Brookfield

Brookfield Renewable Energy Group (Ireland)

Response to
Consultation on Financial Transmission Rights

Submission Date: 19th October 2015

Brookfield

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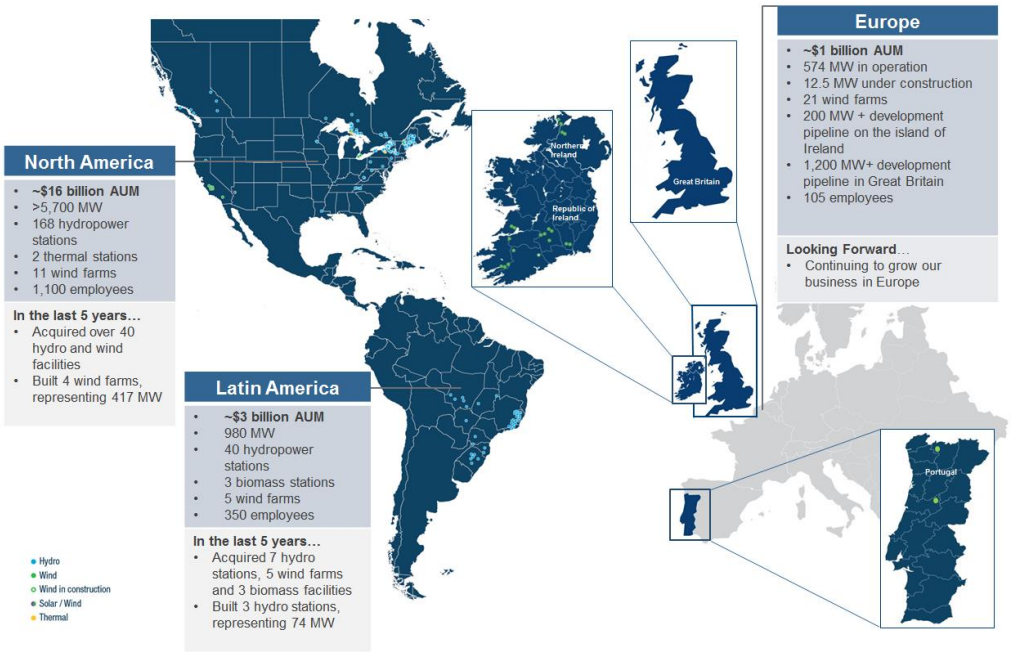
Introduction to Brookfield Renewable

Brookfield Renewable Ireland Limited (Brookfield Renewable) is a wholly-owned subsidiary of Brookfield Renewable Energy Partners, one of the largest publicly traded, pure-play renewable power platforms in the world. Our global portfolio consists of approximately 7,400 MW of installed capacity, primarily hydroelectric and wind power generation which is diversified across 14 power markets in 6 countries including the United States, Canada and Brazil, Ireland and Northern Ireland. Our power operating platform employs over 1,500 people globally, including full operating, development, construction oversight, and wholesale power marketing capabilities.

Brookfield Renewable completed the acquisition of the wind generation assets of Bord Gáis Éireann in June 2014 which included 326 MW of wind capacity across 17 wind projects in 8 counties in Ireland and Northern Ireland. Since then, Brookfield Renewable has brought 137 MW of wind generation to commercial operation and now have an operating portfolio of 464 MW across the island. Additionally, Brookfield Renewable plans to expand its portfolio and has an extensive development pipeline of approximately 200 MW of wind across Ireland and Northern Ireland, including a 100MW tidal generation project off the coast of Northern Ireland and nearly 50MW of onshore wind projects approaching construction.

Brookfield Renewable welcome the opportunity to respond to the Forwards and Liquidity consultation on Financial Transmission Rights as part of the I-SEM Detailed Design Programme. The switch from Physical Transmission Rights to Financial Transmission Rights could have significant impacts for the wind generators in Ireland, who represent a large and growing share of the Irish energy sector.



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Summary of Brookfield's Position

The share of wind in the Irish market is growing rapidly. The movement towards I-SEM creates significant challenges for wind generators in Ireland. In particular, the introduction of balancing risk and the need for generators to mitigate this risk. This will bring great challenges to wind generators as it is impossible to fully predict their outputs. Intermittent energy generators such as wind will find it harder to balance themselves than conventional generators and are therefore at a disadvantage. In 2020 wind will represent 40% of the market and therefore must be central to the design of all aspects of I-SEM.

A crucial issue for wind generators is ensuring that the changes to the market are compatible with renewable support schemes. In particular, the REFIT support scheme has been successful in attracting investment and delivering renewable generation. To enable continued investment to reach the renewable electricity targets of Ireland and to avoid unnecessary regulatory uncertainty REFIT economics must be retained and retrospective changes that will discourage investment must be avoided in all circumstances. Brookfield Renewable request that the Regulatory Authorities work closely with the DCENR to ensure REFIT is compatible with I-SEM and provide clarity on this issue as soon as possible.

Brookfield Renewable would like to take this opportunity to highlight what we believe will be a need for a liquid forward market of balancing products for intermittent wind generators under I-SEM due to the introduction of balancing risk. Market power concentration could well require directed contracts to ensure that wind generators can access products in the forwards market allowing them to effectively hedge their balancing risk. Brookfield Renewable request that the SEMC give careful consideration to the needs in the forwards market of not just suppliers and conventional generation but also intermittent generators such as wind who will represent such a large part of the market. We look forward to commenting on this issue in future consultations on the I-SEM forwards market.

Regardless of the changes made to how electricity is traded between the I-SEM and GB markets, there must be no barrier to the route to market for renewables throughout Ireland to other markets across the interconnectors. Moving to FTRs removes the ability to evidence physical transfer that has been used to bring Irish renewables to market in GB. Brookfield Renewable request that the SEMC ensures that a route to the GB (and other) market(s) remains for renewables in I-SEM in any discussions with their counterparts. Ireland's abundant wind resource means that renewables across the island of Ireland can continue to contribute towards Europe's renewable targets and market mechanisms such as Guarantees of Origin (GoOs) and statistical transfer mechanisms must enable this.

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With regards to the consultation questions:

- Brookfield Renewable feel that FTR Options would provide the greatest benefit to the I-SEM/GB market as they can provide a liquid forwards market and the ability to hedge risk.

- Brookfield Renewable disagree with the Minded to Decision and believe that an FTR Product per Border is preferable that will provide a standardised product and is likely to deepen liquidity.

- Brookfield Renewable believe that both interconnector losses and ramping constraints should be excluded from FTR payouts, as the FTR holder is not responsible for either of these constraints. The risks of interconnector losses should lie with the interconnector owners and the risks of ramping constraints should lie with the TSO or interconnectors owners.

- Brookfield Renewable prefer the JAO as the auction platform for FTRs as it should provide the largest and most liquid market of the three options proposed and will have standardized accession and collateral arrangements. It is also likely to become the Single Allocation Platform (SAP) for Europe's Single Electricity Market.

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1. Brookfield Renewable believe that FTR Options offer the greatest benefit to the I-SEM/GB market.

Option 1: FTR Options

Brookfield Renewable favour FTR Options as they will provide competitive and liquid auctions due to lower credit cover requirements and low capped risks.

Brookfield Renewable is of the view that FTR Options are the better choice as it provides a level playing field so that all generators can compete for FTRs on the same footing. In addition, FTR Options provide lower risk exposure than FTR Obligations, as with Options the risk is capped at the cost of the FTR and there is no further downside if interconnector flows go in the opposite direction to the Option. The small capped downside risk also means that there will be lower credit cover requirements for participants to take part in the auctions. As a result, the liquidity and competition of the FTR Options will likely be higher than those of the FTR Obligations, as with little and capped downside risk more market participants are likely to take part in the auctions and they will likely go for a higher price.

Additionally, the FTR Option model has been proved successfully on the Spain-Portugal border, where it is currently used[1]. This example is the closest equivalent to I-SEM/GB border as the Spanish and Portuguese markets are also implicitly coupled and have high levels of intermittent renewable generation.

Furthermore, the auciton platform will have an impact on the use of FTR Options or FTR Obligations. The SEM/Local platform is the only platform that will allow FTR Obligations to be used, as both the FUIN and the JAO will only offer FTR Option auctions in their early implementation. As discussed later, it is Brookfield Renewable's opinion that the JAO should be used as the auction platform. Therefore, FTR Options should be used initially.

Brookfield Renewable believe that FTR Options will provide the greatest benefit to the I-SEM/GB market, due to the greater liquidity and competition associated with the FTR Options products which can provide a liquid forwards market and the ability to hedge risk. Brookfield Renewable also believe that FTR Options will be an easier transition from the current PTRs with a Use It or Sell It (UIOSI) option between the current SEM/GB markets, as both the PTRs and the FTR Options have very similar characteristics and risks for market participants.

[1] OMIP – Successful first FTR exchange auction in Europe (December 2013) http://www.omip.pt/LinkClick.aspx?fileticket=_17k6NlCivQ%3D&tabid=100&mid=660&language=en-GB

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Option 2: FTR Obligations

Brookfield Renewable do not favour FTR Obligations as they introduce an un-hedgeable risk for wind generators due to the risk that wind won't be running at a time when an obligation payment is called in.

Brookfield Renewable do not favour FTR Obligations as they would introduce an un-hedgeable risk for wind generators that wish to sell their output over the interconnectors due to the risk that wind assets may not be producing power at a time when the Obligation is called in. As the 'merchant' element of the wind portfolio across the island grows, this route to market will become more important. In our view, FTR Obligations appear to favour in-merit baseload generation and make it difficult for intermittent generation such as wind to use these products.

Additionally, FTR Obligations introduce an uncapped risk exposure when the interconnector flows in the opposite direction to the Obligation and the holder is required to make payments of the full negative price arbitrage. As a result, the credit cover required for market participants to take part in FTR Obligation auctions would be much higher than the cover required in the FTR Option auctions. Furthermore, the high uncapped risk and the high credit cover requirements would reduce the competition and liquidity of the auctions as fewer market participants would participate. It is with these downsides in mind that Brookfield Renewable considers FTR Obligations not suitable and therefore considers FTR Options the best option.

Further, Brookfield Renewable believes that the example of US markets using FTR Obligations is not relevant to the question of suitability of FTR Options or Obligations for the I-SEM/GB market border. FTR Obligations are attractive in US markets such as New York and New England[2] as these markets have nodal pricing and suppliers and generators in these markets require obligations to effectively optimise their hedging across multiple nodes. This requirement does not exist between the I-SEM and GB markets which operate in a flowgate arrangement. Therefore, Brookfield Renewable are of the view that FTR Options would still have the most benefit.

2. Brookfield Renewable disagrees with the Minded to Decision to retain the existing arrangements for separate FTR products for each interconnector

Option 1: FTR per Border

Brookfield Renewable believes that one FTR product per border is the better option as it would deepen liquidity and standardise interconnection products.

[2] NERA – Review of Financial Transmission Rights and Comparison with the Proposed OFA Model (See Section 2, Table 1) (March 2013) http://www.aemc.gov.au/getattachment/ba583ab5-fea3-468b-bc0e-8ebfdec2c668/NERA-Review-of-Financial-Transmission-Rights-and-C.aspx

The use of a single FTR product per border, i.e. the I-SEM/GB Border, would concentrate the liquidity of the auction with both interconnectors grouped together to offer the same standardised products. The standardised products also make it simpler for market participants to take part. Additionally, for the past couple of years Iberia[3] have been successfully auctioning FTRs per Border. Furthermore, ACER's 2014 Market Monitoring report observes that multi-market transmission products could benefit smaller bidding zones by access to more liquid trading hubs[4].

The SEMC's Minded to Decision states that the benefits of having a single FTR per border are outweighed by the costs of implementing an agreement between the interconnector owners to allocate revenues and liabilities, and as such the SEMC expressed a preference towards the FTR per interconnector option. Brookfield Renewable disagree with this, and are concerned that the SEMC are focusing too much on the costs to the interconnector owners rather than the wider benefits to all market participants. Brookfield Renewable believe that the wider benefits of an FTR per Border would outweigh the costs an agreement between the interconnector owners. We also believe that FTR per Border auctions could be staggered throughout the month to ensure the current regular schedule of auctions across the EWIC and Moyle interconnectors are maintained.

Brookfield Renewable recognise that a single FTR per border would be less adaptable to changes in bidding zone configurations, but on balance believe that the advantages of simplicity from standardised products and the increased liquidity of the FTR per border make it the preferred option.

Option 2: FTR per Interconnector

Brookfield Renewable believe that having FTRs per interconnector is not the preferred approach as this would increase the complexity for market participants and reduce the liquidity.

Having distinct FTR products per interconnector would retain existing arrangements and therefore be simpler to implement as it would not require agreements between the interconnector owners. An FTR per interconnector is also more adaptable to any future changes in bidding zone configurations.

However, an FTR per interconnector would have reduced liquidity as products will be split between two auctions. Additionally, multiple auctions are more complex for market participants to take part in. Brookfield Renewable believe the reduced liquidity and the increased complexity for market participants of the FTR per interconnector option make the FTR per border the preferred option.

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[3] OMIE –Electricity in the Iberian Peninsula http://www.omie.es/en/home/markets-and-products/electricity-market/our-electricity-markets

[4] ACER/CEER – Annual Report on the Results of Monitoring the Internal Electricity and Natural Gas Markets in 2013 http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Publication/ACER_Market_Monitoring_Report_2014.pdf

3. Brookfield Renewable agrees with the Minded to Decisions that losses should be discounted and ramping constraints should not be discounted for in the FTR pay-out.

FTR Product Definition - Interconnection Losses

Brookfield Renewable disagrees with the SEMC's Minded to Decision and believe that FTR holders should not be held responsible for interconnection losses as this constraint is out of their control.

Brookfield Renewable disagree with the SEMC's Minded to Decision on Interconnection Losses. Brookfield Renewable are of the view that the FTR holder should not be responsible for the losses that occur in the interconnectors as the FTR holders have no control or responsibility over those losses given the pure financial nature of FTRs. In addition, the interconnector owners selected the equipment for their respective interconnectors based on the cost and efficiency, and therefore should be responsible for the losses that occur on their asset.

Alternatively, the risk of interconnection losses could be applied to the TSOs to treat the loss the same as transmission losses in Europe. Most European countries place the risk of transmission losses with the TSOs[5], therefore it would be reasonable to place the risks on interconnection losses with the TSOs where they can be incentivised to reduce the costs to consumers of the losses.

FTR Product Definition – Ramping Constraints

Brookfield Renewable agrees with the SEMC's Minded to Decision that ramping constraints cannot accurately be reflected in FTR bids so the risk should be allocated to the TSO or IC owner, who can seek to minimise the ramping constraint.

Brookfield Renewable agrees with the SEMC's Minded to Decision presented in the consultation that interconnector ramping constraints should sit with the interconnector owner as they have some control over the constraint, unlike the FTR holders who will have no control. Alternatively, the risk could also be applied to the TSOs as they also have some control over ramping constraints as they can reduce the constraints by reinforcing the grid surrounding the interconnectors to allow them to ramp at a quicker rate.

FTR Product Definition – Unplanned Outages/Curtailment

Brookfield Renewable believe that curtailment and unplanned outages should be dealt with by following European Network Codes, where prior to Day Ahead gate closure FTR holders will be held firm and still receive congestion rent from the interconnector owner.

[5] INOGATE – EU practice in treatment of technical losses in the high voltage electric grid http://www.inogate.org/documents/Treatment%20of%20losses%20in%20the%20HV%20networks.pdf

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Brookfield Renewable does not seek to depart from the European guidelines, which state that *"Prior to the day-ahead firmness deadline, each coordinated capacity calculator may adjust cross-zonal capacity and allocation constraints provided to relevant NEMOs." "After the day-ahead firmness deadline, all cross-zonal capacity and allocation constraints shall be firm for day-ahead capacity allocation"* [6] *"When Long Term Transmission Rights are curtailed, all Transmission System Operators shall compensate the capped Market Spread."* [7]

4. What are the important issues to be considered in deciding on the development of an auction platform?

Brookfield Renewable consider the following to be the most important issues that need to be considered when deciding the auction platform:

- Implementation costs and duration
- Ease of access and low barriers to entry;
- Size of the market place;
- Possibility of additional products and liquidity;
- Compatibility with future European arrangements.

5. Brookfield Renewable believe the JAO should be used as the FTR auction platform.

Auction Platform Option 1 – Local/SEM Allocation Platform

The current SEM allocation platform is tailored to I-SEM/GB products, however Brookfield Renewable are of the view that the high implementation costs do not make this option viable.

Altering the existing platform to incorporate FTRs allow the products to be shaped more easily to local needs. However, the implementation costs are the highest of the three options as there are fewer stakeholders to share the costs. In addition, the liquidity of this auction is likely to be the smallest of the three options as there would be the least amount of participants. The local option is also the smallest market of the options and goes against the future European market ideals of

[6] Commission Regulation (EU) 2015/1222 of 24 July 2015 – establishing a guideline on capacity allocation and congestion management http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.197.01.0024.01.ENG

[7] ENTSO-E Network Code on Forward Capacity Allocation – 1st October 2013 https://www.entsoe.eu/fileadmin/user_upload/_library/resources/FCA_NC/131001_-_NC_FCA_final.pdf

widespread participation. Therefore, Brookfield Renewable does not consider the Local/SEM Allocation Platform an appropriate option.

Auction Platform Option 2 – Regional/FUIN Platform

The EWIC and Moyle interconnectors joining the FUIN platform would facilitate early compliance of the HAR and there are lower associated costs with more stakeholders involved, however the increase in stakeholders increases implementation risk.

The FUIN platform option would facilitate the early compliance of the HAR and is the preferred choice of the interconnector owners. The costs of implementation are estimated to be in between those of the local platform and the JAO. However, with more stakeholders involved the implementation risks are greater than the local option. Though a better option than the Local/SEM Allocation Platform, Brookfield Renewable does not consider the FUIN platform the best option as the size of the market, liquidity and ease of access are lower than the JAO.

Auction Platform Option 3 – Joint Allocation Office (JAO)

Brookfield Renewable prefer the Joint Allocation Office (JAO) option as it will likely become the Single Allocation Platform (SAP) for Europe's Single Electricity Market.

The Joint Allocation Office will likely become the Single Allocation Platform for interconnector capacity across Europe's future Single Electricity Market. The JAO is the largest of the three option, will provide access to more products and markets through a single platform and may provide credit cover/collateral advantages through a centralised platform. As this option is in line with future European arrangements, has the largest market, and the most liquidity and may offer the most diverse products Brookfield Renewable prefer the use of the JAO as the FTR Auction Platform, believing it to be the longer lasting option.

Some stakeholders have raised concerns about the implementation duration of the JAO, more specifically that the JAO will not be ready for use in time for the I-SEM go-live date. However, Brookfield Renewable do not consider this a valid concern as the JAO is schedules to be auctioning by the first half of 2016, leaving adequate time to prepare before the I-SEM go-live date of October 2017.