



Reliability Options in Ireland and Northern Ireland Obligations and Penalties

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

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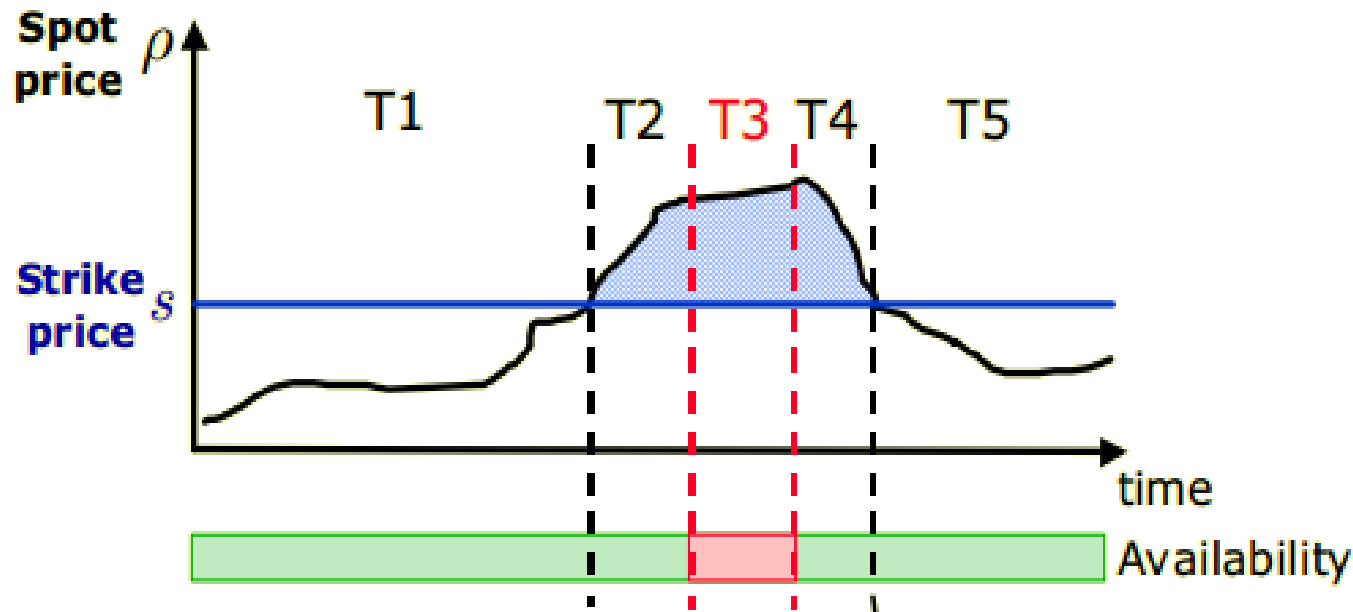
Background – Single Electricity Market on Island of Ireland

- 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
- SEM (2007-2017)
 - 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

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

Thank you

Any Questions?