

1w2: Transformation opportunities for linear to circular marine resource inclusive food systems; bivalve mollusk perspectives

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What is the role of marine organisms in the food system? How can we transform from linear marine food chains to a circular marine inclusive food system? Low trophic marine organisms such as seaweed and shellfish can be produced much more efficiently, and with other carbon footprints than high trophic organisms such as pelagic fish. What is the role of low trophic organisms in the “new” food system? How can industrial partners, science and producers partner up to overcome the first challenges of this transformation? Circular approaches as envisioned for terrestrial production are not directly transferable to the marine food system, what is needed as a first step in a marine inclusive system? Together we’ll explore the transformation opportunities from linear systems with high carbon footprint to circular marine resource inclusive food systems.

There is growing awareness of the need to incorporate marine or aquatic resources in the food system, in particular via the production of low trophic organisms. This will potentially lower pressure on agricultural land for food production. It potentially also positively affects resource scarcity as well as environmental pressure. However, there is still debate on the extent to which marine resources can be produced and on the energetic efficiency of the production systems involved.

Alternative routes, such as conversion of current aquatic based feed production to human food, increasing the efficiency of the food system, are explored. Processing and refining the currently underused low trophic marine resources and marine by-products to food ingredients, to plant and animal production applications, and to non-food applications, is a field that is gaining interest and of high importance for the circular economy. Besides there is also the path of resource efficiency, in which great challenges lay in the use of other trophic levels/species, and the use of stocks, which are currently underexploited or of invasive character. How may these help in the process of by product valorization and utilization.

In this workshop we will discuss the opportunities to incorporate marine bivalve resources in a circular food system and explore the potential to valorize the (international) knowledge and business opportunities. WUR will introduce the ecosystem services related to bivalve production as a unique selling point for food system implementation. This will be followed up by an introduction on the health aspects of bivalve mollusks (to be determined). This will provide the basis to continue an (interactive) creative session to explore potential routes to incorporate bivalve mollusks in a circular food system (market idea generation). The second part of the

workshop will focus on the discussion on what is needed to evolve to the next phase of opportunities (knowledge gaps and business development).

This workshop is particular of interest to food and feed protein sectors seeking for added value and health promotion in their food business.