



## **AUGHINISH ALUMINA LIMITED**

*(Registered in Ireland No.59982)*

For Attention of  
Kevin Lenaghan (Kevin.Lenaghan@uregni.gov.uk) and  
Karen Shiels (Karen.Shiels@uregni.gov.uk)  
Utility Regulator  
Queens House  
14 Queen Street  
Belfast BT1 6ED

**Non-confidential reply to Urgent Modification Consultation Paper**  
**CMC 05 20 Amendments Relating to the Clean Energy Package**  
**SEM-20-023**

20<sup>th</sup> April 2020

Dear Kevin / Karen,

Aughinish Alumina Limited (Aughinish) welcome the opportunity to reply to this consultation. Subject to our observations below we support the SEM Committee “minded to” position to approve the modification proposal.

The European Clean Energy Package (CEP) is vital to the ambitions of Europe to deliver on our Paris Agreement commitments to reduce greenhouse gas emissions. Aughinish fully support this. It is in keeping with our efforts, having transitioned away from Heavy Fuel Oil to cleaner fuels. Putting “energy efficiency first” is a key objective in the CEP, as energy savings are the easiest way of saving money for consumers and for reducing greenhouse gas emissions. Our investment in a Combined Heat and Power (CHP) plant in 2006 has delivered just that. By saving 25% of primary energy compared to state-of-the-art power-only plants and heat-only boilers it has 1) reduced the carbon intensity of the all-island power grid 2) reduced the cost of electricity to end consumers and 3) helped to keep our industry in Ireland competitive.

Below please find our consultation response in the required format. Aughinish is available to provide supporting information/advices and engage on this matter.

Yours sincerely,

Ríoch Magan  
Aughinish Alumina

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## SUMMARY INFORMATION

Respondent's Name	Aughinish Alumina Ltd
Type of Stakeholder	Consumer, Generator & Supplier
Contact name (for any queries)	Ríoch Magan
Contact Email Address	<a href="mailto:rioch.magan@augh.com">rioch.magan@augh.com</a>
Contact Telephone Number	+353 61 604459

## CAPACITY MARKET CODE MODIFICATIONS CONSULTATION COMMENTS:

Appendix A ID	Appendix B Proposed Modification and its Consistency with the Code Objectives	Appendix C Impacts Not Identified in the Modification Proposal Form	Appendix D Detailed CMC Drafting Proposed to Deliver the Modification
<b>CMC_05_20</b> - Modification to Implement amendments as required by the Clean Energy Package Regulation EU 2019/943	See below	See below	See below

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## **Appendix B Proposed Modification and its Consistency with the Code Objectives**

*Code Objective (b) to facilitate the efficient, economic and coordinated operation, administration and development of the Capacity Market and the provision of adequate future capacity in a financially secure manner;*

The SEM Committee must ensure final agreed technical guidance does not discriminate against low carbon intensity CHP. To do so would result in:

- less fuel efficient technology being dispatched,
- more expensive electricity on the island of Ireland,
- uncoordinated emergency capacity being built at additional cost to consumers,
- uncertainty for future applications of CHP to reduce Irelands carbon foot print.

*Code Objective (d) to promote competition in the provision of electricity capacity to the SEM;*

The SEM Committee must ensure the final agreed technical guidance does not discriminate against low carbon intensity CHP. This would be direct opposition to the intent of the Clean Energy Package, part of which include the Energy Efficiency Directive.

*Code Objective (e) to provide transparency in the operation of the SEM;*

Article 22(4) of the 2019 Regulation is not of itself sufficiently detailed to identify a specific methodology for the calculation of CO<sub>2</sub> emissions for electricity from CHP. It is therefore necessary to interpret it further. The proposed technical guidance will help provide transparency, below Aughinish agree the EU ETS might be appropriate but also suggest other less complex alternatives.

*Code Objective (f) to ensure no undue discrimination between persons who are or may seek to become parties to the Capacity Market Code; and*

The SEM Committee must ensure the final agreed technical guidance does not discriminate against low carbon intensity CHP.

*Code Objective (g) through the development of the Capacity Market, to promote the short-term and long-term interests of consumers of electricity with respect to price, quality, reliability, and security of supply of electricity across the Island of Ireland.*

The SEM Committee must ensure final agreed technical guidance does not discriminate against low carbon intensity CHP. To do so would jeopardise the interests of consumers of electricity, resulting in higher costs, higher carbon intensity and less secure power.

## **Appendix B Impacts Not Identified in the Modification Proposal Form**

Decisions made by the RAs have the potential to impact the future of grid security, the cost of electricity to end consumers and the carbon intensity for the all-island grid. Aughinish as the owner/operator of a CHP facility which is certified as being 'high efficiency' propose the objectives of the CMC are well served in version 2 of modification CMC\_02\_20 by the acknowledgment of the the carbon reducing benefits of CHP.

## Appendix C Detailed CMC Drafting Proposed to Deliver the Modification

### Add to Glossary

Aughinish support the Glossary definition of CO2 Limits and their referral to the Regulation.

### Add a new Section D.4

Aughinish are most concerned with the guidelines to assess carbon intensity of electrical power produced from CHP. We agree with the RAs that a significant proportion of CO2 emissions from CHP are associated with the production of heat and some form of guidance to the TSO is appropriate. Aughinish support the intent of the new section D.4.

### Draft high level technical guidance

Aughinish recognise the difficulty in producing this before the 2023/2024 auction schedule for April 2020. The technical guidance is a vital aspect of this consultation, but is not yet finalised. If the document is consistent with the intent of the Clean Energy Package and consistent with established EU conventions it will recognise CHP as a low carbon producer of electricity, if it does not, it risks sending an exit signal to low carbon intensity CHP.

The High Level Technical Guidance, as part of this consultation, suggested that the EU ETS would be an appropriate standard to allocate CO<sub>2</sub> emissions to CHP. Aughinish agree this is well-established in Europe and considers cogeneration appropriately. In the final drafting of the technical guidance, we propose the SEM Committee should also consider two other established standards, the European Investment Bank's "heat bonus approach" and the UK's "boiler displacement method"<sup>1</sup>. Both consider the total emissions from a CHP facility and deduct the emissions from a theoretical best in class alternative boiler, the resultant emissions are then allocated towards electricity generation.

The EIB emissions threshold provides instructive background on the economic context of Article 22 of Regulation 2019/943. Similar to Article 22, the EIB's Emissions Performance Standard was set at 550g CO<sub>2</sub> per kWh of electricity generated at the time the Regulation was enacted, indicating that Article 22 may well have been drafted with the intention of following the EIB rules<sup>2</sup>.

There may also be an administrative benefit in adopting the heat bonus approach in that the calculation is more transparent. In addition to verified site data it only requires the up to date

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<sup>1</sup> [The Emissions Performance Standard Regulations 2015](#). Regulation 8 makes allowance for the fuel used to generate useful heat when classifying attributable emissions for the purposes of the Emissions Performance Standard.

<sup>2</sup> In a speech delivered on 10 September 2019, EIB Vice President Andrew McDowell noted that the EIB's 550g CO<sub>2</sub> per kWh standard had been incorporated into the Clean Energy Package in relation to capacity remuneration mechanisms.

efficiency of a best in class gas boiler to complete the calculation. Currently the best in class steam boiler has an 87% efficiency<sup>3</sup> boiler. Below is what the calculation might look like.

*Carbon emissions for electricity from CHP plant*

$$= \frac{(Total\ carbon\ emissions\ gas\ CHP\ plant - Total\ carbon\ emissions\ of\ a\ 87\%\ eff\ gas\ boiler)}{Total\ net\ electricity\ generation\ of\ the\ CHP\ plant}$$

Supporting Document 1, on the next page, contains an email from Andreas Heinz of the EIB to COGEN Europe with the formula they use when verifying eligibility for CHP plants and he kindly provided a worked example for our consideration.

Aughinish reserve the right to consult on the final Technical Guidance when it is available. However, Aughinish support the draft high level technical guidance published as part of this consultation.

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<sup>3</sup> The alternative heat source is a heat-only boiler with a standard efficiency for the type of fuel and boiler, as per the harmonised efficiency reference values for separate production of heat in Annex II of [Commission Delegated Regulation \(EU\) 2015/2402](#), reviewing harmonised efficiency reference values for separate production of electricity and heat

# Supporting Document 1

## An email from Andreas Heinz of the EIB

**From:** HEINZ Andreas <[a.heinz@eib.org](mailto:a.heinz@eib.org)>  
**Sent:** 25 March 2020 18:29  
**To:** Alexandra Tudoroiu - COGEN Europe <[alexandra.tudoroiu@cogeneurope.eu](mailto:alexandra.tudoroiu@cogeneurope.eu)>; EIB Energy Lending Policy Public Consultation <[elpconsultation@eib.org](mailto:elpconsultation@eib.org)>  
**Cc:** Hans Korteweg - COGEN Europe <[hans.korteweg@cogeneurope.eu](mailto:hans.korteweg@cogeneurope.eu)>; Francois Paquet - COGEN Europe <[francois.paquet@cogeneurope.eu](mailto:francois.paquet@cogeneurope.eu)>  
**Subject:** RE: EIB 2019 ELP - CHP allocation methodology/ "heat bonus"

Dear Alexandra,

Thank you for your question.

The Heat Bonus method is a way of allocating fuel consumption (and GHG emissions) to the heat and power generated by a Cogeneration plant. The EIB applies the following approach when verifying eligibility of combined heat and power (CHP) plants under its new energy lending policy (ELP):

$$\text{GHG emissions of power generation in a CHP plant} = \frac{(\text{Total GHG emissions CHP plant} - \text{Total GHG emissions of an alternative heat source})}{\text{Total net electricity generation of the CHP plant}}$$

The alternative heat source is a heat-only boiler with a standard efficiency for the type of fuel and boiler, as per the harmonised efficiency reference values for separate production of heat in Annex II of [Commission Delegated Regulation \(EU\) 2015/2402](#), reviewing harmonised efficiency reference values for separate production of electricity and heat.

**CHP worked example:**

A proposed gas-fired combined heat and power project has an expected net annual electricity generation of 100 GWh<sub>e</sub>, to be exported to the grid, and 300 GWh<sub>th</sub> of steam to an on-site industrial off taker. It consumes 1650 TJ of natural gas annually. Natural gas has an emissions factor of 56.10 tCO<sub>2</sub>e/GJ. The reference efficiency for a gas-fired heat only steam boiler is 87%.

- To produce the same amount of heat, the reference gas boiler would consume 300/87%= 345 GWh of gas, or 1241 TJ.
- Subtract this total CHP fuel consumption (1650 TJ) to determine the share of the CHP fuel consumption attributed to power generation: 1650 - 1241 = 409 TJ.
- Multiply by the emissions factor of gas: 409 \* 56.1 = 22,924 tCO<sub>2</sub>e annual GHG emissions
- Divide by the annual electricity production: 22,924/100 = 229 tCO<sub>2</sub>e/GWh or gCO<sub>2</sub>e/kWh
- 229 < 250, therefore the project is eligible.

In case of further questions, please let me know.

Best regards,

**Andreas Heinz**  
Deputy Adviser  
Renewable Energy - Energy Department - Project Directorate



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