

Customer Connections Forum

Gate 3 Constraint Reports

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11th December 2012



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SEM Decisions



- SEM 11-062
 - Defined Priority dispatch
 - Confirmed hierarchy for priority dispatch generators
- SEM-11-105
 - Specified dispatch rules for tie-breaks situations
 - Defined Constraint Groups within which constraints dispatched in order of non-firm, partially-firm and firm wind generators.
 - Curtailments decision withdrawn
- SEM-12-090 Proposed decision
 - Proposes curtailment is done on a pro-rata basis without reference to firmness.
- EirGrid will be publishing a briefing paper ‘Interpreting SEM 11-105 + Proposed Decision on Curtailment’ which will provide more details on how we will implement the SEMC decisions in real-time dispatch.



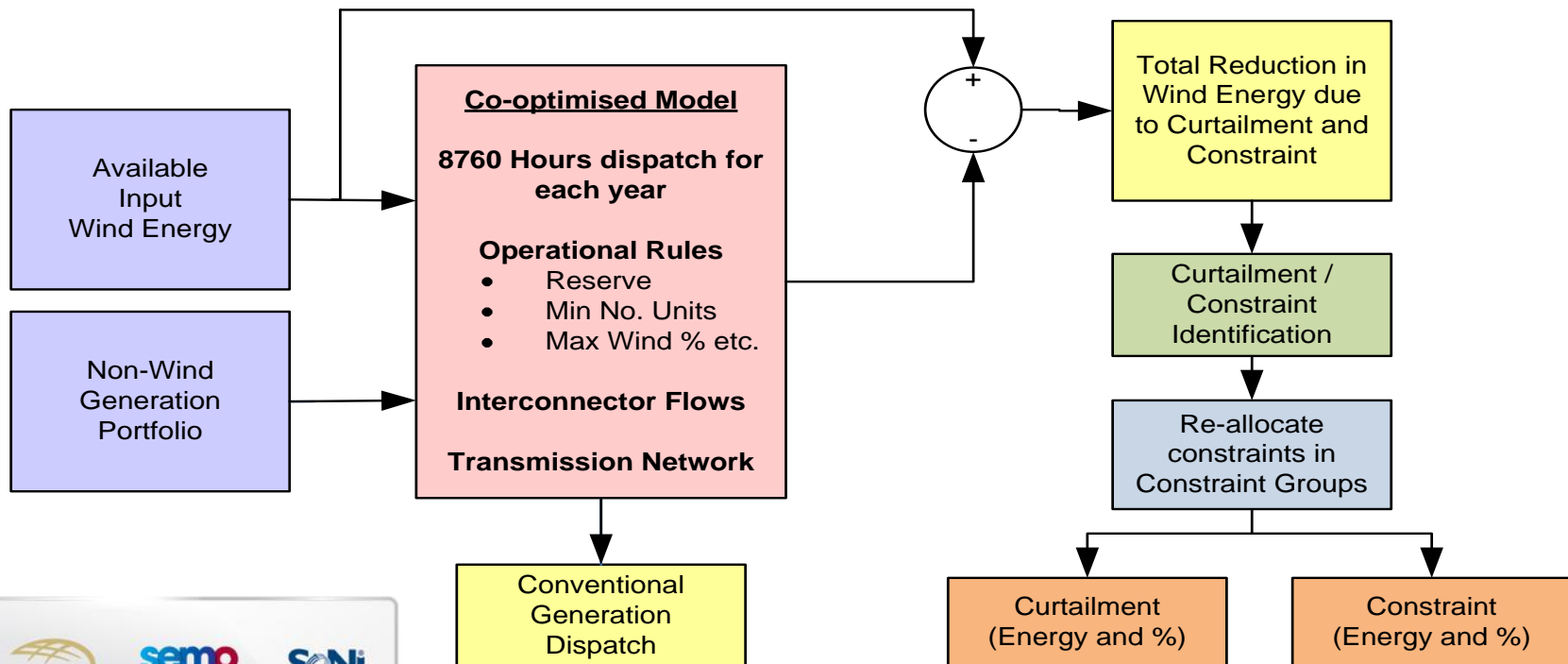
Methodology

Constraint Groups

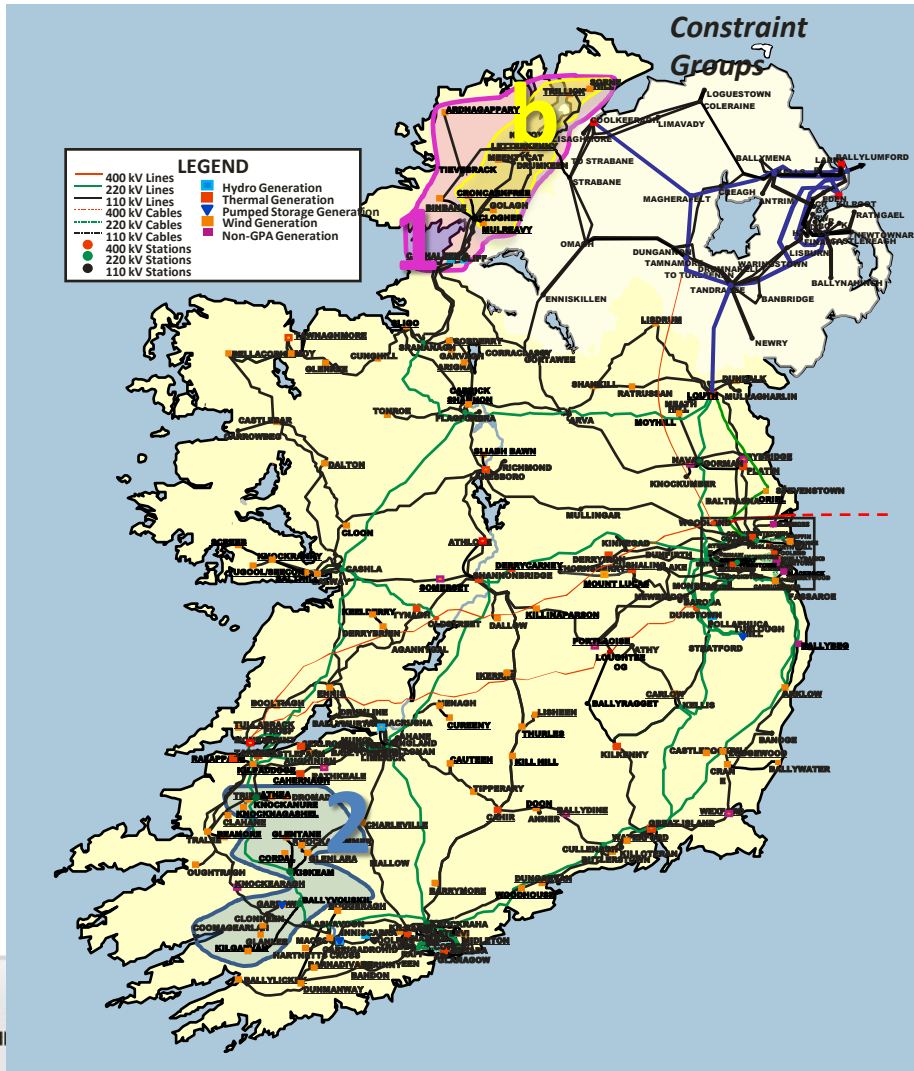
Curtailment/Constraint Determination



- Output of controllable wind generators are reduced in congested areas.
- In Constraint Groups, output is re-allocated to non-firm, partially-firm and firm generators.
- Wind curtailment is spread proportionally.
- For some hours it can be difficult to categorise overlapping constraint and curtailment.

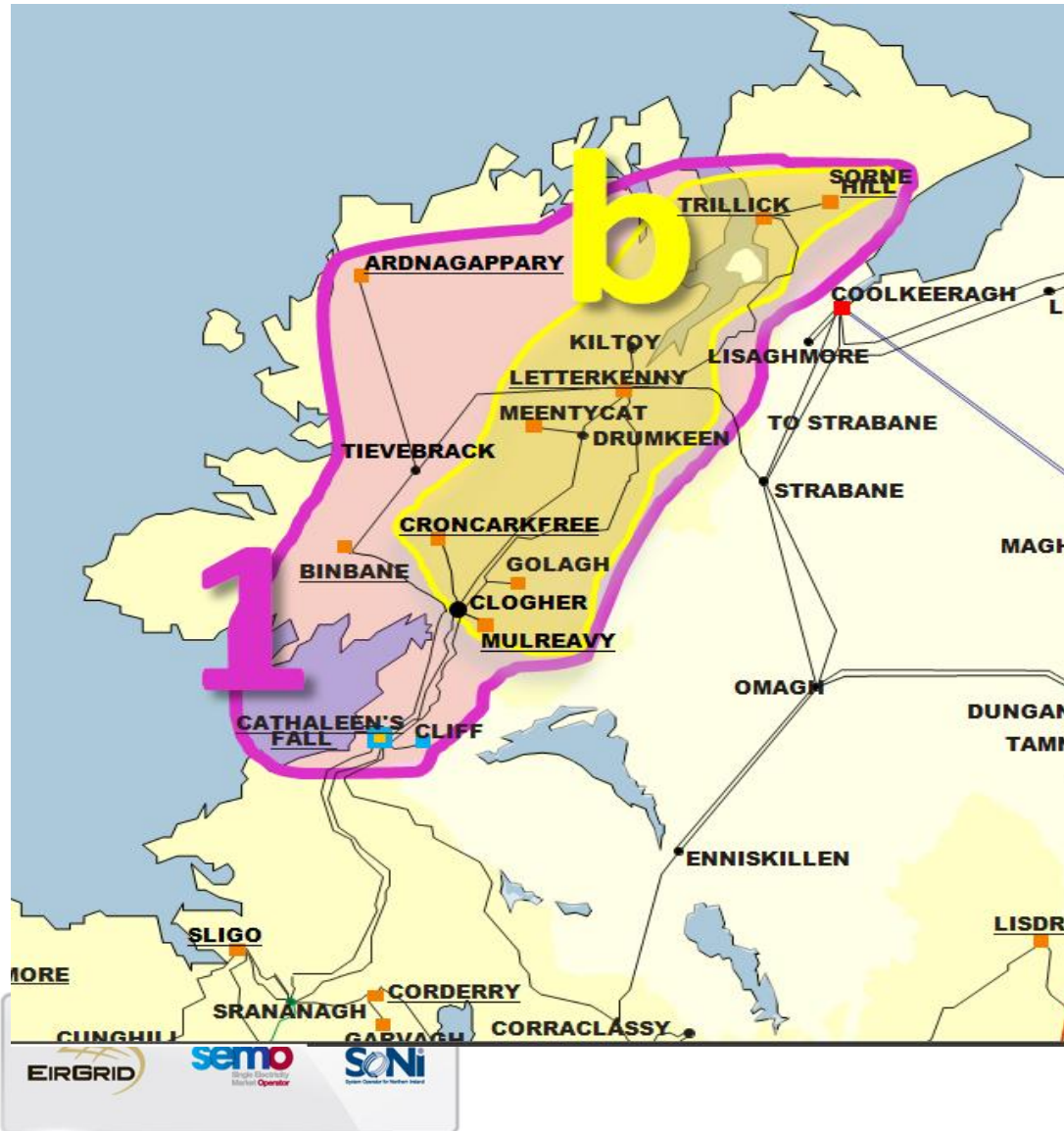


Constraint Groups



- Two proposed for Ireland and none for Northern Ireland
- Donegal Constraint Group is present from the first study year onward.
- South-West Constraint Group becomes active when the new 220kV stations are built
- Consultation on Constraint Groups has ended and we are awaiting SEMC decision

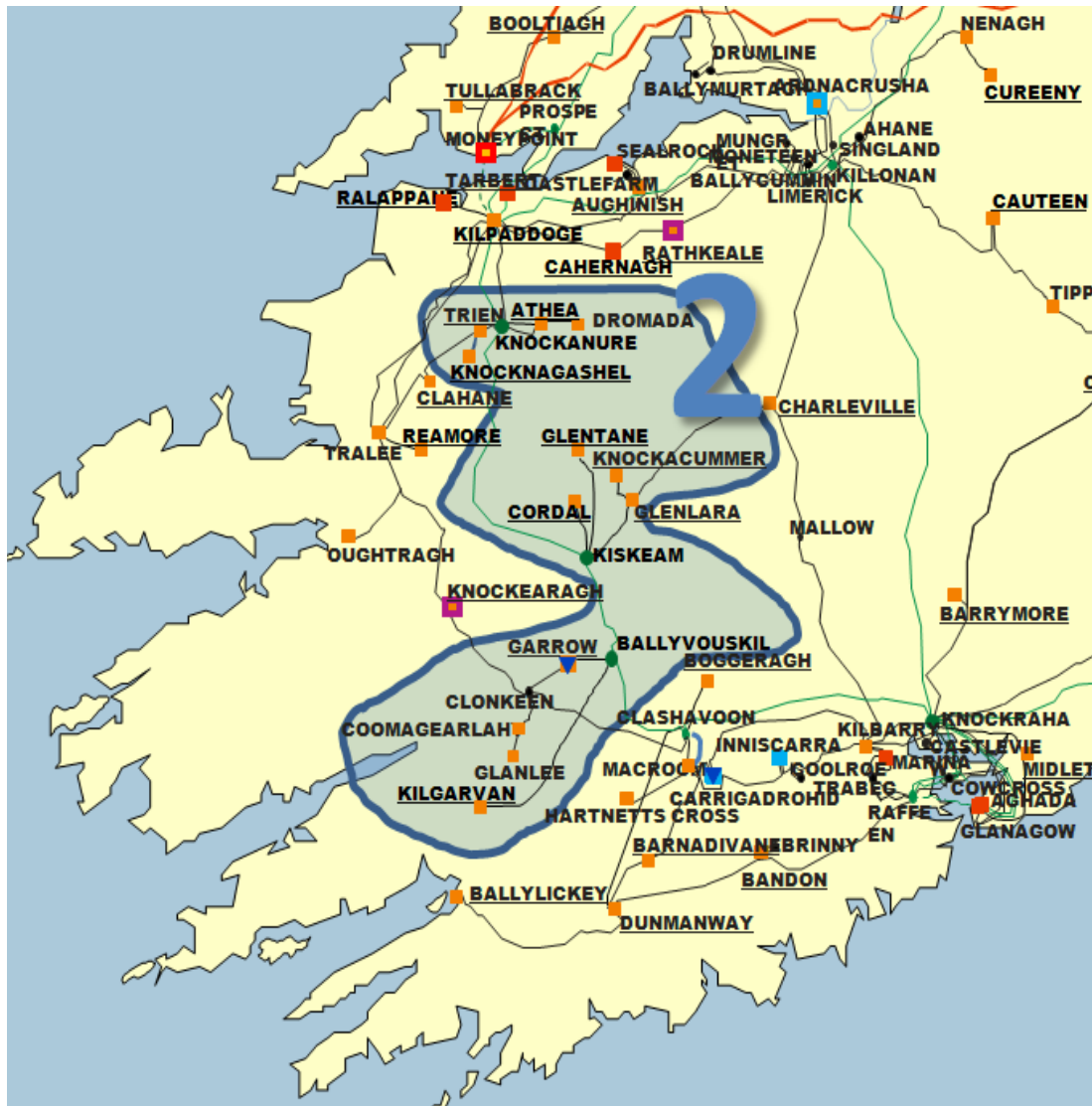
Donegal Constraint Group



Donegal Constraints

- Constraint Group exists today for all nodes connecting north of Cathaleen's Fall 110kV station. There are significant localised renewable constraints.
- Constraint Group shrinks to 1b when up-ratings south of Cathaleen's Fall are complete.
- RIDP is required for the Constraint Group to cease to exist

South-West Constraint Group



Cork-Kerry Constraints

- Today there are localised renewable constraints but no Constraint Group is required.
- The South-West Constraint Group forms when wind generators connect to the three new 220kV stations.
- The South-West Constraint Groups consists of wind generators connected to the three new 200kV stations
- South-West Constraint Group ceases when new high-voltage feeder is in-service in South-West.

Assumptions

Assumptions



- We have attempted to keep the assumptions as aligned to what was used for the PGOR reports as possible.
- Here are some changes we have made:
 - build-out rate,
 - uptake scenarios,
 - Most recent demand forecasts.
 - Transmission network will be based on the current ITC run.
 - Fuel prices will be based on International Energy Agency World Energy Outlook 2012 new policies scenario 2020.



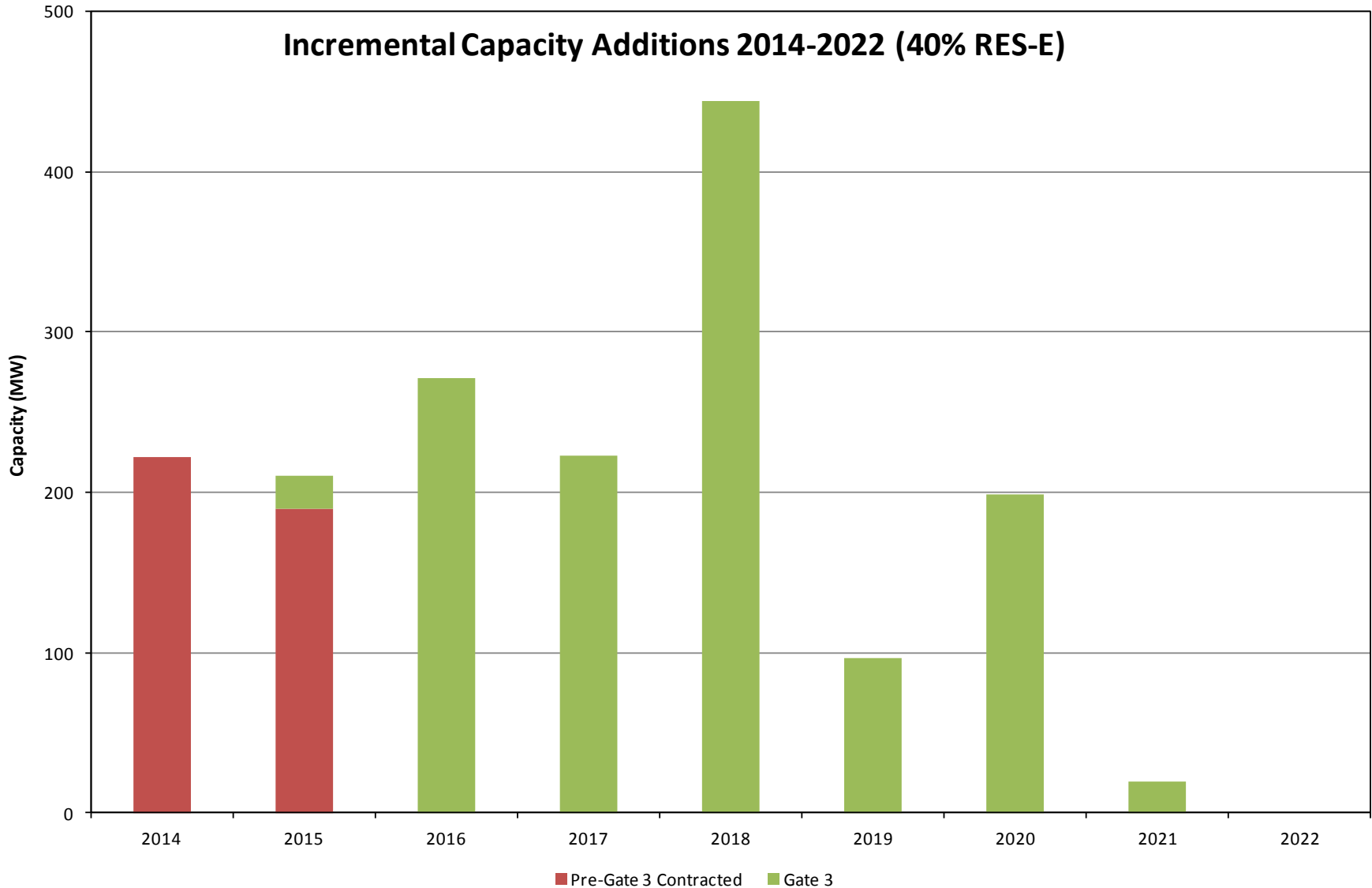
Build-out rate and uptake



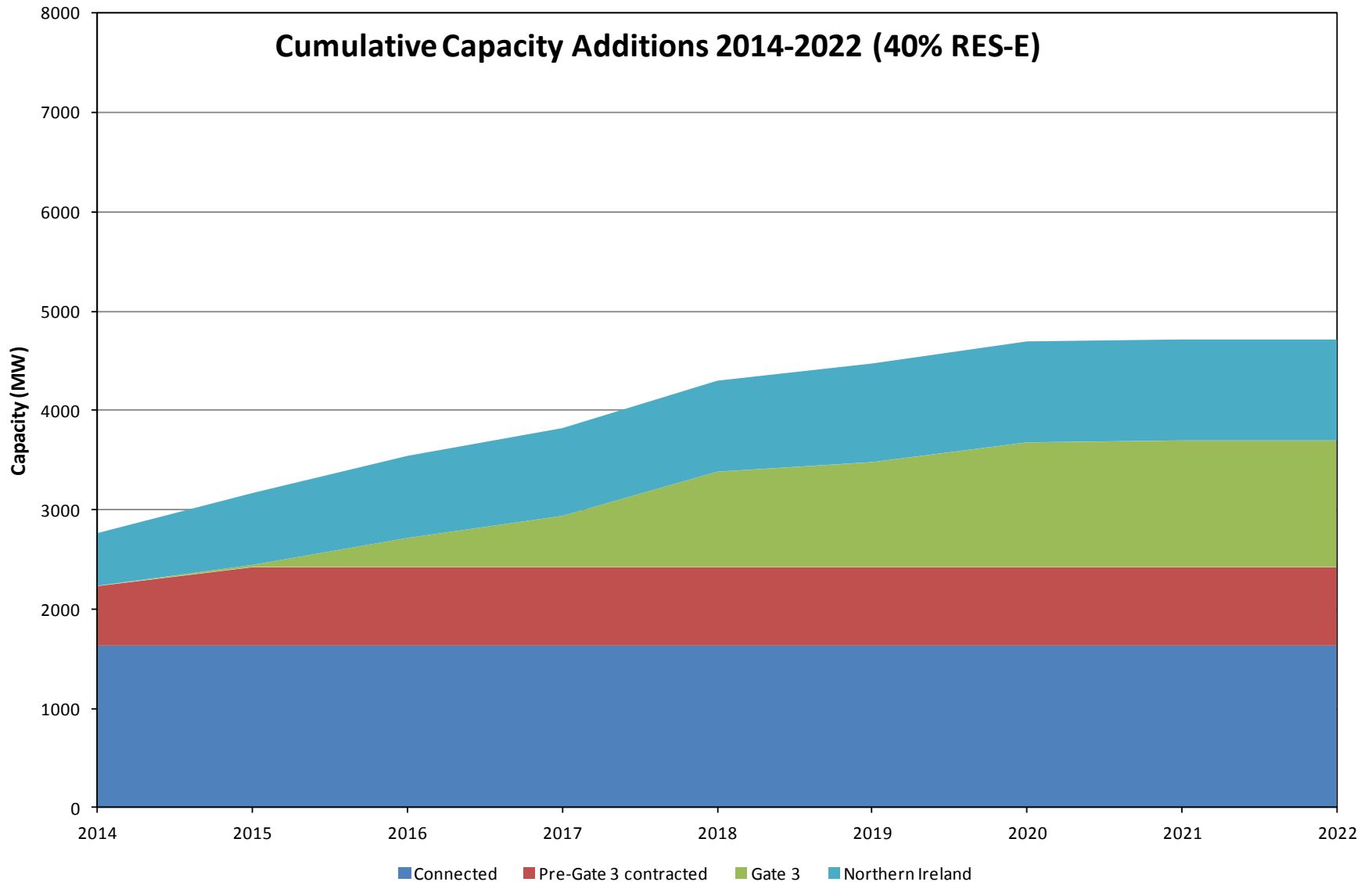
- We are proposing to study one build-out scenario based on survey responses and build methodology agreed with IWEA.
 - Wind-farms connect in the year based on their likely build date or their shallow connection date, which ever is the latest.
- We are proposing two uptake scenarios:
 1. Based on enough Gate 3 to approximately meet the 40% RES-E targets (~ 33% of Gate 3).
 - All pre-Gate 3 wind-farms are connected at rated capacity.
 - All Gate 3 wind-farms are connected at 33% of their rated capacity.
 - Equivalent wind generation in Northern Ireland to meet 40% RES-E target there.
 2. Based on 100% uptake of Gate 3 (and possibly for 2020 only).



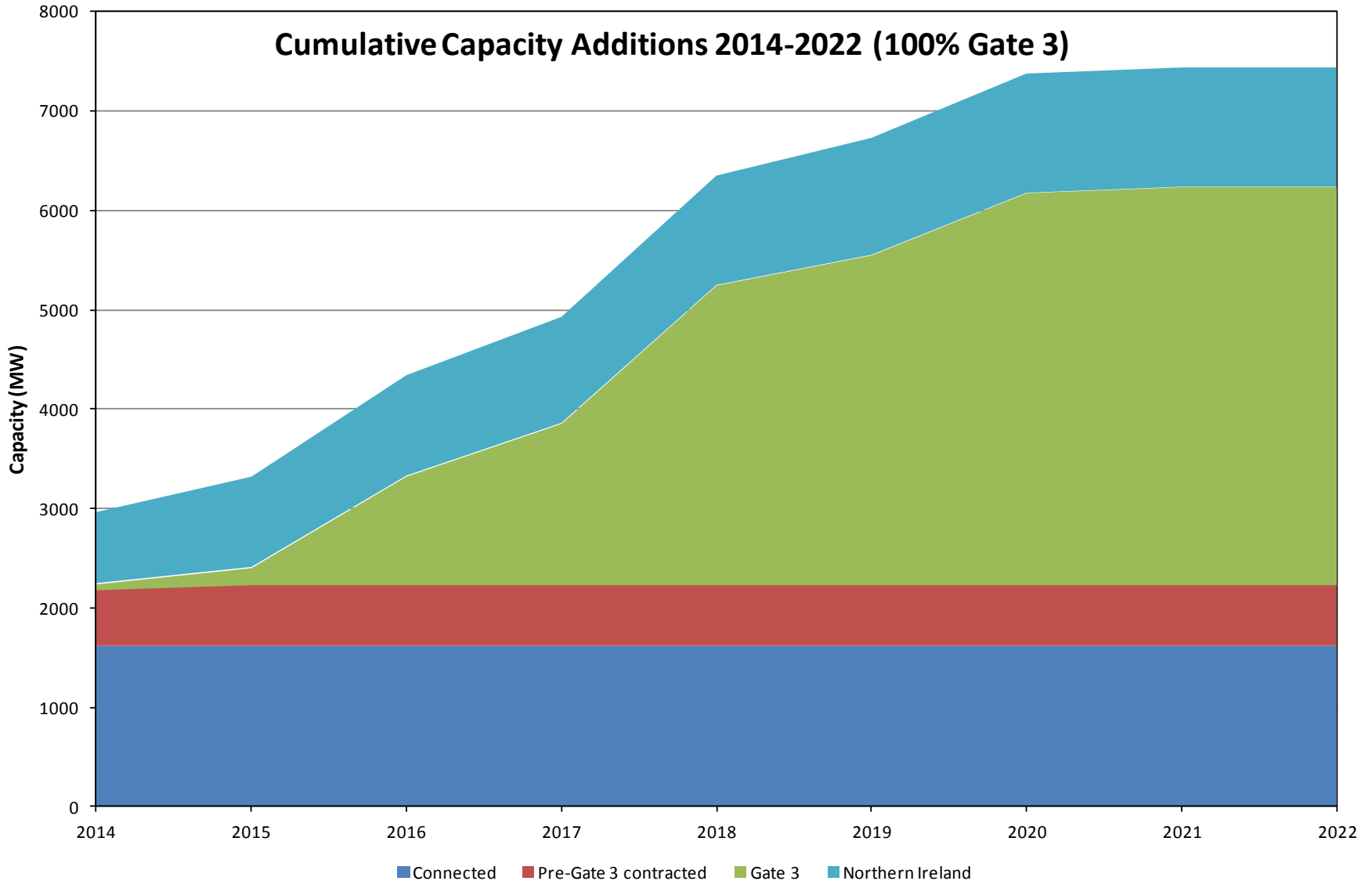
40% RES-E uptake: Annual Increments



40% RES-E Uptake: Cumulative



100% Gate 3 uptake: Cumulative



Assumptions



- Moyle interconnector
 - 300MW export to 2016
 - 80MW export from 2017 onwards
 - These capacities will be de-rated by 20% to reflect reduced trading opportunity.
- EWIC interconnector
 - 530MW for all years.
 - Interconnectors flows will be identified in the reports.
- Here are some other assumptions to be aware of:
 - not modelling TLAfs,
 - not modelling the implementation of UK Carbon Price Floor in Northern Ireland.



Northern Ireland



- Wind and conventional generation will be modelled for Northern Ireland.
- Wind curtailment will be modelled for Northern Ireland as per SEMC rule-set
- Wind constraints will only be modelled for Northern Ireland if it can be done within the accelerated timelines.



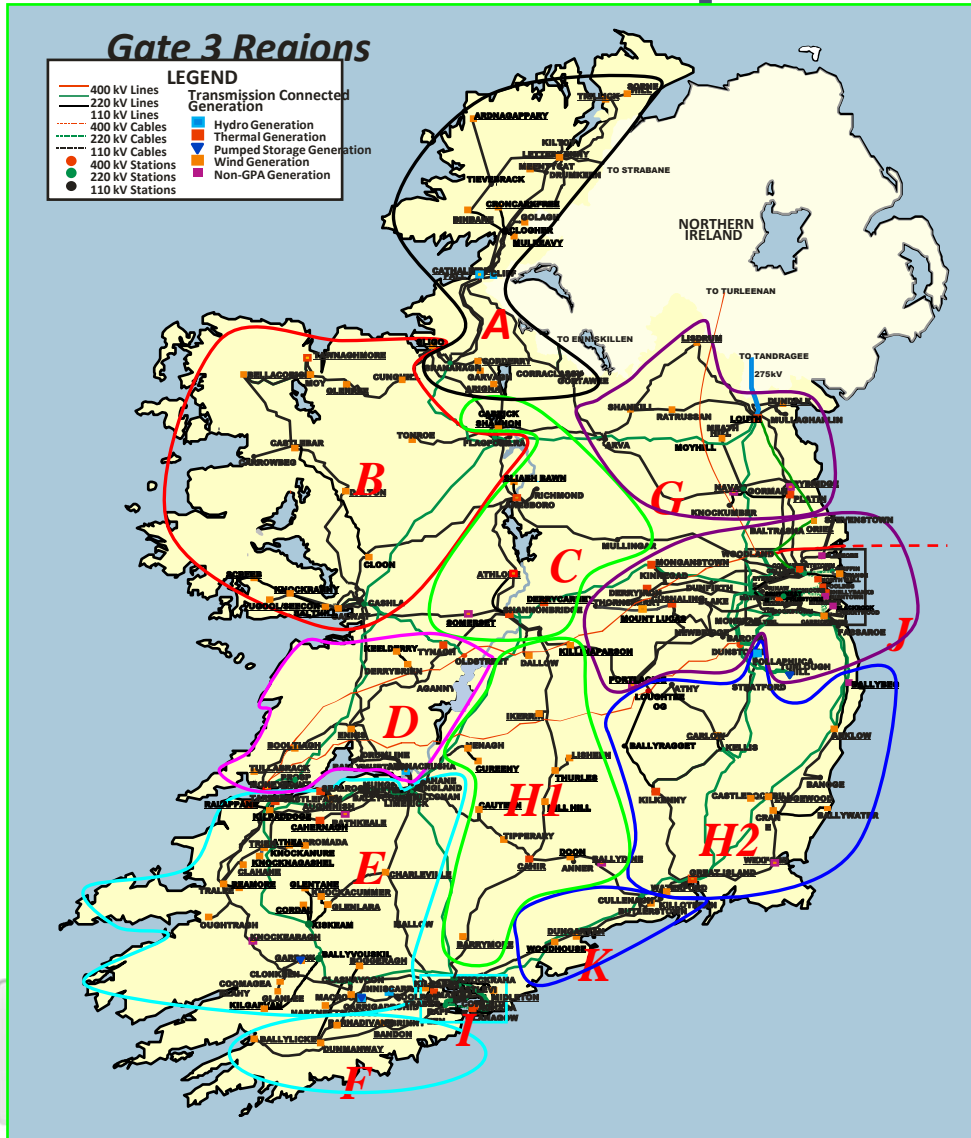
Timeline



- Dependencies:
 - Final decision on curtailment
 - Final decision on Constraint Groups
- We have previously stated it will take 9 months to produce all of the Constraint Reports
- We will endeavor to reduce the amount of time that it will take to model the final dispatch ruleset if it is assumed that it does not deviate significantly from the proposed decision.
- Accelerated constraint report delivery timelines limits our ability to answer queries until all the reports are issued.



Schedule for issuing Constraints Reports



- Region K
- Region D
- Region H2
- Region H1
- Region B
- Region F
- Region E
- Region J
- Region A
- Region G
- Region C
- Region I

End

