

# Single Electricity Market

## Treatment of Curtailment in Tie-break situations

**Decision Paper**

**1 March 2013**

**SEM-13-010**

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## **1. Introduction**

### **1.1 Background**

The SEM Committee has been considering matters associated with the treatment of wind in the SEM since 2008. A number of consultations have been carried out and a number of decisions published. Following withdrawal of a previous decision on this matter<sup>1</sup>, a consultation paper (SEM-12-028) and a proposed decision (SEM-12-090) were published in 2012. A review of the 42 responses received to the proposed decision paper has now been completed and the SEM Committee is now in a position to publish its decision on this matter. This paper outlines the SEM Committee's decision on the Treatment of Curtailment in Tie-break Situations.

### **1.2 Primary Duties of SEM Committee**

In considering the matters raised throughout this workstream, the SEM Committee has remained entirely cognisant of the primary duty accorded to it under the Under Section 9 of the Electricity Regulation (Amendment) (Single Electricity Market) Act 2007 (the "SEM Act") and the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007 (the "SEM Order"). At this point, it is worth noting those duties.

Section 9 of the SEM Act and the SEM Order states that the principal objective of the SEM Committee in carrying out its functions is to "protect the interests of consumers of electricity in Northern Ireland and Ireland (...) wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the sale or purchase of electricity through the SEM".<sup>2</sup>

The section goes on to state that SEM Committee shall carry out (its) respective functions (...) in the manner, which (it) "considers is best calculated to further the principal objective of protection of customers". This is with having regard to (among others), "the need to secure that all reasonable demands for electricity in (Ireland and Northern Ireland) are met, the need to secure that authorised persons are able to finance (their) activities and the need to avoid unfair discrimination between consumers in (Ireland and Northern Ireland)".

Furthermore, in carrying out any of the functions mentioned above, section 9 of the SEM Act and SEM Order states that the SEM Committee "shall have regard to the need, where appropriate, to promote the use of energy from renewable energy sources". Section 9 also states that in carrying out any of the functions above the SEMC "shall not discriminate unfairly between authorised persons, or between persons who are applying to become authorised persons, where authorised person means the holder of a licence".

The legislation makes it clear that the primary duty of the SEM Committee is the protection of electricity customers in Ireland and Northern Ireland. Therefore, in considering the treatment of curtailment, it is important that the SEM Committee considers the likely impact of each option on electricity customers. However in

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<sup>1</sup> SEM Committee Communication, 29 March 2012 available [here](#)

<sup>2</sup> Please refer to the Electricity Regulation (Amendment) (Single Electricity Market) Act 2007 which can be found [here](#) and the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007 which can be found [here](#).

carrying out this primary function, the SEM Committee must balance its considerations with those of security of supply on the island, the promotion of renewable energy and the ability of generators to finance their activities. The SEM Committee's responsibilities are not mutually exclusive; the Committee must balance its responsibilities to arrive at decisions which, in its view are the correct decisions in the interests of customers.

### **1.3 Proposed Decision Paper (SEM-12-090)**

The SEM Committee's proposed decision (SEM-12-090) set out the SEM Committee's intention to implement a methodology called "Pro rata with defined curtailment limit" for the treatment of curtailment in tie-break situations. The paper set out the rationale for this proposed decision against the SEM Committee's five criteria for making a decision on this topic. These criteria are as follows:

- Impact on the consumer and dispatch balancing costs (DBC);
- Facilitation of Ireland and Northern Ireland 2020 renewable targets;
- Efficiency of entry signal;
- Stable investment environment;
- Consistency of treatment for constraints and curtailment.

SEM-12-090 also set out the reasons why the SEM Committee was not proposing to implement any one of the four options from the consultation paper (SEM-12-018). In addition the SEM Committee also published the results of forecast modelling carried out by the TSOs into the impact of options on Dispatch Balancing Costs (DBC). SEM-12-090 was also accompanied by a TSO ruleset on distinguishing between curtailment and constraint in dispatch which was developed at the request of the SEM Committee. A slightly modified version of this ruleset was presented to the SEM Committee at their meeting on 7 February 2013. The amended ruleset (SEM-13-011) is included as an annex to this paper.

The SEM Committee thanks respondents for their continued input into this workstream and for the constructive responses received to SEM-12-090. Most respondents responded favourably to the pro rata element of the paper as proposed and the SEM Committee have decided that this will be implemented.

However the majority of respondents were against the SEM Committee's intention to cease DBC payments to generators for curtailment. Key concerns amongst respondents were that the approach was potentially discriminatory against windfarms, it represented a significant change to the SEM design, impacted on investors legitimate expectations, customers would not benefit from the proposed decision and it did not take account of the SEM Committee's previous decision Monitoring the Divergence of the Dispatch Schedule from the Market and the Impact on Consumers ("Material Level of Harm": SEM-11-084).

With this in mind, the SEM Committee has considered the opinions of all respondents to the proposed decision and the issues raised over the course of this workstream and has decided to implement a modified version of the proposed decision. This is outlined in Section 3 of this paper, including the rationale for changes to the proposed decision paper. The decision, in practice will mean the pro

rata treatment of all windfarms in tie-break situations with the cessation of compensation for curtailment on January 1 2018.

#### **1.4 Related Documents**

This decision paper should be read in conjunction with the SEM publications outlined below.

- Wind Generation in the SEM: Policy for Large Scale, Intermittent, Non-Diverse Generation, Discussion Paper, 11 February 2008, [SEM/08/002](#).
- Wind Generation in the SEM: Policy for Large Scale, Intermittent, Non-Diverse Generation, Initial Response to Comments and Next Steps, 28 September 2008 [SEM-08-127](#).
- Principles of Dispatch and the Design of the Market Schedule in the Trading and Settlement Code, Consultation Paper, 8 July 2009, [SEM-09-073](#).
- Principles of Dispatch and the Design of the Market Schedule in the Trading and Settlement Code, Proposed Position Paper and Request for Further Comment, 2 September 2010, [SEM-10-060](#).
- Principles of Dispatch and the Design of the Market Schedule in the Trading and Settlement Code, Decision Paper, 26 August 2011, [SEM-11-062](#).
- Treatment of Price Taking Generation in Tie Breaks in Dispatch in the Single Electricity Market and Associated Issues, Consultation paper, 26 August 2011, [SEM-11-063](#).
- Monitoring the Divergence of the Market Schedule from Dispatch and the Impact on Consumers, Decision Paper, 6 October 2011, [SEM-11-084](#).
- Treatment of Price Taking Generation in Tie Breaks in Dispatch in the Single Electricity Market and Associated Issues, Decision Paper 2, December 2011, [SEM-11-105](#).
- SEM Committee [Communication](#) regarding Section 3.5 on 'Curtailment' of the Decision Paper 'Treatment of Price taking Generation in Tie Breaks in the Single Electricity Market and Associated Issue' 29 March 2012.
- Treatment of Curtailment in Tie-break situations, Consultation paper, 26 April 2012, [SEM-12-028](#).
- Treatment of Curtailment in Tie-break Situations, Proposed Decision Paper, 3 October 2012, [SEM-12-090](#).
- Effect of Tie-break Options on DBC and Curtailment, 28 September 2012, [SEM-12-090a](#).

- Annex – System Operator Ruleset distinguishing Constraint and Curtailment, September 2012, [SEM-12-090b](#).
- Annex – TSOs Definition of Curtailment and Constraint, SEM-13-011

## 1.5 Structure of Paper

This decision paper is structured as follows:

- **Section 1** provides a background summary of the issue and sets out the structure of the paper.
- **Section 2** outlines the main themes of the submissions received to the proposed decision paper SEM-12-090.
- **Section 3** outlines the SEM Committee decision in relation to the two key elements of the proposed decision paper i.e. the pro rata treatment of generators and a defined curtailment limit.
- **Section 4** provides a summary of the SEM Committee decision and next steps in this workstream.

## 1.6 Queries to this decision

Queries to this paper should be submitted to Andrew McCorriston in Utility Regulator Northern Ireland and Lisa Fahy in the CER:

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## **2. Summary of responses to proposed decision paper (SEM-12-090)**

### **2.1 Responses to SEM-12-090**

In October 2012 the SEM Committee published a proposed decision paper on the Treatment of Curtailment in Tie-break situations (SEM-12-090). There were 42 responses received to SEM-12-090. The following is a list of the non-confidential responses received. All non-confidential responses received have been published alongside this decision paper on the SEM Committee's website ([www.allislandproject.org](http://www.allislandproject.org)). Responses received were as follows:

- |  |   |
|--|---|
| 1. ABO Wind Ireland Ltd.                       | 21. IWEA  |
| 2. ABO Wind Northern Ireland Ltd.              | 22. Killala Community Windfarm Ltd.                             |
| 3. ART Generation Ltd.                         | 23. Kilronan Windfarm Ltd.                                      |
| 4. Avonmore Electrical Co. Ltd.                | 24. Kirby Group   |
| 5. Ballybane Windfarms Ltd.                    | 25. Mainstream Renewable Power                                  |
| 6. Barranafaddock Sustainable Electricity Ltd. | 26. Meitheal na Gaoithe   |
| 7. Bord Na Móna                                | 27. Monaincha Wind Farm Ltd                                     |
| 8. Bórd Gais Energy                            | 28. Northern Ireland Renewable Industry Group                   |
| 9. Coillte                                     | 29. National Offshore Wind Association of Ireland (NOW Ireland) |
| 10. DP Energy Ireland Ltd.                     | 30. OES Consulting  |
| 11. Dunmore Windfarm Ltd.                      | 31. Renewable UK  |
| 12. Ecopower Developments Ltd.                 | 32. Renewable Energy Systems Ltd.                               |
| 13. EirGrid Plc.                               | 33. Sigatoka Wind Farm Ltd.                                     |
| 14. Enerco Energy Ltd                          | 34. SSE Renewables  |
| 15. Energia                                    | 35. TCI Renewables  |
| 16. ESB Wind Development Ltd.                  | 36. Vestas Ireland Ltd.   |
| 17. Fehily, Timoney and Company                | 37. Wexwind Ltd.  |
| 18. Gaelectric Holdings Plc.                   | 38. Wind Prospect Ireland Ltd.                                  |
| 19. Glenough Windfarm Ltd.                     | 39. Wind Source   |
| 20. Hg Capital                                 |   |

One of the respondents above submitted two documents. There were also two confidential responses. The SEM Committee would like to thank all stakeholders for their co-operation in with this process and their input over the course of this workstream.

## 2.2 Summary of responses to SEM-12-090

In SEM-12-090, the SEM Committee proposed a pro rata approach to curtailment in tie-break situations with a defined curtailment limit. This proposal involves the pro rata treatment for curtailment of all operational windfarms in dispatch and the imposition of a cap / threshold for the payment of Dispatch Balancing Costs (DBC) compensation for curtailment. The paper outlined the SEM Committee's intention that by 2020, there would no longer be DBC compensation available for curtailment of wind, with a sliding scale mechanism reducing the total level of DBC for curtailment in the years prior to 2020.

The proposed decision has been broken into two key elements in this section for the purpose of consideration of the responses received. These two elements are:

- a. Pro rata treatment of curtailment
- b. Defined curtailment limit

### a. Pro rata treatment of curtailment

The majority of respondents were in favour of a pro rata approach to the treatment of curtailment in tie-break situations. Indeed all but one of the respondents favoured this approach. One of the respondents in favour of a pro rata approach stated that they agree with:

*"The pro rata approach that allocates curtailment equally between all wind farms, regardless of the level of firm connection they have. Sharing the burden of curtailment among all wind farms is the fairest solution given that it has been clearly established that curtailment is a system-wide issue and bears no relation to network and location specific issues".*

One respondent was not in favour of this element of the SEM Committee's proposed decision and instead outlined their preference for grandfathering with reference to FAQ, for the treatment of curtailment in tie-break situations. This respondent was of the view that the pro rata approach undermines the Governments' renewable support schemes and they considered that pro rata treatment would not meet the SEM Committee's defined objectives and instead would put the 2020 renewable targets in jeopardy. The respondent stated that they remain:

*"Firmly of the view that pro rata curtailment will not deliver the 2020 renewable targets but will instead increase the likelihood of financial default for existing windfarms and undermine efficient financing for future investments. It addition, it will materially undermine government renewable supports in both NI and RoI".*

### SEMC Response

The SEM Committee notes that the majority of respondents are in favour of treating curtailment on a pro rata basis. In SEM-12-090, the SEM Committee had outlined its view that pro rata treatment was the fairest and most equitable methodology for the

allocation of curtailment. The SEM Committee remains of the view that pro rata treatment of curtailment more closely meets the SEM Committee's decision making criteria (outlined in SEM-12-028) than grandfathering and for this reason the SEM Committee intends to proceed to implement pro rata treatment of curtailment in dispatch.

The SEM Committee does not agree with the respondent who favoured grandfathering. It is the SEM Committee's view that grandfathering with reference to FAQ as outlined in SEM-12-018 will not support the delivery of the 2020 renewable targets as there continues to be concerns around delivery of firm capacity on the transmission networks. It is also the SEM Committee's view that curtailment is a system wide issue to which each windfarm that is generating is contributing to (given the existence in the SEM of priority dispatch and Least Cost Dispatch rules); therefore it is appropriate that each windfarm should contribute to resolving the curtailment event and shoulder its proportionate burden of curtailment volume.

## **b. Defined curtailment limit**

The feedback received from respondents to SEM-12-090 in relation to the defined curtailment limit and the cessation of DBC payments for curtailment, as proposed by the SEM Committee was more varied. The key issues raised through the responses were:

1. Establishing the defined curtailment limit;
2. Retrospective change to structures of SEM;
3. Potentially discriminatory nature of decision;
4. Consistency of SEM Committee decision making;
5. Fundamental change to SEM rules in advance of move to European Electricity Target Model.

## **Brief summary**

A number of relevant points were raised by respondents and have been considered by the SEM Committee in advance of this decision. Five of the key concerns for respondents are outlined in detail below. Other points for consideration are discussed briefly in the additional comments section towards the end of this section.

### **1. Establishing the defined curtailment limit**

The defined curtailment limit was outlined by the SEM Committee in section five of the proposed decision. It refers to a renewable penetration threshold/date threshold and would act as the "trigger" by which the reduction in DBC payments for curtailed generators would be applied. The proposal in SEM-12-090 was that this limit would be set as the earlier of the confirmed achievement of 75% of the 40% renewable target on the island of Ireland (i.e. 30%) or the date of January 1 2016. It was proposed that the level of DBC compensation available for curtailment (the curtailment pot) would reduce by  $\frac{1}{4}$  annually for the four years following confirmation by the TSOs that the defined curtailment limit had been reached.

The majority of respondents did not favour the establishment of the defined curtailment limit as proposed by the SEM Committee or indeed the proposed intention to end DBC payment for wind farms for curtailment by 2020. The position of one of the respondents, which was supported by the majority of respondents, was that it is unlikely that 75% of the renewable target will be met by 2016 and that it is therefore unlikely that this decision will be implemented until 2017. This respondent was of the view that 2017 was too soon for the application of the mechanism to reduce and eliminate DBC for curtailment. Another respondent was of the view that reducing and eliminating DBC would mean:

*“Many projects will be made unviable due to the removal of compensation be it either immediate or phased along with the uncertainty around curtailment levels”.*

Most respondents were of the view that it was not appropriate to end DBC payments for curtailment and therefore there would be no need to establish a defined curtailment limit.

### **SEMC Response**

The SEM Committee’s primary responsibility is to protect the interests of electricity customers on the island of Ireland. This responsibility has been expressed at various points throughout the consultation and the proposed decision on this matter and was core to the SEM Committee’s deliberations in arriving at the proposed and final decision. The Committee expressed its view that DBC payments to wind generators for curtailed electricity represented a direct cost to the electricity consumer despite the consumer not benefitting from consumption of this electricity. As the level of curtailment increases as more wind connects to the system<sup>3</sup>, the level of DBC paid to wind generators for curtailed electricity could also increase. It is the view of the SEM Committee that this is not sustainable in the longer term. For this reason the Committee arrived at the view in its proposed decision that it was appropriate to signal to the industry that DBC payments for curtailment would only be available until 2020; thereafter there would be no DBC compensation available to curtailed wind generators. Furthermore the defined curtailment limit and the sliding scale mechanism were proposed in order to provide a glide path into 2020.

While the SEM Committee acknowledges that the successful implementation of DS3 will lead to a reduction in the overall level of curtailment (compared to that which would otherwise exist by 2020) and thereby a reduction in DBC payments for curtailment, delivering this successful implementation will only take place as a result of investment by consumers in new system services and other aspects of DS3. If consumers were to continue to pay for DBC compensation for curtailment post 2020, it would represent further cost to consumers who will have already played their role in mitigating curtailment to the benefit of both generators and consumers.

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<sup>3</sup> There are initiatives in place such as DS3 to mitigate against volumes of curtailment increasing.

The SEM Committee agrees with respondents who have stated that it is important to find the appropriate balance of risk between consumers and generators with regard to curtailment. However the SEM Committee's primary responsibility is to protect consumers and therefore it is the view of the SEM Committee that consumers should not carry any direct risk of curtailment. That said, the SEM Committee notes that many generators have already made investments and that these investments may have included certain assumptions with regard to curtailment payments. For this reason the SEM Committee proposed the sliding scale mechanism in the proposed decision to have the effect of soothing the upfront impact of ending DBC payments for curtailment. In addition this also signalled the SEM Committees intention that DBC payments for curtailment would end by 2020, allowing investors to make their decisions with certainty of treatment in mind. The SEM Committee acknowledges some of the difficulties and uncertainties which some respondents had expressed with regard to establishing the defined curtailment limit and implementing the sliding scale. The SEM Committee's decision in Section 3 has taken account of these concerns.

Curtailment is a critically important issue for the wind industry and indeed for consumers. Electricity which is not utilisable by consumers is a waste of resources and so it is of collective benefit to both generators and to consumers to reduce the volume of curtailment as much as possible. For this reason, the SEM Committee re-affirms its intention to ensure that the TSO's DS3 programme delivers upon its objectives of continued system security and reliability as levels of non-synchronous generation increase.

## **2. Retrospective Change**

A retrospective change is a change made now to something that has already taken place. In relation to this issue, some respondents were of the view that the proposed decision is a "retrospective change" as it would in effect be a change to the market rules and structures in place in the SEM.

Some respondents also maintained that a change of the nature proposed in SEM-12-090 would negatively impact on existing investments (some may need to be re-financed) as well as creating significant investor uncertainty and impact investor confidence in the SEM Committee and in the SEM itself. Stakeholders are primarily concerned with the negative impact the proposed decision could have on investments which are already sunk given that investors and financiers had made their investments in SEM on the basis of legitimate expectation of payments for curtailment continuing. The position of one of the respondents in this regard was largely supported by the majority. This respondent stated:

*"The proposal to remove compensation would be a fundamental move away from this decision (Principles of Dispatch and Design of the Market Schedule in the Trading and Settlement Code SEM-11-062) as it would involve a fundamental redesign of SEM principles and rules".*

In short, the majority of respondents believe that the decision will have an impact on their legitimate expectations of financial return.

Some respondents were of the opinion that generators who are operational and firm by the end of 2013 should continue to receive compensation for curtailment as per the current market rules. One of the respondents stated it is their proposal:

*“that all firm projects completed by the end of December 2013 should be compensated for curtailment for the lifetime of the project (as is currently the case)”.*

It is noted that two respondents do not consider the proposed decision to be retrospective. They state that they:

*“Don’t see the removal of compensation as a retroactive measure given the uncertainty that has always surrounded this compensation (and handling of curtailment itself)”*

There was also concern amongst respondents over the level of uncertainty and regulatory instability which may be created as a result of the proposed decision. One respondent pointed out that:

*“The proposal of such dramatic, discriminatory and retrospective changes at this point brings into question the changes that could be made in the future (by the SEM Committee) and leads to a very unstable investment environment”.*

### **SEMC Response**

The SEM Committee rejects both the assertion that the implementation of SEM-12-090 would be a retrospective change to the SEM and that it will cause significant uncertainty amongst investors. On the contrary, the decision outlined in this paper will resolve uncertainty over an issue which has been debated in the SEM in recent years and which many investors would have been aware of, particularly as levels of wind connections increase.

The SEM Committee does not agree with respondents views that implementation of the proposed decision would result in a retrospective change to the market. It is good regulatory practice to ensure that changes to a market are notified to participants sufficiently well in advance of their implementation. While the SEM Committee aims to promote regulatory certainty and the minimum required level of changes to market rules and structures, this objective should not fetter the ability of the SEM Committee to make those changes which it believes deliver value for consumers or enhance the SEM structures in one way or another. Indeed market participants themselves are encouraged to propose and develop changes to this manner also. Market designs and rules are never entirely static or fixed and regulatory certainty is balanced with the greater consumer good. The SEM Committee had proposed a change which according to one stakeholder, would not come into effect until 2017. If this happens, this would provide a lead in time of over four years prior to the implementation of these measures.

In addition it should be noted that the proposed decision could not be described as retrospective. It is not proposed by the SEM Committee to “claw-back” DBC payments for curtailment which have previously been paid out. Such a move would, in the view of the SEM Committee amount to retrospective action.

The SEM Committee notes that the SEM High Level Design (and indeed the Trading and Settlement Code) does not guarantee or indeed refer to the payment of compensation for curtailment to firm generation.

In relation to the proposal to maintain payments to generators who are firm and operational, the SEM Committee is of the view that it would not be appropriate to implement this proposal. The proposal would in effect be a form of grandfathering rights to DBC compensation to those who were operational by a particular date. The SEM Committee doesn’t believe this would be an equitable or fair approach as it would benefit certain generators by virtue of their connection date and firmness rather than a common criterion which could (in theory) be satisfied by all generators e.g. efficiency. In addition by allowing indefinite payment of DBC compensation for curtailment to a particular sub-group of generators, the SEM Committee would be weakening its overall decision to protect consumers from the risk of curtailment.

In contrast to the views of some participants, it is view of the SEM Committee that making this decision now and providing a signal to market participants that DBC payments for curtailment will cease in line with the date outlined in Section 3 actually provides certainty for investors. Providing the signal now, a number of years ahead of implementation allows for participants, both existing and new to prepare and evaluate their investments. The SEM Committee believes that this is a sufficient timeline for investors and stakeholders to ensure their business interests are protected. No market remains the same indefinitely. It is a feature of markets that they evolve over time.

The SEM Committee acknowledges that many respondents are strongly against the elimination of DBC payments for curtailment. This is an understandable position given that a risk which carries a cost will be transferred from consumers to producers under the proposed decision (€13 million per annum by 2020 as modelled by the TSOs). The SEM Committee is of the view that there is a sufficiently long period between now and the implementation date outlined in Section 3 to allow existing generators that may have budgeted for curtailment payments to adjust their business model, while new investments will not build DBC payments for curtailment into their business case. As previously discussed by the SEM Committee, it is critical that the TSOs deliver and implement the DS3 programme in order to reduce curtailment levels as more wind connects to the system. Industry and indeed the RAs have important roles also in facilitating this delivery.

Pro rata treatment of curtailment was supported by the majority of responses to the proposed decision. This approach promotes a stable investment environment for all future windfarms connecting. It has been argued that existing windfarms who entered when levels of curtailment were low will be disadvantaged under the proposed rules. Nonetheless these windfarms would have benefitted from “first mover advantage” and should not necessarily have expected the market or

dispatch condition to remain the same indefinitely. In any event, by sharing the total burden of curtailment volumes across all wind farms, the SEM Committee is ensuring that all windfarms are treated equally.

### **3. Discriminatory nature of decision**

A number of respondents were of the view that the proposed decision would be potentially discriminatory against windfarms. The intention to cease DBC payments for curtailment which would most likely affect wind generators only due to the nature of curtailment was viewed as being unfair by a number of respondents. Compensation is currently paid to all firm generators when turned down in accordance with the Trading & Settlement Code. One response which was supported by the majority of stakeholders points out that there are no proposals to remove compensation for other forms of priority dispatch generation or for interconnection trades in event of curtailment. It is noted that as per existing market rules where a generator is included in the market schedule and not run for any reason then compensation should be paid. This respondent stated that they have:

*“Serious concerns regarding the discriminatory nature of this proposal by singling out one particular type of generation”,*

while another respondent held a similar view saying that:

*“Abolishment of curtailment compensation is discriminatory, in that it removes compensation from one type of generation only – wind”*

#### **SEMC Response**

The SEM Committee rejects the view that the proposed decision is potentially discriminatory and notes that respondents have not substantiated their views with any formal or evidence based analysis in this regard.

The SEM Committee has welcomed the increase in renewable penetration on the Ireland and Northern Ireland electricity systems over the past decade; indeed the SEM Committee’s workstream on “Wind in the SEM”, which preceded the SEM Committee’s deliberations on Tie-breaks, involved examining the SEM structures to ensure that wind was not disadvantaged. In this regard, the SEM Committee has continually noted its obligation under Section 9 of the SEM Act and the SEM Order to *“have regard to the need, where appropriate, to promote the use of energy from renewable sources”* and to *“not discriminate unfairly between authorised persons or between persons who are applying to become authorised persons, where authorised person means the holder of a licence.”*

As noted in SEM-12-018, the SEM Committee must balance these obligations with its primary duty to protect electricity consumers on the island of Ireland and its other responsibilities. Notwithstanding the effect this decision will have on wind generation the SEM Committee does not agree with respondents who felt that the proposed decision was discriminatory. It is noted by the SEM Committee

that the all island system has had to adapt to accommodate wind on the network and a number of practices and mechanisms have been put in place to ensure the increased facilitation and utilisation of electricity from renewable sources where possible.

It is the view of the SEM Committee that the proposed decision would not be discriminatory towards wind. Wind has priority dispatch in the SEM and is only turned down for system security reasons after conventional and other generation have been reduced. In addition, the TSOs have provided a rule-set to distinguish between constraint and curtailment events in dispatch. This ruleset defines curtailment as the following:

*“If the Control Centre assumed it had control over every price taking generation unit in tie break on the island of Ireland and the security issue presented could be resolved by reducing the output of any or all of the price taking generation units in tie break then that reduction is deemed a curtailment and logged as such”.*

Curtailment events are as a result of there being excess wind available to the system when the TSOs have dispatched down all non-priority dispatch plant to the extent possible for the continued security of the system. For this reason, it will almost always be wind plant that is affected by the curtailment event. In approving this decision and in considering the appropriate changes to the market rules which will be drafted as a result, the SEM Committee is of the view that only those generators contributing to the curtailment event should be affected by this change. This is a fair and non-discriminatory position as generators which are not contributing to curtailment (and indeed in some cases may have been turned down to accommodate higher levels of wind penetration) should not be exposed to the risks.

#### **4. Consistency of SEM decision making**

The SEM Committee published a Decision Paper ‘Monitoring the Divergence of the Market Schedule from Dispatch and the Impact on Consumers’ (SEM-11-084) in October 2011. This paper set out that the SEM Committee would:

*“monitor four constraint metrics; (constraint payments, proportion of energy payment attributable to constraints, infra-marginal rents earned as a result of being constrained off and constrained running by volume (divergence)) along with reporting on the levels of curtailment that occur in the market”.*

The SEM Committee also committed to publishing a monitoring report on at least an annual basis setting out the findings of the monitoring for the relevant period, the trends and indications of possible drivers for the changes/trends in each metric. Some respondents to SEM-12-090 have stated that the proposed decision outlined in SEM-12-090 contradicts the decisions outlined in SEM-11-084 and is ultimately seeking to replace that decision. The ‘Material Level of Harm’ decision sets out key indicators for reference in relation to material harm to consumers, where material harm to consumers was identified action would be taken.

A large number of respondents were concerned that MLH Decision Paper (SEM-11-084) has been ignored in the proposed decision. Instead of monitoring the divergence of the MS from the DS under the criteria outlined in SEM-11-084, the SEM Committee is now making a decision without carrying out the monitoring it had committed to. In relation to this point one of the respondents stated:

*“No reference is made to the “material harm” decision in the proposed decision and is concerned that this decision has not been considered in the consultation process on curtailment to date”.*

### **SEMC Response**

The SEM Committee notes the concerns of market participants in this area. The SEM Committee would like to point out that the Material Level of Harm decision was concerned with examination of primarily market issues and the impact of increasing levels of wind on the market. The proposed decision for Curtailment in Tie-breaks was originally intended to examine dispatch related issues. The Committee thought it prudent in April 2011 to extend the scope to include the compensation element associated with curtailment as there was a clear link between DBC compensation levels associated with curtailment and the dispatch of wind in the SEM. However the consultation and the proposed decision did not extend beyond curtailment, whereas the MLH decision took account of all issues which may cause an increase in the divergence of the dispatch schedule from the market schedule.

At its meeting on 7 February, the SEM Committee considered this issue and is of the view that its decision on Material Level of Harm (SEM-11-084) is not superseded by the decision in this paper on the treatment of curtailment in tie-break situations. The Committee remains committed to its decision on material level of harm and will continue to monitor the four metrics set out above. Therefore the decision as outlined in Section 3 and its implementation will not be subject to material level of harm monitoring or any particular threshold level of divergence between the DS and the MS.

## **5. Fundamental change to SEM in advance of move to European Electricity Target Model**

Respondents have stated that under current SEM rules all generators in the market schedule who are not dispatched or who are dispatched and turned down are entitled to DBC compensation. A number of respondents consider this a fundamental principle of the SEM and view the proposed decision as a fundamental change to the market. It has been argued by some respondents that this is a direct contradiction to a commitment by the SEM Committee in its proposed decision paper (9 November) on Implementation of the European Target Model for SEM to not approve material changes to the Market between now and 2016:

*“the SEM Committee is also committed to maintaining the current design of the SEM until that point and will not approve material market changes between now and then”.*

It is considered inappropriate by some respondents that a decision in relation to the SEM that will impact on the revenues of some market participants is now being taken in isolation given that a new market model will be considered, developed and consulted upon for implementation. They note that:

*“the timeline for the introduction of these changes means that they will not be introduced until after the changes to align with the European Target Model, and it is wholly inappropriate to make a decision regarding one aspect of the market design, i.e. compensation for curtailment of wind energy, in advance of any consideration of the whole market structure within which this decision will be placed”.*

### **SEMC Response**

The SEM Committee is committed to implementing the European Electricity Target Model in the SEM by the end of 2016. The SEM Committee has recently published a decision paper ‘Implementation of the European Target Model for the Single Electricity Market - Next Steps Decision Paper’ (SEM-13-009)<sup>4</sup> on this matter, following its recent review of SEM “evolution” and SEM “revolution” options. In this decision paper the SEM Committee has taken the view that a ‘top-down’ approach is the most efficient means of re-designing the SEM to comply with the European Target Model. The programme of work to make fundamental changes to the SEM design to implement the European Electricity Target Model will include: project scoping and set up phase; consultation and decisions on design changes required to SEM, within the framework of agreed principles and objectives; followed by the development of detailed market rules and accompanying systems in an inclusive manner. For more, refer to Market Integration Next Steps Decision mentioned above.

The SEM Committee notes the concerns of respondents who are of the view that the proposed decision on curtailment is a fundamental change to SEM Principles or the High Level Design, but does not agree with this view. A material change to the High Level Design would effectively result in the creation of new market arrangements different from those that were envisaged when investments were made. The SEM Committee believes that this is not a change to the High Level Design of the SEM as set out in its Decision Paper - High Level Design (AIP/SEM/42/05<sup>5</sup>) which only addresses the issue of constraints:

*“In certain situations some generation needs to be reduced or constrained down. (This is a constrained dispatch). In order to still meet the demand other generation may have to be increased or turned on – constrained up. The Regulatory Authorities are minded that constraining resulting from transmission constraints should be remunerated”.*

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<sup>4</sup> Decision paper is available [here](#)

<sup>5</sup> SEM High Level Design Decision [here](#)

There was a high possibility that when an issue with curtailment arose as more wind connected to the system that a different approach than that which applied to constraints would have to be considered. Generators would have known since 2010 when the TSO published the Facilitation of Renewables Studies (FORS<sup>6</sup>) that curtailment was going to be a significant issue in the SEM as more wind connected. The SEM Committee never stated there would be indefinite compensation for curtailment and indeed the SEM High Level Design does not commit to this. Furthermore the SEM Committee's proposed decision paper was also consistent with the SEM Committee's decision on Monitoring of the Divergence between the Dispatch Schedule and the Market (Material Level of Harm), where the SEM Committee expressed its concerns around the potential impact on consumers if the market rules continued to allocate all of the risk of curtailment to consumers in the SEM.

The SEM Committee acknowledges the statement in the proposed decision paper on the European Target Model (SEM-12-105a) mentioned above, the purpose of which was to give market participants certainty that no new workstreams would be initiated which would require or result in material market systems changes before end 2016. The current workstream on Tie-breaks in Curtailment is the final stage of a long-running series of consultations and decisions on issues related to the treatment of wind in the SEM, dating back to February 2008. It would not be appropriate if the SEM Committee's ability to implement the final decision on these matters was restricted due to the separate project which the SEM Committee will undertake on SEM re-design. In any event, the detailed code and market system changes which will be required to give effect to the SEM Committee's decision on curtailment will be considered as part of the overall market integration project.

In addition to this, the SEM Committee is of the view that there is considerable value in providing certainty now to investors with regard to the treatment of compensation for curtailment. If this decision was put on hold for consideration as part of the SEM Target Model project, such certainty would not be provided for a number of years. This would result in a risk of further delays to windfarm investments which would put those windfarms at risk of not being operational in time for REFIT (ROI) and in turn risk the overall delivery of the Ireland and Northern Ireland renewable 2020 targets.

Further, stated in SEM-13-009, we expect that integration with the European internal market and changes to the SEM that deliver accurate price signals for cross border exchanges should reduce the need for curtailment of wind generation.

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<sup>6</sup> All Island TSO Facilitation of Renewable Studies available [here](#)

## 2.3 Additional comments

### IWEA 'Option 3b'

One respondent which was supported by a number of others stated that there was no evidence from the proposed decision paper that the SEM Committee had adequately or sufficiently considered the IWEA Option 3b proposal which had been put forward in response to the consultation (SEM-12-018). This respondent stated that:

*“Option 3b”, as proposed in our previous submission represents an industry compromise position which importantly meets all of what we understand as the SEM Committee key objectives and strikes the right balance between addressing the curtailment issue and enabling the renewables industry advance in line with Government and EU policy & targets”.*

The SEM Committee acknowledge that over half of the all respondents support the IWEA position on this issue including 'Option 3b' which was submitted in their response to the SEM Committees consultation paper on this matter (SEM-12-028).

### SEMC Response

The SEM Committee can confirm that it had considered this option in detail. Indeed a large range of options including the IWEA Option 3b were considered and discussed by both the RA's and the SEM Committee prior to the SEM Committee arriving at its proposed decision. Each of these options was considered against the SEM Committee's decision making criteria. It would not have been possible in the SEM Committee's proposed decision paper to outline all of the SEM Committee's considerations; instead the paper had to focus on the four options which had been proposed in the consultation paper and the SEM Committee's proposed decision.

In relation to the specifics of IWEA's option 3b, the SEM Committee was of the view that this option had a number of positive aspects and was carefully developed by IWEA. The SEM Committee welcomes this constructive and pro-active input. In particular, the fact that the option treated all windfarms equally in dispatch (Pro rata) but attempted to cap pro rata treatment was attractive to the SEM Committee; the option being not dis-similar to Option 3 which the SEM Committee had itself outlined in SEM-12-028. However in considering the merits of this option, the SEM Committee was of the view that it could not support this option as it would result in uncapped DBC compensation for curtailment indefinitely. The SEM Committee in its proposed decision was of the view that it is important to now put in place mechanisms which will protect consumers from the future cost of curtailment. For this reason, Option 3b was not a viable option for the SEM Committee.

### Overly complex nature of mechanism

A number of respondents raised concern about the complexity of the scaling mechanism for the implementation of the Defined Curtailment Limit. The mechanism

as outlined in SEM-12-090 for implementing is considered to be overly complicated leading both to uncertainty as to when the limit will be reached and how the TSOs will actually implement it. If implemented, it needs to be significantly simplified. In addition the sliding scale mechanism adds a level of complexity that is not needed and may be best removed altogether. The TSO in their response stated:

*“The tapering mechanism as proposed to transition from 2016 to 2020 adds complexity and with such complexity inevitably cost in giving effect to it. EirGrid believes the SEM Committee should give serious consideration to dropping the tapering mechanism”.*

The TSOs have highlighted that identifying a DBC pot would be extremely difficult. Wind does not receive a DBC payment (as such) and therefore identifying and ring fencing an accurate ‘pot’ to be reduced annually would be quite complex. They also suggest an amendment to the proposed decision to have the mechanism in relation to curtailment pot commence on from a set date and not to relate it to achievement of the renewable targets.

### **SEMC Response**

The SEM Committee accepts that the mechanism outlined in the proposed decision may be overly onerous and complex. In addition, the difficulty outlined by the TSOs in identifying and “ring-fencing” a defined curtailment pot upon which the sliding scale would apply is of significant concern to the SEM Committee. With this in mind, the SEM Committee has made amendments to its final decision to take account of this. Please refer to Section 3 for more detail.

### **Full analysis of impact of proposed decision has not been carried out**

A number of respondents believe that a full and thorough analysis has not been carried out on the extent of the impact of the proposed decision. While ceasing DBC payments for curtailment will have a positive impact on the consumer from a DBC perspective, it is not clear that the overall net impact will be positive. The SEM Committee’s proposed decision does not detail whether curtailed wind should be removed from the market schedule (MS) (it is currently in the MS) which may lead to an increase in scheduled demand (wind is currently off-set against demand) and therefore an increase in SMP. If curtailed wind does not receive market compensation, it may be appropriate that this wind is considered not to be available to the market.

### **SEMC Response**

It is the view of the SEM Committee that a full and thorough analysis of its proposed decision was carried out and this analysis has also fed into the SEM Committee’s final decision. The proposed decision and the accompanying analysis outlined the potential impact of reducing DBC payments for curtailment on the DBC pot. The paper specifically did not deal with the impact on SMP. The SEM Committee is aware that the SMP may change depending on the levels of wind which are included in price formation.

The SEM Committee appreciates that there are elements of complexity associated with the implementation of the proposed decision and for this reason, the proposed decision (by its very nature) did not seek to outline all of the implementation details.

The decision outlined in Section 3 of this paper deals with the treatment of curtailment and DBC compensation. This decision will not take effect until after the Target Model has been implemented in the SEM, issues raised in relation to price formation will be considered in that work stream. It is prudent that the SEM Committee does not make any further decision in this area at this time, which may instead be more relevant to the SEM market integration project.

## **Risk allocation**

As curtailment is a system wide issue many of the respondents believe that the risks it poses should be shared. Indeed one respondent suggested that curtailment in itself is actually a constraint and no differentiation was necessary.

*“Curtailment is a form of constraint, though it arises from inadequate network assets nationally rather than locally...”*

It is suggested by other respondents that the mechanism to reduce consumer exposure to curtailment costs should be linked to delivery of the DS3 program by the TSOs rather than to an arbitrary target i.e.  $\frac{3}{4}$  of the renewable targets or 1 January 2016. One respondent stated:

*“It is important that the TSOs are incentivised to minimise curtailment levels since it is through mitigation measures, such as the DS3 Programme, which they can control, that will help reduce curtailment levels. It is therefore appropriate that any reduction in compensation for curtailment be linked to delivery of mitigation measures by the TSOs. This will also give investors certainty since compensation will only be removed when the appropriate measures have been taken to lessen the risk”.*

## **SEMC Response**

The SEM Committee acknowledges that the option proposed in SEM-12-090 effectively transfers the bulk of curtailment risk to generators. On the other hand, the risk is currently carried by consumers and the SEM Committee does not believe that this is appropriate indefinitely. Ultimately however curtailment is an economic loss to both producers and consumers and therefore it is in the interest of both to reduce levels of curtailment by as much as possible, given system security constraints. The SEM Committee has supported the TSOs DS3 Programme and indeed continues to monitor the programme delivery with the aim of ensuring that DS3 delivers its objectives sooner rather than later. The DS3 programme is a key mechanism by which overall volumes of curtailment will be reduced.

While the SEM Committee can see the logic in linking the reduction of DBC compensation for curtailment to progress on the DS3 programme, it is of the view that this will do little to reduce uncertainty. Investors will be unsure as to when these measures will come into force and in turn remain ill informed as to when the removal

of payment for curtailment will be enforced. The SEM Committee also does not see how linking the DBC reduction to DS3 delivery would incentivise the TSOs to deliver DS3 in a faster or more effective timeframe. In contrast this may create a conflict of interest for some generators, resulting in a wavering of their support for the DS3 programme. The SEM Committee has a preference therefore to ensure that these two critical workstreams remain separate. However in making the decision outlined in Section 3, the importance of successful delivery of DS3 is further emphasised.

### **TSO proposed rule set**

The ruleset published by the TSOs as an annex to the proposed decision was largely welcomed by the majority of respondents. Some of the responses have requested more detail on the rule set prior to its implementation. One respondent with the support of the majority did raise concern over possible changes in future as the paper states that:

*“While this approach may be reasonable at the current point in time, in the future, with potentially differing levels of service provision and contribution to system stability from different wind generation units as technology evolves, this may need to be further examined to determine its continued feasibility/appropriateness”. (SEM-12-090b)*

This respondent questioned whether or not this created more regulatory uncertainty and states that any changes would require consultation.

### **SEMC Response**

The SEM Committee welcomes the acceptance in principle by respondents of the TSO’s proposed rule set. The ability to distinguish between constraint and curtailment is fundamental to the removal of compensation for curtailment. The ruleset must be robust and fair and be seen to be applied correctly to constraint and curtailment events.

The TSOs submitted a revised and amended ruleset to the SEM Committee at its meeting on 7 February. The SEM Committee decision on this revised ruleset is outlined in Section 3.

### **3. SEM Committee Decision**

#### **3.1 Introduction**

The SEM Committee has considered the responses received to the proposed decision and recognises the importance of a clear and final decision on this workstream and the considerable implications that it will have on existing wind generators, future investors and indeed the SEM as a whole. For this reason, the SEM Committee has deliberated considerably on the matter of the treatment of curtailment in tie-break situations throughout 2012 and into 2013. The SEM Committee has now arrived at its final decision on this matter.

The SEM Committee's decision on the treatment of curtailment in tie-break situations is set out in this section. There are a number of elements to the decision as outlined below. The SEM Committee is of the view that this decision will protect consumers from the costs of curtailed electricity, provide certainty for investors in the SEM and assist in facilitating the build out necessary to achieve the 2020 targets. The SEM Committee's decision in this section is also outlined against the SEM Committee's five criteria for making its decision on this matter. These criteria are listed below and were outlined in detail in the consultation (SEM-12-028) and the proposed decision (SEM-12-090) on this matter.

- Impact on the consumer and dispatch balancing costs (DBC);
- Facilitation of Ireland and Northern Ireland 2020 renewable targets
- Efficiency of entry signal
- Stable investment environment
- Consistency of treatment for constraints and curtailment

#### **Pro rata with removal of DBC for curtailment by 1 January 2018**

The SEM Committee has decided to implement pro rata with the removal of DBC compensation for curtailment by 1 January 2018 as its final decision on the treatment of curtailment in tie-break situations.

This decision involves the pro rata treatment of all operational windfarms in dispatch and the imposition of an end date of 1 January 2018 for payment of DBC compensation for curtailment. The key components of the decision are:

- Pro-rata treatment of all wind farms in dispatch (firm and non-firm) for the purpose of curtailment. This principle will formally apply from the date of publication of this decision. However the SEM Committee notes that the TSOs have advised that in Northern Ireland the current rota system, utilised by SONI, will give effect to pro-rata dispatch pending completion of the changes to the dispatch systems required for the implementation of the constraint and curtailment ruleset<sup>7</sup> (see below);

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<sup>7</sup> For clarity, this text has been amended from the original document published on 1 March 2013 following clarification from the TSOs. The original text stated that 'Pro rata treatment of all windfarms in dispatch (firm and non-firm) for the purpose of curtailment. This will formally apply from the date of publication of this decision'.

- On the market side, payment for curtailment will continue until 31 December 2017. From 1 January 2018, DBC payments for curtailment will cease. Cessation of DBC payments for curtailment protects consumers from the risk of curtailment while application of this rule from 1 January 2018 onwards provides certainty and a sufficient lead-in time for generators, both existing and future;
- There will be no defined curtailment limit or no sliding scale mechanism. Establishing a ring-fenced pot of DBC monies linked to the defined curtailment limit would be difficult to achieve while any such sliding scale mechanism is complex and costly to develop and would only be in place for a short period of time;
- A revised version of the TSO's rule-set for distinguishing between constraint and curtailment has been approved by the SEM Committee. The SEM Committee affirms its position that this rule-set is in its view a robust and reasonable methodology for distinguishing between constraint and curtailment. This rule-set (SEM-13-011) is published as an annex to this decision. The rule-set will apply once the TSOs have confirmed any changes to dispatch systems necessary for its implementation are in place for the purpose of reporting levels of curtailment and will formally apply to DBC decisions from January 2018 onwards<sup>8</sup>. This date will be notified to market participants in due course;
- The SEM Committee decision on curtailment is not subject to its previous decision on Monitoring of Divergence of the Dispatch Schedule from the Market (material level of harm) and is not changeable based on the results of MLH monitoring. The Committee reaffirms its commitment to this decision and will continue to monitor the four metrics set out in SEM-11-084.

This decision is now examined in more detail below in line with the SEM Committee's decision making criteria on this workstream.

### 1. Impact on the consumer and Dispatch Balancing Costs

Based on TSO Modelling, which is detailed in the paper (SEM-12-090a), the estimated saving in DBC costs by not paying DBC for curtailment in 2020 would be approx. €13 million. This assumes a curtailment level of 4% with a System Non-Synchronous Penetration (SNSP) limit of 70%. It is noted that if the levels of curtailment in 2020 (and indeed in the years both preceding 2020 and post 2020) were higher than those modeled by the TSOs, then there would be a greater saving to consumers from ceasing DBC payments for curtailment by 2020.

Costs are smaller if one assumes either less overall build out or indeed less wind is connected on a firm basis by 2020. Nonetheless, there will be a benefit to

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<sup>8</sup> For clarity, the TSOs in dispatching down will apply the rule-set once they have the necessary system changes in place. However, it will not have a material impact on DBC compensation payments until 1 January 2018 when the decision to cease DBC payments for curtailment will apply.

consumers' post 2020 as increasing numbers of non-firm wind connections become firm, in line with network build out. Indeed in principle, there is a benefit to consumers from removing the risk of curtailment from consumers.

The SEM Committee has not separately modeled specific DBC savings for 2018. However the Committee is satisfied that similar savings to those achievable in 2020 can also be realized in 2018. In any event, there will a full saving of DBC payable to curtailment in 2018 and 2019 under this decision, while a smaller saving would have resulted from the proposed decision. It is noted however that decision to not implement the sliding scale mechanism will balance some of these savings.

The SEM Committee considers that compensation of curtailment should not be an indefinite feature of the SEM. Such an action would place an undue and inappropriate burden on the all-island consumer. The modeling undertaken by the TSOs has given an indication of what this burden would be on a year-by-year basis. The SEM Committee is of the view that it is not sustainable to continue to pay compensation to wind generators for curtailment beyond 2018. The SEM Committee must be mindful of its primary objective; that is to protect the interests of consumers on the island. The SEM Committee has chosen the year 2018 as its implementation date for this decision, as it is of the view that 2018 strikes an appropriate balance between a sufficient lead in time for developers and the requirement to start delivering savings for consumers.

As levels of wind generation increase, leading to an increase in total curtailment levels, it is considered that there comes a point at which it is no longer appropriate for compensation to be provided for curtailment through the SEM arrangements. The SEM Committee is of the mind that this point should be the year 2018 at the latest. The Committee believes that this is a sufficient lead in time for stakeholders to take decisions regarding existing and future investment.

The sliding scale mechanism set out in the proposed decision will not be implemented. Responses received outlined concern with the complexity of this mechanism and discussions with the TSOs have highlighted some key concerns. Their response to the proposed decision outlined the difficulty in practice of implementing such a mechanism. They also said that identifying and ringfencing a DBC curtailment pot would be extremely difficult. Curtailed wind does not receive a DBC payment (as such) but instead receives the market price for its MSQ, even if curtailed. Therefore identifying and ring fencing an accurate 'pot' to be reduced annually would be quite difficult.

However, the SEM Committee is of the view that by ceasing compensation for curtailment by 2018 similar savings to those anticipated through the sliding scale mechanism will be achieved. This is because the implementation date, 1 January 2018 is two years earlier than that which was originally proposed. The Committee consider this to be a pragmatic decision which will result in savings for customers, provide sufficient market certainty and an appropriate lead in time for the stakeholders.

While the TSOs/ SEMO have not formally estimated the costs of developing and implementing the sliding scale mechanism into the Trading and Settlement code and the market systems, it is their advice that it would be potentially costly. In addition to this, the mechanism would become redundant after four years. The SEM Committee

is also satisfied that the additional savings that would be gained by the all island consumer from the implementation of the sliding scale mechanism would be small over the four years of its existence (for example consider the total saving of €13 million in 2020 – earlier savings may be significantly smaller than this each year). The SEM Committee therefore believes it is best not to implement this mechanism.

It is also noted by the SEM Committee that this decision will be implemented while mechanisms to minimise curtailment are being developed. For example, the SEM Committee and the RAs have endorsed the TSOs DS3 programme and are involved both in monitoring the programme and in making key decisions on key workstreams (e.g. System Services Review and Grid Code).

It is expected by the SEM Committee, based on the TSOs programme, that the DS3 programme will be fully implemented by 2020 allowing for an SNSP<sup>9</sup> level of up to 75%. This will be the single most important factor in reducing curtailment levels and thereby minimising curtailment to the greatest extent possible. Indeed as aspects of the programme are rolled out between now and 2020, the SEM Committee expects that there will be an incremental increase in the SNSP level, which will allow total curtailment levels to be controlled. The SEM Committee is of the view that based on the programme plans set out by the TSOs, the DS3 programme will be substantially in place by 2018 which will ensure that levels of curtailment are lower than they might otherwise have been. The SEM Committee will continue to over-see and support the work of the TSOs in this regard. The SEM Committee believes that given these expected developments, it is appropriate to signal now that the burden of compensation for curtailment will only be carried by consumers up to a defined point (2018 at the latest).

## 2. Facilitation of Ireland and Northern Ireland 2020 Renewable Targets

It was suggested in SEM-12-028 that if pro rata was adopted non-firm projects would carry a lesser proportion of curtailment, which in turn would improve their financial viability and could promote the attainment of the 2020 renewable targets. A pro rata approach to curtailment will provide certainty of equal burden sharing across all wind generators, irrespective of the level of firmness / market access which the generator enjoys.

The report (SEM-12-090a) published alongside the proposed decision indicated that if a pro rata approach was adopted now, all wind generation including connected non-firm would experience curtailment levels of 2%. With respect to 2020, the report states that all wind generation, including connected non-firm, would experience curtailment levels of 4% if a pro rata approach was adopted. The report shows curtailment levels of up to 24% for non-firm wind in 2020 if a grandfathering with reference to FAQ approach was adopted, where only a small proportion of connected wind is non-firm.

It should be noted that the report assumes an SNSP limit of 70% by 2020. A number of measures are required in order to achieve this, as outlined in EirGrids Facilitation of Renewables report.<sup>10</sup> Should the limit be lower than 70%, higher levels of

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<sup>9</sup> System Non-Synchronous Penetration

<sup>10</sup> Please see the following page on the EirGrid website [here](#).

curtailment would be observed by all connected generation (both firm and non-firm) and this would be irrespective of whether curtailment was subject to grandfathering with reference FAQ or by pro rata.

The SEM Committee considers that a pro rata approach to curtailment will greater facilitate non-firm wind connection to the system, which will help achieve the 2020 renewables targets on the island, over and above grandfathering with reference to FAQ. Under option 4 in the proposed decision paper (SEM-12-090), the SEM Committee expressed the view that removing compensation for curtailment now would run the risk of a significant number of otherwise viable projects not proceeding. However the SEM Committee is of the view that pro rata with a defined curtailment limit strikes the appropriate balance.

All operational windfarms will be dispatched on a pro rata basis with regard to treatment of curtailment thereby meaning equal treatment for new connections. In addition all firm wind generators will have equal access to the available DBC up to the point at which DBC compensation for curtailment is eliminated. This allows these windfarms to receive compensation in their earlier years of operation (if firm) and to plan accordingly for 2018 when no further DBC compensation for curtailment will be available. For non-firm generators, no compensation for curtailment was available anyway. As a result, investment decisions will need to be made purely on the basis of the ability to pay off debts and obligations and make a profit in the continued absence of compensation for curtailment.

It is up to each individual windfarm to make an investment decision taking account of its view of the level of curtailment which it will experience under a pro rata approach to curtailment. The windfarm will also have to consider whether the proposed cessation of DBC compensation for curtailment impacts on the business case of that windfarm. The SEM Committee believes that eliminating DBC payments by 2018 will not have a negative impact of a significant nature, on the majority of proposed windfarm developments. This certainty of approach now and the availability of full DBC payment for curtailment up to the date of 1 January 2018, will allow for genuinely viable wind farm projects to proceed and contribute to meeting Ireland and Northern Ireland's 2020 targets.

Above all, it is considered that a pro rata approach to curtailment in dispatch, even with the removal of DBC payments for curtailment in January 2018, will facilitate the achievement of the island's 2020 renewable targets.

### 3. Efficiency of Entry Signal

It was argued in SEM-12-028 that pro rata dispatch treats curtailment in a manner which allows generation, irrespective of firmness, to connect and contribute to the achievement of the targets. Efficient entry is encouraged as more plant connect as increasing levels of wind generation will impose higher curtailment, therefore only the more efficient plant which can accommodate higher levels of curtailment would connect. While DS3 will mitigate against curtailment, it will not eliminate curtailment and so investors will need to continue to consider levels of curtailment when making their investment decisions and consider the viability of their investment accordingly.

However, it was also argued that pro rata treatment of curtailment without some form of cap or control mechanism could result in over-build. Over-incentivisation of connection beyond the 40% renewables targets may have a direct impact on consumers in terms inefficient grid roll-out and obligations to serve out-of-market levies.

As noted above, under a pro rata approach all new entrants are effectively on a level playing field irrespective of FAQ, which should promote the most technologically advanced, best resourced windfarms actually commissioning. As levels of curtailment increase (i.e. up from 2% on average in 2013 to 4 – 5% by 2020), this creates an automatic signal for only the more efficient plant to connect. The SEM Committee considers that a pro rata approach to curtailment will greater facilitate non-firm wind connection to the system, which will help achieve the 2020 renewables targets, over and above a grandfathering with reference to FAQ approach.

In addition, the SEM Committee is of the view that eliminating DBC compensation for curtailment by 2018, will serve to promote efficiency. Inefficient windfarms with a business case which are dependent upon the indefinite continuation of DBC compensation will not connect. This will have two benefits; firstly a signal is sent that only efficient windfarms which are viable in the absence of continuous DBC compensation for curtailment are promoted. Secondly if non or less viable plant do not connect (e.g. a plant which requires curtailment compensation for its entire operational lifetime), the total level of curtailment is reduced which is of benefit to those windfarms which are connected and operating efficiently.

It is the view of the SEM Committee that pro rata with the removal of DBC for curtailment by 1 January 2018 sends a very strong entry signal based on both short run dispatch efficiency (most efficient windfarms contribute to least cost dispatch ) and long run market efficiency (viability in the absence of indefinite DBC compensation for curtailment).

#### 4. Stable Investment Environment

It was noted in SEM-12-028 that a pro rata approach to curtailment equitably manages curtailment by turning down all generation equally to meet system stability limits and this establishes a reasonable principal by which risk can be assessed by potential investors. It has been stated to the SEM Committee during the consultation process of SEM-12-028 that an independent publication from the TSOs would be helpful in the investment decision-making process. This has now been carried out, as per the document SEM-12-090a. In addition, following on from this decision, EirGrid will be required by the CER to prepare constraint and curtailment reports for each individual generator in Gate 3.

The SEM Committee consider that a pro rata approach to curtailment, in combination with the information contained in SEM-12-090a and specific constraint and curtailment reports for generators, helps creates a more stable investment for wind generation (both non-firm and firm needed to meet the 2020 renewable targets) to move to financial close, than grandfathering with reference to FAQ.

While the SEM Committee acknowledges that the decision to eliminate DBC compensation for curtailment by 1 January 2018 is a revision of existing policy (which allowed for such compensation), the mechanism which was decided on puts in place a stable and certain environment for investment. Investors will be clear based on this decision that DBC payments for curtailment will cease to be available by 2018 and so investment decisions should not be made based on a requirement for DBC compensation beyond that point.

Furthermore, by providing this clarity now in advance of investment decisions for Gate 3 in Ireland, the SEM Committee considers that it is also promoting clarity for investors with regard to the investment environment in the coming years.

#### 5. Consistency of treatment for constraints and curtailment

Curtailment is not associated with network-specific issues, in that no amount of grid roll-out will alleviate times when there is too much intermittent wind generation on the system. Therefore it is clear that constraints and curtailment are two different situations with differing characteristics. However it is acknowledged that although different, there is often an interaction between constraints and curtailment (both can be occurring at the same time) to a constantly varying level in real-time.

Even in a tie-break situation, it is not necessarily appropriate to treat the two separate events, with differing characteristics and net effects on stakeholders, in the same fashion unless this approach is shown to be the fairest way of dealing with both events. The concern present in SEM-12-028 was that the TSOs would not be able to clearly differentiate between the two events, which could lead to various issues associated with market payments.

The SEM Committee considers that for the implementation of its decision on the treatment of curtailment in tie-breaks there will be a need to distinguish clearly between curtailment and constraint events to the greatest extent possible. This is because curtailment events in tie-break situations will, from 1 January 2018 be treated differently with regard to DBC compensation.

The TSOs proposed a draft rule-set (SEM-12-090b) to distinguish between the two events which was published alongside the proposed decision paper. This ruleset has now been slightly amended to take account of technical issues associated with tie-break situations, as it is only in tie-break situations that it is necessary to distinguish between constraint and curtailment. The SEM Committee has now approved the revised proposed rule-set (SEM-13-011) and outlined its view that it is a reasonable basis on which to distinguish between constraint and curtailment in a tie-break situation. This rule-set will now be implemented by the TSOs, with its formal application to the allocation of DBC compensation commencing on 1 January 2018.

### **3.2 Proposed rule set for differentiation between constraint and curtailment**

As noted above, there was an operational concern present in SEM-12-028 with respect to differentiation between constraints and curtailment. Such differentiation is

required if one is to allocate these events differently, because there is a direct impact on market payments. This rule-set is included as a separate annex to this paper.

It should be noted by stakeholders that this rule-set will not provide a perfect differentiation, it is essentially a proxy. The rule set published in tandem with the proposed decision was accepted by the majority of respondents. The SEM Committee has now approved a slightly modified version of the rule set (SEM-13-011). Should a need for change be identified in future, this will be subject to public consultation and an approval process by the SEM Committee.

## **4. Summary and next steps**

### **4.1 Summary**

After consideration and review of the responses received to SEM-12-090 and the accompanying papers SEM-12-090a and SEM-12-090b, the SEM Committee has made the following decisions in respect of the treatment of curtailment in tie-break situations in the SEM.

- Pro rata treatment of all windfarms in dispatch (firm and non-firm) for the purpose of curtailment;
- On the market side, a cessation of DBC payments for curtailment in tie-break situations by start of 2018 (1 January 2018);
- The TSOs/SEMO will be tasked with implementing this mechanism through the relevant market system, codes and dispatch system changes.

### **4.2 Next Steps**

- Pro rata treatment of all windfarms with respect to curtailment in tie-break situations will apply from the date of this decision;
- In order to ensure that DBC payments for curtailment will cease on 1 January 2018, the TSOs and SEMO will be responsible for implementing the required changes to market rules and systems.