EuropeWave PCP: Design, develop, and demonstrate wave energy converter systems

Prior Information Notice
Additional Information

Dispatch to the Commission: 19 February 2021
Dispatch to the OJEU: 24 February 2021

This procurement receives funding under the European Union's Horizon 2020 research and innovation programme under the grant agreement No 883751.
The EU is however not participating as a contracting authority in this procurement.

Document Information

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Revision	Date	Description	Reviewer
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1 BACKGROUND TO THE EUROPEWAVE PRE-COMMERCIAL PROCUREMENT (PCP)

The EuropeWave PCP action is using public procurement to deliver an EU wide innovation programme to accelerate the development of credible wave energy technology and build confidence in the wave energy sector and its ability to deliver economic rewards.

Public authorities and suppliers will share benefits and costs in a competitive environment to stimulate innovative solutions.

The EuropeWave PCP concept brings together three key elements to achieve these:

- A pre-commercial procurement (PCP) funding model;
- Structured innovation – a stage-gated industrial development process;
- Internationally agreed performance standards and metrics.

These three elements link together to form a development framework that ensures the best technology is developed in the shortest time frame in an environment of engineering rigour.

The EuropeWave PCP pools the resources of two research and development (R&D) funding organisations (collectively the Buyers Group):

- Wave Energy Scotland (WES) of Scotland; and,
- Ente Vasco de la Energía (EVE) of the Basque Country.

These organisations represent two Atlantic-facing Regions that are well placed to reap the environmental, economic, and social benefits of a successful wave energy sector.

The EuropeWave PCP is a €16.3 million investment (excluding VAT) in demand-driven R&D to bridge the gap between conventional public R&D funding and commercial investment.

The EuropeWave PCP receives funding under the European Union's Horizon 2020 research and innovation programme under the grant agreement No 883751. The EU is however not participating as a contracting authority in this procurement.

Further details can be found on the EuropeWave project website (www.europewave.eu).

Pre-commercial procurement is exempted from the WTO Government Procurement Agreement (GPA), the EU public procurement directives and the national laws that implement them. This is because it concerns the procurement of R&D services where the benefits do not accrue exclusively to the contracting authority for its use in the conduct of its own affairs.

Publication of this Prior Information Notice in the EU Official Journal, and elsewhere, is not to be understood as a waiver of this exemption. Publication is made on a voluntary basis and the procurement will not follow the procedures under the EU public procurement directives, but rather the procedure described in any subsequent tender documentation.

2 PURPOSE OF THIS PRIOR INFORMATION NOTICE (PIN)

This PIN is published to engage with the marketplace in relation to an anticipated future contract opportunity. The engagement will inform the scope of the opportunity ensuring that it is attractive to the marketplace and provides a competitive tendering environment.

This PIN is not a Call for Competition.

By issuing this PIN, Wave Energy Scotland does not make any commitment to procure any of the stated services. Any future contract opportunities relating to this PIN will be published in the Official Journal of the European Union (OJEU), on the Public Contracts Scotland portal (the national public procurement portal for Scotland), and promoted widely via relevant industry/sector platforms, Horizon 2020 websites, and appropriate social media platforms.

Wave Energy Scotland, as Lead Procurer acting on behalf of the EuropeWave Buyers Group, may use information, comments, etc., provided in respect of any correspondence relating to this PIN and the future market consultation when compiling any final tender documents but reserves the right not to accept any such information, comments, etc., from any respondent. This decision will be at the sole discretion of Wave Energy Scotland on behalf of the EuropeWave Buyers Group.

This document summarises certain aspects of the anticipated future contract opportunity but does not purport to contain complete descriptions of such arrangements. Any services described in this document are proposals only and should not be taken as final. The recipient of this document should note that the information contained is preliminary in nature and is subject to amendment. No decision has been made as to the form of any commercial exercise and as with all public funded work, it is subject to approval. Accordingly, no reliance should be placed on any information contained in this document and no representation or warranty expressed or implied is being or will be made and no responsibility or liability is being or will be accepted by Wave Energy Scotland or any of its advisers as to the accuracy, adequacy, or completeness, of such information within this document. This document is not intended to form the basis of any investment decision or evaluation by the recipient and does not constitute and should not be considered as a recommendation by any person in connection with Wave Energy Scotland or other parties of the EuropeWave Buyers Group.

No information provided in response to this PIN will be used to make judgements regarding an operator's performance, capacity, or capability, under any future procurement process.

No other tender documentation is available at this time.

3 THE PROJECT

The EuropeWave PCP will be seeking:

- R&D service providers. Developers of wave energy technology to undertake a research and development programme to develop solutions that satisfy the EuropeWave PCP challenge.
- External assessors. External independent experts to support the EuropeWave Buyers Group in evaluating the solutions of the R&D service providers, at entry to the EuropeWave PCP and at intermediate phase gates (Figure 1).

3.1 The EuropeWave PCP Challenge

The overarching challenge is the design, development, and demonstration of cost-effective wave energy converter (WEC) systems for electrical power production that can survive in the harsh and unpredictable ocean environment.

The SET Plan has set ambitious targets for ocean energy technologies, challenging the wave energy sector to reduce its levelized cost of energy (LCoE) over the next fifteen years to at least €0.20/kWh (2025), €0.15/kWh (2030) and €0.10/kWh (2035) [1].

[1] SET Plan Declaration of Intent on Strategic Targets in the context of an Initiative for Global Leadership in Ocean Energy [https://setis.ec.europa.eu/implementing-integrated-set-plan/no-1-renewables-ongoing-work]

Within this overarching challenge, the EuropeWave PCP challenge is to advance the most promising wave energy converter systems to a level from which they can be developed to commercial exploitation through other national/regional programmes and/or private sector investment.

The main technical challenges to be addressed may be expressed in terms of

- Performance – obtain quantitative evidence of appropriate power capture and conversion capability and increase confidence in yield predictions from numerical model simulations.
- Reliability & survivability – demonstrate appropriate levels of availability through reliably prototype operation.
- Affordability – increase confidence in the estimation of the technology costs (capital and operational) and the requirements for achieving the SET Plan's LCOE targets.

3.1.1 Desired Outcome

The culmination of the EuropeWave PCP programme will see prototype 'whole systems' of a substantial scale deployed at the open-water facilities of the European Marine Energy Centre (EMEC) in Scotland and the Biscay Marine Energy Platform (BiMEP) in the Basque Country for a significant duration (circa 12 months) to demonstrate device performance, reliability and cost.

This outcome corresponds to the substantial completion of Stage 3 of the IEA-OES's recently published "International Evaluation and Guidance Framework for Ocean Energy Technology" [2]; the equivalent of achieving technology readiness level (TRL) 6.

3.2 EuropeWave PCP Programme Structure

The EuropeWave PCP programme is expected to progress through three R&D phases. At present, these are identified as:

- Phase 1: Concept development.
- Phase 2: Detailed design / modelling.
- Phase 3: Open-sea deployment and testing programme.

At the end of the first and second phase, evaluations will be carried out to select the best of the competing solutions to progress to the follow phase (phase gates).

A possible structure is presented in Figure 1.

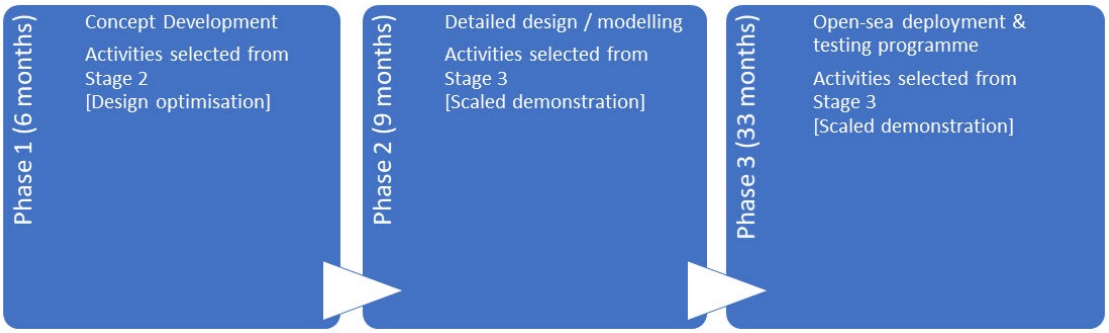

Figure 1: Possible scope for the phases of the EuropeWave PCP programme.
"Stage" refers to the stages of the IEA-OES Framework.
Arrows indicate phase gates.

[2] Published January 2021 [https://www.ocean-energy-systems.org/publications/oes-documents/]

3.2.1 Phase 1 (Concept Development)

To enter phase 1, R&D providers demonstrate sufficient prior work has been undertaken for the proposed technology to have achieved a minimum development stage. This may be Stage 1 of the IEA-OES Framework; the equivalent of achieving TRL 3 (experimental proof of concept) or TRL 4 (technology validated in lab). Phase 1 permits selected R&D providers to optimise concept engineering designs and undertake such physical and numerical modelling as required to establish the technology's characteristics (e.g. performance, survivability etc.). Small-scale tank testing campaigns at facilities in the Member States of the Buyers Group (e.g. IHCantabria in Spain, FloWave in the Scotland) under defined environmental conditions may be necessary to allow the Buyers Group to verify and compare the performance potential of the technology.

3.2.2 Phase 2 (Detailed design/modelling)

Selected R&D providers will continue design development work and preparatory work in anticipation of phase 3. Design work may be supported by numerical and further physical scale-modelling campaigns at facilities in the Member States of the Buyers Group (e.g. IHCantabria in Spain, FloWave in the Scotland) or open-water nursery test sites.

3.2.3 Phase 3 (Open-sea deployment)

Selected R&D providers will finalise the design of their prototype system, at substantial scale and with fully representative subsystems, before proceeding to fabrication, assembly, commissioning, and installation at the open-water test sites of either EMEC or BiMEP. The prototype will be operated for a minimum period.

Phase 3 will conclude with recovery of the prototype to the quayside.

4 MARKET CONSULTATION

The EuropeWave PCP will hold an open market consultation event in the form of a webinar.

All interested operators are invited to participate in the open market consultation (regardless of their geographic location, the size or governance structure of their organisation).

The webinar will have a set agenda and will include presentations from members of the EuropeWave Buyers Group to provide an overview of the procurement objectives, the PCP process, and the principle contractual arrangements. Participants will have the opportunity to ask questions. The webinar will be conducted in English.

Information provided during the webinar and other background information will be published online in English on the project website (www.europewave.eu) as well as o the Public Contracts Scotland portal.

Further details will be published on the project website in due course (www.europewave.eu). Operators registering their interest in the PIN on the Public Contracts Scotland portal will be notified directly.

5 QUERIES

Queries may be raised in advance of the open market consultation using the online "Question and Answer" facility on the Public Contracts Scotland portal. Queries will be collated and addressed during the open market consultation webinar. A written summary of the queries and the responses will be published after the webinar and will be available to all operators that register an interest in the PIN. Queries are raised anonymously so please do not identify the name of your organisation in the question. **The last date to submit a query will be 7 (seven) calendar days prior to the date of the webinar.**

6 LANGUAGE

All communication (before, during and after the procurement) will be carried out in English. All information provided during the open market consultation and other background information will be published online in English on the project website (www.europewave.eu).

7 COSTS

All costs associated with taking part in this process remain your responsibility. We will not return any part of your response to you.

8 DISCRIMINATION

No operator will have an advantage from responding to this PIN or participating in the market engagement event. No information provided at this stage will be considered in the evaluation of any formal tender exercise. An operator may participate in the PCP call for tender even if they did not participate in the open market consultation.

9 INDUCEMENTS

Offering an inducement of any kind in relation to obtaining this or any other contract may disqualify an operator from being considered and may constitute a criminal offence.

10 INFORMATION SHARING

During this process Wave Energy Scotland will act as a "data controller", holding and processing personal data (for example, personal data in the form of contact details of your company's employees).

Information on how Wave Energy Scotland processes personal data can be viewed in our privacy statement (www.waveenergyscotland.co.uk/privacy-policy/).

As part of the open market consultation, interested parties may be asked to complete a questionnaire. Wave Energy Scotland may share these with members of the EuropeWave Buyers Group and external parties to assist the development of the scope for the EuropeWave PCP. Wave Energy Scotland will ensure appropriate measures are in place in respect of confidentiality, impartiality etc.

11 FREEDOM OF INFORMATION

Under the Freedom of Information (Scotland) Act 2002, (FOISA) and the Environmental Information (Scotland) Regulations 2004 (EIRs) Wave Energy Scotland may need to disclose and/or publish any information you provide. In addition, Wave Energy Scotland may consider proactively publishing information about the procurement process and contracts.

For this reason, Wave Energy Scotland does not accept any express or implied duty of confidentiality as regards any information supplied by an operator. The words "In Confidence" or any similar such words on documents supplied by an operator shall have no legal force against Wave Energy Scotland.

Operators should note that Wave Energy Scotland cannot hold information in confidence unless it is genuinely sensitive in nature and therefore information provided may be subject to release. Even where an exemption applies, it may be subject to the tests of substantial prejudice and/or the public interest.