

Product Environmental Footprint Category Rules

Rules for environmental assessment of fish products in the EU market

By Erik Skontorp Hognes, SINTEF Fisheries and aquaculture, mail: erik.hognes@sintef.no



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SINTEF Fisheries and aquaculture is the leading European technological research institute for the fishing and aquaculture sector - We cover the entire marine value chain

Our goal is to contribute to sustainable use of marine resources at a national and international level

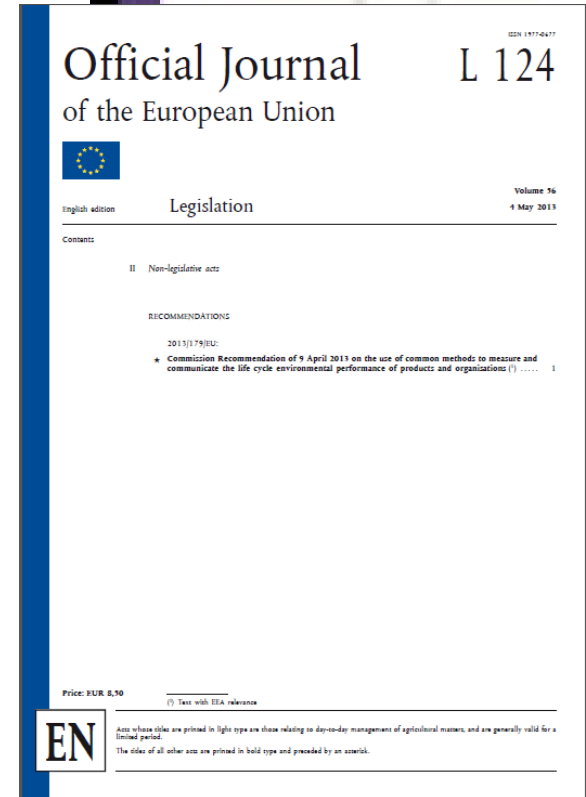
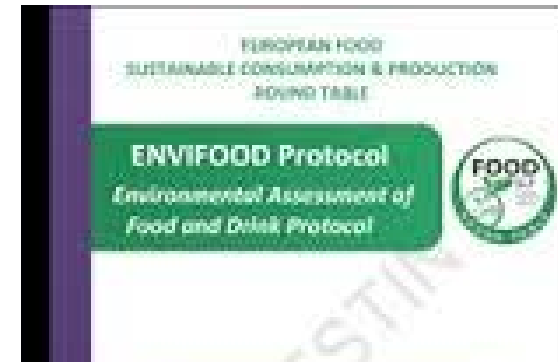
Single market for green products

- The EC want all products on the European market to be followed by documentation of their environmental impacts
- If consumers, retailers, politicians and other decision makers in the seafood industry, regulating governments and market can make **conscious choices** based on a **holistic understanding** of the environmental impacts caused by a product, this can be a strong **incentive to change and improve**
- choices based on information from a **transparent** analysis and reliable and **accepted** methodology
- Business-to-business and business-to-consumer



Single market for green products

- Documentation of environmental impacts should be based on LCA, more precisely the **Environmental Footprint Method (PEF)**
- The "**Fish Pilot**" specifies how a PEF of fish products should be performed, documented and communicated.
 - a **Product Environmental Category Rule (PEFCR)** for fish products, e.g.: What environmental impacts have to be addressed? What parts of the life cycle must be included? With what data quality?
- *Stakeholders in the seafood industry should pay attention to this development and become a part of it – to make sure the rules are set fair, reasonable and responsible*



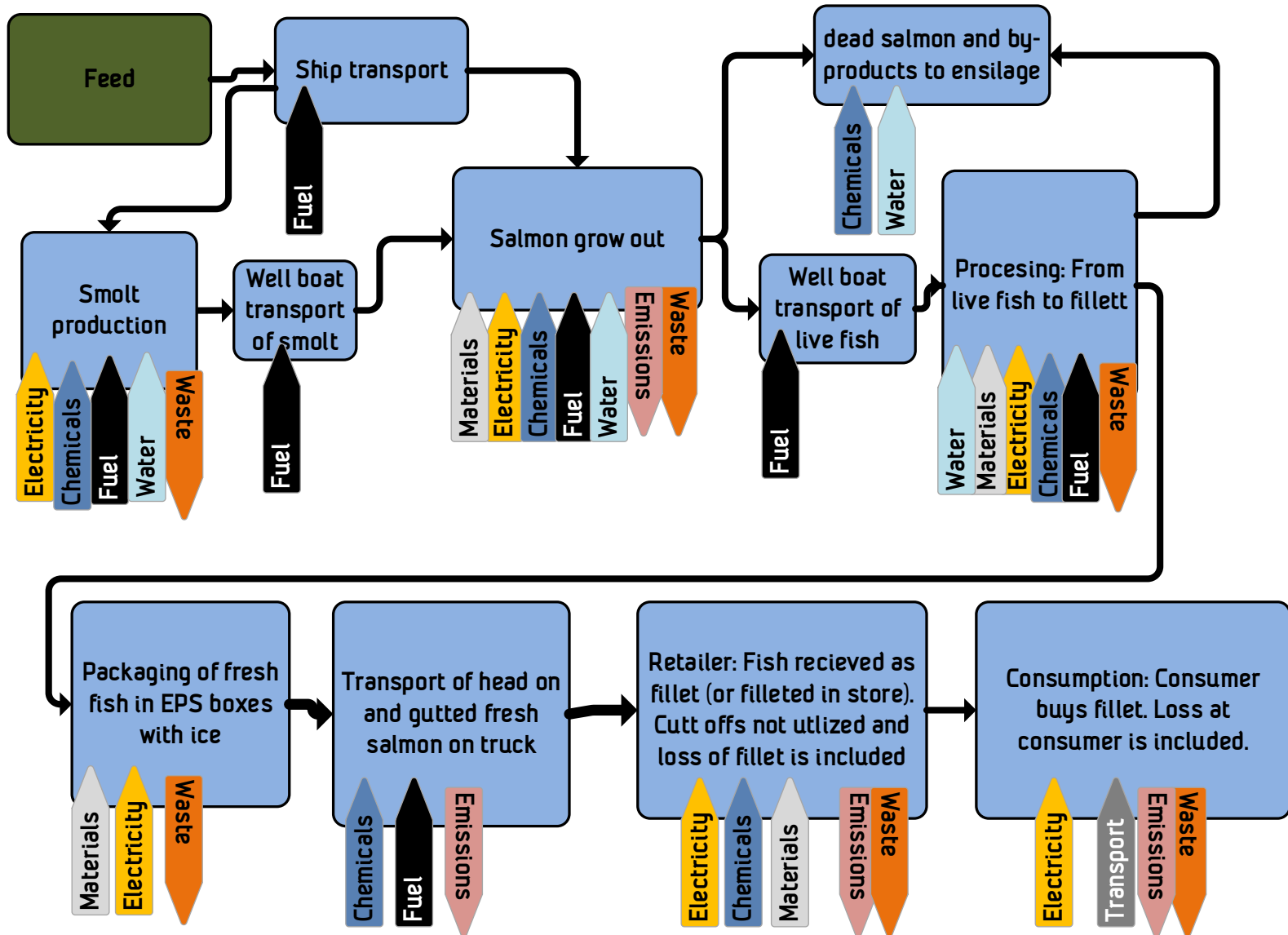
Fish Pilot PEFCR Development

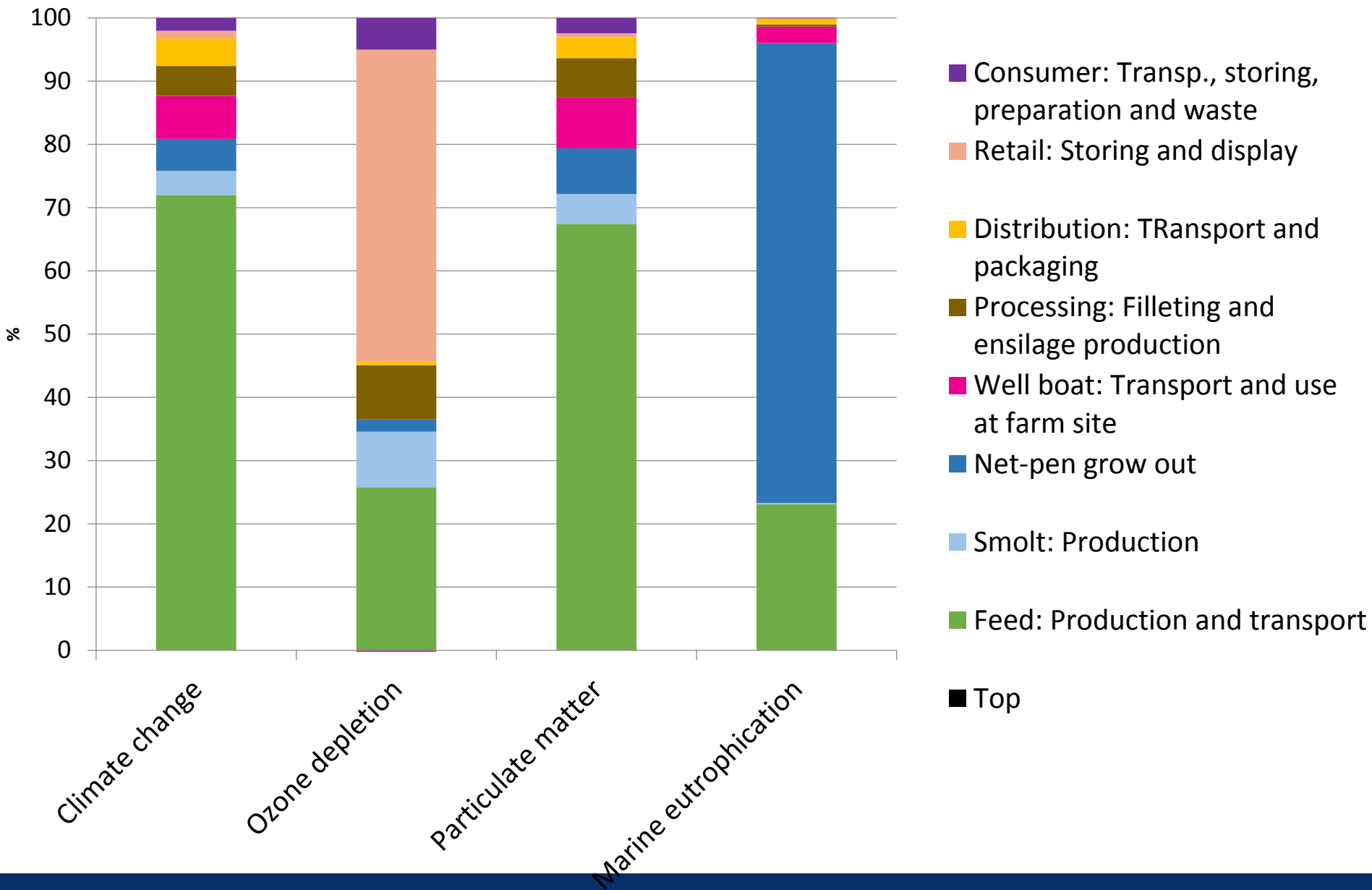
- PEFCRs shall be developed according to strict and comprehensive requirements from the EC.
- Development performed by a technical Secretariat (TS)
 - Everybody can register as stakeholder and give their say through public consultations etc., can also apply to become a member of the TS
- Several studies are performed in the PEFCR development
 - Screening studies
 - Exploring communicating vehicles
 - Supporting studies – producers use the PEFCR and test it

Screening results for marine net-pen aquaculture (preliminary results)

- Goal of the study: To identify hot spots in the life cycle of the fish products and with this provide background for discussion of the rules in the PEFCR
- The system boundaries: From feed production to fish consumed
- Functional unit: 1 kg skin and bone less fillet (fresh or frozen) consumed
- Impact assessment method: ILCD (required by the EC in a PEFCR development). Only a selection of impact categories presented here.

The model flow sheet (system boundaries): What is included?





Hot spots

Climate impacts

- Feed: Energy use, fertilizers and land use change in the growing, fishing and processing of feed ingredients
- Use of electricity and fuel in well boat, smolt production and the fish farm

Particulate matter

- Production and combustion of fuel

Marine eutrophication

- Feed and grow out: Impact assessment model quantify a potential and not an actual impact. Model does not consider specific local conditions
- Nitrogen and nitrogen oxides (so also here fuel combustion plays a role)



Hot spots

Ozone depletion

- Dominated by emissions of refrigerants from fishing vessels (feed), production of distribution packaging and from refrigeration systems on trucks and at retail and consumer
- Screening uses a worst case scenario where all refrigerants are R22 with a high ozone depletion potential



Thank you !



Questions?

Erik Skontorp Hognes

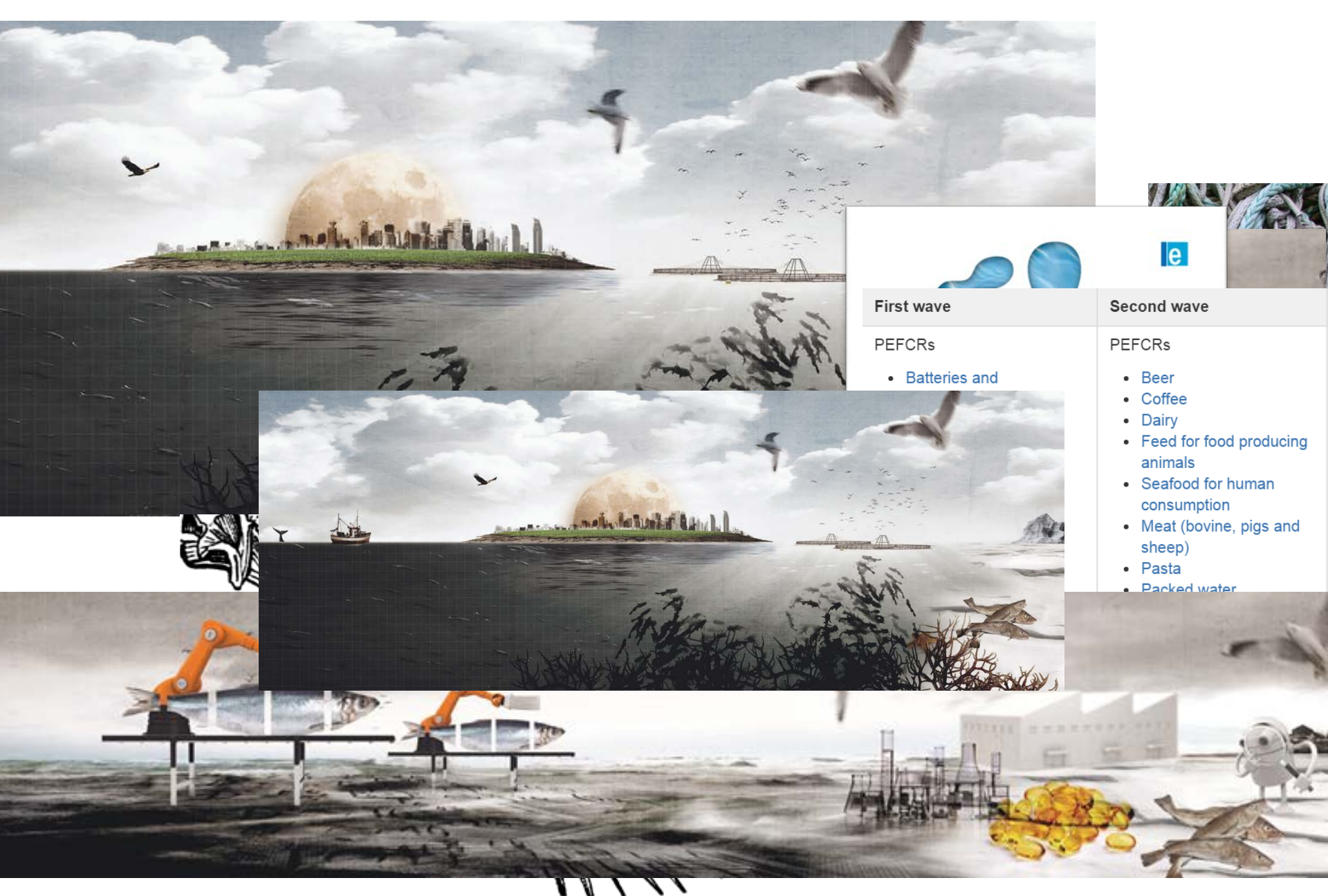
Mail:

erik.hognes@sintef.no

Tlf:

+47 40 22 55 77

www.sintef.no/miljoregnskap-sjomat



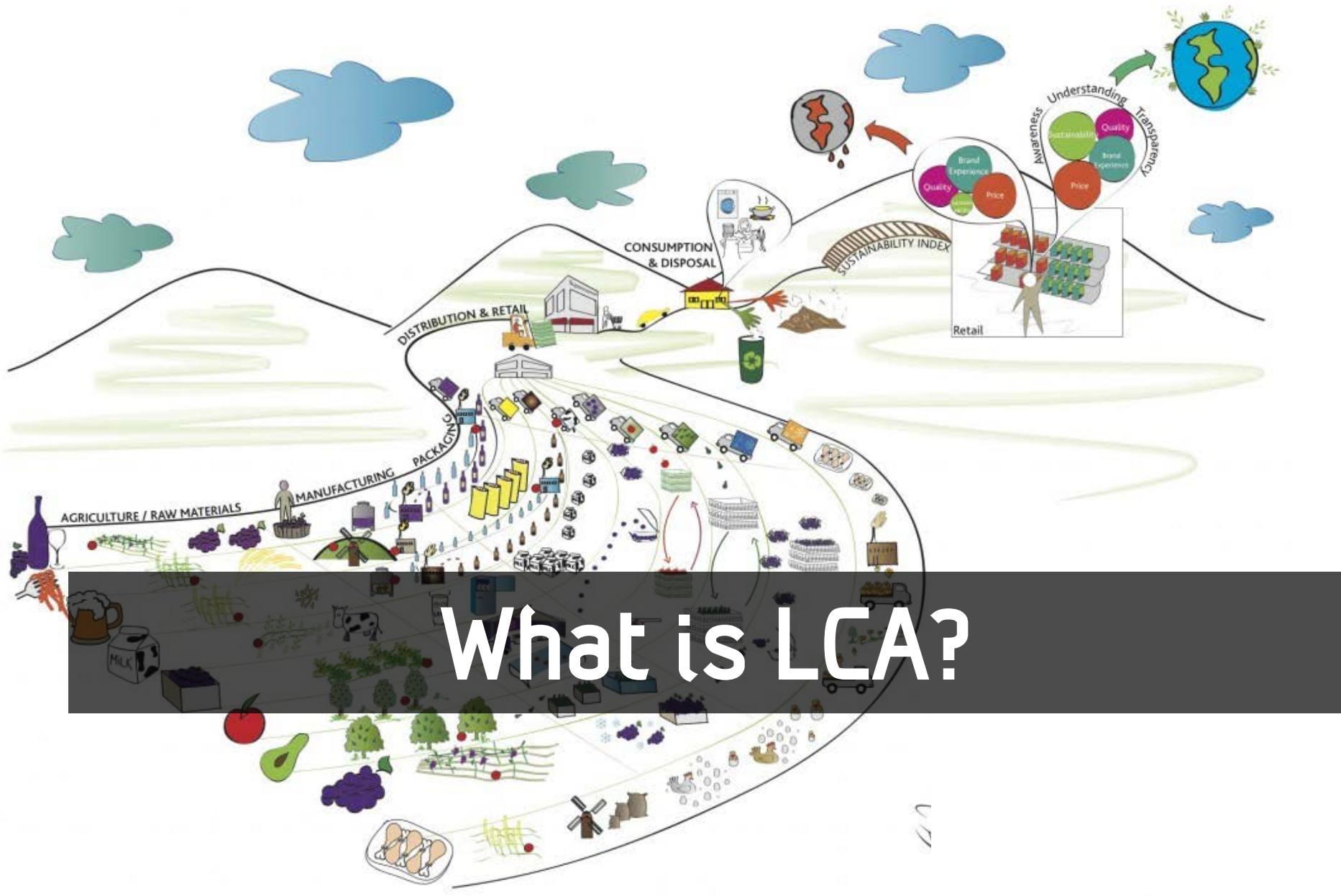
First wave	Second wave
<p>PEFCRs</p> <ul style="list-style-type: none"> Batteries and 	<p>PEFCRs</p> <ul style="list-style-type: none"> Beer Coffee Dairy Feed for food producing animals Seafood for human consumption Meat (bovine, pigs and sheep) Pasta Packed water

Market requirements

Retailers and governments require that their suppliers can document the environmental properties of their products with LCA

- The European Commission and their Single market for green products
- Retailer consortiums





What is LCA?

What is LCA? (I)

- A tool to map and quantify the environmental impacts that a product causes through its life cycle, from cradle-to-grave.
- Where an economic assessment book keeps monetary flow, and map where values are generated, the LCA book keep mass and energy flows and map where environmental impacts are caused.
- LCA is standardized by ISO in their 14 000 family on environmental management.
- The Product Environmental Footprint (PEF) method is EU's rewriting of the LCA method (in my words). This method is also «standardized» by the PEF guide.
- The Environmental Products Declaration (EPD) system(s) produce Product Category Rules (PCR) to be used together with the ISO 14 000 standards.

What is LCA (II)

- LCA is holistic by taking a complete life cycle, or a complete production system, into account, and by including a complementary set of environmental impacts
- LCA can discover how a change in the production system may cause a shift in location or type of environmental impacts. Or even better, explain and quantify the net reduction of environmental impacts, caused by a change in the system.
- LCA include not only the direct impacts from handling of your product, but also impacts caused by everything that underpins the value chain of your product: Energy production, raw material extraction, infrastructure etc.

What is LCA? (IV)

- Initially a tool for environmental management. For decision makers.
- Potentially good tool to form the basis for ecolabelling, but this is only one of several potential efficient ways of using LCA.
- The methodology grew out from logistic optimization methods developed during 1st world war. Basically identical to that of input-output economy methodology.