



An Coimisiún
um Rialáil Fóntas
**Commission for
Regulation of Utilities**

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Offshore Grid Connection Asset Treatment

**Supplementary Decision to
CRU/2023/09**

Decision

Reference:

CRU/2023/13

**Date
Published:**

03/Mar/23

Contact

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CRU Strategic Plan 2022-24

Our Mission • Protecting the public interest in water, energy and energy safety.	Our Strategic Priorities • Ensure Security of Supply • Drive a Low Carbon Future • Empower and Protect Customers • Enable our People and Organisational Capacity
Our Vision • Safe, secure and sustainable supplies of energy and water, for the benefit of customer now and in the future	

Executive Summary

This paper provides further details on the regulatory treatment of offshore assets¹ for Phase 1 projects successful in the first offshore auction (ORESS 1). This decision is supplementary to CRU Decision paper [CRU/2023/09](#) published on the 3rd of February 2023 and provides further clarity on the detail of that decision in the areas of:

- Offshore Generator Transmission Use of System Charges (OG-TUoS)
- Post Construction Review
- Asset Transfer Gateways
- Clarifications on offshore regulatory policy

This decision relates to the generation connection policy that will apply to Phase 1 offshore generation projects that are successful in ORESS 1 only (Offshore Renewable Electricity Support Scheme 1). This decision should not be read as applying to Phase 1 projects that are not successful in ORESS 1 or to Phase 2 projects. Further consultation and engagement will be required for the connection policy relevant to these projects.

Since the publication of CRU/2023/09 the CRU has discussed the draft proposals outlined in CRU/2023/09 for this decision paper, in a stakeholder workshop, and bi-laterally thereafter, with each Phase 1 Developer, EirGrid and ESB Networks².

Following careful consideration of feedback from stakeholders, the CRU has decided on the treatment of connection assets with regards to the above topics. These are summarised in below Table 1. Full details of the decision are outlined in body of the paper.

For the avoidance of doubt the decisions set out in this paper do not represent any Decision or Decisions on the offshore asset owner's Revenue Model which will be determined by the CRU at a future date.

¹ Offshore transmission assets and associated onshore transmission infrastructure to be owned by EirGrid that connects offshore generation sites to the existing onshore transmission system.

² EirGrid and WEI written responses to questions posed at the workshop are published alongside this decision as CRU202313c and CRU2023d respectively.

Table 1: High level summary of Decisions

CRU Decision
Offshore Generator Transmission Use of System Charge (OG-TUoS) - OG-TUoS charge (€/kW of MEC) will be a schedule of <u>fixed monthly payments</u> that will be used to recover the CRU determined ATV over a cost recovery <u>period of 30-years</u> from the transfer date of the ATV at a fixed rate of return for OG-TUoS charge setting purposes. - The schedule of payments will be set so that the €/kW OG-TUoS charge <u>recovers a fixed rate of return of 5.25%³</u>. The OG-TUoS charge will remain constant <u>and will not be subject to inflation indexation</u> over the 30-year cost recovery period. - The structure of the OG-TUoS charge is consistent with CRU/2023/09 and the fixed annuity methodology to set the charge has been adopted to provide Developers with predictability, and certainty, regarding the charging methodology ahead of ORESS 1 auction bidding.
Cost Assessment - Post Construction Review (PCR) - Post Construction Review will assess outturn costs in four categories: - Design & Development costs (Devex); - Capital Expenditure (Capex); - Interest During Construction (IDC); and - Transaction costs. - Post Construction Review will be completed over two stages: - Initial Transfer Value (ITV) (starting at between 85-95% completion of asset build) - Final Transfer Value (FTV) (pre asset handover to EirGrid) - Part payment of the ATV may be allowed in exceptional circumstances where issues still outstanding are not material at the Final Operational Notification (FON) Gateway⁴. - Developers are required to submit cost information⁵ for review as part of the PCR process: 1st round of cost information to be submitted at ORESS 1; 2nd round of cost information to be submitted at Final Investment Stage (FID); and - Annually thereafter, - Asset Cost Monitoring and PCR review principles are provided in Annex 2.

³ Reflecting a nominal rate of return with a long-term expected rate of inflation of 2% per annum.

⁴ For example, related to FON certification.

⁵ Cost template is provided in Annex 2.

Asset transfer gateways

- Five one-way sequential gateways prior to assets transferring to EirGrid. The gateways are:
 - Asset Design, Asset Energisation, Asset Testing, start of three-month period of continuous operation, and Asset Transfer.
 - Additional engagement milestones provided for in the design stages of the project.
 - These milestones will not have the status of gateways but will be used by the parties and the Independent Technical Advisor to review progress and settle issues that are emerging as the design develops.
 - FON will be retained as the final formal gateway.
 - It will include a derogations process to deal with matters that need not hold up the transmission asset transfer.

Clarifications on offshore regulatory policy

Clarifications and CRU responses on offshore regulatory policy are provided in the areas of:

- Operations and Maintenance (system operations),
- Guarantee of Availability (GoA), new decision on Post ORESS support GoA, clarification on multiple circuits
- Independent Technical Advisor Role
- Sale and Purchase Agreement and Connection Agreement
- Quality of Functional Specifications
- Firm Access
- Grid Code requirements for offshore

The decisions taken in this paper build on the policies that were decided in CRU/2023/09 and provide further clarity on the detail and implementation of these policies within the parameters set out in CRU/2023/09. For this reason, both CRU/2023/09 and this decision CRU/2023/13 should be read together.

In reaching these supplementary decisions the CRU has been cognisant of the following factors that have influenced its approach:

- The bespoke and separable (i.e., project specific) nature of investment in offshore grid connections that is required for each Phase 1 project successful in the ORESS 1 auction;

- As a consequence, the need for tailored, flexible, policies that support the intended grid connection model for Phase 1 projects, and the consumer benefit case for introducing an offshore Asset Transfer Value (ATV) and generator recharge mechanism⁶;
- The requirement for offshore project developers to submit firm price bids into the ORESS 1 auction shortly and the expectation that policy uncertainty for Phase 1 offshore grid connections may result in additional price buffers/ risk premiums in bids, at a cost to the consumer; and
- Therefore, the importance of these supplementary decisions in providing developers going into the ORESS 1 auction, with as much predictability and clarity as is possible of the approach that will be applied to asset transfer, the setting of an ATV and project specific OG-TUoS charge.

It is in the consumer's interest to mitigate price buffers/ risk premiums in ORESS pricing in recognition that it is the consumer who ultimately will pay for the offshore transmission assets during the ORESS support period, whether via the Public Service Obligation (PSO) levy or Transmission Use of System Charges (TUoS).

With these factors in mind, the CRU has sought to provide further clarity on the principles and approach that it will apply at the Post Construction Review and for the transfer of the asset, including the standard of cost assessment that will be applied and the costs that are expected to be included in the ATV. The CRU has also decided that a long-term fixed annuity charging model will be used to set the OG-TUoS charge as:

- This aligns with the upfront, project specific, investment that will take place in each Phase 1 grid connection; and
- provides predictability and certainty for bidders ahead of auction bidding.

Next Steps

Following publication of this Decision the CRU will seek to progress the wider areas⁷ of the offshore regulatory framework. The CRU expects to begin engagement with stakeholders on the development of the offshore connection agreement in Q2 2023. The CRU will also continue

⁶ See CRU/2023/09 and the previous consultation for discussion of the rationale for these decisions.

⁷ Generator connection and access policy including cost and charging for Phase 2 projects, treatment of unsuccessful projects in ORESS 1, the economic regulation of the TSO and offshore asset owner, licensing and authorisations, and offshore network planning and standards.

engagement with Developers successful in ORESS 1, EirGrid, and ESB Networks to further develop implementation and procedure details that may be required pre Final Investment Decisions.

Public / Customer Impact Statement

This decision is supplementary to CRU Decision paper [CRU/2023/09](#) published on the 3rd of February 2023. That decision provided detail on the treatment of offshore connection assets that Phase 1 offshore Developers will construct and transfer to EirGrid, and for which EirGrid will pay an asset value to the Developers.

This supplementary paper provides further clarity to Phase 1 Developers and EirGrid regarding these assets. This includes detail in the following areas:

- The approach that will be followed for Developers to pay back the asset transfer value to EirGrid over the life of the assets (referred to in this decision as the OG-TUoS recharge mechanism). This process takes advantage of EirGrid's lower cost of financing these assets and, therefore, reduces the cost to the consumer.
- The assets will undergo a Post Construction Review (PCR) by the CRU to value the assets efficiently, saving cost to consumers.
- Five asset transfer gateways are set out in detail so that all parties involved in the transfer can be confident of the timeline and process.

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Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
1999 Act	Electricity Regulation Act, 1999
CAPEX	Capital Expenditure
CRU	Commission for Regulation of Utilities (formerly, Commission for Energy Regulation [CER])
DECC	Department of the Environment, Climate and Communications
DEVEX	Development expenditure
Electricity system	Transmission and distribution electricity systems
EON	Energisation Operational Notification (Grid Code definition)
FON	Final Operational Notification (Grid Code definition)
FTV	Final Transfer Value
GB	Great Britain
GCA	Grid Connection Assessment
GCRP	Grid Code Review Panel
GoA	Guarantee of Availability
HICP	Harmonised Index of Consumer Prices
IDC	Interest During Construction
ION	Interim Operational Notification (Grid Code definition)
ITV	Initial Transfer Value
kW	Kilowatt
MEC	Maximum Export Capacity (in MWs)
MW	Megawatt
MWh	Megawatt hour
O&M	Operations and Maintenance

OFTO	Offshore Transmission (Great Britain)
OG-TUoS charge	Offshore Generator Transmission Use of System charge
OPEX	Operating expenditure
ORESS	Offshore Renewable Electricity Support Scheme
PCR	Post Construction Review
PPM	Power Park Module
REPEX	Replacement expenditure
SEM	Single Electricity Market
TSO	Transmission System Operator (EirGrid), and owner of offshore transmission assets.
TAO	Transmission Asset Owner (ESB Networks, onshore)
TUoS	Transmission Use of System charges, including D (Demand)-TUoS and G (Generator)-TUoS
WACC	Weighted Average Cost of Capital

1. Introduction

This paper provides a supplementary decision on the regulatory treatment of offshore assets⁸ for Phase 1 projects.

This decision is supplementary to CRU Decision paper [CRU/2023/09](#) published on the 3rd of February 2023 and provides further clarity on the detail of the decisions in the area of:

- Offshore Generator Transmission Use of System Charges (OG-TUoS)
- Post Construction Review
- Asset Transfer Gateways

The decisions apply only to Phase 1 offshore generation projects that are successful in ORESS 1. Further engagement and consultations/decisions will be required for connection policy relevant to Phase 1 projects that are not successful in ORESS 1 and Phase 2 projects.⁹

1.1 Purpose of this paper

This paper sets out the CRU decisions on Offshore Generator Transmission Use of System Charge (OG-TUoS), Post Construction Review and the Asset Transfer Gateways for offshore projects successful in ORESS 1.

This paper is structured as follows:

Section 1	Introduction to the context of this supplementary decision
Section 2	Details CRU's decisions for treatment of Phase 1 connection assets for projects that are successful in ORESS 1.
Section 3	Details the further upcoming offshore regulatory work.

⁸ Offshore transmission assets and associated onshore transmission infrastructure to be owned by EirGrid that connects offshore generation sites to the existing onshore transmission system.

⁹ The CRU will begin to assess the requirements for Phase 1 projects unsuccessful in ORESS 1 and Phase 2 projects after the DECC decision on the Phase 2 project selection, due in Q1 2023.

1.2 Related policy documents

This decision should be read in conjunction with the following CRU documents on offshore connection policy.

Table 1 Related policy documents

CRU/2023/09	<i>Offshore Grid Connection Assets Treatment – Phase 1</i>	Decision
SEM-23-004	<i>Firm Access Methodology in Ireland</i>	Decision
CRU/2022/972	<i>Offshore Grid Connection Assets Treatment – Phase 1</i>	Consultation
CRU/2022/968	<i>Offshore Connection Policy – Phase 1</i>	Decision
CRU/2022/51	<i>Offshore Connection Policy – Phase 1</i>	Consultation
CRU/2022/14	<i>Grid Connection Assessment (GCA) – Offshore Phase 1</i>	Decision
CRU/21/112a	<i>EirGrid study “Offshore Phase 1 Projects – Grid Connections Assessment”</i>	Study
CRU/20/020	<i>Offshore Wind Grid Delivery</i>	Direction letter
SEM-15-071	<i>Process for the calculation of Outturn Availability</i>	Decision

2. Offshore grid connection asset treatment

This section presents the CRU decisions regarding the treatment of Phase 1 offshore transmission connection assets and related onshore assets up to the onshore grid connection interface – i.e., contestable connection assets transferring to EirGrid.

The CRU's decisions regarding the treatment of these assets and related policy is set out in this section across the three areas listed below:

2.1 Offshore Generator Transmission Use of System (OG-TUoS) charges: The mechanism through which EirGrid will recharge the Asset Transfer Value (ATV) back to the offshore Developer and which will apply to generators' use of the offshore grid connection assets.

2.2 Post Construction Review (PCR): The ex-post cost assessment, or PCR, used to determine the final ATV value, involving careful consideration of expected costs (as set in the auction), actual project costs, and technical details submitted by the Developer.

2.3 Asset transfer gateways: The process to achieve asset transfer of the offshore transmission connection assets from the Developer to EirGrid (as the offshore asset owner), including when it takes place and under what conditions.

2.1 Offshore Generator TUoS (OG-TUoS)

Decision Summary

- The Asset Transfer Value (ATV) for Phase 1 projects will be recovered through a mechanism that will recharge the cost of the transmission assets back to the generator through a new project specific 'Offshore Generator TUoS' charge.
- The OG-TUoS charge (€/kW of MEC) will include a schedule of fixed monthly payments over a cost recovery period of 30-years from the transfer date of the ATV, at a fixed rate of return for OG-TUoS charge setting purposes.
- The schedule of payments will be set so that the €/kW OG-TUoS charge recovers a fixed rate of return of 5.25%¹⁰. The OG-TUoS charge will remain constant and will not be subject to inflation indexation over the 30-year cost recovery period.
- The structure of the OG-TUoS charge is consistent with CRU/2023/09. A fixed annuity methodology to set the charge has been adopted to provide Developers with predictability and certainty ahead of ORESS 1 auction bidding.
- This decision will only apply for the purposes of fixing the OG-TUoS charge that will apply to offshore generators. It does not prejudice any future regulatory decision by the CRU regarding the offshore asset owner's Revenue Model.¹¹

Context

In decision paper (CRU/2023/09), the CRU decided that:

The ATV for Phase 1 projects will be recovered from generators through a mechanism that will recharge the cost of the transmission assets back to the generator through a new project specific 'Offshore Generator TUoS' charge.

The offshore generator recharge mechanism will accommodate a final ATV determined by the CRU following an ex-post cost assessment (Post Construction Review - PCR) ahead of asset transfer. Details of how the ex-post cost assessment is expected to work are outlined in section 2.2 below.

EirGrid will recharge the ATV back to the offshore Developer via this new project specific 'Offshore Generator TUoS' charge which will apply to generators' use of the offshore grid

¹⁰ Reflecting a fixed nominal rate of return with a long-term expected rate of inflation of 2% per annum.

¹¹ Including the allowed rate of return on its Regulated Asset Base (RAB) to be determined at a later date.

connection assets. The 'Offshore Generator TUoS' charge will recover the ATV over a cost recovery period determined by the CRU at a fixed rate of return on capital.

The CRU set out in CRU/2023/09 a proposed structure for the OG-TUoS charge and a set of draft principles for how the OG-TUoS charge would be determined.

Stakeholder feedback

The CRU has been provided with feedback from Developers and EirGrid on the proposed OG-TUoS charging mechanism under the following themes:

- Developers requested as much clarity and predictability as possible regarding the structure and price setting principles of the OG-TUoS charge.
- Certainty and simplicity were noted as being essential for bringing ORESS bid costs down and avoiding price buffers/ risk premiums in bids.
- Developers preferred methodology for setting the OG-TUoS charge was an annuity model with a single rate of return set up front, accompanied by a clear description of the calculation approach in the supplementary decision paper.
- Developers proposed that Phase 1 projects should receive a Harmonised Index of Consumer Prices (HICP) indexed capital charge using a 30-year depreciation (cost recovery) period.
- Developers raised concerns around the high levels of uncertainty associated with draft principles set out in CRU/2023/09 and considered this would negatively impact upon ORESS bid pricing unless further details were provided.

Decision

The CRU has considered stakeholder feedback on the draft principles that were set out in the Decision Paper CRU/2023/09 and has decided to make a number of updates to the principles that will be followed to set the OG-TUoS charge around the time of the FTV determination date.

Table 2 overleaf sets out the structure and methodology that will be followed to set the OG-TUoS charge for Phase 1 projects successful in the ORESS 1 auction. Further guidance on some specific issues is provided below and the CRU has also provided an illustrative Excel workbook (Appendix 1 – CRU202313a) published alongside this decision with a worked example of how the OG-TUoS charge will be calculated.

For the avoidance of doubt the decisions set out below apply only for the purposes of setting the OG-TUoS charge and do not apply to the Offshore asset owner's Revenue Model which will be determined by the CRU at a future date.

Table 2 Structure and methodology for setting the OG-TUoS charge.

Element	Description
Structure of charge	€/kW, charged on the basis of an offshore generator's MEC at the operational date.
Charging Period	OG-TUoS will be invoiced on a monthly basis. The first OG-TUoS payment will be made at the end of the month in which the transfer date occurs, and the end of each subsequent month thereafter.
Applicable costs	The project ATV, as determined by the CRU at the time of the FTV decision, and a fixed rate of return 5.25% ¹² that will apply over the cost recovery (depreciation) period of the ATV. Operational expenditure is excluded from the OG-TUoS charge.
Basis of ATV	Provided they are economic and efficient, the ATV will be set with reference to the actual costs incurred by the applicable generation project in constructing the offshore grid connection subject to the conclusions of the CRU's PCR.
Period of ATV recovery	30-years
Price setting principles	The OG-TUoS charging schedule will be fixed at the time of the CRU's FTV determination. No inflation indexation will apply to the OG-TUoS charge over the 30-year period of the ATV recovery. The schedule of fixed monthly OG-TUoS payments will be determined by the TSO at the CRU's FTV determination using the MS Excel PMT function. An example is provided in Annex 1 to this decision and in the accompanying illustrative Excel workbook (Appendix 1 – CRU202313a).
Other T&Cs	In addition to the payment of standard G-TUoS, offshore generator access to the transmission system will be conditional on its payment of the OG-TUoS charge, unless a derogation is granted by the CRU. Any late payment of OG-TUoS charge will attract interest at a rate to be determined by the CRU at least 12 months prior to the FTV decision.

¹² Reflecting a fixed nominal rate of return with a long-term expected rate of inflation of 2% per annum.

Other charge setting principles and mechanisms.

- Where a generator is required to incur additional costs, as a result of a System Operator Preferred Build (SOPB) specification for assets that will transfer to EirGrid, the generator will be entitled to recover these additional costs in the ATV, subject to the CRU's assessment as part of the PCR, but they will be excluded from the OG-TUoS charge.¹³ Additional costs incurred as a result of a SOPB for assets that will transfer to ESB Networks will follow the standard onshore connection process.¹⁴
- The rate of return that will be used to set the OG-TUoS charge will be fixed at 5.25%. The rate of return is considered consistent with a plausible current range for the cost of capital by reference to standard benchmark parameters, currently used by the CRU in the Capital Asset Pricing Model (CAPM) for its price control regulation of onshore networks, and recent (6-month trailing average) data of benchmark yields published by iBoxx for corporate A and BBB (i.e., investment grade rated) long-term debt. This fixed rate of return will be used for OG-TUoS charge setting purposes only.¹⁵
- Any additional capex or repex that is incurred during the period of the connection agreement will not be recovered from the project specific OG-TUoS charge:
 - Where additional capex or repex is incurred for remedial works, the CRU expects these costs will be managed and recovered, in the first instance, by EirGrid employing commercial solutions, e.g., drawing on the benefit of warranties or insurance, or alternatively the cost will be recovered as Allowed Revenues¹⁶ via a

¹³ That is, the additional costs will not be recovered from the OG-TUoS charge, and the offshore asset owner will recover the additional costs of the investment from another TUoS charge.

¹⁴ That is, the generation Developer will be provided with a capital contribution through its connection agreement and the additional cost will be recovered from use of system charges rather than from the connecting parties, subject to usual regulatory scrutiny with respect to the appropriateness and efficiency of the investments.

¹⁵ For the avoidance of doubt, this rate of return should not in any way be considered a decision by the CRU of the future allowed rate of return that the offshore asset owner will be permitted to earn on its RAB when determining its future Allowed Revenue requirement. The rate of return proposed will be used solely for OG-TUoS charge setting purposes for Developers successful in ORESS 1.

¹⁶ Provided that the EirGrid can demonstrate, to the CRU's satisfaction, that the cost that was incurred was economic and efficient and not recoverable from warranties EirGrid benefited from following asset transfer and/or claims arising from EirGrid having followed good industry practice in relation to the package of insurances in place for its offshore transmission assets following asset transfer. This scenario will be considered further as part of the future development of EirGrid's Revenue Model.

use of system charge other than Offshore Generator-TUoS (e.g., Offshore Grid Charge [D-TUoS]).

- Should the generator request and/or agree to the scope and timings of any proposed upgrades or investments to the transmission assets, to facilitate any future extension period beyond the connection agreement, then this will be agreed under a separate charging mechanism that will be consulted on and determined by the CRU at a future date.
- At the sole discretion of the CRU, costs that are included in the ATV paid to the Developer at the transfer date may be excluded from the calculation of the offshore generator's OG-TUoS charge if:
 - the Developer has incurred these costs and they are considered economic and efficient for the purposes of setting the ATV;
 - these costs are considered by the CRU as having been not reasonably foreseeable by the Developer at the time of ORESS 1 bidding; and
 - the Developer can demonstrate, to the CRU's satisfaction, that the costs are solely the result of changes to the specifications of the transmission system assets that were outside its control.

The CRU will set a high evidential bar for costs that Developers seek to exclude from OG-TUoS. Developers will need to demonstrate that:

- The criteria set out above for costs to qualify, in principle, for an exclusion from the OG-TUoS charging base are met;
- The additional costs are a material change to the level of expenditure incurred by the Developer; and
- The claim was appropriately identified at the time the additional cost was incurred and notified to the CRU.

All claims to exclude costs from OG-TUoS will be reviewed and determined on by the CRU at the PCR.

Rationale for the CRU decision:

In reaching its supplementary decisions the CRU has been cognisant of the following factors that have influenced its decision:

- The bespoke and separable (i.e., project specific) nature of investment in offshore grid connections that is required for each Phase 1 project successful in the ORESS 1 auction;
- As a consequence, the need for a bespoke OG-TUoS charging policy that supports the grid connection model for Phase 1 projects and the consumer benefit case for introducing an offshore ATV and generator recharge mechanism; and
- The requirement for offshore project developers to submit firm price bids into the ORESS 1 auction shortly and therefore, the importance of these supplementary decisions on the OG-TUoS charge providing as much predictability and clarity as is possible for developers ahead of the auction.

The CRU considers:

- The fixed annuity model provides Developers with the required certainty and clarity that Developers have indicated they require in order to submit ORESS 1 bids that do not include a considerable risk contingency.
- Given the short timeframe between the supplementary paper and ORESS 1 bidding, the annuity model, with its fixed rate of return and no outturn inflation indexation, represents a straightforward charge, that is entirely predictable, for Developers to incorporate in financial models ahead of bid submission.
- A fixed annuity is therefore in the consumer's interest by helping to mitigate price buffers/ risk premiums and in recognition that it is the consumer who ultimately will pay for the offshore transmission assets during the ORESS 1 support period, whether that is via the Public Service Obligation (PSO) levy or via Transmission Use of System Charges.

In reaching its decision, the CRU has sought to balance a range of charging methodology design criteria in setting the OG-TUoS charge structure, namely cost reflectively, predictability, transparency, non-discrimination, and simplicity, provided the latter design criteria does not fundamentally conflict with the other criteria:

- The charging structure and methodology, in the CRU's view, balances the design criteria in seeking to be both cost reflective¹⁷ and as predictable and simple as possible for offshore

¹⁷ The OG-TUoS charge will recover the project specific ATV and a fixed rate of return that is consistent with a plausible range for the opportunity cost of capital that might apply if the offshore asset owner were to finance the asset with a mix of debt and equity at market benchmark rates today.

generation Developers to understand and forecast ahead of the forthcoming ORESS 1 auction bidding process.

- The price setting principles – namely a fixed annuity payment over the 30-year cost recovery period – will, in the view of the CRU, deliver a balanced outcome in terms of the profile of cost recovery from offshore generators, as compared to the current expectations of the likely profile of the offshore asset owner's allowed revenue requirement.¹⁸

The CRU has carefully considered offshore developers' proposal to index the OG-TUoS charge to HICP but has decided on a fixed annuity model for the following reasons:

- A fixed annuity approach aligns with the principle that bidders are shortly making firm long-term pricing decisions for the forthcoming ORESS 1 auction, and they will make a fixed, predictable, contribution to the cost of investing and financing the offshore grid over the cost recovery period for these separable (project specific) investments.
- The revenue recovery profile is more front-end loaded, resulting in greater cost recovery during the contracted ORESS support period and on balance less consumer risk relative to an indexed annuity, recognising that consumers will bear the risk if the rate of outturn inflation is significantly different to a long-term expected rate of inflation.

The CRU has decided that the OG-TUoS charge should be set using a 30-year ATV recovery period because:

- This cost period is expected to align with the expected economic life of the transmission assets and the associated generation assets and will match to the period of the connection agreement for Phase 1 projects.
- A longer period will spread out the recovery of the transmission asset cost from consumers, supporting intergenerational equity in that consumers beyond the ORESS 1 contract period are also likely to benefit from the renewable power that will be transmitted from the relevant transmission assets.

¹⁸ That is, a constant annuity profile for the OG-TUoS charge should help to match the expected profile of the asset owner's Allowed Revenues under its revenue model for a given expected rate of inflation.

2.2 Post Construction Review

Decision Summary

At a high level, the Post Construction Review decision has not changed from CRU/2023/09 but has been further detailed in this decision. In summary:

- Post Construction Review will assess outturn cost in four categories:
 - Design & Development costs (Devex);
 - Capital Expenditure (Capex);
 - Interest During Construction (IDC); and
 - Transaction costs.
- Post Construction review will be completed over two stages:
 - Initial Transfer Value (ITV) (starting at between 85-95% completion of asset build)
 - Final Transfer Value (FTV) (pre asset handover to EirGrid)
- Part payment of the ATV may be allowed in exceptional circumstances where issues still outstanding are not material at the Final Operational Notification (FON) Gateway¹⁹. Developers are required to submit cost information²⁰ for review as part of the PCR process:
 - 1st round of cost information to be submitted at ORESS 1.
 - 2nd round of cost information to be submitted pre Final Investment Stage (FID); and
 - annually thereafter.

Asset Cost Monitoring and PCR review principles are provided in Annex 2.

Context

In the decision paper (CRU/2023/09) the CRU concluded that offshore transmission assets should transfer to EirGrid at their economic value, requiring an ATV to be set. As part of its decision, the CRU indicated that the transfer process would include a two-stage PCR to set the ATV. The post construction review will comprise a forensic accounting review and a technical review that will be used to first set an ITV, followed by an FTV. DECC's ORESS 1 Terms and Conditions will be updated to require the provision of a baseline set of transmission asset cost data in order to provide a reference point for the PCR processes.

¹⁹ For example, related to FON certification.

²⁰ Cost template is provided in Annex 2.

Stakeholder Feedback

Developers provided feedback on the PCR decision under the following themes:

- A request for further information on the level of detail and status of the baseline cost data to be provided alongside their ORESS 1 bids;
- A need to understand the extent of, and categories of, cost that can be recovered via the ATV;
- A request for further information on the approach to cost assessment, in particular the tests that will be applied to costs, and the basis on which costs might be disallowed and unrecoverable via the ATV; and
- The need for a timely dispute resolution process to support the asset transfer process.

Developers also commented on timing and other process issues related to the PCR, including the number of cost assessment stages undertaken. The CRU has also provided an opportunity for both EirGrid and ESB Networks to feedback comments on these issues.

Decision

The CRU has decided that an asset transfer payment will be made to Developers of ORESS 1 projects on a transfer date that will follow a proving period. This process requires the setting of a transfer value via a PCR process which will have two stages – the ITV and FTV.

The PCR creates a substantial data requirement, and forensic reviews by their nature are time consuming. At the same time the CRU wishes to avoid an overly burdensome process and considers that the asset needs to be substantially complete for a meaningful initial assessment of the ATV to be undertaken by the CRU.²¹ Taking these factors and stakeholders feedback into consideration, the CRU has decided on the following timings for the PCR:

- The ITV assessment will start between 85-95% completion of asset build, following notification by the Developer.
- The FTV assessment will take place before asset handover to EirGrid provided that Interim Operational Notification (ION) has been granted and the request from the Developer is no less than 8 months after the ITV stage was triggered.²²

²¹ This is consistent with international precedent, in particular the GB OFTO market.

²² See Annex 1 for further discussion of timings and conditions on the stages of the PCR.

These timelines for the PCR stage have been set to facilitate the proving period lasting a minimum of 12 months and a maximum of 18 months. The exact timings of the ITV assessment will be discussed and agreed with Developers, depending on specific project requirements in each case, but the CRU will leave sufficient time to complete its assessment and prevent undue pressure on the PCR and the asset transfer process more generally.

The PCR process will assess outturn cost in four categories: Devex, Capex, IDC, and Transaction costs. It will focus on the evolution of costs over the course of design and construction.

The Developers will also be required to make cost information submissions as part of the ORESS 1 auction process, pre-FID and annually during construction. Updates post ORESS 1 are expected to be more granular to track variances and other details during the construction period. CRU will provide a more detailed template for Developers' a pre-FID submission in due course. A template for capturing initial cost information at ORESS 1 is outlined in Annex 2 and published in an Excel workbook alongside this paper as Appendix 2 - CRU/2023/13b.

The CRU has also decided that, at its discretion, it may direct part payment of the ATV in circumstances where issues still outstanding are not material at the Final Operational Notification (FON) gateway²³, or there is an outstanding dispute in relation to the ATV. This is to ensure that:

- issues that should not prevent transmission asset transfer, such as a delay to FON certification, do not delay payment of an ATV; and
- to provide a mechanism for partial payment of the ATV where a dispute on elements of the ATV between the CRU and the Developer is ongoing.

The option for the CRU to direct partial payment of the ATV exists solely at the CRU's discretion in both cases, to mitigate risks to consumers and facilitate timely delivery.

The PCR will apply the tests of good industry practice, economy, and efficiency to Developer outturn cost submissions. The expectation is that all assessed costs will be recovered via OG-TUoS, with scope for limited exceptions and a high bar for classification of cost as an exception. The process and criteria for excluding costs from the calculation of the OG-TUoS charge – but where they are included in the ATV following the PCR – is set out in section 2.1.

Annex 2 provides CRU's cost assessment and PCR principles. It includes a draft timeline for the stages of the PCR. It draws on practice applied elsewhere e.g., in the Great Britain Offshore Electricity Transmission (OFTO) market. As such, much of the content should be familiar to

²³ For example, related to FON certification.

Phase 1 Developers. The CRU may update its guidance over time to reflect its experience of conducting PCR processes, however, the underlying principles are not expected to change significantly.

Other relevant issues

Several Developers raised a concern about the potential for disputes in relation to the ATV set via the PCR processes. The CRU will consult in due course on an Offshore Connection Agreement and associated agreements. The Offshore Connection Agreement is intended to contain a mechanism for an accelerated dispute resolution process. Although the agreement is yet to be developed, the CRU anticipates that it will include the following:

- An expectation that Developers will flag issues about changing costs early. The PCR guidance provides for regular updates to the cost of the transmission assets.
- The CRU will appoint expert technical advisors and accounting experts to support the PCR processes and report to the CRU. These advisers will have the benefit of the regular updates provided to the CRU during construction and access to Developers, EirGrid, ESB Networks, and the Independent Technical Advisor (ITA) as appropriate.
- The CRU, acting reasonably and independently, will make the final determination on disputes relating to the ATV.
- Disputes on the FTV will be decided within a 3-month period and will take into consideration any dispute related matters raised.
- As noted above, the CRU will have discretion to direct the payment of a portion of the FTV at FON gateway irrespective of there being a dispute outstanding, i.e., some portion of the total ATV could, at the CRU's discretion, be paid prior to the dispute being concluded and providing there is an indicative timescale agreed to reach resolution. See section 2.3 for further commentary on ATV in relation to FON.

2.3 Asset transfer Gateways

Decision Summary

- The CRU has retained the four staged asset transfer gateways as set out and proposed in CRU/2023/09 with the addition of the changes set out below, including a fifth gateway between ION and FON.
- The CRU has decided that there should be additional engagement milestones in the design stages of the project. These milestones will not have the status of gateways but will be used by the parties and the Independent Technical Advisor (ITA) to review progress and settle any issues that emerge as the design develops.
- The CRU has decided that the start of the period of continuous testing will form an additional fifth formal gateway. The CRU also confirms that the three-month period of continuous testing is not intended to be used to extend the process for reasons unconnected to the testing of the assets for the purposes of the proving period.
- The CRU has decided that FON will be retained as the final formal gateway, but it will include a derogations process to deal with matters that should not hold up the transmission asset transfer.

Context

In the decision paper (CRU/2023/09) the CRU proposed that the asset transfer process would have four gateways: detailed design, Energisation Operational Notification (EON), Interim Operational Notification (ION), and Final Operational Notification (FON). These one-way gateways provide common points at which an ITA will assess progress and intervene if required to maintain momentum towards asset transfer. Passing EON will trigger a (maximum) 18 month proving period during which the transmission connection assets to be owned by EirGrid will be tested and commissioned. The proving period will last for a minimum of 12 months and include a three-month period of uninterrupted asset operation to validate performance.

Stakeholder Feedback

Developers generally welcomed the CRU's approach of setting gateways and supported the use of the ITA to monitor progress and maintain momentum but, raised several points related to the process:

- Given the nature of the functional specifications, there was consensus from Developers that there should be additional gateways in the design process. However, EirGrid remains concerned that it should avoid importing risk around the design to itself; its approach has been to provide high level specifications to provide the maximum amount of scope for innovation and use of Developer technical expertise in these advanced Phase 1 projects.
- There is concern about the three-month period of continuous operation and a request for exemptions, e.g., if EirGrid, ESB Networks and/or any 3rd Party requires that operations cease for a reason unrelated to their testing programme.
- Developers raised concerns that use of FON as the final gateway could introduce unnecessary delay into the process, as FON certification can be held up by technicalities that are unrelated to the performance and operation of the offshore transmission connection assets.
- There is support for the ITA but concern that an appointment by EirGrid will reduce the neutrality of the role. Developers also indicated that the ITA appointment will need to be for an extended period, i.e., around 7 years. (See section 2.4.3 for CRU response to this point).
- Developers are concerned around the proposed length of the proving period. They pointed to uncertainty on the related functional specifications for testing and commission and to the limited resources of EirGrid and the CRU. At this stage the collective view of Developers is that they cannot provide a definitive view on the sufficiency of the period.

Decision

Proving period Gateways

During the design phase, the CRU expects Developers and EirGrid to work together constructively to ensure that the designs used for procurement purposes meet the technical and operational requirements for integration into the transmission system. The ITA is expected to support this process.

EirGrid and each phase 1 Developer should agree a small number of project specific milestones early in the design stages. The ITA is expected to be involved in facilitating the resolution of important issues that may impact the progress of design and procurement related activities. These milestones will not have the same status as Gateways but will be project specific milestones included within the project programme that the CRU will expect EirGrid and the relevant project Developer to agree. The CRU, via the ITA, will monitor that such a schedule of milestones supporting the design stages is agreed expeditiously, and that EirGrid and the

Developer are working together constructively to progress these project milestones and other concurrent design activities.

The milestones should be used to address issues, such as interpretation of the requirements of the functional specifications, to reach common understanding and support progression. Developers, EirGrid, and ESB Networks, as appropriate, may look to the ITA to help facilitate pragmatic resolutions to any of the issues. However, there will be a facility within the Connection Agreement to refer unresolved disputes to the CRU. CRU decisions will be final, and any cost consequences will be considered as part of the PCR processes.

As a point of clarification, the CRU confirms that it is not the intention that the period of three months of uninterrupted operation of the assets can be used to extend the process for reasons unconnected to the testing of the assets, for the purposes of the proving period and proceeding towards asset transfer.

The CRU has decided that the start of the three-month period of continuous operation will form a further formal gateway in the period between ION and FON which, will also incentivise all parties to agree a suitable timescale and resources and to engage positively in progressing all matters, and to resolve any issues arising. This gateway will act as a trigger for the ITA to monitor the performance of the assets in operation, and for all parties to begin preparations for FON and asset transfer.

The CRU notes concern around the use of FON certification. As a result, the CRU has concluded that the FON gateway will be accompanied by a derogations process, such that failures to achieving all FON certification need not delay the payment of the ATV, providing that such failures can be remedied with best endeavours within a defined timescale, and that they are not material in nature. Developers, and EirGrid as appropriate, will be required to remedy and complete any outstanding items in a timely fashion and the CRU may withhold a portion of the ATV pending final certification.

An accelerated dispute resolution process will be included in the consultation on the Offshore Connection Agreement. The CRU does not anticipate using an external dispute or arbitration service given the risk that such a process could cut across its duties.

Proving period duration

The CRU considers that an 18-month proving period is achievable. However, it recognises that there will be additional challenges in relation to Phase 1 connection assets where the processes are relatively new, and all parties are developing their understanding of what is required to successfully handover the assets and support operations. The CRU has decided that 18 months

will remain the target duration that all parties should seek to achieve, however, for Phase 1 it will consider extensions past the 18 months in exceptional circumstances, via a CRU derogations process.

Independent Technical Advisor (ITA)

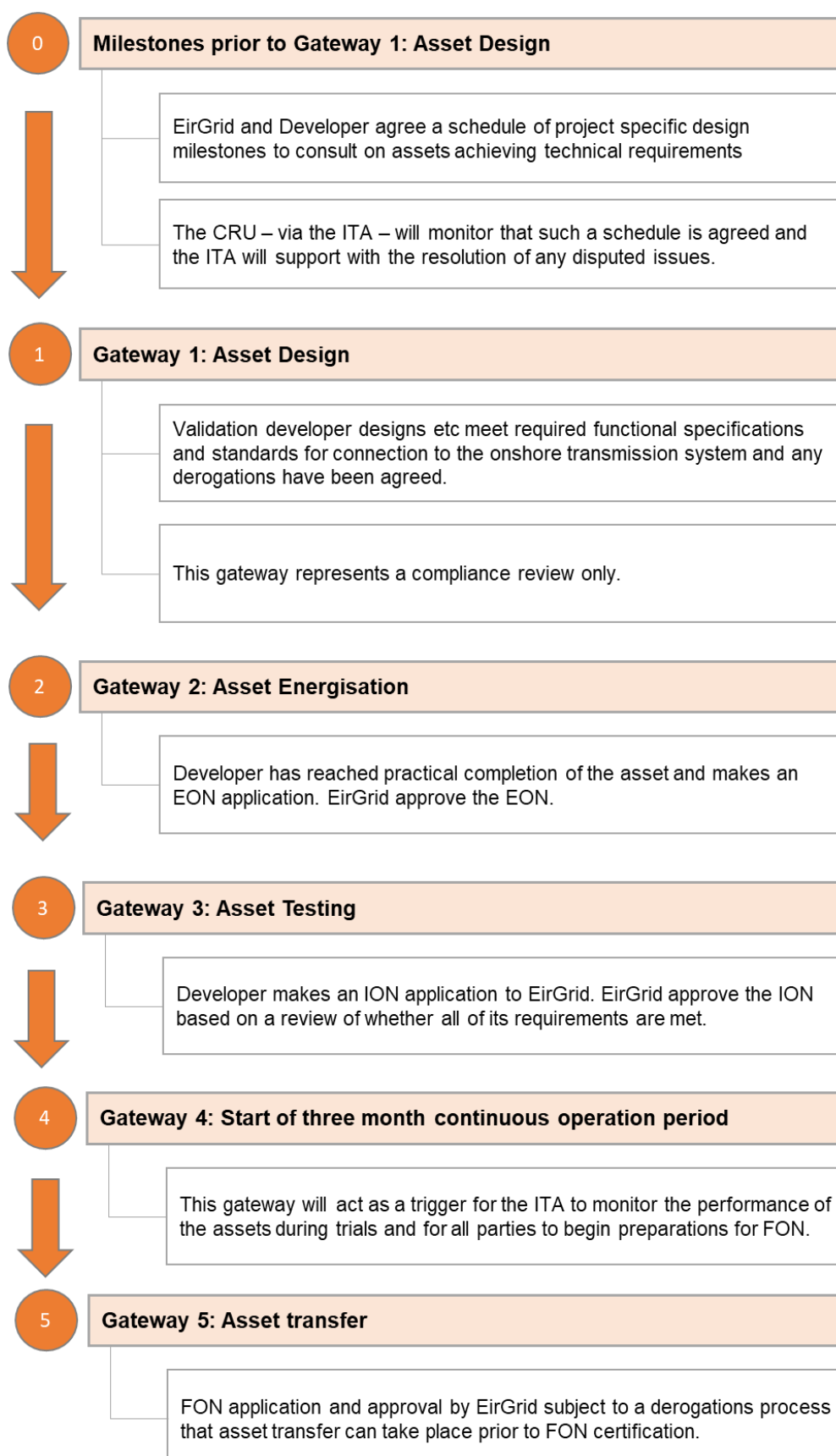
The CRU notes the comments and feedback received on the ITA and its role. The CRU regards the establishment of an ITA as urgent and has commenced engagement with EirGrid with respect to the role.. The CRU continues to consider the precise parameters of the ITA role and, in that context, will continue to consider the comments and feedback on the ITA and its role received to date.

Asset Transfer Gateway status and implementation

The decisions in CRU/2023/09 and this supplementary decision paper will take precedence over any other documentation or conditions related to the asset transfer process. The CRU requires EirGrid to produce a detailed implementation document for the asset transfer and gateway process, including definitive gateway acceptance criteria, that reflects the decisions above and in CRU/2023/09.

For the benefit of clarity, Figure 1 below provides a high-level summary of the intended Asset Transfer Gateway process.

Figure 1 High-level summary of Asset Transfer Gateway Process



2.4 Clarifications on offshore regulatory policy

2.4.1 Operations and Maintenance

In decision CRU/2023/09, the CRU decided that there will be a single-stage asset transfer process for offshore transmission assets, and a single-stage approach to Operations & Maintenance (O&M) for all Phase 1 projects, where EirGrid's responsibilities commence at operational handover, following the completion of the asset transfer. The CRU expects EirGrid to have undertaken and completed all advanced O&M readiness and logistic support requirements in the lead up to asset transfer to ensure there are no disruption(s) to operations.

That decision did not detail whether EirGrid would take on control of system operation of the offshore transmission assets at Energisation (as per ESB Networks onshore assets), or whether the Developer would retain control of system operation during the proving period, until operational handover following the completion of asset transfer.

Wind Energy Ireland (WEI) requested clarification on this detail and stated that the mix of responsibilities, if EirGrid take control of system operations at Energisation, may impede the Developer's commissioning and proving of the offshore transmission assets and should be avoided.

Following further discussion with WEI and EirGrid, the CRU would like to clarify the following.

EirGrid's initial draft O&M functional specification OFS-GEN-009 referred to "system operations", for assets to be owned by EirGrid, as being the responsibility of EirGrid during the proving period. This could be interpreted to include all areas of activities for operating electric power systems, such as drafting and approving switching plans for the offshore transmission assets, and executing switching commands, etc. As the Developer will be commissioning these assets prior to, and possibly during, the proving period, these activities should remain the responsibility of the Developer until the single stage O&M transfer.

However, the combination of the offshore wind farm and the offshore transmission assets will need to comply to the requirements of a controllable Power Park Module (PPM), as applicable, either at the offshore connection point or the onshore grid interface point. To that end, the combination of the wind farm and offshore transmission assets should, during the proving period, be able to respond to set points from the National Control Centre (NCC), in line with the Grid Code and the EON/ION/FON Requirement for Generator (RfG) compliance activities, as is the case for any Controllable PPM connecting to the grid.

The full definition of responsibilities will be detailed in EirGrid procedures in due course, including the requirements associated with safety working rules, authorisations, and training.

The current regulation and policy for O&M transfer (including system operations) for assets to be owned by ESB Networks will remain as is for offshore Phase 1 projects, although the process and procedure should be optimised by EirGrid and ESB Networks to ensure efficient transfer of these assets.

2.4.2 Guarantee of Availability (GoA)

Post ORESS 1 support

In decision paper CRU/2023/09 it was discussed that the GoA compensation at the ORESS strike price would last for an ORESS support period of 20 years. It is understood that the support period may be longer than this depending on circumstances (and the final ORESS 1 Terms and Conditions). Thus, the CRU would like to clarify that the GoA compensation at the ORESS strike price will last until the ORESS support period finishes.

Decision paper CRU/2023/09 stated that successful ORESS 1 projects will benefit from GoA after the support period, but that the CRU will consult with stakeholders on the appropriate regime.

Based on further discussion with Phase 1 Developers since that decision, and to provide as much clarity as possible in advance of ORESS 1, the CRU has decided that the GoA which was set out for Years 11 to 20 in CRU/2023/09 (i.e., 10 days allowance per year with 15 days total allowance limit including carry over days), will now apply for years 11 to 30. This will match the duration of the connection agreement.

After the end of the ORESS support period, the compensation associated with the GoA for EirGrid assets will be by way of market compensation.

Projects with multiple circuits

The CRU would like to clarify that, by decision CRU/2023/09, the planned maintenance days allowance for GoA are for each Phase 1 project and not each circuit (noting there are Phase 1 projects with multiple circuits).

2.4.3 Independent Technical Advisor

The CRU notes the comments and feedback received on the ITA and its role. The CRU regards the establishment of an ITA as urgent and has commenced engagement with EirGrid with respect to the role. The CRU continues to consider the precise parameters of the ITA role and in

that context will continue to consider the comments and feedback on the ITA and its role received to date.

2.4.4 Sale and Purchase Agreement and Connection Agreement.

The CRU notes comments on the sale and purchase agreement and Connection Agreement offer. Work will commence on the necessary agreements in Q2 2023.

2.4.5 Quality of Functional Specifications.

The CRU notes the comments on the EirGrid functional specifications. It is the CRU's understanding that EirGrid's general and functional specifications are generic and intended to support Phase 1 Developer project specific designs, and whereby a derogation process has been established to review and formally agree any deviations.

2.4.6 Firm Access

The CRU notes comments on Firm Access. The Firm Access Decision is set out in [SEM-23-004](#). The CRU is aware of engagement between the Phase 1 projects and EirGrid, and further clarity will be provided to the projects from the 10th of March.

2.4.7 Grid Code requirements for offshore

The current status of the grid code modifications for offshore connections, as outlined by the WEI response (CRU/2023/13d), is correct. The CRU will be engaging with EirGrid in March in relation to the proposed modifications, with a view to ensuring Phase 1 Developers are consulted on ahead of any proposals being brought to the Grid Code Review Panel (GCRP).

3. Next Steps

Following publication of this Decision the CRU will seek to progress the wider areas²⁴ of the offshore regulatory framework. The CRU expects to begin engagement with stakeholders on the development of the offshore connection agreement in Q2 2023. The CRU will also continue engagement with Developers successful in ORESS 1 to further develop implementation and procedure details that may be required pre Final Investment Decision.

²⁴ generator connection and access policy including cost and charging for Phase 2 projects, treatment of unsuccessful projects in ORESS 1, the economic regulation of the TSO and offshore asset owner, licensing and authorisations, and offshore network planning and standards.

Annex 1 – OG-TUoS recharge illustration

Component		Value
ATV (€)	A	100,000,000
ATV recovery period (years)	B	30
Payments per year	C	12
NPER	$D = B \times C$	360
Rate of return (%)	E	5.25%
RATE (%)	$F = E / C$	0.44%
PMT (€)	$G = -\text{PMT}(F, D, A, 0, 0)$	552,204
MEC (kW)	H	100,000
€/kW monthly OG-TUoS charge ²⁵	$I = G / H$	€5.522

In this example, the applicable offshore generator would pay:

- A monthly charge of €5.522 per kW²⁵
- A total monthly invoice of €552,204 and make annual OG-TUoS payments of circa €6.63m
- Total OG-TUoS payments over the 30-year period of circa €199m.

Appendix 1: Excel workbook for OG-TUoS recharge is published alongside this paper CRU/2023/13a.

²⁵ Rounded to 3 decimal places.

Annex 2 – Asset Cost Monitoring and Post Construction Review Principles

Background

As set out in Section 2.2, the CRU has decided that an asset transfer payment will be made to Developers of ORESS Phase 1 projects on a transfer date that will follow a proving period. That process requires the setting of a transfer value via a PCR which will have two stages – ITV and FTV.

This annex provides information on the CRU's approach to setting the transfer value and covers both its approach to cost assessment and an outline of the principles that will apply to both stages of the PCR for offshore transmission assets.

The CRU's approach draws upon principles used elsewhere and with which Developers should be familiar. The CRU anticipates that this guidance will further develop over time, e.g., via experience obtained from PCR processes, although the underlying principles are not expected to change significantly.

Stages

At the point of ORESS bid submission, Developers should provide a high-level cost estimate in the form set out in below in this annex (Table 3). This table is also published alongside this decision in an Excel workbook as Appendix 2 – CRU202313b. This high-level estimate must be consistent with the costs used to underpin the committed price per MWh that is submitted into the ORESS 1 auction.

The high-level estimate (or Baseline Submission) will provide an initial reference point for the analysis of costs that is undertaken in the PCR stages. Table 4 includes guidance on how to categorise costs of transmission assets, and consistency of categorisation must be maintained in all submissions to the CRU to support analysis and benchmarking.

To maintain an up-to-date view of the cost estimate, the CRU will require an updated cost estimate at pre-FID stage. This update will be more granular than the Baseline, requiring costs to be split into their component parts as per the granular breakdown also in Table 4. Thereafter, the CRU will require an annual update up to and including the year in which the Developer triggers the formal stages of the PCR. Annual updates will not be subject to formal cost assessment but will be used to understand project evolution.

The more granular form of estimate applied to FID must be used for annual submissions and both stages of the PCR – ITV and FTV.

Scope

The PCR will consider the following costs incurred during the process of constructing the offshore transmission assets:

- **Design and development costs (Devex)** – Primarily incurred pre-construction, these costs cover obtaining required consents, permissions, surveys, and reasonable supply chain related costs, as well as a reasonable level of internal costs to undertake required work preconstruction.
- **Capital costs (Capex)** – for the procurement, manufacturing, delivery, construction, and installation (including civils costs) and commissioning of the transmission assets transferring to EirGrid.
- **Interest during construction (IDC)** – considered as a part of the overall capex cost. IDC is the cost incurred in financing the development and construction of the transmission assets.
- **Transaction costs** – Costs incurred in relation to the asset transfer process, such as legal costs to prepare documents for the asset transfer, or advisory costs related to the cost assessment process.

Cost allocation

Where incurred costs relate to both offshore transmission and generation assets, the Developer must utilise a reasonable cost allocation method to split costs between generation and offshore transmission. Developer methodologies must meet the following principles: be appropriate and proportional, logical, transparent, and readily replicable. The CRU may take its own view on cost allocation via the PCR and will do so where it considers its principles for cost allocation are not met or not satisfactory. For the avoidance of doubt, cost allocation information must also be provided within the Baseline and subsequent cost submissions.

Data requirements

Costs should be categorised consistently in the Baseline and all subsequent submissions using templates provided by the CRU (see Tables 3 and 4).

The user pays principle of the generator recharge model is designed to support the objective of outturn costs being at, or close to, the bid price. However, the CRU recognises that there will be uncertainties in the reference or Baseline submission, given the state of project development at

that point in time, and that this could lead to subsequent changes in cost or cost allocation at a later date. It also notes that costs could change as a result of requirements placed on Developers later that are outside of their control, e.g., as a result of planning or wider consents, or at the specific request of EirGrid. The CRU, therefore, acknowledges that efficient and economic costs at the PCR could vary (i.e., be higher or lower, than those provided in the baseline or subsequent submissions).

The CRU expects Developers to be mindful that the project secured its successful place in the ORESS auction merit order based on the Baseline submission. The CRU will pay particular attention to any material cost over or underruns that are apparent in subsequent cost submissions that are made to it. In making submissions, Developers should provide commentary and reconciliation that explain how costs have changed since the previous submission. Alongside providing cost data and variance analysis, submissions to the CRU should include narrative content that provides:

- A detailed explanation of each change since the previous submission, including its root cause;
- For each relevant change, information on whether the change relates to a risk borne by the supply chain, or that is covered by insurance;
- Where the Developer seeks inclusion of the costs of a change in the ATV, an analysis of the options considered and associated costs to address the issue that resulted in a change in costs, then the rationale for the selected approach and change, must be provided.

The narrative should be accompanied by contemporaneous evidence that supports the approach to the change in costs that was adopted by the Developer. It is the responsibility of the Developer to maintain an appropriate audit trail to support the analysis of a change in cost. Developers should note that the CRU will be more likely to disallow costs in the PCR where there is a lack of transparency and shortfall in evidence, and/or an audit trail to explain why such costs were incurred and should, in the Developers view, be recoverable in the ATV.

Developers should note a presumption that all costs assessed in the PCR will form part of the OG-TUoS charge. However, limited exceptions will be made in the case of:

- Aspects of the design instructed by EirGrid that are made for the benefit of the wider transmission system, e.g., to provide for future expansion or development.
- Costs the Developer can demonstrate, to the CRU's reasonable satisfaction, that are solely the result of changes to specifications to the transmission connection

assets that were outside its control, and could not be reasonably foreseen, providing they are economically and efficiently incurred.

The CRU will set a high evidential bar for costs that Developers seek to exclude from OG-TUoS.

PCR Process

There will be two main strands to the PCR (ITV, FTV) assessments: a forensic accounting review and a technical assessment.

The **forensic accounting analysis** will be akin to a project audit and seeks to ensure that contracts have been performed efficiently, invoicing is consistent with contracts, and cost allocation rules (generation versus transmission) comply with the CRU's principles and have been followed consistently.

The **technical review** will assess the approach taken to designing, procuring, and constructing the offshore transmission assets, and assess actual costs against market prices and other project benchmarks (where considered appropriate). Two key principles will be applied: does the creation of the offshore transmission assets follow good industry practice; and are the costs incurred economic and efficient and correctly allocated against the cost categories.

Timeline

The CRU has stated that the proving period will last a minimum of 12 months and a maximum of 18 months. The timelines for the PCR stage have been set to facilitate achievement of the shorter window and are set out below:

- **ITV Notification:** No less than 4 months before the ITV is to be requested – The Developer should indicate a date on which it confidently expects to trigger the ITV stage. This pre-warning period will allow the CRU sufficient time to plan for resources to support the process and manage the impact of any overlapping or simultaneous decisions.
- **ITV start date.** Provided sufficient pre-warning was given, the Developer may trigger the ITV stage of the PCR once the project is 85-95% complete. Simultaneous with triggering the ITV stage, the Developer must make a complete cost data submission to the CRU.
 - **NOTE:** poor submission quality, e.g., costs that are not readily reconcilable to previous submissions or an insufficient narrative is provided, will result in the CRU refusing to progress the ITV stage of the PCR until such time as the CRU considers the submission quality to be sufficient and consistent.
- **ITV end date:** The CRU will assess the submission and engage with the Developer to understand the cost data provided and resolve any issues/questions arising. This stage

will be completed within 6 months of the trigger date, providing that all subsequent requests for further data/discussion are handled expeditiously by the Developer.

- **FTV:** Providing that ION has been granted and no less than 8 months after the ITV stage was triggered, the Developer may request that the CRU commence the FTV stage of the PCR. At this point all unspent portions of cost noted in the ITV should be substantially expended and will form the focus point of the FTV, in order to check and validate all changes from ITV. This stage will be completed within 3 months of the trigger date, providing Developer cost data is complete and accurate, and subsequent requests for further cost data/discussion are handled expeditiously by the Developer.

Table 3 Baseline cost template (for ORESS 1 submission)

Transmission Asset Cost Estimate (assets transferring to EirGrid)	Baseline Cost at ORESS EURO (M)	Projected Cost EURO (M)	Cost Variance EURO (M)	Justifications & Allocations	Windfarm Assets Cost Estimate	Baseline Cost at ORESS EURO (M)	Projected Cost EURO (M)	Cost Variance EURO (M)	Justifications & Allocations
Name:					Name:				
Stage: ORESS BID					Stage: ORESS BID				
Date:					Date:				
Price base:					Price base:				
Development Cost (DEVEX)					Development Cost (DEVEX)				
Project Management & Support Services	€ -	€ -	€ -		Project Management & Support Services	€ -	€ -	€ -	
Design Development, Consents & Approvals	€ -	€ -	€ -		Design Development, Supply Chain, Consents, Approvals & Offshore Surveys	€ -	€ -	€ -	
Advisory Fees & Expenses	€ -	€ -	€ -		Advisory Fees & Expenses	€ -	€ -	€ -	
Other	€ -	€ -	€ -		Other	€ -	€ -	€ -	
A. Total DEVEX Costs (including fees, etc)	€ -	€ -	€ -		A. Total DEVEX Costs (including fees, etc)	€ -	€ -	€ -	
Capital Expenditure (CAPEX)				Note 1 - Allocation Rule. Note 4 Opex.	Capital Expenditure (CAPEX)				Note 1 - Allocation Rule
Project Management & Support Services	€ -	€ -	€ -		Project Management & Support Services	€ -	€ -	€ -	
Offshore Substation(s) and structures – supply and installation	€ -	€ -	€ -		Wind Tower Sub-structure and Piles - supply and installation (depending on Design)	€ -	€ -	€ -	
Submarine cable(s), protection, and transition joint bays – supply and installation	€ -	€ -	€ -		Wind Turbine Tower & Internals - supply and installation	€ -	€ -	€ -	
Onshore cable(s) – supply and installation	€ -	€ -	€ -		Wind Turbine Generator Set & Blades - supply and installation	€ -	€ -	€ -	
Onshore substation(s) and compensation compound – supply and installation/existing integration	€ -	€ -	€ -		Wind Farm Subsea Array Cables - supply and installation	€ -	€ -	€ -	
	€ -	€ -	€ -		Heavy Lifting & Marine Operations	€ -	€ -	€ -	
	€ -	€ -	€ -		Subsea Surveys & Geotechnical Investigations	€ -	€ -	€ -	
	€ -	€ -	€ -		Windfarm costs associated with Offshore Substation(s), shared or allocated.	€ -	€ -	€ -	
Consents, Permits & Permissions	€ -	€ -	€ -		Consents, Permits & Permissions	€ -	€ -	€ -	
Project Risk and Contingency	€ -	€ -	€ -	See Note 2	Project Risk and Contingency	€ -	€ -	€ -	See Note 2
Crossing agreements	€ -	€ -	€ -		Crossing Agreements	€ -	€ -	€ -	
Claims & Entitlements	€ -	€ -	€ -		Claims & Entitlements	€ -	€ -	€ -	
Insurance	€ -	€ -	€ -		Insurance	€ -	€ -	€ -	
Other(s)	€ -	€ -	€ -	See Note 3	Other(s)	€ -	€ -	€ -	See Note 3
B. Total Capital Costs (including risk and contingency, claims, insurance & fees)	€ -	€ -	€ -		B. Total Capital Costs (including risk and contingency, claims, insurance & fees)	€ -	€ -	€ -	
IDC					IDC				
C. Total IDC Costs (including interest, fees, etc)	€ -	€ -	€ -		C. Total IDC Costs (including interest, fees, etc)	€ -	€ -	€ -	
TRANSACTION COSTS					TRANSACTION COSTS				
D. Total Transaction Costs (including legal costs for asset transfer, advisory costs for cost assessment process).	€ -	€ -	€ -		D. Total Transaction Costs	€ -	€ -	€ -	
E. Total Transmission Costs (=A+B+C+D) (for assets transferring to EirGrid) (see Note 4)	€ -	€ -	€ -		E. Grand Total Windfarm Costs (=A+B+C+D)	€ -	€ -	€ -	
F. Grid connection costs (for assets transferring to ESB Networks)	€ -	€ -	€ -	See Note 5.					

Supplementary Notes:

1. An allocation rule is required for all categories where costs are spread across both the transmission assets transferring to EirGrid and windfarm assets and/or transmission assets transferring to ESB Networks. e.g., insurances in construction, devex, transaction costs.
2. At the ORESS bid stage an allocation rule is required for risk and contingency if separate estimates are unavailable.
3. The Other category may be used where no appropriate category exists. Developers should ensure that the total cost for the transmission assets and windfarm assets are fully complete prior to submission.
4. Operating costs (Opex) up to Asset Transfer, on assets transferring to EirGrid, should be included with each capital cost component above, or in "Other" cost category, as appropriate.
5. For the avoidance of doubt sections A-E in transmission costs are only for costs of assets transferring to EirGrid. Section F is one number for the grid connection cost (for assets transferring to ESB Networks).

[Appendix 2: Excel workbook for Baseline cost template (Table 3) and Capex cost categorisation (Table 4) is published alongside this paper as CRU/2023/13b]

Guidance on capex cost categorisation.

Baseline costs should be allocated to the template capex components listed above in Table 3, as per the guidance on capex cost categorisation in Table 4. Any departures from this categorisation must be highlighted and explained to assist the CRU's understanding.

The FID submission, annual submissions, and the ITV and FTV cost submissions should be developed and submitted using a more granular breakdown. The CRU will provide the required template form for this granular breakdown in advance of FID.

Table 4 Guidance on capex cost categorisation

Capex Cost Categories	Costs include:
Offshore Substation(s)	Design of piles/jacket/monopile Supply of piles/jacket/monopile Installation of piles/jacket/monopile Design of topsides/modules Supply of topsides/modules Installation and integration of topsides/modules Design, supply and installation of mechanical/electrical/control systems OSP testing/commissioning Category specific project management Other shared OSP costs (examples: Vessels, Accommodation, CTV, Fisheries, Fuel, Surveys, Boulder clearance, UXO, SCADA equipment) Supply of spares/documentation Cost Estimate Uncertainty/Allowance
Submarine Cable(s)	Design, manufacturing, testing, supply of Submarine/FO cable Installation of Submarine/FO cable and protection Design and installation of transition joint bays Other shared costs (examples: Vessels, Accommodation, CTV, Fisheries, Fuel, Surveys, Boulder clearance, UXO) Spares Cost Estimate Uncertainty/Allowance
Onshore cable(s)	Design, manufacturing, testing, supply of Land/FO cable Installation of Land/FO cable and route reinstatement Design and installation of HDD/Crossings Onshore site/cable route preparation Public utility diversions and public road improvement works Traffic management services Category specific project management Other shared land cable costs (examples: Landowner agreements, crop loss compensation, tree felling) Supply of spares/documentation Cost Estimate Uncertainty/Allowance
Onshore substation(s) and compensation compound	Design, supply, installation and testing of major equipment items Design, supply and installation of mechanical/electrical/control systems Design, supply and installation of civil works, buildings, building services, structures and security fencing Onshore site preparation and access roads Advanced construction works Other shared costs (examples are Landowner agreements, SCADA, Crop compensation)

	Category specific project management Supply of spares/documentation Cost Estimate Uncertainty/Allowance
Grid Connection	Design, supply and installation of cable/busbar/terminations Grid connection agreement and requirements Training and authorisations Connection works, control/protection works and system testing (Developer or onshore TAO) Category specific project management Cost Estimate Uncertainty/Allowance
Other	End to end shared costs (examples are Insurance, Legal fees) End to end project management Other