# EuropeWave PCP

## Questions and Answers

## Information Day Webinar – 13th July 2021

EUROPEWAVE

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This project has received funding from the European Union's Horizon 2020 research and Innovation programme under grant agreement 883751.

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## Consortia

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| 90.4 | Is a consortium preferable to solo bids? Are international consortia encouraged? | The term "consortium" has a specific meaning in the RfT, which is a group of operators submitting a joint tender.<br><br>Within the EuropeWave PCP, building a strong project team is encouraged. This may be either through a consortium (a group of operators submitting a joint tender) or through a project team consisting of a single tenderer and a selection of appropriate subcontractors who can support the delivery of the project activities.<br><br>PCP rules dictate that the identity of the tenderer (or the composition of the group of operators submitting a joint tender) cannot change as they progress through the phases.<br><br>However, the subcontractors the tenderer chooses to engage with can, and are expected to, change as they progress through the phases. |
| 90.5 | Is it evaluated positively if you apply as part of a consortium, rather than alone? | |
| 86.1 | Can the members of the consortium be changed during Phase 1, or the point of entry into Phase 2 or Phase 3? | Where a tenderer, which may be either an individual operator or a group of operators submitting a joint tender as a consortium, are successful in being awarded a framework agreement, the identity or composition of that tenderer cannot be subsequently altered as they progress through the phases.<br><br>The tenderer may replace or introduce new subcontractors into their project team as required, subject to the terms and conditions of the framework agreement. |
| 43.2 | Is it possible to form a consortium, including adding members, during Phase 1? | |
| 43.3 | Do consortium agreements need to use a model agreement type, such as Horizon 2020's DESCA (Development of a Simplified Consortium Agreement)? | If the tenderer is a group of operators submitting a joint tender as a consortium, the consortium agreement should be specified and agreed by the constituent operators.<br><br>The Horizon 2020's DESCA may be a suitable example. |

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| 29.2 | Are there any limitation for the lead applicant on using sub-contractors to provide specific services in order to deliver the tender? | Tenders may be submitted by a single operator (with or without subcontractors) or by a group (consortium) of operators collaborating in a joint tender (with or without subcontractors).<br><br>The assembly of a project team (that is, a single operator [with or without subcontractors], or, a group (consortium) of operators [with or without subcontractors]) should consider the capabilities required to progress the design of the proposed wave energy converter system to the state specified in the request for tenders.<br><br>However, it is mandated that the majority of the contracted R&D services, including in particular the principal researcher(s) working for the PCP contract, be located in the Member States of the EU or countries associated to Horizon 2020 (an "Associated Country" as defined in Regulation 1290/2013 Article 2.1(3)). This includes the UK.<br><br>Further information can be located in TD01 (Section 6.4.3). |

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## Eligibility

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| 91 | What are the requirements for the location of the tenderer, and where the project activity takes place? | The EuropeWave PCP is part-funded by the EU Horizon 2020 Framework Program for Research and Innovation and as such the request for tenders must comply with the H2020 rules for PCP actions.<br><br>The EuropeWave PCP is open to all operators on equal terms, regardless of the size, geographical location or governance structure of the operator.<br><br>However, it is mandated that the majority of the contracted R&D services, including in particular the principal researcher(s) working for the PCP contract, be located in the Member States of the EU or countries associated to Horizon 2020 (an "Associated Country" as defined in Regulation 1290/2013 Article 2.1(3)). This includes the UK.<br><br>Tenders must satisfy the following requirements relating to the place of performance of the PCP contract:<br>• The principal R&D staff working on a PCP contract must be located in the EU Member States or an Associated Country (this includes the UK).<br>• At least 70% of the total value of activities in each call-off contract in the PCP must be performed in the EU Member States or Horizon 2020 associated countries (including the UK).<br><br>Further information can be located in TD01 (Section 6.4.3). |
| 17.2 | Does the tenderer count as a principle investigator (and so needs to be in the EU/ cooperating country)? | |
| 23 | If we have already received EU-funding separately to complete comparable development activities to those proposed in EuropeWave, would we still be eligible to bid into the EuropeWave PCP? | The costs for systems that are being, or have previously been, developed elsewhere are not eligible for funding under the EuropeWave PCP. |

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## Entry requirements

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| 105 | What evaluation procedure is used to confirm to objectively state if the technology is at the appropriate development stage to be eligible to participate in the EuropeWave PCP? | The EuropeWave PCP is open to all operators on equal terms, regardless of the size, geographical location or governance structure, as long as the majority of the contracted R&D services, including in particular the principal researcher(s) working for the PCP contract, are located in the Member States of the EU or countries associated to Horizon 2020 (an "Associated Country" as defined in Regulation 1290/2013 Article 2.1(3)). This includes the UK.<br><br>An Evaluation Panel will assess tenders against criteria that will be published in the Request for Tenders documentation pack. The Evaluation Panel will comprise internal assessors, selected from the procurers of the buyers group, and external assessors, who are independent experts selected through an open procurement procedure.<br><br>The Technical Offer (TD05) includes criteria related to demonstrating prior development of the technology ahead of entry into the EuropeWave PCP. These criteria have an associated minimum score threshold of "2".<br><br>The required minimum state of prior development corresponds to the completion of the International Energy Agency's "International Evaluation and Guidance Framework for Ocean Energy Technology" Stage 1 activities for the nine evaluation areas. Tenderers should familiarise itself with these activities.<br><br>Deviations from the recommended prior development activities should be supported by a justification, and an indication of how these deviations are proposed to be mitigated.<br><br>Further details are provided in Sections 1.4 and 2.1 in TD02 PCP Challenge. |
| 30 | What are the eligibility criteria, and can these be satisfied by a start-up with no prior background in the wave energy sector? | |

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| 98.2 | When a proposal is based on a proposed innovation of an existing concept, does the physical modelling required prior to entry have be completed for this proposed innovation, or would the modelling completed for the existing concept be satisfactory evidence? | At entry into the EuropeWave PCP, it is required to have an inherent understanding of how the proposed concept behaves. For example, if a substantial change to the geometry is proposed in order to improve the device response, it would be advantageous to have tested this to provide evidence that the behaviour is in line with expectations.<br><br>This is aligned with the prior development requirements, namely completion of Stage 1 activities in the International Energy Agency's "International Evaluation and Guidance Framework for Ocean Energy Technology".<br><br>Further details are provided in Sections 1.4 and 2.1 in TD02 PCP Challenge. |
| 94.1 | What TRL does the technology need to be at to enter into Phase 1? | The required minimum state of prior development corresponds to the completion of the International Energy Agency's "International Evaluation and Guidance Framework for Ocean Energy Technology" Stage 1 activities for the nine evaluation areas. Tenderers should familiarise itself with these activities.<br><br>This corresponds to a minimum TRL at entry of TRL 3. |
| 94.2 | [Clarification of ID 94.1] | |
| 88 | Is the minimum TRL for entry the programme TRL 3? | |
| 84 | If we already have built a prototype that corresponds to the Phase 3 requirements of the EuropeWave PCP, can we still participate in the programme? | Entries into the EuropeWave PCP can only be made to Phase 1, using the Technical Offer (TD05).<br><br>Where a design is at a state of development that already exceeds that anticipated in the final phase of the EuropeWave PCP, it can still be considered where a robust justification exists for returning to a less developed state. For example, where substantial adaptations of the design have been identified that warrant further R&D activities at the concept development stage and have the potential to provide significant improvements.<br><br>The adaptations and innovations proposed to improve on the existing state-of-the-art should be described in the tenderer's responses to TD05. |

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| 43.1 | Our technology has currently only been tested in regular waves, due to limitations at the test tank we used. How will this disadvantage our application, in relation to the requirement to have completed irregular wave testing prior to entry? | In terms of prior performance testing, it is recommended that tenderers have completed tank testing for a device at approximately 1:50 - 1:20 scale, using appropriate methods to mimic the behaviour of a real PTO. This testing should have covered a range of regular waves and irregular sea states, which provide scaled representation of the target commercial operating conditions, to characterise the functional performance.<br><br>The Technical Offer (TD05) includes criteria related to demonstrating prior development of the technology ahead of entry into the EuropeWave PCP. These criteria have an associated minimum score threshold of "2". These criteria have been included as the early phases of the EuropeWave PCP are short and do not readily allow for further investigation and development of the underlying concept and its principles. Therefore, it is expected that these are well understood at programme entry.<br><br>The required minimum state of prior development corresponds to the completion of the International Energy Agency's "International Evaluation and Guidance Framework for Ocean Energy Technology" Stage 1 activities for the nine evaluation areas. Tenderers should familiarise itself with these activities.<br><br>Deviations from the recommended prior development activities should be supported by a justification, and an indication of how these deviations are proposed to be mitigated. |
| **Evaluation** | | |
| 12 | What is the process of contracting independent external evaluators? When is this process expected to start? | The Request for Tenders (RfT) for the independent external assessors will be published through the Public Contracts Scotland (PCS) portal. Parties with an interest in bidding for the role should register as a supplier on PCS. Publication of the RfT will be advertised on the EuropeWave website and through EuropeWave's social media accounts. |

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| **General** | | |
| 90.3 | Will the environmental impact of the proposed WEC technologies be assessed and/or evaluated within the EuropeWave PCP programme? | It is expected that the proposed technologies will inherently have a positive environmental impact, relative to equivalent methods of traditional power generation. To support this, projects may complete a life-cycle analysis during the latter phases of the EuropeWave PCP.<br>Further information on the environmental impact, and the associated requirements within the EuropeWave PCP (such as Environmental Impact Assessment and environmental monitoring), are indicated in TD02 (Section 2.4.2). |
| 65 | Do projects need to offer a complete WEC solution, or is there room to incorporate appropriate sub-systems development projects within EuropeWave (e.g. PTO development)? | The focus of the funding in the EuropeWave PCP is expected to be on the delivery of a complete WEC solution that can meet the programme requirements of the buyers group. Appropriate sub-systems will be required to deliver this overall wave energy convertor solution.<br>The proposed sub-system solutions should be appropriate for the Phase 3 test sites, the expected environmental conditions, and to enable the targets of the EuropeWave PCP to be met.<br>Sub-system solutions do not need to be conclusively identified and defined at the point of entry into the EuropeWave PCP, but an indication of the expected solution is expected wherever possible. |
| **Intellectual Property** | | |
| 112 | Is a lifetime licence for the IP on a system enough to meet the requirements for IP? | Tenderers need to demonstrate that they have the freedom to operate. This may result from owning the IP or having a suitable licence in place to use the IP. |
| 103 | Are there any issues if the tenderer is not the same as the owner of the IP, for example, where the WEC developer is just a partner in the bid and not the main bidding entity (the 'tenderer')? | |

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| 50 | We have a technology for which we hold patents in various jurisdictions, but another company has advanced this technology beyond TRL 3. Although we have not done this work ourselves, will we be permitted to enter this technology on the basis of work by others? | Tenderers need to demonstrate that they have the freedom to operate, and that they have achieved a minimum state of prior development.<br><br>Freedom to operate may result from owning the IP or having a suitable licence in place to use the IP.<br><br>Achievement of the minimum state of prior development is required through completion of Stage 1 activities in the International Energy Agency's "International Evaluation and Guidance Framework for Ocean Energy Technology".<br><br>Evidence of prior development should be justified through work completed by the tenderer, or which the tenderer has access to. |
| 29.1 | Are patent fees allowable project costs within "TD06 Financial Offer and Cost Breakdown"? | 'Allowable costs' is a phrase that comes from grant support mechanisms. The EuropeWave PCP is not a grant, it is an R&D services contract where we are providing funds to complete a defined scope of work.<br><br>Patent fees may be included in TD06, although tenderers may also feel it will enhance their response by carrying out these additional work or activities at their own costs. |
| **Market** | | |
| 98.1 | Do the full-scale versions of participating WEC technologies have to target future utility-scale power generation, or can they also target non-grid connected commercial markets? | The technologies within the EuropeWave PCP need to be capable of sustained operation in the environmental conditions at any time during the full year at the BiMEP and EMEC test sites during Phase 3.<br><br>Following the EuropeWave PCP, there is no explicit requirement on which markets should be targeted, providing they are commercial markets.<br><br>However, it is expected that the fundamental characteristics of the technology solution are compatible with long term ambitions for utility scale power generation from wave energy. |
| 86.2 | Does the full-scale version of the technology have to be utility scale, or can it be targeted at the needs of another marine industry? | |

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| 96 | Will technologies which enable wave energy to be useful to offshore consumers be of interest in this tender? | The meaning of the question is not fully clear. It is suggested that whoever asked this follows it up with a clarification via PCS.<br>In general, there is no explicit requirement on which markets should be targeted by tendered within the EuropeWave PCP, providing they are commercial markets. |
| **PCS Questions** | | |
| 98.3 | Will replies to the questions asked during the webinar be available online after this webinar, and will there be the opportunity to continue to ask questions during the tender period? | Yes.<br>Questions on the tender documents can continue to be submitted via PCS until Wednesday 15th September 2021. |
| **Request for Tender** | | |
| 90.2 | Can we include photos, sketches or hyperlinks in our written responses to questions within TD05 Technical Offer? | The use of images to support responses in the technical offer (TD05) is encouraged. These can be included within the response on the document itself or may be provided in a separate annex to TD05.<br>Links to webpages should not be used unless specifically requested.<br>Full details are indicated in TD05. |
| 90.1 | Is the financial evaluation (scored 15% in the Phase 1 Request for Tender) only based on Phase 1? How will the price of future phases be evaluated? | The financial offer (TD06) should provide a fixed price for Phase 1 only.<br>Financial offers for Phase 2 and Phase 3 will be provided at their respective call-off competitions. Further details on how these will be evaluated will be published when the respective call-off competitions are launched. |
| 73 | Is it possible to apply for Phase 3 only, or is it necessary to start the process in Phase 1? | Entries into the EuropeWave PCP can only be made via Phase 1.<br>Entries cannot be made directly to Phase 2 or 3. |

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| 68 | What types of insurances are required? | The tenderer must have in place with a reputable insurance company the insurance policies and minimum levels of cover stated in the Request for Tenders, and provide evidence of such, prior to signing any contract. These may vary for each phase call-off contract.<br><br>The insurances policies required for Phase 1 are:<br>• Public liability: minimum cover € 1,000,000 (one million euros) on an each and every claim basis;<br>• (For a tenderer whose place of business is in the UK): Employers' liability with a minimum cover of £5,000,000 (five million pounds) on an each and every claim basis.<br>• (For a tenderer whose place of business is not in the UK): An equivalent policy and cover as mandated in the country of the tenderer's place of business.<br><br>Further information can be found in TD01 (Section 6.3.1). |
| 33 | If we do not require an advance payment, would we still require an advance payment guarantee? | Yes.<br><br>A tenderer must declare that prior to signing the framework agreement and call-off contract for Phase 1, it commits to arrange an on-demand advance payment guarantee from a reputable bank for the value of the mandatory pre-financing payment.<br><br>The pre-finance value requested for Phase 1 must be between 10% to 25% of the Phase 1 fixed price requested by the tenderer.<br><br>Further information can be found in TD01 (Section 6.3.2 and Section 8.3). |

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| Scope – LCOE | | |
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| 86.3 | Have the buyers group specified an LCOE target specific to the EuropeWave PCP, or are EuropeWave projects expected to align with the SET Plan, which is challenging the wave energy sector to progressively reduce its levelised cost of energy (LCOE) over the next fifteen years (through steps of 20 c€/kWh in 2025, 15 c€/kWh in 2030, and 10 c€/kWh in 2035)? | The EuropeWave PCP is to develop designs that yield a levelized cost of energy (LCOE) that is competitive in the design's target market.<br><br>As indicated in the question, the European Commission's Strategic Energy Technology (SET) Plan indicates a progression of LCOE targets over the next fifteen years which is for utility-scale wave energy projects.<br><br>Other commercial markets exist that have different price points for a competitive LCOE. |

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## Scope – Phase 1 testing

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| 101 | What is the expected outcome in the physical testing, in terms of estimating performance in Phase 1?<br><br>For instance, for the case of an OWC device, it would be complicated to model and measure the PTO behaviour, so the wave to wire performance would be difficult to estimate. | The expected outcomes from physical testing in Phase 1 are an estimate of the device performance at the Phase 3 test sites using physical modelling data obtained from testing campaigns, and to have validated numerical simulations against physical modelling data.<br><br>These outcomes will be achieved through the completion of a testing campaign which includes tests in:<br><br>• Relevant operational conditions at an appropriate scale to enable performance estimation, WEC motion and behaviour analysis, and model validation.<br><br>• A set of mandatory long-crested and short-crested wave conditions.<br><br>The PTO model used during tank testing, and its associated control strategies, shall be equivalent, or as close to equivalent as possible, to those expected to be used during Phase 3 operation<br><br>Phase 1 testing activities will also be reviewed by an accredited third party, independent of, but organised by, the developer.<br><br>Further information on the requirements for Phase 1 tank testing can be found in TD02 Annex A. |
| 90.6 | Can we choose where to perform the tank tests in Phase 1, or is a specific facility pre-defined? | Tank testing in Phase 1 must be completed at either FloWave or IHCantabria. |
| 55 | We have previously contacted IHCantabria to try to test our device and found difficulties for testing due to the allowable scale of the model that can be tested in their testing tank. We have subsequently found an alternative testing laboratory for testing at a suitable scale for our requirements - is it possible to use this alternative laboratory?<br><br>If so, please specify conditions for that test. | |

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| 79.2 | What is the expected model scale for the WEC during Phase 1 tank testing?<br><br>Based on the water depth of the basins, the environmental scale will be about 1:20 or 1:25. But if we plan to install a half scale prototype at sea, the 'real scale' of the device will be 1:40 or 1:50. | The scale selected by the tenderer for tank testing needs to be appropriate for the technology, the capability of the tank facility to recreate the required wave conditions, and for the depths of the Phase 3 testing locations.<br><br>To correspond to a minimum of 50m full-scale water depth at FloWave, it is therefore expected that the tests will be completed at 1:25 scale. The IHCantabria basin can accommodate a variable depth, and so may accommodate wider variations in scale.<br><br>Tenderers are also encouraged to follow the guidance in IEC 62600-103, where appropriate.<br><br>Further information on scale for Phase 1 tank testing can be found in TD02 Annex A (Section A.3). |
| 79.6 | [Duplicate of ID 79.2] | |
| 43.4 | Does our PTO need to be fully active in terms of damping control in Phase 1 tank tests? | The PTO model used during Phase 1 tank testing, and its associated control strategies, shall be equivalent, or as close to equivalent as possible, to those expected to be used during Phase 3 operation.<br><br>The control strategies may include, but are not limited to, coulomb, ideal linear, higher order and/or (re)active control strategies. Limitations may occur due to aspects relating to non-linear scaling occurs, or operations within control algorithms, and these should be indicated and tackled pragmatically where necessary.<br><br>Further information on Phase 1 tank testing can be found in TD02 Annex A. |

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| 17.1 | How will the buyers group manage all the teams needing to do their Phase 1 testing over a two-month period in two tanks? | It is up to the tenderers to engage their preferred wave basin facility and to propose a suitable time within their programme to complete their testing. This must allow sufficient time to complete their model build, tank testing, and the associated analysis.<br><br>The tenderer should propose a testing campaign in conjunction with the wave basin facility which allows the mandatory requirements to be achieved at a minimum, and which is of an appropriate duration.<br><br>The two wave basin facilities have been contacted and are aware of the requirement for a number of developers to require access during Phase 1 of the EuropeWave PCP.<br><br>Further information on Phase 1 tank testing can be found in TD02 Annex A. |
| **Scope – Phase 3 open water testing** | | |
| 113 | Do we need to be aware of the specific environmental, engineering and technical conditions of the BiMEP and EMEC open-water facilities at entry to Phase 1? | Details of the BiMEP and EMEC open-water facilities have been supplied within the tender document pack (TD02 PCP Challenge Annex B - Phase 3 Test Site Fact Sheet). This aims to provide sufficient information for tenderers to be able to appropriately address the compliance criteria of "Applicability to Phase 3 test sites" in their technical offer.<br><br>More information on the open-water facilities will be provided to successful tenderers during Phase 1.<br><br>More information on the compliance criteria can be found in TD01 (Section 6.4.6) and TD05 (Section 2.1a). |

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| 2 | The document TD02 Annex B shows that the water depth considered for the BiMEP and EMEC test sites is between 50-70m. Will the tests be performed only in these deep-water zones, or could we also propose test at EMEC in either the shallow-water test zone (approximately 10-20m) or at Scapa Flow?<br><br>Are technologies which target shallow water operation ruled out of applying? | The proposed WEC technology needs to be suitable to be tested at either BiMEP and EMEC, and this is assessed in the technical offer (TD05).<br><br>There is no capability for shallow-water testing at BiMEP, and as such the nearshore, shallow-water test site at EMEC will not be used in this tender.<br><br>It is not proposed to use the Scapa Flow test site. |
| 90.7 | The restriction of a minimum of 50m depth at the test sites may rule out technologies targeting shallow waters. Will this be re-considered, as deep-water applications might not always be the most promising technologies? | |
| 71 | Is it possible to test at the Scapa Flow test site at EMEC? | |
| 79.1 | What is the expected scale of the system which will be deployed in Phase 3 for open water testing?<br><br>The mean annual power density of these sites (18 kW/m at BIMEP, 25-30 kW/m at EMEC) is high for scaled systems, meaning that testing a scaled prototype could be equivalent to testing a full-scale prototype in a site with a mean annual power density of about 100 kW/m. | The buyers group have not specified an explicit scale for the Phase 3 prototype, beyond recognising that it "shall be of a substantial scale and size and shall incorporate fully functional subsystems representative of the anticipated commercial-scale device".<br><br>The scale will depend on the characteristics of the proposed full-scale device, so it is expected that this will be different for different technologies. For example, depending on the proposed full-scale size and rating, the Phase 3 prototype may notionally be 1:2, or 1:1.5, or may be a full-scale 1:1.<br><br>The scale selected by the tenderer needs to be appropriate for the technology, the resource, the budget, and the requirements and targets set by the buyers group.<br><br>Specific measurable targets for the Phase 3 deployment are expected to be set at Phase 2 entry. These will include targets for energy production (e.g. a global target for AEP, or yearly MWh) and availability (e.g. % of time available to generate in operational sea conditions, durations of sustained operation, etc.).<br><br>Further information can be found in TD02 (Section 2 and Section 3). |
| 79.3 | [Question was a continuation of ID 79.1] | |
| 79.5 | [Question was a continuation of ID 79.1] | |
| 19 | Should the prototypes be at a certain defined scale? Also, can higher scale prototypes be deployed and tested in open waters (compared to the wave tank)? | |

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| 79.7 | If it is possible within the constraints of the Phase 3 budget, could we test a multiple device configuration in our Phase 3 open water deployment? | The configuration of device selected by the tenderer for the open water testing in Phase 3 needs to be appropriate for the technology, the resource, the budget, and the requirements and targets set by the buyers group.<br><br>Testing multiple devices is expected to be challenging within the available budget for Phase 3, but providing the needs outlined above can be met, the tenderer is free to propose a configuration of their choosing. |
| 29.3 | €4.5 million seems a very low budget to demonstrate a device at large scale at the EMEC open water test site at Billia Croo. | Projects that progress through all three phases of the EuropeWave PCP can receive up to €5,580,000 in total funding, with Phase 3 projects eligible for up to €4,500,000.<br><br>PCP is the purchase of research and development (R&D) services through an open competitive tendering process. Tenderers must provide a technical offer setting out the proposed scope of work and a financial offer setting out the price for delivering that scope of work.<br><br>A tenderer may prepare its financial offer as it sees fit.<br><br>The overall cost of the complete system may be higher than the maximum budget requested through the EuropeWave PCP, where the EuropeWave scope of work is supplemented by associated activities or the development of interfacing subsystems which are funded through separate programme(s).<br><br>Note, the costs for systems that are being, or have previously been, developed elsewhere are not eligible under the EuropeWave PCP. |
| 27 | Could Phase 3 also include testing of subsystems, prior to their integration into the WEC that is deployed in the open water? | Yes.<br><br>Where appropriate, Phase 2 could also include relevant and justifiable subsystem testing.<br><br>Further details of indicative Phase 2 and Phase 3 activities will be provided at the respective Phase Gates. |