

Firm Access Quantity (FAQ) Analysis

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EirGrid Customer Connections Forum , 11 December 2012



Presentation overview



PART I - Background

- What does firm access mean for a generator and how are FAQs calculated?
- Significance of transmission reinforcement delivery for firm access
- Why constraint forecasts are also important

PART 2 – Current FAQ Analysis

- Status and emerging results from Gate 3 re-study
- Where and how firm access is being created over next 7 years

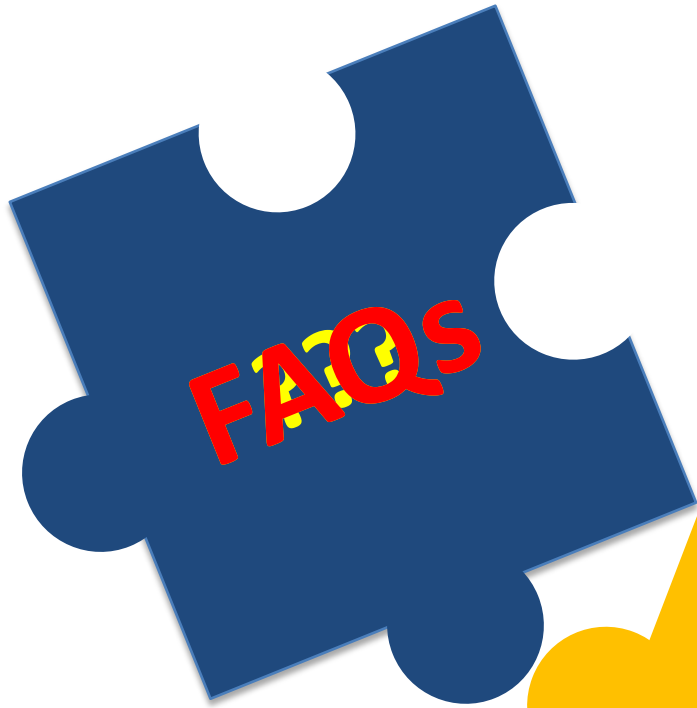




PART 1 - Background



What information is helpful in assessing the future outlook of transmission network access for a generator?





What is FAQ and how is it relevant?

- FAQ = Firm Access Quantity = Level of firm financial access in the transmission network
- Relevant in 2 main ways:
 1. A generator with firm access is financially compensated if it is scheduled to run but its output is reduced due to a network constraint
 2. If you are in a “constraint group” and the amount of wind power on the system needs to be reduced, non-firm generation is reduced ahead of firm generation based on the agreed hierarchy
- **Scheduled FAQs** or **Forecast FAQs** are EirGrid’s prediction of how much firm access is expected to be available in the future for a generator



How are FAQs calculated?



GATE X
DG 90
DG 92
TG 34
DG 99
DG100
DG 102
TG 40
TG 41
DG 105
DG 106

GATE X
DG 90
DG 92
TG 34
DG 99
DG100
DG 102
TG 40
TG 41
DG 105
DG 106

GATE X
DG 90
DG 92
TG 34
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DG 105
DG 106

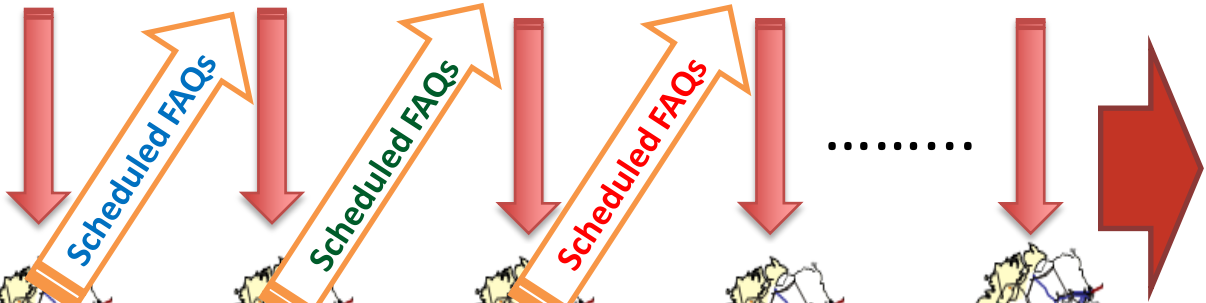
GATE X
DG 90
DG 92
TG 34
DG 99
DG100
DG 102
TG 40
TG 41
DG 105
DG 106

....

GATE X
DG 90
DG 92
TG 34
DG 99
DG100
DG 102
TG 40
TG 41
DG 105
DG 106

SCHEDULED FAQs PUBLICATION

LIFE LFC PROGRAM 2012-2015 (NEW ACCESS QUANTITIES)	
Detailed description of the program and its components.	
Year	2012
Year	2013
Year	2014
Year	2015
Year	2016
Year	2017
Year	2018
Year	2019
Year	2020
Year	2021
Year	2022
Year	2023
Year	2024
Year	2025
Year	2026
Year	2027
Year	2028
Year	2029
Year	2030



2012



2013



2014

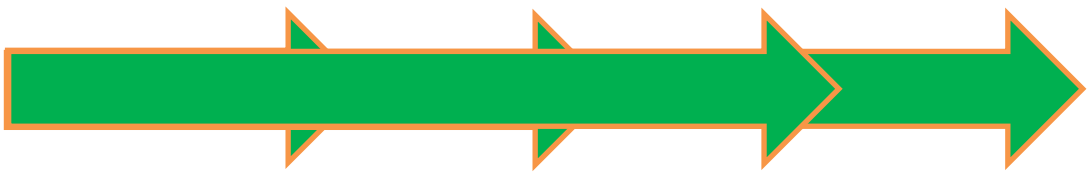


2015

....



20??



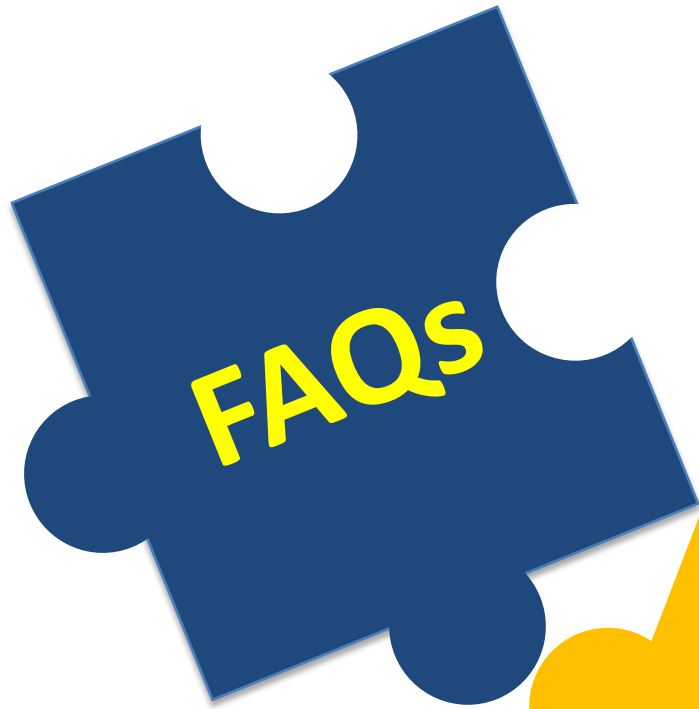
GRID DEVELOPMENT (new circuits/stations, circuit up-rates, etc)

Key features of FAQ analysis



- Assessment of firm access available in the future transmission network
- Shallow connection assets assumed in place
- For each year's study applicants tested against the transmission network expected to be in place in that year
- EirGrid's forecast of when transmission reinforcements will be completed is a key input
- Applicants tested in chronologically ascending date order based on application received date
- Technical assumptions available on www.eirgrid.com



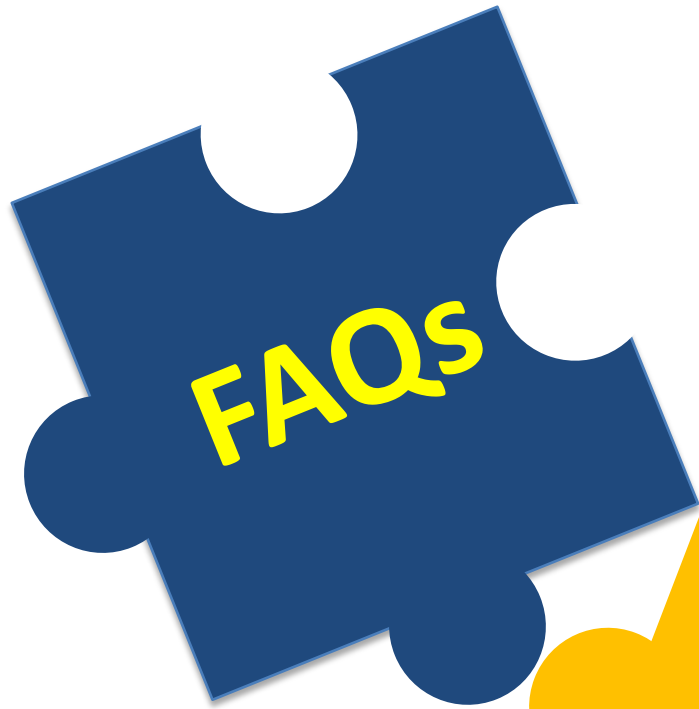


What is an ATR and how is it relevant?



- ATRs = Associated Transmission Reinforcements
- ATRs are the sub-set of 'Deep Reinforcement Works' specifically linked to the provision of firm access
- A generator's FAQ in SEM is dependent on actual completion dates of its ATRs
- Level of certainty on the forecast completion dates for ATRs is key to assessing the level of certainty of Scheduled FAQs
- In actuality a generator might receive its FAQ in SEM earlier or later than we forecast





Why are constraint forecasts relevant?



- Generators can connect prior to their FAQ dates i.e. can connect on a non or partially firm basis
- *Constraint Reports* provide information on the likely incidence of a generator being constrained
- A generator's *Scheduled FAQ* might be low however constraint forecasts might also be low
- Constraints information has the potential to turn a bad (Scheduled FAQ) news story into a better one



3 pieces of the 'information jigsaw'



PART 2 – Current Analysis

Generators being assessed in current study

Category	Numbers	MWs
Gate 1	4	71
Gate 2	65	817
Gate 3	188	5,412
Eligible Non-GPA	29	121
TOTAL	286	6,421

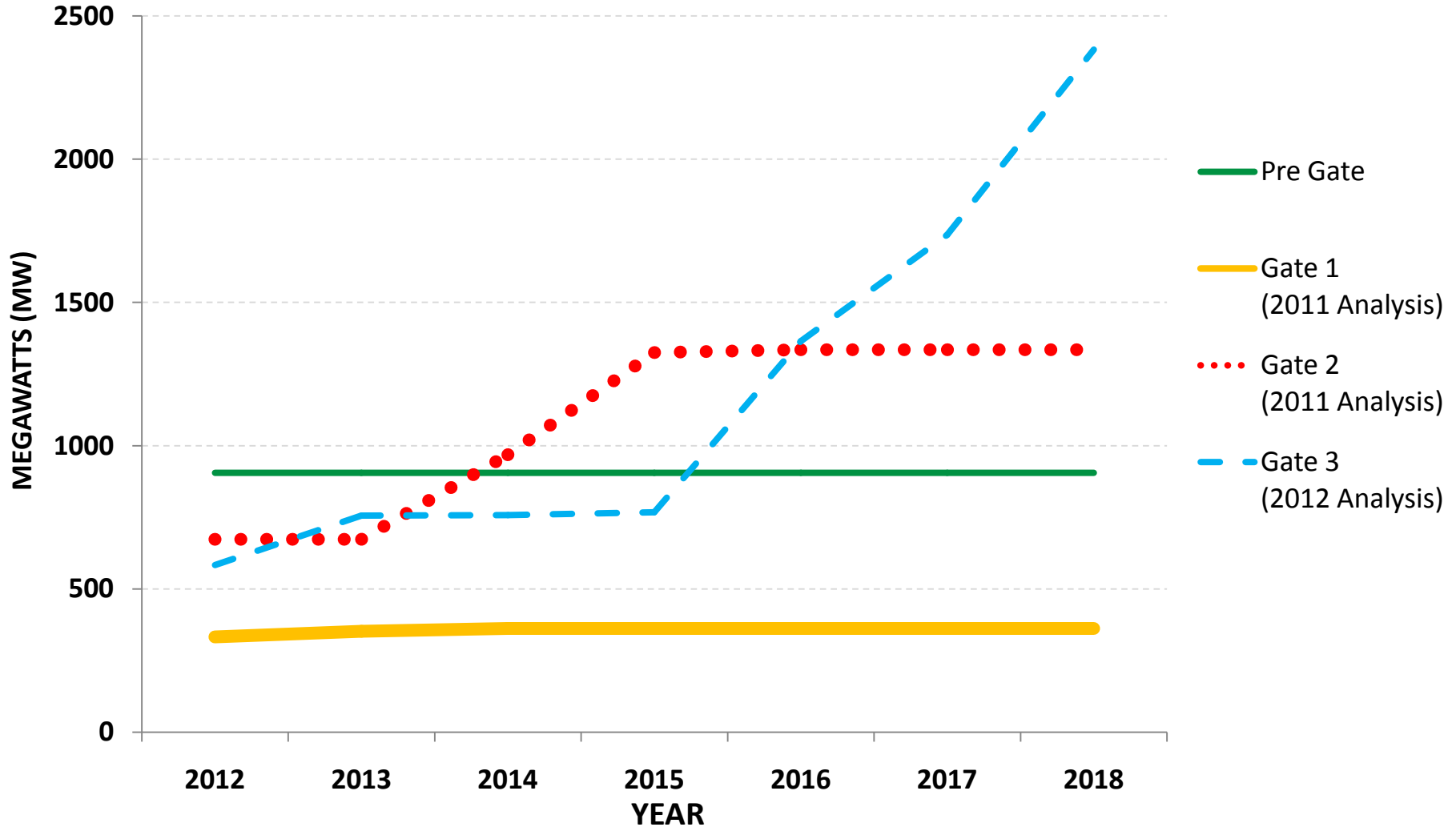
Status



- Analysis commenced 1 August
- Completed FAQ forecasts for Gate 3 wind for 7 years (2012-18)
- Completed ATR analysis for Gate 3 wind for 5 years (2012-16)
- Analysis for Gate 1, Gate 2, Gate 3 thermal and eligible non-GPA projects underway



FAQ Forecasts for Wind



Emerging messages from Gate 3 FAQ re-study

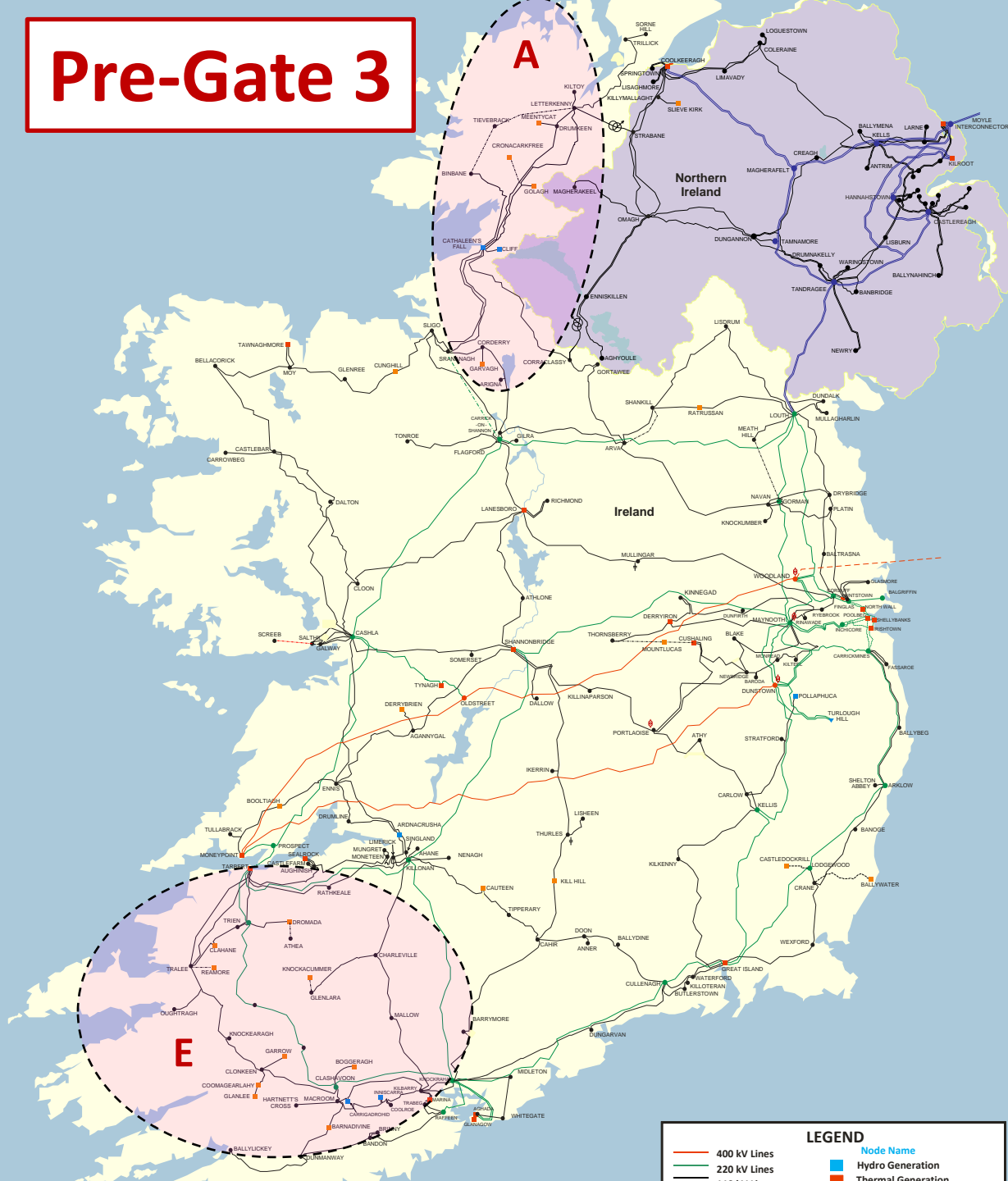


- For some FAQ dates are later than original (2009) forecasts due to changes to:
 - reinforcement completion dates and/or
 - network development plans
- Improvements in the calculation methodology have resulted in:
 - some windfarms having earlier FAQ dates and/or significantly fewer ATRs
 - more firm access in general with fewer reinforcements
 - more firm access prior to the completion of any of the major new 400kV build projects associated with Grid25



Where and how firm access is due to be created over next 7 years

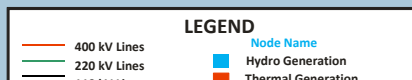
Pre-Gate 3



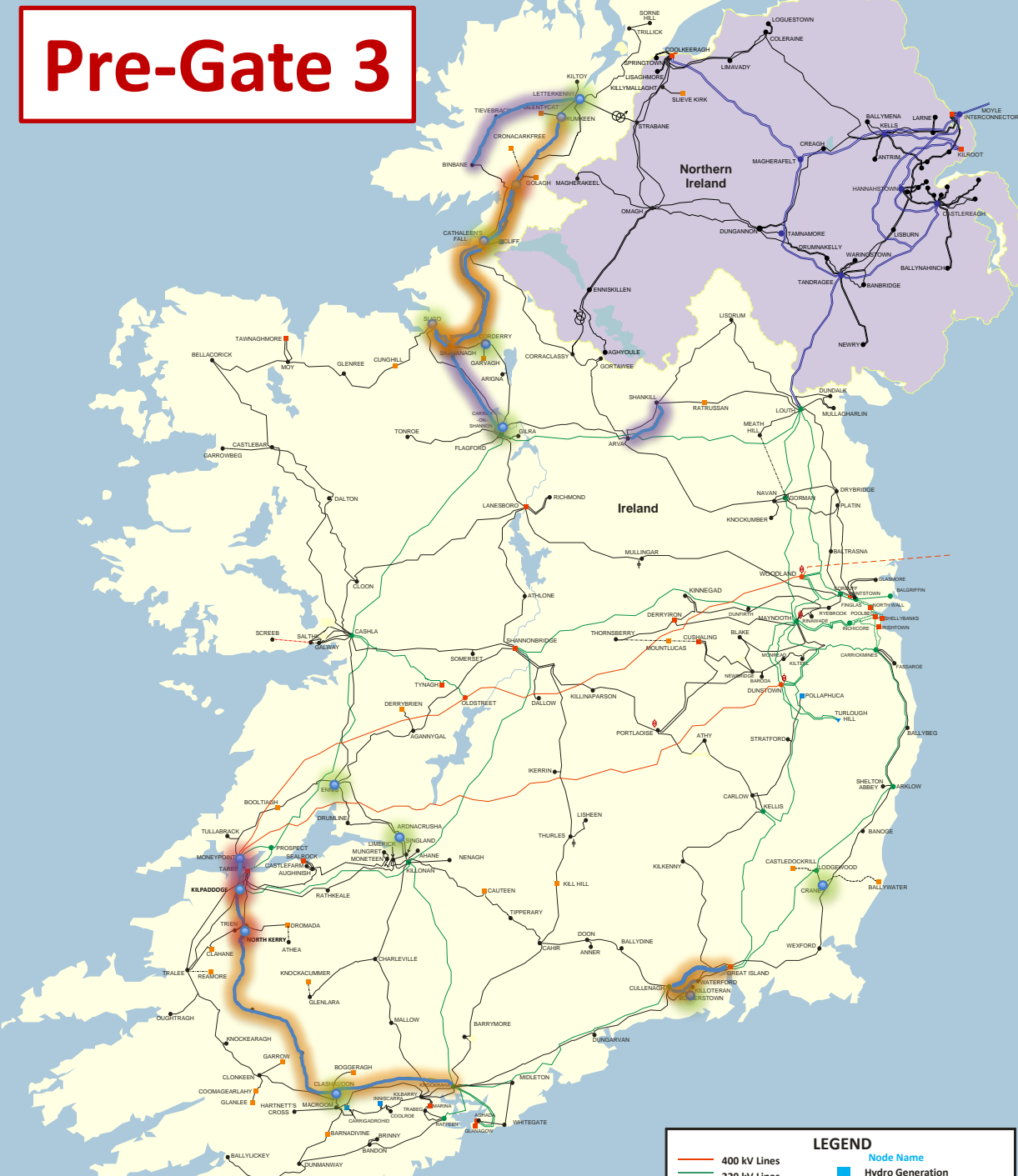
Firm Access currently available: 1800 MW

Awaiting Firm Access:
Area A: 170 MW
Area E: 511 MW

Firm Access forecasted:
2013/14/15/16



Pre-Gate 3



Firm Access currently available: 1800 MW

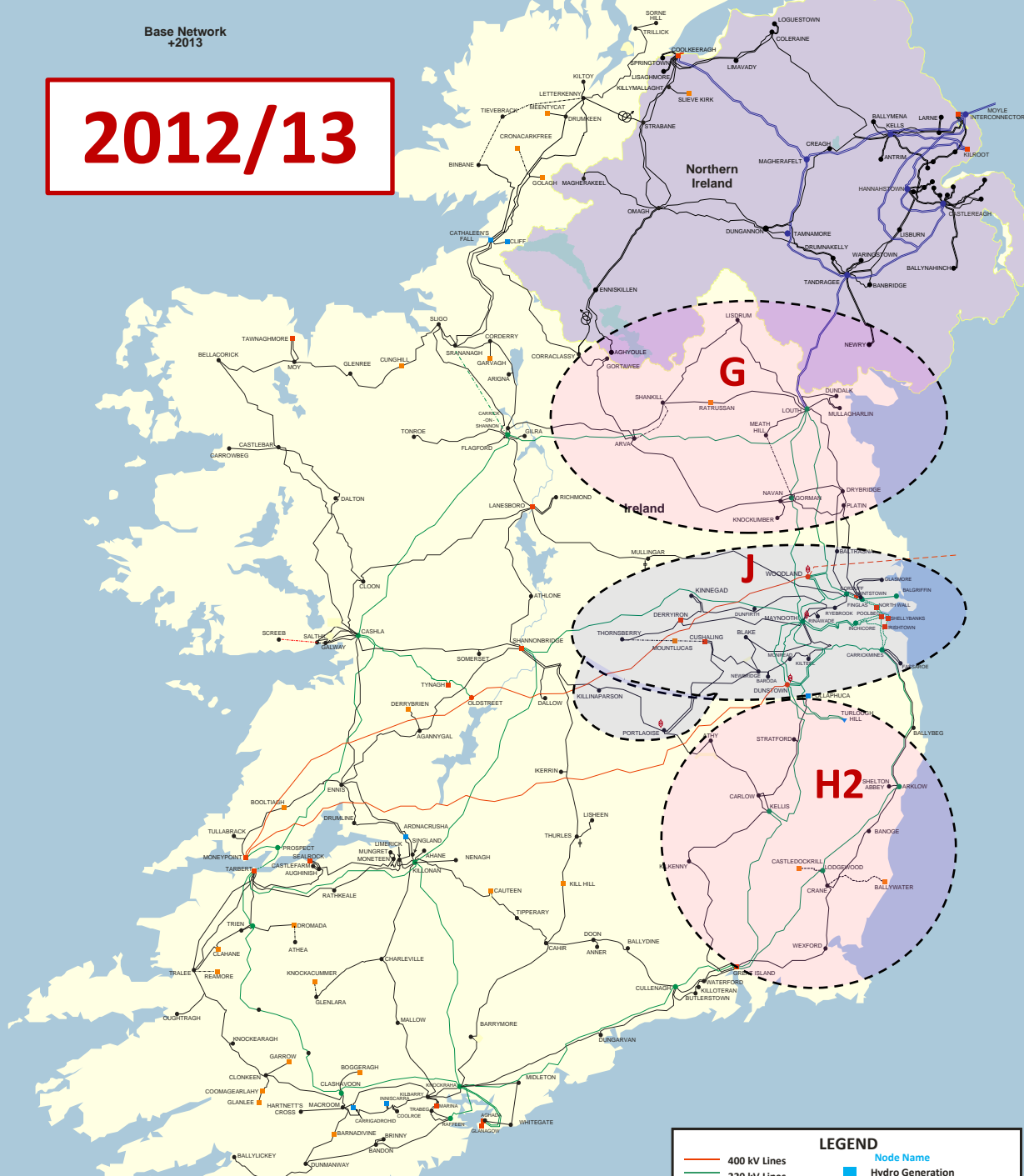
Awaiting Firm Access:
Area A: 170 MW
Area E: 511 MW

Firm Access forecasted:
2013/14/15/16

LEGEND

- 400 kV Lines
- 220 kV Lines
- Node Name
- Hydro Generation
- Thermal Generation

2012/13

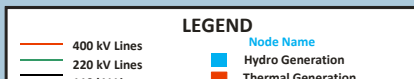


Forecasted Firm Access:

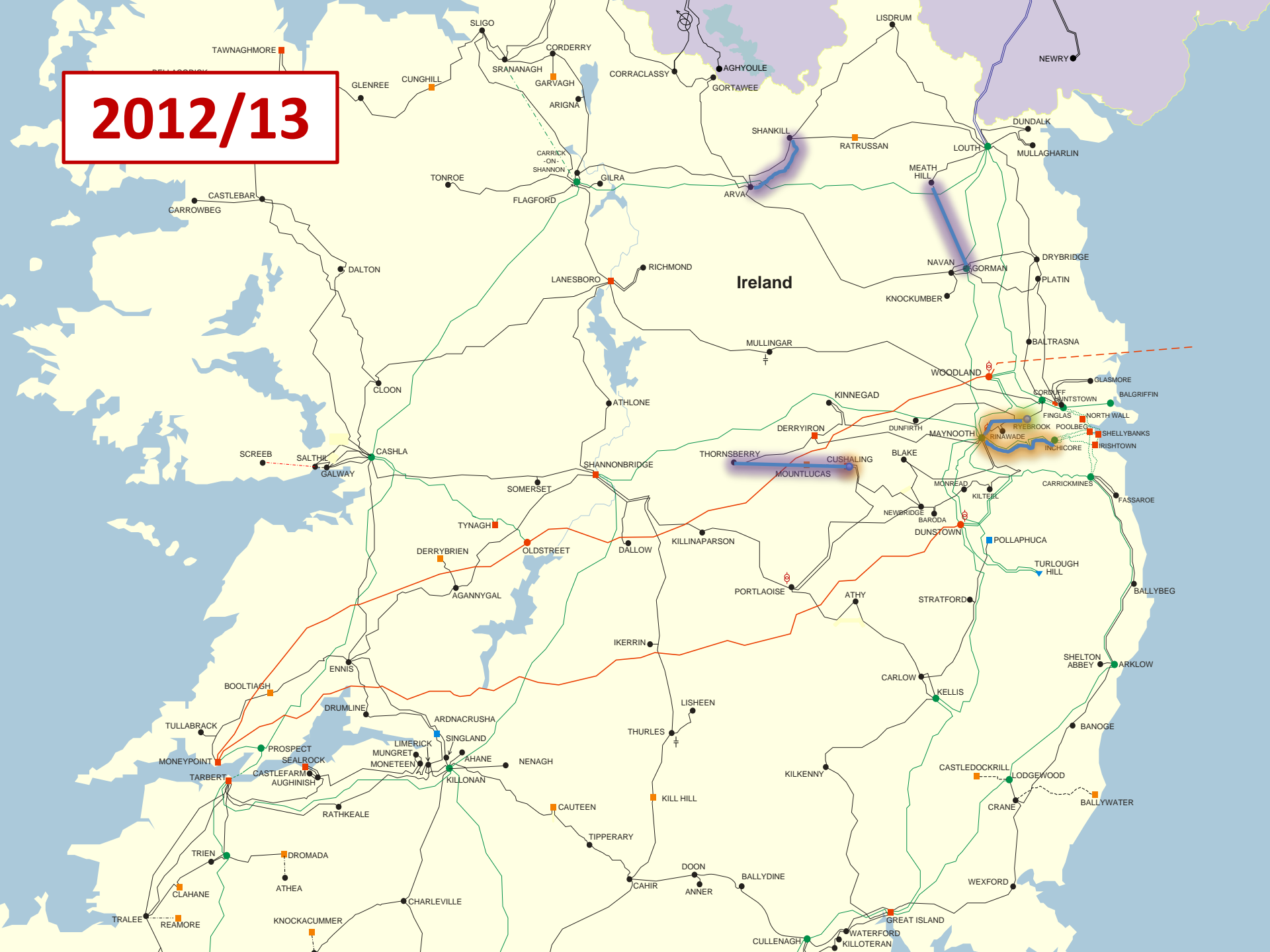
AREA G
74 of 112 MW

AREA J
655 of 837 MW

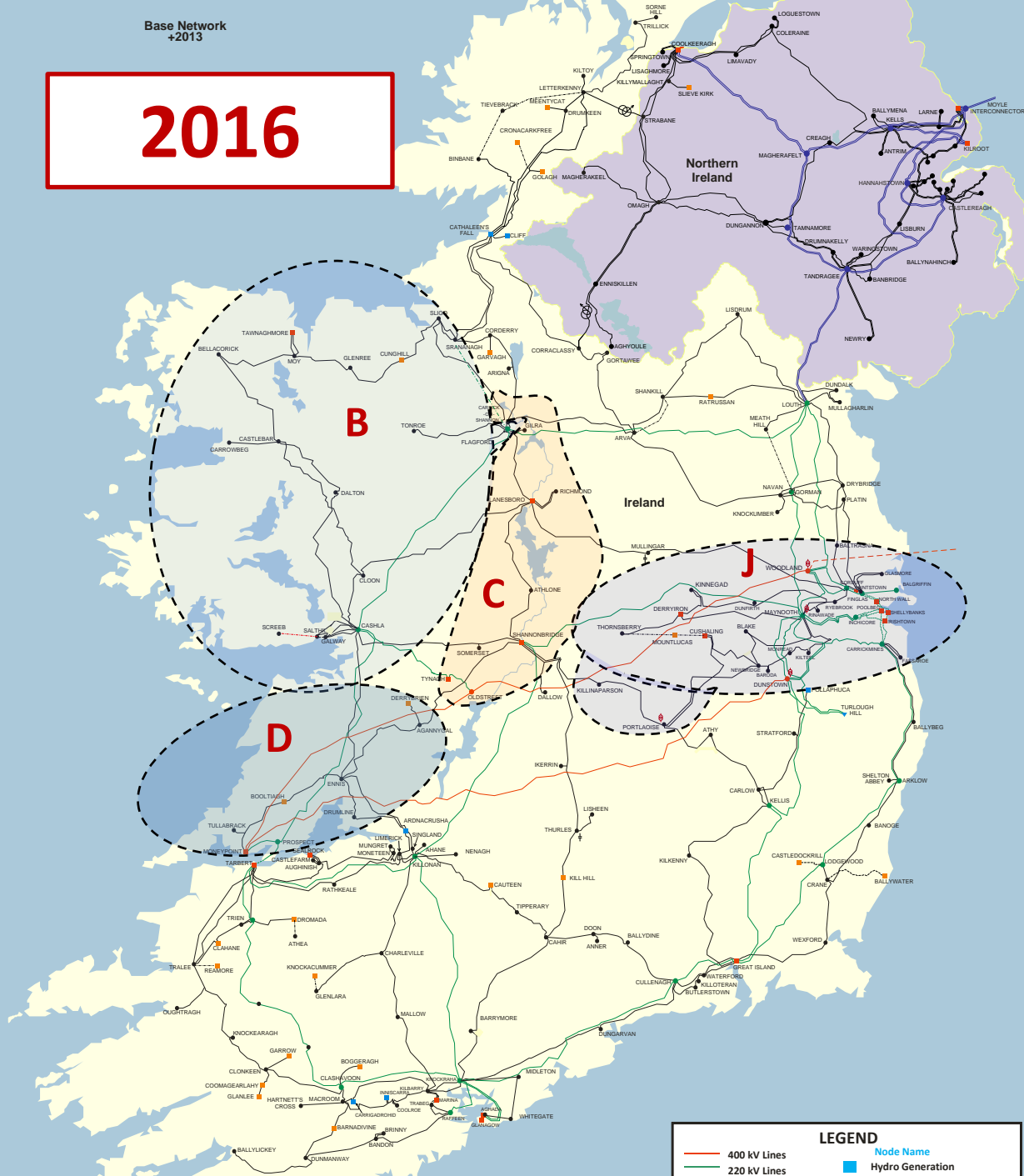
AREA H2
90 of 90 MW



2012/13



2016



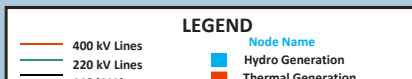
Forecasted Firm Access:

AREA B
221 of 1082 MW

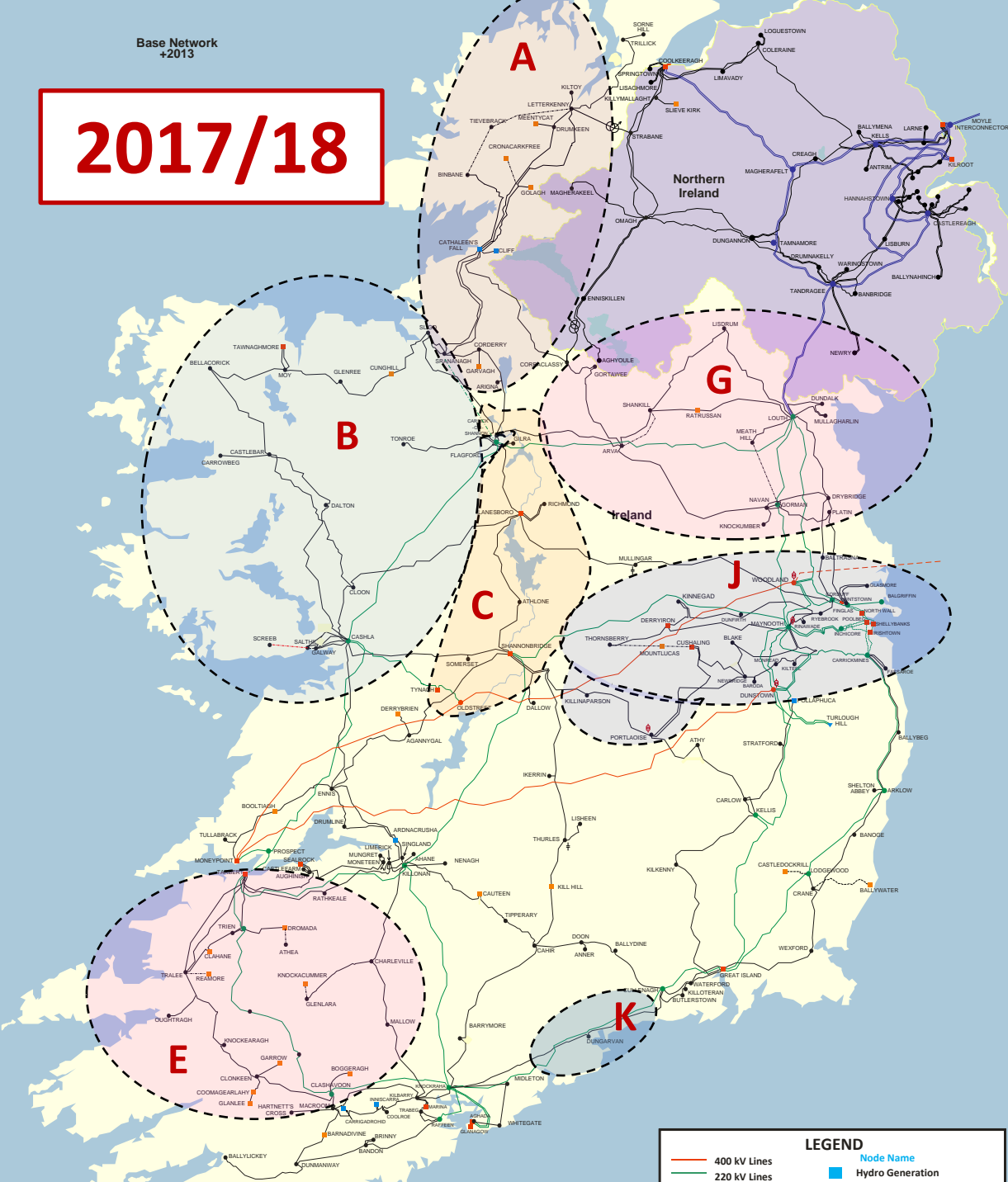
AREA D
120 of 120 MW

AREA C
+ 30 = 42 of 74 MW

AREA J
+ 136 = 791 of 837 MW



2017/18



Forecasted Firm Access:

AREA A
35 of 325 MW

AREA B
+762 = 984 of 1082 MW

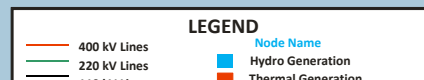
AREA C
+ 32 = 74 of 74 MW

AREA E
+ 79 = 100 of 690 MW

AREA G
+ 38 = 112 of 112 MW

AREA J
+ 136 = 791 of 837 MW

AREA K
62 of 62 MW



For some generators firm access is forecasted ahead of their expected shallow connection date. For example, firm access is forecasted for generators connecting via the Grid West project ahead of the scheduled completion of this project.

2017/18



