

The background is a solid teal color. Scattered around the edges are several leaves in various stages of decay. Some are bright green, some are yellow, and some are brown. The leaves are arranged in a roughly circular pattern around the central text.

# Life Cycle Assessment

Michael Martin

Senior Researcher-IVL Swedish Environmental Research Institute  
Adj. Professor, KTH Royal Institute of Technology

Younger population increasingly worried about climate change and the health of the planet and want to make a difference...







C.A.F.E. Practices

DUBOKEUR



EARTHCHECK



Bra Miljöval



Eco-Schools



FAIRTRADE



ETHICAL AWARD  
THE ETHICAL COMPANY ORGANISATION



BIOSUISSE



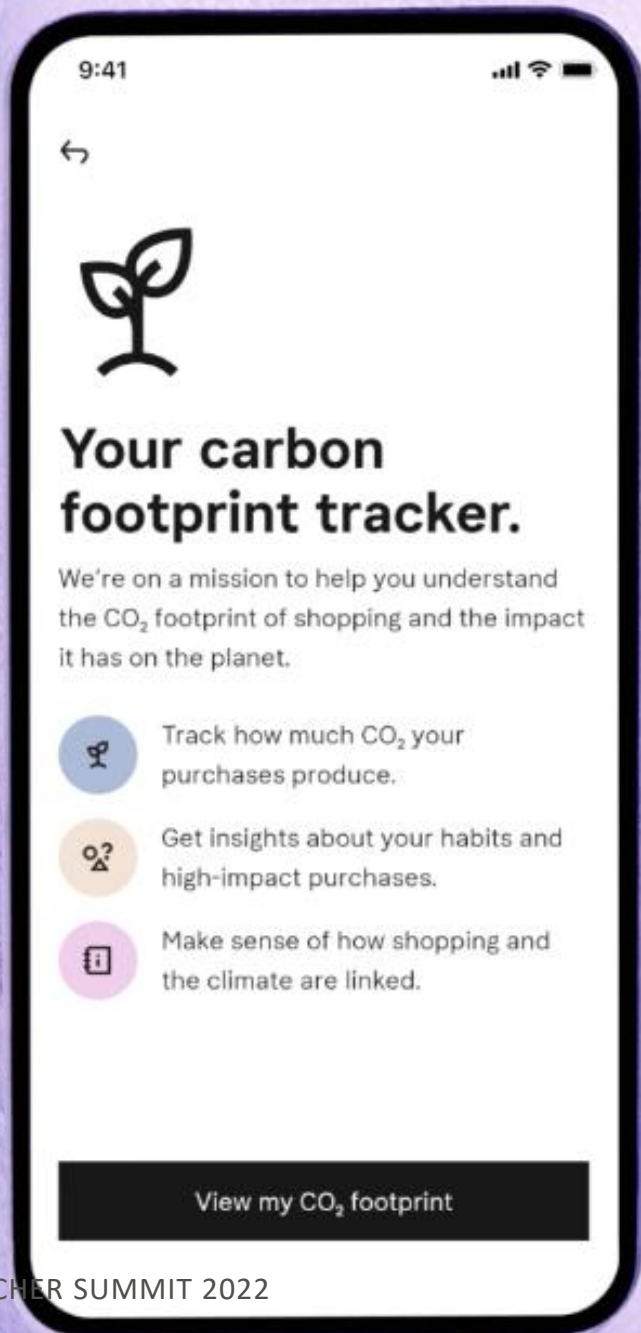
paper profile



SCScertified







9:41



## Your carbon footprint tracker.

We're on a mission to help you understand the CO<sub>2</sub> footprint of shopping and the impact it has on the planet.

- Track how much CO<sub>2</sub> your purchases produce.
- Get insights about your habits and high-impact purchases.
- Make sense of how shopping and the climate are linked.

[View my CO<sub>2</sub> footprint](#)



0.4 kg CO<sub>2</sub>e



9:41

Hållbarhetsdeklaration

Vad är en hållbarhetsdeklaration?  
[Läs mer på coop.se](#)

Parametrar

Bolldiagram Spindeldiagram



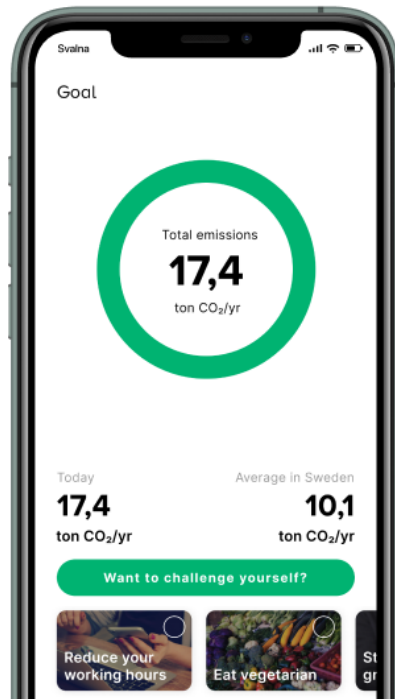
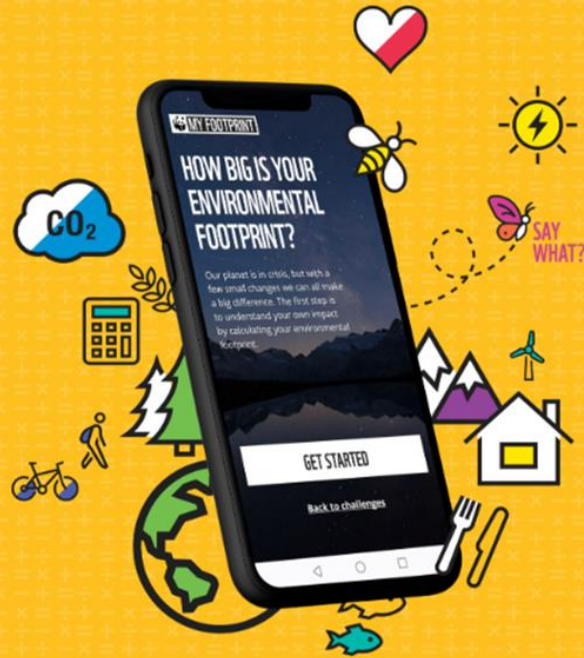


# CHALLENGE YOURSELF TO MAKE A DIFFERENCE

Calculate your footprint with the My Footprint app then choose and track challenges to help you make small changes in your own life that add up to something bigger.

Join a community of people who care about our planet and do your bit to live more sustainably. After all, change begins at home.

Download the My Footprint App





An aerial photograph of a dense forest with a mix of green and yellow foliage. A semi-transparent dark grey rectangular box is centered over the image, containing two lines of white text.

What does it mean?

Why?

# Environmental Footprinting

- Communicate the environmental aspects of products/services
- Guided by 'good intentions'
- Divergent set of systems, standards, and types of labels
  
- Consumers may distrust company-led labeling
- Many misleading claims
- Too many different labels today





# Communication is important but sensitive

- Transparency-increasingly important
- Legislative work to make LCA mandatory for 'green claims'
- European Green Deal –
  - *“Companies making ‘green claims’ should substantiate these against a standard methodology to assess their impact on the environment”*
- ICC-”Riktlinjer för ansvarsfull marknadskommunikation om miljö och klimat”







All products have an impact

# What is LCA?



# Life Cycle Assessment (LCA)

- ‘Standard’ procedure to assess the environmental performance
- Review the impacts of products/processes
- Cradle-Gate-Grave (“Farm-Gate, Farm-Fork”), etc.
- Based on ISO Standard



# Applying Life Cycle Assessment (LCA)

- **Where**-do the impacts/benefits occur?
- **How**-can we reduce/improve these?
- **What**-available materials, utilities, systems and technologies can be used?
- **Who**-can support the transition?
- *(How are the results interpreted/used?)*

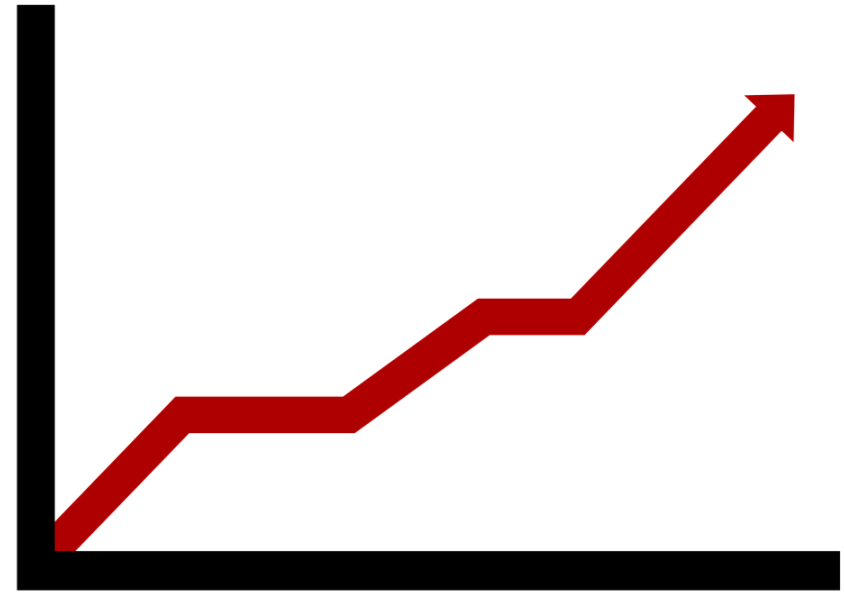


"We've made your environmental report greener. It now uses 50% less paper."



# Demand for LCAs/Carbon Footprints/Sustainability/Circularity

- Credible stakeholder to complete LCAs
- Extensive demand for LCAs
  - Building Companies
  - Material Suppliers
  - Food Industry
- 'Quick and Dirty' ("Give us a number")
- 'Scientific' (What should we do?)
- GHG Protocol Assessments (large demand)
- Consumer Appeal



# It is everywhere

- You've seen it
- Students most likely have seen in some way
- More and more products with footprints
- More and more companies taking it on
- Laws/legislation in place to make it mandatory for all new developments (e.g. buildings)
- In some countries it guides public purchasing



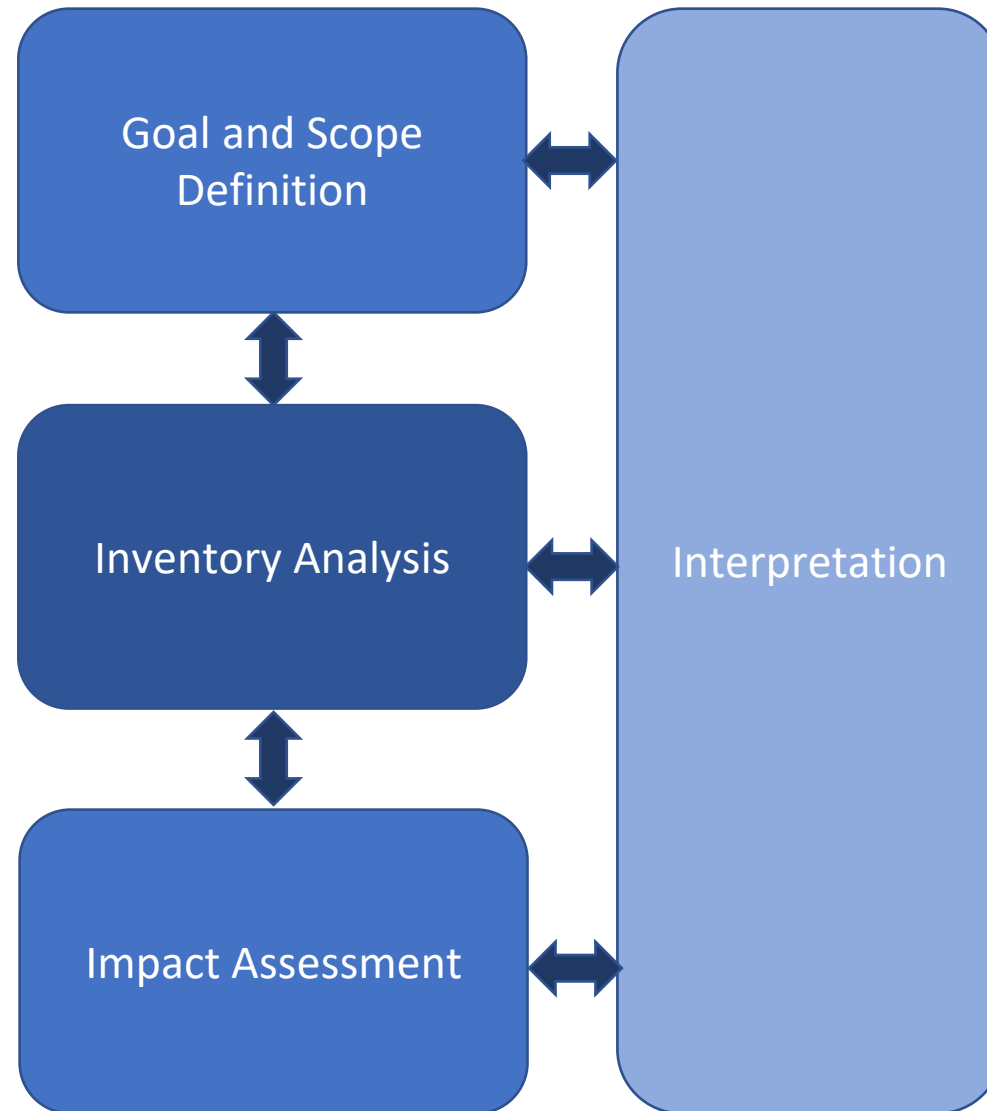




# CONDUCTING A LCA

# Steps for an LCA

- Determine Goal/Scope
- Collect Appropriate Data
- Link to inventory data
- Calculate Impacts
- Review/Revise
- Interpret
- Report



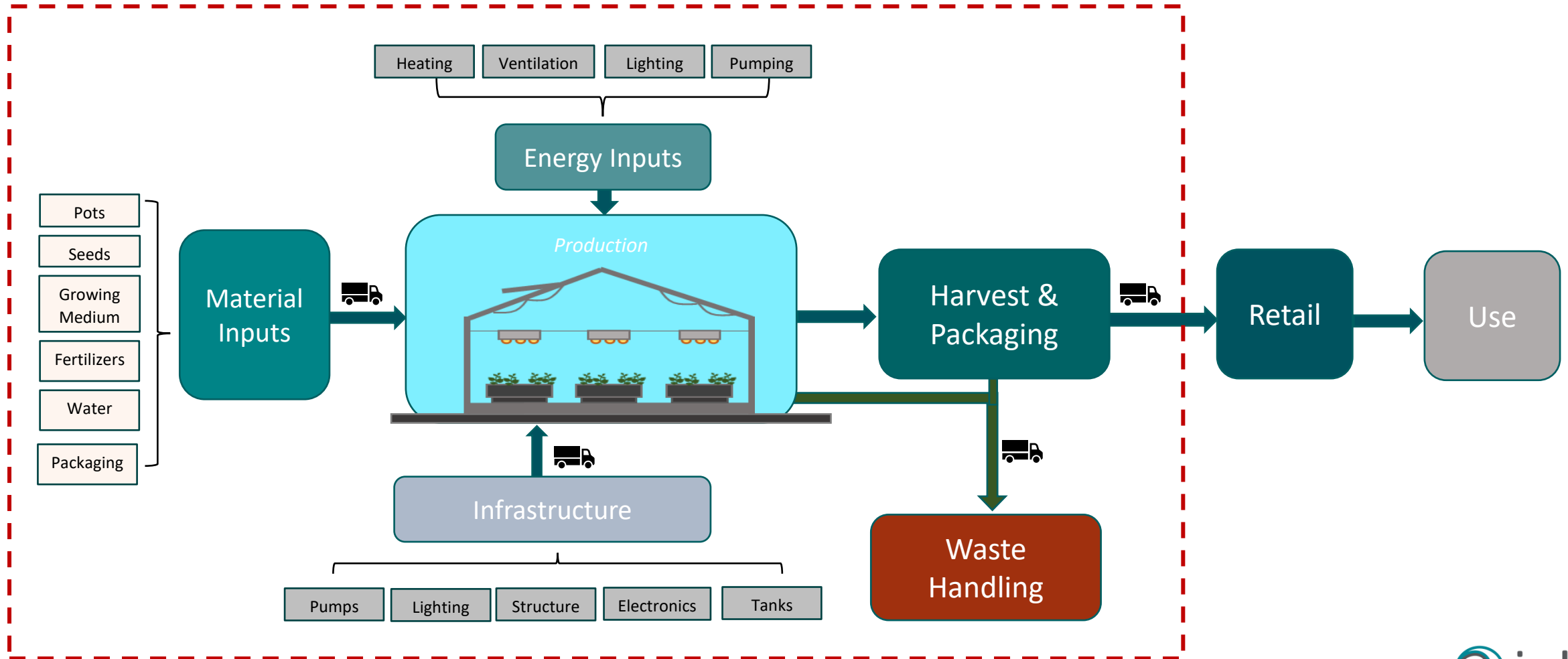


Is it difficult?

10  
15  
25



# System Boundary and Process Mapping





# What is needed?

- MS Excel
- LCA Program
- An inquisitive mind
- No extensive mathematics
  
- Gather info about the system of investigation
- Link to impacts



# Data

- Open-source data/programs (OpenLCA)
- Free LCA Databases
- ‘Google it’?

## Don't be afraid to ask!

- Public/Scientific Outreach (Pillar of academia)
- Guide input/Provide data for exercises
- Love talking to others besides companies and like-minded....

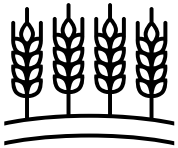




# Impacts from inputs/processes



**X** kWh electricity (@ 44 g CO<sub>2</sub>-eq/kWh)



**X** kg wheat (@ 2 kg CO<sub>2</sub>-eq/kg)



**X** liters water (@ 0.2 kg CO<sub>2</sub>-eq/liter)

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**Total** 2.2 kg CO<sub>2</sub>-eq/kg product)



# What can we get from an LCA?

- Carbon Footprint (CO<sub>2</sub>-eq) only one of many
- Impact Assessment Methods Vary (10-20 impact categories)
- Land Use, Water Use, Biodiversity, Acidification, Eutrophication, Toxicity, Resource Depletion.....
- Important that measures do not lead to tradeoffs
  - Example: Reducing CO<sub>2</sub>-eq, but increasing resource depletion or biodiversity damage
- Important: *Some impact categories less robust*





# Reporting

- Where along the life cycle do the impacts occur? Which processes?
- How to potentially improve them?
- Are there any trade-offs?
- Compare with available data/'equivalent' products?
- What can we say/communicate?



# Examples of Products of (Interest/Relatable)

- Food Products
  - Bread
  - Salad
  - Ice cream
- Clothing

(Stay away from complex products at first)





## *Challenge:*

Compare with available reported impacts from known products

- Why different?
- Is it transparent?

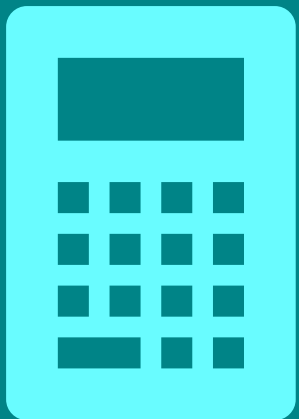
# Foster critical thinking and knowledge on sustainability

- Taking an active roll in the life cycle
- Not only as a consumer....
- Leaders of tomorrow
- Hopefully narrowing the gap of action and knowledge





# LCA: Only one piece of the puzzle



# Conclusions

- Varying motives for the use of LCA
- Increased need/use of LCA in society
- Simplicity/Complexity of LCA
- Be objective and stay critical to claims!
- Sustainability is more than climate/carbon emissions
- Carry the knowledge of life cycle-based sustainability





# Thank You

Michael Martin

[michael.martin@ivl.se](mailto:michael.martin@ivl.se)

[mamartin@kth.se](mailto:mamartin@kth.se)