



**Response by Energia to Single Electricity
Market Committee Proposed Decision
Paper SEM-12-090**

Treatment of Curtailment in Tie-Break Situations

19 November 2012

1. Introduction

Thank you for this opportunity to respond to the SEM Committee proposed decision SEM-12-090 on treatment of curtailment in tie-break situations. Energia submits that the previous, now cancelled, grandfathering decision in SEM-11-105 was the correct decision that best delivers against the key decision-making criteria, and in this response we focus on why that is the case.

2. Key concerns with the proposed decision

Energia is alarmed by the proposed decision (a variant of Option 4 in the preceding consultation SEM-12-028) to allocate curtailment on a pro rata basis with market compensation for curtailment (for firm access windfarms) phased out from January 2016 and ending by 2020 at the latest. Energia disagrees with the reasoning that led to this conclusion, and requests that the SEM Committee fully re-considers the merits of the proposed decision, its justification and the strength of financing and other evidence previously submitted by Energia and others in view of the following fundamental concerns:

- i) **The proposed decision significantly increases the likelihood of financial default for existing windfarms by exposing them to unpredictable, uncapped and uncompensated future levels of curtailment. There is no certainty that the DS3 programme will deliver or that the level of curtailment will be in line with EirGrid's projections by 2020.**

Table 1 below compares the loss of revenue to a 10MW Rol windfarm from pro rata and grandfathered curtailment over a 15 year debt term assuming a 30% capacity factor and average curtailment levels ranging from 4% to 7.5% (as depicted in figure 1, page 7) with market compensation withdrawn as per the proposed decision:

Table 1: revenue loss to a 10MW windfarm

10MW 30% capacity factor windfarm in:	ROI		
	€m	€m	€m
	gross revenue	market	loss net of
	loss	compensation	compensation
Pro rata best case	1.54	-0.09	1.46
Pro rata worst case	3.00	-0.13	2.87
Grandfathering case - best case	1.32	-0.04	1.28
Grandfathering case - worst case	2.43	-0.04	2.39

In Rol the net revenue loss under pro rata with market compensation phased out as per SEM-12-090 is projected to be €1.5m - €2.9m respectively. Under grandfathering the equivalent loss of revenues would be €1.3m - €2.4m

respectively. The loss of revenues in NI would be higher due to loss of ROCs and LECs.

In the 7.5% average curtailment case (assumed worst case in this example but actual curtailment could be higher) the revenue loss would be around €0.5m higher for a 10MW windfarm under pro rata than under grandfathering (with market compensation phased out as per SEM-12-090 in both scenarios). In the best case (4% average curtailment) the revenue loss is around €0.2m higher under pro rata.

These total revenue losses of €1.3m - €2.9m are very significant for a windfarm, creating a risk of financial default that increases as the level of curtailment increases. It is clear that grandfathering with firm access will significantly reduce the likelihood of financial default for windfarms that achieve firm access.

Non-firm windfarms will see a signal to invest once they have sufficient visibility and certainty that firm access will be delivered. They do not have to wait until firm access is in fact delivered, and will in our view proceed earlier.

- ii) **The proposed decision significantly increases the likelihood of overbuild by weakening the new build marginal investment signal through socialisation of marginal curtailment over the existing price taking windfarm fleet. Reducing and removing firm access compensation for curtailment does nothing to address this problem, rather it just accentuates the risk of financial default.**
- iii) **The proposed decision purports to provide a stable investment environment, but instead promotes instability. It is recognised by the SEM Committee on page 31 of the proposed decision that an uncapped or open-ended approach to curtailment could result in over-entry, resulting in excess curtailment which is an inefficient cost to the whole electricity system (increasing the PSO levy) and in particular to those projects which were genuinely more viable.**

Energia remains 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. In addition, it will materially undermine government renewable supports in both NI and RoI. Given the scale of the investment challenge and the critical importance of project financing and viability – with at least €4.5 billion investment required in renewable generation assets by 2020 – Energia maintains that grandfathering curtailment on the basis of firmness is the best approach.

3. Inadequate justification for moving away from the previous decision

According to the proposed decision paper, there are two key reasons why the SEM Committee has decided to move away from grandfathering of curtailment by reference to firm access quantity (FAQ):

1. *On the evidence presented, the SEM Committee now believes that wind generation will not connect on a non-firm basis under grandfathering by reference to FAQ (leading to pro-rata curtailment of firm generation by default).*
2. *Secondly, the SEM Committee is not confident that there will be sufficient firm capacity delivered on the transmission system by 2020 in order that wind can connect on a firm basis.*

These two factors, in combination, it is argued, mean that grandfathering of curtailment with reference to FAQ no longer delivers against the SEM Committee's five criteria (e.g. protection of consumer, achievement of 2020 targets, stable investment environment etc.).

The above provides insufficient justification for changing the grandfathering decision because fundamental aspects of the stated rationale are highly questionable, as follows:

1) **Insufficient confidence that the necessary FAQ will be delivered to meet the 2020 targets?**

The SEM Committee assumes that circa 5,000MW of wind capacity is required by 2020 and this is supported by EirGrid's 2011 renewables report, launched on 5th November 2012. EirGrid's projection that 4,780MW of FAQ will be available by 2018 is also understated by assuming zero MW FAQ delivered in NI in 2017 and 2018. Assuming that the average NI FAQ growth (assumed in the SONI FAQ consultation) of 72.5MW per annum continues, this would deliver 4,925MW in 2018. In addition it is highly probable that at least some of the 800MW+ connection capacity we previously identified as 'capacity blocking' will be available to provide additional FAQ over the period in question. On this basis EirGrid's analysis *does* support provision of sufficient FAQ to meet the 2020 targets. It is therefore unclear why the SEM Committee has such little confidence in delivery of FAQ.

2) **Belief that wind generation will not connect on a non-firm basis under grandfathering on the basis of FAQ?**

Non-firm wind farms will build in advance of firm access once there is sufficient confidence that the specific identified transmission upgrades will be delivered. This is typically 1-2 years prior to the delivery of the upgrades. As a developer and investor we are confident that this is the case.

4. Why grandfathering is still the right decision

Energia's response to SEM-12-028 gave clear financing evidence that grandfathering on the basis of firmness promotes a stable investment environment which provides the most efficient basis for financing; provides an efficient entry signal which takes into account the marginal cost of curtailment (unlike the pro rata approach); and minimizes the likelihood of financial default arising from uncapped, unquantifiable and uncompensated curtailment. A stable investment environment is the best way to facilitate achievement of the 2020 targets, and grandfathering also provides one of the lowest impacts on dispatch balancing costs. Energia remains firmly of the view that grandfathering on the basis of firmness best satisfies the SEM Committee's five decision-making criteria.

Justification for the proposed pro rata decision is not based on its intrinsic merits but is rather the *default choice* given the dubious claimed inadequacies of the grandfathering approach as discussed above (i.e. that waiting for firmness which might not arrive in time will jeopardise the 2020 renewable targets). The proposed decision of pro rata curtailment without compensation is deemed to deliver against the five criteria but crucially fails to address the key financeability question given the exposure to unknown and uncapped levels of curtailment under this approach¹. It should be noted that IWEA's pro rata position raises real concerns about financing and financial viability, and argues that curtailment exposure should be grandfathered once the 2020 target capacity has been achieved.

Around **€4.5bn** of additional investment will be required in windfarm projects in order to finance the additional 3,000MW needed to reach the 2020 renewable targets. This cannot be supported by company balance sheets and will not be achieved without project financing. The key impact of the decision on the allocation of curtailment will be on the financeability or otherwise of windfarm investments and project financing. Energia has demonstrated unequivocally in response to SEM-12-028 that the most efficient basis for project financing and investment viability is through the grandfathering of curtailment on a firm access basis, albeit with an amendment for

¹ The proposed decision assumes attainment of 2020 renewable targets under a pro rata approach, with sufficient headroom that firm access compensation for curtailment can be phased out from 2016. There is no serious consideration of the financing evidence in arriving at an unsubstantiated conclusion that 5% curtailment is the potential limit for project viability combined with optimistic projections of curtailment by 2020 of 4% provided by EirGrid.

temporary gate 2 connected windfarms². From a financing and financial viability perspective pro rata was demonstrated not to represent a viable way forward and *cannot* deliver the 2020 renewable targets given the scale of investment required. The proposed decision ignores the financing question and is fundamentally flawed as further detailed in section 5 below. Grandfathering on the basis of firmness delivers against the decision-making criteria as summarised below.

Grandfathering on the basis of FAQ best meets SEMC criteria as follows:

- 1) Lowest impact on DBC – equates to pro rata without compensation
- 2) Facilitates 2020 targets based on EirGrid’s evidence. Option remains for further policy intervention at a later stage if evidence of slippage arises.
- 3) Efficient entry signal. Pro rata distorts the entry signal as it spreads the curtailment cost of the marginal investment over all windfarms. SEMC acknowledge the loss of efficient entry signal and do not want to leave that cost with customers so prefer to spread over existing windfarms. High levels of curtailment will lead to financial default of existing windfarms. Technology type and wind speeds do not include the firm access and lost output costs which should be included.
- 4) Stable investment environment
 - Crucially there is no evidence presented by SEMC that “A *pro rata* approach to curtailment will provide certainty of equal burden sharing across all wind generators... While this may impact or increase curtailment levels for existing generators, it should not do this to the extent that the viability of these projects is compromised”.
 - Grandfathering creates a stable investment environment, with highest degree of certainty of impact of curtailment.
- 5) Consistency for treatment of constraints and curtailment
 - Separation of constraints and curtailment is needed for operational application of constraints rule-sets and curtailment rule-sets. Pro rata curtailment undermines the greater certainty of a constraint group where constraints are allocated on a grandfathered firm access basis
 - Grid development is a significant factor in facilitating reductions in curtailment for export across interconnectors. This is one of the most significant mitigation facilitators.

² This exception should not form a basis for ruling pro rata.

5. The fundamental flaw of the proposed decision

Under a pro-rata approach it is argued by the SEM Committee that *“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 with further wind connections, only the more efficient new wind projects should remain viable, i.e. those that can accept 4-5%+ curtailment”* (page 31). Notably it is further stated by the SEM Committee on page 30 that:

“A pro rata approach to curtailment will provide certainty of equal burden sharing across all wind generators... While this may impact or increase curtailment levels for existing generators, it should not do this to the extent that the viability of these projects is compromised”.

Having reached the above conclusion it is nonetheless acknowledgement by the SEM Committee on page 31 that an uncapped or open-ended approach to curtailment could result in over-entry, resulting in excess curtailment which is an inefficient cost to the whole electricity system (increasing the PSO levy) and in particular to those projects which were genuinely more viable. The SEM Committee also express a concern that it could cause excessive network build to provide firm access for surplus generation³. The SEM Committee thus conclude that any potential over-incentivisation costs, beyond that required to meet the 2020 targets, should not be borne by the all-island consumer and this is basis for the ‘defined curtailment limit’ phasing out market compensation for curtailment. Importantly, this does nothing to address the threat to financial viability of efficient projects caused by over-entry and curtailment beyond the assumed 4-5%+ threshold – it only makes this problem worse and perversely penalises existing projects with firm access, with no behavioural or financial impact on new entrants with non-firm access. There is no certainty about the assumed level of curtailment, and no sensitivities have been provided to show the impact of changes in key assumptions such as export across interconnectors and SNSP limits – see figure 1 and discussion of relevant assumptions below. At the very least, there should be no withdrawal of compensation for curtailment unless the DS3 programme delivers curtailment levels in line with EirGrid’s projections. Otherwise, the ‘defined curtailment limit’ proposal significantly increases the risk of financial default for existing windfarms for the reasons outlined above.

In summary, the shortcomings of the proposed decision are that it:

1. Undermines the marginal investment signal

³ It is noted that REFIT 2 has the potential to incentivize nearly double what is required to meet the 2020 targets and thus out of market support mechanisms will not act as a natural protection against overbuild.

- by spreading the cost of curtailment over existing generators, the marginal investment does not take into account the costs of curtailment caused by that investment
2. Undermines renewable support schemes in NI & RoI
- NI will be the only region of the UK where loss of ROCs is uncapped and uncompensated. Value of ROCs in NI will be seriously detrimented vs equivalent project in GB
 - Reduction in value of floor price of REFIT due to loss of output
3. Undermines incentive to deliver grid and curtailment mitigation measures
- ‘fudging’ the marginal investment signal removes the absolute necessity for FAQ delivery and DS3 programmes to deliver and weakens the perceived consequences of not achieving them
4. Exposes existing projects to uncapped curtailment without compensation
- Financial default likely if curtailment goes above best case and compensation withdrawn

Figure 1: curtailment scenarios

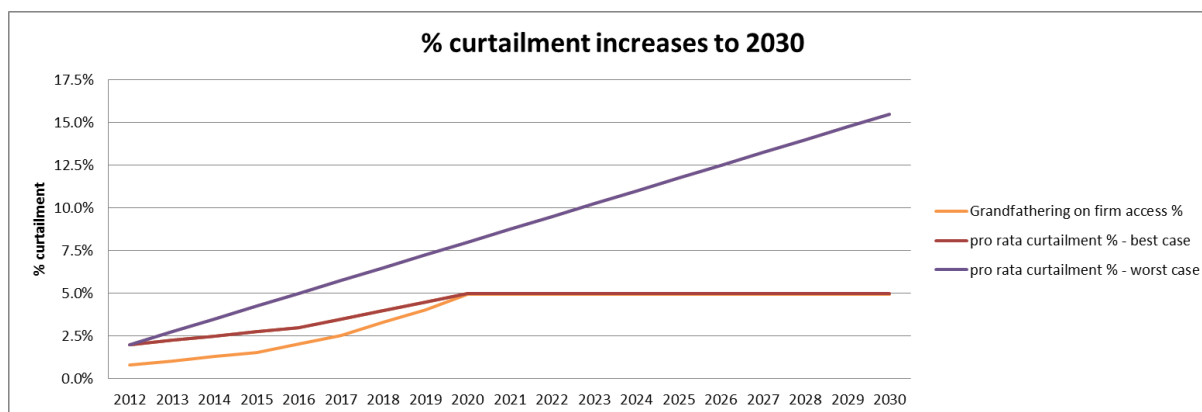


Figure 1 shows a range of potential pro rata curtailment scenarios over the period to 2030 along with the profile for grandfathering on a firm access basis (with relevant assumptions also detailed below).

- **Best case pro rata curtailment projections according to EirGrid in tie breaks response is 2% - 4%, assumes DS3 achieves 70% SNSP by 2020.**
- EirGrid (June 2011) project curtailment range between 5% and 22% in 2020; EirGrid presentation to Energy Ireland (June 2012) shows 13% curtailment with 3,800MW (28% all island) installed with non-synchronous penetration at 50%. Stated “huge challenge” to get to 70%.

- 2011 curtailment report shows 7% curtailment on VPTs, 2% across all windfarms – capacity will double to 2020.
- Interconnector imports across EWIC and Moyle effectively reduce the SNSP limit for wind
- The revenue loss evidence presented by Energia in this response questions the SEM Committee conclusion that ***‘certainty of equal burden sharing across all wind generators ... Should not (increase curtailment levels for existing generators) to the extent that the viability of these projects is compromised’***. Our evidence suggests that the revenue loss to firm access windfarms is substantial arising from ‘certainty of equal burden sharing’. The worst case pro rata shown above is a 7.5% average curtailment over a 15 year debt term.
- Annex 1 sets out the key mitigants of curtailment that have to be delivered to achieve EirGrid’s (best case) curtailment projections. These are very challenging deliverables and there is currently no step plan to show how these mitigants will be achieved.

6. Questions arising

A number of questions arise from the proposed decision, as follows:

1. Would the market schedule be changed so that curtailed wind would be removed from it? Have the implications for SMP as a result of this been considered?
2. What is the impact of the proposed ‘curtailment limit’ on capacity payments? Capacity payments are based on availability, which for wind is assumed to be when dispatched, but curtailment prevents dispatch. Capacity payments should be unaffected with reference to the CPM Medium Term Review Final Decision

7. Conclusion

In conclusion, Energia urges the SEM Committee to revert to the previous decision to grandfather curtailment on the basis of firmness.

Annex 1 – Key Mitigants of Curtailment

“If the measures under the DS3 programme are not delivered then the expected level of curtailment will be higher, and likely to be significantly so”. “Interconnection is also beneficial in managing curtailment and will have an important role to play”. Eirgrid response to SEM-12-028

Key assumptions on mitigation of curtailment are:

- a) Export across interconnectors: maximum export assumption versus 250MW Moyle import in 2012, EWIC flows also projected to be east to west (GB to Ireland).
- b) DS3 programme essential:
 - Non synchronous penetration levels assumed to increase from 50% to 70% “huge challenge”
 - ROCOF improvements – significant challenges for older conventional plant and windfarms
 - Controllability of windfarms
- c) Demand growth and off peak demand growth
- d) Reduced minimum generation level of conventional generation
- e) Fast start peaking plant to replace expensive running at mingen.
- f) Investment to achieve lower levels of mingen and flexible operation.