Reliability Options in Ireland and Northern Ireland
Obligations and Penalties

European Commission Technical Working Group on Energy:
Subgroup on generation adequacy

14 April, Brussels
Background – Single Electricity Market on Island of Ireland

- SEM is regional market Ireland and Northern Ireland from 2007 – 2017, governed by cross jurisdictional regulatory committee – SEM Committee
- I-SEM is new market to be implemented in Ireland and Northern Ireland by 2017
  - Gross Mandatory Pool with SRMC bidding
  - Priced Based Capacity Mechanism based on availability (Best New Entrant X Capacity Requirement sets annual ‘pot’)
  - Cross border participation in CRM but some issues – ACER Paper CRMs mid-2013
- Integrated SEM (I-SEM) (2017–)
  - In line with Target Model. Centralised Pool with DA and ID coupled markets, FTRs across Interconnectors
  - Volume Based Capacity Mechanism based on Centralised Reliability Options with firm energy requirement
New CRM from 2017 - Reliability Options

- Continued need for CRM to ensure investment & generation adequacy in a small island system with high penetration of variable renewable generation.

- CRM to be in form of Reliability Options which rewards providers who contribute to reliability when needed.

- A Reliability Option is a one-way call option that incentivises a plant to be generating/load to reduce when the system is stressed.

- ROs are awarded through competition auction mechanism to determine the price of capacity, with TSOs determining the quantity to be auctioned subject to RA oversight.

- Centralised auction pools liquidity, ensures all consumers pay same price for capacity.

- Additional penalties could apply in the event that the generators are not available when called.

- ROs hedge demand from high or volatile energy prices without distorting spot prices and also mitigate market power in energy market.
Reliability Options – Product/Obligation Basic Design

- The Financial option is called when the reference price is above the strike price, the option to buy at the strike price would be exercised.

- Generators would pay back the difference between the reference and strike prices.

- Load could either have TSO contract on its behalf at strike price or participate in auction as DSR.
Reliability Product/Obligation

- Three Basic Options for Obligation:
  - Financial
  - Financial + Firm energy
  - Financial + Firm energy + penalty

- We have ruled out purely financial form – physical backing will be required to be eligible for auction to ensure capacity requirement is met

- Other markets have combined reliability options with penalties for physical non delivery
  - Notably revised design of New England ISO Forward Capacity Market

- Other examples of ROs have not so far introduced explicit penalties
  - Colombia, Italy

- Potential benefits of explicit penalties in terms of performance incentives need to be balanced with practicality, investment and eligibility considerations.
Reliability Product/Obligation

• Need to define penalty to ensure physical backing for ROs

• Need to ensure requirements are met during build phase - milestones

• ROs implicit penalty can provide strong financial incentives during delivery period

• Consideration of whether and by how much these financial incentives should be capped
  – Deliverability v investment
  – US markets and GB CRM experience

• What additional incentives are required to ensure physical back up to ROs?
  – Ex-ante or ex-post testing?
  – Financial or other penalties if physical backing requirement not met?
  – Cross border application
Reliability Product – Reference Market

- Key design choice as to how implicit penalty will work

- Need to balance reliability and liquidity of reference market with incentives to respond to near time stress events

- Choice of Day Ahead, Intra Day or Balancing for reference market
  - Day Ahead expected to be most liquid market
  - Continuous intra day lacks reference (clearing) price unless implicit auctions used
  - Real time market used as reference in NE ISO but this could reduce incentive to participate DA and ID

- Cross border participation and access to reference market

- Combination of several near time markets with requirement to bid in all (e.g. Italy)
Reliability Options Implementation—Key Issues to be determined

- Capacity Requirement – adequacy assessment and locational issues
- Product - Penalty Arrangements
- Eligibility Rules including cross border
- Delivery Timeframe and Contract Length
- Transitional arrangements
- Strike Price and Reference Market
- Secondary Trading Arrangements
- Supplier Interactions and charging basis for consumers
- Auction Rules and Market Power Mitigation Measures
## Reliability Options Implementation - Indicative Timelines

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<th>Deliverable</th>
<th>Description</th>
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<th>To</th>
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<tr>
<td>Consultation &amp; Decision High Level Design of CRM</td>
<td>Decision to base new CRM on ROs</td>
<td>June 2014</td>
<td>September 2014</td>
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<tr>
<td>Consultation and Decision 1</td>
<td>Product, eligibility, settlement, transitional rules</td>
<td>June 2015</td>
<td>October 2015</td>
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<tr>
<td>TSO System procurement</td>
<td>Auction &amp; settlement systems</td>
<td>October 2015</td>
<td>September 2016</td>
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<td>Consultation and Decision 2</td>
<td>Strike price, reference price, cross border</td>
<td>November 2015</td>
<td>March 2016</td>
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<tr>
<td>Consultation on Auction Rules</td>
<td>Auction format, market power etc.</td>
<td>April 2016</td>
<td>August 2016</td>
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<td>Preparation for Auction</td>
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<td>September 2016</td>
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<td><strong>First Auction(s)</strong></td>
<td>Transitional and enduring</td>
<td><strong>January 2017</strong></td>
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Thank you

Any Questions?