



Seaweed farming with & for our coastal communities

POTENTIAL

Seaweed farming has the potential to strengthen coastal community resilience while driving the UK's transition to a low-carbon, nature-positive economy.

ACCEPTABILITY

Sustainable growth in seaweed farming demands more than technical and environmental feasibility, it requires social acceptability and social licence to operate.

INCLUSIVITY

Aligning seaweed farming locations, operations and end products with community livelihoods, values, and knowledge is key to building a socially inclusive, trusted and resilient seaweed farming industry in the UK.





Background

The seaweed sector is expanding rapidly, led by Asian producers such as China and Indonesia. Global production increased from 11.8 million tonnes in 2001 to 36.3 million tonnes in 2021, while its value rose from \$5 billion to \$17 billion.

The global market is projected to reach \$27 billion by 2026. Europe currently accounts for a small share of this growth, producing 270,000 tonnes of seaweed in 2019. However, the EU aims to scale production to 8 million tonnes by 2030, with a projected value of €9 billion and up to 115,000 jobs. The UK can capture part of this accelerating market by growing its seaweed sector as a pillar of a low-carbon, nature-positive economy.

When rooted in coastal communities' needs and values, seaweed farming can create skilled local jobs and strengthen regional value chains, helping to build social and economic resilience. It can also deepen people's connection with the marine environment, improve water quality, enhance marine habitats and contribute to coastal protection. Alongside these environmental benefits, seaweed farming offers

important cultural and wellbeing gains, including recreational opportunities, a stronger sense of place, and aesthetic and inspirational value. As a potential low-carbon source of food, animal feed and bio-based chemicals, seaweed provides sustainable alternatives to carbon-intensive terrestrial monocultures such as maize and to fossil-fuel-derived products, including plastics and synthetic fertilisers.

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Challenges

The social acceptance of seaweed farming is not guaranteed. Opposition can emerge when proposed operations are misaligned with local knowledge, values, livelihoods, and the cultural identity of coastal communities. Trust in both farm operators and regulatory bodies is shaped by perceptions of transparency of decision-making processes and the ability to manage environmental impacts.

Where trust and transparency are lacking, seaweed farms may struggle to obtain a Social License to Operate (SLO or 'social license'), defined as informal social approval for operations in return for context-specific conditions.

Crucially, negative perceptions of seaweed farming can develop into a lack of social license. Poor relations between seaweed farms or developers

and local stakeholders can fuel negative political narratives and media coverage, eroding market confidence, slowing industry growth, delaying planning applications, and shaping attitudes in other communities. When the sector is judged by its worst performers, it becomes harder for socially, environmentally, and economically responsible operations to succeed.

With the UK seaweed sector still in its infancy, now is a critical window of opportunity to unlock the multiple social, environmental, and economic co-benefits of seaweed farming through developing in a socially acceptable way.



Overview of Social License to Operate

Social license has been adopted across a wide range of sectors, including energy, farming and agriculture, pulp and paper, forestry and aquaculture.

Social licence to operate emerged in the mining and hydrocarbon sectors in the early 1990s, at a time when public attitudes towards the natural environment were shifting rapidly. Landmark agreements such as the 1992 Convention on Biological Diversity and the United Nations Framework Convention on Climate Change reflected a new global recognition of the natural environment's intrinsic and societal value.

As awareness of social and environmental impacts grew, local and interest-based communities increasingly opposed new or existing industrial developments. These conflicts continue to create tension between communities, livelihoods, and industry.

They can incur costly delays, legal disputes and, in some cases, project cancellations across the world. Critically, they negatively impact the lives of all involved.

The concept of social license was developed to help industry understand and address the root causes of such conflicts, reducing risk and avoiding unnecessary costs. Social license has since been expanded to include ethical approaches to operations, where communities who are impacted and affected are empowered to require conditions of operators in return for acceptance. Evidence shows these conditions include trust, fair, transparent and environmentally responsible practice, positive community impact and meaningful community engagement.

Lessons learned

Seaweed farming can deliver social, economic, and ecological co-benefits if sites are chosen with local social context in mind and designed to support coastal communities and livelihoods.

Current site-selection processes emphasise biophysical suitability (e.g. nutrients, currents, habitats) for seaweed farming and as a result, social considerations are currently underrepresented.

Poor community engagement has already triggered strong public opposition to seaweed farming in regions like Cornwall and Devon, England. Recent seaweed farming license applications have drawn criticism in the

media citing inadequate community engagement, failure to account for existing marine users, and environmental concerns. As in other UK aquaculture sectors community involvement through Community Benefit Societies, effective and ongoing community engagement, local jobs for young people, and supplying at-cost products for local school meals, are examples of creating more equitable, socially beneficial, and publicly acceptable seaweed farming.

Working towards Social License to Operate for Seaweed Farming

Across the UK, there are different models of seaweed farming businesses that are actively working towards social license, below are two examples:

Câr-Y-Môr seaweed and shellfish farm in Pembrokeshire, Wales, is a Community Benefit Society. Câr-Y-Môr is currently small-scale, employs local people, and has a well-funded community and stakeholder engagement programme. This is essential in an area that is a National Park and heavily reliant on wildlife tourism and outdoor recreation for its local economy.

A documentary-film, Coastal Voices, capturing the diversity of community perceptions on seaweed farming in the area can be seen here:

[WATCH THE VIDEO >](#)

On the West Coast of Scotland, there are several seaweed farms operating as small-to-medium enterprises. These work closely with local communities, such as fishers and wildlife tour businesses, to ensure that their operations do not negatively impact livelihoods of other marine users.

Some of these dynamics are evidenced here:

[READ THE REPORT >](#)





Recommendations

A communities-first approach to seaweed farming

Unlocking the power of seaweed farming for the benefit of people and planet depends on decisions grounded in diverse evidence, inclusivity, and local socio-ecological knowledge. The following six recommendations outline practical pathways for the seaweed farming industry and regulators to work together in advancing a fair, sustainable, and high-impact seaweed sector:

1. Early and ongoing engagement with stakeholders & coastal communities

Engage with stakeholders early on. This will maximise the benefits of seaweed farming for local and interest-based communities, build trust, and develop social license. Before and during site selection and during ongoing operations, operators should characterise how people in potential and

current seaweed farming areas use and value the coast, listening to and acting on feedback where possible. Regulators could evaluate pre-planning stakeholder engagement reports for their efficacy, including where plans have changed due to stakeholder feedback.

2. Prioritise farming seaweed where it is accepted by local communities

Farming where it is accepted will foster positive perceptions within and across communities, minimise conflict, and reinforce the industry's reputation as a responsible blue-economy actor. Operators should engage with communities during

the site-selection process to assess and improve levels of acceptance. Regulators could integrate community and place-based values into national and devolved-scale data resources which may be used for site-selection.

3. Integrate local knowledge and values into site selection

Embed local values and experiences (e.g. what people value about their area, how they use the coast and sea, and how they would like to use it in the future) into site-selection processes. Through community engagement, operators could identify potential conflicts, such as existing

livelihoods, recreation, or conservation uses, and opportunities such as harnessing local insights and skills to enhance seaweed farming's fit into local life. Regulators could support industry in collection of evidence of local community values in leasing and licensing areas.

4. Empower communities through inclusive business models, supporting local value chains

Support enterprises that reflect local priorities, strengthen regional economies, and enhance equity and long-term resilience. Operators could consider community-inclusive business models such as community-owned or community-interest companies, community benefits, co-location or co-use of resources with other marine users, or a biorefinery approach to processing to create

multiple products supporting diversification and retaining value locally. Regulators could encourage community-empowered approaches that reflect local priorities, such as capacity building, alternative funding models, supporting operators with co-location approaches and implement measures to ensure the landscape is not dominated solely by larger players.

5. Invest in public awareness and education

Strengthen the general public's awareness and understanding of what seaweed farming is, why it matters, and how it can benefit both people and nature. This will enable informed decisions about marine space use and will build public confidence in seaweed farming. Operators could develop and/or engage in information

and education activities near seaweed farms, including working with schools and NGOs; and industry associations could support this through media, and other public forums. Regulators could strengthen the public's understanding of seaweed farming planning processes and how to interact with them.

6. Lead with empathy and awareness

Recognising the marine environment is a common asset with deep cultural and personal ties, many of which are not openly or publicly acknowledged. Situate seaweed farming within the realities of major global pressures, climate anxiety,

biodiversity loss and grief, economic strain, and socio-political instability. Acknowledge the influence of these factors on community wellbeing, tolerance for change, and capacity to engage.



Further reading

Social license for UK Seaweed Farming Measures for Developing Social Acceptability. **Billing, S-L., Ferguson, L., Franco, S., Hughes, A., Gupta, M., Hart, P. (2023).**

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Is social license to operate relevant for seaweed cultivation in Europe? **Billing et al., (2021)**

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Safeguarding the future of the global seaweed aquaculture industry Policy Brief. **Cottier-Cook E.J., et al (2016).**

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Ensuring the Sustainable Future of the Rapidly Expanding Global Seaweed Aquaculture Industry – A vision United Nations. University Institute on Comparative Regional Integration Studies and Scottish Association for Marine Science Policy Brief. **Cottier-Cook E.J., et al (2021).**

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Ecological grief as a mental health response to climate change-related loss Nature Climate Change. **Cunsolo A., and Ellis N. R., (2018).**

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Ecosystem Services Provided by Seaweed Cultivation State of the Art, Knowledge Gaps, Constraints and Future Needs for Achieving Maximum Potential in Europe. Reviews in Fisheries Science and Aquaculture. **Fricke A., et al (2024).**

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Seaweed & the bioeconomy Enabling growth through aquaculture policy. UCL Policy Impact Unit. **Lacerda, LM., Kostas, Emily. T. (2025).**

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Resources

Social license to operate and community engagement

Handbook on Social License to Operate for Seaweed Cultivation **Billing, S-L., Rostan, J., Tett, P., (2021).**

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A Guide for Shellfish & Seaweed Farmers in Maine Working towards social license to operate. **Cottier-Cook E.J., et al (2016).**

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Seaweed Cultivation in Scotland A guide for community participation in seaweed farm applications. Sustainable Inshore Fisheries Trust

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CLIMAVORE CIC, Tidal Gardens, 2025-26. Photograph by Jordan Young.

