MINISTRY OF FOREIGN AFFAIRS
OF DENMARK
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# NEW INGREDEINTS FOR HEALTHY FEED

## START WITH DENMARK

## # 1 IN EUROPE FOR EASE OF DOING BUSINESS

June 2nd 2021

# ClimateFeed

# DANISH TECHNOLOGICAL INSTITUTE

TEKNOLOGISK INSTITUT

- **A leading research and technology company**
- **Helping companies converting the newest knowledge and technology into value**
- **Experts in production, materials, environmental technology, business, energy, agro technology and much more**

| | |
|---|---|
| 114 years of history | 10,000 clients from 65 countries |
| 70+ laboratories | 1,000 specialists employed |

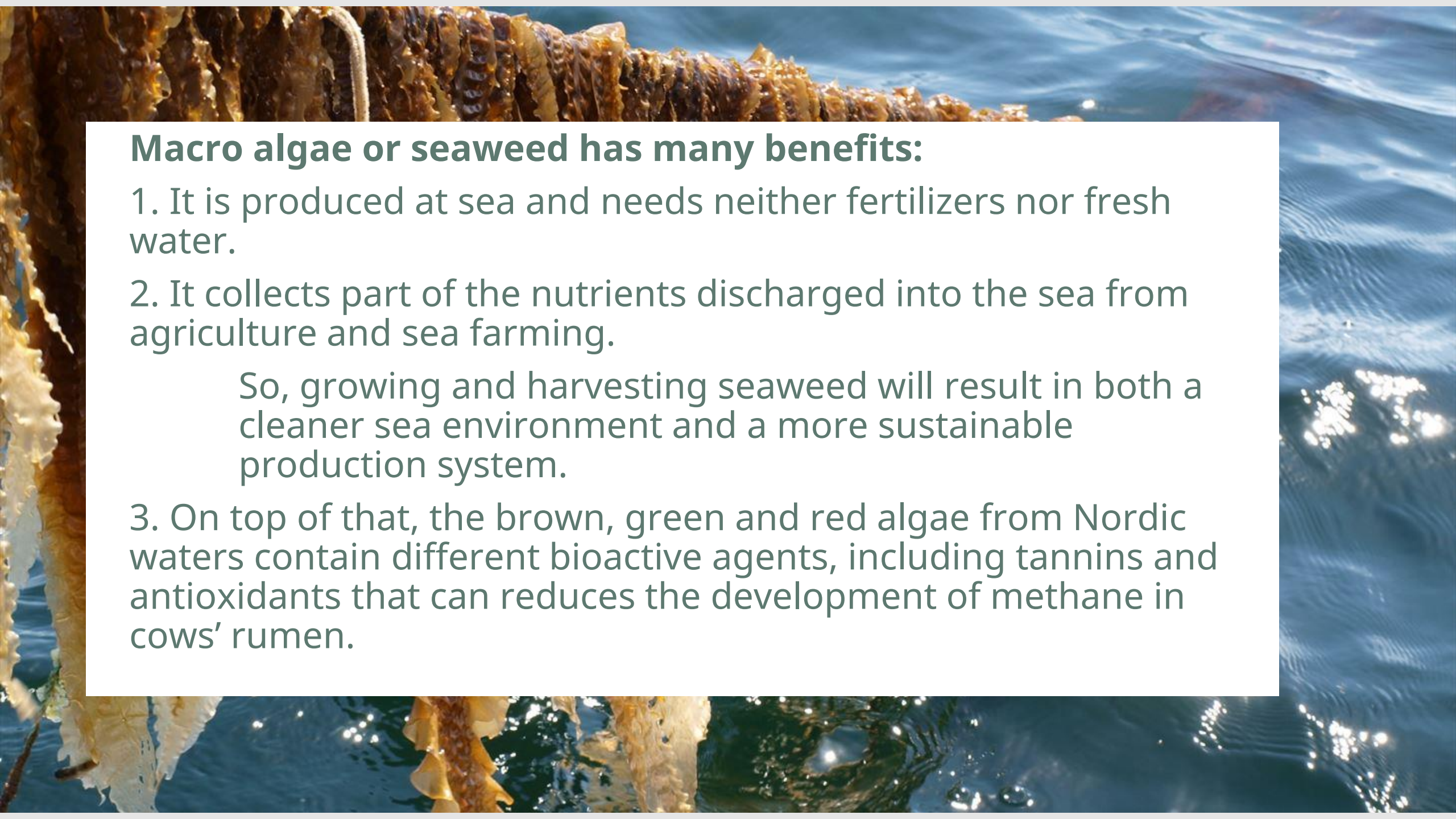
**"At DTI we believe that the green transformation, global challenges and sustainable solutions go hand-in-hand with responsible growth, employment, global competitiveness and good business."**

**Project ClimateFeed aims to reduce the agricultural release of greenhouse gases by changing the ingredients of the cows' feed**

# ClimateFeed

**Ruminant cows emit as much as 5-700 litres of methane every 24 hours**

**Macro algae or seaweed is the answer...**



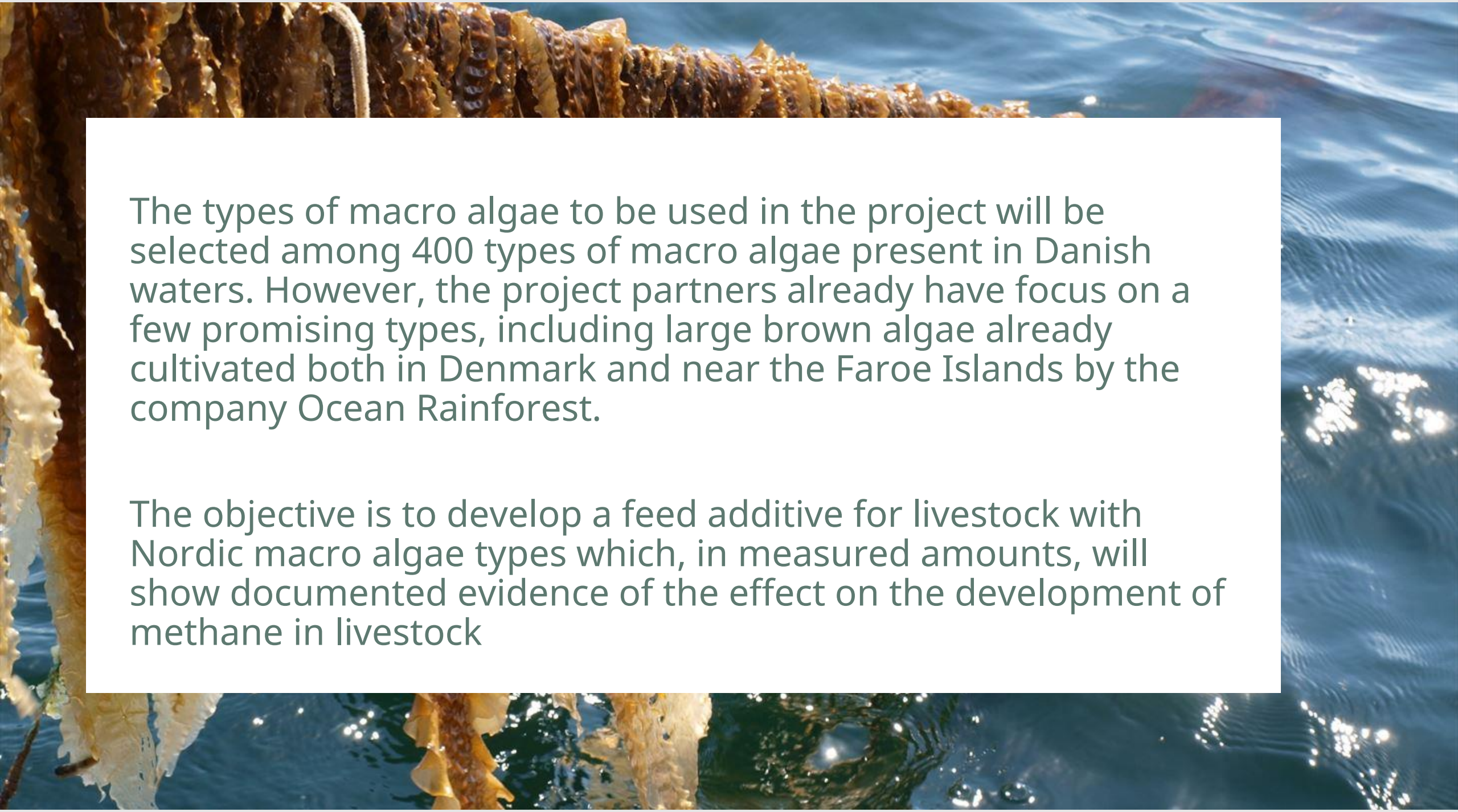
**Macro algae or seaweed has many benefits:**

1. It is produced at sea and needs neither fertilizers nor fresh water.

2. It collects part of the nutrients discharged into the sea from agriculture and sea farming.

    So, growing and harvesting seaweed will result in both a cleaner sea environment and a more sustainable production system.

3. On top of that, the brown, green and red algae from Nordic waters contain different bioactive agents, including tannins and antioxidants that can reduces the development of methane in cows' rumen.



The types of macro algae to be used in the project will be selected among 400 types of macro algae present in Danish waters. However, the project partners already have focus on a few promising types, including large brown algae already cultivated both in Denmark and near the Faroe Islands by the company Ocean Rainforest.

The objective is to develop a feed additive for livestock with Nordic macro algae types which, in measured amounts, will show documented evidence of the effect on the development of methane in livestock

# PARTNERS IN THE PROJECT


1. Danish Technological Institute, project manager
2. Aarhus University
3. Vilofoss (feed and supplements)
4. DLG (feed and supplements)
5. Ocean Rainforest, near the Faroe Islands (seaweed)
6. Dansk Tang (seaweed)
7. DryingMate (industrial drying systems)
8. Naturmælk (organic dairy)
9. SEGES (innovation- and knowledge centre of Danish agriculture)
10. University of Waikato, New Zealand

# EACH PARTNERS' ROLE IN THE PROJECT

1. Danish Technological Institute, project manager: In addition to project management DTI will be in charge of the practical testing of the macro algae product in a dairy cow livestock.

2. Aarhus University: In charge of the selection of macro algae types and the development of cultivation methods in the Nordic waters. In addition, Aarhus University will conduct experiments with the feed product based on laboratory and pilot-scale testing, and the university will evaluate the environmental effects and the economy.

3. Vilofoss: To develop and produce the macro algae agents with methane reducing effect. Vilofoss is a subsidiary company of DLG which will reprocess the macro algae agents into a finished product.

# EACH PARTNERS' ROLE IN THE PROJECT

4. DLG: To produce the finished vitamin-mineral-seaweed product and launch the finished product via their factories distributed in European countries and in the rest of the world.

5. Ocean Rainforest, near the Faroe Islands. To produce some of the seaweed types that Ocean Rainforest produces today in large amounts for foodstuff.

6. Dansk Tang, Odsherred: Today supplier of macro algae to restaurants with extensive knowledge of the different types and their cultivation potential.

7. DryingMate: In charge of drying the macro algae.

# EACH PARTNERS' ROLE IN THE PROJECT

8. Naturmælk: To work out a sustainable marketing strategy.

9. SEGES: Innovation- and knowledge centre of Danish Agriculture: To assist in communicating knowledge and findings of the project to milk producers.

10. University of Waikato (New Zealand): To assist in the screening of macro algae types and in the development of cultivating methods of selected types of macro algae.

# STEPS OF THE PROJECT

1. Selection of seaweed: The best seaweed will be selected from the 400 species of seaweed present in Denmark

2. The seaweed will be processed, dried and turned into a powder

3. The ingredient will be added to feed and tested on livestock in Denmark

4. Documentation of the reduction of methane release will be made

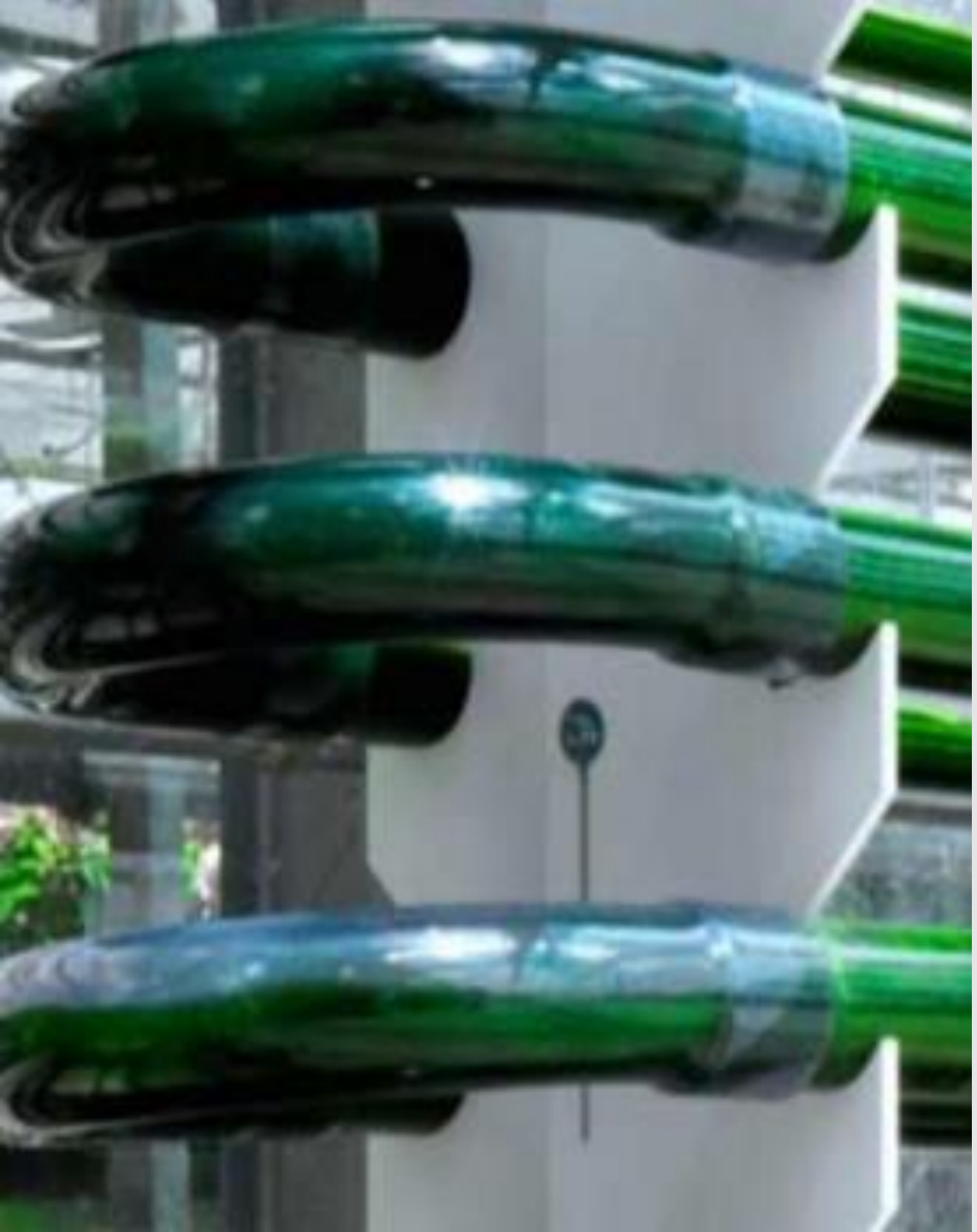
The project runs from 2019-2023

**Eating grass:**

**Extracting food protein from grass is challenging, but not impossible.**

**A project at Aarhus University is developing extraction and processing techniques to turn Danish grasslands into a useful protein source for human food.**

**There is still a long way to go before we will start eating grass, but researchers are well under way.**



**Microalgea is the new super hero:**

**Several projects between academia and the industry is exploiting how to grow algea on side streams from food production and extract protein for feed from the algae**

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# THANK YOU FOR YOUR ATTENTION

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