

Stichting Noordzeeboerderij

D1.3.2 Final set of selected business cases for SWBS presented in a workshop

Report



**NOORDZEE
BOERDERIJ** 

Interreg 
2 Seas Mers Zeeën
Bio4safe

Presentation of selected business cases: an introduction

During the 6th coordination meeting, which was attended by all Bio4safe partners in an online setting, the North Sea Farm foundation presented the selection procedure and further development proceedings of the business case for seaweed biostimulants in the 2-Seas Region. As the observer partner meeting was postponed due to the Covid-19-related lockdown being in effect, the selected business cases could not also be presented in this meeting.

1.1 Initial analysis

As part of the Interreg Bio4safe project, possibilities for suitable business cases were explored using information previously obtained in the project as well as with the help of relevant stakeholders and members of the seaweed platform community. One of the main learnings from this initial analysis was the relatively expensive price of locally produced seaweeds, as the European cultivated seaweed market currently caters mostly to food applications. Competing with higher value applications such as food or cosmetics when purchasing seaweed is likely not a viable strategy for the production of biostimulants.

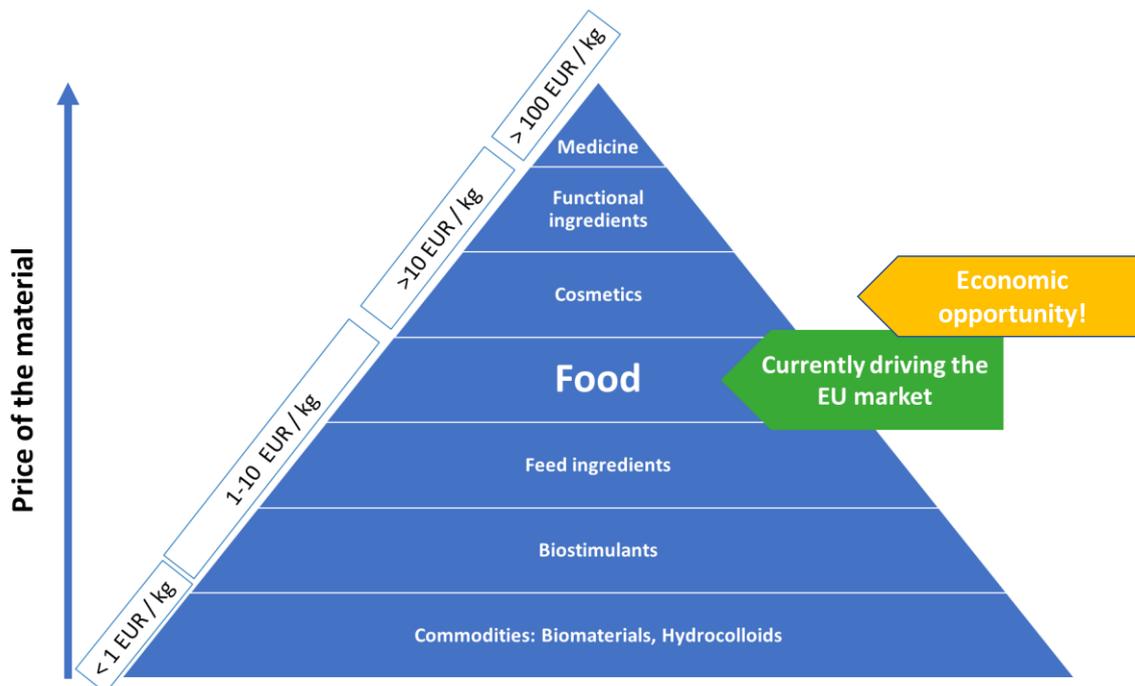


Image 1: Seaweed application value pyramid

1.2 Waste stream valorisation

An important feature of these high-value applications is that they often do not require the entire harvested seaweed. This produces waste-streams, either when a part of the seaweed stays behind during pre-processing or when seaweed material is left over when it is processed into a high-value product. These by-products offer economic opportunities for applications such as biostimulant production which, despite its lower obtained value per ton of seaweed, caters to a large market.

1.3 Developing the seaweed 'waste-stream' biostimulant business case

Alongside demonstrating the financial feasibility of using seaweed 'waste streams' to produce effective biostimulants, the business case also aims to catalyse valuable stakeholder connections and support the production of sustainable, local seaweeds for biostimulants.

1.3.1 Financial feasibility

Whilst working in close collaboration with financial advisors at the specialist international advisory firm Green Giraffe, North Sea Farm is developing a financial model which seaweed farmers in the 2-Seas Region can use to incorporate seaweed biostimulants in their business models. In this partnership, the North Sea Farm Foundation can offer its vast prior knowledge in both seaweed cultivation and applications, as well as employ its many contacts in the Dutch seaweed sector to gather relevant information.

1.3.2 Catalyse stakeholder connections

Connections and collaborations between stakeholders in the seaweed biostimulant value chain are essential to strengthen the market and allow for successful implementation of the developed business case for locally produced, sustainable seaweed biostimulants. Similar to the way in which the North Sea Farm-organised pilot Biorefinery was successful in gathering many essential partners in the value chain, a well-developed business case can connect stakeholders by increasing awareness of the existence of seaweed biostimulants as well as highlighting mutually beneficial collaboration opportunities within the value chain.

1.3.3 Support local seaweed production

Although many prior experiments with seaweed biostimulants have already established its potential in Agri- and horticulture, there remains much to be learned regarding the exact compounds and modes of action that support its effectiveness. Using our current understanding of relevant compounds for biostimulant activity, which we gathered from both literature and prior Bio4safe experiments using local seaweed biostimulants, the most promising 2-Seas Region cultivable seaweed species were selected. Since the current price of EU cultivated seaweeds favours the use of seaweed waste-streams, only seaweeds species which are already cultivated in Europe were considered, as they offer immediate possibilities for business case implementation and therefore biostimulant production.

As a result, the locally cultivable seaweed species *Saccharina latissima* was used to produce a biostimulant in the pilot Biorefinery. The resulting commercial grade biostimulant will be used in multiple Bio4safe 2020 trials at Zwaagdijk, NIAB and PCS, which will determine its effectiveness. This can provide both local seaweed farmers with the necessary proof that their seaweed is suitable for biostimulant production and, additionally, prove to European farmers on land that local seaweed biostimulants are effective in supporting 2-Seas Region agri-and horticulture.



1.4 Conclusions & further actions

All Bio4safe partners reacted positively to the presented selection protocol as well as the procedure for further development of the selected business case. Although most data for the business case will be obtained from members of the seaweed platform, the Bio4safe partners performing trials will use their knowledge of the Agri- and horticultural markets to estimate the financial benefits of using seaweed biostimulants. Additionally, the selected business case, which advocates the use of seaweed waste streams, will be incorporated into the roadmap and thereby widely broadcast to stakeholders throughout the value chain.

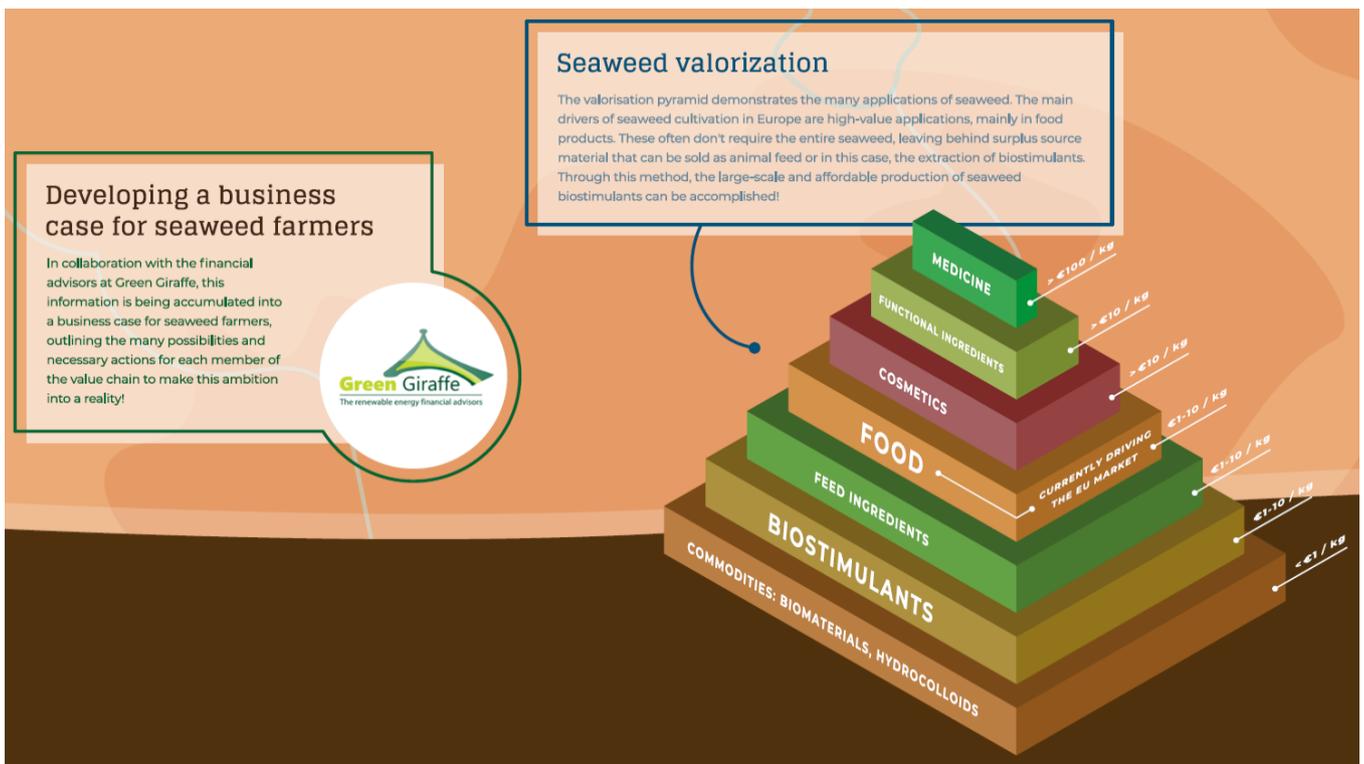


Image 2: Seaweed valorization and business case development as presented in the roadmap.