

## Written evidence submitted by Orbital Marine Power (SPF0016)

### Scotland and the Shared Prosperity Fund

#### 1. Introduction

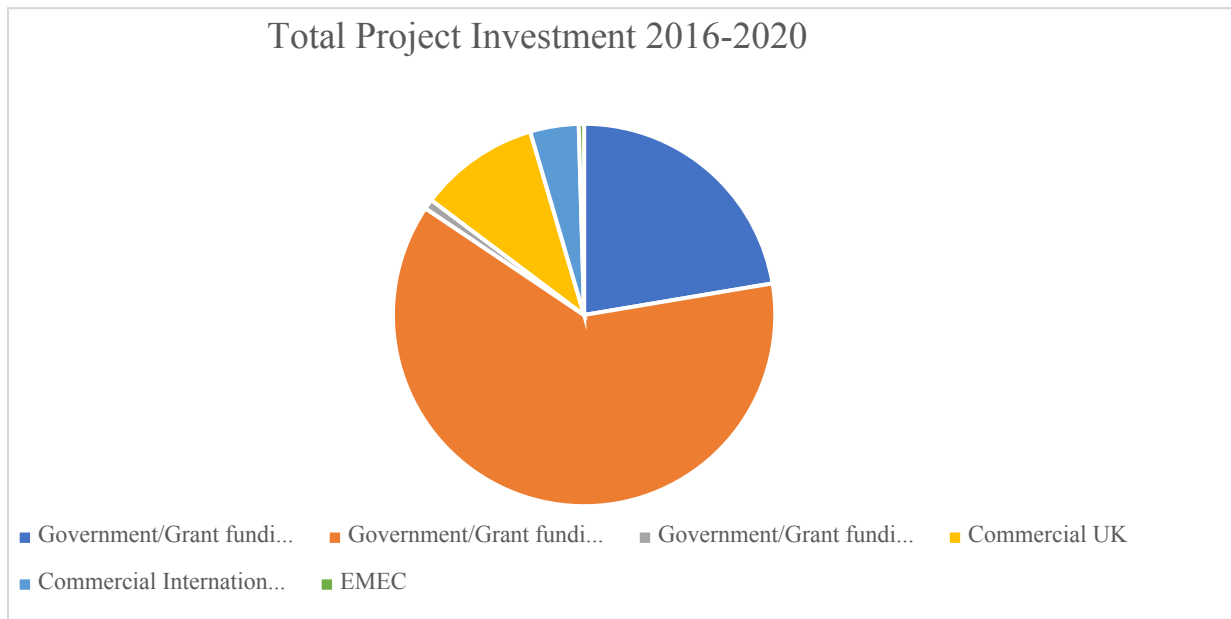
- 1.1 Orbital Marine Power is a leading developer of floating tidal stream technology. We have been developing our technology exclusively in the UK for the past 18 years. Our most recent prototype, the 2MW SR2000, generated more than 3.25GWh into the UK electricity grid during a 12-month and was built with over 80% UK content.
- 1.2 We are currently mid-way through the build of our commercial system, the O2, this system will produce clean, predictable electricity into the UK grid and was financed with £7 million of commercial debt finance through crowd funding platform Abundance. The O2 has over 80% UK content and from discussions with our supply chain we estimate that this could increase to 95%.
- 1.3 Tidal stream energy and can play a critical role in the UK's transition to Net Zero. INTERREG funding has been critical in supporting development of the Orbital technology and would have been perfectly placed to support the next stages of development.
- 1.4 To secure the global lead and a £25bn export market, encourage competition, drive down cost of energy to below £90/MWh and distribute economic benefits across the country, the tidal energy sector requires continued access to the Share Prosperity Fund. This can be achieved by outlining Tidal Energy as a priority area for Scotland to support under the Shared Prosperity Fund.

#### 2 The value of EU funding: Orbital, the European Marine Energy Centre and Case Study

- 2.1 Orbital welcomes the announcements made over the last year regarding the Shared Prosperity Fund (SPF), particularly given the instrumental role that EU funding has had on our development, and the tangible economic and industry impacts of this funding to date.
- 2.2 Orbital is directly involved in two ERDF funded projects supported by INTERREG funding:
  - 2.2.1 ITEG – INTERREG North West Europe funding support to build the O2 tidal turbine, total grant support for €2.5.
  - 2.2.2 TIGER – INTERREG Channel funding support to accelerate cost reduction and innovation across Orbital's technology, total grant support €3.6m
- 2.3 Orbital works closely with the European Marine Energy Centre (EMEC), Established in 2003, EMEC is a not-for-profit company limited by guarantee, and we have been financially independent since 2011. £36m was invested over 5 phases of

development in establishing thier facilities, from a range of funders including ERDF. To date, EMEC has generated £306m total GVA contribution to the UK economy.

- 2.4 More recently, since EMEC began recording external funding in 2016, approximately 62% of external project funding to EMEC has been EU grant funding, or £21M. In contrast, UK government and/or grant funding in the same 2016-2020 period totalled 22% or, approximately £7.5M<sup>1</sup> (Figure 1). These figures clearly illustrate the invaluable role that EU grant funding has played in the socioeconomic impact of EMEC across the UK.



*Figure 1. Total Project Investment, 2016-2020*

- 2.5 EU grant funding through programmes such as INTERREG, contained within ERDF, or HORIZON2020 has been determinant in our ability to attract external investment to develop our world leading tidal technology. It has also supported us to deploy our technology at the EMEC test site and has allowed EMEC to provide us with a variety of device development services, from testing and monitoring to power performance assessments, amongst others (in points 2.7 – 2.8 below). These opportunities have, not only had direct impact on sectoral and local economic development but are also driving the entire industry to the next level.
- 2.6 In this line, Orbital's O2 supply chain map (Figure 2) is illustrative of the strength of our national marine energy supply chain, and its spread across all UK regions, aligned with UK levelling up objectives. The industry has, up until now, grown largely due to the ongoing support from EU ERDF (as well as through Horizon 2020). We suggest that the UKSPF evaluate and integrate the continuation of these tangible outcomes into its objectives. In total Orbital's supply chain for the O2 covers 157 companies across the UK. Figure 5 provides a highlight of the supply chain involved in the fabrication of the O2. Table 1 shows the geographical spread of the supply chain for the O2, broken down by subsystem, demonstrating 80% UK content of the O2 CAPEX.

<sup>1</sup> Ibid.

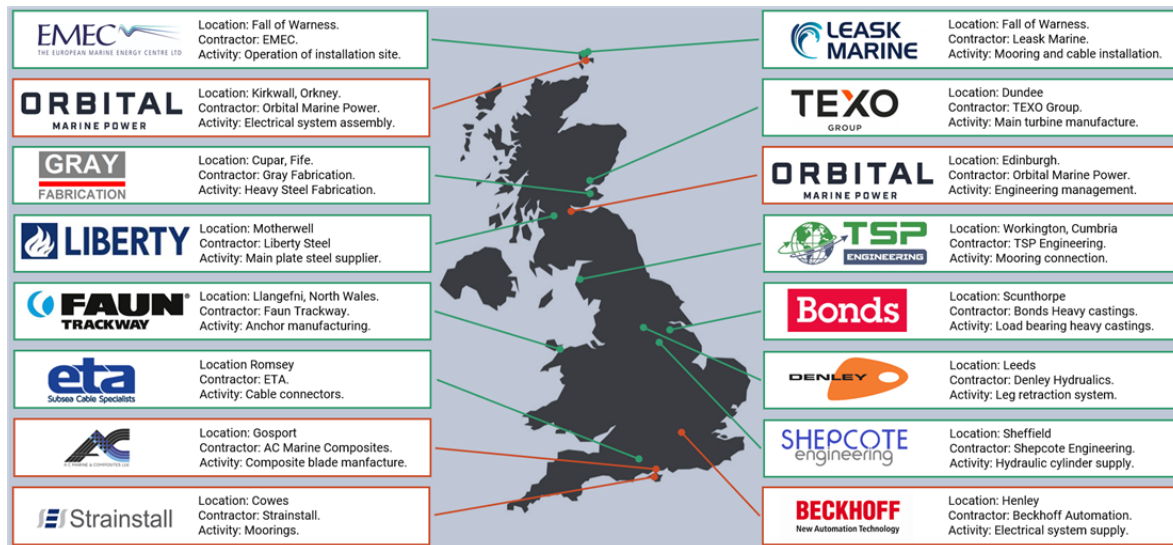


Figure 2 - Orbital Marine Power O2 supply chain map

Work package	Total spend	Non-UK	Scotland	Wales	North England	South England	UK
Blades	9%	0%	0%	0%	0%	9%	9%
Pitch & Hub	11%	0%	0%	0%	11%	0%	11%
Nacelle	17%	17%	0%	0%	0%	0%	0%
Electrical skids, C&I, Aux Systems and Outfitting	9%	0%	2%	0%	1%	6%	9%
Leg Retraction System	5%	0%	3%	0%	2%	0%	5%
Structure	30%	0%	29%	0%	0%	0%	30%
Moorings	10%	3%	0%	4%	3%	0%	7%
Dynamic Cable	1%	0%	0%	0%	0%	1%	1%
Marine Operations & Logistics	7%	0%	7%	0%	0%	0%	7%
Ancillary	2%	0%	1%	0%	1%	0%	1%
<b>Total</b>	<b>100%</b>	<b>20%</b>	<b>42%</b>	<b>4%</b>	<b>18%</b>	<b>16%</b>	<b>80%</b>

Table 1 - Orbital O2 supply chain analysis

- 2.7 INTERREG has played a particularly important role in our ability to grow with tangible local and national impacts, and especially at international scale, given the programme's cross-border collaboration focus. It made up 100% of the €6.1m of EU-awarded fund to support Orbital between 2017-2020.
- 2.8 We have noticed the impact of such ERDF programmes clearly within our own organisation. We particularly note the support of FORESEA and Ocean DEMO projects respectively to enabling us to access the UK's world leading test facility and to enable EMEC to grow. Thus, contributing to the creation of new partnerships, enhancing knowledge sharing and cross-industry collaboration, two crucial pillars of moving towards R&D commercialisation<sup>2</sup>, as identified by the UK industry group, AIRTO.

- 2.8.1 [FORESEA](#): (Funding Ocean Renewable Energy through Strategic European Action) is an €11M Interreg North West Europe project. Its helps bring offshore renewable energy technologies to the market by providing free access to North-West Europe's world-leading network of test centres. FORESEA supported Orbital from 2017 to 2018.
- 2.8.2 [Ocean DEMO](#): The €13M programme builds on FORESEA to provide funding to developers of marine renewable technologies to test their products or services in real sea environments, specifically targeting multi-machine ocean energy installations. This will allow developers to move closer to market by demonstrating their technologies at full commercial scale. Orbital has been supported by OceanDEMO since 2019.
- 2.9 These projects have placed Orbital, Orkney, Scotland and the UK as a whole on the innovation map in the space of marine energy, particularly across Europe and beyond. Hence, creating economic and commercial opportunities for project partnership and development beyond specific projects.
- 2.10 For the period 2014–2020, Wales will receive European Structural Funds investment worth some £2 billion for the following programmes:
- West Wales and the Valleys programmes
  - East Wales programmes, which include the European Social Fund and European Regional Development Fund.
- 2.11 Welsh Government made available are €100,428,444 EU structural funds prioritised for marine energy in Wales, with a maximum intervention rate of 69.43%. These funds are administered by the Welsh European Funding Office (WEFO). The strategic objective is (3.1) Increase the number of wave and tidal energy devices being tested in Welsh waters and off the Welsh coast, including multi-device array deployments, thereby establishing Wales as a centre for marine energy production.
- 2.12 By dedicating specific support for marine energy and creating a clear signal to support a sector that helps create high value jobs in peripheral coastal communities, has resulted in increased activity in Wales. It would be a positive decision to see Scotland dedicate a similar amount of support under the share prosperity fund to support tidal energy development in Scotland over the next 7 years.

### **3. Announcements made by the UK Government in the 2020 Spending Review for the delivery of the Shared Prosperity Fund in Scotland**

- 3.1 Orbital welcomes the announcements made by the UK government in the 2020 Spending Review for the delivery of the UKSPF, particularly the understanding that UK-wide funding will at least match current EU receipts.
- 3.2 However, increased clarity is required on how the funding will be administered, evaluated, shared across projects, industry areas and development priorities, and

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<sup>2</sup> <https://www.airto.co.uk/wp-content/uploads/2020/03/AIRTO-More-D-Position-Statement-31-MARCH-2020-web.pdf>

across regions and localities. Moreover, the management of the fund requires greater assessment.

Further valuable information would include a breakdown of how the funding will match different forms of EU funding streams, and a clearly defined programme enabling continued cross-regional and cross-country collaboration coupled with high levels of flexibility such that programmes can adapt to the needs and benefits of varying regions and sectors.

- 3.3 The UK has the chance, with the creation of the UKSPF, to learn from the structure and management of ERDF programmes to build upon its successes, whilst improving and streamlining other characteristics. In Orbital's case study section above, we have highlighted the benefits of ERDF funding and different programmes; particularly, their socioeconomic impact across UK regions through their investment, in this case, in the marine energy industry; and their primary focus on cross-regional, national and transnational collaboration programmes.
- 3.4 Moving away from a 'soft policy' approach, in recent years INTERREG has increasingly funded CAPEX and supported the development of world leading tidal technology, which has had a key impact on new market uptake, sectoral incubation and SME development. The UKSPF has an opportunity to play a key role in structuring local and regional economies by driving market uptake of new technologies to support innovative SMEs. To do so, we recommend the UKSPF learn from ERDF improvements to integrate CAPEX funding into programmes, which has proven to develop local market uptake, expanding economic growth and local sectoral stakeholder interests and capabilities.
- 3.5 Inputting a system of quarterly claims would be more work for organisations but would deliver much better cashflow for participating companies, that can be financially constrained.
- 3.6 Building on experiences from EU Cohesion Policy funding and industrial SME uptake of these programmes, we recommend that there is built in flexibility into the management of funding which has direct impact on businesses' cashflow. Strict adherence to public finance rules makes the path towards market uptake of technologies complicated, particularly for disruptive SMEs. There would be added benefit to the UKSPF if it introduced coherence and flexibility in funding claims to adapt to private sector timings, risk and needs. Versus focusing solely on public finance rules.

Moreover, we recommend greater transparency over how programme funds will be managed (INTERREG funds reserved 5% for management and would put this out to tender, for instance). Whoever does manage the funds will have to be open minded regarding funding rules and mechanisms in accordance to the sector and private stakeholders at hand. To have a positive socioeconomic impact in society, there is a need to consider the financial form of operating by private stakeholders versus public finance forms of operation. Finance regulation will hence need to consider normal financial practices of private stakeholders for the most effective use of funds and subsequent economic impact.

- 3.7 The government's SPF announcements within the 2020 Spending Review did not outline any details on the delivery of the Shared Prosperity Fund in Scotland. The sole mention in relation to the UKSPF identified was:

*"The funding for the devolved administrations sits alongside UK-wide government funding, such as ... for the UKSPF. Investment in UK-wide programmes such as these will benefit Scotland, Wales and Northern Ireland."*

- 3.8 Organisations such as EMEC and early stage technology start-up companies such as Orbital, highly dependent on EU funding for our business and industrial success, require greater clarity at policy level to be able to restructure our activity and ensure our continued growth, stability and sustainability following the UK's exit from the EU.
- 3.9 Foresight is required for businesses to adapt to current circumstances carefully and strategically in record time, to maintain international competitiveness. More so, in current times, where economic and development uncertainty brought by the Covid-19 pandemic, at national and international levels.

#### **4 Implications of the financial assistance powers in the Internal Market Bill**

- 4.1 Orbital recognises the need to effectively manage and distribute the Shared Prosperity fund such that it targets the necessary social, economic, innovation and development needs across UK regions.
- 4.2 In this context, there is a crucial necessity, opportunity and UK government commitment to 'level-up' regions across the UK, highlighted in the UK's announcement of the upcoming UK R&D Place Strategy<sup>3</sup> given the government's recognition that R&D, particularly its commercialisation, will be a key driver in the socioeconomic development and international competitiveness of the UK as a whole.
- 4.3 Levelling up will benefit from taking advantage of the knowledge and expertise held within regional and local governments, as well as civil society organisations, of the socioeconomic characteristics, needs, challenges and opportunities in such region.
- 4.4 The new financial assistance powers published in the Internal Market Bill are an initial commitment to where the SPF will be managed from. From our experience, the UK's devolution of territorial cooperation funds management to regional administrations has been efficient and effective both at tackling relevant regional sectors and needs and positioning the UK as a forward-thinking nation.
- 4.5 In similar fashion to the UK government's clear recognition that devolved administrations have a key resource management role in light of the pandemic, as outlined in the government's Spending Review announcement of additional devolved funding<sup>4</sup>, there is room to consider the value of greater regional and local autonomy in the distribution of SPF funding across regional and local priorities.

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[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/896799/UK\\_Research\\_and\\_Development\\_Roadmap.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896799/UK_Research_and_Development_Roadmap.pdf) p.6

<sup>4</sup> <https://www.gov.uk/government/publications/spending-review-2020-documents/spending-review-2020>

- 4.6 There is risk that an increased distance between development fund management and the regions it is set to impact will have adverse consequences or effects, making inefficient use of resources available, targeting misplaced priorities and of greater risk still, leaving key individuals, communities or issues behind.

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