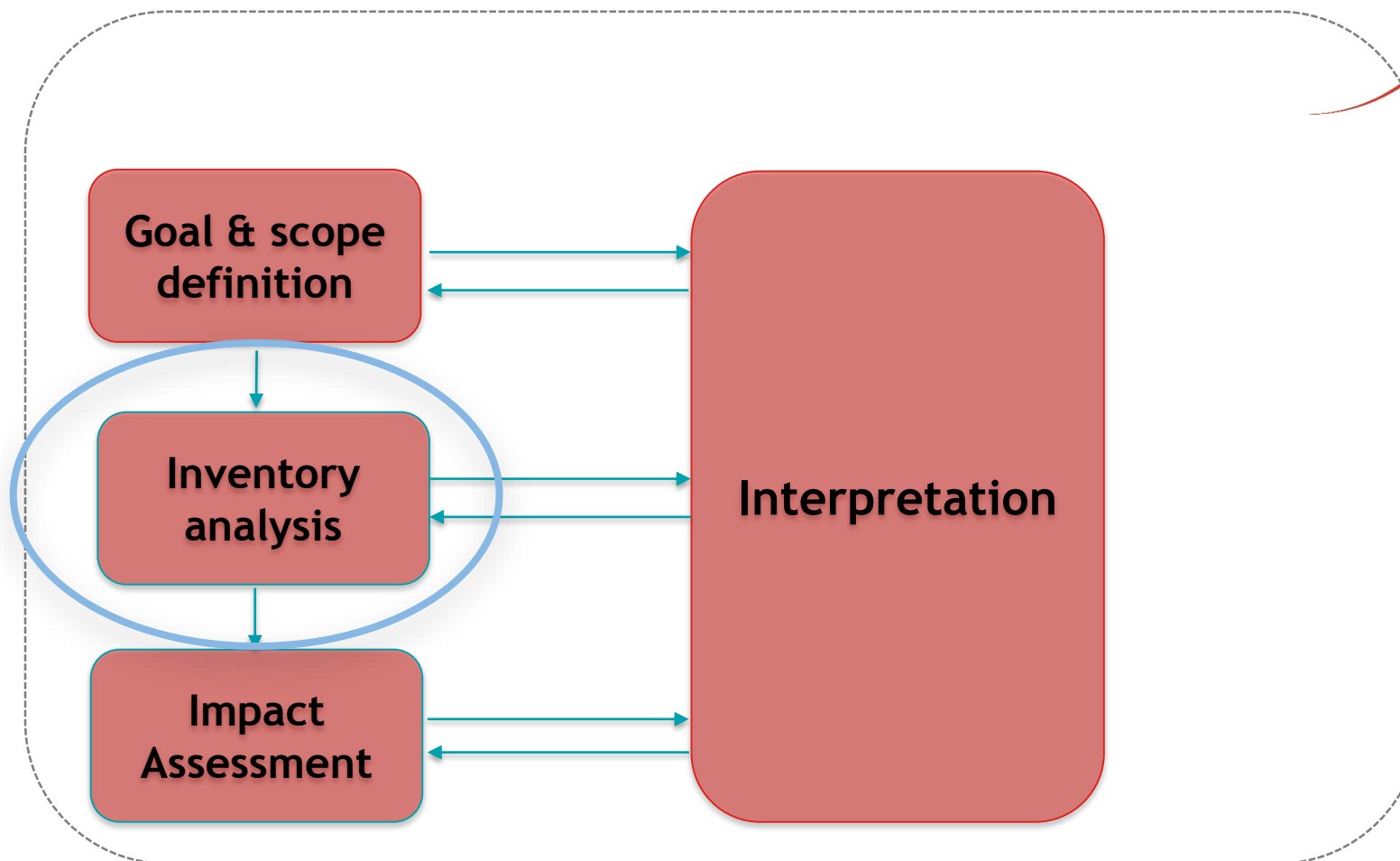


Back to coffee example...

A cup of
instant coffee



LCA framework



Need of Background data

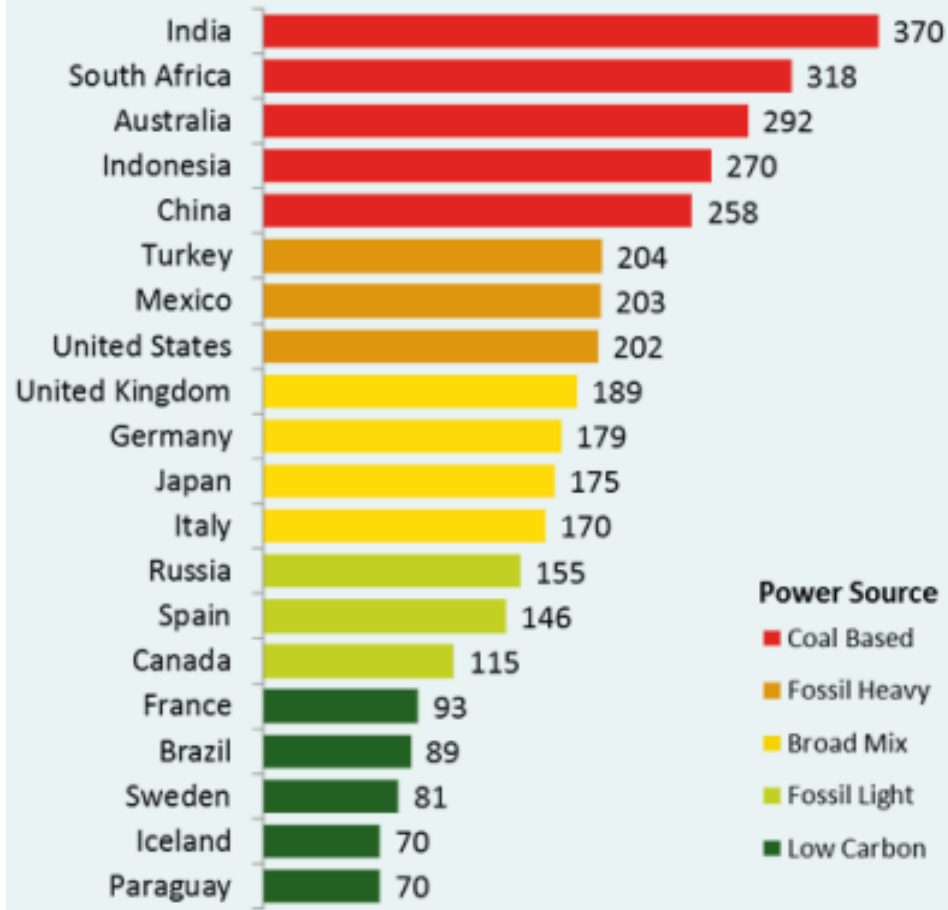
We need background data to be able to do a sound LCA!

Are electric cars greener?



Depends where you live!

Figure 1.1 Electric Vehicle Emissions: g CO₂e/km



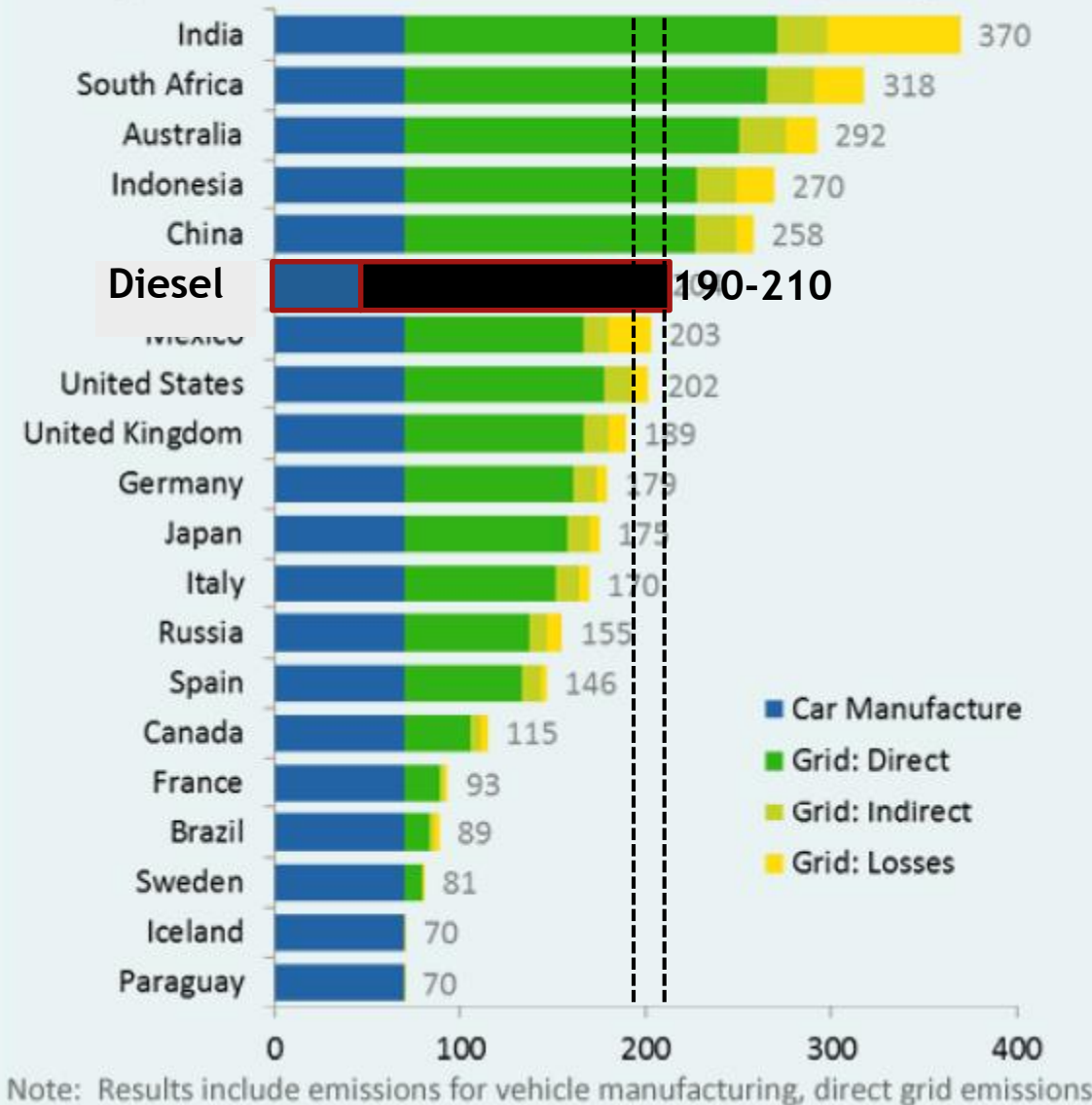
Note: Results include emissions for vehicle manufacturing, direct grid emissions, indirect grid emissions and losses.

Sources: DEFRA, GHG protocol, IEA, EPA, GREET, LCA literature

Lindsay Wilson (2013) Shades of Green: Electric Cars' Carbon Emissions Around the Globe. Shrink that footprint:

<http://shrinkthatfootprint.com/wp-content/uploads/2013/02/Shades-of-Green-Full-Report.pdf>

Figure 1.2 Emissions Breakdown: g CO₂e/km

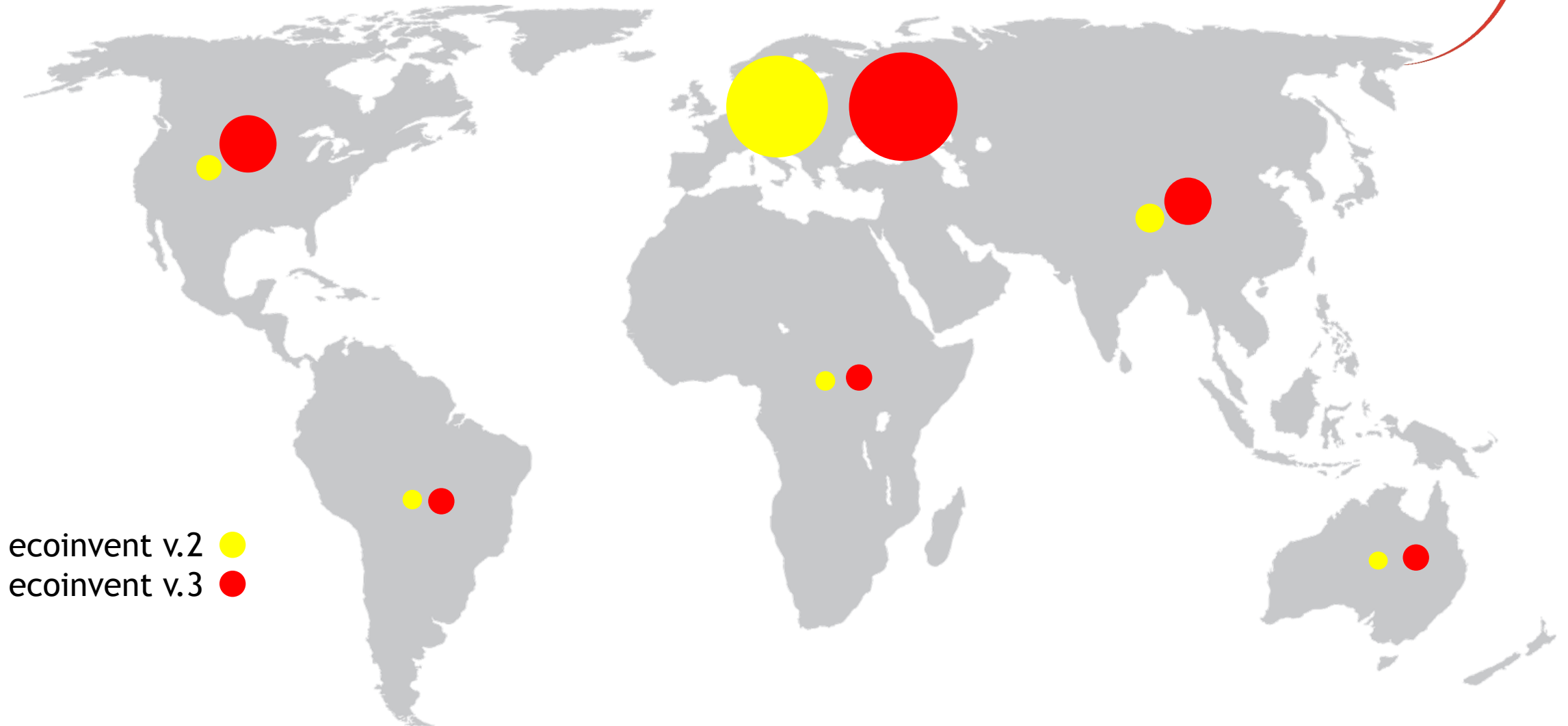


Need of Background data

We need background data to be able to do a sound LCA!

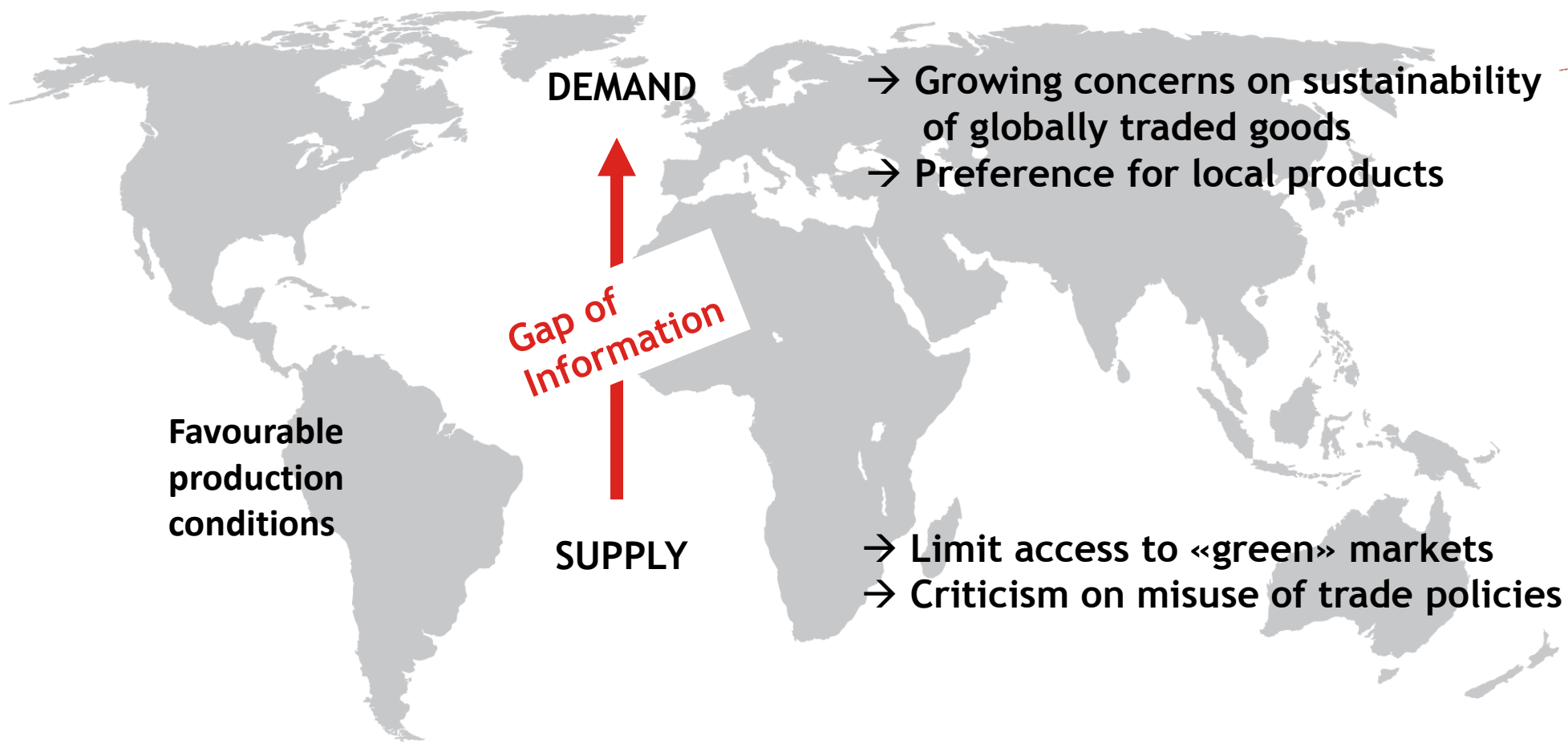
We need regionalised background data to do a sound LCA!

While LCI data are concentrated



ecoinvent v.2 ●
ecoinvent v.3 ●

Challenge of Sustainable Supply Chains



→ Strong demand for LC-based studies and LCI data

Challenges of starting & populating LCI databases in emerging economies

- ✓ Less local environmental studies compared to developed countries, so less basis for background data (*data*)
- ✓ Lower (but growing!) level of expertise in LC inventory collection and generation (*expertise*)
- ✓ Inventory databases need a certain “critical mass” (*strategy/ data*)

Data and expertise

More expertise in LCA leads to more studies
More LCA studies leads to more data
More data (information) leads to more expertise

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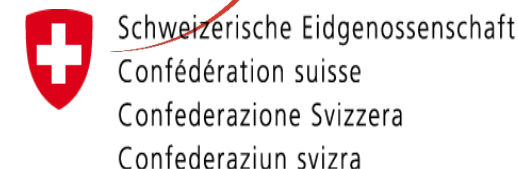
SRI project overview

✓ SRI Component A: Life Cycle Assessment

- ✓ Centre for regional networks
- ✓ Involvement of stakeholders
- ✓ LCA/LCI expertise
- ✓ Data collection

Build LCA/LCI expertise and critical core of LCI data for newly industrialized countries

- ✓ Activities in Brazil, India, South Africa, Egypt
 - ✓ Mobilization: Jan 2015 - Dec 2017 (2018)



Materials Science & Technology



Regional centres and coordinators

facilitator and coordinator for the SRI project in Brazil..

..to replicate on the successful model of the Swiss ecoinvent centre.

- ✓ consult and interact with regional stakeholders
- ✓ organize training workshops and coordination meetings on LCI generation
- ✓ organize and coordinate data collection projects and actively approach potential data providers
- ✓ synchronize with the international LCI/LCA community

Regional network centre

Regional coordinator: Confederation of Indian Industry



Confederation of Indian Industry

and its open for collaboration.

LCI/LCA expertise (capacity building)

- ✓ Raise awareness about the importance of LC thinking
- ✓ develop local LCA skills
- ✓ develop LCI creation skills
- ✓ create the momentum and expertise for data collection

LCI/LCA expertise (capacity building)

- ✓ **Advanced trainings** and workshops organized by ecoinvent and international experts
- ✓ **Trainees at ecoinvent**
 - ✓ Learn about ecoinvent, ecoeditor & data collection
 - ✓ Integration of trainees into data collection projects
- ✓ **Local CB activities** by the regional centre
 - ✓ Training tools and guidelines for data entry (for beginners)
- ✓ **Webinars and online tutorials** designed for SRI

Capacity building workshops

Target groups

Step 2: Preparation of the workshop structure and content



Target Group 1 Broad audience

General Awareness building for
Life Cycle Thinking

Introduction to LCA
LCA applications (examples)
LCA exercises

LEARN & DISCUSS



Target Group 2 LCA practitioner

LCI Seminar

Part 1: LCI data

(key aspects of LCI modelling,
example of ecoinvent v3)

Part 2: Data in Ecoinvent

(existing or to be collected)

Presented by partners, other
LCA practitioners

PRESENT & EXCHANGE



Target Group 3 LCA expert, data provider

Data collection / SRI – Project:

Prioritizing data (focus, availability)

Data collection (discuss difficulties,
inventory questions, etc.)

Data entry (how to provide data,
ecoEditor, documentation, review,
etc.)

**THEORY & HANDS
ON DATA PROVIDING**

Data collection approaches (type of data)

Data needs

What LCI data prioritization to set up a regional LCI database in a more **practically efficient and structured** manner?

Tier 1: datasets present in various datasets, background data

Tier 2: important sectors (criteria?) in each region

Tier 3: Data easily accessible

Functionality of the DB!

Data Importance

What LCI data prioritization to address **most important sectors in the economy** (in terms of e.g. contribute to GDP or estimated national emissions)

What are the sectors that contribute more to GDP or estimated national emissions?

Significance of DB!

Data Availability

What LCI data prioritization to populate a regional LCI database in a more **time efficient** manner?

What are the currently or in-near-future LCI available as a result of ongoing studies and projects?

Low hanging fruits!

Quantity of datasets in DB!

There are many overlaps!

Data prioritization

Step 1:

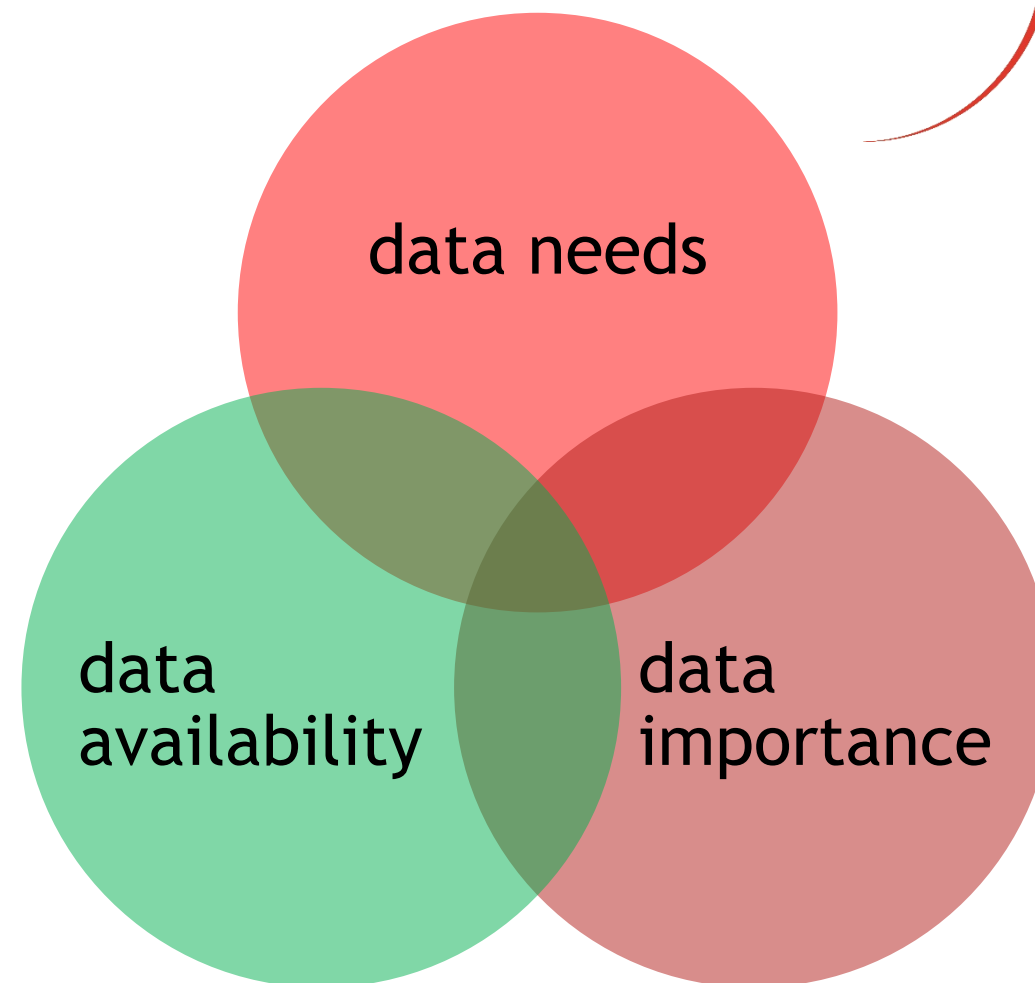
overlapping LCI data
among three approaches

Step 2

overlapping LCI data
among any two approaches

Step 3

pursue individual LCI data
collection strategies by
order of Tiers (1 to 3)



Data collection

Initial calls and future plans

- ✓ Open upcoming calls according to the time-schedule devised with regional coordinators
- ✓ India
 - ✓ Background data (energy, transportation)
 - ✓ construction material
- ✓ Value of the calls
 - ✓ Depends on the scope and level of details required

Data collection

Initial calls and future plans



Call for Tenders

for Life Cycle Inventory (LCI) data collection, LCI dataset creation and submission to ecoinvent

This is an open invitation for tender.

Background & project description

The [ecoinvent](#) is the world leading supplier of consistent and transparent LCI data of renowned quality. [ecoinvent](#) is a proud partner of the [Sustainable Recycling Industries \(SRI\)](#) programme, a

SRI project - data rights

- Data collection is tailored to the Indian needs..
- Local and international data providers are responsible for data collection (through open calls)
- Freely available to Indian community, while providing the collected data for publication in the ecoinvent database
- ecoinvent provides the necessary infrastructure for validation and publishing of the data as part of the ecoinvent database

SRI project - LCI database creation - ecoinvent approach advantages

- Meticulous support, review process & IT infrastructure
 - Technical support during all phases of dataset submission procedure
 - Ensure a low start-up cost (built on an already developed platform)
 - Ensure validity & consistency
 - ecoinvent quality stamp on the database
- Simpler data collection for inexperienced users
 - Automatic integration into global supply chains

Ecoinvent quality features

- **Consistent**
 - Fully interlinked database
- **Reliable**
 - Independent expert review for all data
 - Continuously developed and improved over for 15 years
- **Transparent**
 - Full access to unit process, LCI and LCIA results
 - Individual documentation of each dataset

Who is ecoinvent

- The world's leading transparent LCI database for over a decade
- Founded by Swiss Institutes and institutions in 1997
- Database up and running since 2002
- A not-for-profit association

ecoinvent - a global LCI database

- ecoinvent datasets from 40 countries
- An international user-base from more than 75 countries
- An international editorial board and reviewer team
- An international team (8 people from 9 countries!)
- Available in all the major LCA softwares

SimaPro S

umberto®
know the flow.

TEAM™
5.2

Quantis
SUITE 2.0

openLca



thinkstep
GaBi

IKE IT & Knowledge
for Environment
亿 科 环 境 科 技

EIME
Environmental
Improvement
Made Easy



iPoint

WRATE

carbotech

We are becoming *even* more international!

**Implementer of SRI
LCA/I project in
emerging economies**



Thank you for your attention!



Confederation of Indian Industry



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra



Materials Science & Technology



We thank the Swiss State Secretariat for Economic Affairs (SECO) for their support in this project.

We thank CII for the collaboration!

www.ecoinvent.org