

# SUMMARY SESSION



## Main results during sessions “REGULATION”

- **No general rules** for Microalgae, the legislation is more of a general type. Algae as a feed/food ingredient is hard to get legalized. Major constraints: **Competence** (lawyers don't know), **time consuming process for legalizing and it is very expensive**. Use EATIP could be beneficial
- Both Micro and Macroalgae: The **rules/legislation is not harmonized** throughout the EC, often there is a vicious cycle to EC-National rules
  - Taxonomy: seems like they change the name of species several time
- Different rules whether it is food, feed, extract, chemicals from the algae
- Some algae allowed as food supplement but not as a pure product, in EC but differences between the countries. In France 25 microalgae are allowed used for food



## Main results during sessions “REGULATION”

- *How to get “Organic label” on their microalgae-product?*
- Many new species and the novel-food regulation could be a major speed-breaker and hindrance for introducing new products/species to the market
- A plethora of rules and regulations and a disparity that you will have to comply with depending on the use: food, feed, chemicals, bioplastics, traceability etc.
- Overregulation and unclear regulations, no clear cut regimes that need to be followed
- Need to engage the policymakers, multinational industry though no such are established only for micro/ macroalgae.



## Main results during sessions “PILOT TESTING AND UPSCALING”

### *Pilot scale problem that you face for upscaling:*

- *Ultrasound technologies equipment for upscaling are missing – It seems that only lab scale equipment are available for such technologies and link with industry is missing,*
- *Usually, pilot scale is available from research and transfer organisations, but mass scale related to industry facilities is not easy to find and access,*
- *For example, pilot plants for upscaling targeting industry customers can be done easily with Nofima (Norway) and also in Belgium, France and Portugal,*
- *Problem of confidentiality for industry with pilot plant facilities due to the fact that they are used in a collective way – protection of confidential information is not easy despite the signature of confidential agreements,*
- *Getting funds for building own pilot plants is not easy compare to research or laboratories infrastructures,*

- *Getting financial support for industry for setting up pilot testing in collaboration with research and transfer organisations is not easy. Usually, pilot testing activities must be supported by industrial funds,*



## Main results during sessions “PILOT TESTING AND UPSCALING”

### *Type of pilot scale infrastructure:*

- *For micro algae, low concentrated biomass but large equipment needed for pilot scale are costly – location of such upscaling infrastructures is not strategic.*
- *For macro algae, location of upscaling infrastructures close to coast and harvesting points is strategic in order to avoid storage problems and high transportation costs,*
- *First treatments, dehydration process, and extraction of sensitive compounds can be done in such infrastructures.*
- *Big gap between researchers knowledge & expertise and industry needs,*
- *Needs to increase dialogue between research and industry,*
- *Difficulty to get sensitive information from industry for researchers.*



## Main results during sessions “TECHNO-ECONOMIC FEASIBILITY”

- The *dewatering and separation* of the algae is the most difficult and costly step in the process. If we can find a method to do this more efficiently we might have a breakthrough in our production
- *Bio refinery* – the idea is to valorize all of them or as many as possible to secure the sustainability of the process.
- What is the most important breakthrough – how can we get more companies to the market?
  - *Consumer acceptance*
    - a. Consumer behaviour research that goes along together with the research on the algae products
    - b. Marketing, research, sensory science research (taste, texture, smell)
    - c. Realise the selling point for every product coming from algae. There are many aspects to the qualities of algae



## Main results during sessions “TECHNO-ECONOMIC FEASIBILITY”

- Growing Algae might be different for each region or land. It is important to utilize the resources close to you.
- Important to take into consideration to grow the *right types of algae for each region* and local systems.
- Growing algae on *sidestreams*. An important option to grow algae *more sustainably*.
  - Possibilities to *reuse infrastructure*





## Main results during sessions “SUSTAINABILITY”

- ***Lack of data*** for proper LCA
- Different aspects need to be considered in terms of sustainability (social, economic, geographical...)
- ***Biorefinery concepts*** to increase sustainability
- More research needed for ***understanding algae-derived ingredients characteristics*** (toxicological, bioavailability, digestibility) to set up legislation. Need to open up especially for microalgae