



Sustainability of fisheries -The catch and beyond

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Overview

- MATÍS
- What is the purpose of sustainable food production?
- Chain perspective
- CO₂ miles
- LCA
- Traceability
- Projects
 - LCA on cod from Iceland
 - Sustainable Food Information
 - Ecolabels: pros and cons
 - SustainFood





Matís

Food Research, Innovation & Safety

- Food research institution

- 1.1.2007

Fish (Icelandic Fisheries Lab) Ministry of Fisheries
Other food (Matra) Ministries of Industry & Agriculture

Safety (UST) Ministry for the Environment.

- Staff: approximately 100

- 3 main areas

Food Processing and product development

Biotechnology and novel products

Food Safety

- Environmental research/promote sustainable utilisation of resources





What is the purpose?

- *Food is essential. How many of us stop to wonder about the way it was grown / processed, or transported?*
- *How many do stop to think about how our decisions might be affecting the environment or standards of living of people involved elsewhere in the food chain?*





Why do we need sustainability?

- *There are limits to the earth's capacity to absorb pollution and provide natural resources*
- *Developed countries versus developing countries in consumption and production could not be replicated worldwide: some calculations suggest that such patterns require three planet's worth of resources.*



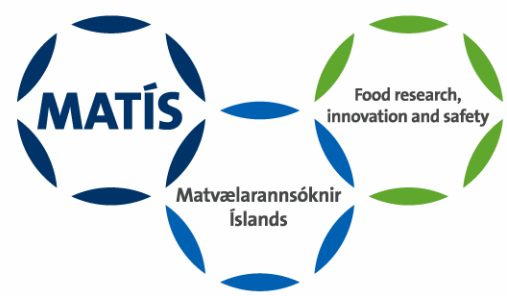


New approach

We need:

- Better products and services
- Cleaner and more efficient production processes
- Shifts in consumption towards goods and services with lower impacts





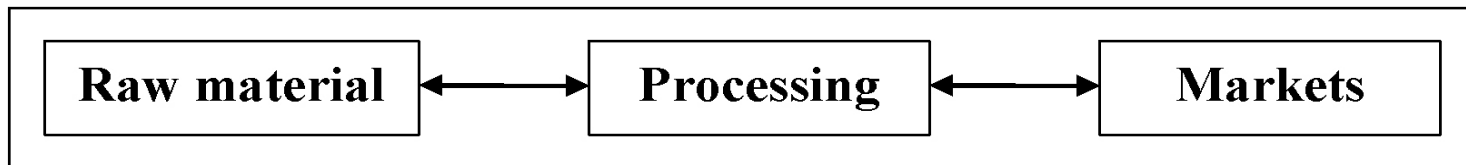
- But *how* do we obtain this?





Chain perspective

- Not enough to focus on only one link in the chain
- Need the overview → Traceability
- The ability to trace the “steps” of the product





CO₂ Emission-FoodMiles

- Food miles / Carbon miles
- Consumers in UK are the driving force
- How much CO₂ is emitted when producing the product?
- Really only a part of a larger analysis (LCA)





What is LCA

Ecobalance of a product

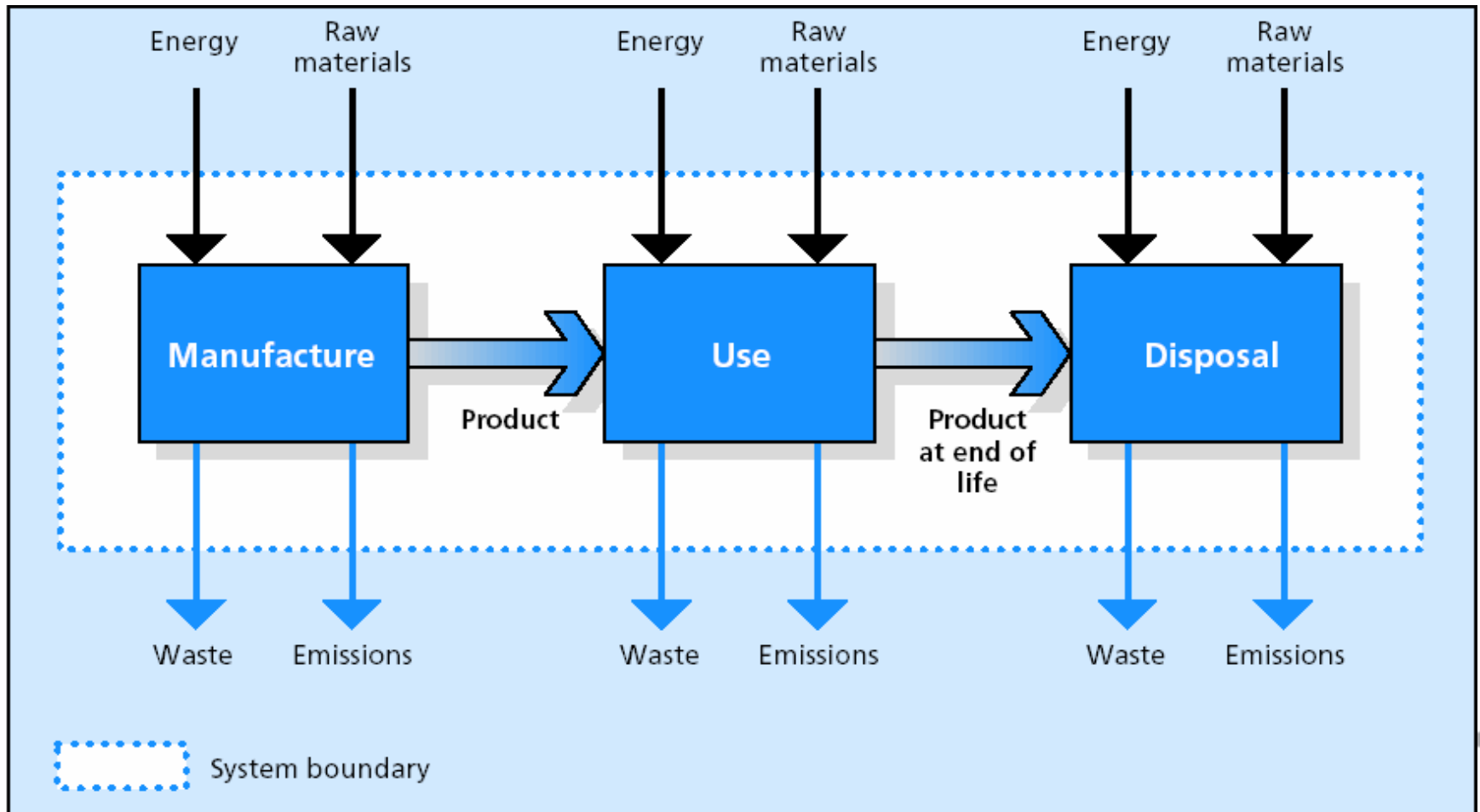
- Interaction between product and environment
- Material, energy and waste flow from cradle to grave
How much;...
 - Energy use
 - Raw materials
 - Water use
 - Emissions
 - Effluents
 - Land use
 - Impacts from products and services
 - Re-use/recycling/incineration/landfilling
 - Human health/child labour... For **1 kg of final fish product** for example





What is LCA?

Environmental impacts in the product chain





Why LCA?

LCA is for smart companies

Reducing the use of resources – **cost savings**

- Procter and Gamble: 50 million GBP savings in material costs and waste disposal
- Smithkline Beecham: 30.000 tonnes/year in package reductions

Governmental regulations; Kyoto protocol, EuP (ecolabels)

Consumers and marketing; Comparison of products due to their environmental impact

Consumers and producers; Transparency

Environmental certification ISO 14000, *green markets*

Database for public, universities and governments

References: Uk Environmental Agency
European Parliament





Traceability

- Tool that gives food information
- Increases transparency
- Sustainability parameters, CO₂ emissions
- Legislation: Sustainability, legal catch/landing
- Certification: HACCP





Projects at Matís

- LCA on cod from Iceland
- Sustainable Food Information
- Ecolables: Pros and cons
- SustainFood





LCA on cod from Iceland

ship leaves the harbour in Iceland and its product ends on the consumers dish in a fish & chip's restaurant in England,

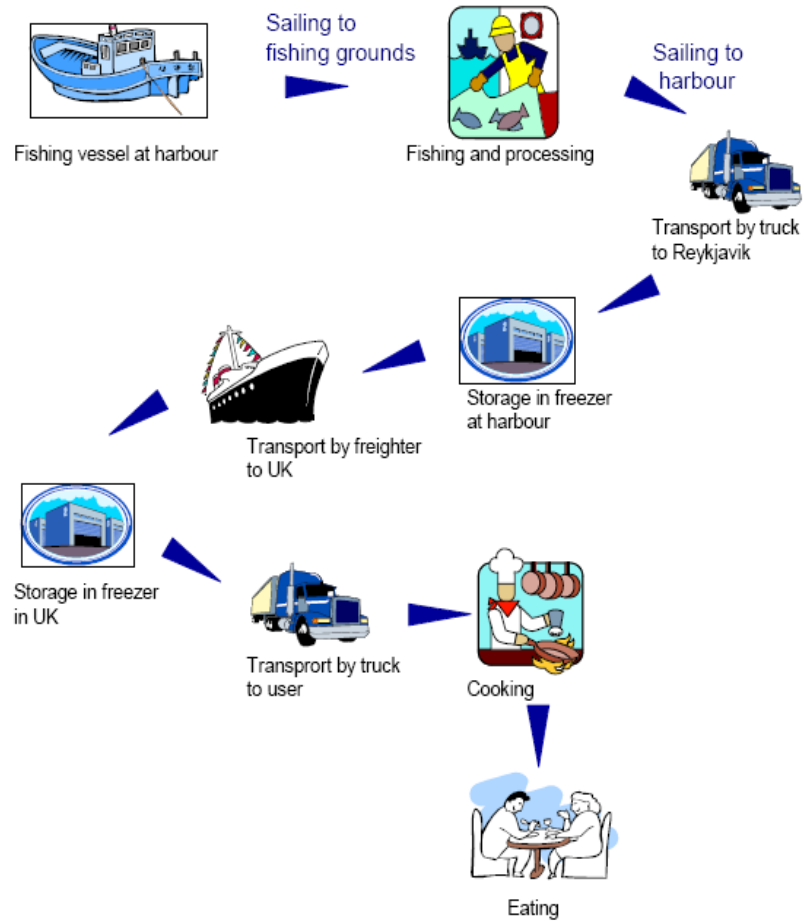
The aim of this project was to examine the viability and limitations of LCA with respect to:

- Evaluation of environmental impacts of cod production
- Environmental labelling
- Eco friendly product development
- Streamlining LCA for SME's





The product chain

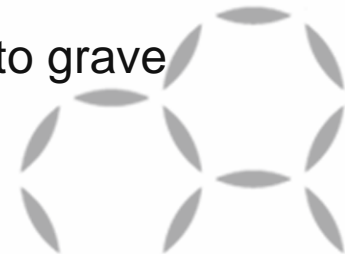




LCA on cod from Iceland

The main results were:

- Greatest environmental impact was traced to the oil consumption during the fishery phase
- 70% of the total oil consumption is used to operate the fishing gear in a fishing trip
- 0,65L of oil per 1 kg of cod ~ 400 g of fish fillets on the consumer's dish
- CO₂ emission 1759 g/kg in Iceland versus 3782 g/kg in Sweden
- NO_x 43,2 g/kg in Iceland versus 87,4 g/kg in Sweden
- Data for material-and energy usage for cod products from cradle to grave





Sustainable Food Information

- Cooperation between Iceland and Faroe Islands
- Workshop on sustainability in seafood production 14.06.2007
- Participants from the fishing industry (catch, processing and marketing), research communities and legislative authorities
- The objective was to obtain commitment from all the key stakeholders for further collaboration on sustainability in the value chain of seafood products





Ecolabels

- What are ecolabels?
 - Market based incentive for companies to produce environmentally friendly(-er) products
 - Informed consumer choice





Ecolabels

- ***First party labelling schemes***
 - “Self-declarations”
- ***Second party labelling schemes***
 - Created by industry associations for their member’ products
- ***Third party labelling schemes***
 - Established by an independent initiator that sets criteria
 - Producers, distributors, retailers etc. apply for certification
 - Independent “auditor” examines whether the product meets criteria





Ecolabels

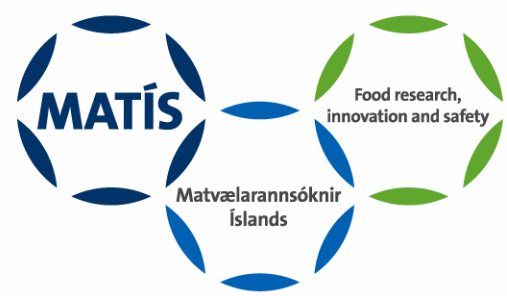
- **Pros**

- + Better informed consumer choice
- + Economic efficiency
- + Market development
- + Continues improvements
- + Promoting certification
- + Monitoring of environmental claims

- **Cons**

- Claims can be misleading or fraudulent
- Uninformative, trivial or irrelevant “green” information
- Divergent methodologies
- Economic feasibility





Ecolabels in fisheries

- MSC and others
- Will we have one (possibly two) universal ecolabels in fisheries that everyone knows





Ecolabels in fisheries

-or many labels that customers will have difficulties to tell apart





SustainFood

- Big European Project
- Want to avoid confusion between consumers and producers
- Traceability, LCA and more
- 1 stage already submitted





- Thank You For Your Attention !

