



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

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Commission for Regulation of Utilities

UNREALISED AVAILABLE ENERGY COMPENSATION IN RESS 3, RESS 4 and RESS 5

Consultation Paper

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CRU Strategic Plan 2025-27

Vision, Purpose, and Values



OUR VISION:

Resilient, efficient, sustainable, and safe energy and water services for Ireland.



OUR PURPOSE:

We actively serve the public interest by regulating the provision of energy and water to Irish homes and businesses, while supporting the transformation to net zero.



OUR VALUES:

• Integrity • Professionalism • Openness • Accountability

Executive Summary

Unrealised Available Energy Compensation (UAEC) is a new provision developed by DCEE in the Terms and Conditions for RESS 3, RESS 4 and RESS 5 (the 'RESS 3 - 5 Terms and Conditions'). The aim of UAEC is to compensate generators which have physical availability that cannot be supplied.

It compensates where the energy is unrealised for curtailment reasons only (e.g. including oversupply, but not for constraints or outages) and where the energy has not previously been compensated for.

DCEE introduced UAEC for RESS projects to apply downward pressure on auction strike prices by largely removing the curtailment and oversupply risk from individual projects, which are not well placed to manage it. The intention is that developers will then, setting the effect of local constraints aside, bid prices at RESS auctions more closely based on their own controllable costs and technical capabilities¹.

UAEC will apply when a RESS 3, RESS 4 or RESS 5 project ('RESS 3 – 5 projects') has made an offer into the Day Ahead Market or an applicable Intra-Day Market, and the Balancing Market at an offer price no greater than their Short Run Marginal Cost (SRMC), however, it will not be contingent on securing a market position.

The intent of the RESS UAEC provisions is to ensure that participants do not bear the risk of curtailment, while attempting to maintain virtuous signals regarding maximising availability of the unit, and active participation in electricity markets.

The detail of proposals set out in this Consultation Paper will apply to RESS 3 - 5 projects only. The general principles are expected to carry over to the following offshore RESS schemes (ORESS 1 and Tonn Nua) but the exact applicability will be reviewed in relation to their individual Terms and Conditions, and any changes by the TSO to scheduling and dispatch.

The CRU has developed this Consultation Paper in association with EirGrid to implement the UAEC policy set out by DCEE in the RESS 3 - 5 Terms and Conditions.

In summary, the main elements of the proposals are to:

¹ DECC (2022) [Terms and Conditions for the Third Onshore Competition under the Renewable Electricity Support Scheme RESS 3 Consultation Document](#), pg. 7

1. Specify the Available Active Power (AAP) Standard as the means to measure Physical Availability (see Section 2)
2. Put in place the methodology developed by the TSO to calculate Unrealised Available Energy (see Section 3)
3. Use SEMOpx's 'Energy Trading System (ETS) bid files: de-anonymised Orders submitted (and executed) in the Auction', and SEMO's 'Commercial Offer Data Accepted by Unit' datasets as the basis for evaluation of participation applicable markets (see Section 4).

Stakeholders are invited to respond to the following questions:

- Q1.** Do you support the proposal for using the current AAP Standard to measure UAEC for RESS 3 - 5 projects?
- Q2.** Do you foresee any difficulty with using the current AAP Standard to measure UAEC for RESS 3 - 5 projects?
- Q3.** Do you support the proposed methodology to calculate UAEC for RESS 3 - 5 projects?
- Q4.** Are there any drawbacks associated with the proposed methodology? Please elaborate on any potential risks.
- Q5.** Do you agree with setting the proposed threshold at 1% of capacity? Please set out your reasoning.
- Q6.** Do you agree with using SEMOpx's 'ETS bid file: de-anonymised Orders submitted (and executed) in the Auction, by Unit' dataset as a means of establishing participation in the Day Ahead and Intra-Day markets? Please set out your reasoning.
- Q7.** Do you agree with using SEMO's 'Commercial Offer Data Accepted' dataset as a means of establishing participation in the Balancing Market? Please set out your reasoning.

Comments are invited from interested parties on this proposal until 19 May 2026.

Responses to this proposed decision should be submitted via the [online CRU consultation portal](#). Responses received to this paper will be considered and a final decision will issue in due course.

Public / Customer Impact Statement

The Irish Government has set ambitious targets for the development of renewables up to 2030 and beyond. Delivering Ireland's offshore wind ambitions will require significant resources, particularly within EirGrid and the CRU. Given the scale and complexity of the programme, coordinated action among all stakeholders is essential to ensure delivery is economic, efficient, and at a fair cost to Irish consumers.

The proposals set out in this Consultation Paper would put into effect DCEE's Unrealised Available Energy Compensation (UAEC) plans as per their RESS 3 - 5 Term and Conditions.

As such, it is relevant to electricity consumers in Ireland because, as set out in the RESS 3 - 5 Terms and Conditions, DCEE has determined that the Public Service Obligation (PSO) levied on electricity bills in Ireland will pay for this compensation. The exact process for RESS 3 – 5 participants claiming UAEC as part of their ex-post PSO submissions will be set out by the CRU in due course.

While the technical details and methodology primarily affect RESS 3 - 5 projects and EirGrid, any decisions stemming from this Consultation Paper could have broader implications for the public. As such the CRU has published this Consultation Paper in the context of:

Protecting consumers from unnecessary costs. The objective of UAEC is to significantly de-risk RESS participants' exposure to uncertainty surrounding curtailment, which generation participants are not able to easily manage, and which otherwise requires a risk premium to be included in participant's RESS auction bid prices. As such, they should prevent passing of unnecessary or unjustified costs on to consumers.

Progress towards climate goals. The proposals underpin Ireland's renewables programme, which is critical to achieving national climate and energy targets. By providing clarity to developers on the treatment of unrealised generation and requiring EirGrid to finalise its methodologies for calculation, the proposals help to avoid delays and ensure timely delivery of renewable generation, benefiting consumers through a cleaner, more sustainable energy system.

Promoting transparency and accountability. The proposed process ensures the transposition of UAEC from DCEE's RESS 3 - 5 Terms and Conditions to an implementable methodology. This Consultation Paper sets out and documents reasonings and opens them up for public consultation and approval process, promoting accountability and transparency.

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Glossary of Terms and Abbreviations

Abbreviation	Definition or meaning
AAP	Available Active Power
AO	Actual Output
AV	Available power
CRU	Commission for Regulation of Utilities (the 'Regulatory Authority')
DAM	Day Ahead Market
DCEE	Department of Climate Energy and the Environment
DD	Dispatch Down
DNO	Distribution Network Operator
DSO	Distribution System Operator
ETS	Energy Trading System
IDA	Intra-Day Market
NC	Non-Compliance
PPM	Power Park Module
PSO	Public Service Obligation
RESS	Renewable Energy Support Scheme
ROCOF	Rate of Change of Frequency
RMQ	RESS Metered Quantity
SEM	Single Electricity Market
SEMO	Single Electricity Market Operator
SEMOpx	Single Electricity Market Operator power exchange
SNSP	System Non-Synchronous Penetration
SRMC	Short Run Marginal Cost
TSO	Transmission System Operator (EirGrid)
UAEC	Unrealised Available Energy Compensation

1 Introduction

1.1 Background

Unrealised Available Energy Compensation (UAEC) is a mechanism first introduced by DCEE under the third Renewable Energy Support Scheme (RESS 3) Terms and Conditions and also applies to RESS 4 and RESS 5. It is designed to compensate renewable energy projects for energy they were physically capable of producing but could not export due to system curtailments (including oversupply). The intention is for UAEC to de-risk RESS 3 - 5 projects' exposure to uncertainty by providing support based on availability, rather than energy actually produced².

UAEC will compensate RESS 3 - 5 projects at their strike price for availability not converted to generation due to curtailment (including oversupply) and applies whether the wholesale price is positive or negative and equally to firm and non-firm generators, so long as they have not (and will not) receive compensation elsewhere for the same unrealised energy.

UAEC is not available for constraint (network or local system), which is an important locational signal for participants. Nor will it be available where unavailability is due to transmission connection outages, where the RESS project has not complied with dispatch instructions or has already been / will be compensated for³.

Under the RESS 3 - 5 Terms and Conditions, UAEC will apply when an applicable generator's output has been offered into the SEM Day Ahead Market or an applicable Intra-Day (IDA 1, IDA 2 or IDA 3), and in the Balancing Market at an offer price no greater than the Short Run Marginal Cost (SRMC) of generation. The full forecast expected volume must have been offered into the relevant market(s). Furthermore, the eligible quantity can be no greater than the quantity made available to the Balancing Market.

However, it will not be contingent on securing a market position⁴. This means that UAEC is also applicable where a generator is unsuccessful in a relevant market. This could be due to oversupply – where overall supply exceeds demand.

² Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.1 [Note: where RESS 3 T&Cs are referenced throughout this paper they apply equally to RESS 4 and RESS 5 T&Cs]

³ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.5 – 5.6.8

⁴ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.7 (b)

Payment of UAEC will be through the PSO. The exact process for RESS 3 - 5 participants claiming UAEC as part of their ex-post PSO submission will be set out by the CRU in due course and does not form part of this consultation.

This Consultation Paper is in reference to RESS 3 - 5 projects. While offshore RESS schemes subsequent to RESS 3 - 5 also have UAEC provisions that at a high level are expected to be applied in the same way, the detail of their methodologies will reflect their individual Terms and Conditions.

1.2 Structure of this Consultation Paper

This Consultation Paper outlines the proposed definitions, methodology, eligibility criteria, market participation evaluation, and compensation process for UAEC. It has been developed by the CRU as Regulatory Authority in conjunction with EirGrid as TSO, and DCEE as the owner of RESS policy.

The principles of UAEC and its application were established - and consulted on - by DCEE as part of their development of the RESS 3 - 5 Terms and Conditions.

Under those Terms and Conditions, DCEE split responsibility for managing the design and implementation of UAEC between the CRU and EirGrid. The design elements which form the basis of this Consultation Paper include:

- Specifying a revenue quality standard for how generators measure / verify Physical Availability (RESS 3 T&Cs Section 5.6.8)
- Ensuring development and implementation of methodologies for measuring Physical Availability RESS 3 (T&Cs Section 5.6.12 (b)) to the quality standard and so that the Eligible Available Quantity does not include constraints or outages (RESS 3 T&Cs Section 5.6.12 (a))
- Establishing and publishing the basis for evaluation of participation in applicable markets (RESS 3 T&Cs Section 5.6.12 (c)).

The following sections describe the proposals and consultation questions for each of these areas in more detail.

2 Quality standard for generators’ Physical Availability

2.1 Terms and Conditions

Under DCEE’s RESS Terms and Conditions, the first step to establish Unrealised Available Energy (UAE) quantities is for the CRU as Regulatory Authority to develop a quality standard to assess a RESS 3 - 5 project’s Physical Availability:

The “Physical Availability” of a RESS [3 – 5] Project in an hour (expressed in MWh) is its actual availability to produce Active Power, measured to a revenue quality standard that will be specified by the Regulatory Authority.⁵

The UAE of a RESS 3 - 5 project is defined by the Terms and Conditions as the Loss-Adjusted Eligible Available Quantity minus the Loss-Adjusted RESS Metered Quantity of that RESS Project in a particular hour⁶.

In turn, the Eligible Available Quantity is defined as *curtailed* (including due to oversupply) Physical Availability. The Eligible Available Quantity will not include availability limited due to network constraints, local system stability constraints or outages.

Eligibility is also dependent on the RESS 3 - 5 project:

- Offering its expected output into the DAM or an applicable Intra-Day Market, and the Balancing Market at no greater than its SRMC⁷
- Following dispatch instructions⁸
- Not having been compensated for already / be due for other compensation⁹.

The Terms and Conditions do not define ‘revenue quality standard’. However, the RESS 3 Stakeholder Information and Summary of Amendments notes that:

⁵ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.8

⁶ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.6

⁷ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.7

⁸ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.7

⁹ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.9

Actual [physical] availability must be measured and verified according to defined standards specified by the CRU. This will be a similar revenue quality standard to that which is applied to the metering of energy production.¹⁰

As such, the CRU proposes that the quality standard for RESS 3 - 5 generators' Physical Availability will be the Available Active Power Standard (AAP Standard)¹¹.

The Available Active Power (AAP) is defined in the Grid Code as:

The amount of Active Power that the Controllable PPM [Power Park Module] could produce based on current resource conditions. The Available Active Power shall only differ from the actual Active Power if the Controllable PPM has been curtailed, constrained or is operating in a restrictive Frequency Response mode.¹²

Renewable projects already provide availability signals to this AAP Standard and as TSO, EirGrid monitor the accuracy of every renewable generator against it. The Grid Code states that the signal is accurate at all times, however EirGrid acknowledge¹³ that there can be variance in the calculation of this signal and MW output from each Power Park Module (PPM)¹⁴.

EirGrid monitors this signal using a standard for the performance of the PPM based on comparing the actual output with an average Available Active Power for that unit¹⁵.

2.2 Quality standard proposal

Calculating compensation revenue from the SEM for dispatch down for generators with priority dispatch uses the current AAP Standard availability signals. It includes measures for monitoring and compliance where mismatches between expected availability and submitted occur. As such, the CRU considers the AAP Standard as

¹⁰ DECC (2003) [RESS 3 Stakeholder Information and Summary of Amendments to Terms & Conditions](#)

¹¹ For more detail on the AAP Standard, see: EirGrid (2023) [Quality Standard for Power Park Modules Available Active Power \(AAP\) Signal](#)

¹² EirGrid (2024) [Power Park Module \(PPM\)](#)

¹³ The present AAP standard mandates that a PPM shall provide an AAP signal and the quality of this will be subject to the following test: 1) A normalised root mean square error (NRSMEUd) for a PPM, U for a given day d is calculated. This uses the MW output and the average AAP recorded by TSO for that unit. 2) Where a unit had not been dispatched down at any period under review and the Ud NRMSE exceeds 6% for a day then the AAP signal is deemed to be in error for that day. See: EirGrid (2023) [Quality Standard for Power Park Modules Available Active Power \(AAP\) Signal](#)

¹⁴ A Power Park Module (PPM) is a unit or group of units generating electricity, which is either: non-synchronously connected to the network or connected through power electronics. PPMs also have a single connection point to a transmission, distribution, or HVDC system. See EirGrid (2024) [Power Park Module \(PPM\)](#)

¹⁵ EirGrid (2024) [Power Park Module \(PPM\)](#)

meeting DCEE's requirements under the RESS 3 - 5 Terms and Conditions for a similar revenue quality standard to that which is applied to the metering of energy production.

Moreover, the AAP Standard is calculated for 15-minute periods, so for UAEC it can be established at a finer granularity if required at a later date, noting that the Terms and Conditions consider hourly time units whereas the SEM auction operates on a half-hourly basis.

Therefore, the CRU proposes to use the current AAP Standard as the quality standard for measuring UAEC for RESS 3 - 5 generators.

Feedback from stakeholders is invited on the following:

Q1. Do you support the proposal for using the current AAP Standard to measure UAEC for RESS 3 - 5 projects?

Q2. Do you foresee any difficulty with using the current AAP Standard to measure UAEC for RESS 3 - 5 projects?

3 Methodologies to measure Physical Availability

3.1 Terms and Conditions

The RESS 3 - 5 Terms and Conditions specify that the CRU (as Regulatory Authority) ensures that the TSO develops and implements appropriate methodologies to measure Physical Availability of RESS 3 - 5 Projects¹⁶.

The calculation of the existing AAP Standard (outlined in Section 2) ensures that constraint and curtailment signals – which change the level of active available power, decreasing the volume available – are excluded.

The TSO has a mechanism in place for calculating dispatch down figures for each individual PPM. EirGrid send these figures to all controllable wind and solar farms as monthly reports¹⁷ which include half-hourly availability, output and dispatch down energy figures, along with constraint/curtailment and detailed reason code breakdowns. Unrealised Available Energy (UAE) can be calculated using this data.

3.2 Outline of TSO Dispatch Down reporting and calculation methodology

Redispatch by the TSO occurs due to curtailments and constraints. The dispatch down energy level of a wind or solar farm is defined as the difference between its Available Active Power and Dispatch Down Instruction¹⁸.

The TSO's wind dispatch tool issues Dispatch Down instructions to wind and solar farms on a pro-rata basis according to their current Active Power output. Dispatch Down only applies to the Active Power output values *between* two Dispatch Down instructions, for example the value between an instruction to lower output and a following instruction to raise it again.

The TSO carries out following calculations for each minute in the reporting period:

¹⁶ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.12(b)

¹⁷ EirGrid (2016) [Wind Dispatch Down Reports User Guide](#)

¹⁸ Note: that this only applies to Dispatch Instructions that have been followed by the wind or solar farm.

Where:

DD: Dispatched Down Volume in MWh

AO: Actual Output in MW

AV: Available Active Power in MW

M_x : Variables used to store intermediate DD levels for each layer in MW.

DD is initially calculated for each minute, then aggregated at the end and converted to MWh.

- If there is no active dispatch instruction, then:

Available Active Power is reset to Active Power Output and $DD = 0$ MW.

- If there are no active setpoints, denoted by $M_1, M_2 \dots M_n$, then:

$$\text{Total DD} = \text{Max} [AV - \text{Max} [AO, M_n], 0]$$

The DD amount of each layer is aggregated into its own category depending on type (e.g. curtailment or constraints) and reason (SNSP issue, transmission constraint, inertia, etc.)

- These DD layers are calculated individually every minute as follows:

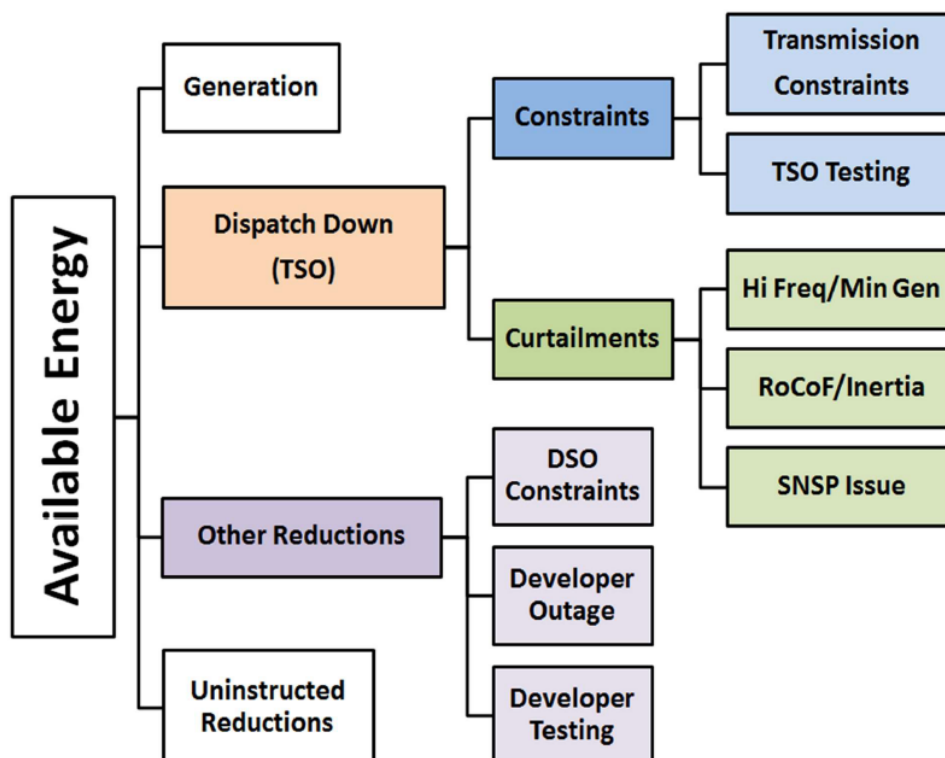
$$DD_{\text{Layer } X} = \text{Max} [\text{Min} [M_{X-1}, AV] - \text{Max} [AO, M_X], 0]$$

Where $M_0 = \text{Available Active Power}$

Finally, all DD values are converted to energy equivalents (MWh) and aggregated for the duration of the reporting period. This is achieved by dividing the total one-minute MW values by 60 to convert to MWh.

The individual layer volumes are then aggregated as per EirGrid's flowchart below (Figure 1) for half-hourly reporting to each wind and solar farm as well as regional, jurisdictional and system-wide reporting.

Figure 1: TSO dispatch down flowchart¹⁹



The TSO's wind dispatch tool assigns reason codes with each dispatch down instruction, as explained below:

Curtailments:

1. High Frequency/Minimum Generation: Used when attempting to alleviate an emergency high frequency event or to facilitate the minimum level of conventional generation on the system to satisfy reserve requirements
2. SNSP Issue: Used for reductions in the level of System Non-Synchronous Penetration
3. ROCOF/Inertia: Used when the Rate of Change of Frequency (ROCOF) value for the loss of the largest single infeed is unacceptably high and wind must be dispatched down as a result or when the system inertia is too low.

¹⁹ EirGrid (2016) [Wind Dispatch Down Reports – User Guide V1.1](#) pg. 11

Constraints:

1. Transmission (TSO) Constraints: Used to resolve a local network issue
2. TSO Testing: Used when wind farm testing is carried out by the TSO, e.g. for commissioning and monitoring.

Other Reductions:

1. DSO/DNO Constraints: Used when a dispatch is carried out as a result of a request from the Distribution System Operator or the Distribution Network Operator
2. Developer Outage: Used when a wind farm must reduce output - mainly to carry out software upgrades
3. Developer Testing: Used when testing is carried out by a wind / solar farm developer.

3.3 Proposed UAEC calculation methodology

The above TSO calculation methodology and the resulting monthly dispatch down reports issued to generators can be used to calculate the required UAE using the steps below. These steps are algebraically equivalent to those set out by DCEE in the RESS 3 – 5 Terms and Conditions²⁰.

The UAEC methodology set out below in this section and in the Appendix is a plain English version for consultation and is drafted to aid understanding of the proposals. It will be superseded by finalised text in the Decision Paper.

As outlined above, the RESS 3 - 5 Terms and Conditions state that UAEC is only applicable where a generator has been dispatched down due to curtailments (not constraints).

Moreover, and again in line with the Terms and Conditions, UAEC will only apply where the energy in question has not already been compensated for through another mechanism (or is due to be compensated for), if dispatch instructions have been followed and if it has been offered into one of the applicable markets.

²⁰ Note: The addition of one external quantity (metered generation) and one data parameter (participation in an appropriate market) will be required.

In addition, UAEC will only be available to PPM that the TSO has not labelled as 'Category (i) not controllable' due to non-compliance with controllability requirements²¹.

The proposed basic calculation for RESS 3 - 5 participants to compute UAE is:

Unrealised Available Energy (UAE) = Loss-Adjusted Eligible Available Quantity – Loss-Adjusted RESS Metered Quantity.

Where: Eligible Available Quantity = Physical Availability – (Constraints + Other Reductions) – Previously Compensated MWh.

And where: Physical Availability is the actual availability to produce Active Power (e.g. the Available Active Power, expressed in MWh, recorded through SCADA readings).

Regarding 'Previously Compensated MWh', with 30-minute pricing (potentially moving to 15-minute) it is possible that another compensation mechanism could partially compensate for an hour. As such, this Consultation Paper proposes that the compensated MWh (if any), as opposed to financial compensation, is subtracted from Physical Availability.

As noted above, there can be slight differences (positive or negative) between the Active Power Output (as measured by SCADA readings) and the RESS Metered Quantity (from SEMO). Therefore:

Difference (D) = Active Power Output (AO_MWH) – RESS Metered Quantity (RMQ_MWh).

It follows that:

UAE = Physical Availability – (Curtailments[†] + D) – Previously Compensated MWh

[†] Where Curtailment is > 0

As outlined, UAEC will also require meeting three binary tests:

- a) Offered into applicable markets
- b) No non-compliance with dispatch instructions

²¹ See EirGrid / SONI (2012) [Wind Farm Controllability Categorisation Policy](#)

c) Not in 'Category (i) not controllable'.

It is proposed these three tests are applied as a series of individual binary flags, where if met, the potential UAE amount indicated from the calculation outlined above is multiplied by 1, and if the test is not met it is multiplied by 0:

a) Offered into markets

To qualify for UAE, the generator must have made a market offer at an offer price no greater than their SRMC for the hour in question in the DAM or an IDA (e.g. IDA 1, IDA 2 or IDA 3), and the BM:

If the hour is **not** offered into appropriate markets, Offer Flag = 0

If the hour is offered into appropriate markets, Offer Flag = 1

b) No non-compliance with dispatch instructions

It is recognised that it will not always be possible for a PPM to exactly follow a dispatch instruction. As such, it is proposed that for the Non-Compliance flag a tolerance of 1% of PPM capacity is allowed.

If the PPM does not follow dispatch down instructions at or within 1% of its capacity, then UAEC compensation will be zero. This threshold is proposed as that is the level currently used by EirGrid's Wind Dispatch Tool, which flags where a setpoint is missed by greater than 1% of the generators' capacity.

If the difference between Available Active Power (AV_MWH) and Active Power Output (AO_MWH) + (Dispatch Down (DD_MWH) + Other (OTHER_MWH)) is:

> 1.0% of Capacity of the PPM: NC Flag = 0

≤ 1.0% of Capacity of the PPM: NC Flag = 1

c) Category (i) not controllable

Where a PPM is labelled by the TSO as in Category (i) for poor availability reporting:

If the PPM is in Category (i): CAT1 Flag = 0

If the PPM is **not** in Category (i): CAT1 Flag = 1

3.4 Proposed steps for RESS 3 generators to calculate UAEC

The following 11 steps below set out how RESS 3 - 5 generators can use the information provided above and from their dispatch down reports to calculate UAEC. Example calculations are given in the Appendix.

Using monthly Dispatch Down Reports, calculate UAE for each hour:

1. Convert data from half-hourly (HH_TIMESTAMP) to hourly²²
2. Add RESS Metered Quantity (RMQ) data to a new column (RMQ_MWh)
3. Calculate D and add to a new column (D_MWh):
 - Active Power Output (AO_MWH) – RESS Metered Quantity (RMQ_MWh)
4. Add which market(s) hour offered into to a new column (Offer)
5. Calculate Non-Compliance and add to a new column (NC calc._MWh):
 - (Available Active Power (AV_MWH) – Active Power Output (AO_MWH) – ((Total Dispatch Down (DD_MWH) + Other Reductions (OTHER_MWH)))
6. Add any previously compensated / due to be compensated volume (in MWh) to a new column (Prev. comp._MWh)
7. Apply Offer Flag (Offer Flag_0/1):
 - If hour *not* offered into appropriate markets: Offer Flag = 0
 - If the hour offered into appropriate markets: Offer Flag = 1
8. Apply Non-Compliance flag (NC Flag_0/1):
 - If Non-Compliance (NC calc._MWh) > 1.0% of capacity: NC Flag = 0
 - If Non-Compliance (NC calc._MWh) ≤ 1.0% of capacity: NC Flag = 1
9. Apply Category (i) Flag (CAT1 Flag_0/1):
 - If PPM is in Category (i): CAT1 Flag = 0
 - If PPM is in not in Category (i): CAT1 Flag = 1
10. Calculate UAE:

²² This is to meet the RESS 3 - 5 Terms and Conditions to compensate for unrealised energy in hourly blocks.

- $UAE_MWh = ((CURTAILMENTS + D) - \text{Previously Compensated MWh})$
* Offer Flag * NC Flag * CAT1 Flag

11. To calculate UAEC, multiply UAE figure (MWh) by Strike Price (€).

See Appendix for example calculations.

Feedback from stakeholders is invited on the following:

Q3. Do you support the proposed methodology to calculate UAEC?

Q4. Are there any drawbacks associated with the proposed methodology? Please elaborate on any potential risks.

Q5. Do you agree with setting the proposed threshold at 1% of capacity? Please set out your reasoning

4. Establishing and publishing basis for evaluation of market offer

4.1 Terms and Conditions

DCEE's RESS 3 - 5 Terms and Conditions require the CRU as the Regulatory Authority to establish and publish the basis for evaluation of participation in the relevant markets²³.

It should be noted that while the Terms and Conditions refer to "market participation" the requirement is for RESS projects to have offered the hour in question into a market, rather than having secured a position²⁴.

²³ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.12 (c)

²⁴ Government of Ireland (2023) [Terms and Conditions for the Third Competition under the Renewable Electricity Support Scheme](#), Section 5.6.7 (b)

4.2 Proposal for evaluating market participation

For evaluating whether a RESS 3 - 5 project has made an offer into either the SEM Day Ahead market or one of the Intra-Day markets (e.g. IDA 1, IDA 2, IDA 3) that they wish to claim UAEC for, it is proposed that SEMOpx's 'Energy Trading System (ETS) bid files: de-anonymised Orders submitted (and executed) in the Auction, by Unit'²⁵ are used for each of the four markets.

For determining whether a claim for UAEC had been offered into the Balancing Market, it is proposed that the daily 'Commercial Offer Data Accepted' as published by SEMO²⁶ is used.

To be eligible for UAEC, the full forecast expected volume must have been offered into the relevant market(s). Furthermore, the eligible quantity can be no greater than the quantity made available to the Balancing Market.

As the datasets noted above are publicly available on the SEMOpx / SEMO websites and detail all active offers in their respective markets, the CRU does not propose to separately publish the reports.

Feedback from stakeholders is invited on the following:

Q6. Do you agree with using SEMOpx's 'ETS bid file: de-anonymised Orders submitted (and executed) in the Auction, by Unit' dataset as a means of establishing participation in the Day Ahead and Intra-Day markets? Please set out your reasoning.

Q7. Do you agree with using SEMO's 'Commercial Offer Data Accepted' dataset as a means of establishing participation in the Balancing Market? Please set out your reasoning.

²⁵ SEMOpx (2025) [ETS Bid file](#)

²⁶ SEMO (2025) [Commercial Offer Data Accepted](#)

5. Next steps

Comments are welcome on any of the issues and questions raised in this Consultation Paper.

Responses to this Consultation Paper will be considered prior to a decision on implementation of UAEC for RESS 3 - 5.

Following the publication of this consultation, the likely next steps are:

- Consultation open from 21 April 2026 to 19 May 2026
- Assessment of responses received and stakeholder support for this proposal
- Engagement with EirGrid and DCEE to further develop the requirements for UAEC in RESS 3 - 5, as appropriate
- Develop and publish a Decision Paper.

Appendix

The information set out in this Appendix is for consultation. It is drafted to aid understanding of the proposals. It will be superseded by finalised text in the Decision Paper.

In the example calculation tables given below, the white columns represent figures that can be taken directly from the monthly dispatch down reports, whereas the grey columns are figures that must be added or calculated by the generator.

The following applies the steps set out above for the figures in Section 3 to Example Calculation 1 (see page 27).

The relevant formulas are as follows:

$$\text{UAE} = ((\text{Curtailments} + \text{D}) - \text{Prev. Comp.}) * \text{Offer Flag} * \text{NC Flag} * \text{Cat1Flag}$$

$$\text{UAEC} = \text{UAE} * \text{Strike Price}$$

Firstly, each half-hourly data point should be summed to an hour and entered into the HH_TIMESTAMP column.

The RESS Metered Quantity in MWh for each hour should then be added to column RMQ_MWh. In the case of Example Calculation 1 this 89.

In the formula to calculate the UAE, the first figure required is for curtailments and is provided in the Monthly Dispatch Down reports, so does not need to be calculated separately. This is represented by CURTAILMENTS_MWH, in dark green, which sums the three columns with text in light green (HI_FRQ_MIN_GEN_MWH, ROCOF_INERTIA_MWH, SNSP_MWH). These three columns represent the three different reasons for curtailments. In Example Calculation 1, we can see that the corresponding figures are 5 + 2 + 0. So, this produces a value of CURTAILMENTS_MWH of 7.

The first calculation for generators is for D (D_MWh) this is the difference between Active Power Output (AO_MWh) and RESS Metered Quantity (RMQ_MWh). In Example Calculation 1, the value for AO_MWh is 89 and for RMQ_MWh it is 89. Therefore, we get a value for D_MWh of 89 - 89 = 0. This is captured in the column with the light blue text.

The next step is to note which market(s) the energy has been offered in to, in the Offer

column. In Example Calculation 1 this is the Day Ahead Market and the Balancing Market (DAM + BM).

The second calculation required is for non-compliance with dispatch instructions (NC calc._MWh). This shows difference between the Available Volume (AV_MWH) and Active Power Output (AO_MWH) once the total dispatch volumes have been subtracted: AV_MWH - AO_MWH – (DD_MWH + OTHER_MWH) or 100 – 89 – (11 + 0) = 0.

The next figure required is to insert Prev. Comp. (Prev.comp_MWh). This is represented by the column with the orange text and is 0 in this example. This means that none (i.e. 0 MWh) of the energy generated in this hour has been previously compensated for.

The next figure required to be inserted is the Offer Flag (OfferFlag_0/1) represented by the column with the purple text and has a value of 1 in this example. This means that the energy was offered into one of the ex-ante markets as well as the Balancing Market at an offer price no greater than their SRMC (in this case the DAM and the BM, as shown in the Offer column). The full forecast expected volume must have been offered into the relevant market(s). Furthermore, the eligible quantity can be no greater than the quantity made available to the Balancing Market.

The next figure required is NC Flag (NCFlag_0/1) represented by the column with yellow text, and has a value of 0 in this example, which means that the generator is considered compliant. This is because the generator capacity is 100 MW, meaning the 1% threshold is 1 MW (see Section 3 of this paper).

The final figure required is CAT1 Flag (CAT1Flag_0/1) which has a value of 1 in this example. This means that the PPM is not in Category (i).

Substituting these figures into the UAE formula as follows:

$$\begin{aligned}
 &= ((7 + 0) - 0) * 1 * 1 * 1 \\
 &= ((7 - 0) * 1 * 1 * 1 \\
 &= 7 * 1 * 0 * 1 \\
 &= 7 \text{ MWh}
 \end{aligned}$$

Then to calculate the UAEC we multiply this value by the strike price

$$\begin{aligned}
 &= 7 * 98.80 \\
 &= €691.60
 \end{aligned}$$

The table below applies each of the 11 steps set out above in Section 3.4 to the following seven Example Calculations.

Calculation step	Example Calculation						
	1	2	3	4	5	6	7
1 Sum data from half-hourly (HH_TIMESTAMP) to hourly	-	-	-	-	-	-	-
2 Add RESS Metered Quantity (RMQ) data to a new column (RMQ_MWh)	89	85	85	86	85	86	85
3 Calculate D and add to a new column (D_MWh): Active Power Output (AO_MWH) - RESS Metered Quantity (RMQ_MWh)	89 - 89 = 0	85 - 85 = 0	82 - 85 = -3	88 - 86 = 2	85 - 85 = 0	86 - 86 = 0	85 - 84 = 1
4 Add markets hour offered into to a new column (Offer)	DAM + BM	DAM + BM	DAM + BM	BM	IDA 1 + BM	DAM + BM	DAM + BM
5 Calculate Non-Compliance and add to a new column (NC calc._MWh): (Available Active Power (AV_MWH) - Active Power Output (AO_MWH)) - (Total Dispatch Down (DD_MWH) + Other Reductions (OTHER_MWH))	((100-89) - (11+0)) = 0	((100-85) - (15+0)) = 0	((100-82) - (17+0)) = 1	((100-88) - (7+5)) = 0	((100-85) - (10+5)) = 0	((100-86) - (7+5)) = 2	((100-85) - (10+5)) = 0
6 Add any previously / due to be compensated volume (in MWh) to a new column (Prev. comp._MWh)	0	0	0	0	0		6
7 Apply Offer Flag (Offer Flag_0/1): If hour <i>not</i> offered into appropriate markets: Offer Flag = 0 If the hour offered into appropriate markets: Offer Flag = 1	1	1	1	0	1	1	1
8 Apply Non-Compliance flag (NC Flag_0/1): If Non-Compliance (NC calc._MWh) >1% of capacity: NC Flag = 0 If Non-Compliance (NC calc._MWh) ≤ 1% of capacity: NC Flag = 1	1	1	1	1	1	0	1
9 Apply Category (i) Flag (CAT1 Flag_0/1): If PPM is in Category (i): CAT1 Flag = 0 If PPM is in not in Category (i): CAT1 Flag = 1	1	1	1	1	1	1	1
10 Calculate UAE: ((CURTAILMENTS + D) - Prev. comp._MWh) * Offer Flag * NC Flag * CAT1 Flag	((7 + 0) - 0) * 1 * 1 * 1 = 7	((10 + 0) - 0) * 1 * 1 * 1 = 10	((12 + -3) - 0) * 1 * 1 * 1 = 9	((5 + 2) - 0) * 0 * 1 * 1 = 0	((5 + 0) - 0) * 1 * 1 * 1 = 5	((5 + 0) - 0) * 1 * 0 * 1 = 0	((5 + 1) - 6) * 1 * 1 * 1 = 0
11 For UAEC, multiply UAE figure (MWh) by Strike Price (€)	7 * €98.80 = €691.60	10 * €98.80 = €980.00	9 * €98.80 = €889.20	0 * €98.80 = €0	5 * €98.80 = €494.00	0 * €98.80 = €0	0 * €98.80 = €0

Example Calculation 1

From monthly dispatch down reports															To be added / calculated by generator								
HH_TIMESTAMP [converted to hour]	AV_MWH	AO_MWH	HI_FRQ_MIN_GEN_MWH	ROCOF_INERTIA_MWH	SNSP_MWH	TRANS_CONSTR_MWH	DCC_CONSTR_MWH	DEV_OUTAGE_MWH	DEV_TEST_MWH	TSO_TEST_MWH	DD_MWH	CURTAILMENTS_MWH	CONSTRAINTS_MWH	OTHER_MWH	RMQ_MWh	D_MWh	Offer	NC calc. _MWh	Prev. comp. _MWh	Offer Flag_0/1	NC Flag_0/1	CAT1 Flag_0/1	UAE_MWh
01/01/2024 19:00	100	89	5	2	0	1	0	0	0	3	11	7	4	0	89	0	DAM + BM	0	0	1	1	1	7
25/05/2024 04:00	100	85	4	3	3	5	0	0	0	0	15	10	5	0	85	0	DAM + BM	0	0	1	1	1	10
28/06/2024 15:00	100	82	1	2	9	5	0	0	0	0	17	12	5	0	85	-3	DAM + BM	1	0	1	1	1	9
28/10/2024 06:00	100	88	5	0	0	1	5	0	0	1	7	5	2	5	86	2	BM	0	0	0	1	1	0
03/11/2024 07:00	100	85	5	0	0	4	0	5	0	1	10	5	5	5	85	0	IDA+ BM	0	0	1	1	1	5
11/12/2024 10:00	100	86	1	0	4	1	2	2	1	1	7	5	2	5	86	0	DAM + BM	2	0	1	0	1	0
28/12/2024 01:00	100	85	0	5	0	4	1	2	2	1	10	5	5	5	84	1	DAM + BM	0	6	1	1	1	0

Windfarm with Strike Price of €98.80/MWh

DD_MWH: CURTAILMENTS = HI_FRQ_MIN_GEN,
ROCOF_INERTIA and SNSP
CONSTRAINTS = TRANS_CONSTR and TSO_TEST
OTHER_MWH: DCC_CONSTR, DEV_OUTAGE and DEV_TEST

$$UAE = ((CURTAILMENTS + D) - Prev. Comp.) * Offer Flag * NC Flag * CAT1 Flag$$

$$UAE = ((7 + 0) - 0) * 1 * 1 * 1 * 1$$

$$UAE = (7 - 0) * 1 * 1 * 1 * 1$$

$$UAE = 7 * 1 * 1 * 1 * 1$$

$$UAE = 7.0 MWh$$

$$UAEC = UAE * Strike Price$$

$$UAEC = 7.0 MWh * €98.80$$

$$UAEC = €691.60$$

Example Calculation 2

From monthly dispatch down reports															To be added / calculated by generator								
HH_TIMESTAMP	AV_MWH	AO_MWH	HI_FRQ_MIN_GEN_MWH	ROCOF_INERTIA_MWH	SNSP_MWH	TRANS_CONSTR_MWH	DCC_CONSTR_MWH	DEV_OUTAGE_MWH	DEV_TEST_MWH	TSO_TEST_MWH	DD_MWH	CURTAILMENTS_MWH	CONSTRAINTS_MWH	OTHER_MWH	RMQ_MWh	D_MWh	Offer	NC calc. _MWh	Prev. comp. _MWh	Offer Flag_0/1	NC Flag_0/1	CAT1 Flag_0/1	UAE_MWh
01/01/2024 19:00	100	89	5	2	0	1	0	0	0	3	11	7	4	0	89	0	DAM + BM	0	0	1	1	1	7
25/05/2024 04:00	100	85	4	3	3	5	0	0	0	0	15	10	5	0	85	0	DAM + BM	0	0	1	1	1	10
28/06/2024 15:00	100	82	1	2	9	5	0	0	0	0	17	12	5	0	85	-3	DAM + BM	1	0	1	1	1	9
28/10/2024 06:00	100	88	5	0	0	1	5	0	0	1	7	5	2	5	86	2	BM	0	0	0	1	1	0
03/11/2024 07:00	100	85	5	0	0	4	0	5	0	1	10	5	5	5	85	0	IDA+ BM	0	0	1	1	1	5
11/12/2024 10:00	100	86	1	0	4	1	2	2	1	1	7	5	2	5	86	0	DAM + BM	2	0	1	0	1	0
28/12/2024 01:00	100	85	0	5	0	4	1	2	2	1	10	5	5	5	84	1	DAM + BM	0	6	1	1	1	0

Windfarm with Strike Price of €98.80/MWh

DD_MWH: CURTAILMENTS = HI_FRQ_MIN_GEN,
ROCOF_INERTIA and SNSP
CONSTRAINTS = TRANS_CONSTR and TSO_TEST
OTHER_MWH: DCC_CONSTR, DEV_OUTAGE and DEV_TEST

$$UAE = ((CURTAILMENTS + D) - Prev. Comp.) * Offer Flag * NC Flag * CAT1 Flag$$

$$UAE = ((10 + 0) - 0) * 1 * 1 * 1 * 1$$

$$UAE = (10 - 0) * 1 * 1 * 1 * 1$$

$$UAE = 10 * 1 * 1 * 1 * 1$$

$$UAE = 10.0 MWh$$

$$UAEC = UAE * Strike Price$$

$$UAEC = 10.0 MWh * €98.80$$

$$UAEC = €980.00$$

Example Calculation 3

From monthly dispatch down reports														To be added / calculated by generator									
HH_TIMESTAMP	AV_MWH	AO_MWH	HI_FRQ_MIN_GEN_MWH	ROCOF_INERTIA_MWH	SNSP_MWH	TRANS_CONSTR_MWH	DCC_CONSTR_MWH	DEV_OUTAGE_MWH	DEV_TEST_MWH	TSO_TEST_MWH	DD_MWH	CURTAILMENTS_MWH	CONSTRAINTS_MWH	OTHER_MWH	RMQ_MWh	D_MWh	Offer	NC calc. _MWh	Prev. comp. _MWh	Offer Flag_0/1	NC Flag_0/1	CAT1 Flag_0/1	UAE_MWh
01/01/2024 19:00	100	89	5	2	0	1	0	0	0	3	11	7	4	0	89	0	DAM + BM	0	0	1	1	1	7
25/05/2024 04:00	100	85	4	3	3	5	0	0	0	0	15	10	5	0	85	0	DAM + BM	0	0	1	1	1	10
28/06/2024 15:00	100	82	1	2	9	5	0	0	0	0	17	12	5	0	85	-3	DAM + BM	1	0	1	1	1	9
28/10/2024 06:00	100	88	5	0	0	1	5	0	0	1	7	5	2	5	86	2	BM	0	0	0	1	1	0
03/11/2024 07:00	100	85	5	0	0	4	0	5	0	1	10	5	5	5	85	0	IDA+ BM	0	0	1	1	1	5
11/12/2024 10:00	100	86	1	0	4	1	2	2	1	1	7	5	2	5	86	0	DAM + BM	2	0	1	0	1	0
28/12/2024 01:00	100	85	0	5	0	4	1	2	2	1	10	5	5	5	84	1	DAM + BM	0	6	1	1	1	0

Windfarm with Strike Price of €98.80/MWh

DD_MWH: CURTAILMENTS = HI_FRQ_MIN_GEN, ROCOF_INERTIA and SNSP
 CONSTRAINTS = TRANS_CONSTR and TSO_TEST
 OTHER_MWH: DCC_CONSTR, DEV_OUTAGE and DEV_TEST

$$UAE = ((CURTAILMENTS + D) - Prev. Comp.) * Offer Flag * NC Flag * CAT1 Flag$$

$$UAE = ((12 + -3) - 0) * 1 * 1 * 1$$

$$UAE = (9 - 0) * 1 * 1 * 1$$

$$UAE = 9 * 1 * 1 * 1$$

$$UAE = 9.0 MWh$$

$$UAEC = UAE * Strike Price$$

$$UAEC = 9.0 MWh * €98.80$$

$$UAEC = €889.20$$

Example Calculation 4

From monthly dispatch down reports														To be added / calculated by generator									
HH_TIMESTAMP	AV_MWH	AO_MWH	HI_FRQ_MIN_GEN_MWH	ROCOF_INERTIA_MWH	SNSP_MWH	TRANS_CONSTR_MWH	DCC_CONSTR_MWH	DEV_OUTAGE_MWH	DEV_TEST_MWH	TSO_TEST_MWH	DD_MWH	CURTAILMENTS_MWH	CONSTRAINTS_MWH	OTHER_MWH	RMQ_MWh	D_MWh	Offer	NC calc. _MWh	Prev. comp. _MWh	Offer Flag_0/1	NC Flag_0/1	CAT1 Flag_0/1	UAE_MWh
01/01/2024 19:00	100	89	5	2	0	1	0	0	0	3	11	7	4	0	89	0	DAM + BM	0	0	1	1	1	7
25/05/2024 04:00	100	85	4	3	3	5	0	0	0	0	15	10	5	0	85	0	DAM + BM	0	0	1	1	1	10
28/06/2024 15:00	100	82	1	2	9	5	0	0	0	0	17	12	5	0	85	-3	DAM + BM	1	0	1	1	1	9
28/10/2024 06:00	100	88	5	0	0	1	5	0	0	1	7	5	2	5	86	2	BM	0	0	0	1	1	0
03/11/2024 07:00	100	85	5	0	0	4	0	5	0	1	10	5	5	5	85	0	IDA+ BM	0	0	1	1	1	5
11/12/2024 10:00	100	86	1	0	4	1	2	2	1	1	7	5	2	5	86	0	DAM + BM	2	0	1	0	1	0
28/12/2024 01:00	100	85	0	5	0	4	1	2	2	1	10	5	5	5	84	1	DAM + BM	0	6	1	1	1	0

Windfarm with Strike Price of €98.80/MWh

DD_MWH: CURTAILMENTS = HI_FRQ_MIN_GEN, ROCOF_INERTIA and SNSP
 CONSTRAINTS = TRANS_CONSTR and TSO_TEST
 OTHER_MWH: DCC_CONSTR, DEV_OUTAGE and DEV_TEST

$$UAE = ((CURTAILMENTS + D) - Prev. Comp.) * Offer Flag * NC Flag * CAT1 Flag$$

$$UAE = ((5 + 2) - 0) * 0 * 1 * 1$$

$$UAE = (7 - 0) * 0 * 1 * 1$$

$$UAE = 7 * 0 * 1 * 1$$

$$UAE = 0.0 MWh$$

$$UAEC = UAE * Strike Price$$

$$UAEC = 0.0 MWh * €98.80$$

$$UAEC = €0.00$$

Example Calculation 5

From monthly dispatch down reports														To be added / calculated by generator									
HH_TIMESTAMP	AV_MWH	AO_MWH	HI_FRQ_MIN_GEN_MWH	ROCOF_INERTIA_MWH	SNSP_MWH	TRANS_CONSTR_MWH	DCC_CONSTR_MWH	DEV_OUTAGE_MWH	DEV_TEST_MWH	TSO_TEST_MWH	DD_MWH	CURTAILMENTS_MWH	CONSTRAINTS_MWH	OTHER_MWH	RMQ_MWh	D_MWh	Offer	NC calc. _MWh	Prev. comp. _MWh	Offer Flag_0/1	NC Flag_0/1	CAT1 Flag_0/1	UAE_MWh
01/01/2024 19:00	100	89	5	2	0	1	0	0	0	3	11	7	4	0	89	0	DAM + BM	0	0	1	1	1	7
25/05/2024 04:00	100	85	4	3	3	5	0	0	0	0	15	10	5	0	85	0	DAM + BM	0	0	1	1	1	10
28/06/2024 15:00	100	82	1	2	9	5	0	0	0	0	17	12	5	0	85	-3	DAM + BM	1	0	1	1	1	9
28/10/2024 06:00	100	88	5	0	0	1	5	0	0	1	7	5	2	5	86	2	BM	0	0	0	1	1	0
03/11/2024 07:00	100	85	5	0	0	4	0	5	0	1	10	5	5	5	85	0	IDA+ BM	0	0	1	1	1	5
11/12/2024 10:00	100	86	1	0	4	1	2	2	1	1	7	5	2	5	86	0	DAM + BM	2	0	1	0	1	0
28/12/2024 01:00	100	85	0	5	0	4	1	2	2	1	10	5	5	5	84	1	DAM + BM	0	6	1	1	1	0

Windfarm with Strike Price of €98.80/MWh

DD_MWH: CURTAILMENTS = HI_FRQ_MIN_GEN, ROCOF_INERTIA and SNSP
 CONSTRAINTS = TRANS_CONSTR and TSO_TEST
 OTHER_MWH: DCC_CONSTR, DEV_OUTAGE and DEV_TEST

$$UAE = ((CURTAILMENTS + D) - Prev. Comp.) * Offer Flag * NC Flag * CAT1 Flag$$

$$UAE = ((5 + 0) - 0) * 1 * 1 * 1$$

$$UAE = (5 - 0) * 1 * 1 * 1$$

$$UAE = 5 * 1 * 1 * 1$$

$$UAE = 5.0 \text{ MWh}$$

$$UAEC = UAE * Strike Price$$

$$UAEC = 5.0 \text{ MWh} * €98.80$$

$$UAEC = €494.00$$

Example Calculation 6

From monthly dispatch down reports														To be added / calculated by generator									
HH_TIMESTAMP	AV_MWH	AO_MWH	HI_FRQ_MIN_GEN_MWH	ROCOF_INERTIA_MWH	SNSP_MWH	TRANS_CONSTR_MWH	DCC_CONSTR_MWH	DEV_OUTAGE_MWH	DEV_TEST_MWH	TSO_TEST_MWH	DD_MWH	CURTAILMENTS_MWH	CONSTRAINTS_MWH	OTHER_MWH	RMQ_MWh	D_MWh	Offer	NC calc. _MWh	Prev. comp. _MWh	Offer Flag_0/1	NC Flag_0/1	CAT1 Flag_0/1	UAE_MWh
01/01/2024 19:00	100	89	5	2	0	1	0	0	0	3	11	7	4	0	89	0	DAM + BM	0	0	1	1	1	7
25/05/2024 04:00	100	85	4	3	3	5	0	0	0	0	15	10	5	0	85	0	DAM + BM	0	0	1	1	1	10
28/06/2024 15:00	100	82	1	2	9	5	0	0	0	0	17	12	5	0	85	-3	DAM + BM	1	0	1	1	1	9
28/10/2024 06:00	100	88	5	0	0	1	5	0	0	1	7	5	2	5	86	2	BM	0	0	0	1	1	0
03/11/2024 07:00	100	85	5	0	0	4	0	5	0	1	10	5	5	5	85	0	IDA+ BM	0	0	1	1	1	5
11/12/2024 10:00	100	86	1	0	4	1	2	2	1	1	7	5	2	5	86	0	DAM + BM	2	0	1	0	1	0
28/12/2024 01:00	100	85	0	5	0	4	1	2	2	1	10	5	5	5	84	1	DAM + BM	0	6	1	1	1	0

Windfarm with Strike Price of €98.80/MWh

DD_MWH: CURTAILMENTS = HI_FRQ_MIN_GEN, ROCOF_INERTIA and SNSP
 CONSTRAINTS = TRANS_CONSTR and TSO_TEST
 OTHER_MWH: DCC_CONSTR, DEV_OUTAGE and DEV_TEST

$$UAE = ((CURTAILMENTS + D) - Prev. Comp.) * Offer Flag * NC Flag * CAT1 Flag$$

$$UAE = ((5 + 0) - 0) * 1 * 0 * 1$$

$$UAE = (5 - 0) * 1 * 0 * 1$$

$$UAE = 5 * 1 * 0 * 1$$

$$UAE = 0.0 \text{ MWh}$$

$$UAEC = UAE * Strike Price$$

$$UAEC = 0.0 \text{ MWh} * €98.80$$

$$UAEC = €0.00$$

Example Calculation 7

From monthly dispatch down reports														To be added / calculated by generator									
HH_TIMESTAMP	AV_MWH	AO_MWH	HI_FRQ_MIN_GEN_MWH	ROCOF_INERTIA_MWH	SNSP_MWH	TRANS_CONSTR_MWH	DCC_CONSTR_MWH	DEV_OUTAGE_MWH	DEV_TEST_MWH	TSO_TEST_MWH	DD_MWH	CURTAILMENTS_MWH	CONSTRAINTS_MWH	OTHER_MWH	RMQ_MWh	D_MWh	Offer	NC calc. _MWh	Prev. comp. _MWh	Offer Flag_ 0/1	NC Flag_ 0/1	CAT1 Flag_ 0/1	UAE_MWh
01/01/2024 19:00	100	89	5	2	0	1	0	0	0	3	11	7	4	0	89	0	DAM + BM	0	0	1	1	1	7
25/05/2024 04:00	100	85	4	3	3	5	0	0	0	0	15	10	5	0	85	0	DAM + BM	0	0	1	1	1	10
28/06/2024 15:00	100	82	1	2	9	5	0	0	0	0	17	12	5	0	85	-3	DAM + BM	1	0	1	1	1	9
28/10/2024 06:00	100	88	5	0	0	1	5	0	0	1	7	5	2	5	86	2	BM	0	0	0	1	1	0
03/11/2024 07:00	100	85	5	0	0	4	0	5	0	1	10	5	5	5	85	0	IDA+ BM	0	0	1	1	1	5
11/12/2024 10:00	100	86	1	0	4	1	2	2	1	1	7	5	2	5	86	0	DAM + BM	2	0	1	0	1	0
28/12/2024 01:00	100	85	0	5	0	4	1	2	2	1	10	5	5	5	84	1	DAM + BM	0	6	1	1	1	0

Windfarm with Strike Price of €98.80/MWh

DD_MWH: CURTAILMENTS = HI_FRQ_MIN_GEN, ROCOF_INERTIA and SNSP
 CONSTRAINTS = TRANS_CONSTR and TSO_TEST
 OTHER_MWH: DCC_CONSTR, DEV_OUTAGE and DEV_TEST

$$\begin{aligned}
 \text{UAE} &= ((\text{CURTAILMENTS} + \text{D}) - \text{Prev. Comp.}) * \text{Offer Flag} * \text{NC Flag} * \text{CAT1 Flag} \\
 \text{UAE} &= ((5 + 1) - 6) * 1 * 1 * 1 \\
 \text{UAE} &= (6 - 6) * 1 * 1 * 1 \\
 \text{UAE} &= 0 * 1 * 1 * 1 \\
 \text{UAE} &= 0.0 \text{ MWh}
 \end{aligned}$$

$$\begin{aligned}
 \text{UAEC} &= \text{UAE} * \text{Strike Price} \\
 \text{UAEC} &= 0.0 \text{ MWh} * €98.80 \\
 \text{UAEC} &= €0.00
 \end{aligned}$$