

New uses for by-products and waste

Thomas Binet, *Vertigo Lab*
thomasbinet@vertigolab.eu

Why ?

Creating **less waste** for the environment, using **less natural resources**, minimising **ecological footprint**

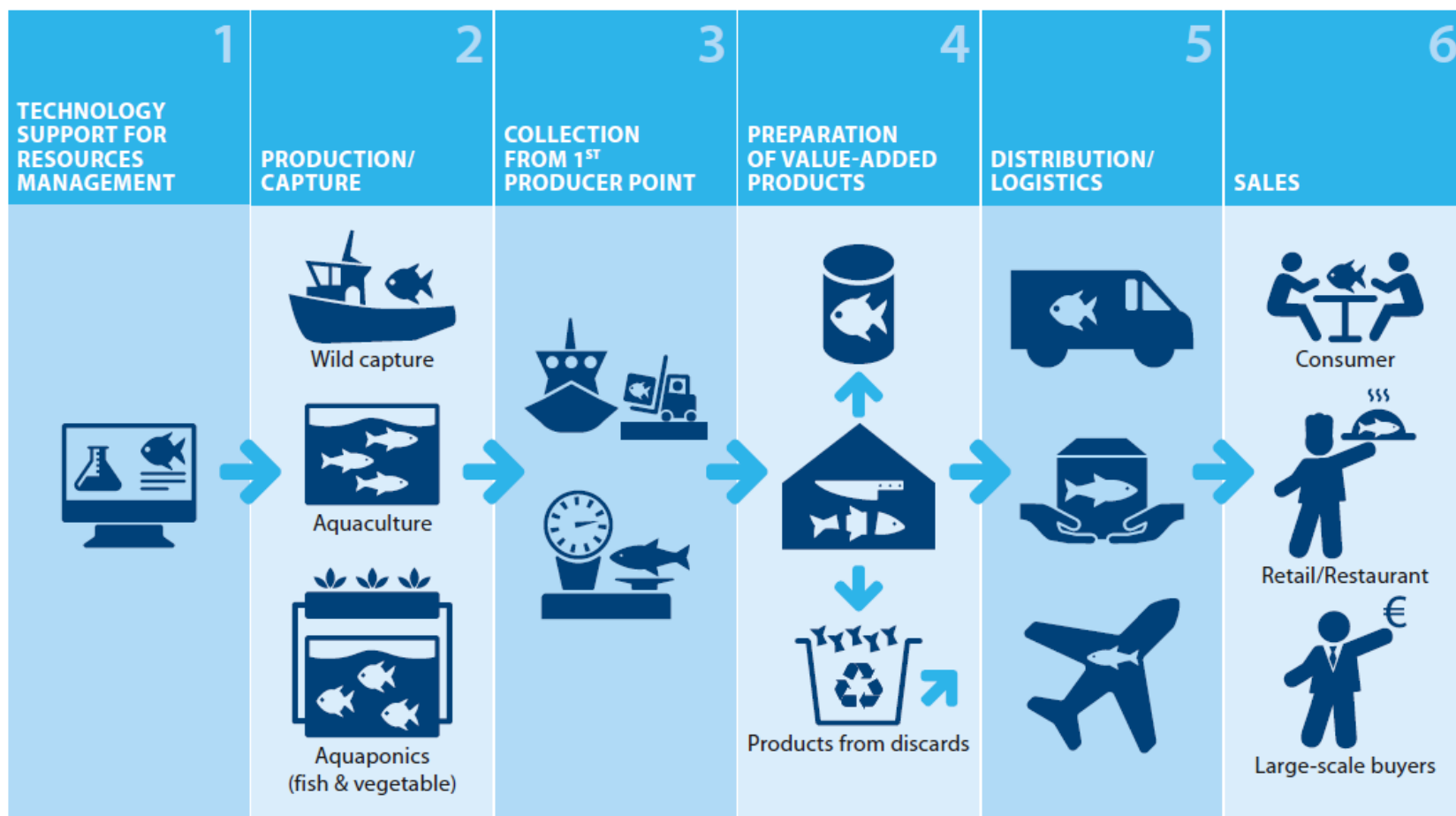
Reducing costs by optimising the resources used, avoiding disposal costs, using less « virgin » resources

By-products can **create added-value** through:

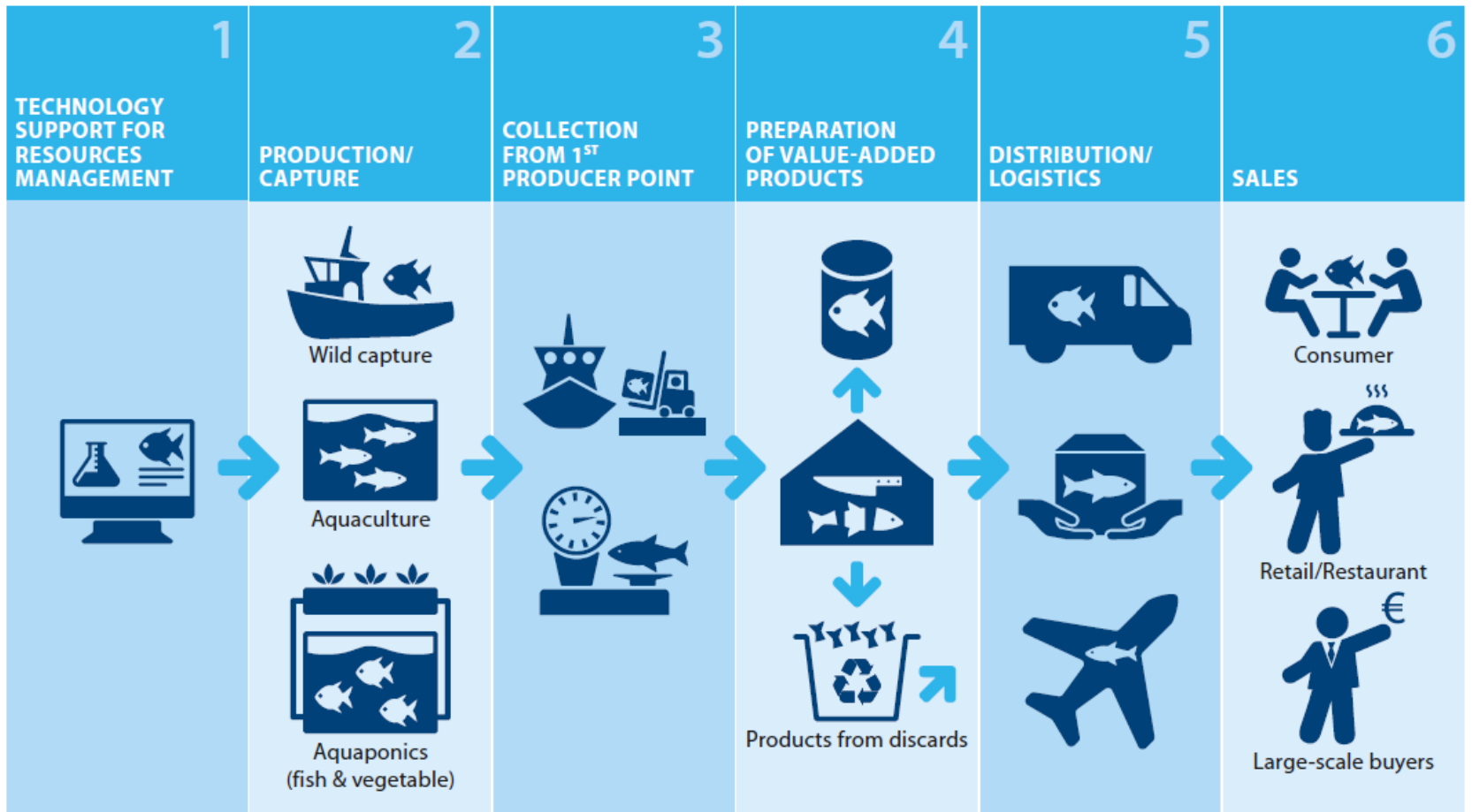
- ✓ New processes
- ✓ New uses
- ✓ Higher prices for different markets
- ✓ Collaboration with neighbours, sharing of facilities



The fisheries supply chain



© Manta Consulting Inc., 2013/Kaligram



© Anta Consulting Inc., 2013/Kaligram

-Discarded fish
-Undervalued fish
-Use of vegetables from aquaponics
-Bio-fuels

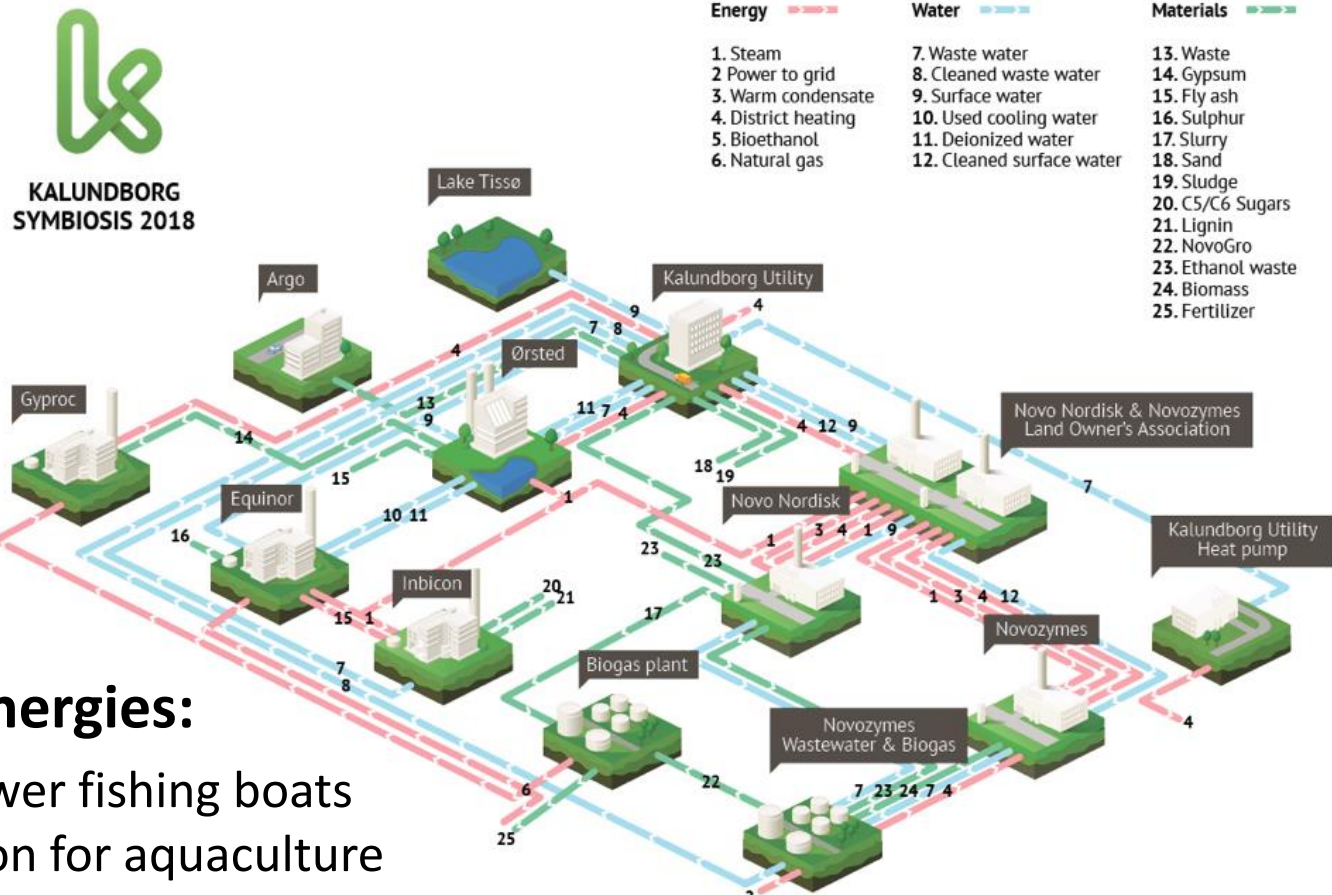
-Waste water
-Unsold fish

-Bones, skins, shells, guts,...
-Energy surplus

- Shared transport
-Transport boxes, packaging

-Organic waste
-Shells
-Waste from restaurants, retail...

Synergies with other local sectors



Look around for synergies:

- Sunflower oil to power fishing boats
- Heat from production for aquaculture
- Working with the leisure sector, Costa da Morte FLAG
- Aquaponics
- Also potential **job share** fisheries/fish farming/agriculture ?

Feasibility questions -> Business development

- What are the **quantities** of waste (=resource) products ? Is the deposit compatible with a business?
- Are there local possibilities (facilities, project holders) **to process** them?
- Do we have enough **knowledge** on how to process them (research needs)?
- Are there any **facilitators** around (innovation agencies, incubators, etc.)?
- What is the **value created**?
- Is there an identified **buyer**?
- **Can I collaborate** with other regions?

Is the project **idea** sufficiently clear?



- *What are the objectives?*
- *What activities are envisaged, by whom and when?*
- *What makes the project unique?*

Is there a **market** for the product/service?



- *Who are the customers?*
- *Who are the competitors?*
- *How much can the business hope to sell and at what price?*

Can the business cover its costs & **generate income**?



- *What are the fixed costs? What are the variable costs?*
- *What is the expected income? Is it realistic?*
- *What is the break-even point?*

FLAG projects



Fish burgers from by-catch



[Fish waste for fishmeal in Spain](#)

[Mussel shells for jewelry, tiles and watch cases in Sardinia through 3D printing](#)

[Pilado Crab for Bio-medicine in Portugal](#)

[Aquaponics to produce fish and tomatoes in Sweden \(LEADER\)](#)



Thank you !

thomasbinet@vertigolab.eu

follow us on



The content and views expressed in this presentation are those of the author(s) and not those of the European Commission.