

How we use and will use Life Cycle Assessment in Arla Foods

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How we use and will use Life Cycle Assessment in Arla Foods

- What has been done in Arla Food?
- How have we done it?
- What have we learned?
- How is the knowledge being applied?
- Will we carry out more LCA and EPD?

What has been done: Examples

Packaging.

During the 1990s the general public expressed great interest in packaging and the environment.

- The first LCA was made on packaging.
(comparison of recycled glass bottles and disposable carton containers)
- Comparison between different carriers
(pallets, crates, containers) when starting a new project.
- “LCA tool” for disposable packaging

Tax system in Denmark

- Danish tax system on packaging is based on LCA and is designed to reduce environmental burden.

What has been done: Examples

- An EPD (Environmental product declaration) for transportation of dairy products.
- A PSR (Product Specific Requirement) was first made in co-operation with other companies to set up the rules for the EPD.

What has been done? Examples

Products Including Packaging

- Drinking milk packed in Tetra Brik packaging*.
 - Two dairies and two farms (organic & conventional are compared)
 - Part of a larger project
- Semi-hard yellow Cheese, also produced in Sweden.

*www.svenskmjolk.se/english.asp (download: Milk and the environment)

The Life Cycle of Milk



What has been done: Examples

- Comparison of cheese with and without rinds and packed in two different packages.
 - One luxury packaging containing cheese without rinds. The rinds was taken away at the dairy and used further.
 - One normal packaging containing cheese with rinds. The rinds was thrown away at home.

How has this been done?

Economy and organization

- We co-operate with institutes to make life cycle assessments.
- All dairies in Sweden support the work that is done by the Swedish Dairy Association to collect and analyze farm data.
- Institutes that are involved:
 - CIT Ekologik (ecology), Gothenburg, Sweden (www.ekologik.cit.chalmers.se)
 - SIK, Gothenburg, Sweden (www.sik.se)
 - 2.-0 LCA consultants, Denmark
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What have we learned?

The milk is
produced on
farms



What have we learned?

- not at dairies



What have we learned?

The milk is
produced on
farms



What have we learned?

Organic production versus conventional

- Small differences for the impact of eutrophication and acidification
- The import of concentrated feed for conventional milk production leads to higher energy use, CO₂ emissions and pesticide use.
- Low milk yield / ha for organic milk is sometimes acceptable in Sweden.

What have we learned?

- To use nitrogen effectively is essential.
- The nitrogen balance has impact on eutrophication, acidification and global warming.

What have we learned?

- Small environmental impact from transports per liter of milk



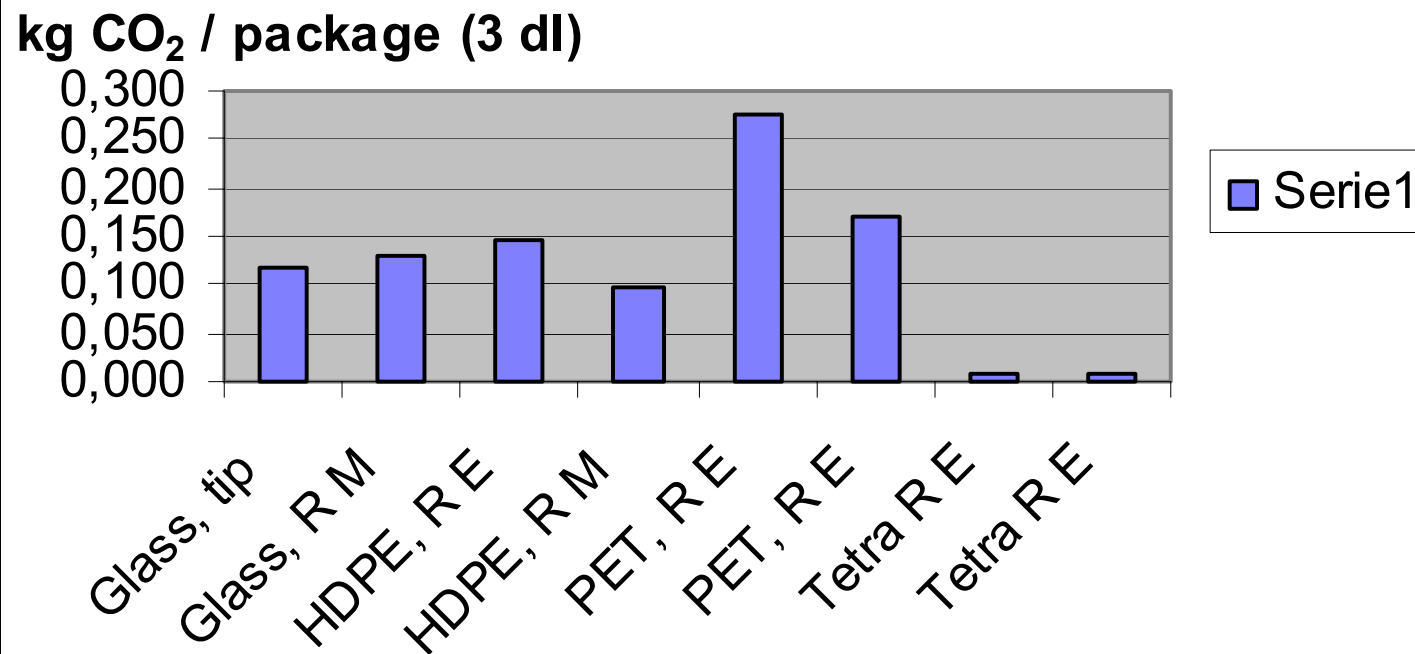
What more have we learned?

Choice of packaging material is important.

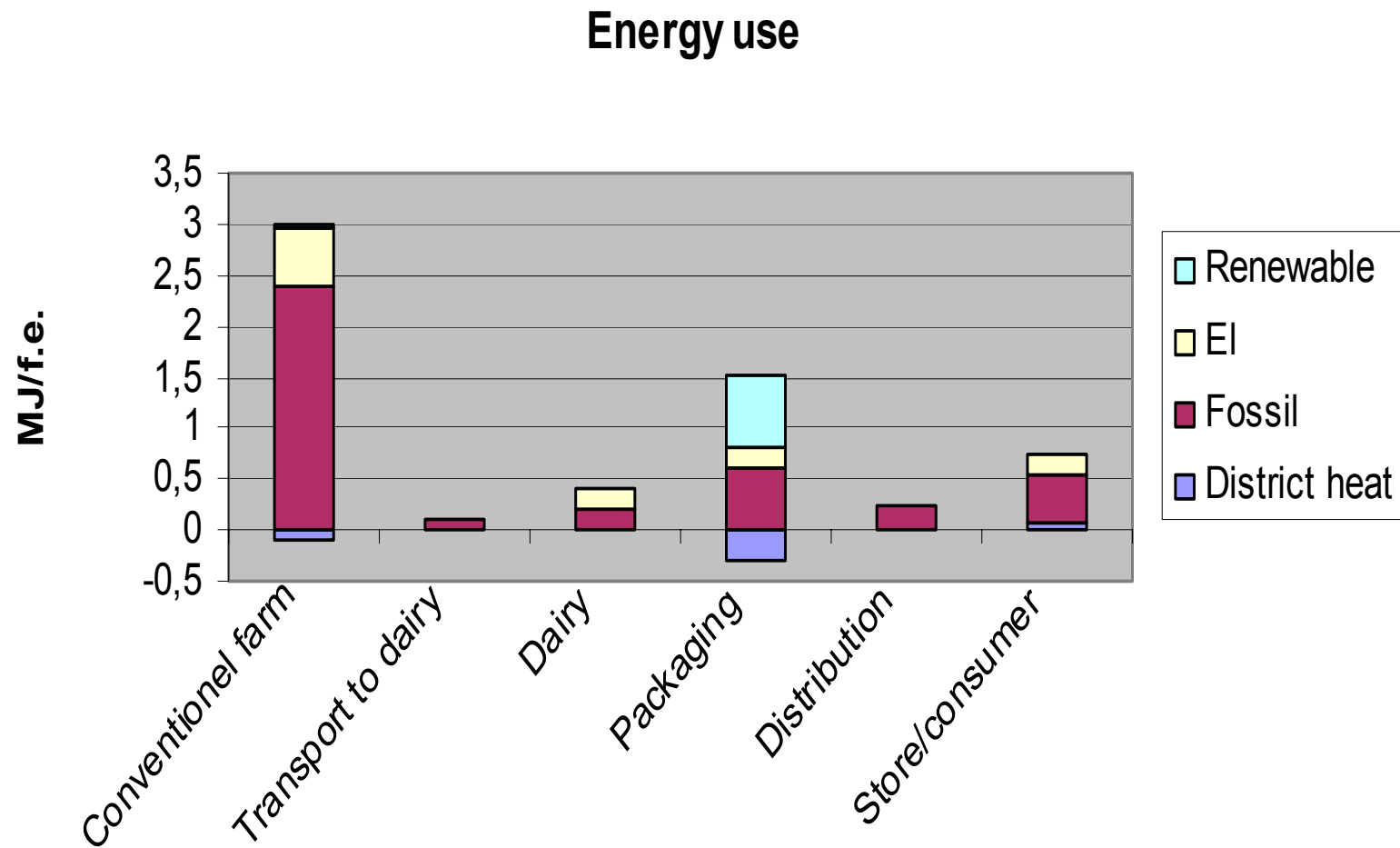


What have we learned?

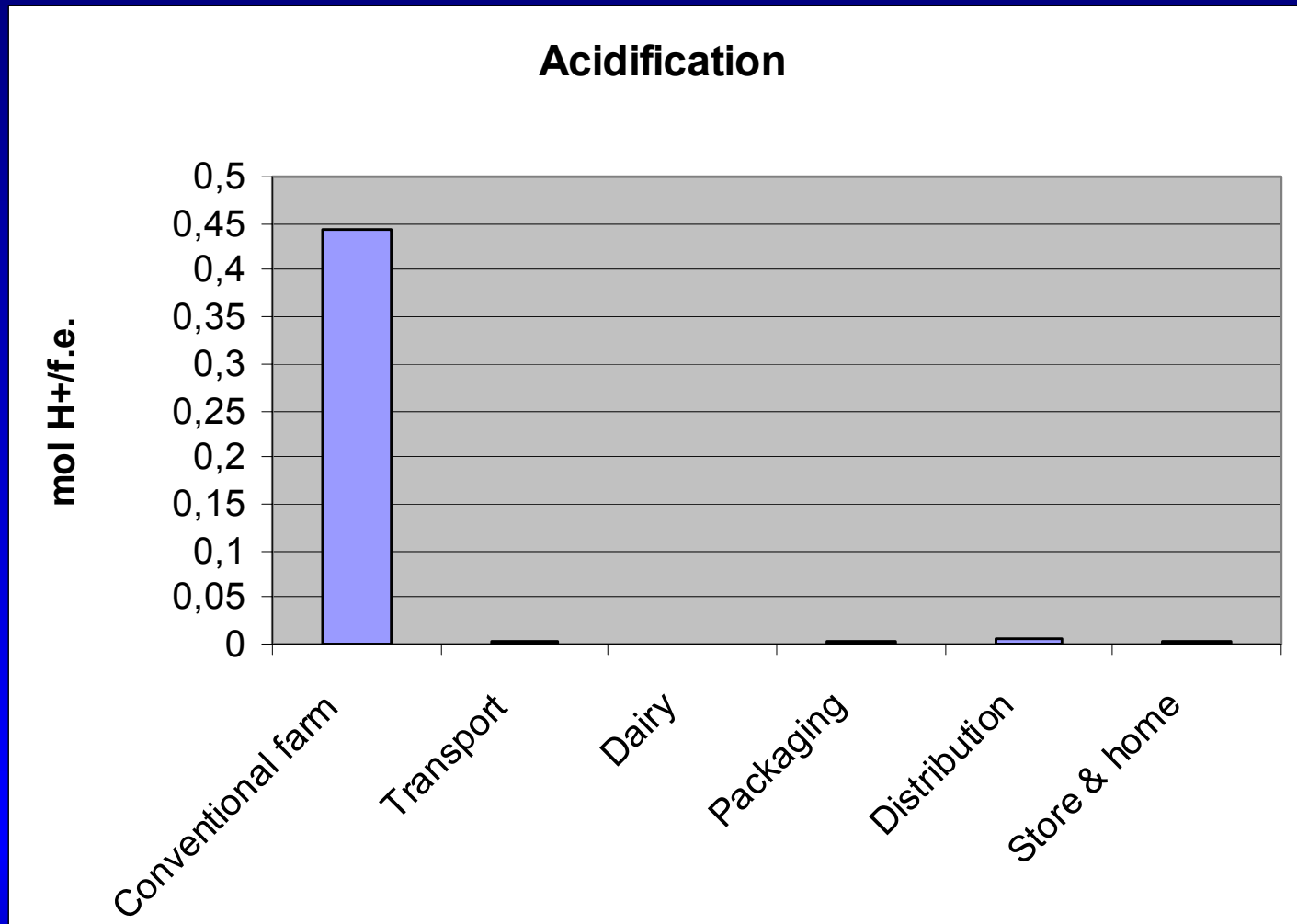
Emissions of carbondioxid



What have we learned?



What have we learned?



What else have we learned?

The most important environmental work at dairies should be:

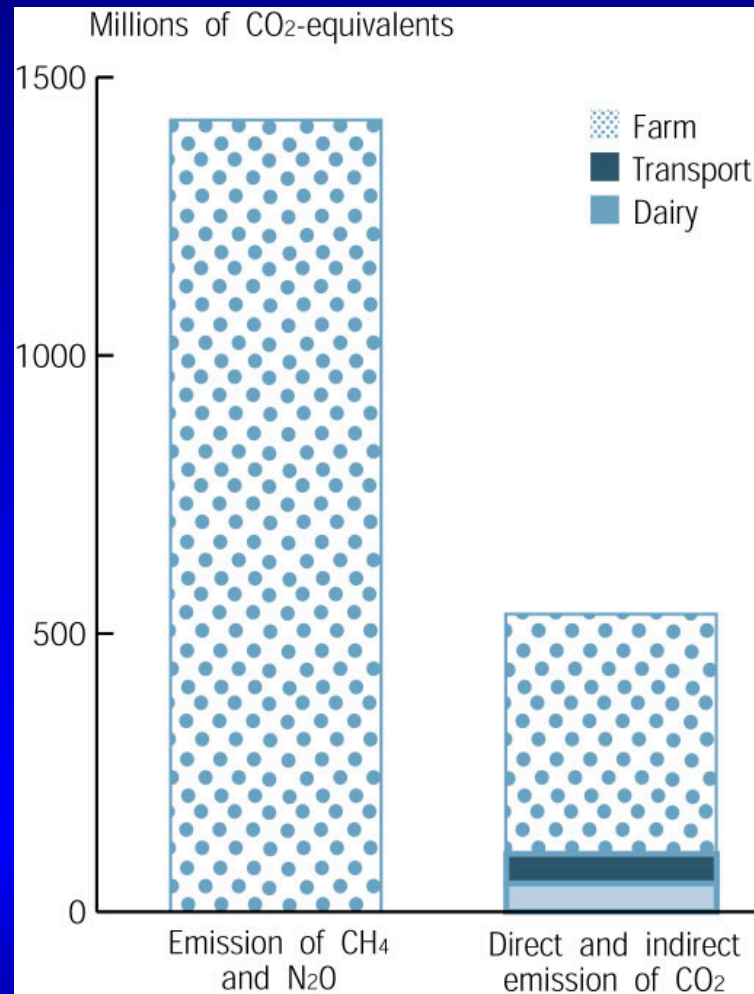
- To save the product for food: low loss of milk to waste water, pig feed and garbage
- Good production planning for low loss of product
- To get a high yield of cheese / liter milk
- To save energy, especially at milk powder plants.
- To choose environmentally good packaging material.

How is the knowledge being applied?

- We can give correct answers about environmental issues to consumers, customers and students.
- LCA information is published in brochures and reports.

How is the knowledge being applied?

Example from a report about Arla Foods in Sweden:



How is the knowledge being applied?

- To reduce all kinds of milk loss at liquid milk dairies is a target.
- Targets for packaging
- Targets to reduce energy use
- Arla Foods environmental work now includes the farm.

Will we carry out more LCA and EPD?

- LCA and EPD - When the market asks for it.
- LCA for comparing different solutions - Yes, especial when introducing products that could be controversial.
- We have to discuss LCA and EPD more with the management of Arla Foods.