



# **Integrated Single Electricity Market (I-SEM)**

**High Level Design for Ireland and Northern  
Ireland from 2016**

**Consultation Response from  
Aughinish Alumina Ltd.**

**4 April 2014**

## 1 PURPOSE OF THIS DOCUMENT

### 1.1 PURPOSE AND STRUCTURE OF THIS DOCUMENT

- 1.1.1 This supplementary document provides a template for responses to the consultation document on implementing a new High Level Design ('HLD') for the Integrated Single Electricity Market (I-SEM) in Ireland by the end of 2016. We request all responses to the consultation are submitted in this template, and in **Microsoft Word** format.
- 1.1.2 This template contains the questions presented in the consultation document.
- 1.1.3 Responses to the Consultation Paper are requested by 17.00 4th April 2014. Following a review of the responses to this paper the SEM Committee will publish its draft decision on the proposals set out in this paper in June 2014.
- 1.1.4 Responses should be sent to Jean-Pierre Miura (JeanPierre.Miura@uregni.gov.uk) and Philip Newsome (pnewsome@cer.ie). Please note that the SEM Committee intends to publish all responses unless marked confidential<sup>1</sup>.

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<sup>1</sup> While the SEM Committee does not intend to publish responses marked confidential please note that both Regulatory Authorities are subject to Freedom of Information legislation.

## 2 CONSULTATION QUESTIONS

### 2.1 RESPONDENT DETAILS

COMPANY	Aughinish Alumina Ltd
CONTACT DETAILS	John Ryan
MAIN INTEREST IN CONSULTATION	Existing market participant operating a priority dispatched 160MW CHP plant integrated within an alumina refinery constituting a Trading Site of which circ. 45MWe (power) and 240MWth (heat) demand is consumed within the site

### 2.2 GENERAL COMMENTS

#### Aughinish Alumina CHP Plant

Aughinish Alumina Limited (“Aughinish”) is a large alumina manufacturing refinery based in West Limerick since 1983, employing almost 600 people. Aughinish is one of the largest users of energy in Ireland (circa 779MW) and one of the largest users of power in the SEM, consuming 45MW of power 363 days of the year. Alumina produced in Aughinish is exported into a world market where we must compete against plant with more favourable input costs. Aughinish is a viable business today because we have year-on-year improved efficiencies to where we are one of the most energy efficient plants in the world.

In 2003 Aughinish invested over US \$130M in a 160MW combined heat and power (“CHP”) plant to meet the power and heat needs of the alumina refinery. Since commercial operation in 2006, the CHP plant has played a major role decarbonising its production process and plays a significant part in contributing to Ireland reaching its energy efficiency targets and reducing emissions, accounting for an average saving of approx. 330,000 tonnes of CO<sub>2</sub> per annum. Under Irish law the threshold for high efficiency CHP is 10% primary energy saving (PES), Aughinish has been certified by the CER at twice this threshold.

The alumina manufacturing facility has a constant demand for high quality steam produced from the CHP plant. The CHP plant provides that steam and is therefore an integral and indispensable component of the facility and its continued operation. Prior to installing the CHP, steam for the alumina facility was exclusively generated by Heavy Fuel Oil (HFO) boilers. Aughinish recently invested additional millions in further decarbonising its production process by converting a number of its other processes from heavy fuel oil to gas.

- Calciner conversion from HFO to gas 2011 US \$14M
- New gas boilers to produce steam, with HFO boilers as backup 2014 US \$19M

Through such investments Aughinish have moved from a 100% HFO consumer in 2005 to a 100% natural gas consumer in 2014. As well as improving energy efficiencies this has reduced Irish carbon emissions by over 500,000 tonnes per annum.

In the event that the CHP could not export power the ability of the alumina plant to operate would be fundamentally restricted. Turning off the CHP would also have an immediate impact on the national CO<sub>2</sub> emission levels as a significant amount of CO<sub>2</sub> would have to be produced from other less efficient sources. The ability therefore of the CHP to export its power to the grid is critical not only to the uninterrupted operation of the alumina manufacturing facility (meeting its continuous heat demand) but also to Ireland achieving its emission targets.

Aughinish presented its position to the Regulatory Authorities (“RAs”) at a Bi-Lateral meeting in Dublin on 12<sup>th</sup> March 2014 and raised concerns about how the CHP plant would be treated under the I-SEM. A copy of our presentation was sent to the RAs following the meeting.

#### I-SEM Consultation

In our response to the consultation “Implementing the European Electricity Target Model in SEM”<sup>2</sup> we supported the opening up of European cross-border trading but stressed that the founding principles of the SEM and the benefits gained should not be discarded without compelling justification. To this end we support the high level evolutionary approach outlined in option 4 where Ireland maintains the core SEM structure and benefits whilst facilitating the implementation of the target model in conjunction with other areas of energy policy e.g. priority dispatch and other provisions under EU Directives such as the Energy Efficiency Directive.

In its Decision Paper<sup>3</sup> on the next steps following the consultation, the SEM Committee decided that :- the “SEM high level design will continue to be based on transparent centralised trading arrangements, least-cost dispatch and centralised unit commitment. Although options for self-commitment might be permitted there remains a requirement to continue market power mitigation measures in the SEM”.

Aughinish fully supports this position and welcomed the recognition by the SEM Committee that the interaction between the target model and the decarbonisation of the electricity sector are complementary policy goals. Hence, the new design whilst ensuring the High Level Principles for the re-design of the SEM to implement the target model are applied, needs to guarantee that priority dispatched plant and CHP plant operating in a Trading Site, are dispatched in accordance with SEM-11-062 taking into account current operating practices of the Trading and Settlement Code.

Aughinish believe that the best way to deliver these objectives is to adopt Option 4.

We have genuine concerns at this stage that if Ireland adopted Option 3 from 2016 this would not be the best course of action as there are a number of reasons why the market coupling model in its current form is not yet appropriate to adopt on a mandatory basis. We have addressed this further in our response to Question 13.

The question of a Capacity Payment requirement very much depends on the market design chosen and the level of regulatory intervention. Generators need to be able to recover their long run marginal costs and it is likely that a Capacity Payment Mechanism (CPM) would be required to ensure long term system security. New build generators require certainty of investment return, otherwise future capacity and security of supply will suffer. In our response we note the capacity scarcity in the UK market after a period of surplus and we note the demands placed on conventional generators in supporting renewable plant and the targets for 2020.

Ireland is an island with limited interconnection. We need to balance strategic security of supply with open trading across interconnectors. The key requirement is that security is maintained in a contingency event resulting from loss of interconnector and during periods of system stress when there are difficulties in balancing demand and supply i.e. the so called “downward regulation” due to increased inflexible generation output exceeding system demand. This is an issue which has been

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<sup>2</sup> See SEM-12-04

<sup>3</sup> See SEM-13-009

acknowledged in Ireland by the TSO and is reflected in the various ACER reports on capacity markets in which, as a result of subsidised RES-based generation with low marginal costs, existing thermal plant have difficulties in earning sufficient revenues to cover their fixed costs even though such plant may prove essential to maintain an acceptable level of security of supply.

2.3 PURPOSE OF THE DOCUMENT (SECTION 1)

Question	Answer
<p>1. Which option for energy trading arrangements would be your preferred choice for the I-SEM market, and why?</p>	<p>Option 4 Gross Pool – Net Settlement Market.</p> <p>The reason for the selection of this option is primarily based on:</p> <ul style="list-style-type: none"> <li>• Broad acceptance that the current gross pool has served Ireland well since 2007.</li> <li>• Its known delivery of the SEM HLD criteria.</li> <li>• Its support of trading site arrangements.</li> <li>• Uncertainties and concerns around the alternative options.</li> <li>• Insufficient confidence in the proposals for market coupling.</li> <li>• Reported undue influence of existing bidding zones on electricity markets<sup>4</sup>,</li> <li>• Uncertainties in adopting a mandatory participation in the DAM (Option 3).</li> <li>• Maintenance of price transparency for non-integrated independent generation will continue to promote competition and allow access to the market.</li> <li>• Forward trading can be recognised as energy trading as we have indicated in Question 16 of this consultation paper.</li> </ul> <p>The EU electricity market structure is still evolving and there will probably be more significant structural changes yet to be developed whereas Option 4 provides consistency to existing market participants and implements the target model on the basis of the high-level principles identified as part of the design criteria.</p> <p>As an industrial manufacturing plant selling a commodity into a global market Aughinish does not have the ability to pass increased costs onto our customers. For Ireland to survive in a competitive business environment it is essential that the electricity market is designed with absolute transparency and competitive pricing. It has been noted in 3.1.2 of this consultation that the SEM Committee and market participants agree that the SEM has been successful in delivering consumer price which are reflective of the long run marginal cost. Option 4 incorporates the known benefits of the SEM and is less risky to consumers than the alternatives.</p> <p>The HLD consultation does not offer sufficient detail for Aughinish to consider the 4 options in relation to our key concerns:</p> <ul style="list-style-type: none"> <li>• Trading site arrangements for self-supply generates.</li> <li>• Potential double balancing penalties for demand and generation in a single CHP site.</li> <li>• Access to market for priority dispatch plant.</li> <li>• Our alumina plant exposure to market/dispatch risk through</li> </ul>

<sup>4</sup> See “Report on the Influence of existing bidding zones on electricity markets”, R\_2014\_E\_01 March 2014, ACER

	turning off the CHP steam generation power source.
<p>2. Is there a requirement for a CRM in the revised HLD, and why?</p>	<p>Yes, it is appropriate that the SEM Committee develop a CRM which rewards predictable and reliable plant which are available at times of system stress.</p> <p>New build generators require certainty of investment return, otherwise capacity and security of supply will suffer. Therefore we believe some form of CRM must be maintained particularly whilst market monitoring mechanisms apply to generator bids in Ireland (and this is difficult to avoid whilst protecting against market power).</p> <p>In 2003 under the bi-lateral market the regulatory authorities were forced to launch a competition for new generation due to serious adequacy concerns. Since establishment of the SEM in 2007 and its associated CRM the capacity margin has grown to a healthy level. In contrast GB has swung from a surplus capacity in the Pool before NETA/BETTA to a position where it is forced today to enter an emergency competition for new generation. Energy only market with insufficient or no CRM do not appear to provide sufficient signal or clarity to encourage generation to meet market capacity requirements.</p> <p>Furthermore the growth in renewable generation increases the risk that conventional generators will not be able to recover their long run marginal costs in a regulated market. This could gravely diminish the security of the system as their backup capacity from thermal generation is vital in supporting the renewable target at times when the wind is not blowing.</p> <p>Any CRM must avoid distortions for cross border trading (in particular the Betta Market in the UK) and be compatible with the European Commission guidance on State Aid.</p>
<p>3. If there is a requirement for a CRM in the revised HLD, what form would be your preferred choice for the I-SEM, and why?</p>	<p>If BCOP applies then a price based CRM (2b) would be appropriate to compensate generators being obliged to bid their short-run marginal cost. The price based CRM should be short-term as this rewards reliable plant that can be available during times of scarcity. There should be no potential for gaming as the BCOP is still applied.</p> <p>If no BCOP is applied, then Centralised Reliability Options (Option 5A) would be appropriate for Ireland with the current and proposed level of renewables expected to enter the market, this option would ensure reliable capacity with the central purchaser creating liquidity. It would be no different from the CAP05 contracts (in principle) which operate on financial payments.</p> <p>An extreme alternative to the options proposed would be to include capacity under the DS3 support services. Therefore, no CPM would apply under I-SEM and it would continue to operate as an energy-only market with capacity being rewarded outside the market. This is not inconsistent with the Betta market and the UK proposed Capacity Auction under its Electricity Market Reform programme.</p>

2.4 TOPICS FOR THE HIGH LEVEL DESIGN OF ENERGY TRADING ARRANGEMENTS (SECTION 4)

Question	Answer
<p>4. Are these the most important topics to consider in the description of the HLD for the revised energy trading arrangements for the single electricity market on the island of Ireland?</p>	<p>As highlighted in section 1.2.4, the SEMC will be guided by the primary objective and the SEM HLD criteria. However it might not be appropriate to weight each of the criteria evenly. As a large consumer of power in Ireland, security of supply and a competitive price is vital to Aughinish.</p> <p>As an operator of a large High Efficient CHP plant, Aughinish believe Environmental consideration in the SEM HLD criteria should not be limited to renewable energy as indicated in the consultation document. This should be expanded to incorporate promotion of energy efficiency as recognised in European law<sup>5</sup>.</p> <p>Section 4.5.4 refers to priority dispatch plant acting as price takers in the imbalance market. If it this were to be taken literally it would appear to be disadvantaging high efficient CHP. This is contra best practice as high efficient CHP has been shown to be the most reliable of power generators and the lowest carbon content sustainable power source.</p> <p>More detail around priority dispatch and Trading Sites would have helped. Aughinish has assumed that the acceptance by the RAs that priority dispatched plant will be accommodated within the new design, which will result in Trading Sites being operated in the same manner as under the SEM.</p>
<p>5. Are there other aspects of the European Internal Electricity Market that should form part of the process of the High Level Design of energy trading arrangements in the I-SEM?</p>	<p>As stated above energy efficiency should also be taken into account in the market design with specific reference to the Energy Efficiency Directive.</p> <p>Section 4.3.28 – Section 4.3.33 “Mandatory vs. Voluntary (DAM)” correctly identifies concerns around market liquidity and the impact this has on risk management. However we think that the risk of zonal pricing and efficient operation of zones has not been addressed by the HLD process for the I-SEM. Mandatory participation under Option 3 cannot be assessed properly without having access to more information and some basic assumptions around governance e.g. potential controls on bidding for future interconnector capacity (within the EU), market participant behaviour, market data and successful operation of the Euphemia algorithm and PCR. Ireland and GB is exposed to interconnector constraints and congestion and even with EWIC there will possibly be significant periods when the I-SEM is not coupled under PCR. Some analysis presented by the RAs as part of this HLD process would have been helpful.</p>

<sup>5</sup> Energy Efficiency Directive(2012/27/EU)



2.5 SUMMARY OF THE OPTIONS FOR ENERGY TRADING ARRANGEMENTS (SECTION 5)

Question	Answer
6. What evidence can you provide for the assessment of the HLD options with respect to security of supply, efficiency, and adaptability?	<p>The SEM pool has since its inception supported security of supply, long term price signals, transparency and has been shown by the Market Monitors to produce efficient dispatch. Any movement away from the SEM incorporates risk to these fundamental market principles.</p> <p>Aughinish is not able to make this assessment on behalf of the market but suffice to say that changes to dispatch that result in inefficient dispatch of CHP plant would have an impact on efficiency in both the electricity market and the alumina plant. The economic cost of shutting down a CHP plant must be taken into account when considering “absolute” priority dispatch and CHP energy efficient operation (including heat demand) should be included as part of the criteria for plant dispatch.</p>

2.6 ADAPTED DECENTRALISED MARKET (SECTION 6)

Question	Answer
<p>7. Are there any changes you would suggest to make the Adapted Decentralised Market more effective for the I-SEM (for instance, a different choice for one or more of the topics or a different topic altogether)?</p>	<p>Aughinish does not believe Option 1 is the best option to deliver the high level design principles as it raises significant issues in relation to cost, market liquidity, transparency, market dominance and would involve significant resources and system changes for market participants.</p> <p>This option is very similar to the BETTA market in GB and we do not consider it to be the correct structure for Ireland when you consider the size of the Irish market and the number of large generator units in I-SEM zone. However, as interconnector capacity increases over the longer term between I-SEM zone and the rest of Europe (e.g. similar capacity to I-SEM maximum system demand/wind output) this may be a practical and more appropriate option and should not be dismissed over the medium to long term.</p> <p>The BETTA market in GB also has significant issues with security of supply and competition<sup>6</sup> and considering the design criteria, the size of the Irish market and issues around interconnection we think a Decentralised Market Option is not appropriate for I-SEM at this time.</p>
<p>8. Do you agree with the qualitative assessment of the Adapted Decentralised Market against the HLD criteria? If not, what changes to the assessment would you suggest (including the relative strengths and weaknesses of an option)?</p>	<p>See comments to Q7 above</p> <p>Whichever option is selected the Energy Efficiency Directive (EED) cannot be ignored as part of the environmental assessment and in protecting the long term interests of Irish consumers. The EED is designed to promote energy improvements towards 2020 targets and beyond. This Directive and the earlier Combined Heat and Power Cogen 2004 Directive highlight the benefit of HE CHP and the associated primary energy saving. Aughinish as the only large scale dispatchable CHP unit in Ireland is concerned that there must be access to transparent and real market price for CHP output, a spill price or imbalance price would be seen as a penalty for being certified as High Efficiency CHP. Otherwise long term viability of large industrial CHP will be put at risk and the CHP targets for Ireland<sup>7</sup> will not be met.</p>
<p>9. How does the Adapted Decentralised Market measure against the SEM Committee’s primary duty to protect the long and short term interests of consumers on the island of Ireland?</p>	<p>See comments to Q7 above</p>

<sup>6</sup> “State of the Market Assessment”, Office of Fair Trading, Ofgem, CMA, 27 March 2014

<sup>7</sup> “Ireland’s Second National Energy Efficiency Action Plan 2020” Department of communication, Energy and National Resources

2.7 MANDATORY EX-POST POOL FOR NET VOLUMES (SECTION 7)

Question	Answer
<p>10. Are there any changes you would suggest to make the Mandatory Ex-post Pool for Net Volumes more effective for the I-SEM (for instance, a different choice for one or more of the topics or a different topic altogether)?</p>	<p>This is similar to Option 4 but too complex and would need to be simplified. We would have concerns regarding portfolio bidding by market participants which would significantly reduce liquidity resulting in a smaller market with fewer participants. This would raise market dominance concerns. We believe Option 4 is a less complex method of integrating the SEM under the target model.</p>
<p>11. Do you agree with the qualitative assessment of Mandatory Ex-post Pool for Net Volumes against the HLD criteria? If not, what changes to the assessment would you suggest (including the relative strengths and weaknesses of an option)?</p>	<p>Whichever option is selected the Energy Efficiency Directive (EED) cannot be ignored as part of the environmental assessment and in protecting the long term interests of Irish consumers. The EED is designed to promote energy improvements towards 2020 targets and beyond. This Directive and the earlier Combined Heat and Power Cogen 2004 Directive highlight the benefit of HE CHP and the associated primary energy saving. Aughinish as the only large scale dispatchable CHP unit in Ireland is concerned that there must be access to transparent and real market price for CHP output, a spill price or imbalance price would be seen as a penalty for being certified as High Efficiency CHP. Otherwise long term viability of large industrial CHP will be put at risk and the CHP targets for Ireland will not be met.</p>
<p>12. How does the Mandatory Ex-post Pool for Net Volumes measure against the SEM Committee’s primary duty to protect the long and short term interests of consumers on the island of Ireland?</p>	<p>See comments to Q10 above</p>

2.8 MANDATORY CENTRALISED MARKET (SECTION 8)

Question	Answer
<p>13. Are there any changes you would suggest to make the Mandatory Centralised Market more effective for the I-SEM (for instance, a different choice for one or more of the topics or a different topic altogether)?</p>	<p>Mandatory participation in the DAM is to ensure liquidity and to be the main markets for ex-ante physical trading. We question the need for this participation to be mandatory as there are a number of issues surrounding PCR which remain unresolved including issues around governance, the IDM and longer term physical and financial transmission capacity trading rights.</p> <p>If market liquidity is the main concern then mandatory participation at this stage of development may not be the best option for I-SEM when there remains a viable, lower cost alternative under the existing systems used by the SEM and market liquidity issues can be addressed through other options (some already identified by the RAs in the consultation). Also, with the enforcement of “best endeavours” for wind and demand and if strong ex-ante regulation of bidding applies, Irish participants may be at a disadvantage in the DAM market schedule.</p> <p>As part of this consultation process we have reviewed analysis provided by our consultants which demonstrates a potential conflict between commercial bidding into the DAM and potential market power issues.</p> <p>The analysis showed that, amongst other impacts:</p> <ul style="list-style-type: none"> <li>• It is conceivable that international generation with higher short term marginal costs could replace I-SEM generation. By using simulated scenarios it can be shown that I-SEM prices could be materially higher than GB prices. A major reason for this is that I-SEM prices would contain a greater proportion of Minimum Income Conditions.</li> <li>• Market manipulation is a risk. Current Euphemia rules permit changes to sophisticated bids which would lead to material changes to the I-SEM clearing price. This might explain why, in the Spanish market, a cap has been proposed limiting Minimum Income Bids to twice the cost derived from the PQ bids, which does not exist in the general Euphemia submission requirements<sup>[1]</sup>.</li> </ul>

<sup>[1]</sup> REF: Market Operating Rules: clause 28.1.2.2 Page 40 REGLAS\_20140127

	<p>Generator participants in I-SEM could structure DAM sophisticated offers to result in either higher (or potentially lower) prices compared with the GB clearing price. This has implications for market power mitigation and I-SEM will not have any meaningful control regarding changes to the Euphemia algorithm and any cost implications incurred.</p> <p>It is not made clear in the consultation document whether BCOP type principals would apply to offers made by I-SEM generation participants to the DAM. However, if the BCOP does apply then generators in the I-SEM zone would be put at a commercial disadvantage, particularly in managing no-load and start-up costs, compared with generators throughout the PCR region.</p> <p>This then seems to indicate a material flaw in Option 3 and the proposal to design the I-SEM around Euphemia on a mandatory basis. It would be unfair to apply restrictions to I-SEM generators' offers, particularly if participation is mandatory as this could disadvantage them relative to international competitors. Yet without such restrictions I-SEM clearing prices could be at significant risk from Market Dominance. There does not appear to be any easy way to resolve these conflicting objectives other than introducing uniform bidding controls on all generation throughout Europe. Even assuming that this would be a viable EU market design, which is highly questionable, we do not believe this is achievable in the short/medium term.</p>
<p>14. Do you agree with the qualitative assessment of Mandatory Centralised Market against the HLD criteria? If not, what changes to the assessment would you suggest (including the relative strengths and weaknesses of an option)?</p>	<p>Whichever option is selected the Energy Efficiency Directive (EED) cannot be ignored as part of the environmental assessment and in protecting the long term interests of Irish consumers. The EED is designed to promote energy improvements towards 2020 targets and beyond. This Directive and the earlier Combined Heat and Power Cogen 2004 Directive highlight the benefit of HE CHP and the associated primary energy saving. Aughinish as the only large scale dispatchable CHP unit in Ireland is concerned that there must be access to transparent and real market price for CHP output, a spill price or imbalance price would be seen as a penalty for being certified as High Efficiency CHP. Otherwise long term viability of large industrial CHP will be put at risk and the CHP targets for Ireland will not be met.</p>
<p>15. How does the Mandatory Centralised Market measure against the SEMCs primary duty to protect the long and short term interests of consumers on the island of Ireland?</p>	<p>See comments to Q13 above</p>

2.9 GROSS POOL – NET SETTLEMENT MARKET (SECTION 9)

Question	Answer
<p>16. Are there any changes you would suggest to make the Gross Pool – Net Settlement Market more effective for the all I-SEM (for instance, a different choice for one or more of the topics or a different topic altogether)?</p>	<p>As stated in our answer to Q1 , Aughinish believes that Option 4 is the best mechanism for I-SEM assuming that the market settlement continues to be performed on the basis of unconstrained MSQ scheduling.</p> <p>As stated in Q1 the summary reasons are :-</p> <ul style="list-style-type: none"> <li>• The current gross pool has served Ireland well since 2007.</li> <li>• It will deliver the SEM HLD criteria.</li> <li>• Trading site design for embedded CHP plant</li> <li>• Uncertainties and concerns around the alternative options.</li> <li>• Insufficient confidence of the market coupling because there is inadequate interconnection between the UK and Ireland.</li> <li>• Uncertainties in adopting a mandatory participation in the DAM (Option 3).</li> <li>• Maintenance of SEM price transparency for independent generation will continue to promote competition and allow access to the market.</li> <li>• Forward trading can be recognised as energy trading as we have indicated in Question 16 of this consultation paper</li> </ul> <p>The main potential problem identified in the consultation document with Option 4 is the potential complication that the trading could fall under Financial Regulation.</p> <p>Under this option the ex-post pool price is described as the ultimate market price, as at present. Trades in the DAM auction are settled financially as the difference between the DAM price and the ex-post price times accepted volume. This transaction this could be achieved as a standard CfD, bringing in the financial trading aspect.</p> <p>However this issue could be resolved in following manner:-</p> <p>It may be feasible for DAM trades in this format to be settled directly in the I-SEM market systems, i.e.</p> <ul style="list-style-type: none"> <li>• DAM accepted volumes – settled at DAM price</li> <li>• Net settlement volumes - settled at ex-post price</li> </ul> <p>Optional treatment 1</p> <p>SEMO (or its equivalent) would in essence be aggregating physical requirements into a single financial order book to be submitted to NEMO. Whilst SEMO may be subject to financial regulation in its</p>

	<p>dealings with non-T&amp;SC parties under this structure, it may be that the settlement of amounts with T&amp;SC parties is considered to be part of physical market arrangements. This structure could be argued to be no less physical than current SEM arrangements, where MSQ does not relate to any physical metered quantity, though is considered to be a component of the physical market arrangements. To participate in the physical I-SEM market participants would have to be, as at present, party to the T&amp;SC and subject to licence where appropriate.</p> <p>Optional treatment 2</p> <p>Without changing the fundamental nature of Option 4, it would be equally valid to state that the DAM price is the “ultimate” price and the ex-post SMP is a single, non-penal cash out price. Under this structure the DAM auction trades (and similar ID trades) made by T&amp;SC parties via SEMO are in fact reasonably defined as “inside the pool” and hence physical. For example, in the UK BETTA market an ECVN (Energy Constraint Volume Notification), equivalent to a MSQ, would never result in physical delivery of any electricity, and would result in a financial cash-out if not traded.</p> <p>T&amp;SC parties could of course decide to financially contract directly with non-T&amp;SC parties and hence their trades could be included in the overall PCR order book through another route. This would be their choice, potentially subjecting them to financial regulation. However, these CfD trades between the DAM price and ex-post SMP, which are executed bilaterally or through broker/exchanges, would not be part of the physical I-SEM market and settlement processes.</p> <p>It is possible that under this structure that there may be significant differences between the volumes accepted DAM ahead (via SEMO) for specific (e.g. thermal) generators and their outturn physical dispatch quantities. This already exists in SEM in the difference between MSQ and DQ and the cost is passed to end users through Imperfections Charges</p>
<p>17. Do you agree with the qualitative assessment of Gross Pool – Net Settlement Market against the HLD criteria? If not,</p>	<p>Whichever option is selected the Energy Efficiency Directive (EED) cannot be ignored as part of the environmental assessment and in protecting the long term interests of Irish consumers. The EED is designed to promote energy improvements towards 2020 targets and beyond. This Directive and the earlier Combined Heat and Power Cogen 2004 Directive highlight the benefit of HE CHP and the</p>

<p>what changes to the assessment would you suggest (including the relative strengths and weaknesses of an option)?</p>	<p>associated primary energy saving. Aughinish as the only large scale dispatchable CHP unit in Ireland is concerned that there must be access to transparent and real market price for CHP output, a spill price or imbalance price would be seen as a penalty for being certified as High Efficiency CHP. Otherwise long term viability of large industrial CHP will be put at risk and the CHP targets for Ireland will not be met.</p>
<p>18. How does the Gross Pool – Net Settlement Market measure against the SEM Committee’s primary duty to protect the long and short term interests of consumers on the island of Ireland?</p>	<p>See comments to Q16 above</p> <ul style="list-style-type: none"> <li>• Cost – We believe the SEM design forces transparency in generator bidding thereby ensuring clarity in pricing.</li> <li>• Gross pool ensures free access for all independent generators and promotes competition.</li> <li>• Practicality and cost – very little change to existing systems</li> <li>• Stability – SEM has been a stable mechanism since Nov 2007.</li> <li>• Security of supply – with appropriate CRM</li> <li>• Environmental –the SEM design has a proven history of promotion of renewable and low carbon thermal generation.</li> <li>• Efficiency –all analysis indicates that the SEM design has created consumer prices which reflect a realistic cost of electricity in Ireland.</li> </ul>



2.10 CAPACITY REMUNERATION MECHANISMS (CHAPTER 10)

Question	Answer
<p>19. What are the rationales for and against the continuation of some form of CRM as part of the revised trading arrangements for the I- SEM?</p>	<p>As stated in Question 2 we believe some form of CRM will be required. Rationales for the continuation of CRM include:</p> <ul style="list-style-type: none"> <li>• Market monitoring mechanisms, such as the BCOP, will likely apply to generator bids and necessitate a CRM</li> <li>• In 2003 scarcity of capacity forced the launch CAP05</li> <li>• The CRM in the SEM has created a healthy level of capacity.</li> <li>• The UK which has swung from a surplus capacity before NETA/BETTA to a position where it is forced today to enter an emergency competition for new generation.</li> <li>• Energy only market with insufficient or no CRM do not appear to provide sufficient signal or clarity to encourage generation.</li> <li>• Conventional generation will be needed in the future to support renewable generation; their long run marginal costs must be met.</li> <li>• New build generators require certainty of investment return, otherwise future capacity and security of supply will suffer.</li> <li>• Increased volumes of renewable generation with out-of-market support will diminish current infra-marginal rents. ACER in their report on Capacity Markets<sup>8</sup> have recognised this situation throughout the EU Member States. Some are experiencing over-capacity and others (including Ireland and GB) experiencing periods of high system stress and difficulties in balancing demand and supply. The increased penetration of subsidised Renewable Energy Sources (“RES”) based generation with low marginal costs can result in some thermal plant having difficulty earning enough revenue to cover their fixed costs. This is a real problem as such “conventional” resources may prove essential to maintain an acceptable level of security of supply in operating the network.</li> <li>• ACER recognises that the level of resource adequacy and flexibility delivered by energy market signals alone may not be enough to meet system requirements and although the pursuit of security of supply is best served through market integration. It is aware that some additional measures may be required aimed specifically at promoting adequacy and flexibility – especially in small isolated systems where the limited size of the market may exacerbate price volatility and prevent sharing resources with neighbouring systems.</li> </ul>

<sup>8</sup> “Opinion of the Agency for the Co-operation of Energy Regulators No 05/2013 ON CAPACITY MARKETS”, Feb 2013

<p>20. Are these the most important topics for describing the high level design of any future CRM for the I-SEM?</p>	<p>Aughinish as a Large Energy User is concerned about the security of supply of high quality power from a predictable and reliable mix of generation in the long term. More interconnection with Europe has benefits but must be considered from a security point of view. Aughinish has invested in a 25 year life extension of our Alumina plant and would like to see long term signals to the electricity market to ensure no deterioration of the current electricity infrastructure and power supply.</p>
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2.11 STRATEGIC RESERVE (CHAPTER 10.7)

Question	Answer
21. Are there any changes you would suggest to make the design of a Strategic Reserve mechanism more effective for the I-SEM (for instance a different choice for one or more of the topic?)	No
22. Do you agree with the initial assessment of the strengths and weaknesses of a Strategic Reserve Mechanism? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?	Yes
23. Would a Strategic Reserve Mechanism work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?	No - subject to response to Q19

2.12 LONG-TERM PRICE-BASED CRM (CHAPTER 10.9)

Question	Answer
<p>24. Are there any changes you would suggest to make the design of a Long-term price-based CRM effective for the I-SEM (for instance a different choice for one or more of the topic?)</p>	<p>No</p>
<p>25. Do you agree with the initial assessment of the strengths and weaknesses of a Long-term price-based CRM? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>Yes</p>
<p>26. Would a Long-term price-based CRM work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>Option 4 - subject to response to Q19 – as it is the nearest option to current SEM</p>

2.13 SHORT-TERM PRICE-BASED CRM (CHAPTER 10.10)

<b>Question</b>	<b>Answer</b>
27. Are there any changes you would suggest to make the design of a Short-term price-based CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?	No
28. Do you agree with the initial assessment of the strengths and weaknesses of a Short-term price-based CRM? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?	Yes
29. Would a Short-term price-based CRM work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?	Would apply to all options

2.14 QUANTITY-BASED CAPACITY AUCTION (CHAPTER 10.11)

Question	Answer
<p>30. Are there any changes you would suggest to make the design of a Quantity-based Capacity Auction CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?</p>	<p>No</p>
<p>31. Do you agree with the initial assessment of the strengths and weaknesses of a Quantity-based Capacity Auction CRM? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>Yes</p>
<p>32. Would a Quantity-based Capacity Auction CRM work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>Would apply to all options</p>

2.15 QUANTITY-BASED CAPACITY OBLIGATION (CHAPTER 10.12)

Question	Answer
<p>33. Are there any changes you would suggest to make the design of a Quantity-based Capacity Obligation CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?</p>	<p>No</p>
<p>34. Do you agree with the initial assessment of the strengths and weaknesses of a Quantity-based Capacity Obligation CRM? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>Yes</p>
<p>35. Would a Quantity-based Capacity Obligation CRM work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>Would apply to all options</p>

2.16 CENTRALISED RELIABILITY OPTIONS (CHAPTER 10.14)

Question	Answer
36. Are there any changes you would suggest to make the design of a Centralised Reliability Option CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?	No
37. Do you agree with the initial assessment of the strengths and weaknesses of a Centralised Reliability Option? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?	Yes
38. Would a Centralised Reliability Option work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?	Would apply to all options



2.17 DECENTRALISED RELIABILITY OPTIONS (CHAPTER 10.15)

Question	Answer
<p>39. Are there any changes you would suggest to make the design of a Decentralised Reliability Option CRM effective for the I-SEM (for instance a different choice for one or more of the topic)?</p>	<p>No</p>
<p>40. Do you agree with the initial assessment of the strengths and weaknesses of a Decentralised Reliability Option? If not, what changes to the assessment would you suggest (including the strengths and weaknesses of an option relative to the others)?</p>	<p>Yes</p>
<p>41. Would a Decentralised Reliability Option work or fit more effectively with a particular option for the energy trading arrangements. If so, which one and why?</p>	<p>Would apply under all options</p>