

Product Environmental Footprint Category Rules

Rules for environmental assessment of fish products in the EU market

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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

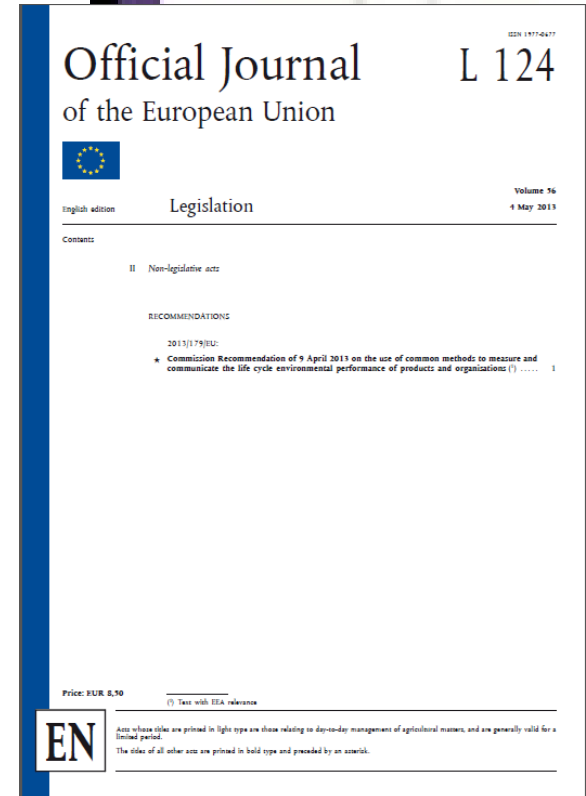
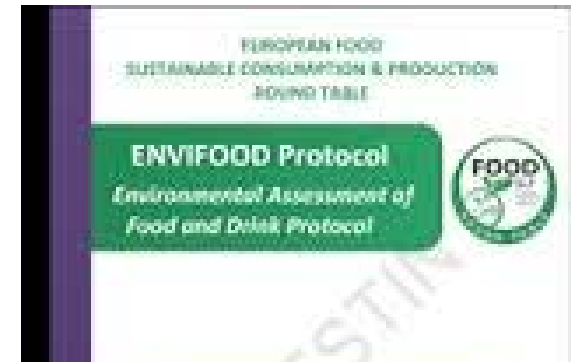
Single market for green products

- 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*



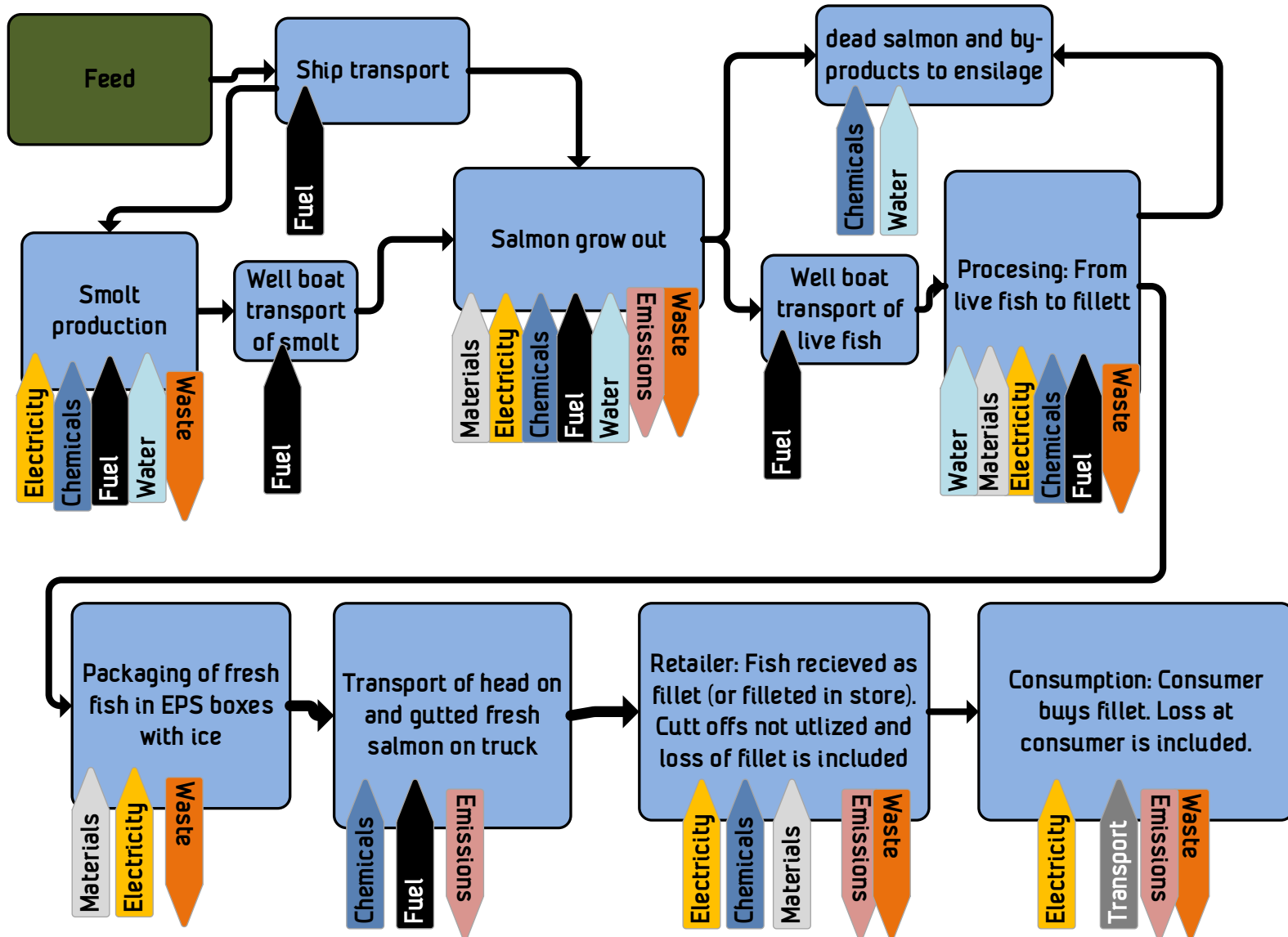
Fish Pilot PEFCR Development

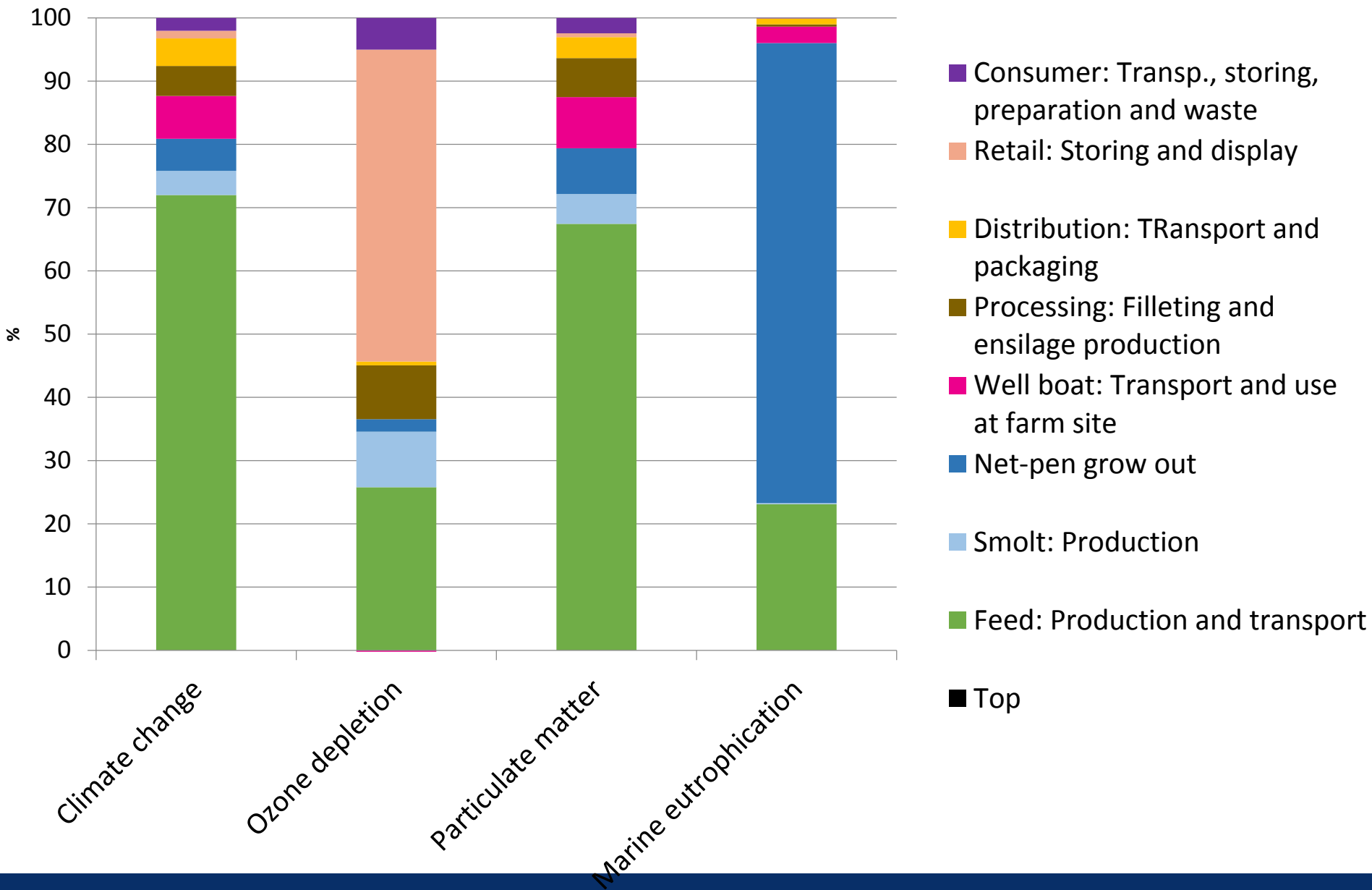
- PEFCRs shall be developed according to strict and comprehensive requirements from the EC.
- Development performed by a technical Secretariat (TS)
 - Everybody can register as stakeholder and give their say through public consultations etc., can also apply to become a member of the TS
- Several studies 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?

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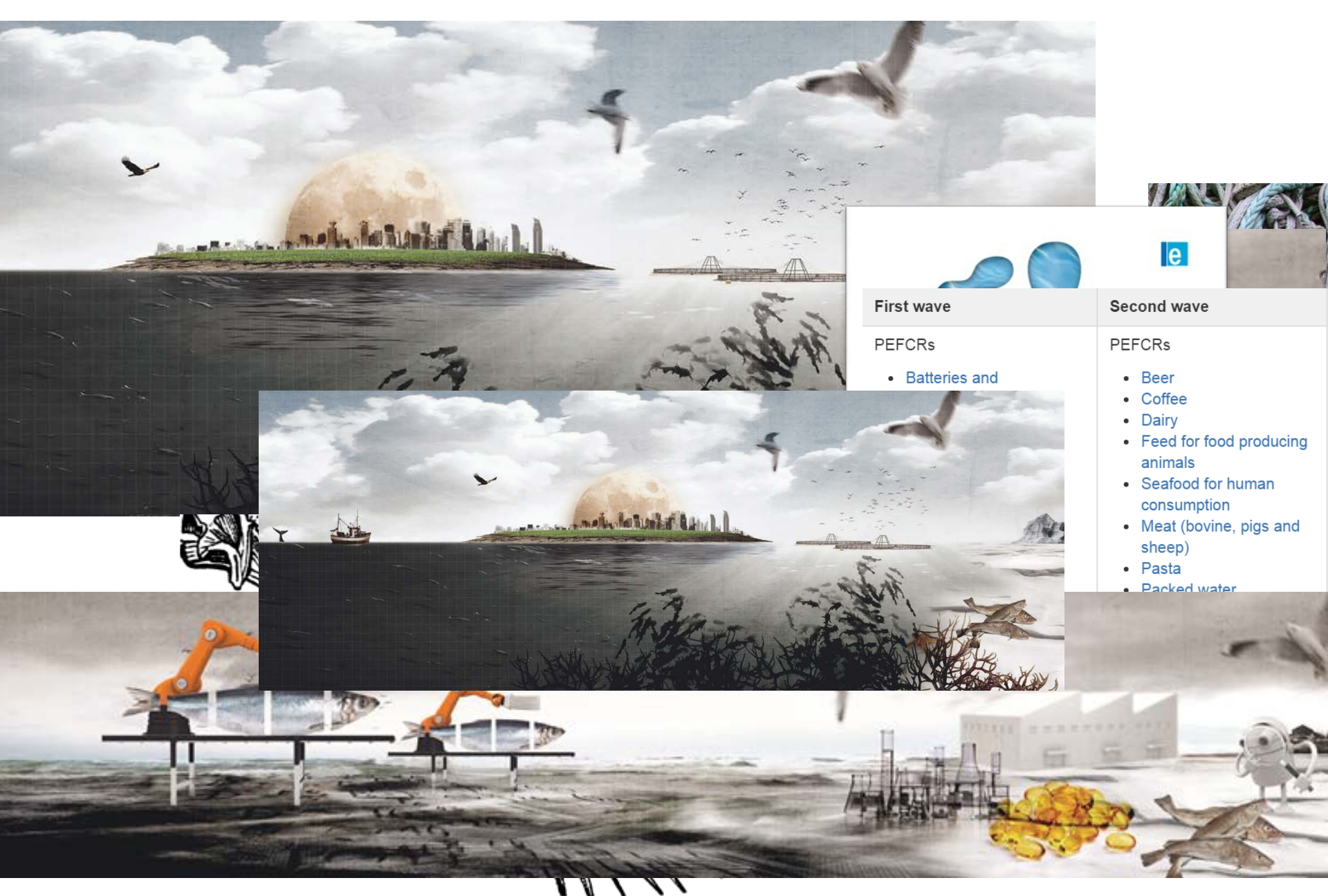
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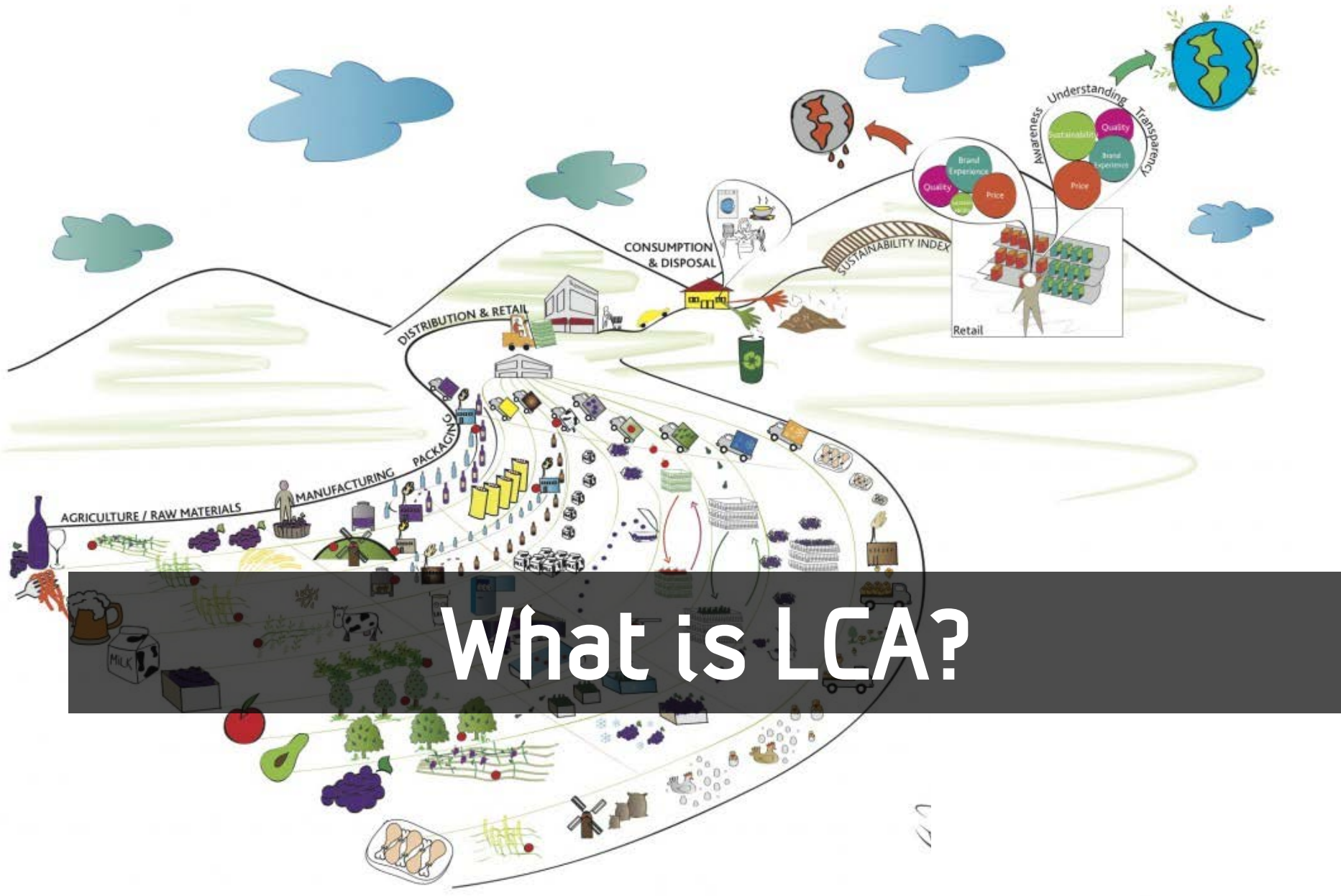
| First wave | Second wave |
|--|--|
| PEFCRs <ul style="list-style-type: none"> Batteries and | PEFCRs <ul style="list-style-type: none"> Beer Coffee Dairy Feed for food producing animals Seafood for human consumption Meat (bovine, pigs and sheep) Pasta Packed water |

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.