

The background of the slide is a close-up photograph of various types of seaweed, showing their intricate, branching, and leaf-like structures in shades of brown, red, and orange.

Eco-design of food products

-With examples from Danisco A/S

Mikkel Thrane (Danisco), Søren Løkke (AAU) and Arne Remmen (AAU).

LCAfood in Bari,
September
2010

DANISCO
First you add knowledge...

Content of presentation

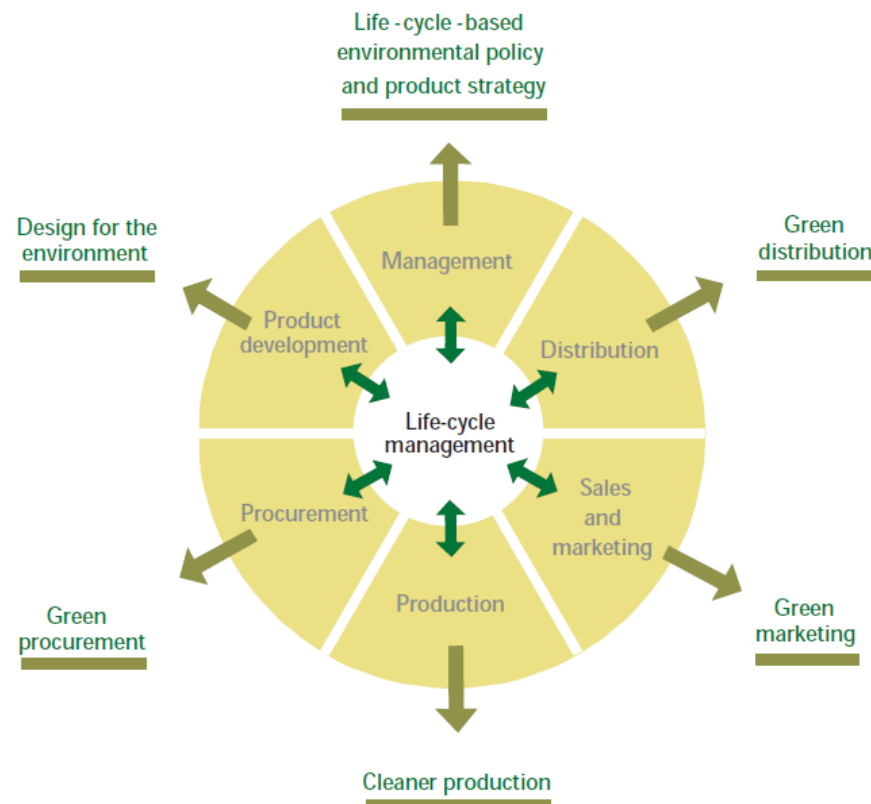
- › What is Ecodesign?
- › How is it different to LCA?
- › What's the relevance?
- › Tools
- › Examples from Danisco
- › Conclusion



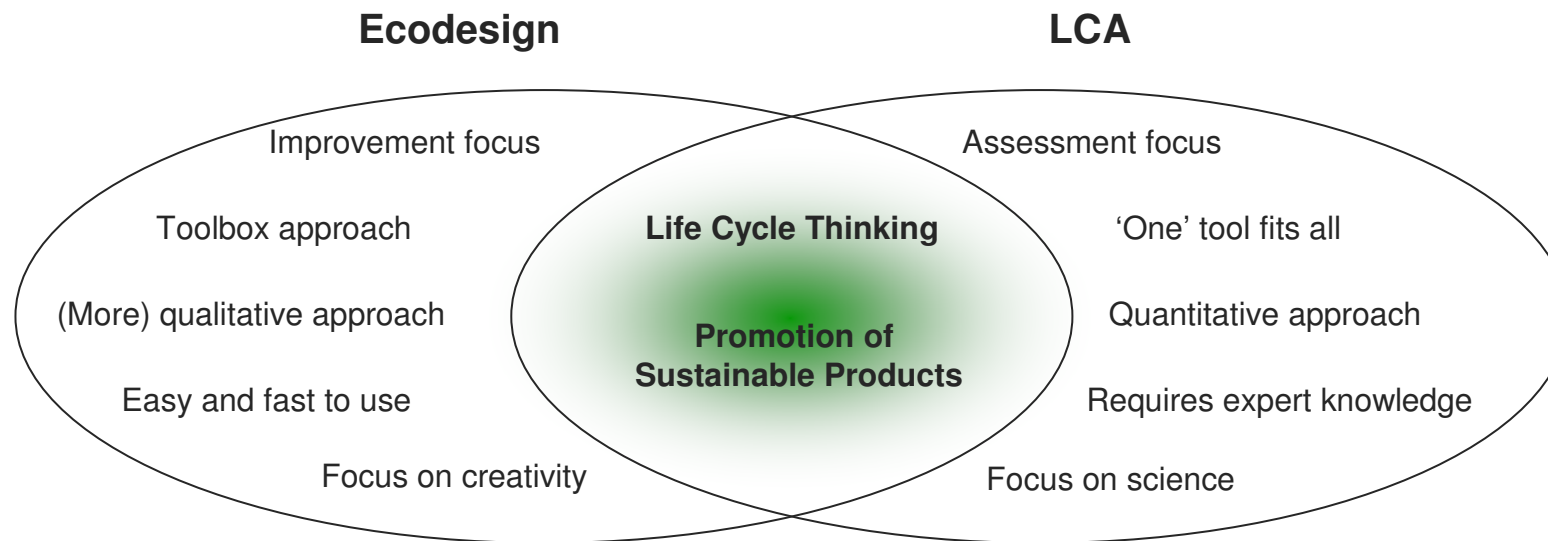
What is ecodesign?

*Ecodesign (= design for the environment) is the integration of environmental considerations in **product development***

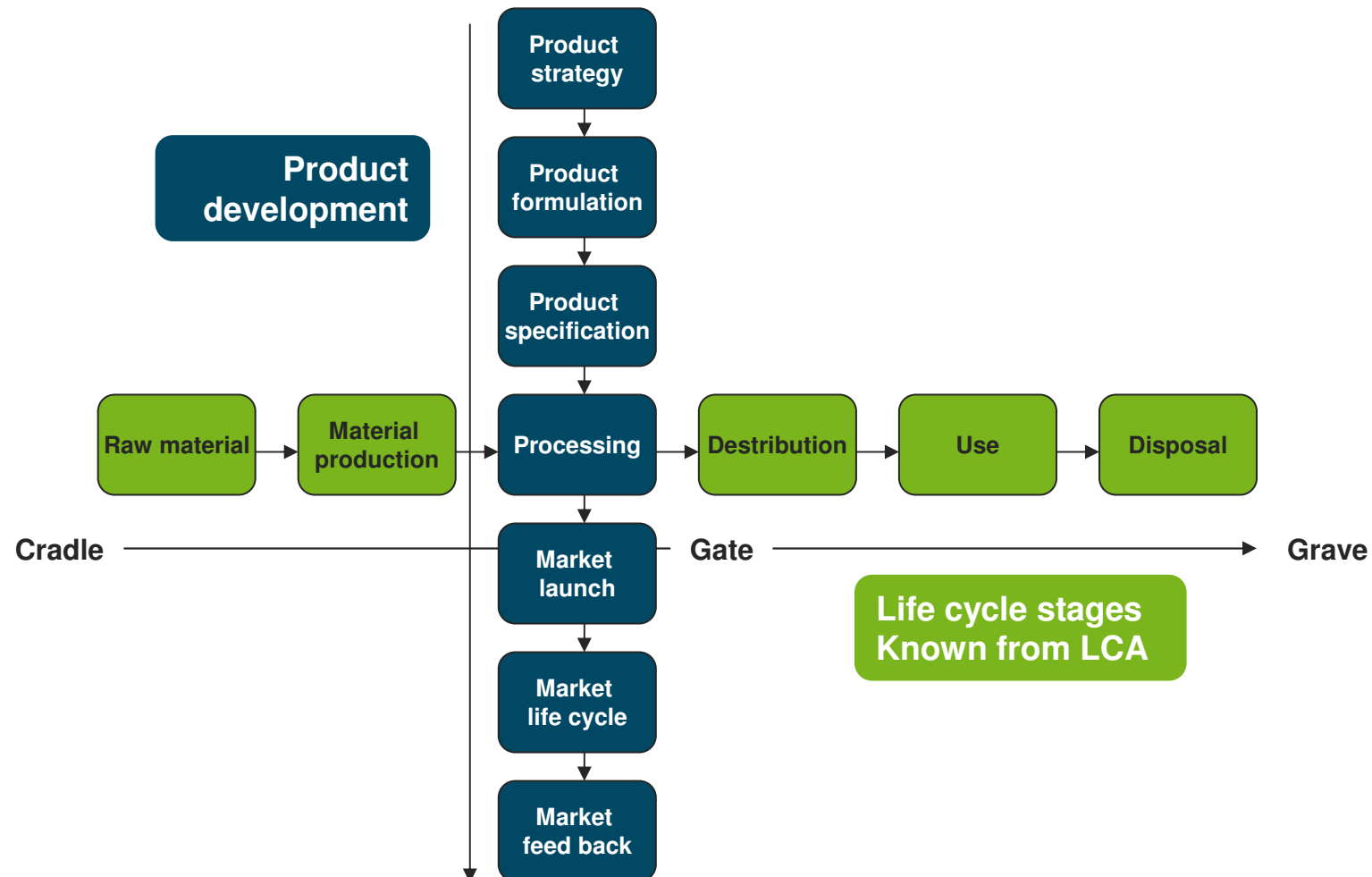
**Should obviously not
be isolated to 'just'
product development**



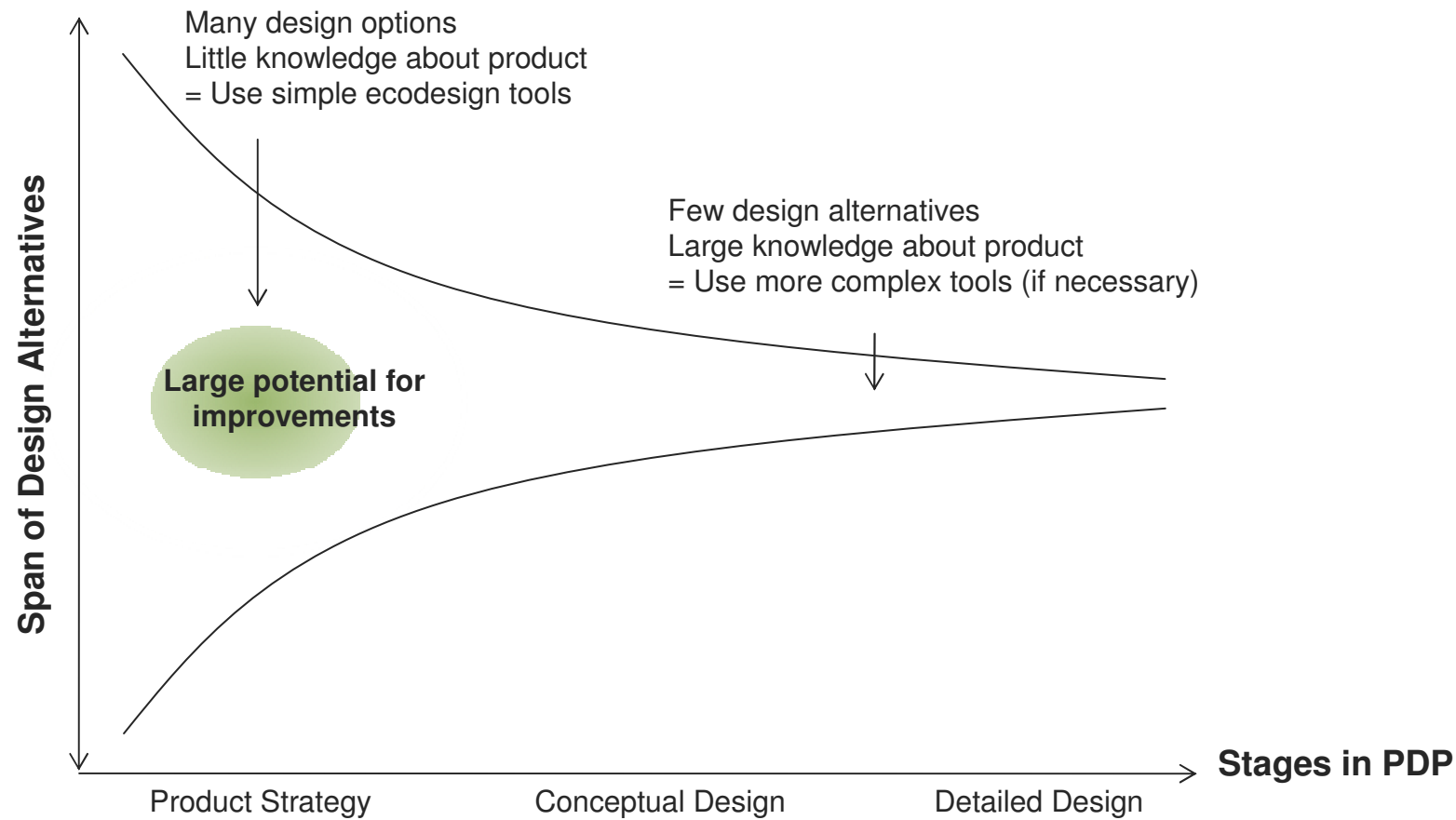
Similarities and differences to LCA



LCA versus Ecodesign



The product development process



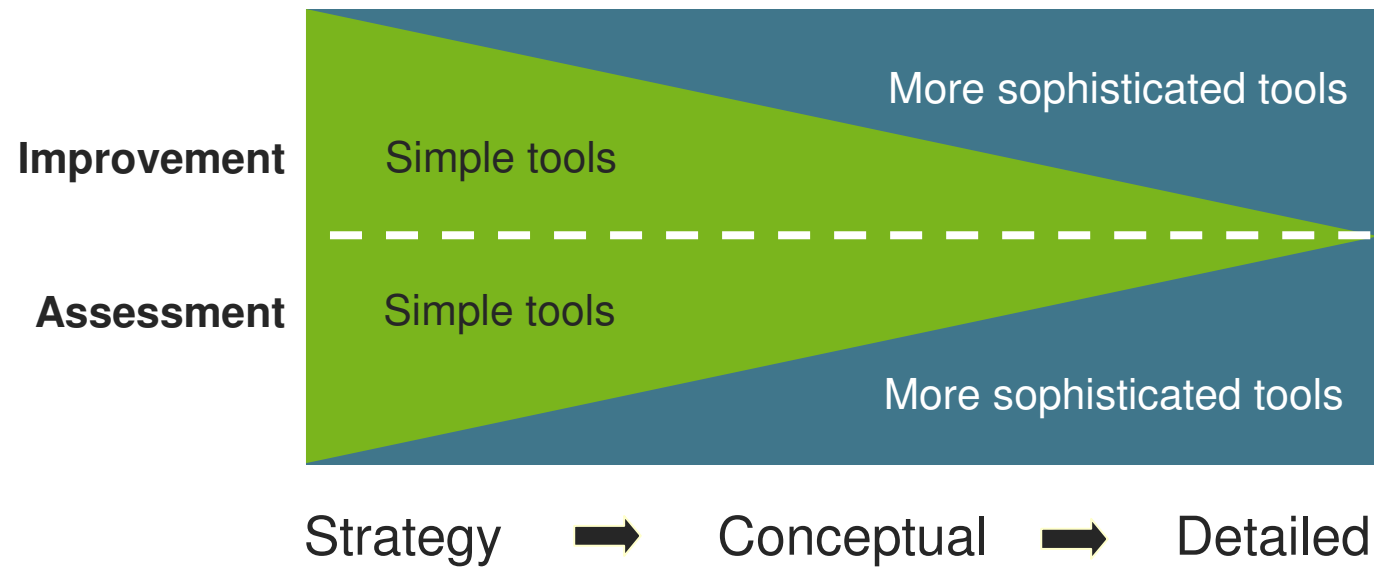
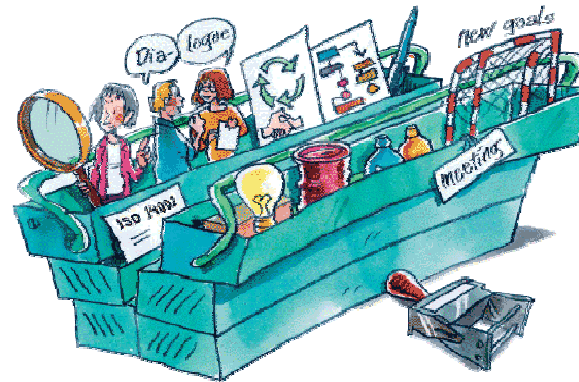
Relevance of Ecodesign in the Food Sector

- › Historically too much focus on single issues
- › Ecodesign has broader appeal (than LCA)
- › More improvement oriented (than LCA)
- › **LCA and Ecodesign are complementary tools** (LCA can be used to develop ecodesign tools and help in trade-off situations)
- › Innovation and product development **ALSO** takes place in the food sector (not only electronics etc.)
- › New ISO standards for ecodesign: 14006 and 14062

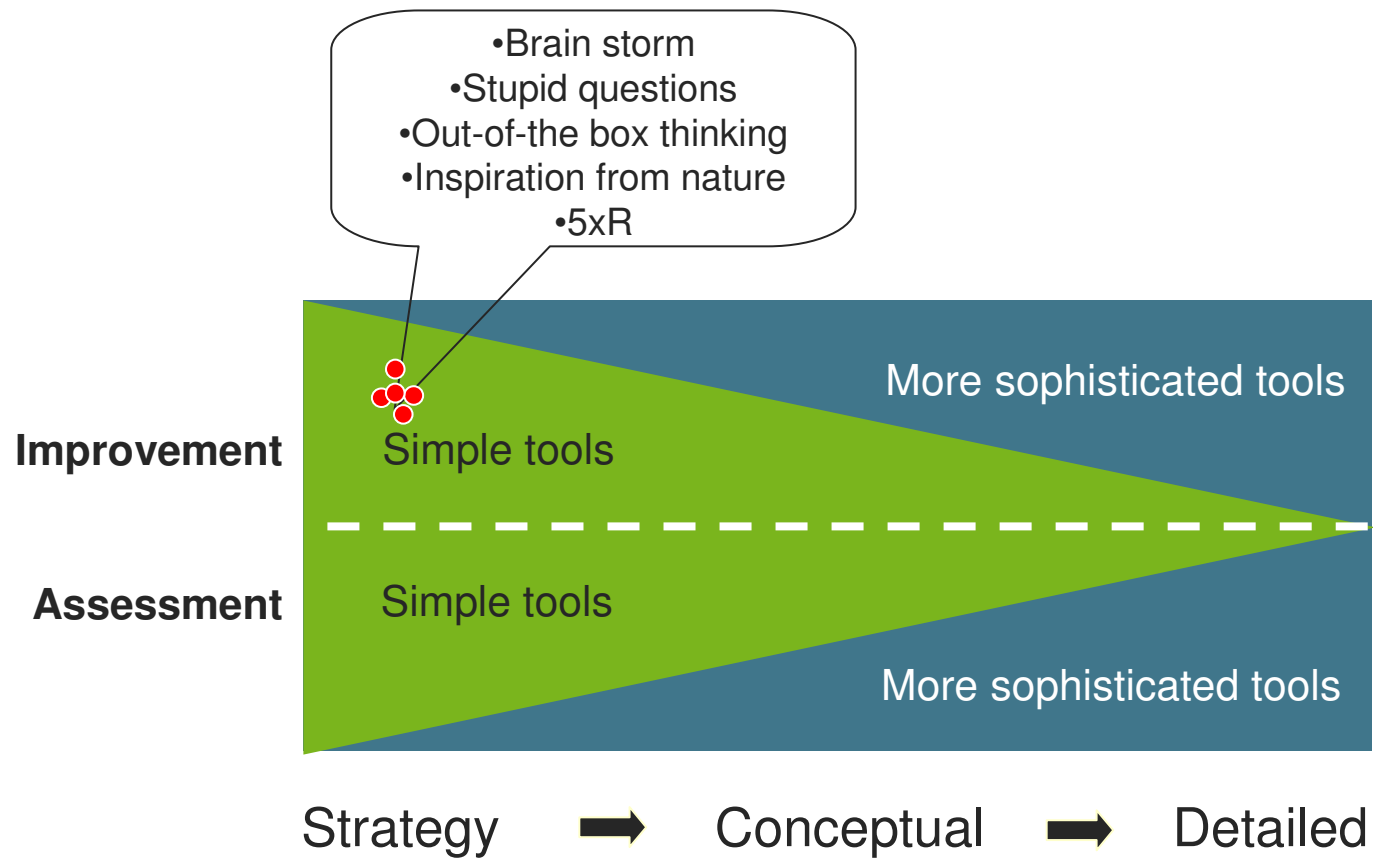
Why not use ecodesign in the food sector??



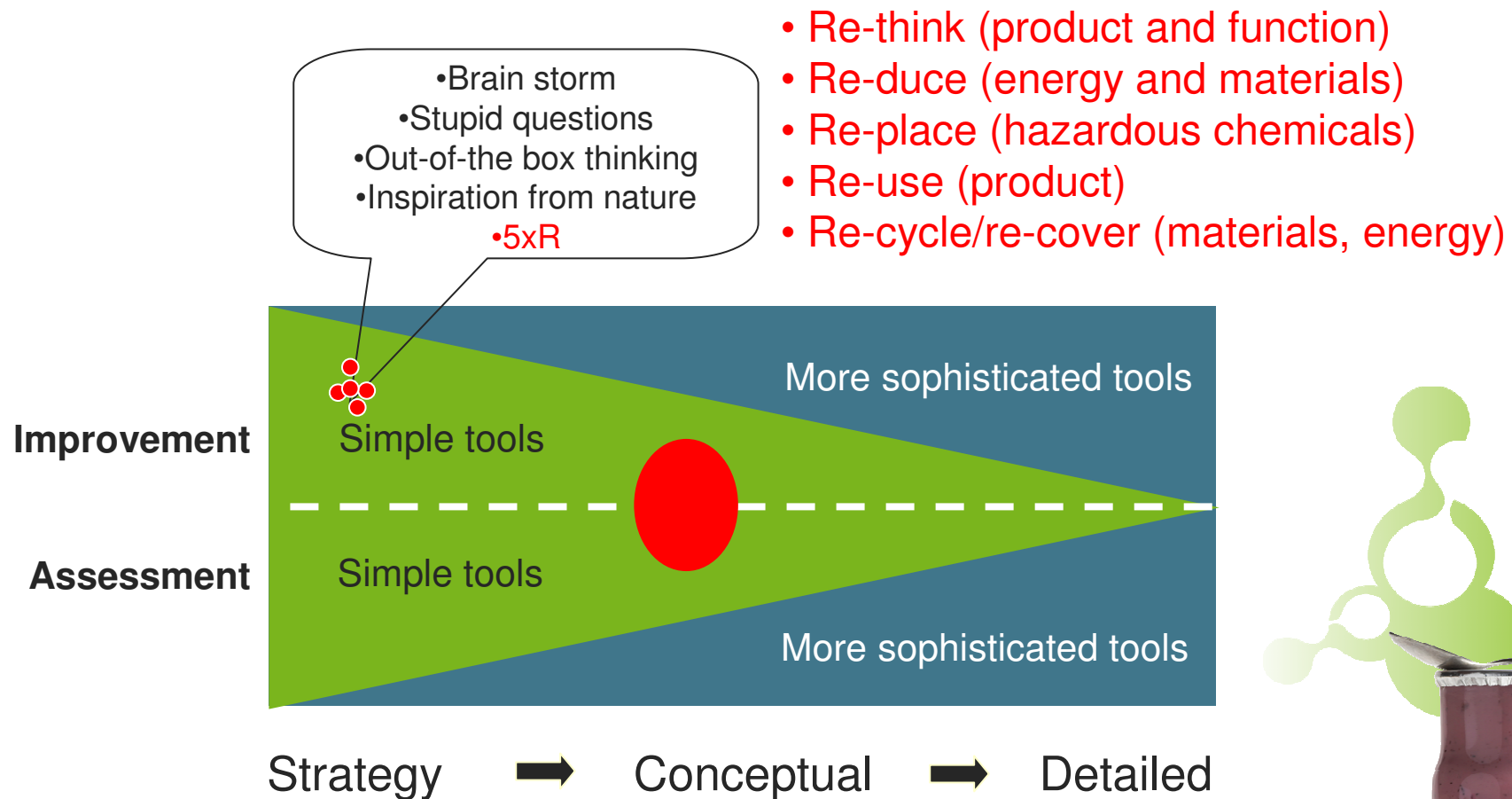
Example of tools



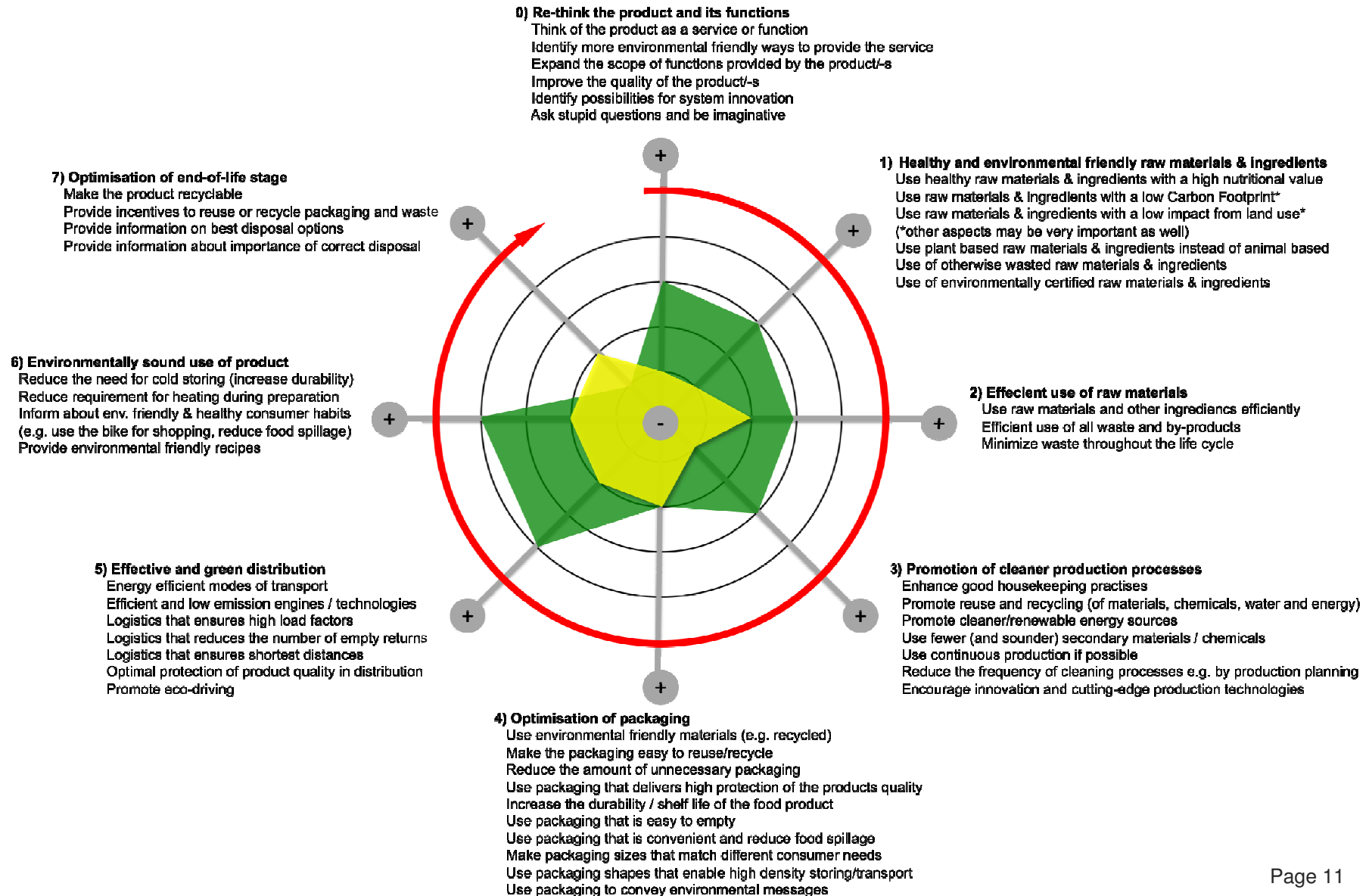
Example of tools



Example of tools



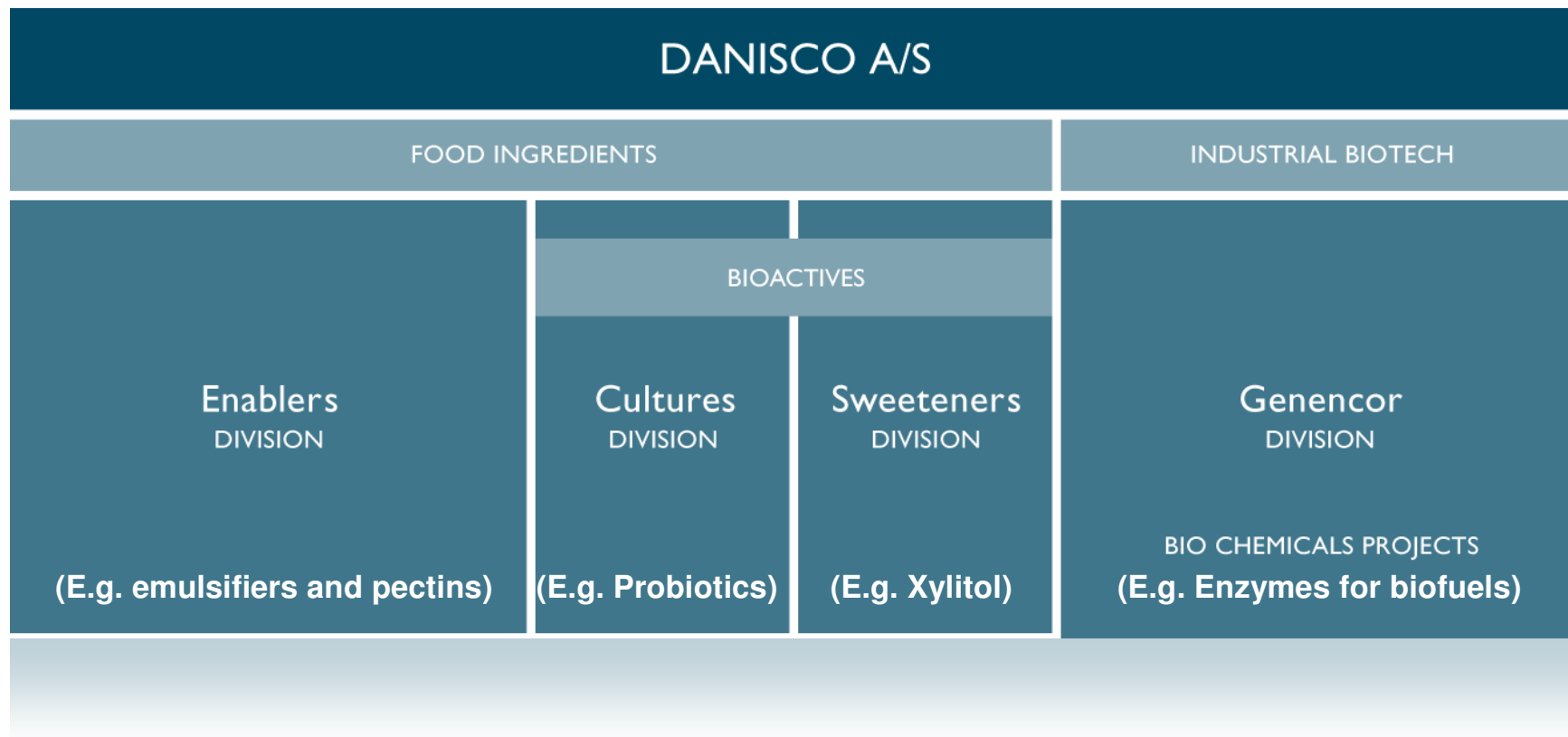
Example of tools (spider-web)



Ecodesign at Danisco

Facts about Danisco

- › World leader in food ingredients, enzymes and bio-based solutions.
- › Head quarter in Copenhagen, Denmark
- › 6,800 employees
- › 80 locations in 40 countries



Examples from Danisco

- › **Function innovation:** Development of double concentrated culture (has significant impact!) – continued development
- › **Raw materials and cleaner production:** Promotion of Xylitol from pulp and paper mill (industrial symbiosis) – very low Carbon Footprint

And a lot of other things:

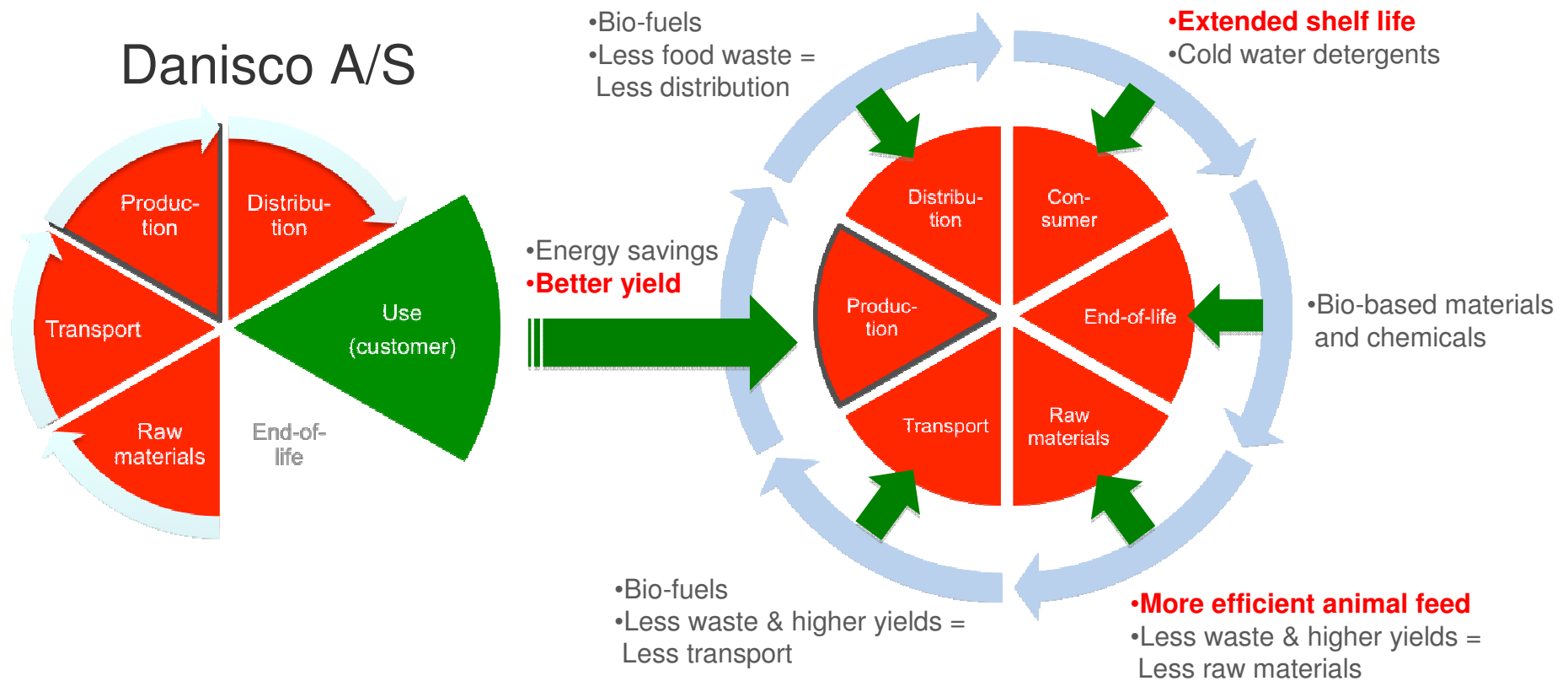
- › **Materials:** Sustainable palm oil and soy and more natural ingredients
- › **Efficient use of materials:** Pectin from 'waste' citrus peels (returne animal feed)
- › **Cleaner production:** Significant reductions in energy use!
- › **Use and end-of-life:** Clearly the biggest potential (next slide)



The application of our products

 **Avoided impacts**

Customer



LCA and Ecodesign strategy at Danisco

- › Strong focus on LCA/ecodesign, with the following goals:
 - LCA on all main product categories in 3 years
 - Both attributional and consequential modeling
 - Advanced IO modeling org level,
 - Implementation of ecodesign / LCM

Conclusion

- › Ecodesign is 'also' relevant applicable to food
- › Ecodesign guidelines should be simple and product specific
- › Improvements should NOT focus on one thing in isolation (e.g. packaging)
- › Ecodesign and LCA goes hand in hand

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This item is in: [Food Science](#) > [Environmental technology and management](#)

Environmental assessment and management in the food industry: Life cycle assessment and related approaches

Edited by U Sonesson, J Berlin and F Ziegler, SIK, Sweden

Woodhead Food Series No. 194

Life cycle assessment (LCA) of production and processing in the food industry is an important tool for improving sustainability.

Environmental assessment and management in the food industry reviews the advantages, challenges and different applications of LCA and related methods for environmental assessment, as well as key aspects of environmental management in this industry sector.

Part one discusses the environmental impact of food production and processing, addressing issues such as nutrient management and water efficiency in agriculture. Chapters in Part two cover LCA methodology and challenges, with chapters focusing on different food industry sectors such as crop production, livestock and aquaculture. Part three addresses the applications of LCA and related approaches in the food industry, with chapters covering combining LCA with economic tools, ecodesign of food products and footprinting methods of assessment, among other topics. The final part of the book concentrates on environmental management in the food industry, including contributions on training, eco-labelling and establishing management systems.

With its international team of editors and contributors, *Environmental assessment and*



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Life cycle assessment



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Online Sustainability Report 2009/10

Danisco A/S

- › **Emulsifiers (oil and water)**
- › **Textural ingredients (e.g. pectins)**
- › **Sweeteners (e.g. xylitol)**
- › **Cultures (e.g. for yoghurt)**
- › **Bio-preservation (e.g. probiotics)**
- › **Food enzymes (e.g. to maintain freshness of bread)**
- › **Animal nutrition (e.g. more efficient animal feed)**
- › **Functional systems (mix of the above)**

+ Technical enzymes (mainly biofuel)



Example of tools

