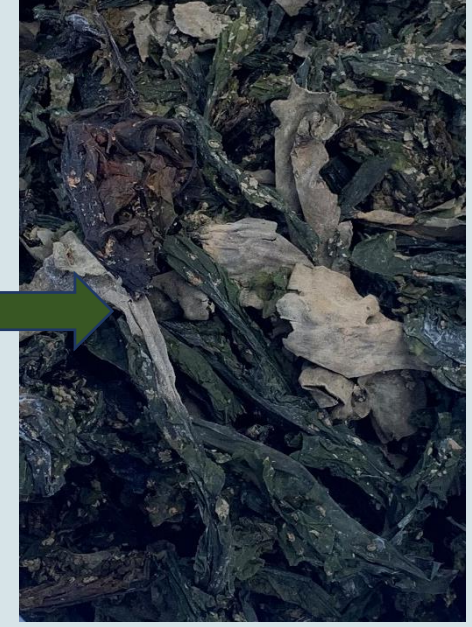
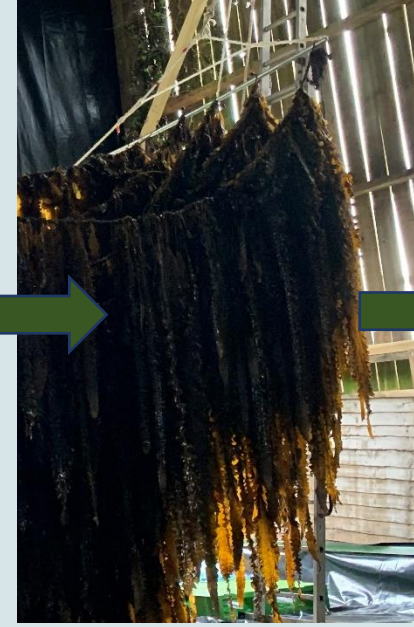




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Sustainably farming, processing & refining seaweed



Creating a green future from blue growth

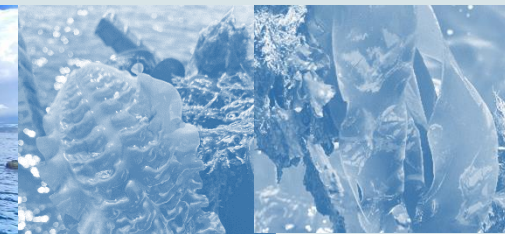


# Super Seaweed

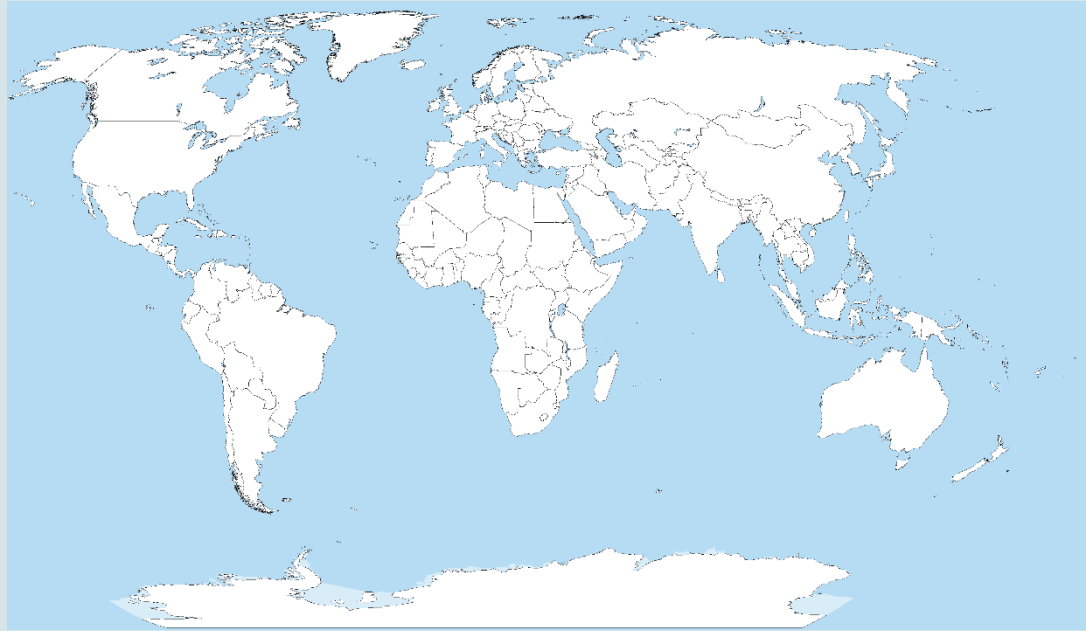
- A promising solution toward **'blue growth'** from the ocean whilst **protecting it, creating jobs** & supporting a **strong social agenda**.
- Industry evolving & new applications and markets are being rapidly realised.
- Solutions for **food security, health, fertilisers, feeds** and **biomaterials**.
- Farmed at sea passively: no fertilisers, feeds or waste. Grows fast!
- Supports local biodiversity & restores habitats.
- Ecosystem services include **bioremediation** & **carbon sequestration**.



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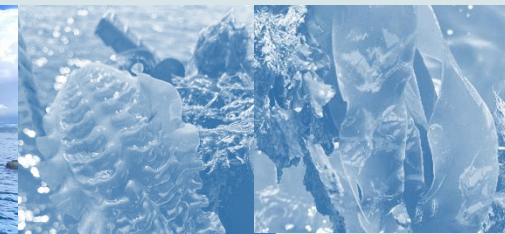
# Global Demand



- In 2018, **32.4 mT** of seaweed was wild harvested and farmed **globally**, worth **\$13.3 billion**, tripling the industry over 20 years. **12% annual growth** up to 2024 (Sofia 2020).
- In Europe, **farmed seaweed demand exceeds production levels** (Sofia, 2018)
- **Opportunity to substitute:** imported & capped wild harvest sources (Seaweed for Europe, 2020).



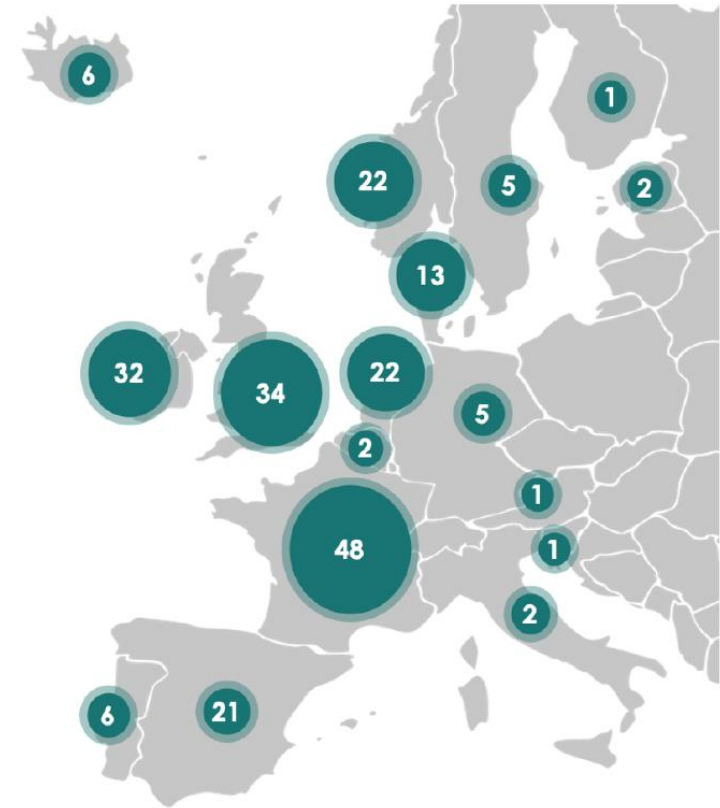
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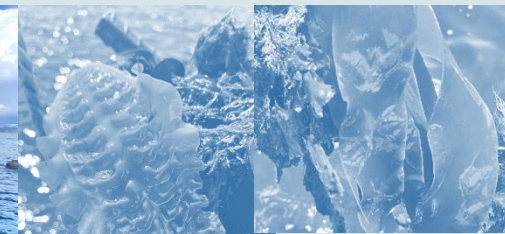
# The European Story

- Investment into the overall industry increased **10 X** last year – securing a strong pipeline.
- Finance plays a key role in supporting early-stage farmers to get established.
- **63% companies including Biome** perform more than one role in value chain. **31% companies including Biome** have a diverse product/service portfolio.
- Industry value: **€9.63 billion by 2030** across all sectors.
- Farming can capture **30%** of the seaweed requirement to support the industry: **8.3 m T** farmed seaweed over **26,300 Ha**. UK policy needs to further support scaling up of seaweed farming as a kelp-based intervention.

Pipeline breakdown by geographic region

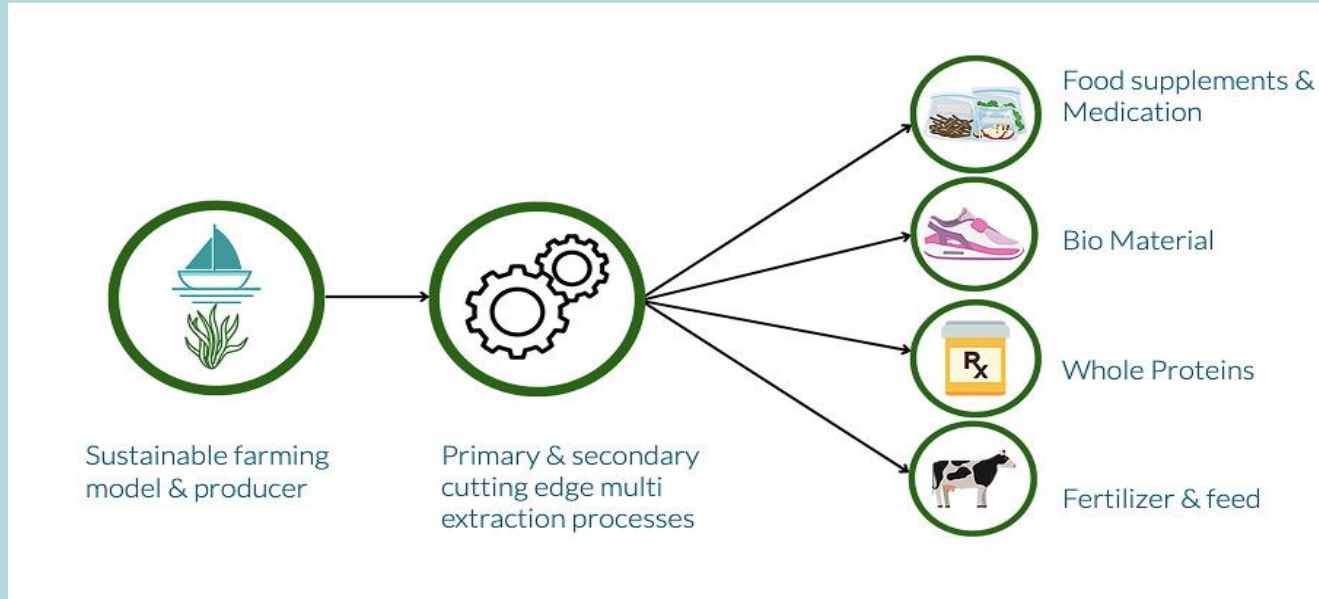


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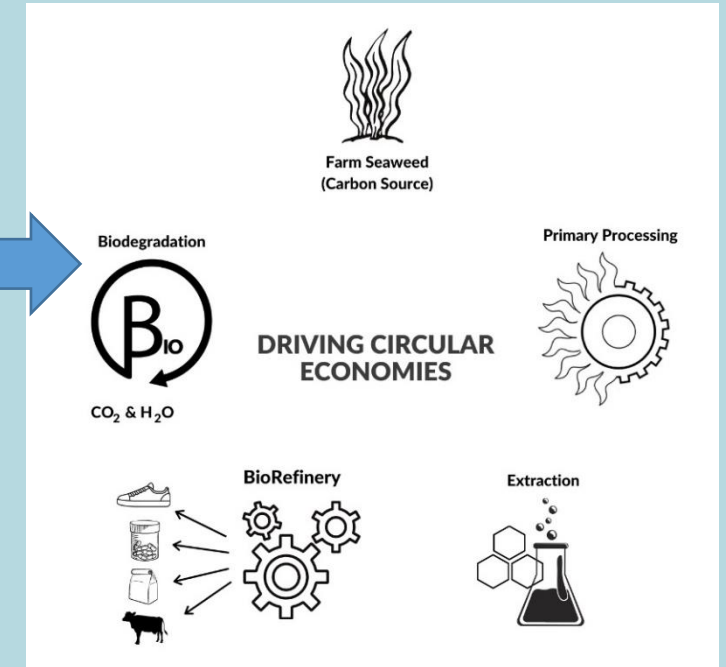




# Biome's unique business model:



- Occupy strong value chain position: **producer, processor & refining.**
- Diverse products, multiple revenue streams toward zero waste & a vertically integrated approach with market partners.
- Focus on markets that **magnify** Biome's environmental impact.



Supplying seaweed & extracts for seaweed-derived products supporting circular economies.



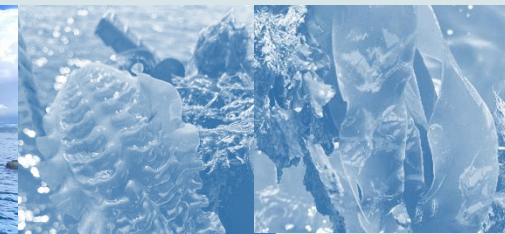
# UN sustainability goals



Seaweed farms provide shelters & nursery grounds for a whole range of fish, shellfish & invertebrates. They act as *defacto* Marine Protected Areas



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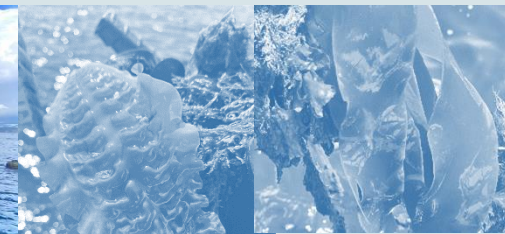
# Seaweed babies & deployment



- STEP 1: The team collect fertile material from natural populations near the farm.
- STEP 2: The fertile material is turned into seeds either in a bio-glue or on twine.
- STEP 3: Deployment in October/November each year when sea temperature drops.



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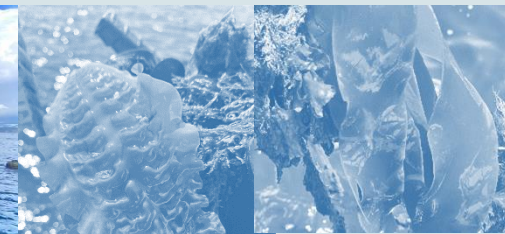
# Monitoring & harvesting



- **MONITORING:** Productivity, growth rates, biodiversity, environmental effects, carbon potential, biosecurity.
- **HARVESTING:** Starts from late March onward. Need specialist lifting equipment. Health & Safety + training important.
- **QUANTITIES:** Can grow up to 15 T a line. Just harvested 60 T wet weight! Aiming for 500 T next season. 12-14, 000 T by 2025.



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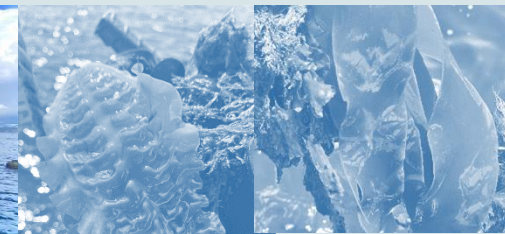
# Drying & Processing



- LOW ENERGY DRYING & PROCESSING using renewables and nature.
- PRODUCT: dried and milled with seaweed extracts planned for season 4
- THIS SEASON: Developing & building state of the art, wind/solar powered & scaled processing facilities – first of their kind & a transferable model that can be established elsewhere to provide services for other farmers.

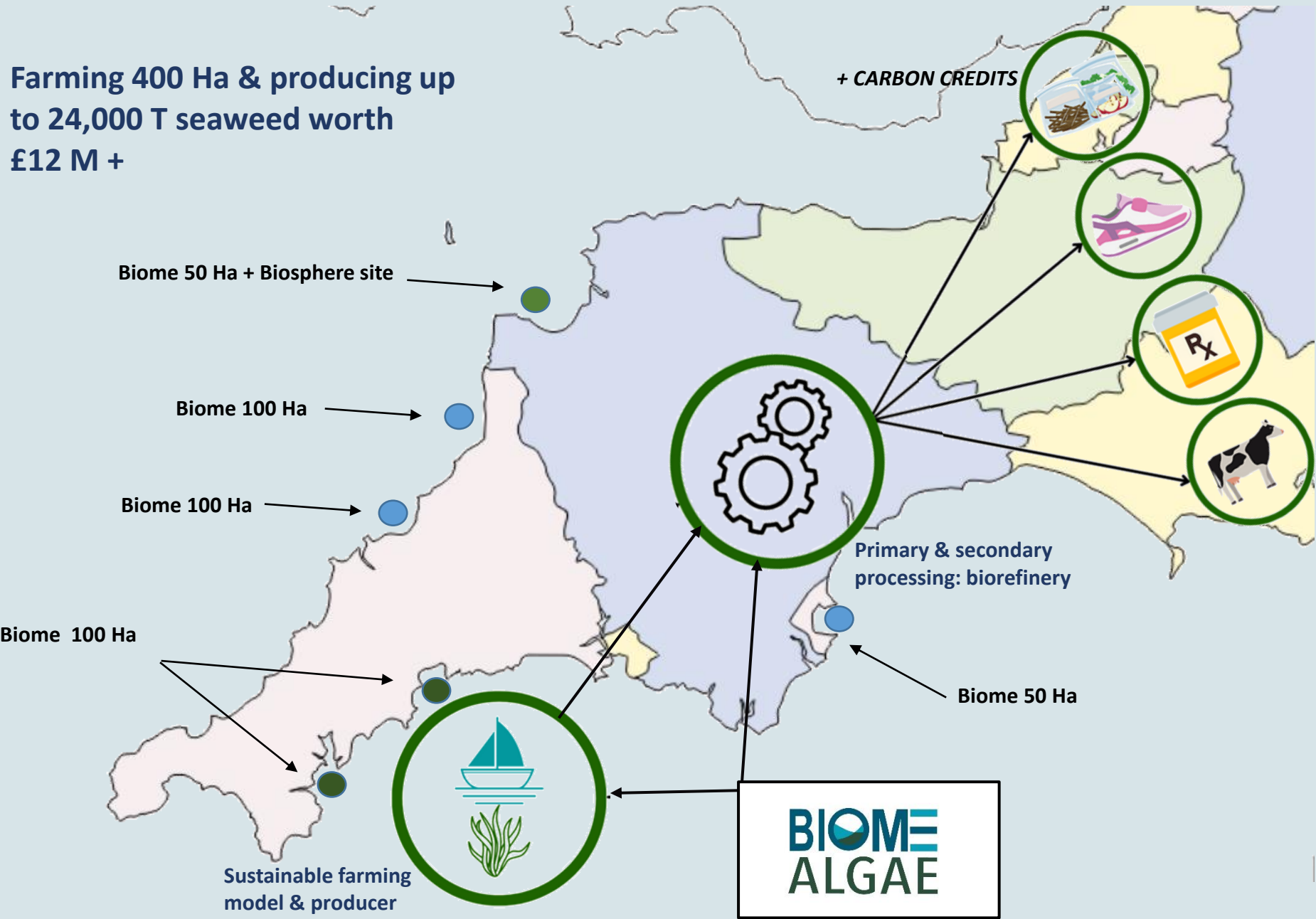


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# Scaling up toward 2028

Farming 400 Ha & producing up to 24,000 T seaweed worth £12 M +



  
**HORTIMARE**  
BREEDING & PROPAGATING SEAWEED

**NOTPLA**

  
VIVOBAREFOOT

**TRIBAL** 

  
Toraphene



# Our journey

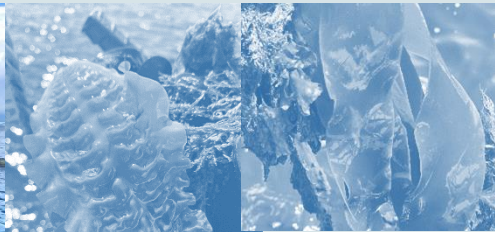
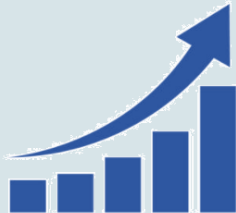
| Metric            | Season 1: pilot<br>2020-21                                              | Season 2:<br>2021-22           | Season 3:<br>2022-23                                              | Season 4:<br>2023-24                                        | Season 5:<br>2024-25  | Season 6:<br>2025-26  |
|-------------------|-------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------|-----------------------|-----------------------|
| Licences achieved | 1                                                                       | 2                              | 4                                                                 | 5                                                           | 6                     | As required           |
| Farmable area Ha  | 10                                                                      | 10                             | 50                                                                | 150                                                         | 400+                  | 400+                  |
| Species farmed    | 1                                                                       | 2                              | 2                                                                 | 3                                                           | 4                     | 4                     |
| Tonnage (w/w)     | 5                                                                       | 60                             | 500                                                               | 5, 000                                                      | 10, 000               | 12, 000               |
| IP                | Farm design & farming model<br>Automated farming & processing equipment | Scalable biorefinery blueprint | Low energy drying & processing facilities<br>Fit-for-purpose boat | Scaled cascading biorefinery<br><br>Additional boats: fleet | Bi-product extraction | Bi-product extraction |



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# Markets & product diversity

| Metric              | Season 1: pilot<br>2020-21                            | Season 2:<br>2021-22                 | Season 3:<br>2022-23                                 | Season 4:<br>2023-24                                            | Season 5:<br>2024-25                                            | Season 6:<br>2025-26                                            |
|---------------------|-------------------------------------------------------|--------------------------------------|------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|
| Products & Services | Proof of concept<br>IP development<br>RD&I<br>Science | Food<br>Cattle Feed<br>Biostimulants | Food<br>Cattle feed<br>Biostimulants<br>Biomaterials | Food<br>Cattle feed<br>Biostimulants<br>Biomaterials & extracts | Food<br>Cattle feed<br>Biostimulants<br>Biomaterials & extracts | Food<br>Cattle feed<br>Biostimulants<br>Biomaterials & extracts |





# Gaining traction in the industry

## Currently:

- Biggest farm in England: 550 T this coming season!
- Positive industry reputation
- Working with Plymouth and Exeter University measuring benefits of farming on the marine environment & looking to commence important carbon research with Earthly and the Crown Estate.

## Aiming to be:

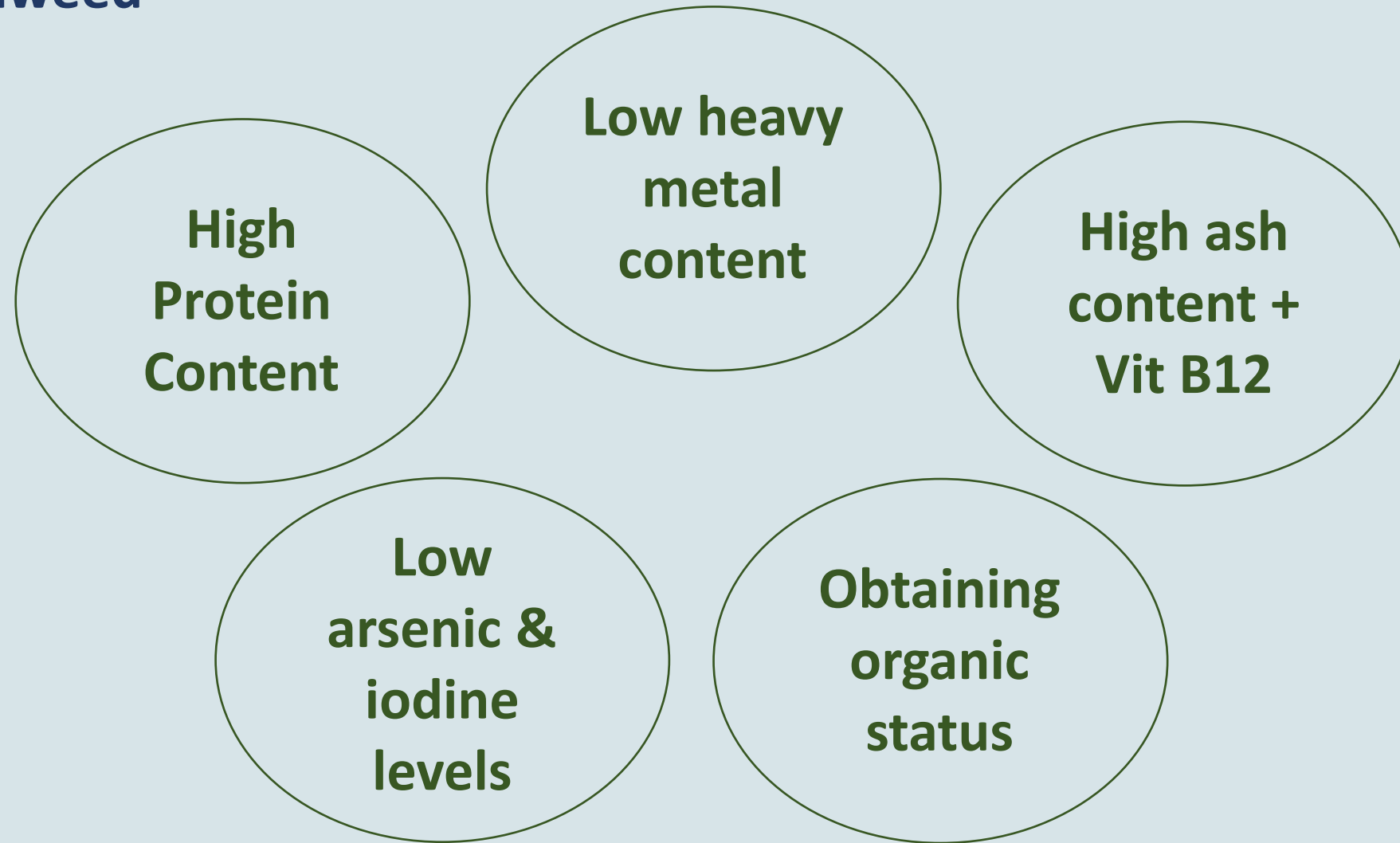
- One of Europe's largest producers and processors (including refining).
- The most diverse producer of seaweed and seaweed-derived extracts in Europe.



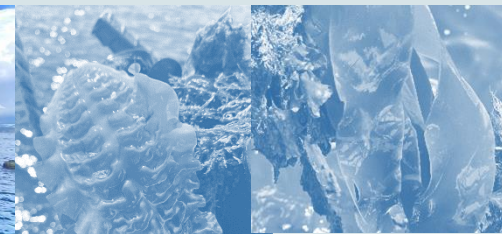
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# Our seaweed



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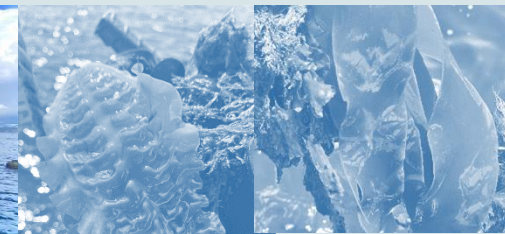
# Biodiversity



- No significant negative effects indicated (including organic enrichment)
- Early results indicate that there is a net increase in biodiversity
- This includes a number of high-value fish species, scallops, crabs and even attracts porpoise and seals.
- Maerl, a slow growing crustose algae & high priority conservation species is present within farms.



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# Blue carbon potential

Seaweed can capture up to 1,190 Ceq per km<sup>2</sup>

Locks down carbon at faster rate than trees



How to lock it down  
For longer time periods

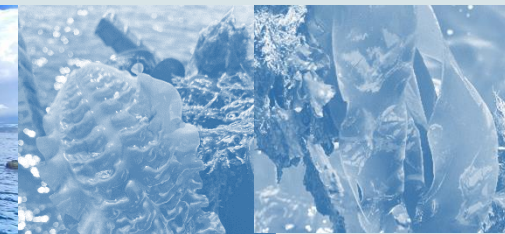
Key research Needed!

In partnership with Earthly, aiming to conduct:

- Important science around carbon capture of our seaweeds in Devon & Cornwall.
- The potential for fallowing and sinking seaweed to lock carbon? Needs research & data!
- The carbon footprint of our seaweed operation (LCA) & assessing that of our target markets too!

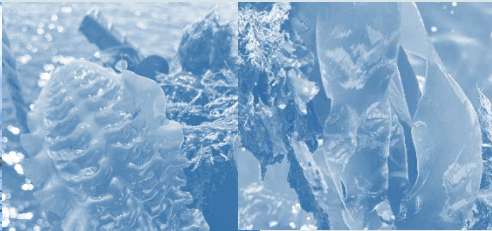


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# Our awards



# Our website and contact details

**BIOME Algae Ltd. Registered at Companies House in  
England and Wales. 11399444. VAT no. 357551185**

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