IWEA comments on the Third Consultation on DS3 System Services Review

Financial Arrangements

20 February 2013

Introduction

IWEA welcomes the opportunity to comment on the Third Consultation on DS3 System Services Review – Financial Arrangements. This consultation is particularly important as it identifies the methodologies for valuing the system services and remunerating providers of the new services required to operate the electricity system in a secure manner with the increasing integration of renewable technologies.

The wind industry recognises the importance of the DS3 programme and system service review for the electricity system in Ireland and in particular in relation to the integration of renewable energy into the electricity system. It is recognised that there are challenges associated with the integration of non-synchronous generation and that new system services are required to deal with this. IWEA welcomes the work being carried out by EirGrid and SONI in this area.

Our response to the previous consultation outlined the technical capabilities of wind generators in terms of system service provision. The focus of this consultation is on the revenues and contractual arrangements for the provision of services.

This consultation highlights the benefit to the system through the introduction of additional system services and the savings that these would deliver to the consumer. Information is also provided on the cost of delivering these services through a generation investment scenario and an alternative investment scenario. This analysis is useful in helping to determine the most efficient way of providing the additional services.

As outlined in our response to the previous consultation, the ongoing SEM Committee consultation on Tie-Breaks in Dispatch has brought particular attention to the issue of curtailment in the Single Electricity Market (SEM). Two of the key factors contributing to curtailment are the minimum generation levels of conventional plant (min_gen) and the level of instantaneous system non-synchronous penetration (SNSP) allowable, which is currently limited to 50%. The introduction of the East West Interconnector has actually been seen to increase the levels of curtailment of wind generation. Rapid implementation of the types of services proposed in this consultation, in conjunction with a revised ROCOF requirement, will be necessary if we are to start moving towards increasing the non synchronous penetration level from 50% to the 75% level. This level is necessary to achieve the curtailment mitigation assumed in EirGrid's modelling of curtailment in relation to the 2020 targets. Achieving rapid and significant progress on both these factors, and other curtailment mitigants, are vital to the wind industry and therefore we strongly support the introduction of these new services.

IWEA has noted in previous submissions to the SEM Committee that there is an urgent need to advance progress on mitigation measures to minimise and reduce curtailment. Mitigation measures are crucial in realising the full costs and social benefits of the investment in renewable energy. In the years up to 2020 there are a number of key initiatives that are all underway which are required and indeed expected to deliver significant results in curtailment mitigation. These initiatives include:

- Increasing SNSP limit to 75%
- Decreasing levels of must-run generation
- Flexibility of conventional generation
- Effective operation of interconnectors to export at times of high wind

Post 2020 there are a number of key areas also which will also contribute positively to curtailment mitigation. These include:

- Further interconnection
- Storage
- Demand side management including electric transport and heating.

IWEA has previously raised concerns with the lack of urgency on some mitigation measures and contends that the market must reflect and reward participants who provide services to facilitate renewables in line with the responsibility as set out in the RES-E Directive (Directive 2009/28/EC). This system services review currently underway aims at addressing a number of the aspects highlighted above and it is essential that this is treated as a priority workstream by the regulatory authorities. There are a number of issues affecting investment in renewables at the moment - uncertainty post 2016, decisions with respect to supports, delivery of the grid infrastructure, but most imminently it is the rising level of curtailment. Given the levels of uncertainty within the market and expectations of curtailment rising to levels of 16% if mitigation measures are not introduced, sourcing finance is a significant concern for investors. IWEA has previously noted that regulatory uncertainty has led to significant delays to the development of wind energy projects and investment in flexible generation and requests that this consultation be advanced to ensure clarity is provided to market participants.

Achieving the ROCOF targets is a large part of achieving the overall benefits of DS3 which IWEA is very keen to see attained. At this point, it is still not certain that these ROCOF targets can be achieved by the current fleet of thermal generators, and before the value of the different services and products can be determined the necessary tests and assessments on the ROCOF capabilities of the conventional fleet need to be carried out. The TSOs should not just assume that the ROCOF targets are achievable because the effect of them not being achieved is very large for the system, the renewable fleet and the customer. The clear value in attaining a higher ROCOF will more than justify the funding for such a study. These tests need to feed into this analysis for completeness and to ensure that we are planning on the basis of accurate assumptions.

This consultation process needs to be progressed in a timely manner to ensure that the turbine suppliers can test any new capabilities and bring them to market in sufficient time to allow wind farms to provide the required services so that sufficient capacity to reach the 2020 targets can be built.

1. Do you agree that the proposed value based approach to informing the amount of funding available for System Services is necessary and appropriate to deliver the required services to achieve the renewable targets?

The analysis shows the benefit associated with reduced electricity production cost and the gains associated with reducing curtailment. In order to fully appreciate the benefit to consumers, consideration should also be given to external factors other than market price such as any penalties that might accrue from not meeting Government targets, emissions trading benefits etc. IWEA believes that if the SNSP limit is not increased from 50% to 75% the targets for electricity from renewable generation may not be reached as wind farms may not build at the associated higher levels of curtailment. IWEA acknowledges that this is not ordinarily within the remit of the TSOs to carry out this wider analysis but if value is to be considered in setting tariffs for system services this wider benefit cannot be ignored in the policy decision to invest in the provision of these services.

IWEA notes that Ireland has mandatory renewable energy targets to reach and the system services being proposed will be required to meet these targets. Combined with this there is a responsibility to minimise curtailment as set out in the RES-E Directive (Directive 2009/28/EC). Placing a value on this may be difficult but it is essential that the responsibilities outlined in the Directive are followed, and the pot available for the payment of system services will have to be sufficient to incentivise the provision of services to ensure the renewable energy targets can be met. IWEA strongly believes that the payment for the new system services will enable Ireland's mandatory renewable energy targets to be met in the most efficient way possible, by maximising the output of wind generation on the island. Failure to deliver these system services may result in the use of alternative more expensive technologies or less efficient use of resources, which will ultimately increase the cost to the consumer both in monetary terms and in terms of providing a competitive and sustainable source of energy in the long-term.

IWEA supports the use of Valuation Method 3 as the most reasonable methodology for determining the value of system services.

Valuation Method 2 assumes that the build of RES-E, particularly windfarms, will occur irrespective of the predicated level of curtailment and is fundamentally driven by externalities – direct (REFIT and ROCs) and indirect (priority dispatch and access) supports. IWEA would be strongly opposed to this as the level of curtailment experienced by a project has a significant impact on its revenues and therefore the viability of the project.

Valuation Method 3 is the most appropriate method as a combined approach is the most realistic outcome. The viability of a wind energy project depends on a number of factors including the levels of constraint and curtailment, the levels of support and the terms and conditions associated with this, and the prevailing market conditions. The interaction between all these aspects is crucial and this valuation method is the one which reflects this best. At the same time the proposed value of €355m needs to

provide an incentive for investment in services. If it transpires that even with this pot developers are not incentivised then the value of the pot will need to be re-evaluated.

2. Do you agree with the proposed methodology for determining the aggregate available pot for System Services?

The methodology for determining the aggregate available pot for new services and the assumptions used in the analysis appear to be appropriate and show that there is definitely a benefit there for the customer for incentivising the investment. However, the real net value that can be shared with the customer is the difference between the gross value calculated and the total cost of providing the investment. However if there is no investment then the pot will need to be increased, even at additional cost to the customer. Ultimately, IWEA believes that the customer will pay more in the long-term if 2020 targets are not reached.

IWEA notes that the consultation paper proposes to maintain the existing payments for Ancillary Services, and we strongly support the position that these existing payments should not be reduced as these services are still needed and are providing a value to the system.

Although IWEA agrees with the value approach as opposed to the current cost approach, to better incentivise investment in flexible services, there is a risk that if the value does not at least reflect the cost of providing the services, the required investments will not be made and the services will not be provided. To this extent, the narrow view of 'value' currently taken by the TSOs may fail to provide the wider signals needed to cover the costs and procure the investments. On that basis, the TSOs must consider the costs of providing the services as a minimum value.

3. To what extent, if any, should the capital costs inform the decision regarding future system services?

Ideally, the remuneration of the system services should be value based. However, the value must be sufficient to deliver investment to ensure capital costs can be recovered. Otherwise, sufficient amounts of the system services will not be delivered and the benefit to the system will not be achieved. We note that KEMA's report on costs does not include operational costs nor R&D and testing costs which would be incurred by developers. The fixed and variable costs will need to be recovered if the investment is to be made.

The cost impact of the proposed measures would depend upon the type of turbine in use, its position on the grid and the type and level of existing grid equipment in place. Not all turbines would need significant modifications for some of the services, but where additional equipment is needed, the associated costs would need to be recovered. It is difficult to get detailed information on the costs that would be associated with the provision of the enhanced services at this time.

4. Which of the four methods outlined to allocate the funds between the System Services products would you prefer or is there another approach which should be considered?

The TSOs have identified four different methods for consideration by which the proposed System Services money might be allocated between the various products. Their preferred option is Option 3:

> *Calculate the relative value of the products, using a series of Plexos studies of the system in which each of the products removed. The outcome of the studies would be a number of constraint cost deltas which could then be used to weight the allocation of the system service money between the products.*

Whatever way the funds are allocated, it will have to be such that it incentivises the amount of each product that is required on the system. The question needs to be asked as to whether the amount of each product required ties in with the monetary "benefit" that this product provides. If not, then this is not a valid way to allocate the money and another may be more appropriate. We consider that Option 3 best reflects the value approach philosophy which we advocate in setting overall remuneration for these new system services.

Option 1 is not supported as it is over simplistic and is unlikely to be efficient at allocating the funding to where it is most required. Option 2 lacks the levels of transparency that market participants would require. IWEA would not be in favour of Option 4 as this locks down the technology choices at an early stage and could lead to longer term inefficiencies. It is important that the methodology selected allows for innovation in technology and the provision of services. Option 3 does provide flexibility for the services to be provided in a more efficient manner and promotes technology innovation and competition.

IWEA supports the proposal that the allocation approach would need to be fixed for at least 8-12 years. This would provide more certainty and enable investment in the additional services required, provided the remuneration is sufficient in this time frame.

5. Is the rationale for proposing dispatch-dependent payments clear?

Further clarity is required on exactly what is meant by Dispatch dependent and an example of how this would work should be provided. Clarity is also required as to whether the less certain dispatch-type payments would have to be higher (than it if was capability based) in order to be sure of incentivising service providers.

Payments should be made such that it allows for the overall benefits to be achieved. This needs to minimise risks for investors. While dispatch based payments ensures that payment is made where services can be utilised/realised by the system which appears to be an efficient approach from a system and customer point of view, this must be balanced with investors' need for revenue stability. Capability based system services payments would be preferential from an investment perspective (it would be very difficult to predict dispatch dependent payments with the certainty required for bankability) but importantly providing there is no resulting interaction with capacity payments. Dispatch-dependent payments increase investment risks, which in turn will increase costs of investments.

6. Is there further justification, not included in earlier consultation responses, for adopting a more capability-based approach?

This paper has stated that the required system services could be met by enhancing the performance of new and existing generation. The generation investment required is estimated at €535m. Given the scale of investment required, developers must be given sufficient stability to justify investments. As stated above, dispatch-dependent payments increase investment risks, which in turn will increase costs of investments.

7. Are the proposed general contractual and payment arrangements clear?

In the current environment more certainty is required if investments are to be made. Variability of prices that are achievable as well as uncertainty over the market post 2016 creates a very uncertain and risky environment for investors. Given the immediate importance in delivering enhancements and new investments to provide greater system flexibility, IWEA believes that stronger contracts, mitigating this uncertainty and risk, are needed in the short term. IWEA proposes that longer term contracts providing certainty past 2016 be introduced with only a re-examination once revenues/costs in new market are assessed fully.

Clarification is also required on the performance scalar. There is concern that performance below 50% would not receive any payment. If a generator knows they are below the 50% threshold then there is no incentive to provide the service, as there is no revenue to be obtained. If there are only a couple of events per year where the services are required, how long will a previous bad performance stay with a generator? This could have implications on the level of services available and it could hard to justify an investment decision if there is so much risk associated with revenues.

In relation to the cost of service provision, looking at the numbers provided in the consultation paper the following simple analysis has been carried out:

Capital cost: €139k/MW

Revenue: €45-€63 /MW (per €1m spent on system services)

System Services Pot: €200m

Income: €9k - €12.6k pa

Pay back: 11 to 15 years

This would be considered a long term investment and it would be very difficult to justify investment if the rates are fixed for only 3-5 years. IWEA believes that it will be very challenging to obtain finance for an additional service if the bilateral contract in place (whatever the payment mechanism may be) does not provide payback in the contracted period. While the paper suggests a contract period of 7 years, with a review of rates after 3-5 years, it is the reliability of the revenues that is important, and the 3-5 year period is what would be taken into consideration.

More clarity is also required with regard to the timing of the contract award. Investors would need certainty on contracts for system services in advance of financial commitments being made.

Other comments

Capacity Payments

It would appear that this consultation is leading to changes in the Capacity Pot, in isolation of any changes that might be taking place as a result of the market integration project or the EU consultation on capacity mechanisms. We note that capacity and adequacy provide distinct benefits to the system and customers and should therefore be remunerated separately. This has been the high level approach taken by the SEM Committee to date. However, give the current interaction between the two revenue streams through the BNE calculation it is important to consider how changes in one can impact the incentives provided in the other. Changes to increase ancillary service revenues, such that it will provide adequate incentives for investment, would undermine the incentives to provide capacity as per the capacity mechanism. Both are important revenue streams and can't really be looked at / changed without consideration of each other.

It is essential that any capacity mechanism has a clearly defined objective relating to the provision of generation adequacy. Plant flexibility is a different characteristic albeit equally vital to support the integration of large amounts of renewables to meet Europe's renewable energy targets. Flexibility should be appropriately incentivised through ancillary services and generation adequacy should be addressed through capacity mechanisms. As a general rule the two mechanisms should not overlap. The distinction being that capacity mechanisms are technology neutral and should ensure there is sufficient generation in megawatts to meet demand – i.e. ensure generation adequacy. A well functioning ancillary services regime should help deliver the right type of generation mix by rewarding flexibility.

New Market Developments

Consideration also needs to be given as to how this payment stream will fit in with new market developments. The provision of system services is a system security issue and as such should remain outside the market. In order to incentivise the provision of services, the payments for these services would need to be considered separately from market payments, and should not impact the support payments received by renewable generators. Potential changes to market design creates uncertainty for generators and we would recommend that this be alleviated where possible.

Cost of Service Provision

Further clarity is required on the costs of service provision provided in the KEMA report. Does this cost cover testing and R&D for the provision of services?

Location of Services

It would be helpful to understand from EirGrid the locational need for system services. Where on the electrical system sources of ancillary services need to be connected is extremely important for investors.

The publication of more detailed information would be helpful, including indicative rates based on EirGrid's preferred allocation methodology to better informed investors and their feedback.

Conclusion

IWEA supports the DS3 program and the consultation process for the provision of new system services. These services are required to ensure Ireland can meet our renewable energy targets in the most efficient manner possible. It is essential that the system is able to accommodate the increasing levels of renewables that are planned for the system in an efficient manner and that this workstream is advanced in a timely manner to ensure the incentives are in place which will enable the 2020 targets to be delivered. Rising levels of curtailment is a significant factor in investment decisions and is acting as a barrier to the securing of investment financing. To the extent that DS3 will address this barrier, it is a pivotal piece in the achievement of Ireland's renewable targets and the delivery of a competitive and sustainable energy market.