

Wave & Tidal Asset Profile

1. Context

Crown Estate Scotland manages property – including buildings, land, coastline and seabed – on behalf of the Scottish people.

We work in a way that:

- Generates prosperity and value for all of Scotland;
- Supports the growth of sustainable business and industry in Scottish seas and on the coast;
- Makes places better for those who live, work and visit there;
- Promotes sustainable ways of producing energy, food, and other products; and
- Creates opportunities for people to use and benefit from the Scottish Crown Estate.

The Scottish Crown Estate Act 2019 requires us to manage the assets in a way that is likely to contribute to the promotion of improvement of economic development, regeneration, social wellbeing and environmental wellbeing. To do this, we need to understand the wider value delivered by the assets and our management activities.



Asset profiles have been developed for the Estate's 21 asset classes. The profiles include information on financial returns, the public benefits delivered through our management activities, and our view of the opportunities for wider value creation.

The analysis has been undertaken in-house, using qualitative assessment and expert judgment.

2. Asset summary

Scotland has some of the best tidal stream and wave energy resources in the world. Crown Estate Scotland is helping to develop the industry, working closely with companies, government and communities.

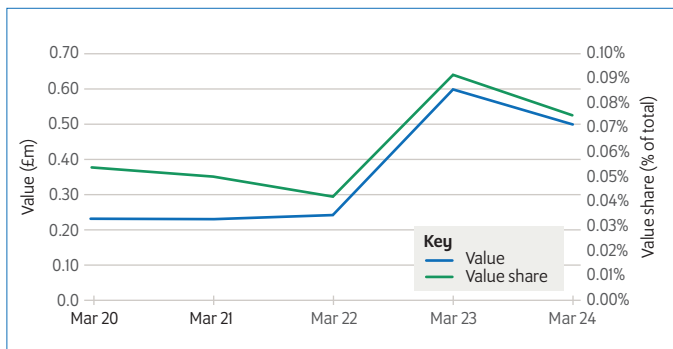
This includes:

- Bringing new development opportunities to market by leasing areas of the seabed and managing the associated seabed rights.
- Funding research and technical studies to enable sectoral growth and continued innovation.

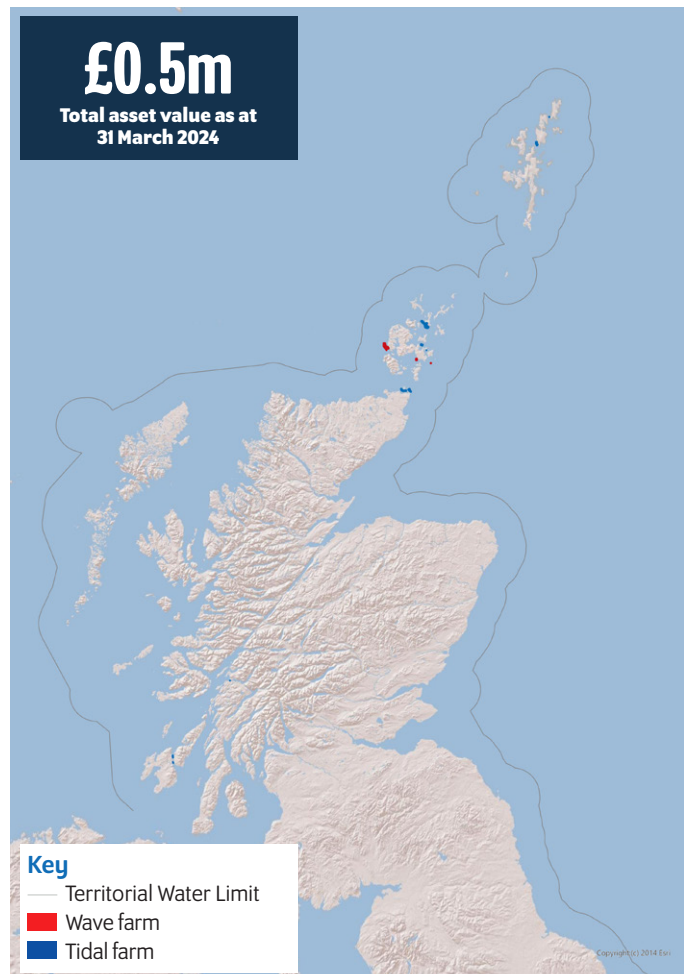
Asset and financial information

Asset information	Value
No of agreements	14
Value (March 2024)	£0.5m
Value share (% of total Estate value, March 2024)	0.008

Wave & Tidal – change in value and value share over time

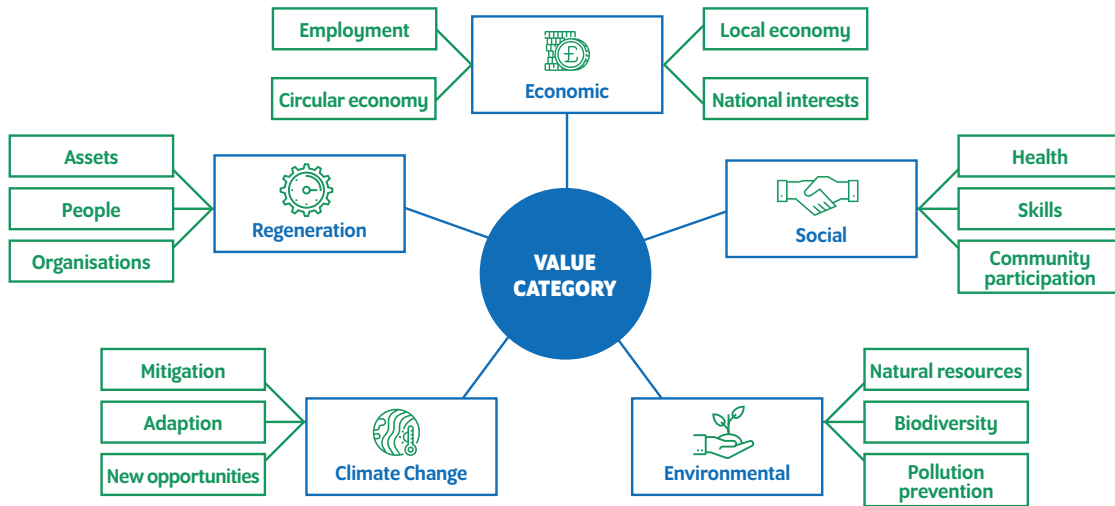


Wave & tidal asset map



Map correct as at September 2024. Under the Open Government Licence, we give free access to our open datasets and map which can be found on our [Spatial Data Hub](#) which gives access to view and download spatial data, PDF maps for download, and our [interactive map](#).

3. Understanding Value



Five value categories have been identified:

- **Economic;**
- **Social;**
- **Environmental;**
- **Climate Change; and**
- **Regeneration.**

Each value category has a set of three or four indicators. The indicators are relevant for all Scottish Crown Estate asset classes and also align with Scotland’s National Performance Framework and the UN Sustainable Development Goals.

Measures of success

Economic

- Employment** – jobs created or safeguarded
- Local economy** – local businesses are active in the supply chain and provide local employment
- National interests** – benefiting Scotland’s national economy / showing leadership
- Circular economy** – increasing efficiency / reducing waste in processes and products

Social

- Health** – reflects / promotes good health at local or national level
- Skills** – stakeholders gain valuable skills
- Community participation** – community is an active stakeholder and participant

Environmental

- Natural resources** – resources used / maintained in a sustainable way
- Biodiversity** – biodiversity is protected/strengthened
- Pollution prevention** – pollution is decreased / not increased

Climate change

- Mitigation** – low or zero emissions
- Adaptation** – actions increase resilience / reduce risk
- New opportunities** – new, low or Net Zero emissions activities / businesses/products pursued

Regeneration

- Assets** – positive impacts on associated assets
- People** – people are enabled or empowered
- Organisations** – activities involve collaboration with other organisations

Next steps

The Value Project started in 2019 as a direct response to this need to define the wider value of CES’s activities.

In 2023, with the help of Savills Earth we completed development of our new Value Reporting Framework (VRF). This framework will support CES to shape data gathering to inform non-financial metrics and will help to inform our future decision-making, reporting, and monitoring processes.

The VRF seeks to measure the value created through all of CES’s activities, producing quantitative and qualitative data for investment case decision making and annual reporting.

To achieve this a systematic process for measuring value was developed, in which our five wider value categories – climate change, social, economic, environmental and regeneration – were individually assigned a specific value indicator, with each indicator directly tied to its own value creation metric.

We have now incorporated indicators relating to employment, investment, and social cost of carbon into our annual reporting and further indicators will be added going forwards.

4. Potential for Wider Value

The diagrams below demonstrate the wider value currently generated by the asset class as a whole and indicate where we consider there is potential to deliver increased wider value. This is influenced by a range of factors including the inherent value of the assets, tenant activity, regulator activity and other external factors. For wave and tidal, key areas identified with potential for increased wider value include:

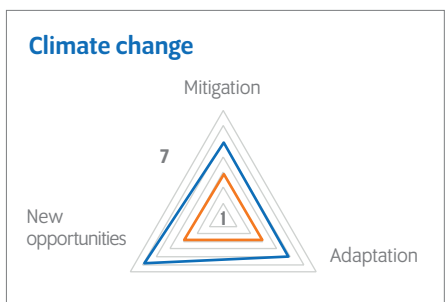
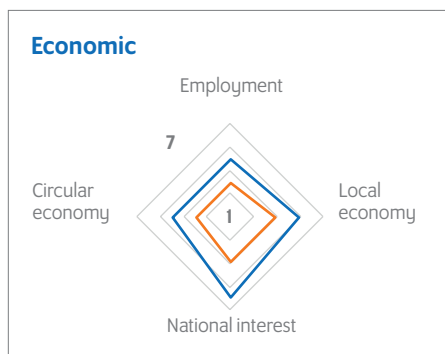
- **Economic** – Significant opportunity for Scotland to demonstrate leadership in the sector and support the deployment of new technology and commercial scale arrays which in turn can create high-skilled jobs in remote areas and support local supply chains.
- **Climate change** – Increased renewable energy generation which provide wider system benefits due to its predictability and offset nature to other renewable resource.
- **Social** – Opportunities for the development local energy systems (providing local power to local demand) and potential community-owned projects.
- **Environmental** – Renewable resources utilised in a sustainable way to provide generate power, and supporting decarbonisation.

Opportunities

- Supports Scotland’s transition to a Net Zero economy;
- High Scottish supply chain content from technology design, manufacture and fabrication to construction and maintenance;
- Export market for skills, technical expertise, and technology;
- Predictable resource, which can offer wider energy system benefits supporting greater renewables uptake;
- Enables better balancing of supply and demand (ideal partner for solar or wind);
- Contributes to Scotland’s climate change targets;
- Energy independence can be created for local / island communities;
- Supports economic development in coastal and remote communities across Scotland; and
- Continued ring-fenced Contracts for Difference revenue support for tidal stream projects from DESNZ and inclusion of wave energy in technology able to access Contracts for Difference revenue support.

Threats

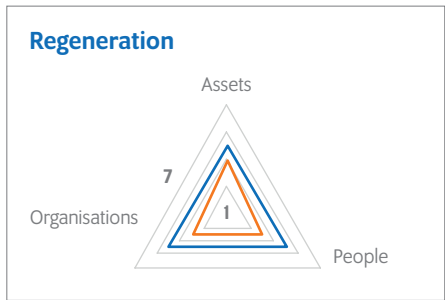
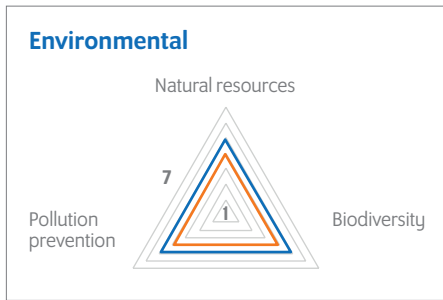
- Constant push for lowest cost of electricity rather than looking at highest value creation including wider system benefits and local content;
- Immature or untested technology being awarded commercial revenue support in the Contracts for Difference scheme which may result in undelivered projects impacting sector reputation and loss of opportunity;
- Consenting challenges due to continued lack of understanding around environmental impacts particularly marine mammal collision risk;
- Lack of investor confidence;
- Grid connection timelines and associated development costs; and
- Other global tidal power markets which may have greater funding support.



Key
— Potential — Current

Assessment key

1. Damaging	5. Very Good
2. Poor	6. Matching Best Practice
3. Fair	7. Setting New Best Practice
4. Good	



This full value potential is indicated by the blue line. The actual average performance of the assets as currently managed is shown by the orange line. The opportunity for delivering enhanced value is the stretch between the orange line and the blue line.

Where potential and actual performance are the same the orange line will hide the blue line beneath it. No weighting has been applied to any indicator.

5. Benefits delivered by Crown Estate Scotland

Our 2020-2026 Corporate Plan sets out our four roles:

Investor

Investing in, for example, property development, as well as building external partnerships and supporting staff.

Asset Manager

Careful management of leases and agreements, as well as direct management of forestry.

Co-ordinator

Supporting other Scottish Crown Estate managers by, for example, coordinating spatial information.

Enabler

Empowering others by supporting local plans and projects, providing access to property and helping address barriers to sector growth.

For wave and tidal, some examples of our activities include:

Investor

- We can invest directly in property, for example we have a £10M investment in the MeyGen tidal energy project to support the deployment of the first phase of the project.

Enabler

- We empower the sector by providing access to property to be developed into successful projects as well as commissioning [important studies](#) to support sector progress and address barriers to sector growth.

Asset Manager

- We carefully manage Lease and Option Agreements to ensure the appropriate safeguards are in place and ensure best value for money for the people of Scotland.

Coordinator

- We work in partnership with stakeholders to ensure a holistic approach is adopted to ensure long-term benefits of the marine energy sector are realised by Scotland. In addition through delegated management and transfers, we are currently working alongside the Delegated Management Pilots to support community involvement and engagement with the leasing and management processes relevant to the sector.

The table below presents our assessment of the significance of the benefits that we currently deliver through these four roles. Our Corporate Plan sets out actions against these four roles. Over time, we expect the significance of benefits to increase as considerations regarding wider value are embedded into decision making.

WAVE AND TIDAL	Investor	Asset manager	Enabler	Coordinator	Key
Economic					Inactive Low Medium High
Employment	Medium	Low	Low	Inactive	
Local economy	Medium	Low	Low	Inactive	
National interests	Medium	Low	Low	Inactive	
Circular economy	Inactive	Inactive	Inactive	Inactive	
Social					
Health	Inactive	Inactive	Inactive	Inactive	
Skills	Low	Low	Low	Inactive	
Community participation	Low	Low	Low	Inactive	
Environmental					
Natural resources	Low	Low	Low	Inactive	
Biodiversity	Low	Low	Low	Inactive	
Pollution prevention	Low	Low	Low	Inactive	
Climate change					
Mitigation	Medium	Low	Low	Inactive	
Adaptation	Low	Low	Low	Inactive	
New opportunities	High	Low	Low	Inactive	
Regeneration					
Assets	Medium	Low	Low	Inactive	
People	Low	Low	Low	Inactive	
Organisations	High	Low	Low	Inactive	

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Financial info as of March 2024, other information as of September 2024. Some figures in this profile have been rounded.

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