

**ABO Wind Ireland Ltd.**



**Response to the consultation on  
Treatment of Curtailment in Tie-Break situations  
SEM-12-028  
25 May, 2012**

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## 1.0 Executive Summary

ABO Wind Ireland Ltd. is a wholly owned subsidiary of ABO Wind AG (ABO) which develops wind energy projects in Germany, Spain, France, Argentina, Belgium, Ireland, UK and Bulgaria and has plans to expand into other European countries. To date (Q1 2012) we have constructed an installed capacity of 514MW of wind energy worldwide. Since establishing an office in Ireland in 2007 we have constructed 52.5MW of installed capacity in this jurisdiction all of which has firm access. We have a further 15MW currently under construction which is scheduled to be given firm access later this year. As such ABO has no existing vested interest in seeking a decision not to grandfather projects based on firm access. The position put forward in this submission is based on our desire to continue to invest in development projects in Ireland and also to develop projects in Northern Ireland, through our subsidiary ABO Wind NI Ltd. We intend to provide further equity and debt finance to develop projects once there is reasonable certainty and stability around such investment decisions.

ABO Wind Ireland Ltd. welcome's this consultation and would like to support the response put forward by IWEA. In particular:

- i) We strongly reject option 1 despite this being financially beneficial to our existing portfolio of projects. It is our belief that such a decision would be open to challenge under DIRECTIVE 2009/28/EC "the RES-E Directive", on the grounds that it would discriminate against a particular group of projects for reasons other than grid security / stability.
- ii) We would be open to option 2 but would also have similar concerns to those raised by IWEA in relation to the open ended nature of such a decision.
- iii) We would reject option 3 as currently drafted for the reasons outlined in IWEA's submission and as per item (i) above.
- iv) We strongly reject option 4 for the reasons outlined in IWEA's submission.
- v) We would support IWEA's variation on option 3 for the reasons outlined in their submission. We would also like to highlight however the significant risks that still exist around the implementation of proposed curtailment mitigation measures. Even with a cap at Government target levels, curtailment could reach unsustainable levels if the current program of mitigation measures are not effectively implemented.

In addition to the above, we put forward an insurance proposal that could be offered to developers subsequent to a decision to implement either option 2 or IWEA's variation on option 3. We believe this would reduce the levels of uncertainty around both of these options whilst also providing some protection to the consumer. The basic principle of the scheme is that a baseline curtailment level is agreed for a given tranche of projects. Projects would suffer the effect of this baseline curtailment level irrespective of actual curtailment levels. During periods of low curtailment the projects would pay into a balancing fund and during periods of high curtailment they would receive payments from the fund. A more detailed description of this proposal is put forward in Section 4 and explanatory worked examples are included in Appendix 1. We would envisage this as an optional insurance scheme that developers could choose to avail of. We would not envisage this forming part of the current decision but believe that it is appropriate to put it forward for consideration at this time. If the RA's believe the proposal has merit then it would be appropriate to consult with the wider industry and SO's before offering

such a scheme. It should not be necessary to delay the current decision to consult on this proposal.

## 2.0 Introduction

ABO Wind Ireland Ltd. would like to support the submission made by IWEA on this consultation. It is not intended to restate and include all details and evidence provided in the IWEA submission, rather to add particular comments of support where appropriate. We also believe it is appropriate at this time to put forward a further supplementary proposal that we believe has merit and that could be offered to the industry in the future alongside either option 2 or IWEA's variation on option 3.

## 3.0 Statements supporting the IWEA submission

### 3.1 Removing the link between Firm Access & Curtailment

ABO would strongly support IWEA's position in relation to policies that link the treatment of curtailment to firm access. In particular Article 16.2(c) of the RES-E directive states:

*"Member States shall ensure that when dispatching electricity generating installations, transmission system operators shall give priority to generating installations using renewable energy sources in so far as the secure operation of the national electricity system permits and based on transparent and **non-discriminatory** criteria. Member States shall ensure that appropriate grid and market-related operational measures are taken in order to minimise the curtailment of electricity produced from renewable energy sources. If significant measures are taken to curtail the renewable energy sources in order to guarantee the security of the national electricity system and security of energy supply, Member States shall ensure that the responsible system operators report to the competent regulatory authority on those measures and indicate which corrective measures they intend to take in order to prevent inappropriate curtailments."*

ABO believe that policies that link the treatment of curtailment to firm access discriminate against non/partially firm projects where there are no underlying issues of system security and as such are open to challenge under this directive. This clearly applies to existing policies in relation to market compensation for curtailment events and to options 1 & 3 in the SEM-12-028 consultation.

### 3.2 Curtailment Mitigation

ABO would also like to highlight the importance of the implementation of curtailment mitigation measures. Whilst acknowledging some good work done by the RA's and SO's in this regard in establishing the DS3 program and setting the very ambitious but necessary targets of 75% instantaneous penetration levels for wind, we support IWEA's call for an overall co-ordinated curtailment mitigation strategy. Timelines for implementation of

required curtailment mitigation measures can be of the order of decades and so strategies should be developed now for further mitigation that will be required post 2020.

### **3.3 Consultation Impact Analysis**

ABO would strongly support IWEA's call for transparency in relation to the RA's analysis framework. It is essential that this detailed analysis be included as part of any proposed decision so that the Industry has an opportunity to query any evidence or underlying assumptions made.

### **3.4 Assessment of Options**

#### **3.4.1 Option 1 - Grandfathering based on firm access**

As stated in section 3.1 ABO are strongly of the view that linking curtailment to firm access is inappropriate and open to challenge under the RES-E directive. The problem presented by curtailment when treated on a pro-rata basis can be significant. If, however, a policy is introduced to place the majority of this burden onto a particular group of projects through grandfathering then it blocks that group from further development and would very likely result in debt default for any constructed projects within that group. Such a decision has the potential to be very damaging to further investment in Wind Energy in Ireland generally.

It should also be noted based on work carried out by IWEA and others, it is clear that non/partially firm projects will be required if 2020 targets are to be reached. Policies which discriminate against such projects are not only potentially in breach of the RES-E directive but are also counter-productive in terms of reaching Government renewable targets, which are also set by Europe.

We would also strongly support IWEA's position in terms of any perceived link between the economic efficiency / speculative nature of a project and being classified firm. The firm status of a project is primarily linked to its proximity to suitable grid infrastructure. Projects that have firm offers are just as likely to be speculative in nature and may have planning / wind resource issues that are completely unrelated to their location on the grid. In addition PGOR reports for non/partially firm projects indicate that many projects have constraint levels close to zero long before being classified firm. Projects that have high constraint values and are genuinely inefficient in the short term are naturally blocked from developing based on their financial viability and require no further policy interventions to block their development.

### **3.4.2 Option 2 – Pro-rata**

ABO are open to this option but share IWEA's concerns regarding the open ended nature of such a decision. In the event that this was the RA's preferred option, we believe that our supplementary proposal (or some alternative means of providing improved certainty) may need to be introduced in the coming years to ensure a stable investment environment to achieve 2020 targets. As explained in our proposal this need not be at the expense of the consumer.

### **3.4.3 Option 3 – Temporary pro-rata**

ABO support IWEA's views on this option as currently drafted. This option also proposes to link grandfathering of curtailment to firm access which we believe is inappropriate for the reasons already outlined.

### **3.4.4 Option 4 – Pro-rata with generators taking the risk**

ABO strongly support IWEA's position on this option. ABO has made significant investments in Ireland based on existing market structures and would strongly resist any retrospective changes in this regard.

## **3.5 IWEA's Position: Pro-rata to government targets (referred to as Option 3b)**

IWEA are proposing a high level principle that projects required to meet government targets would be protected from additional curtailment as a result of further development post 2020 targets. Criteria for entry to this protected tranche of projects would be completion prior to a defined date which could be extended as necessary until targets are achieved. ABO support this proposal as it reduces the exposure of projects to excessive curtailment and therefore provides improved certainty to those making investment decisions. This should provide a reasonable signal to industry to continue to build out projects in the short to medium term. In addition we support the idea that as further curtailment mitigation measures are introduced post 2020 targets, that additional projects could be added to this protected tranche. This would mean that we would not be placing an end date on the Industry.

That said, the proposal does not remove the risks associated with either delays or lack of success in implementing proposed curtailment mitigation measures. There are still real risks around the implementation of DS3 and around the operation of interconnectors during periods of low demand / high wind which are of some concern to anyone making substantial equity investments in such projects. For this reason ABO are putting forward an insurance proposal that could be offered to developers at a later date which we believe strikes an appropriate risk balance between the consumer and the industry. This proposal could perhaps also be considered as the eventual means of providing protection to the initial tranche of projects under this option.

## **4.0 ABO Wind Supplementary Proposal: Insurance Scheme – Curtailment Pools with Balancing Payments**

ABO recognise that even with very effective curtailment mitigation measures some level of curtailment on the system is unavoidable. We also recognise that, while there is a case to be made for compensation for curtailment at REFIT levels, in the current economic environment this is unlikely to be well received. Fundamentally the problem that curtailment presents to the industry is that it is very difficult to predict with confidence, particularly for projects that will require financial models into the period 2020 – 2030. When treated on a straight pro-rata basis this could present difficulties in terms of attracting equity investment and also in obtaining debt finance. It is for this reason that we primarily support the IWEA variation on option 3 as this provides at least some protection against excessive curtailment. However the level of risks around the implementation of curtailment mitigation measures could still act as an obstacle to investment. It is for this reason that we are suggesting that it may be appropriate for the RA's to offer an insurance policy which developers could choose to pay in to.

### **4.1 Overview of the concept**

Curtailment pools could be established within which an acceptable baseline level of curtailment is agreed. Projects that choose to avail of the scheme would make periodic balancing payment to a balancing fund when curtailment levels are below this level and receiving a periodic balancing payment when curtailment levels are above this level.

#### Key Parameters

The key parameters that would need to be established are outlined below. We would suggest that these parameters may need to be set differently for Northern Ireland due to the different support mechanisms in place. Some initial suggestions are also presented although as already stated these would require further consultation.

- i) The size of the pool
  - a. We would suggest announcing an initial pool, the entry to which would cut off in Dec 2018. Further pools could be added to reach 2020 targets and beyond as required. All projects commissioned prior to this date would be eligible for entry.
- ii) The acceptable baseline curtailment level.
  - a. In the SEM consultation it is stated that curtailment levels are only expected to reach 5% in 2020, therefore it would seem reasonable to set the baseline level for the first pool somewhere below this level. Worked examples shown in Appendix 1 indicate a baseline curtailment level of 5% which is purely for the purposes of illustration. A decision on the appropriate level should be made only following an impact / risk analysis on the potential effects on the consumer and following consultation with the wider industry.
  - b. The acceptable baseline curtailment level could be set at a different level for new MW pools once 2020 targets have been reached depending on the policy

objectives at that time and on extent of curtailment mitigation measures deployed.

- iii) The balancing payment to the balancing fund.
  - a. The intention with this is that the wind farm project should cover the impact of the proposed baseline curtailment level. For firm projects this is currently the difference between the REFIT / ROC's price and the weighted average SMP during curtailment events. Worked examples are shown in Appendix 1 to highlight how this might work.
- iv) The balancing payment from the balancing fund.
  - a. The intention with this would be to cover any lost revenues suffered by developers in excess of the acceptable baseline curtailment level. This payment should be based on REFIT / ROC's levels. This will provide greatly increased certainty to allow projects to be financed and if curtailment mitigation measures proceed on schedule the consumer could in fact be a net beneficiary of such a scheme.
- v) Period for making balancing payments
  - a. Monthly / Quarterly / biannual / Annual
- vi) Criteria for entry to the pool.
  - a. For ease of implementation we would suggest that the same criteria as presented by IWEA for option 3 could be used. i.e. Operational by a particular cut off date.
- vii) Non / Partially firm generators.
  - a. The suggested approach for non firm and partially firm generators would be to deal with the curtailment element in exactly the same way as for firm generators as curtailment is not related to degree of firmness, but that constraints would not be covered in this way. Example projects 3 & 4 in Appendix 1 highlight how this might work.

## **4.2 SEM-12-028 Assessment Criteria**

### **4.2.1 Impact on the Consumer**

There is significant flexibility and variety of options available under this concept to protect the consumer and to balance the risks to the consumer vs the risks to achieving government targets. By either reducing the initial pool size and waiting to see how mitigation measures develop or by having higher baseline curtailment levels the level of protection provided to the consumer can be increased. However this also reduces the rate of build out of projects. It is for this reason that we suggest that this would require a level of risk assessment and impact analysis with input from the industry, RA's and SO's. It should be noted that in the earlier years of implementation there would likely be a reasonably significant net payment to the fund.



#### **4.2.2 Facilitation of Ireland and Northern Ireland 2020 renewable targets**

Depending on the baseline curtailment levels and sizes of the curtailment pools this option has the potential to greatly facilitate the achievement of 2020 renewable targets. Again this is where there is a need for further consultation on the proposed baseline curtailment levels.

#### **4.2.3 Efficiency of Entry Signal**

Such an option would provide a strong and clear signal to efficient projects to construct. Only projects that are able to cater for the baseline curtailment levels could proceed.

#### **4.2.4 Stable Investment Environment**

Although initially the levels of financial burden placed on developers may exceed the actual curtailment levels, there would be certainty around this burden and this would facilitate clear well informed investment decisions. As such it should provide a very stable investment environment for projects.

## **5.0 Conclusions**

In summary ABO are supportive of the position put forward by IWEA as we believe that of the options presented, this variation on option 3 provides the best way forward for the industry and strikes a reasonable balance between the interests of the consumer and the achievement of government targets. However we believe there are still significant risks of excessive curtailment in the event that mitigation measures do not proceed on schedule. That said, if the industry wants greater certainty then it should be willing to consider paying for this through an insurance option as put forward here. This insurance concept has the potential to be a very powerful tool for policy makers as a variety of policy objectives can be achieved through appropriately sizing the curtailment pools and setting appropriate baseline curtailment levels. It can also be easily adapted to new policy objectives without retrospectively effecting constructed projects, provided such projects have availed of the scheme. Issues to be resolved around this option would include defining the appropriate balancing fund and dealing with suppliers vs generators with existing PPA terms and conditions. i.e. How would the benefits and costs of such a scheme be passed from suppliers to generators. We would ask that the SEM committee look seriously at our insurance proposal and give consideration to consulting on it in the future. ABO would be happy to make ourselves available to discuss this option in more detail should the SEMC require.

## **Appendix 1 - Insurance Scheme - Worked Examples**

All figures are for illustration only. Examples are based on REFIT support schemes. The example could work similarly for ROC's in Northern Ireland but different pool sizes and baseline curtailment levels may be appropriate.

### **Notes:**

The example calculations below are a simplified version based on a sample PPA and are intended purely to illustrate the concept. More detailed work is required around how this would work for suppliers interacting with the PSO fund.

### **Example Project 1: Firm access project - Balancing Payment to the fund**

Time period – 01/01/14 to 30/06/14

50,000 MWhr available active power

48,500 MWhr metered generation

Weighted average SMP during curtailment events = €35.00 / MWhr

REFIT price = €75.00 / MWhr

Acceptable Baseline Curtailment level 5%

#### **Revenues to the Project =**

$(48,500 \text{ MWhrs} * €75.00) + (1,500 \text{ MWhrs} * €35.00) = €3,690,000.00$

But: SO's / Regulators have succeeded in mitigating curtailment below the acceptable level and so the developer must make a balancing payment to the insurance fund. This is based on the difference between the REFIT price and the weighted average SMP during curtailment events.

In this instance curtailment was 1500MWhr out of 50,000 MWhr available active power and so curtailment was 3%. The developer suffered an actual loss due to this level of curtailment of

$1,500 * (€75.00 - €35.00) = €60,000.00$

However the intention would be that the developer should suffer the approximate effect of curtailment at the acceptable baseline level of 5%. This additional payment to the balancing fund (effectively creating the insurance fund) would be calculated as follows:

$50,000 * 5\% = 2500\text{MWhr}$  of curtailment at the baseline level

1500MWhr of actual curtailment

Therefore – 1,000 MWhr below the baseline \* €40.00 (REFIT – wgt avg SMP) = €40,000.00 which would be paid back by the Developer to the insurance fund.

This means that the total losses suffered by the Developer would be  $€40,000 + €60,000 = €100,000.00$

### **Example Project 2: Firm access – Balancing Payment from the fund**

Time period – 01/01/14 to 30/06/14

50,000 MWhr available active power

46,000 MWhr metered generation

Weighted average SMP during curtailment periods = €35.00 / MWhr

REFIT PPA price = €75.00 / MWhr

Acceptable Baseline Curtailment level = 5%

#### **Revenues to the Project =**

$(46,000 \text{ MWhrs} * €75.00) + (4,000 * €35.00) = €3,470,000$

But: SO's / Regulators have not succeeded in mitigating curtailment to below the acceptable baseline level and so a balancing payment would be due to the Developer

In this instance curtailment was 4,000MWhr out of 50,000 MWhr available active power and so curtailment was 8%. The developer suffered an actual loss due to this level of curtailment of

$4,000 * (€75.00 - €35.00) = €160,000$

However the intention would be that the developer should only suffer the approximate effect of curtailment at the acceptable baseline level of 5%. Therefore the developer would receive a payment from the insurance fund calculated as follows

$50,000 * 5\% = 2500\text{MWhr}$  of curtailment at the baseline level

4000MWhr of actual curtailment

Therefore:  $1,500 \text{ MWhr above the baseline} * (\text{REFIT rate } €75.00 - \text{weighted average SMP } €35.00 \text{ already paid}) = € 60,000$

This means that the total losses suffered by the Developer would be  $€160,000 - €60,000 = €100,000$

### **Example Project 3: Curtailment Balancing Payment to the fund – Non/ partially firm projects**

Time period – 01/01/13 to 30/06/13

50,000 MWhr available active power

46,500 MWhr metered generation

Weighted average SMP during curtailment periods = €35.00 / MWhr

REFIT PPA price = €75.00 / MWhr

Acceptable Baseline Curtailment level 5%

Average Curtailment on firm projects during the period 3%

#### **Revenues to the Project:**

1<sup>st</sup> step would be to calculate the level of constraint (Or alternatively constraints could be separately identified by the SO's)

Average Curtailment based on dispatching down of firm generators =  $50,000 * 3\% = 1,500\text{MWhr}$

Simplistic estimate of Constraint =  $3500\text{MWhrs} - 1500\text{MWhrs} = 2000\text{MWhr}$

Constraint is then removed from the remaining calculations

Revenues would be as follows:

$(46,500 \text{ MWhrs} * €75.00) = €3,487,500.00$

The developer suffered an actual loss due to this level of curtailment of:

$1,500 * €75.00 = € 112,500$ . In order to be treated the same as firm projects the first part of the balancing process should be to pay the SMP for the curtailment element only.

Therefore add -  $1,500 \text{ MWhrs} * €35.00$  to the revenue = €52,500

However, like the firm project, the intention would be that the developer should suffer the approximate effect of curtailment at the acceptable baseline level of 5%. This additional payment to the fund would be calculated as follows:

$(\text{Available active Power} - \text{Constraint}) * 5\% = (50,000 - 2000) * 5\% = 2,400\text{MWhr}$  of curtailment at the baseline level

1500MWhr of actual curtailment

Therefore –  $900 \text{ MWhr below the baseline} * €40.00$  (REFIT – wgt avg SMP) = €36,000.00 which would be paid back by the Developer to the fund.

#### **In Summary:**

i) Constraint: Full Loss =  $2,000,000 * €0.075 = €150,000.00$

ii) Curtailment shortfall through SMP payment =  $1,500 \text{ MWhr} * (€75.00 - €35.00) = €60,000$

iii) Curtailment balancing Payment to the fund = €36,000

However in this instance a balancing payment is also required to the developer for the curtailment at SMP rate = €52,500. Therefore there would be a net balancing payment to the developer of €16,500.00.

#### **Example Project 4: Curtailment Balancing Payment from the fund – Non/ partially firm projects**

Time period – 01/01/14 to 30/06/14

50,000 MWhr available active power

45,500 MWhr metered generation

Weighted average SMP during curtailment periods = €35.00 / MWhr

REFIT PPA price = €75.00 / MWhr

Acceptable Baseline Curtailment level 5%

Average Curtailment on firm projects during the period 8%

#### **Revenues to the Project =**

1<sup>st</sup> step would be to calculate the level of constraint

Average Curtailment based on firm generators =  $50,000 * 8\% = 4,000\text{MWhr}$

Simplistic estimate of Constraint =  $4500\text{MWhrs} - 4000\text{MWhrs} = 500\text{MWhr}$

Constraint is then removed from the remaining calculations

Revenues would be as follows:

$(45,500 \text{ MWhrs} * €75.00) = €3,412,500.00$

The developer suffered an actual loss due to this level of curtailment of

$4,000 * €75.00 = € 300,000.00$ . In order to be treated the same as firm projects the first part of the balancing process should be to pay the SMP for the curtailment element only.

Therefore add -  $4,000 \text{ MWhrs} * €35.00$  to the revenue = €140,000

However, like the firm project, the intention would be that the developer should receive a balancing payment to make up the REFIT rate for curtailment in excess of the baseline level.

$(\text{Available active Power} - \text{Constraint}) * 5\% = (50,000 - 500) * 5\% = 2,475\text{MWhr}$  of curtailment at the baseline level.

4000MWhr of actual curtailment

Therefore –  $1,525 \text{ MWhr above the baseline} * €40.00$  (REFIT – wgt avg SMP) = €61,000.00 which would be paid to the Developer

#### **In Summary:**

i) Constraint: Full Loss =  $500,000 * €0.075 = €37,500.00$

ii) Curtailment shortfall through SMP payment =  $4,000 \text{ MWhr} * (€75.00 - €35.00) = €160,000$

iii) Curtailment balancing Payment from the fund = €61,000

However in this instance a balancing payment is also required to the developer for the curtailment at SMP rate = €140,000 so the total balancing payment would be €201,000.00