Firm Access 2025 Review Report

Final Technical Report

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Contents

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Executive Summary

This report forms the basis of the 2025 firm access review. Based on the CRU direction (CRU/2023114[1]), the 2025 firm access review considers all contracted non-firm generation that executed their connection agreements by the 15th November 2024.

The committed non-firm generators were analysed in line with the approved methodology and three types of firmness outcomes were determined;

- Full/Partial firm access available immediately upon completion of connection works.
- Full/Partial firm access available following completion of a committed project(s) from the list in Network Delivery Portfolio (NDP)[2].
- No firm access available, project will remain non-firm and will be re-assessed in subsequent firm access runs.

A key assumption for the analysis is that generators with an existing firm access position will not be disadvantaged by the new review. For example, a generator which currently has firm access will not be changed to having non-firm status. Similarly, a generator which is currently allocated firm access at a specific future date will not be impacted by updated system assumptions.

Firm access is designed to reward generators that have developed in good locations. Good locations are defined as parts of the network that have capacity for new generation or have planned reinforcements that will deliver additional capacity in the area. A core feature of firm access has been the provision of locational signals for where generation should connect and providing an efficient investment signal to developers on that basis. The new methodology builds on the concepts introduced in CER/09/191 which emphasises the consideration of "the cost of alleviating transmission constraints (via transmission reinforcements) versus the cost of incurring the constraint costs". Thus recognising "the reality that when building the network, EirGrid, in keeping with its functions as licensed transmission system operator, develops the transmission system efficiently". The analysis completed as part of this review considers the interplay between three overarching features or lenses through which to view firm access:

End consumer:	Does the decision on generator firm access protect the end consumer from unreasonably high constraint payments?
Locational signals:	Does the decision on generator firm access provide an appropriate locational signal for where generation should connect?
System Development:	Is a specific constraint or group of constraints in an area sufficient justification for a specific reinforcement?

[1] CRU2023114_Firm_Access_detailed_methodology_decision.pdf (divio-media.com)

[2] Network Delivery Portfolio (NDP) | Grid Information | EirGrid

In attempting to answer these overarching questions, the firm access review must first identify the bottlenecks on the system which are becoming overloaded. It is then necessary to determine what generators are making a "material" contribution to these overloads. The firm access review must draw a distinction between "slight" and "material" contributions to an overload. This is done by considering the implications on the three overarching features of; end consumers, locational signals and system development.

In total this review considered the firm access status for 79 separate generators compromising approximately 5 GW of capacity. The results of the 2025 firm access review are presented in Figure 0-1.

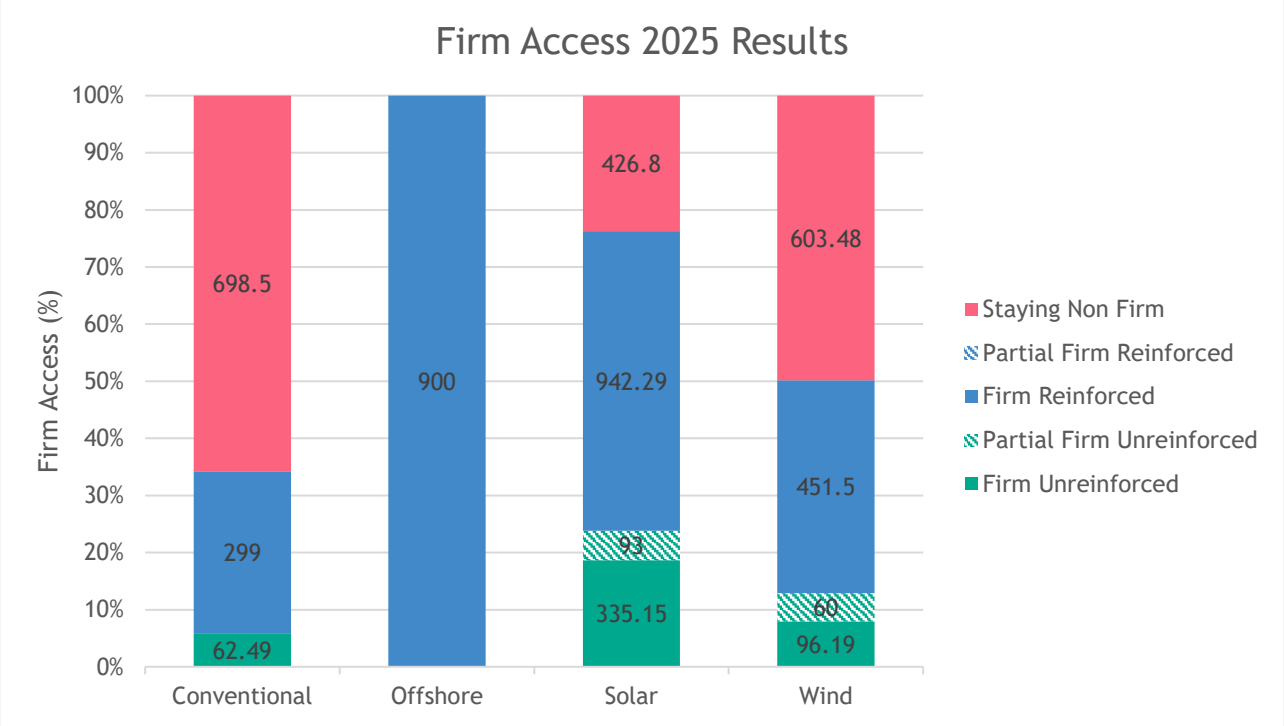

Figure 0-1: Summary of the 2025 firm access results.

The main conclusions of this firm access review are as follows:

- Over 0.4 GW of firm capacity will be available for new committed solar projects on the unreinforced system.
- In the reinforced system, firm access will become available for up to 1.4 GW of new committed solar projects.
- In total, including projects that are already firm, over 4.8 GW of solar generation will be receiving firm access.
- The main areas of the power system that experienced challenges accommodating solar capacity were in the midlands and the south. There are a range of planned reinforcements in these areas which are critical to ensuring that the maximum utilisation can be achieved from this solar capacity.

- Up to 0.2 GW of firm capacity will be available for new committed onshore wind projects on the unreinforced system.
- In the reinforced system, firm access will become available for over 0.6 GW of new committed onshore wind projects.
- In total, including projects that are already firm, circa 6.4 GW of onshore wind generation will be receiving firm access.
- Firm access was not available on the reinforced system for over 600 MW of committed wind generation. These projects will remain non-firm and will be re-assessed in subsequent firm access runs.
- The main areas of the power system that experienced challenges accommodating wind capacity were in parts of the midlands and the west.
- Circa 0.06 GW of firm capacity will be available for new committed conventional generation on the unreinforced system. A further 0.3 GW of firm access is available in the reinforced system.
- Firm access was not available on the reinforced system for circa 700 MW of committed conventional generation. These projects will remain non-firm and will be re-assessed in subsequent firm access runs.
- 0.9 GW of firm access is available to the Tonn Nua offshore wind in the reinforced system.
- In total, including projects that are already firm, circa 5.2 GW of offshore wind will be made firm.

1 Introduction

In December 2021, following CRU direction 20/060[3], EirGrid published the Firm Access Methodology Review paper[4]. In June 2022, following engagement with industry and the RAs, EirGrid submitted an updated Firm Access Methodology Review paper[5]. This led to a period of consultation[6] and the subsequent SEM Committee decision paper[7] on the Firm Access methodology.

In June 2023, the CRU published a consultation paper on the Firm Access Detailed Methodology (CRU/202363)[8]. The consultation paper sought to develop and define more detail on how the firm access methodology will be implemented. In November 2023, the CRU published its decision paper (CRU/2023114[9]) which directed that annual firm access runs be completed. This report forms the basis of the 2025 firm access review. The report is structured as follows:

The Assumptions section describe the core assumptions that have been made as part of the setup and execution of the analysis. The Approach section describes the specific approach that has been taken in this analysis and lays out a detailed conceptual example of the process steps. This section will assist the reader in understanding the logic and concepts that have been applied in the studies. The main body of the report is contained in Section 3. This section describes the specific results and conclusions that were drawn from the analysis. This section is divided into subsections based on the specific areas of the network.

[3] CRU20060-ECP-2-Decision.pdf (divio-media.com)

[4] Firm-Access-Review-2021.pdf (eirgrid.ie)

[5] SEM-22-068a EirGrid Firm Access Methodology Proposal.pdf (semcommittee.com)

[6] SEM-22-068 SEMC Firm Access in Ireland consultation.pdf (semcommittee.com)

[7] SEM-23-004 SEMC Firm Access in Ireland decision.pdf (semcommittee.com)

[8] CRU202363 CRU Firm Access Detailed Methodology Consultation Paper

[9] CRU2023114_Firm_Access_detailed_methodology_decision.pdf (divio-media.com)[10] Operational Policy Roadmap 2023-2030 (eirgridgroup.com)

2 Assumptions

This section of the report describes the assumptions which has been applied to the firm access review.

2.1 Data Freeze

The Firm Access Run requires numerous sequential steps of data collection, data validation, model setup, simulation runs and results analysis. Once the detailed models are prepared, they are run through power flow studies which simulate all 8760 hours of the study year. These simulations include contingency analysis which disconnect each network element on the system, in turn, and repeats the power flow simulation without that element.

The computational process can take in the order of four to six weeks to complete. Any changes to the input data, at any step in the process, will require a full restart of the process. It is therefore important to have a clearly defined data freeze date for the analysis. For the Firm Access 2025 run, the data freeze date was 15th November 2024.

2.2 Non-Firm Committed Generators

For the 2025 firm access review, committed generators were defined as contracted generation that had executed their connection agreements by the data freeze date. This includes generators assessed in previous firm access runs who were deemed to be non-firm. The generators being assessed are summarised in Table 2-1 below. Section 4.1 of the Appendix to this report contains the full list of the committed generators that were considered as part of the 2025 firm access review.

Table 2-1: Summary of the non-firm generation being assessed as part of the 2025 Firm Access Review.

	Total Generation (GW)	Number of Units
Conventional	1.1	7
Solar	1.8	40
Wind Onshore	1.2	31
Wind Offshore *(Only included in the Reinforced Network)*	0.9	2
Grand Total	**5**	**80**

2.3 Generators Included in the Study

In addition to the non-firm generators being assessed, the models also included the existing generation that was contracted or connected to the system at the time of the data freeze. The total generation available in the study is outlined in Table 2-2. For avoidance of doubt, any generators that already had a firm access date from the 2024 run were not disadvantaged based on this run.

The offshore phase 1 projects previously received a firm access decision as part of the Firm Access 2023 Run and they have been included in the 2025 run. The Phase 2 offshore at Cork and Waterford has also been included and will be assessed for firm access as part of the 2025 run. It should be noted that the

offshore projects were only included in the reinforced network model and they therefore had no impact on the firm access awarded based on the unreinforced network model.

Table 2-2: Summary of the total generation included in the 2025 Firm Access Review Studies.

	Total Generation (GW)
Conventional	7.6
Hydro	0.2
Interconnector	1.7
Pumped Storage Hydro	0.3
Solar	5.3
Wind	7
Offshore *(Only included in the Reinforced Network)*	5.1
Total	**27.2**

2.4 PLEXOS Dispatch

The PLEXOS model from the ECP-2 constraint analysis formed the basis of the model used as part of the Firm Access 2025 run. PLEXOS was used to run a full simulation for every hour of a given year (8760). The PLEXOS simulation looks at the load for each hour and determines the optimum dispatch of the available generation for each hour. A surplus and curtailment simulation run was completed which determined the dispatch profiles of each unit based on market rules and considered:

- Assumed wind/solar profiles based on historical and industry data.
- Assumed interconnector profiles.
- Assumed generator prices based on technology types.
- Security Constraints; System non-synchronous penetration, inertia and min set rules are based upon the Operational Policy Roadmap 2023-2030[10].
- Demand based on the forecasted median scenario published in the Generation Capacity Statement (GCS) 2023 – 2032[11]. 2028 demand was used for the unreinforced system model and 2031 demand was used for the reinforced system model.

2.5 PSSE Network Model

PSSE was used to study the power flows on the network in detail and attribute specific equipment overloads with specific generator outputs. Two main system models were considered as follows.

2.5.1 Unreinforced System

The firm access test for the committed generators was initially performed on an "unreinforced system" model. This test identifies if firm access is immediately available on the system. The unreinforced system

[10] Operational Policy Roadmap 2023-2030 (eirgridgroup.com)

[11] Generation Capacity Statement 2023-2032

model corresponds to a 2024 system. In order to minimise the volume of surplus renewable energy in the simulations, 2028 levels of demand and the two new interconnectors; Greenlink and Celtic were included in the model. This combination of assumptions in the unreinforced system model allows for the determination of the level of overloads that could be expected to occur on the system before planned reinforcements are complete.

2.5.2 Reinforced System

The firm access test for the committed generators was subsequently performed on the "reinforced system" model. This test identifies if firm access will be available on the system following the completion of planned reinforcements. The reinforced system model builds on the unreinforced system model and could be considered as corresponding to a 2031 network model. It includes, committed network reinforcements, 2031 expected demand levels and the Phase 1 and 2 Offshore connections. The NDP published on 31st January 2025 was used to determine the status of future grid development projects[12].

2.6 General Assumptions

The following general assumptions were applied throughout the analysis:

- The PSSE power flow simulations apply contingency analysis which disconnect each network element on the system, in turn, and repeats the power flow simulation without that element. Apart from these specific contingencies, it is assumed that no other overlapping outages are scheduled[13]. This is based on the TSSPS[14] criteria which determines that generation redispatch can be performed to reduce potential overloads during system maintenance conditions.
- Consistent with the principles of firm access, this review is attempting to estimate the overall level of constraint that could be required in a specific area, in order to prevent specific overloads. Areas where the majority of the generation volume can export from the area, without issues, would be considering as having firm access for that generation. For this reason, the firm access review assumes that constraints will be applied equally among all generators that contribute to an overload, including existing firm and non-firm generators and priority/non-priority generators. This is done in order to stay true to the principles of the firm access concept and avoid the results being distorted by individual priority dispatch rules.
- Constraints are primarily only considered for generators that have a significant contribution to the issue.
- Constraints for certain regional or system wide area issues will be considered on a case-by-case basis in order to determine specific overload contributions.

[12] Network Deliver Portfolio Q4-2024.

[13] It should be noted that maintenance and development works on the system will result in several circuits being out-of-service at any given time during the outage season. As a result, the constraints calculated as part of the firm access review may not align with constraints identified in other studies or which materialise real-time operation of the power system.

[14] EirGrid-Transmission-System-Security-and-Planning-Standards-TSSPS-Final-May-2016-APPROVED.pdf

- It is assumed that in the event of a constraint involving a mixture of renewable and non-renewable sources, the non-renewable sources would be constrained first ahead of any constraint being applied to the renewable sources.
- Constraints are calculated and applied so that the transmission system meets the requirements specified in the TSSPS[15] and OSS[16].

[15] TSSPS – EirGrid-Transmission-System-Security-and-Planning-Standards-TSSPS-Final-May-2016-APPROVED.pdf

[16] OSS – Operating Security Standards (eirgrid.ie)

3 2025 Firm Access Review Results

The PSSE 8760 analysis identified the transmission circuits that experienced overloads over the 8760 hour PSSE study. Further analysis was done to calculate the contribution from each generator node to the identified overloads. This phase of the analysis considers 31 non-firm wind farms, 40 non-firm solar farms, 7 non-firm conventional generation and 2 non-firm offshore wind farms. In total, 5 GW of non-firm generation was assessed.

The post processing phase of the analysis considered the overloads in detail in order to determine which generators were making material contributions to the overloads. The non-firm wind and solar farms considered in this assessment were grouped into specific regional issues as described below.

During the post processing phase of the analysis, the impact of a particular generator on a given overload throughout the year is determined. When analysing the contribution from a generator to a specific overload, account is taken of the expected energy volume, the number of hours the contribution could occur for and if there is a logical rational for the contribution. Results from the simulations could be discounted for various reasons, for example:

- Imperfections in power flow and voltage solutions derived by the algorithm can suggest that the generator is having a material impact on power flows. This is particularly prevalent when testing small generators where it is challenging to discern if they are causing an impact. In many cases these changes are actually caused by cumulative computational noise from the various stages of the firm access analysis and can be ignored.
- In some cases, the dispatch combinations for generators and/or interconnectors from the PLEXOS solutions would be considered unlikely to occur on the actual system.
- Overloads driven by renewable generators which were based on a small number of hours or a low volume of energy were also not considered further.

The overloads were analysed in detail to attribute causation to the various non-firm generators. The following subsections of the report provide a breakdown of the analysis for renewables in specific areas and for the group of non-firm conventional units.

The analysis and results for each area are presented in the following format:

- A table of the specific network elements that could experience overloads.
- The specific nodes that are identified as contributing power to these overloads is then presented. (Only nodes with generation being tested in this review are listed in these tables. The volume of non-firm generation being tested is listed in the second column). Within these tables, individual nodes are listed separately to identify if an overload is related to wind or solar generation.
- These tables also list the network element that is causing the requirement for the highest constraint. (It is important to understand that there are likely a number of other circuits that will

also result in constraint. Only the highest is shown in these tables. This is intended to give a general understanding of the issues in the area.)

- The calculated constraint for each generator was compared against the firm threshold. If the constraint was below the firm threshold, then firm access was awarded. If the constraint was above the firm threshold, then no firm access was awarded and the unit was analysed further to examine partial firm access and the impact of reinforcements. The firm threshold for wind and solar generators was 2% and the firm threshold for non-renewable generators was 0%.
- The final column of these tables lists the resultant conclusion as to whether the generation at the node should be firm.
- Any nodes which were not suitable for full firm access were then assessed to consider if it would be possible for some volume of generation at the node to receive partial firm access.
- Nodes which did not receive firm access are then considered in the reinforced system model. This will determine if these nodes can receive firm access at a future date.
- If full firm access is not available in the future, a further assessment considers if partial firm access could be available.

3.1 South-East

Figure 3-1 shows the network map of the South-East and the main nodes and circuits in this region.

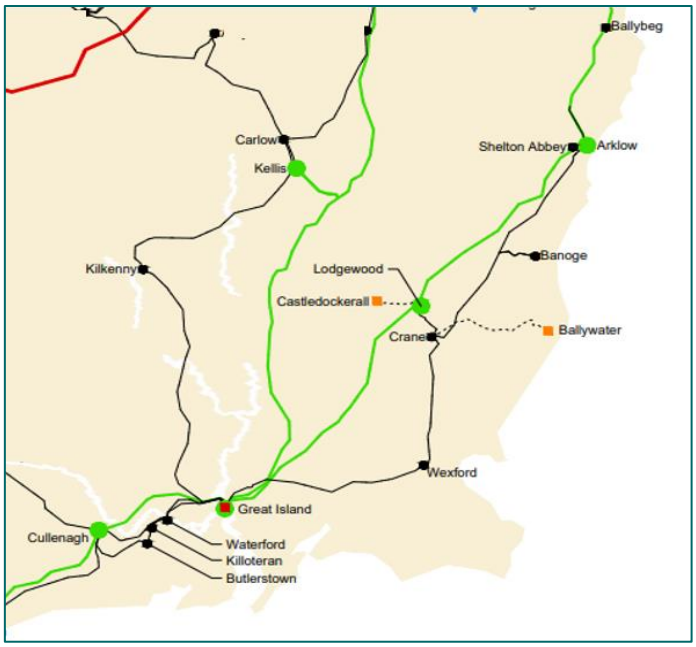

Figure 3-1: Network Map of the South-East

The following circuits experienced overloads in this area. These circuits were analysed in detail in order to determine which non-firm generators are making a material contribution to these overloads.

Table 3-1: The list of issues from PSSE power flow analysis in the South-East.

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Arklow – Ballybeg 110 kV	134	4857	194
Ballybeg – Carrickmines 110 kV	136	3968	184
Inchicore – Irishtown 220 kV	634	4070	168
Irishtown – Carrickmines 220 kV	593	3455	148
Coolnabacky – Portlaoise 110 kV	123	3124	227
Kellis T2102	125	893	201
Kellis T2101	125	893	201
Banoge – Tullabeg 110 kV	178	1082	139
Kellymount – Kellis 110 kV	99	1601	178
Banoge – Oaklands 110 kV	178	906	138
Dunstown – Kellis 220 kV	393	1271	146
Arklow – Lodgewood 220 kV	434	1178	139
Arklow – Oaklands 110 kV	178	609	132
Arklow – Carrickmines 220 kV	434	742	136
Athy – Coolnabacky 110 kV	105	356	135
Killoteran – Waterford 110 kV	99	630	160
Effernoge – Lodgewood 110 kV	178	402	138

Unreinforced System Model - Full Firm Access Assessment

All the non-firm generators in this area experience constraints more than the 2% firm threshold. As a result, there is no full firm access available to these generators in the unreinforced system.

Table 3-2: South-East Full Firm Access Results for unreinforced system.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Arklow Solar	7.6	Arklow – Ballybeg 110 kV	Non-firm
Kellis Solar	130	Coolnabacky – Portlaoise 110 kV	Non-firm
Tullabeg Solar	105	Banoge – Tullabeg 110 kV	Non-firm
Kellymount Wind	50.4	Coolnabacky – Portlaoise 110 kV	Non-firm
Kilvinoge Wind	138.6	Kellymount – Kellis 110 kV	Non-firm
Crane Solar	1.3	Banoge – Tullabeg 110 kV	Non-firm
Butlerstown Solar	8.8	Killoteran – Waterford 110 kV	Non-firm
Kilkenny Solar	0.99	Coolnabacky – Portlaoise 110 kV	Non-firm

Unreinforced System Model - Partial Firm Access Post-processing

There is 60 MW of partial firm access available to wind generation at Killvinoge. Due to the level of constraints and existing firm generation, there was no partial firm access available at other nodes.

Reinforced System - Full Firm Access

In the reinforced system, firm access will become available for wind and solar in a few nodes in this region.

Table 3-3: South-East reinforced system full firm access assessment results.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Arklow Solar	7.6	N/A	Firm
Kellis Solar	130	N/A	Firm
Tullabeg Solar	105	Great Island – Rosspile 110 kV	Non-firm
Kellymount Wind	50.4	N/A	Firm
Kilvinoge Wind	138.6	N/A	Firm
Crane Solar	1.3	Great Island – Rosspile 110 kV	Non-firm
Butlerstown Solar	8.8	N/A	Firm
Waterford OS Offshore	450	N/A	Firm
Kilkenny Solar	0.99	N/A	Firm

Reinforced System - Partial Firm Access Post-processing

Due to level of constraints and existing firm access, there is no partial firm access available at other nodes in this area. 106 MW of solar generation remain non-firm in the reinforced network.

Summary of South-East.

Table 3-4: South-East summary of the firm access analysis.

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Arklow Solar	7.6	Non-firm	Non-firm	Firm	N/A
Kellis Solar	130	Non-firm	Non-firm	Firm	N/A
Tullabeg Solar	105	Non-firm	Non-firm	Non-firm	Non-firm
Kellymount Wind	50.4	Non-firm	Non-firm	Firm	N/A
Kilvinoge Wind	138.6	Non-firm	Partial Firm	Firm	N/A
Crane Solar	1.3	Non-firm	Non-firm	Non-firm	Non-firm
Butlerstown Solar	8.8	Non-firm	Non-firm	Firm	N/A
Kilkenny Solar	0.99	Non-firm	Non-firm	Firm	N/A
Waterford OS Offshore	450	N/A	N/A	Firm	N/A

3.2 South-Central

Figure 3-2 shows the network map of the South-Central and the main nodes and circuits in this region.

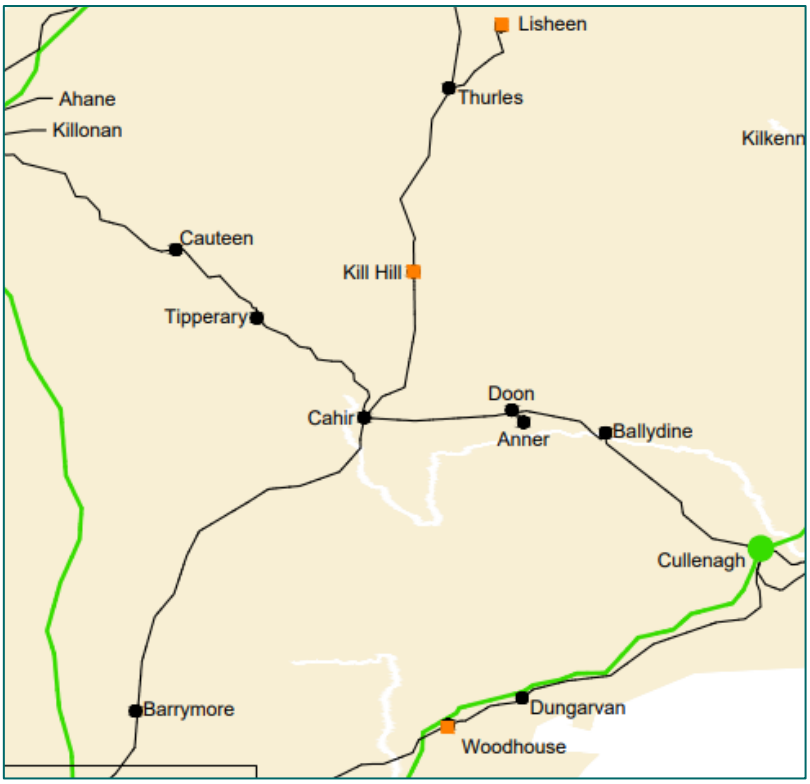

Figure 3-2: Network map of the South-Central region.

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Knockraha – Barrymore Tee 110 kV	136	2562	196
Ballyvalode – Killonan 110 kV	178	984	173
Tipperary – Cauteen 110 kV	178	979	173
Cahir – Barrymore Tee 110 kV	105	2773	166
Cahir – Kill Hill 110 kV	178	1042	178
Cahir – Doon 110 kV	178	1281	159
Shannonbridge – Timoney 110 kV	178	1005	179
Cahir – Tipperary 110 kV	178	794	165
Lisheen – Thurles 110 kV	104	1660	173
Limerick – Killonan 2 110 kV	80	407	172
Kill Hill – Thurles 110 kV	178	683	165
Ballydine – Doon 110 kV	178	527	137

Unreinforced System Model – Full Firm Access Assessment

There is firm access available for 17 MW of solar generation in the south-central region. The remaining generation experienced constraints greater than the 2% threshold.

Table 3-5: South-Central Full Firm Access Results for unreinforced system.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Cauteen Solar	103	Ballyvalode – Killonan 110 kV	Non-firm
Ballyvalode Solar	113	Ballyvalode – Killonan 110 kV	Non-firm
Barrymore Wind	105.6	Knockraha – Barrymore Tee 110 kV	Non-firm
Barrymore Solar	5.49	Knockraha – Barrymore Tee 110 kV	Non-firm
Lisheen Solar	76	Cahir – Kill Hill 110 kV	Non-firm
Ballydine Solar	12	-	Firm

Unreinforced System Model – Partial Firm Access Post-processing

There is a total of 40 MW partial firm access available and to distributed among solar generation in the Cauteen and Ballyvalode local network. Following a review of the contracted generators, the partial firm access was awarded to the first contracted party. Therefore, the 40 MW of partial firm access was awarded to the Cauteen node. Due to level of constraints and existing firm generation in the area, there is no additional partial firm access available.

Reinforced System – Full Firm Access

In the reinforced system, firm access will become available for all wind and solar in the South-Central region.

Table 3-6: South-Central reinforced system full firm access assessment results.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Cauteen Solar	103	-	Firm
Ballyvalode Solar	113	-	Firm
Barrymore Wind	105.6	-	Firm
Barrymore Solar	5.49	-	Firm
Lisheen Solar	76	-	Firm

Reinforced System – Partial Firm Access Post-processing

Due to all generators in the region being awarded full firm access, a partial firm access assessment was not required.

Summary of South-East.

Table 3-7: South-East summary of the firm access analysis.

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Cauteen Solar	103	Non-firm	Partial Firm	Firm	N/A

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Ballyvalode Solar	113	Non-firm	Non-firm	Firm	N/A
Barrymore Wind	105.6	Non-firm	Non-firm	Firm	N/A
Barrymore Solar	5.49	Non-firm	Non-firm	Firm	N/A
Lisheen Solar	76	Non-firm	Non-firm	Firm	N/A
Ballydine Solar	12	Firm	N/A	N/A	N/A

3.3 South-West

Figure 3-3 shows the network map of the South-West and the main nodes and circuits in this region.

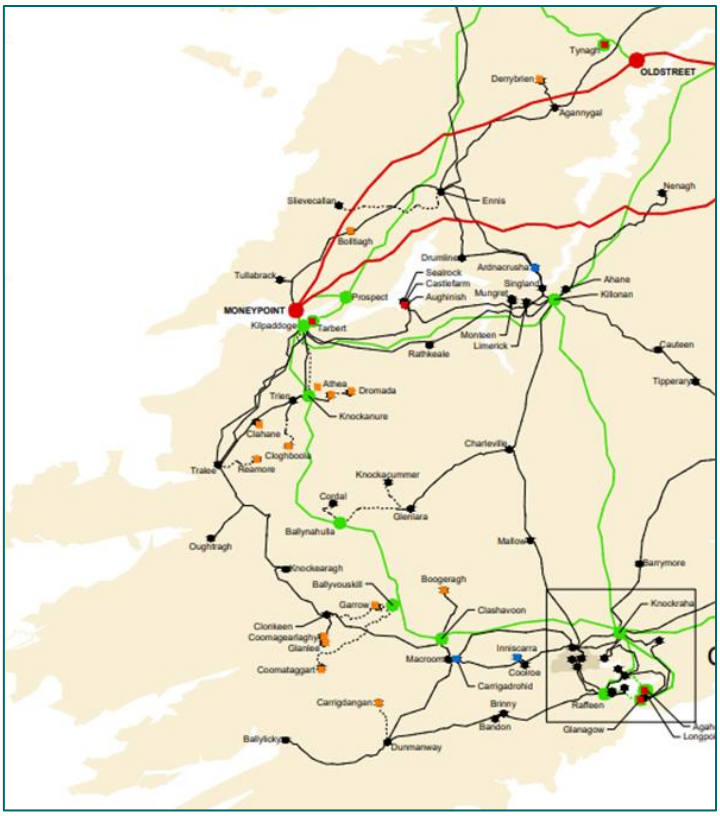

Figure 3-3: Network Map of the South-West

The following circuits experienced overloads in this area. These circuits were analysed in detail in order to determine which non-firm generators are making a material contribution to these overloads.

Table 3-8: The list of issues from PSSE power flow analysis in the South-West

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Moneypoint T4202	500	7450	269
Moneypoint T4201	500	7544	267
Kilpaddoge – Moneypoint 1 220 kV	660	5330	212
Kilpaddoge – Moneypoint 2 220 kV	660	5330	212
Ballyvouskill T2102	250	2087	153
Ballyvouskill T2101	250	2087	153
Kilpaddoge – Pollagh 110 kV	105	685	186
Limerick – Killonan 2 110 kV	80	407	172
Pollagh – Tralee 110 kV	105	471	154
Bandon – Raffeen 110 kV	99	302	125
Lysaghtstown – Midleton 110 kV	105	289	126
Ballynahulla T2101	250	917	117
Ballynahulla T2103	250	917	117
Knockraha – Lysaghtstown 110 kV	105	275	125

Unreinforced System Model – Firm Access Analysis

A number the non-firm generators in this area experience constraints more than the 2% firm threshold. As a result, there is no full firm access available to these generators in the unreinforced system.

Table 3-9: South-West Full Firm Access Results for unreinforced system

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Pollagh Wind	50	Moneypoint T4202	Non-firm
Reamore Wind	4.5	Moneypoint T4202	Non-firm
Pollagh Solar	128	Moneypoint T4202	Non-firm
Midleton Solar	10	-	Firm
Lysaghtstown Solar	45	Knockraha – Lysaghtstown 110 kV	Non-firm
Charleville Solar	45	-	Firm
Caherhurly Solar	91.2	-	Firm
Boggeragh Solar	11.5	-	Firm
Ennis Solar	13.79	-	Firm
Cow Cross Solar	8	-	Firm

Unreinforced System Model – Partial Firm Access

33 MW of partial firm access is available for solar generation at Lysaghtstown. Due to level of constraints and existing firm access, there is no partial firm access available at other nodes in this area.

Reinforced System – Firm Access

Firm access becomes available for 54.5 MW wind, 132.4 MW solar and 450 MW offshore wind.

Table 3-10: South-West Full Firm Access Results for reinforced system

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Pollagh Wind	50	-	Firm
Reamore Wind	4.5	-	Firm
Pollagh Solar	128	-	Firm
Lysaghtstown Solar	45	Knockraha – Lysaghtstown 110 kV	Non-firm
Cork OS Offshore	450	-	Firm

Reinforced System – Partial Firm Access

Due to level of constraints and existing firm generation in the area, there is no additional partial firm access available in the reinforced network. 12 MW of solar generation will remain non-firm and will be re-assessed in subsequent firm access runs.

Summary of South-West

Table 3-11: South-West summary of the firm access analysis.

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Pollagh Wind	50	Non-firm	Non-firm	Firm	N/A
Reamore Wind	4.5	Non-firm	Non-firm	Firm	N/A

Pollagh Solar	128	Non-firm	Non-firm	Firm	N/A
Midleton Solar	10	Firm	Firm	Firm	Firm
Lysaghtstown Solar	45	Non-firm	Partial firm	Non-firm	Non-firm
Charleville Solar	45	Firm	N/A	N/A	N/A
Caherhurly Solar	91.2	Firm	N/A	N/A	N/A
Boggeragh Solar	11.5	Firm	N/A	N/A	N/A
Ennis Solar	13.79	Firm	N/A	N/A	N/A
Cow Cross Solar	8	Firm	N/A	N/A	N/A
Cork OS Offshore	450	N/A	N/A	Firm	N/A

3.4 North-West

Figure 3-4 shows the network map of the North-West and the main nodes and circuits in this region.

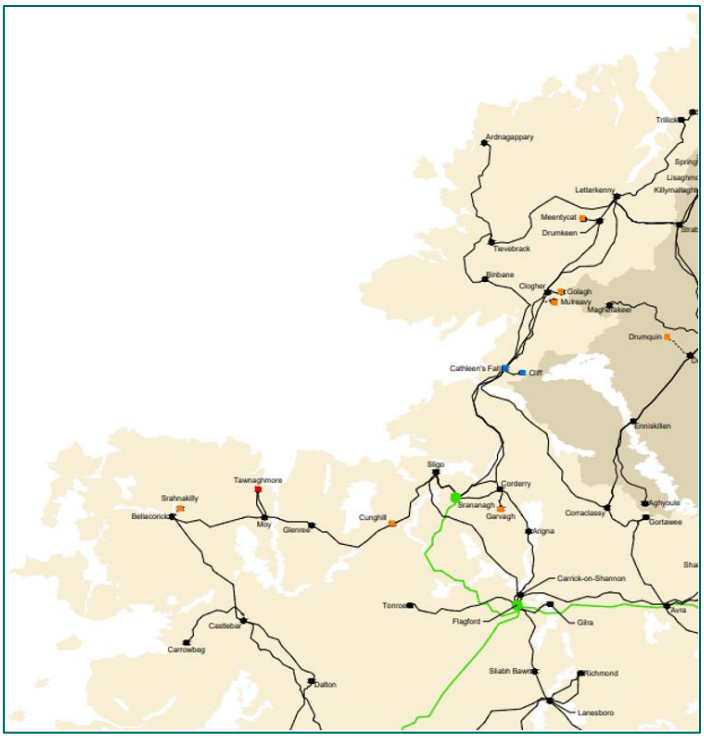

Figure 3-4: Network Map of the North-West

The following circuits experienced overloads in this area. These circuits were analysed in detail in order to determine which non-firm generators are making a material contribution to these overloads.

Table 3-12: The list of issues from PSSE power flow analysis in the North-West

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Flagford – Sligo 110 kV	99	3223	244
Corderry – Arigna Tee 110 kV	178	2382	176
Srananagh T2102	250	2356	161
Carrick on Shannon – Arigna Tee 110 kV	178	2441	182
Dalton 110 kV Busbar	99	3407	223
Flagford – Sliabh Bawn 110 kV	123	1885	254
Lanesboro – Sliabh Bawn 110 kV	99	2741	231
Castlebar – Cloon 110 kV	99	3732	245
Letterkenny Busbar Section 1 110 kV	99	3185	245
Castlebar – Dalton 110 kV	99	2957	204
Letterkenny Busbar Section 2 110 kV	99	3168	247
Cashla – Dalton 110 kV	99	2811	214
Letterkenny Busbar Section 3 110 kV	99	2982	258
Lanesboro Busbar 110 kV	134	1777	192
Cath Fall – Corraclassy 110 kV	178	2198	161
Bellacorick – Castlebar 110 kV	195	4255	237

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Cathaleens Fall – Srananagh 1 110 kV	191	2268	182
Srananagh – Cath Fall 2 110 kV	178	2404	199
Lenalea – Letterkenny 110 kV	99	2295	175
Clogher – Cath Fall 1 110 kV	178	2204	174
Cathaleens Fall – Clogher 2 110 kV	178	2193	172
Arva – Gortawee 110 kV	178	322	121
Drumkeen – Clogher 110 kV	103	2004	172
Binbane – Cathaleens Fall 110 kV	99	950	174
Letterkenny Busbar Section 4 110 kV	99	1567	165
Golagh Tee – Letterkenny 110 kV	99	1567	165
Letterkenny Busbar Section 5 110 kV	99	1684	154
Firlough – Glenree 110 kV	105	4743	263
Cunghill – Sligo 110 kV	178	3354	181
Cunghill – Glenree 110 kV	178	3456	194
Firlough – Moy 110 kV	105	3631	209
Flagford – Louth 220 kV	384	1174	149
Corderry – Srananagh 110 kV	178	1066	137
Sligo – Srananagh 2 110 kV	99	204	175
Sligo – Srananagh 1 110 kV	99	219	177
Athlone – Lanesboro 110 kV	99	414	139
Drumkeen – Letterkenny 110 kV	99	177	115

Unreinforced System Model - Full Firm Access

The majority of the non-firm generators in this area experience constraints in excess of the 2% firm threshold. As a result, there is no full firm access available to these generators in the unreinforced system. The predominant issue in this region is limitations on the main pathways for wind power to flow south onto the bulk transmission system.

There is firm access available for 4.99 MW of solar generation and 4.99 MW wind generation that does not experience constraints above the 2% threshold at Carrick On Shannon and Cloon.

Table 3-13: North-West Full Firm Access Results for unreinforced system.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Sligo Wind	4.08	Flagford – Sligo 110 kV	Non-firm
Corderry Wind	16.35	Srananagh T2102	Non-firm
Bellacorick Wind	4	Castlebar – Cloon 110 kV	Non-firm
Firlough Wind	75.6	Bellacorick – Castlebar 110 kV	Non-firm
Glenree Wind	4.65	Bellacorick – Castlebar 110 kV	Non-firm
C's Fall Wind	37.5	Srananagh T2102	Non-firm
Lenalea Wind	102.1	Letterkenny 110 kV Busbar	Non-firm
Tievebrack Wind	29.9	Letterkenny 110 kV Busbar	Non-firm
Binbane Wind	16.8	Letterkenny 110 kV Busbar	Non-firm
Dalton Solar	4	Dalton 110 kV Busbar	Non-firm
Golagh Wind	48	Srananagh – Cathaleens Fall 2 110 kV	Non-firm

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Clogher Wind	72	Srananagh – Cathaleens Fall 2 110 kV	Non-firm
Carrick On Shannon Solar	4.99	-	Firm
Cloon Wind	4.5	-	Firm
Richmond Solar	9	Flagford – Sliabh Bawn 110 kV	Non-firm
Lanesboro Solar	56.6	Flagford – Sliabh Bawn 110 kV	Non-firm

Unreinforced System Model - Partial Firm Access

Due to the level of constraint experienced and the existing level of awarded firm access in this area, there is no partial firm access available in the North-West in the unreinforced system.

Reinforced System - Full Firm Access

In the reinforced system, firm access will become available for an additional 73.4 MW at four nodes in the North-West.

Table 3-14: North-West reinforced system full firm access assessment results.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Sligo Wind	4.08	Flagford – Sligo 110 kV	Non-firm
Corderry Wind	16.35	Carrick on Shannon – Arigna Tee 110 kV	Non-firm
Bellacorick Wind	4	-	Firm
Firlough Wind	75.6	Flagford – Sligo 110 kV	Non-firm
Glenree Wind	4.65	Flagford – Sligo 110 kV	Non-firm
Cathaleen's Fall Wind	37.5	Cathaleens Fall – Srananagh 1 110 kV	Non-firm
Lenalea Wind	102.1	Cathaleens Fall – Srananagh 1 110 kV	Non-firm
Tievebrack Wind	29.9	Cathaleens Fall – Srananagh 1 110 kV	Non-firm
Binbane Wind	16.8	Cathaleens Fall – Srananagh 1 110 kV	Non-firm
Dalton Solar	4	-	Firm
Golagh Wind	48	Cathaleens Fall – Srananagh 1 110 kV	Non-firm
Clogher Wind	72	Cathaleens Fall – Srananagh 1 110 kV	Non-firm
Richmond Solar	9	-	Firm
Lanesboro Solar	56.6	-	Firm

Reinforced System - Partial Firm Access

Due to the level of constraint and existing firm generation, there is no partial firm access available. 407 MW of committed wind generation will remain non-firm and will be re-assessed in subsequent firm access runs.

Summary

Table 3-15: North-West summary of the firm access analysis.

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Sligo Wind	4.08	Non-firm	Non-firm	Non-firm	Non-firm
Corderry Wind	16.35	Non-firm	Non-firm	Non-firm	Non-firm
Bellacorick Wind	4	Non-firm	Non-firm	Firm	N/A
Firlough Wind	75.6	Non-firm	Non-firm	Non-firm	Non-firm

Glenree Wind	4.65	Non-firm	Non-firm	Non-firm	Non-firm
Cath's Fall Wind	37.5	Non-firm	Non-firm	Non-firm	Non-firm
Lenalea Wind	102.1	Non-firm	Non-firm	Non-firm	Non-firm
Tievebrack Wind	29.9	Non-firm	Non-firm	Non-firm	Non-firm
Binbane Wind	16.8	Non-firm	Non-firm	Non-firm	Non-firm
Dalton Solar	4	Non-firm	Non-firm	Firm	N/A
Golagh Wind	48	Non-firm	Non-firm	Non-firm	Non-firm
Clogher Wind	72	Non-firm	Non-firm	Non-firm	Non-firm
Carrick On Shannon Solar	4.99	Firm	N/A	N/A	N/A
Cloon Wind	4.5	Firm	N/A	N/A	N/A
Richmond Solar	9	Non-firm	Non-firm	Firm	N/A
Lanesboro Solar	56.6	Non-firm	Non-firm	Firm	N/A

3.5 Galway

Figure 3-5 shows the network map of the Galway and the main nodes and circuits in this region.

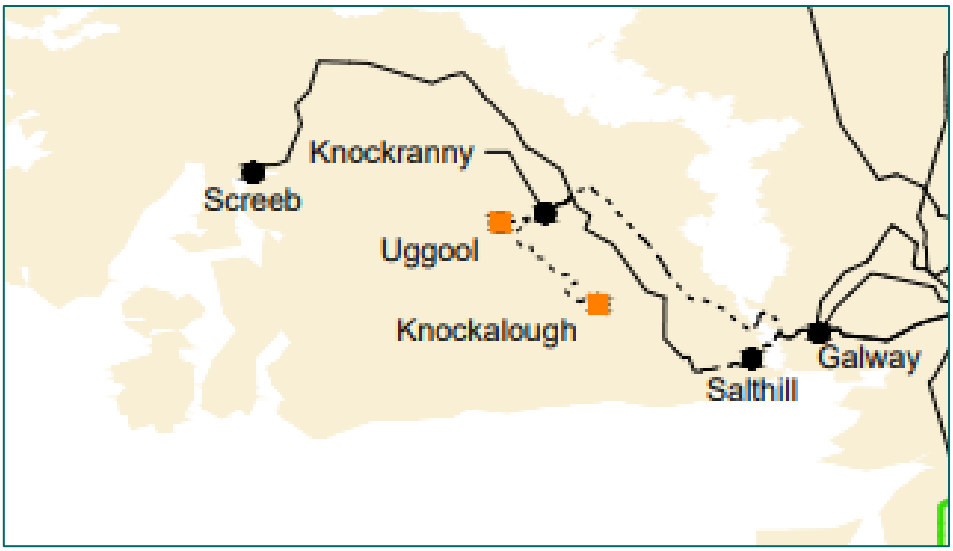

Figure 3-5: Network Map of the Galway area.

The following circuits experienced overloads in this area. These circuits were analysed in detail in order to determine which non-firm generators are making a material contribution to these overloads.

Table 3-16: The list of issues from PSSE power flow analysis in the Galway area.

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Cashla – Salthill 110 kV	97	2382	181
Galway – Salthill 110 kV	99	2213	176
Cashla – Galway 2 110 kV	105	118	114
Cashla – Galway 3 110 kV	105	118	114

Unreinforced System Model - Full Firm Access Assessment

All the non-firm generators in this area experiences constraints in excess of the 2% firm threshold. As a result, there is no full firm access available to these generators in the unreinforced system. The predominant issue in this region is limitations on the wind power flows through the Galway network

Table 3-17: Galway Full Firm Access Results for unreinforced system

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Knockranny Wind	65.3	Cashla – Salthill 110 kV	Non-firm

Unreinforced System Model - Partial Firm Access Assessment

Due to the level of constraint and the existing level of firm generation on this area, there is no additional partial firm access available in the unreinforced system.

Reinforced System – Full Firm Access Assessment

In the reinforced system, there is no additional firm access available in the area.

Table 3-18: Galway area reinforced system firm access assessment results.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Knockranny Wind	65.3	Cashla – Salthill 110 kV	Non-firm

Reinforced System – Partial Firm Access Assessment

Due to the level of constraint and existing level of firm generation on this area, there is no additional partial firm access available on the reinforced system. 65.3 MW of committed wind generation will remain non-firm and will be re-assessed in subsequent firm access runs.

Summary

Table 3-19: Galway area summary of the firm access analysis.

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Knockranny Wind	65.3	Non-firm	Non-firm	Non-firm	Non-firm

3.6 Midlands and Dublin

Figure 3-6 shows the network map of this area and the main nodes and circuits in this region.

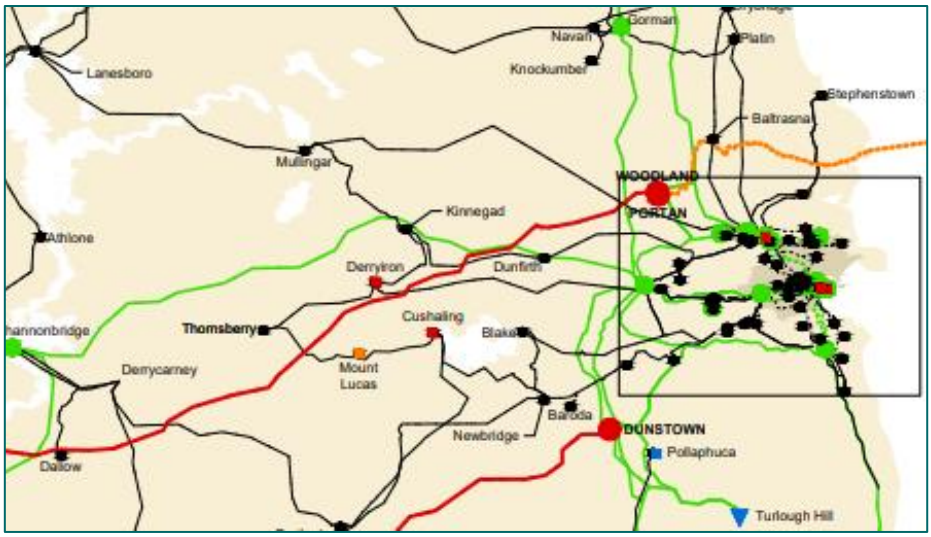

Figure 3-6: Network Map of midlands and Dublin.

The following circuits experienced overloads in this area. These circuits were analysed in detail in order to determine which non-firm generators are making a material contribution to these overloads.

Table 3-20: The list of issues from PSSE power flow analysis in the midlands and Dublin.

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Bracklone – Newbridge 110 kV	105	5556	227
Maynooth – Timahoe 110 kV	74	4697	454
Timahoe – Coolcor 110 kV	74	3446	387
Cushaling – Newbridge 110 kV	134	5871	249
Blundelstown – Corduff 110 kV	130	3556	238
Maynooth T2101	125	1629	224
Newbridge – Blake Tee 110 kV	136	2748	189
Castlelost – Shannonbridge 220 kV	268	3860	161
Castlelost – Maynooth 220 kV	268	3645	157
Craddanstown – Fosterstown 110 kV	105	3498	213
Blundelstown – Curraghdoo 110 kV	136	2204	197
Lanesboro – Sliabh Bawn 110 kV	99	2741	231
Derryiron – Kinnegad 110 kV	99	2703	273
Derryiron – Coolcor 110 kV	74	3175	329
Mulgeeth – Dunfirth Tee 110 kV	104	1174	184
Kilteel – Maynooth 110 kV	99	1448	183
Thornsberry – Derryiron 110 kV	99	4452	216
Kilteel – Monread 110 kV	134	960	154
Mullingar – Shanonagh 110 kV	99	3920	196
Rinawade – Dunfirth Tee 110 kV	99	4053	308
Maynooth – Blake Tee 110 kV	99	3917	230

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Corduff – Woodland 220 kV	434	5362	178
Baroda – Monread 110 kV	99	4166	222
Maynooth – Rinawade 110 kV	80	4395	359
Lanesboro 110 kV Busbar	134	1777	192
Maynooth T2102	238	680	163
Derryiron Busbar 110 kV	134	1901	172
Baroda – Newbridge 110 kV	122	3672	196
Curraghdoo – Fosterstown 110 kV	136	1564	161
Clonee – Woodland 220 kV	434	5490	178
Mount Lucas – Thornsberry 110 kV	159	1784	152
Philipstown – Portlaoise 110 kV	136	996	152
Craddanstown – Mullingar 110 kV	105	1761	167
Coolnabacky – Portlaoise 110 kV	123	3124	227
Lanesboro – Shanonagh 110 kV	99	3411	191

Unreinforced System Model - Full Firm Access Assessment

The majority of the non-firm generators in this area experience constraints in excess of the 2% firm threshold. As a result, there is no full firm access available to these generators in the unreinforced system. The predominant issue in this region is the large volume of connections coupled with the poor ratings of the existing 110 kV circuits. These circuits have low ratings of between 80 MVA and 135 MVA and as they are the main paths for power flows in that area, they experience overloads at times of high renewables.

Table 3-21: Midlands and Dublin Full Firm Access Results for unreinforced system.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Bracklone Solar	60	Bracklone – Newbridge 110 kV	Non-firm
Coolcor Solar	90	Maynooth – Timahoe 110 kV	Non-firm
Bracklone Wind	57.6	Bracklone – Newbridge 110 kV	Non-firm
Philipstown Solar	50	Cushaling – Newbridge 110 kV	Non-firm
Derryiron Wind	101	Maynooth – Timahoe 110 kV	Non-firm
Philipstown Wind	50	Cushaling – Newbridge 110 kV	Non-firm
Mount Lucas Wind	16.4	Cushaling – Newbridge 110 kV	Non-firm
Curraghdoo Solar	78.8	Blundelstown – Corduff 110 kV	Non-firm
Thornsberry Solar	90	Cushaling – Newbridge 110 kV	Non-firm
Killeenlea Solar	50	Maynooth T2101	Non-firm
Craddanstown Wind	64.8	Craddanstown – Fosterstown 110 kV	Non-firm
Shanonagh Solar	11.4	Mullingar – Shanonagh 110 kV	Non-firm
Crakenstown Solar	55	Corduff – Woodland 220 kV	Non-firm
Athlone Solar	120	Lanesboro 110 kV Busbar	Non-firm
Finglas Solar	18.27	-	Firm

Unreinforced System Model - Partial Firm Access Assessment

Due to the level of constraint and the existing level of firm generation on this area, there is no additional partial firm access available in the unreinforced system.

Reinforced System – Full Firm Access Assessment

In the reinforced system, firm access will become available for a few non-firm wind and solar generators. These projects will be awarded firm access on the scheduled completion date of the relevant reinforcements.

Table 3-22: Midlands and Dublin Full Firm Access Results for reinforced system.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Bracklone Solar	60	-	Firm
Coolcor Solar	90	Maynooth – Timahoe 110 kV	Non-firm
Bracklone Wind	57.6	-	Firm
Philipstown Solar	50	Cushaling – Newbridge 110 kV	Non-firm
Derryiron Wind	101	-	Firm
Philipstown Wind	50	Cushaling – Newbridge 110 kV	Non-firm
Mount Lucas Wind	16.4	Cushaling – Newbridge 110 kV	Non-firm
Curraghdoo Solar	78.8	Blundelstown – Corduff 110 kV	Non-firm
Thornsberry Solar	90	Cushaling – Newbridge 110 kV	Non-firm
Killeenlea Solar	50	-	Firm
Craddanstown Wind	64.8	Craddanstown – Fosterstown 110 kV	Non-firm
Shanonagh Solar	11.4	-	Firm
Crakenstown Solar	55	-	Firm
Athlone Solar	120	-	Firm

Reinforced System – Partial Firm Access Assessment

Due to level of constraints and existing firm access, there is no partial firm access available at other nodes in this area. 440 MW of wind and solar generation will remain non-firm and be assessed in future runs.

Summary Midlands

Table 3-23: Midlands and Dublin area summary of the firm access analysis.

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Bracklone Solar	60	Non-firm	Non-firm	Firm	N/A
Coolcor Solar	90	Non-firm	Non-firm	Non-firm	Non-firm
Bracklone Wind	57.6	Non-firm	Non-firm	Firm	N/A
Philipstown Solar	50	Non-firm	Non-firm	Non-firm	Non-firm
Derryiron Wind	101	Non-firm	Non-firm	Firm	N/A
Philipstown Wind	50	Non-firm	Non-firm	Non-firm	Non-firm
Mount Lucas Wind	16.4	Non-firm	Non-firm	Non-firm	Non-firm
Curraghdoo Solar	78.8	Non-firm	Non-firm	Non-firm	Non-firm
Thornsberry Solar	90	Non-firm	Non-firm	Non-firm	Non-firm
Killinlea Solar	50	Non-firm	Non-firm	Firm	N/A
Craddanstown Wind	64.8	Non-firm	Non-firm	Non-firm	Non-firm
Shanonagh Solar	11.4	Non-firm	Non-firm	Firm	N/A

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Crakenstown Solar	55	Non-firm	Non-firm	Firm	N/A
Athlone Solar	120	Non-firm	N/A	Firm	N/A
Finglas Solar	18.27	Firm	N/A	N/A	N/A

3.7 North-East

Figure 3-7 shows the network map of the North-East and the main nodes and circuits in this region.

Figure 3-7: Network Map of the North-East

The following circuit experienced overloads in this area. This circuit were analysed in detail in order to determine which non-firm generators are making a material contribution to these overloads.

Table 3-24: The list of issues from PSSE power flow analysis in the North-East.

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Louth – Ratrussan 110 kV	104	2924	205
Lislea – Lisdrum 110 kV	105	1904	155
Ratrussan – Shankill 110 kV	95	1865	156
Lisdrum – Louth 110 kV	99	1291	162
Platin – Oldbridge 110 kV	105	830	173
Garballagh – Platin 110 kV	105	446	134
Garballagh – Gorman 110 kV	105	407	138
Ricetown – Meath Hill 110 kV	99	330	165
Gorman – Maynooth 220 kV	350	302	181
Crakenstown – Woodland 220 kV	434	150	157
Gorman – Louth 220 kV	476	161	165
Ricetown – Gorman 110 kV	99	240	163
Drybridge – Oldbridge 110 kV	105	353	136
Louth – Richardstown 220 kV	434	125	156
Crakenstown – Richardstown 220 kV	434	125	154

Unreinforced System Model – Network Firm Access

Non-firm solar generation at Ricetown experience constraints in excess of the 2% firm threshold. As a result, there is no full firm access available to this generator in the unreinforced system.

Table 3-25: North-East 2025 full firm access assessment results.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Result
Ricetown Solar	63	Ricetown – Meath Hill 110 kV	Non-Firm
Balruntagh Solar	115	-	Firm
Dundalk Solar	44.9	-	Firm
Gorman Solar	46	-	Firm

Unreinforced System Model – Partial Firm Access

20 MW of partial firm access is available for solar generation at Ricetown.

Reinforced System – Firm Access Assessment

In the reinforced system, firm access will become available for all non-firm generators in the North-East. These projects will be awarded firm access on the scheduled completion date of the relevant reinforcements.

Reinforced System – Partial Firm Access Assessment

As full firm access is granted for all non-firm generators, a partial firm access assessment is not required in this area.

Table 3-26: North-East summary of the firm access analysis.

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Ricetown Solar	63	Non-firm	Partial firm	Firm	N/A
Balruntagh Solar	115	Firm	N/A	N/A	N/A
Dundalk Solar	44.9	Firm	N/A	N/A	N/A
Gorman Solar	46	Firm	N/A	N/A	N/A

3.8 Conventional Units (All areas)

Conventional units consist of dispatchable generation that operate by burning a fuel source. Unlike renewable generation, conventional units are not subject to a prevailing annual profile. Instead, these units are dispatched as determined by the market or as needed for system reasons. The following circuits experienced overloads attributed to non-firm conventional generation. These circuits were analysed in detail in order to determine which non-firm generators are making a material contribution to these overloads. Conventional units are only granted firm access if there are no constraints observed.

Table 3-27: The list of issues from PSSE power flow analysis associated with non-firm conventional generators.

Line	Rating (MVA)	Number of Overload Hours (hours)	Highest Loading (%)
Inchicore – Irishtown 220 kV	562	4070	168
Castlelost – Shannonbridge 220 kV	268	3860	161
Kilpaddoge – Moneypoint 2 220 kV	660	5330	212
Irishtown – Carrickmines 220 kV	593	3455	148
Castlelost – Maynooth 220 kV	268	3645	157
Northwall – Poolbeg 220 kV	332	<100	115
Finglas – Northwall 220 kV	332	<100	112

Unreinforced System Model - Full Firm Access Assessment

Firm access is available for 62.49 MW of generators in the unreinforced system. These generators tend to be located in areas of high demand. A number of generators contribute to specific overloads in close proximity to their connections. As a result, there is no full firm access available to these generators in the unreinforced system.

Table 3-28: Conventional units 2025 firm access assessment results.

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Results
Irishtown Conventional	63.5	Inchicore – Irishtown 220 kV	Non-firm
Kilpaddoge Conventional	600	Kilpaddoge – Moneypoint 2 220 kV	Non-firm
Castlelost Conventional	35	Castlelost – Shannonbridge 220 kV	Non-firm
Southbank Conventional	299	Irishtown – Carrickmines 220 kV	Non-firm
Peamount Conventional	50	N/A	Firm
Castleview Conventional	9.99	N/A	Firm
Moy Conventional	2.5	N/A	Firm

Unreinforced System Model - Partial Firm Access Post-processing

Due to the level of constraint and existing firm generation, there is no partial firm access available in the unreinforced grid.

Reinforced System - Firm Access Assessment

Station	Non-firm (MW)	Highest Constraint *(Only the worst issue is shown, there may be other issues)*	Results
Irishtown Conventional	63.5	Inchicore – Irishtown 220 kV	**Non-firm**
Kilpaddoge Conventional	600	Kilpaddoge – Moneypoint 2 220 kV	**Non-firm**
Castlelost Conventional	35	Castlelost – Shannonbridge 220 kV	**Non-firm**
Southbank Conventional	299	-	**Firm**

Reinforced System - Partial Firm Access Assessment

There is no additional partial firm access available on the reinforced system.

Summary

Table 3-29: Conventional units summary of the firm access analysis.

Station	Non-firm (MW)	2025 Decision	2025 Partial Decision	Reinforced System Decision	Reinforced System Partial Decision
Irishtown Conventional	63.5	Non-firm	Non-firm	Non-firm	Non-firm
Kilpaddoge Conventional	600	Non-firm	Non-firm	Non-firm	Non-firm
Castlelost Conventional	35	Non-firm	Non-firm	Non-firm	Non-firm
Southbank Conventional	299	Non-firm	Non-firm	Firm	N/A
Peamount Conventional	50	Firm	N/A	Firm	N/A
Castleview Conventional	9.99	Firm	N/A	Firm	N/A
Moy Conventional	2.5	Firm	N/A	Firm	N/A

3.9 2025 Firm Access Review Summary

The results are summarised in Table 3-30 and Figure 3-8 below. In total, 5 GW of non-firm generation was analysed as part of the firm access 2025 review. 0.49 GW can be made firm immediately (or upon completion of grid connection), 150 MW can be made partially firm immediately (or upon completion of grid connection), 2.6 GW can be made firm upon completion of specific reinforcements and 1.7 GW remains non-firm. The 1.7 GW of generation remaining non-firm will continue to be included in subsequent firm access runs.

Table 3-30: Summary of the Nodal Constraints

	Firm Unreinforced	Partial Firm Unreinforced	Firm Reinforced	Partial Firm Reinforced	Staying Non-Firm	Grand Total
Conventional	62	0	299	0	699	1060
Offshore						
Southeast	0	0	450	0	0	**450**
Southwest	0	0	450	0	0	**450**
Solar						
Midlands/Dublin	18	0	296	0	309	**623**
Northeast	206	20	43	0	0	**269**
Northwest	5	0	70	0	0	**75**
South-central	12	40	257	0	0	**309**
Southeast	0	0	147	0	106	**254**
Southwest	89	33	128	0	12	**262**
Wind						
Galway	0	0	0	0	65	**65**
Midlands/Dublin	0	0	159	0	131	**290**
Northwest	5	0	4	0	407	**415**
South-central	0	0	106	0	0	**106**
Southeast	0	60	129	0	0	**189**
Southwest	91	0	55	0	0	**146**
Grand Total	493	153	2592	0	1729	4963

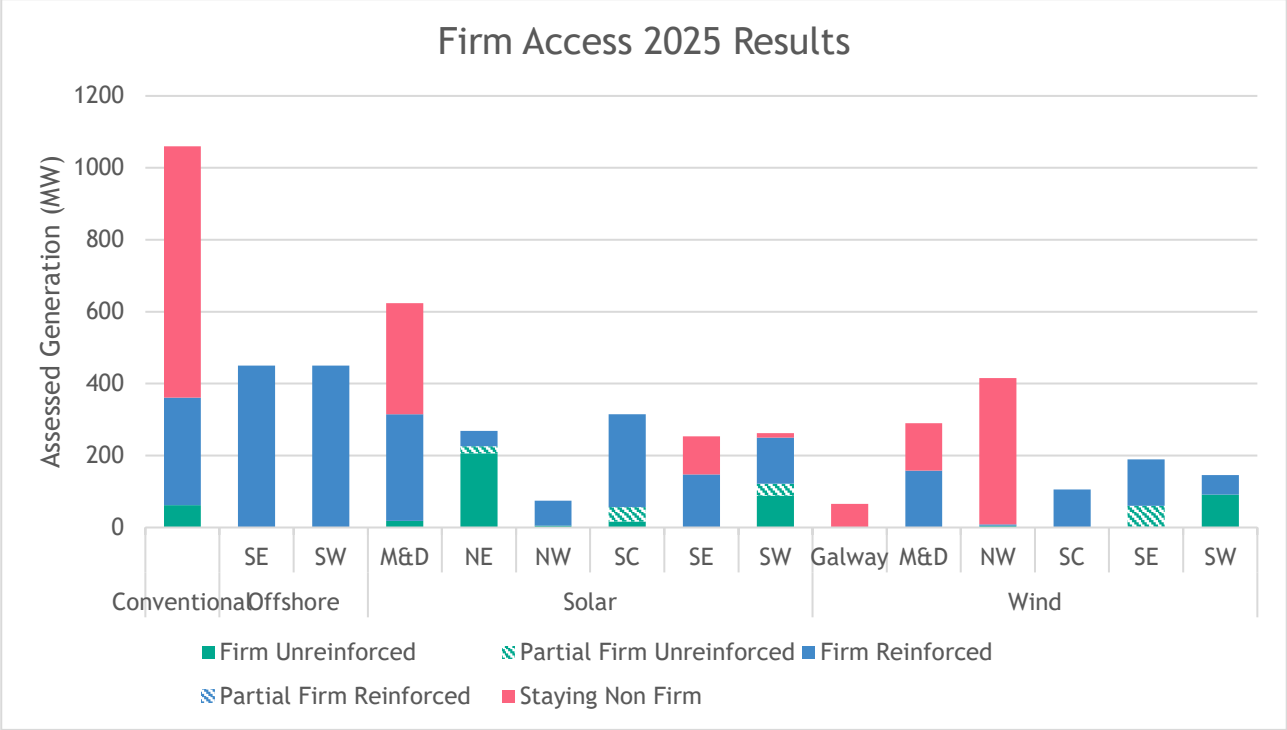

Figure 3-8: Summary of the firm access results. SE: Southeast, SW: Southwest, M & D: Midland and Dublin, NE: Northeast, NW: Northwest, SC: Southcentral.

4 Appendices

4.1 List of Generators assessed in the Firm Access 2025 Run

The following table details the generators that were assessed for firm access in this run. These are generators that are either fully or partially non-firm.

TSO / DSO	EirGrid Code	Processing Type	type	MEC (MW)	area	Station
DSO	DG1790	ECP-1	Wind	2.5	B	Bellacorick
DSO	DG1832	ECP-2.1	Wind	4.2	A	Binbane
DSO	DG1836	ECP-2.1	Wind	1.3	B	Bellacorick
DSO	DG1856	ECP-2.1	Wind	16.35	A	Corderry
DSO	DG1875	ECP-2.1	Wind	3.6	A	Binbane
DSO	DG1971	ECP-2.2	Wind	37.5	A	Cathaleen's Fall
TSO	TG262	ECP-1	Wind	138.1	A	Clogher
TSO	TG352	ECP-1	Wind	30.1	A	Lenalea
TSO	TG369	ECP-1	Wind	29.9	A	Tievebrack
TSO	TG371	ECP-1	Wind	48.3	B	Firlough
TSO	TG383	T-3 2024/25	Gas	63.5	J	Irishtown
TSO	TG401	ECP-2.1	Wind	47.3	B	Knockranny
TSO	TG406	ECP-2.1	Wind	101	J	Derryiron
TSO	TG407	ECP-2.1 and T-4 20xx/xx	Gas	600	E	Kilpaddoge
TSO	TG422	ECP-2.1	Wind	27.3	B	Firlough
TSO	TG427	ECP-2.1	Wind	50	J	Philipstown
TSO	TG428	ECP-2.1	Wind	56.4	J	Mount Lucas
TSO	TG443	ECP-2.1	Wind	18	B	Knockranny
TSO	TG496	T-3 2024/25	Gas	275	G	Castlelost
DSO	DG1470	ECP-2.1	Solar	4	B	Dalton
DSO	DG1834	ECP-2.1	Wind	4.5	B	Cloon
DSO	DG1839	ECP-2.1	Wind	4.08	B	Sligo
DSO	DG1925	ECP-2.2	Solar	4.99	C	Carrick on Shannon
DSO	DG1962	ECP-2.2	Wind	0.2	B	Bellacorick
DSO	DG1983	ECP-2.3	Solar	44.9	G	Dundalk
DSO	DG1985	ECP-2.3	Wind	9	A	Binbane
DSO	DG1986	ECP-2.3	Solar	9	C	Richmond
DSO	DG1987	ECP-2.3	Solar	0.99	H2	Kilkenny
DSO	DG1990	ECP-2.3	Solar	10	I	Cow Cross
DSO	DG1991	ECP-2.3	Solar	8.8	D	Ennis
DSO	DG1993	ECP-2.3	Solar	40	C	Athlone
DSO	DG1995	ECP-2.3	Solar	5.49	H1	Barrymore
DSO	DG1996	ECP-2.3	Solar	48	H1	Cauteen
DSO	DG2002	ECP-2.3	Solar	1.3	H2	Crane
DSO	DG2012	ECP-2.3	Wind	4.65	B	Glenree
DSO	DG2013	ECP-2.3	Solar	12	H1	Ballydine
DSO	DG2023	ECP-2.3	diesel	4.5	B	Moy
DSO	DG2024	ECP-2.3	gas	9.99	I	Castleview
DSO	DG2040	ECP-2.3	Wind	4.5	E	Reamore
DSO	DG2043	ECP-2.3	Solar	4.99	D	Ennis
DSO	DG2046	ECP-2.3	Solar	7.6	H2	Arklow
DSO	DG2047	ECP-2.3	Solar	10	I	Midleton

TSO / DSO	EirGrid Code	Processing Type	type	MEC (MW)	area	Station
DSO	DG2049	ECP-2.3	Solar	8.8	K	Butlerstown
TSO	P574	T-4 2027/28	OCGT	50	J	Peamount
TSO	TG424	ECP-2.1	Solar	56.6	C	Lanesboro
TSO	TG442	ECP-2.3	Solar	11.5	E	Boggeragh
TSO	TG452	ECP-2.2	Wind	63	A	Golagh
TSO	TG511	ECP-2.3	Wind	72	A	Lenalea
TSO	TG521	ECP-2.3	solar	88.8	J	Curraghdoo
TSO	TG523	ECP-2.3	wind	89.8	C	Craddanstown
TSO	TG524	ECP-2.3	Solar	90	J	Thornsberry
TSO	TG525	ECP-2.4	wind	155.6	H1	Barrymore
TSO	TG526	ECP-2.3	Solar	80	C	Athlone
TSO	TG530	ECP-2.3	Solar	18.27	J	Finglas
TSO	TG531	ECP-2.3	Solar	46	G	Gorman
TSO	TG532	ECP-2.3	Solar	50	J	Philipstown
TSO	TG533	ECP-2.3	Solar	115	G	Balruntagh
TSO	TG534	ECP-2.3	Wind	50	E	Pollagh
TSO	TG535	ECP-2.3	Solar	60	J	Bracklone
TSO	TG537	ECP-2.3	Solar	76	H1	Lisheen
TSO	TG539	ECP-2.3	Solar	90	J	Coolcor
TSO	TG541	ECP-2.3	Wind	138.6	H2	Kilvinoge
TSO	TG543	ECP-2.3	Solar	55	H1	Cauteen
TSO	TG545	ECP-2.3	Wind	91.2	D	Caherhurly
TSO	TG548	ECP-2.3	Solar	50	J	Killeenlea
TSO	TG549	ECP-2.3	Solar	45	I	Lysaghtstown
TSO	TG555	ECP-2.3	Solar	105	H2	Tullabeg
TSO	TG559	ECP-2.3	Solar	55	J	Crakenstown
TSO	TG560	T-4 2026/27	Gas	299	J	Southbank
TSO	TG565	ECP-2.3	solar	48	H2	Kellis
TSO	TG583	ECP-2.4	solar	63	G	Ricetown
TSO	TG584	ECP-2.4	solar	128	E	Pollagh
TSO	TG587	ECP-2.4	solar	82	H2	Kellis
TSO	TG588	ECP-2.4	solar	45	E	Charleville
TSO	TG589	ECP-2.4	wind	50.4	H2	Kellymount
TSO	TG599	ECP-2.4	solar	113	H1	Ballyvalode
TSO	TG605	ECP-2.4	solar	11.4	C	Shanonagh
TSO	TG613	Offshore Phase 2	Wind Offshore	450	I	Cork OS
TSO	TG614	Offshore Phase 2	Wind Offshore	450	H2	Waterford OS
TSO	TG615	ECP-2.4	wind	57.6	J	Bracklone

4.2 Firm Access 2025 Review Generator Results Table

It is important to note that if a generation project is registered in the Integrated Single Electricity Market, the Participant is responsible for contacting the Single Electricity Market Operator (SEMO) at BalancingMarketRegistration@sem-o.com without delay, to confirm any changes to the market registration data. This applies to both fully firm and partially firm capacity.

Additionally, please note that as stated in the FAQ Change Request form, this change is dependent on successful validation by the Market Operator and the Transmission System Operator or Meter Data Provider as appropriate, which may take up to 28 days to implement.

For the avoidance of doubt, it is to be noted that the effective date for any changes to the market registration data will be agreed with SEMO as per the approved process.

Firm access shall only be granted once the permanent connection works are completed.

Name	Station	Type	Non-Firm MW	Firm Access 2025 Review Result
Dooleeg More Wind Farm	Bellacorick	Wind	2.5	2.5 MW Firm from end of 2028
Bradan Community Wind Turbine	Binbane	Wind	4.2	4.2 MW staying non-firm
Dooleeg More Extension	Bellacorick	Wind	1.3	1.3 MW Firm from end of 2028
Dooleeg More Extension 2	Bellacorick	Wind	0.2	0.2 MW Firm from end of 2028
Tullynamoyle Wind Farm 5	Corderry	Wind	16.35	16.35 MW staying non-firm
Clogheravaddy Wind Farm (Phase 3)	Binbane	Wind	3.6	3.6 MW staying non-firm
Derrykillew Wind Farm	Cathaleen's Fall	Wind	37.5	37.5 MW staying non-firm
Croaghonagh 1 Windfarm	Clogher	Wind	72	72 MW staying non-firm
Lenalea Wind Farm	Lenalea	Wind	30.1	30.1 MW staying non-firm
Mully Graffy Wind Farm (Formerly Kilgorman)	Tievebrack	Wind	29.9	29.9 MW staying non-firm
Firlough Wind Farm	Firlough	Wind	48.3	48.3 MW staying non-firm
Ringsend Flexgen	Irishtown	thermal	63.5	63.5 MW staying non-firm
Knockranny Wind Farm	Knockranny	Wind	47.3	47.3 MW staying non-firm
Yellow River Wind Farm	Derryiron	Wind	101	101 MW Firm from end of 2029
Knockfinglas CHP	Kilpaddoge	thermal	600	600 MW staying non-firm
Firlough Wind Farm Extension	Firlough	Wind	27.3	27.3 MW staying non-firm
Cushaling Wind Farm	Philipstown	Wind	50	50 MW staying non-firm
Moanvane Wind Farm	Mount Lucas	Wind	16.4	16.4 MW staying non-firm
Ardderroo Wind Farm Extension	Knockranny	Wind	18	18 MW staying non-firm
Castlelost FlexGen	Castlelost	thermal	35	35 MW staying non-firm
Claremorris 2 Solar Farm	Dalton	Solar	4	4 MW Firm from end of 2028
Clooninagh Wind Farm	Cloon	Wind	4.5	4.5 MW Firm in 2025
Templehouse Community Wind Farm	Sligo	Wind	4.08	4.08 MW staying non-firm
Castlerea Trust Solar Project	Carrick on Shannon	Solar	4.99	4.99 MW Firm in 2025

Name	Station	Type	Non-Firm MW	Firm Access 2025 Review Result
KILCURLY SOLAR	Dundalk	Solar	44.9	44.9 MW Firm in 2025
Altcor Wind Farm	Binbane	Wind	9	9 MW staying non-firm
Ballykenny Solar Extension	Richmond	Solar	9	9 MW Firm from end of 2029
Barryscourt Solar	Cow Cross	Solar	8	8 MW Firm in 2025
Cahershaughnessy Solar	Ennis	Solar	8.8	8.8 MW Firm in 2025
Cuilmore Solar Park	Athlone	Solar	40	40 MW Firm from end of 2029
Farran South Solar Phase 2	Barrymore	Solar	5.49	5.49 MW Firm from end of 2028
Gortdrum Solar PV	Cauteen	Solar	48	48 MW Firm from end of 2031
MONART SPA GROUND MOUNT 3	Crane	Solar	1.3	1.3 MW staying non-firm
Chaffhill Wind Farm (prev. Glenree WF)	Glenree	Wind	4.65	4.65 MW staying non-firm
Grian PV Ballyboe	Ballydine	Solar	12	12 MW Firm in 2025
Ballina Beverages Energy	Moy	thermal	2.5	2.5 MW Firm in 2025
Castleview Data Centre	Castleview	thermal	9.99	9.99 MW Firm in 2025
Stacks Mountain Wind Farm 2	Reamore	Wind	4.5	4.5 MW Firm from end of 2026
Ballingaddy Solar	Ennis	Solar	4.99	4.99 MW Firm in 2025
BALLYMONEY PV	Arklow	Solar	7.6	7.6 MW Firm from end of 2035
CARRIGOGNA SOLAR	Midleton	Solar	10	10 MW Firm in 2025
Pickardstown PV	Butlerstown	Solar	8.8	8.8 MW Firm from end of 2031
Bulmer RICE	Peamount	thermal	50	50 MW Firm in 2025
Ballycore Solar (formerly Middleton)	Lanesboro	Solar	56.6	56.6 MW Firm from end of 2029
Carragraigue Solar Extension	Boggeragh	Solar	11.5	11.5 MW Firm in 2025
Barnesmore WF - Repowering	Golagh	Wind	48	48 MW staying non-firm
Drumnahough Wind Farm	Lenalea	Wind	72	72 MW staying non-firm
Clonymeath Solar	Curraghdoo	Solar	78.8	78.8 MW staying non-firm
Bracklyn Wind Farm	Craddanstown	Wind	64.8	64.8 MW staying non-firm
Ballyteige Solar Farm	Thornsberry	Solar	90	90 MW staying non-firm
Coom Green Energy Park Wind	Barrymore	Wind	105.6	105.6 MW Firm from end of 2028
Taduff Solar Park	Athlone	Solar	80	80 MW Firm from end of 2029
Fieldstown Solar Farm Ext	Finglas	Solar	18.27	18.27 MW Firm in 2025
Gorman Solar Farm	Gorman	Solar	46	46 MW Firm in 2025
Kilcush Solar Farm	Philipstown	Solar	50	50 MW staying non-firm
Milltown Solar	Balruntagh	Solar	115	115 MW Firm in 2025
Shronowen Windfarm	Pollagh	Wind	50	50 MW Firm from end of 2026
Treascon Solar Farm	Bracklone	Solar	60	60 MW Firm from end of 2029
Killoran Solar PV Farm	Lisheen	Solar	76	76 MW Firm from end of 2031
Old Court Solar Farm	Coolcor	Solar	90	90 MW staying non-firm
Castlebanny Wind Farm	Kilvinoge	Wind	138.6	60 MW Partial Firm Now and 138.6 MW in 2031

Name	Station	Type	Non-Firm MW	Firm Access 2025 Review Result
Barnaleen Solar	Cauteen	Solar	55	40 MW Partial Firm Now and Full Firm from end of 2031
Carrownagowan Wind Farm	Caherhurly	Wind	91.2	91.2 MW Firm in 2025
Toolestown Solar	Killeenlea	Solar	50	50 MW Firm from end of 2031
Lysaghtstown PH2	Lysaghtstown	Solar	45	33 MW Partial Firm Now and None additional available
Tullabeg Phase 2	Tullabeg	Solar	105	105 MW staying non-firm
Reask Solar Farm	Crakenstown	Solar	55	55 MW Firm from end of 2031
Poolbeg OCGT	Southbank	thermal	299	299 MW Firm from end of 2029
Grangeford Solar PV	Kellis	Solar	48	48 MW Firm from end of 2031
Mill Farm Solar	Ricetown	Solar	63	20 MW Partial Firm Now and 63 MW in 2028
Dromlivaun – Ballylongford Solar	Pollagh	Solar	128	128 MW Firm from end of 2031
Garreenleen Solar Farm Phase 2	Kellis	Solar	82	82 MW Firm from end of 2031
Ballyroe Solar Extension	Charleville	Solar	45	45 MW Firm in 2025
White Hill Wind Farm	Kellymount	Wind	50.4	50.4 MW Firm from end of 2031
Ballyvalode Solar	Ballyvalode	Solar	113	113 MW Firm from end of 2031
Clondardis Solar Extension	Shanonagh	Solar	11.4	11.4 MW Firm from end of 2031
Offshore Phase 2 Cork	Cork OS	Wind Offshore	450	450 MW Firm from end of 2031
Offshore Phase 2 Waterford	Waterford OS	Wind Offshore	450	450 MW Firm from end of 2031
Dernacart Windfarm	Bracklone	Wind	57.6	57.6 MW Firm from end of 2029
Ballytobin Extension	Kilkenny	Solar	0.99	0.99 MW Firm from end of 2030

4.3 Network Delivery Portfolio

The Network Delivery Portfolio (NDP) was used as the basis for the reinforced grid network model. The latest NDP was consulted and only reinforcement projects that had achieved the Gateway 3 / Capital Approval (GW3/CA) milestone were considered. Projects that have not achieved GW3 are at too early a stage of development, and the solution is not yet fully developed.

The complete NDP is available at: Network-Delivery-Portfolio-Publication-Q4-2024.pdf

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