

# Enduring Connection Policy 2.3

## Solar and Wind Constraints Report: Results for Area J

Version 1.1

05/04/24



### Revision History

Revision	Date	Description
V1.1	05.04.2024	Results have been updated to reflect the modifications made to the installed capacity within the analysis.

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# Document Structure

This document is for customers wishing to see the estimated Total Dispatch Down for Area J. For information on the study assumptions, methodology, abbreviations and terms used for the Constraint Analysis reports, please see the area non-specific Assumptions and Methodology report found on the ECP-2.3 webpage<sup>1</sup>.

This document contains two main sections:

**Section 1: Results for Area J:** outlines the area covered by this report. This section provides a network diagram of Area J and an overview of the results for Area J.

**Section 2: Area J Node Results:** provides a table of results for every node in the area. This table documents the installed capacity, available energy, surplus, curtailment and constraint for every node in Area J.

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<sup>1</sup> <https://www.eirgridgroup.com/customer-and-industry/general-customer-information/ecp-2.3-constraint-report/index.xml>

# Important Note

This ECP-2.3 constraints report presents an estimate of the reduction in available solar and wind generation based on the study assumptions described. The reduction in available generation has been split into three categories for the purposes of this study: surplus, curtailment and constraint.

The treatment of renewable generation under these three categories of generation reduction will be determined by the implementation of Articles 12 and 13 of the EU Regulation 2019/943<sup>2</sup>.

The SEMC decision on the 22<sup>nd</sup> of March 2022<sup>3</sup> (SEM-22-009 Decision Paper on Dispatch, Redispatch and Compensation Pursuant to Regulation EU 2019/943) has been successfully challenged in the High Court ([2023] IEHC 629). Therefore, the detailed design of the implementation of Articles 12 and 13 has yet to be finalised, and may differ from the implementation for constraints used in this study. Therefore, an assumed interpretation has been included in this study, as detailed in this report.

This report uses the term “Total Dispatch Down” to refer to the total reduction in available solar and wind generation i.e. the sum of surplus, curtailment and constraint, and is considered the key indicator for the results. However, it is important to note that the term “dispatch down” is more correctly applicable only to TSO instructions to reduce generation output from a market position, as is the case for curtailment and constraint, and is not necessarily applicable to a generator reducing its own output from its availability to a market position so that supply and demand are balanced, as is the case for surplus.

The term “non-priority” and “not-priority” generators are used synonymously in the report.

The results presented in this report are based on the simulation and modelling assumptions described. The findings are indicative only and this report should in no way be read as a guarantee as to future levels of surplus, curtailment and constraint.

For wind and solar generation, values of Total Dispatch Down that are less than 5% are rounded up to 5% by adjusting the constraints for that generator. This is consistent with the approach used in the ECP-2.1 and ECP-2.2 constraints reports. However, in the ECP-2.3 constraints report, this adjustment to constraints is applied only to non-priority generation and not to priority generation.

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<sup>2</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0943&from=NL>

<sup>3</sup> <https://www.semcommittee.com/publications/sem-22-009-decision-paper-dispatch-redispatch-and-compensation-pursuant-regulation-eu>

# 1 Results for Area J

## 1.1 Introduction

This section provides the surplus, curtailment and constraint results for Area J that are estimated by this analysis. There is a total of eight core ECP-2.3 studies and seven sensitivity studies (including without maintenance) presented in this report. The study scenarios and the associated assumptions can be found in the Assumptions and Methodology report. An overview and discussion of the results is provided in this Section. The surplus, curtailment and constraint results for each node in Area J are provided in Section 2 of this report.

## 1.2 Study Notes

A list of the major study assumptions is provided in the Assumptions and Methodology report. For Area J, there are a number of key assumptions which drive the results, including network outages and capacity factors. These are thus reiterated here. Similarly, it is worth highlighting again the differences between the various components of Total Dispatch Down.

### 1.2.1 Network Outages

The scenarios in this report are intended to give a view of average long-term levels of surplus, curtailment and constraint, subject to installed generation, demand, interconnection, operational constraints and reinforcement delivery.

The ECP-2.3 constraints forecast analysis applies a similar transmission outage schedule to the ECP-2.2 constraints analysis. This was kept consistent with last year's schedule following positive feedback from industry. This schedule allows a representation of outage impact in each geographical area to be included in the studies.

This representative transmission outage schedule is given in Appendix A of the Assumptions and Methodology report. However, at times, longer duration outages may be required for certain connections, reinforcement works or forced outages, these are not considered in this analysis and may result in higher wind and solar constraints.

### 1.2.2 Benefit of Capacity Factor

In practice, a specific windfarm may be located at a site with higher wind speeds or may have a better performing type of wind turbine; the result is a higher capacity factor than neighbouring windfarms. This report does not reflect this localised diversity between windfarm sites. In reality, a windfarm with a higher capacity factor may see lower percentage surplus, curtailment or constraint levels than an adjacent windfarm with a lower capacity factor. This is because at times of medium or low wind speed, the high-capacity factor windfarm can generate power when the low-capacity factor windfarm cannot.

### 1.2.3 Notes on Surplus, Curtailment and Constraint Modelling

#### 1.2.3.1 Surplus

During generation reduction for surplus, a distinction is made between the treatment of priority and non-priority renewable generators, with non-priority generators being dispatched down ahead of priority generators. Within these two categories of generation, surplus is applied pro-rata across the all-island system for all renewable generators in the category.

For any hour of the study, the surplus level will depend on system demand and interconnector flow capacity. In general, surplus is expected to increase with increasing installed renewable capacity.



It is expected that the further interconnection of the all-Ireland network with mainland UK and Europe will decrease the frequency of surplus conditions occurring.

In general, increased interconnector capacity with mainland UK through the EWIC & LirIC projects will not necessarily eliminate surplus generation as solar and wind profiles in mainland UK will largely be in line with those in Ireland. In the Future Grid study year however, when both the Celtic and 2<sup>nd</sup> Ireland-France interconnectors are connected, there will be a greater export capacity during times of abundant renewable generation to mainland Europe where similar wind and solar generation in Ireland and mainland Europe is not expected.

Therefore, dispatch down due to surplus generation is not expected to occur as frequently once both the Celtic and 2<sup>nd</sup> Ireland-France interconnectors are connected.

#### 1.2.3.2 Curtailment

In this report, for each hour of the study, the curtailment is shared pro-rata on a system-wide basis with no distinction made between priority and non-priority generators. This means that both curtailment reductions and curtailment increases are shared system wide.

Solar generation has different reported levels of curtailment compared to wind due to different capacity factors and annual profile shapes.

The applied curtailment is broadly constant across the system. However, due to differences in wind and solar profiles and capacity factors between areas, the percentage average curtailment differs between areas.

#### 1.2.3.3 Constraints

During the constraint of renewable generation, a distinction is made between priority and non-priority generators, with non-priority generators being dispatched down ahead of priority generators across the relevant transmission nodes within the subgroup. More details on the approach assumed in this study for the application of constraints on priority and non-priority renewable generation can be found in the main ECP 2.3 Assumptions and Methodology report.

In general, there is a tendency for renewable bulk power to flow towards the demand in Dublin and the interconnectors. These flow patterns are relevant when seeking to understand constraint apportionment in the simulation.

When presented as percentage values, the constraint results look different for solar and wind, as they have a low correlation due to different profile shapes driven by weather patterns.

## 1.3 Generation Overview

A detailed system-level overview of the renewable generation scenarios used in these studies is given in Section 2 of the Assumptions and Methodology report. The distribution of generation in each scenario based on technology, area and node is given in Appendix B of the Assumptions and Methodology report. The node-level installed wind and solar generation for Area J in the “ECP” scenario is given in Table 1-1.

Node	SO	Status	Solar	Wind
Athy	DSO	due to connect	5	
Belcamp 220 kV	TSO	due to connect		250
Belcamp 220 kV	TSO	due to connect		250
Blake	DSO	due to connect	15	
Blundelstown	TSO	due to connect	60	
Bracklone	TSO	due to connect	60	
Bracklyn	TSO	due to connect		65
Carrickmines 220 kV	TSO	due to connect		412
Carrickmines 220 kV	TSO	due to connect		412
Clonfad	TSO	due to connect	100	
Coolnabacky	TSO	due to connect	80	
Cushaling	TSO	connected		75
Derryiron	TSO	due to connect	67	
Derryiron	TSO	due to connect		110
Dunfirth	DSO	connected	14	
Dunfirth	DSO	due to connect	22	
Finglas	DSO	due to connect	11	
Finglas	TSO	due to connect	93	
Fosterstown	TSO	due to connect	79	
Gallanstown	TSO	due to connect	170	
Glasmore	DSO	due to connect	44	
Griffinrath	DSO	due to connect	66	
Harristown	TSO	due to connect	127	
Kilteel	DSO	due to connect	15	
Maynooth	TSO	due to connect	50	
Monread	DSO	due to connect	8	
Mount Lucas	TSO	due to connect		60
Mount Lucas	TSO	connected		79
Mulgeeth	TSO	due to connect		60
Newbridge	DSO	due to connect	12	
Philipstown	TSO	due to connect	50	
Philipstown	TSO	due to connect		50
Poolbeg North 220 kV	TSO	due to connect		400
Poolbeg South 220 kV	TSO	due to connect		450
Poolbeg South 220 kV	TSO	due to connect		450
Portlaoise	DSO	due to connect	12	
Portlaoise	DSO	due to connect		45
Portlaoise	DSO	connected		9
Thornsberry	DSO	due to connect	24	
Thornsberry	TSO	due to connect	90	
Thornsberry	DSO	due to connect		5
Timahoe North	TSO	due to connect	240	
<b>Total</b>			<b>1514</b>	<b>3182</b>

Table 1-1 Wind and Solar Generation Summary in Area J for Generation Scenario “ECP”

Table 1-2 and Table 1-3 show installed solar and wind generation for Ireland and Area J, and the available solar and wind generation for Area J for each generation scenario.

Solar	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
<b>Installed Ireland (MW)</b>	1563	3052	4542	6031	6031	6031
<b>Installed Area J (MW)</b>	450	804	1159	1513	1513	1513
<b>Installed Controllable Area J (MW)</b>	450	804	1159	1513	1513	1513
<b>Available Controllable Area J (GWh)</b>	578	1032	1487	1938	1938	1938

*Table 1-2 Installed MW and Available GWh for Area J - Solar*

Wind	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
<b>Installed Ireland (MW)</b>	5144	5734	6324	6913	9987	11913
<b>Installed Area J (MW)</b>	208	325	442	558	3182	3182
<b>Installed Controllable Area J (MW)</b>	208	325	442	558	3182	3182
<b>Available Controllable Area J (GWh)</b>	647	1009	1372	1722	12576	12576

*Table 1-3 Installed MW and Available GWh for Area J - Wind*

## 1.4 Network Overview

The transmission network in Area J and the surrounding areas is shown in Figure 1-1. The 400 kV circuits are shown in red, the 220 kV circuits in green and the 110 kV circuits in black. Possible future transmission stations and lines for the connection of new generation are also shown on the map below.



Figure 1-1 Network Map for Area J

Ireland's largest load centre the greater Dublin area is located in Area J. This includes the majority of Large Energy User (LEU) demand that has been assumed for the study. The EWIC interconnector is also located in Area J and tends to be exporting when renewable generation is high. In general, when renewable generation is high, power flows are predominantly towards Area J from the rest of the system to supply the demand and the EWIC flow.

Constraints in Area J can be caused both by local and wider system issues. Constraints in the model are optimised on a system-wide basis so, in theory, an increase in the installed generation in another area can increase constraints in Area J.

Area J has been split into two subgroups in this report; Area J City, G South subgroup and the Area J Country subgroup. Further detail on the Area J subgroups can be found in Section 1.6.4. Additional solar and wind generation coming into Area J Country is constrained by thermal limitations on the local 110 kV network in the midlands in the 2026 and 2028 studies. These constraints are reduced in the Future Grid scenario as a result of network reinforcements which are assumed in the area for this study, these reinforcements alleviate bottlenecks to reduce overall network constraints in Area J.

## 1.5 Future Grid Sensitivity Scenario

In line with the ECP-2.1 and ECP-2.2 studies, and in response to feedback from industry, the Future Grid scenario is included in the analysis. All reasonable efforts have been made to align the network assumptions in the Future Grid scenario to the Shaping Our Electricity Future (SOEF) 1.1 Roadmap. The network projects included in the study are given in Appendix A of the Assumptions and Methodology report found on the ECP-2.3 webpage. Additionally, any project that has progressed to stage three of the six stage project planning process after the publication of the SOEF 1.1 Roadmap are also included in the Future Grid studies. Note however, that the wind and solar generation portfolio in the ECP-2.3 Future Grid scenario differs from the wind and solar portfolio considered in the SOEF 1.1 Roadmap. This is done to maintain alignment with the ECP-2.3 process. The ECP study scenario includes all wind and solar projects which have applied through connection processes, whereas the SOEF 1.1 study includes generators up to and including ECP-2.3

applicants and then scaled renewable generation capacity to achieve the capacity volumes stated in the Climate Action Plan 23.

The Future Grid study includes a base renewable generation scenario (ECP), along with three sensitivity generation scenarios (ECP + 3.1 GW offshore, ECP + 5 GW offshore and a maintenance sensitivity study). The scenarios with additional offshore wind have been included to show the potential impact of increasing offshore wind on Total Dispatch Down levels.

The demand modelled for the Future Grid scenario is based on the medium demand scenario for 2030 as published in the All-Island Generation Capacity Statement 2023-2032.

The purpose of the Future Grid scenario is to provide insights on the potential impact of the SOEF 1.1 Roadmap network reinforcement portfolio on the dispatch down of wind and solar generators. This study is not intended to be exhaustive; it is not intended to remove all transmission constraints and it does not give individual generators guarantee that their Total Dispatch Down will change to the estimated levels.

## 1.6 Area J - Average Results

The Total Dispatch Down results for Area J are provided below in Table 1-5 to Table 1-9 and Figure 1-3 to Figure 1-7. These include the breakdown between surplus, curtailment and constraint. The Total Dispatch Down percentages are based on the total available energy. The Total Dispatch Down is the sum of surplus, curtailment and constraint. The node level breakdown of surplus, curtailment and constraint are given in Section 2. The results show that the system level Total Dispatch Down increases with additional installed capacity due to a significant increase in surplus. However, the Total Dispatch Down reduces when the 2028 studies are compared with 2026 and there is a further reduction in the Future Grid scenario owing to increased demand, network reinforcement, interconnection and relaxed system level operational limits.

For each generation type in Area J (solar non-priority, wind non-priority and wind priority), the total installed capacity in MW and total available generation in GWh are given in Table 1-5, Table 1-6, Table 1-7, Table 1-8 and Table 1-9. The total generation in GWh after dispatch down and the corresponding percentage Total Dispatch Down are also included in the tables for each scenario. Details on the generation and network scenarios are given in Section 2 of the Assumptions and Methodology report.

### 1.6.1 Offshore Wind Sensitivity Studies

Results for the offshore wind-based sensitivity studies are included, along with results for the core scenarios. The general trend is that with increasing levels of offshore wind, Total Dispatch Down increases due to significant increases in the available wind energy, which in turn leads to increased levels of surplus.

### 1.6.2 Impact of Article 12 and 13

Higher Total Dispatch Down is observed for non-priority generators due to the impact of the implementation of Article 12 and 13 in the studies, which results in non-priority generators being reduced ahead of priority generators for surplus and constraint reasons. More detail on the Article 12 clause is available in Section 3.6 of the Assumptions and Methodology report.

Another factor that contributes to the higher total dispatch down for non-priority wind and solar units is the proportion of priority to non-priority units within a subgroup. If a subgroup has a high volume of priority wind/solar units to non-priority wind/solar units, this can result in the constraints that would usually be allocated to the priority units only allocated to the non-priority units (due to the grandfathering of constraints). This can result in high constraints for non-priority units within a subgroup.

### 1.6.3 Future Grid Sensitivity Study

The results of the Future Grid scenario show a notable reduction in Total Dispatch Down over the core study years (2026 and 2028) due to the impact of the SOEF 1.1 Roadmap network reinforcements, increased demand levels, increased interconnection, and the relaxation of operational constraints. However, increases

in installed wind and solar generation, as seen in the offshore wind scenarios, result in rising surplus levels, causing an increase in Total Dispatch Down levels. A detailed breakdown of the Total Dispatch Down components for Area J under the Future Grid scenarios and associated sensitivity case is given in Table 1-5 to Table 1-9. Further node level details can be viewed in Section 2.

#### 1.6.4 Area Subgroups

The constraint forecast study, which is performed using PLEXOS software, applies mathematical optimisation to find the lowest cost generator dispatch schedule to meet demand, subject to a number of system and transmission level constraints. To ensure the model is impartial, the assumptions on the cost of renewable generators remain the same, irrespective of technology or location, and are always lower than that of conventional plants. This ensures renewable generators are given priority in the PLEXOS optimisation. However, due to network congestion caused by line limits and N-1 contingency security checks, the power flows in certain lines are limited, causing dispatch down in RES generators which may affect one generator or multiple generators chosen by PLEXOS' internal logic. During various initial studies, it was observed that PLEXOS may repeatedly choose the same generator(s) to dispatch down to manage an issue in a region shared by multiple generators.

There is often a post-processing step between the PLEXOS simulation and this report to ensure an appropriate allocation of constraints among generators sharing the bottlenecks. This is done by creating constraint subgroups within an area or spanning multiple different areas. The subgroups are selected based on an assessment of the raw PLEXOS results and based on our experience of dispatch down on the real system. The subgroups are chosen to group those generators into a constraint group that are expected to experience similar constraint levels. The subgroups are selected on the basis that they share a common transmission bottleneck, or they are electrically close to a congested area within the network.

Area J includes the major Dublin load centres. The power in the meshed 110 kV circuits in the midland (J-Country) subgroup flows to the East, towards the 220 kV stations which feed the load centres (Figure 1-1). With increasing generation in the 110 kV network in the midlands, the power flow increases, which causes bottlenecks in the circuits that have lower ratings. A loss of a circuit in the midlands area creates overloading in other circuits and therefore results in RES generation being dispatched down.

It was observed that the PLEXOS internal logic was constantly choosing the same set of generators to dispatch down with respect to multiple contingencies in the area, thus identifying a need to share the constraints. The contingencies and overloaded lines associated with the area are included in Appendix C of the Assumptions and Methodology report. Additionally, the loss of a 220 kV and 400 kV circuit exerts additional stress on the 110 kV circuits in the region.

The J City, G South subgroup is located in the east of Dublin. Future offshore wind connects into this area and is included in this constraint subgroup. The J City, G South subgroup mostly consists of circuits with 220 kV cables and is connected to the J Country subgroup through 110 kV and 220 kV stations. The J City, G South subgroup also consists of G South region generators, as they feed directly to the 220 kV stations in the North of Dublin.

Analysis of Area J identified two constraint subgroups for solar and wind generation: Area J City, G South subgroup and Area J Country subgroup. The subgroup nodes are given in Table 1-4 . The constraints are shared on a pro-rata basis amongst the non-priority generators in the subgroup ahead of priority generators. The individual node level dispatch down is given in Section 2.

Subgroup	Nodes
J City, G South	Belcamp 220kV
	Carrickmines 220kV
	Finglas
	Gallanstown
	Glasmore
	Griffinrath
	Poolbeg north 220kV
	Poolbeg south 220kV
J Country	Athy
	Blake
	Blundelstown
	Bracklone
	Bracklyn
	Clonfad
	Coolnabacky
	Cushaling
	Derryiron
	Dunfirth
	Fosterstown
	Harristown
	Kilteel
	Maynooth
	Monread
	Mount Lucas
	Mulgeeth
	Newbridge
	Philipstown
	Portlaoise
Thornsberry	
Timahoe North	

*Table 1-4 Area J generator nodes and their subgroups*

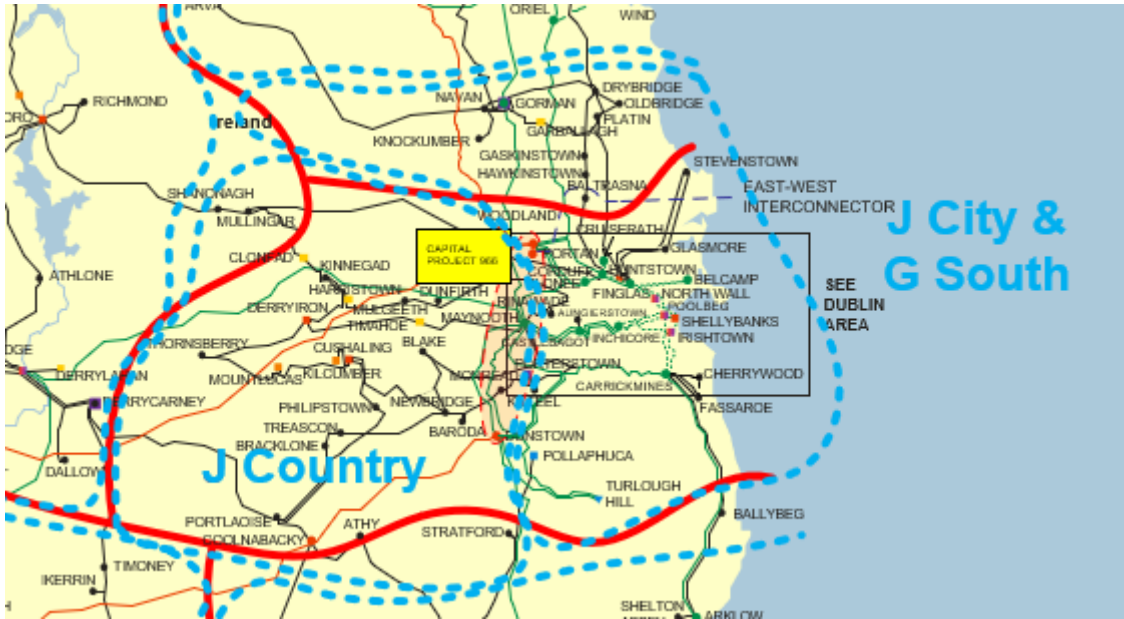


Figure 1-2 Subgroups J City & G South and J Country (subgroups outlined by blue dashed line)



The solar non-priority data is given in the following table.

Area J (J Country)	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	251	544	837	1129		
Installed Capacity (MW)	2028	251	544	837	1129	1129	
Installed Capacity (MW)	2030				1129	1129	1129
Available Energy (GWh)	2026	321	697	1072	1447		
Available Energy (GWh)	2028	322	698	1073	1449	1449	
Available Energy (GWh)	2030				1447	1447	1447
Generation (GWh)	2026	298	550	703	787		
Generation (GWh)	2028	302	560	723	819	835	
Generation (GWh)	2030				1024	1043	1015
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 1-5 Surplus, Curtailment and Constraint for Solar Non-Priority in Area J (J Country)

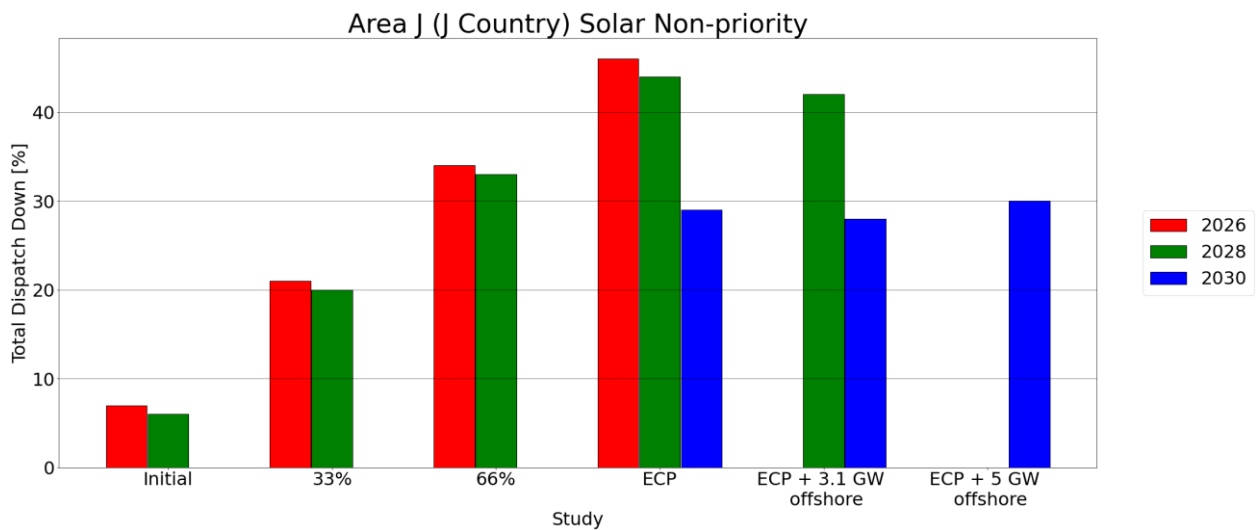


Figure 1-3 Results Solar Non-Priority Area J (J Country)

The wind non-priority data is given in the following table.

Area J (J Country)	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	120	237	353	470		
Installed Capacity (MW)	2028	120	237	353	470	470	
Installed Capacity (MW)	2030				470	470	470
Available Energy (GWh)	2026	370	730	1090	1449		
Available Energy (GWh)	2028	373	735	1097	1459	1459	
Available Energy (GWh)	2030				1449	1449	1449
Generation (GWh)	2026	160	422	574	634		
Generation (GWh)	2028	180	468	639	692	813	
Generation (GWh)	2030				950	1113	1006
Surplus (%)	2026	2 %	5 %	10 %	15 %		
Surplus (%)	2028	<1 %	1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026	2 %	3 %	4 %	5 %		
Curtailement (%)	2028	<1 %	1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026	53 %	34 %	33 %	36 %		
Constraint (%)	2028	51 %	34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026	57 %	42 %	47 %	56 %		
Total Dispatch Down (%)	2028	52 %	36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 1-6 Surplus, Curtailment and Constraint for Wind Non-Priority in Area J (J Country)

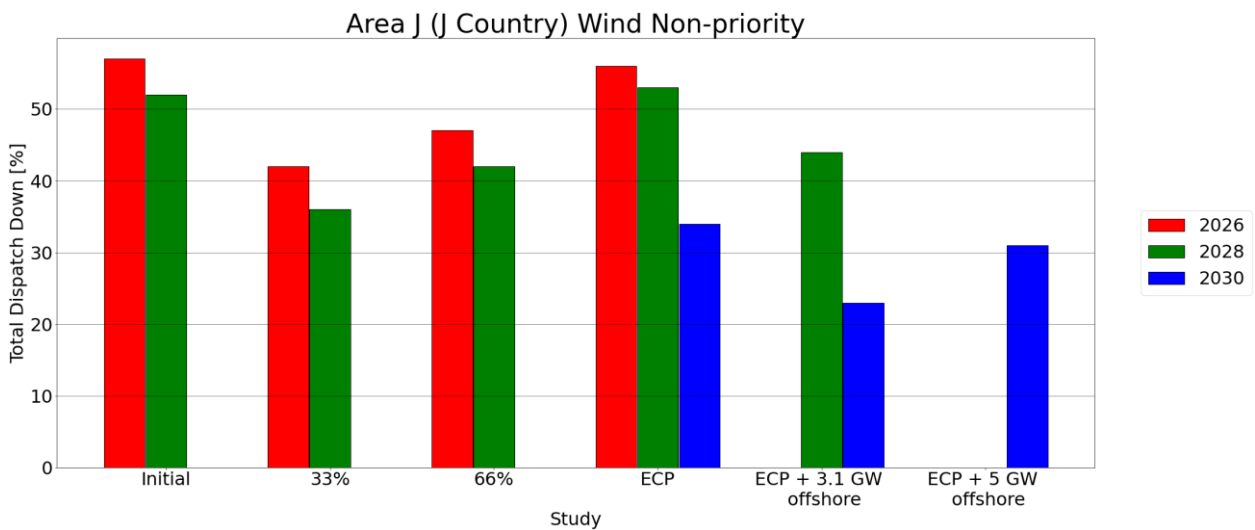


Figure 1-4 Results Wind Non-Priority in Area J (J Country)

The wind priority data is given in the following table.

Area J (J Country)	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	88	88	88	88		
Installed Capacity (MW)	2028	88	88	88	88	88	
Installed Capacity (MW)	2030				88	88	88
Available Energy (GWh)	2026	273	273	273	273		
Available Energy (GWh)	2028	274	274	274	274	274	
Available Energy (GWh)	2030				273	273	273
Generation (GWh)	2026	266	262	257	253		
Generation (GWh)	2028	274	271	268	264	254	
Generation (GWh)	2030				271	257	263
Surplus (%)	2026	<1 %	<1 %	<1 %	<1 %		
Surplus (%)	2028	<1 %	<1 %	<1 %	<1 %	<1 %	
Surplus (%)	2030				<1 %	<1 %	<1 %
Curtailement (%)	2026	2 %	4 %	6 %	7 %		
Curtailement (%)	2028	<1 %	1 %	2 %	4 %	8 %	
Curtailement (%)	2030				1 %	6 %	4 %
Constraint (%)	2026	<1 %	<1 %	<1 %	<1 %		
Constraint (%)	2028	<1 %	<1 %	<1 %	<1 %	<1 %	
Constraint (%)	2030				<1 %	<1 %	<1 %
Total Dispatch Down (%)	2026	2 %	4 %	6 %	7 %		
Total Dispatch Down (%)	2028	<1 %	1 %	2 %	4 %	8 %	
Total Dispatch Down (%)	2030				1 %	6 %	4 %

Table 1-7 Surplus, Curtailment and Constraint for Wind Priority in Area J (J Country)

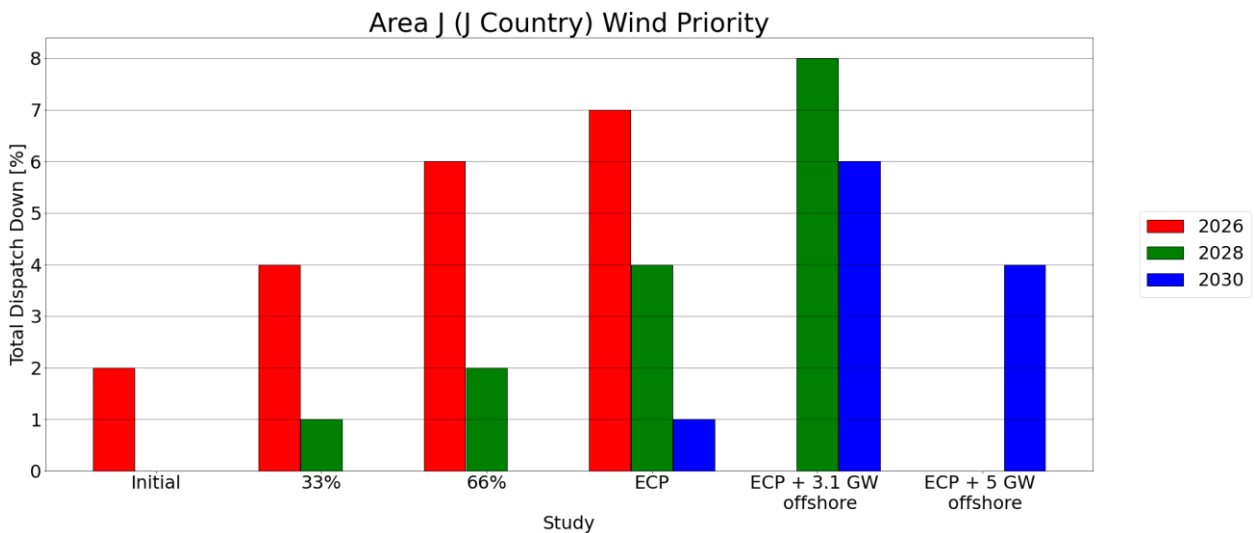


Figure 1-5 Results Wind Priority Area J (J Country)

The solar non-priority data is given in the following table.

Area J (J City, G South)	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	199	261	322	383		
Installed Capacity (MW)	2028	199	261	322	383	383	
Installed Capacity (MW)	2030				383	383	383
Available Energy (GWh)	2026	256	334	413	491		
Available Energy (GWh)	2028	256	335	413	492	492	
Available Energy (GWh)	2030				491	491	491
Generation (GWh)	2026	243	316	375	419		
Generation (GWh)	2028	243	318	391	447	417	
Generation (GWh)	2030				439	442	420
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	4 %	2 %	2 %	2 %		
Constraint (%)	2028	5 %	4 %	2 %	2 %	1 %	
Constraint (%)	2030				8 %	3 %	3 %
Total Dispatch Down (%)	2026	5 %	5 %	9 %	15 %		
Total Dispatch Down (%)	2028	5 %	5 %	5 %	9 %	15 %	
Total Dispatch Down (%)	2030				11 %	10 %	14 %

Table 1-8 - Surplus, Curtailment and Constraint for Solar Non-priority in Area J (J City, G South)

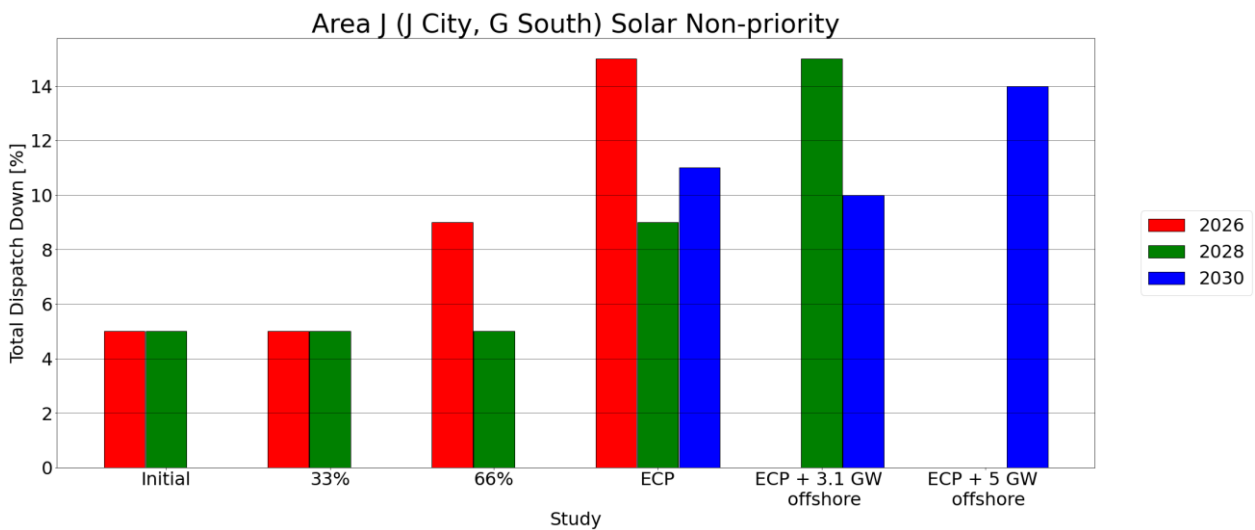


Figure 1-6- Results Solar Non-priority Area J (J City, G South)

The wind non-priority data is given in the following table.

Area J (J City, G South)	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026						
Installed Capacity (MW)	2028					2624	
Installed Capacity (MW)	2030					2624	2624
Available Energy (GWh)	2026						
Available Energy (GWh)	2028					10912	
Available Energy (GWh)	2030					10854	10854
Generation (GWh)	2026						
Generation (GWh)	2028					7675	
Generation (GWh)	2030					9605	8303
Surplus (%)	2026						
Surplus (%)	2028					19 %	
Surplus (%)	2030					9 %	19 %
Curtailement (%)	2026						
Curtailement (%)	2028					4 %	
Curtailement (%)	2030					2 %	2 %
Constraint (%)	2026						
Constraint (%)	2028					6 %	
Constraint (%)	2030					1 %	2 %
Total Dispatch Down (%)	2026						
Total Dispatch Down (%)	2028					30 %	
Total Dispatch Down (%)	2030					12 %	23 %

Table 1-9 - Surplus, Curtailement and Constraint for Wind Non-priority in Area J (J City, G South)

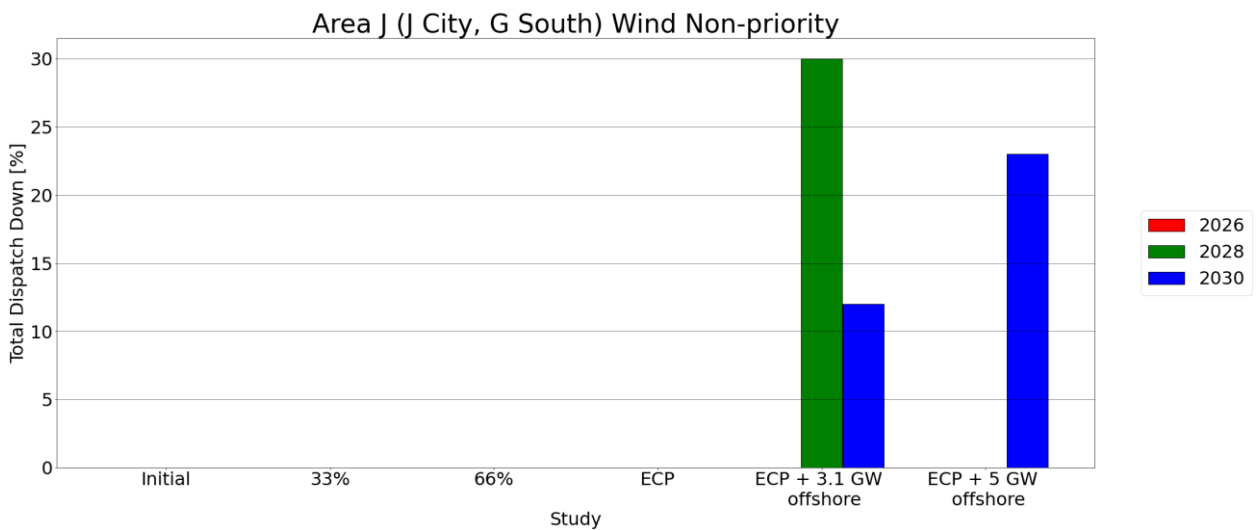


Figure 1-7- Results Wind Non-priority Area J (J City, G South)

## 1.7 Conclusion - Results for Area J

This section provides an overview of the estimated surplus, curtailment and constraint values for Area J for a range of scenarios based on a number of installed generation assumptions (generation scenarios) and the study year (network and demand assumptions). The results highly depend on the study assumptions, which are described in the Assumptions and Methodology report.

Section 2 contains the detailed results consisting of available energy (GWh) and percentage surplus, curtailment, and constraint values for each node for both solar and wind in Area J.

## 2 Area J Node Results

This section presents the results of the modelling analysis for Area J. The levels of surplus, curtailment and constraint that controllable solar and wind generators in Area J might expect to experience are reported on a nodal basis for the study scenarios. Details on the generation capacity at each node are also provided along with the assumed amount of controllable generation.

This section also presents a list of the generators at each node that are included in the study.



Figure 2-0 Area J

## 2.1 Athy



Figure 2-1 - Location of node Athy

Generator	SO	Capacity	Type	Status
<b>Woodstock North Solar Farm</b>	DSO	4.99	solar non-priority	due to connect

Table 2-1 - Generation Included in Study for Node Athy



The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		2	3	5		
Installed Capacity (MW)	2028		2	3	5	5	
Installed Capacity (MW)	2030				5	5	5
Available Energy (GWh)	2026		2	4	6		
Available Energy (GWh)	2028		2	4	6	6	
Available Energy (GWh)	2030				6	6	6
Generation (GWh)	2026		2	3	3		
Generation (GWh)	2028		2	3	4	4	
Generation (GWh)	2030				5	5	4
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-2 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

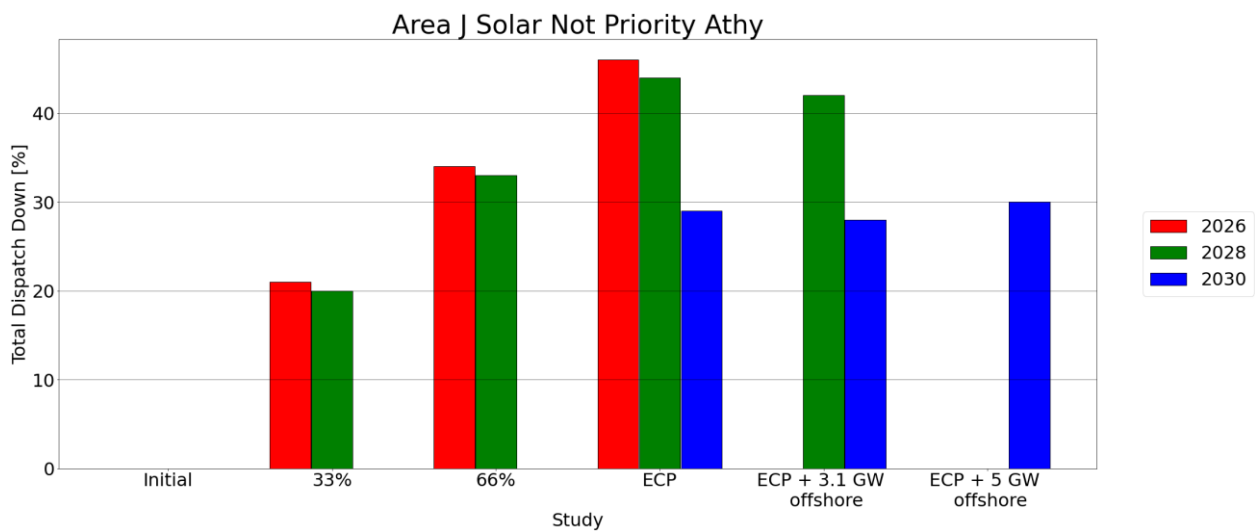


Figure 2-2 - Total Dispatch Down for Solar non-priority for Node Athy

## 2.2 Belcamp 220 kV



Figure 2-3 - Location of node Belcamp 220 kV

Generator	SO	Capacity	Type	Status
North Irish Sea Array A	TSO	250.0	wind non-priority	due to connect
North Irish Sea Array B	TSO	250.0	wind non-priority	due to connect

Table 2-3 - Generation Included in Study for Node Belcamp 220 kV

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026						
Installed Capacity (MW)	2028					500	
Installed Capacity (MW)	2030					500	500
Available Energy (GWh)	2026						
Available Energy (GWh)	2028					2106	
Available Energy (GWh)	2030					2095	2095
Generation (GWh)	2026						
Generation (GWh)	2028					1484	
Generation (GWh)	2030					1855	1606
Surplus (%)	2026						
Surplus (%)	2028					19 %	
Surplus (%)	2030					9 %	19 %
Curtailement (%)	2026						
Curtailement (%)	2028					4 %	
Curtailement (%)	2030					2 %	2 %
Constraint (%)	2026						
Constraint (%)	2028					6 %	
Constraint (%)	2030					1 %	2 %
Total Dispatch Down (%)	2026						
Total Dispatch Down (%)	2028					30 %	
Total Dispatch Down (%)	2030					11 %	23 %

Table 2-4 - Surplus, Curtailement and Constraint for Wind non-priority in Area J

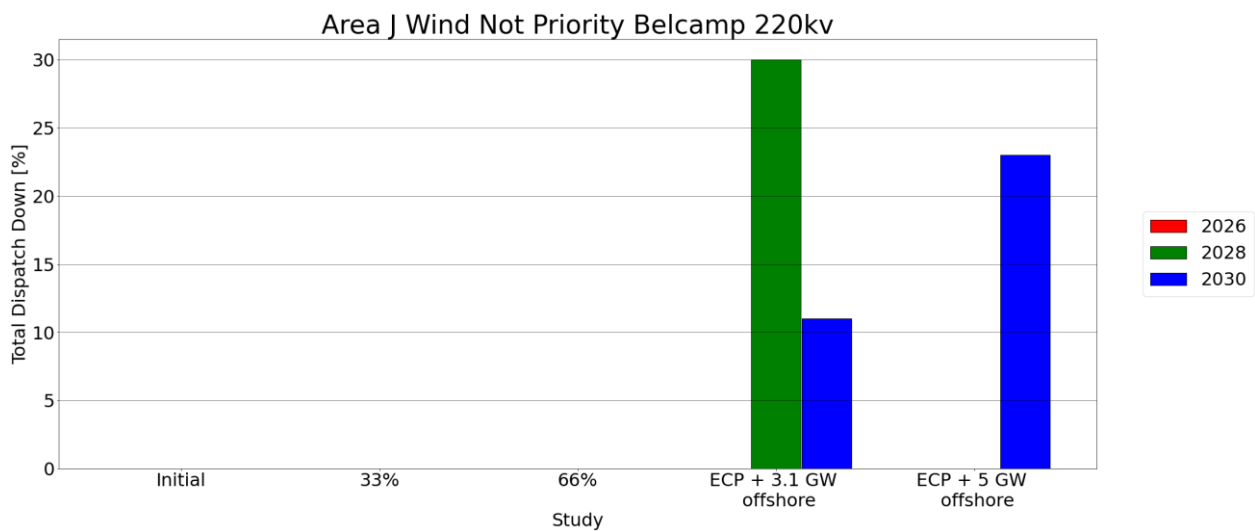


Figure 2-4 - Total Dispatch Down for Wind non-priority for Node Belcamp 220 kv

## 2.3 Blake

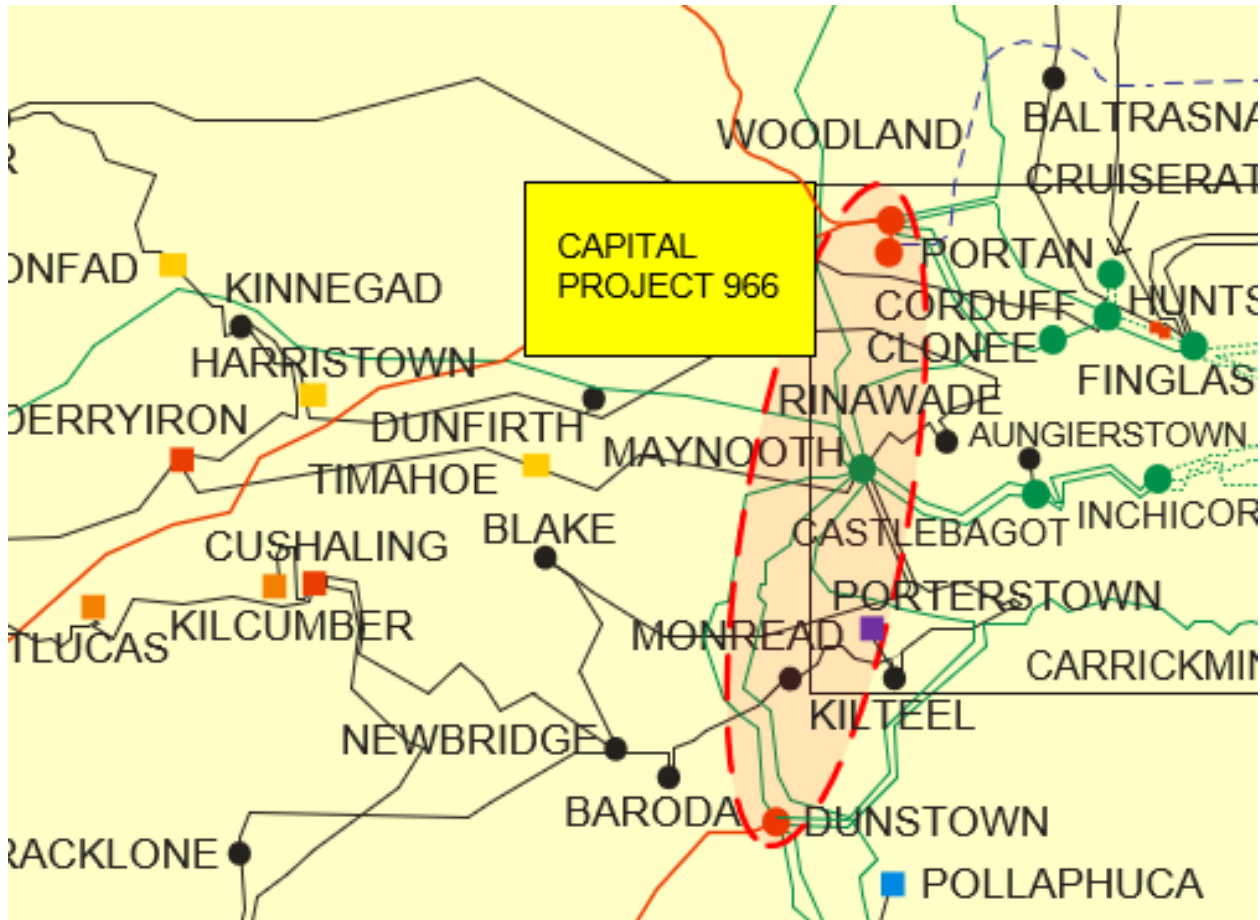


Figure 2-5 - Location of node Blake

Generator	SO	Capacity	Type	Status
Coolcarrigan Solar	DSO	15.0	solar non-priority	due to connect

Table 2-5 - Generation Included in Study for Node Blake

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		5	10	15		
Installed Capacity (MW)	2028		5	10	15	15	
Installed Capacity (MW)	2030				15	15	15
Available Energy (GWh)	2026		6	13	19		
Available Energy (GWh)	2028		6	13	19	19	
Available Energy (GWh)	2030				19	19	19
Generation (GWh)	2026		5	8	10		
Generation (GWh)	2028		5	9	11	11	
Generation (GWh)	2030				14	14	13
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-6 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

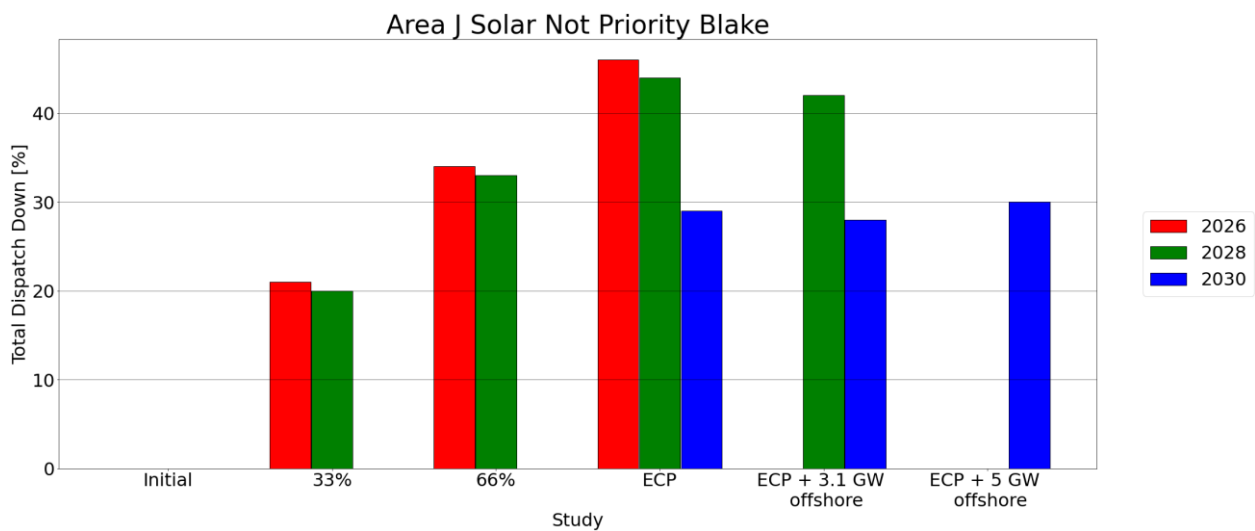


Figure 2-6 - Total Dispatch Down for Solar non-priority for Node Blake

## 2.4 Blundelstown

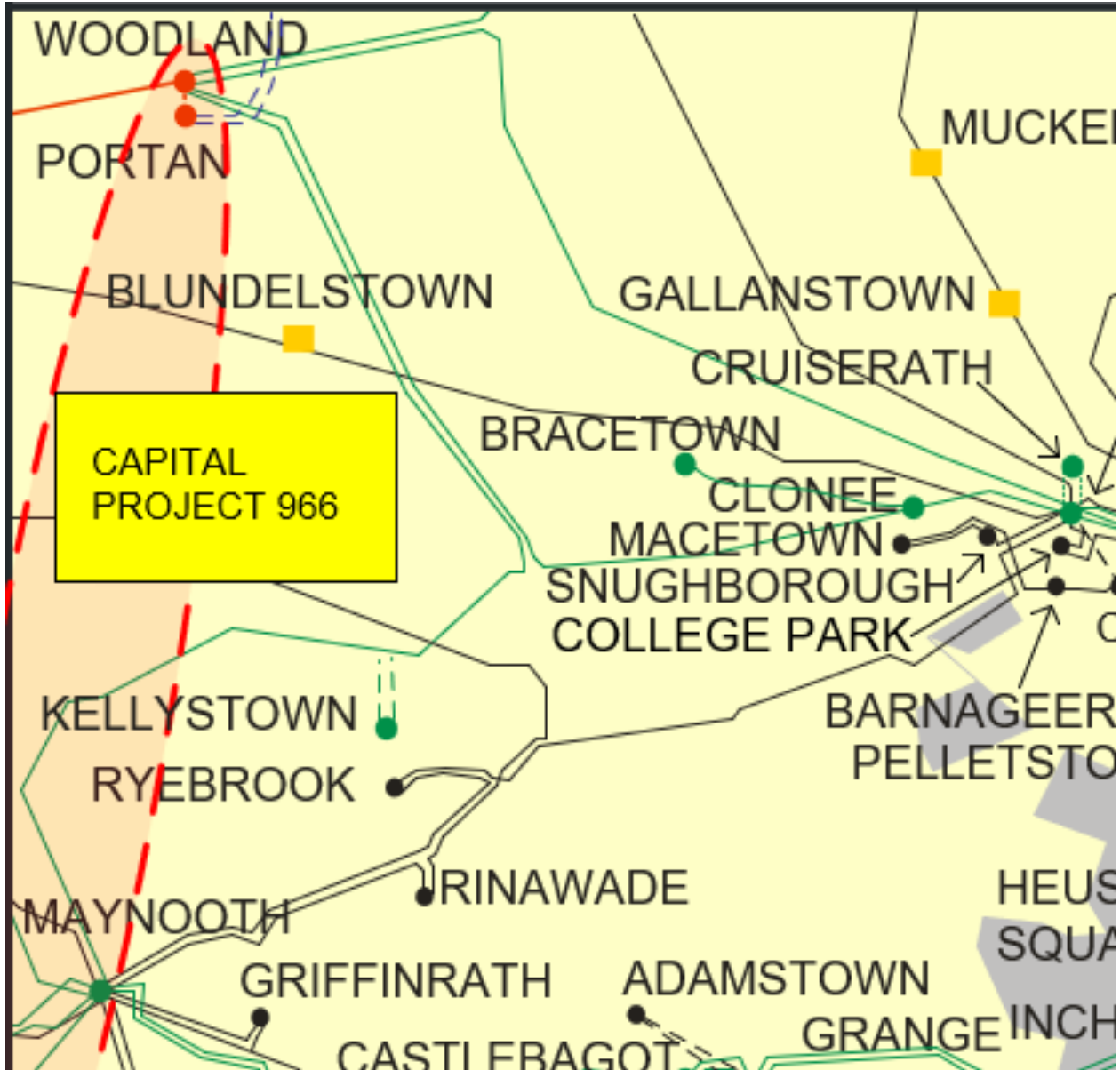


Figure 2-7 - Location of node Blundelstown

Generator	SO	Capacity	Type	Status
<b>Blundelstown</b>	TSO	60.0	solar non-priority	due to connect

Table 2-7 - Generation Included in Study for Node Blundelstown

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	60	60	60	60		
Installed Capacity (MW)	2028	60	60	60	60	60	
Installed Capacity (MW)	2030				60	60	60
Available Energy (GWh)	2026	77	77	77	77		
Available Energy (GWh)	2028	77	77	77	77	77	
Available Energy (GWh)	2030				77	77	77
Generation (GWh)	2026	71	61	50	42		
Generation (GWh)	2028	72	62	52	43	44	
Generation (GWh)	2030				54	55	54
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-8 - Surplus, Curtailement and Constraint for Solar non-priority in Area J

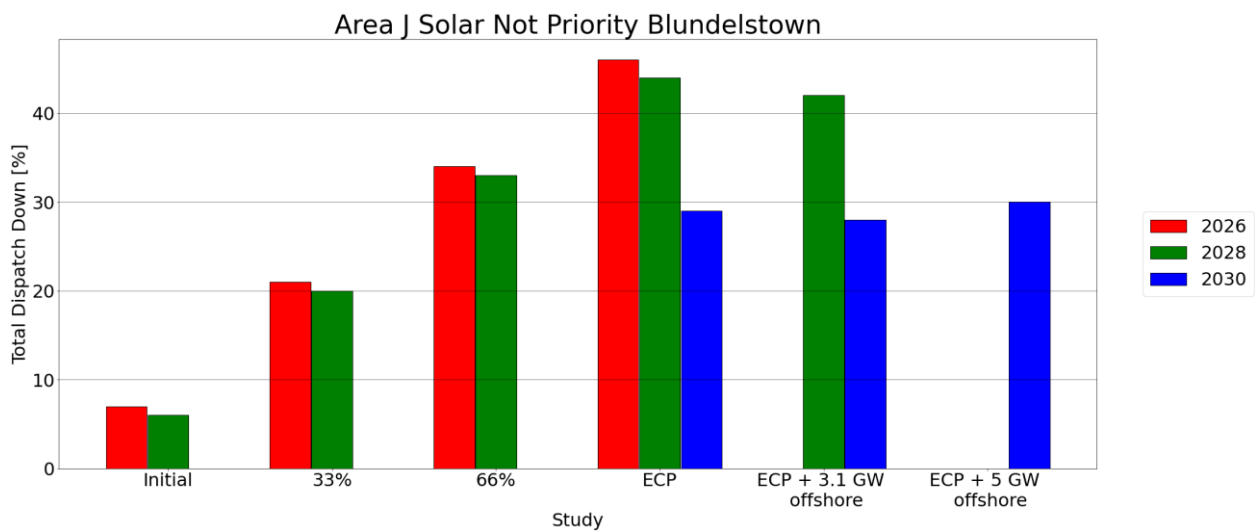


Figure 2-8 - Total Dispatch Down for Solar non-priority for Node Blundelstown

## 2.5 Bracklone

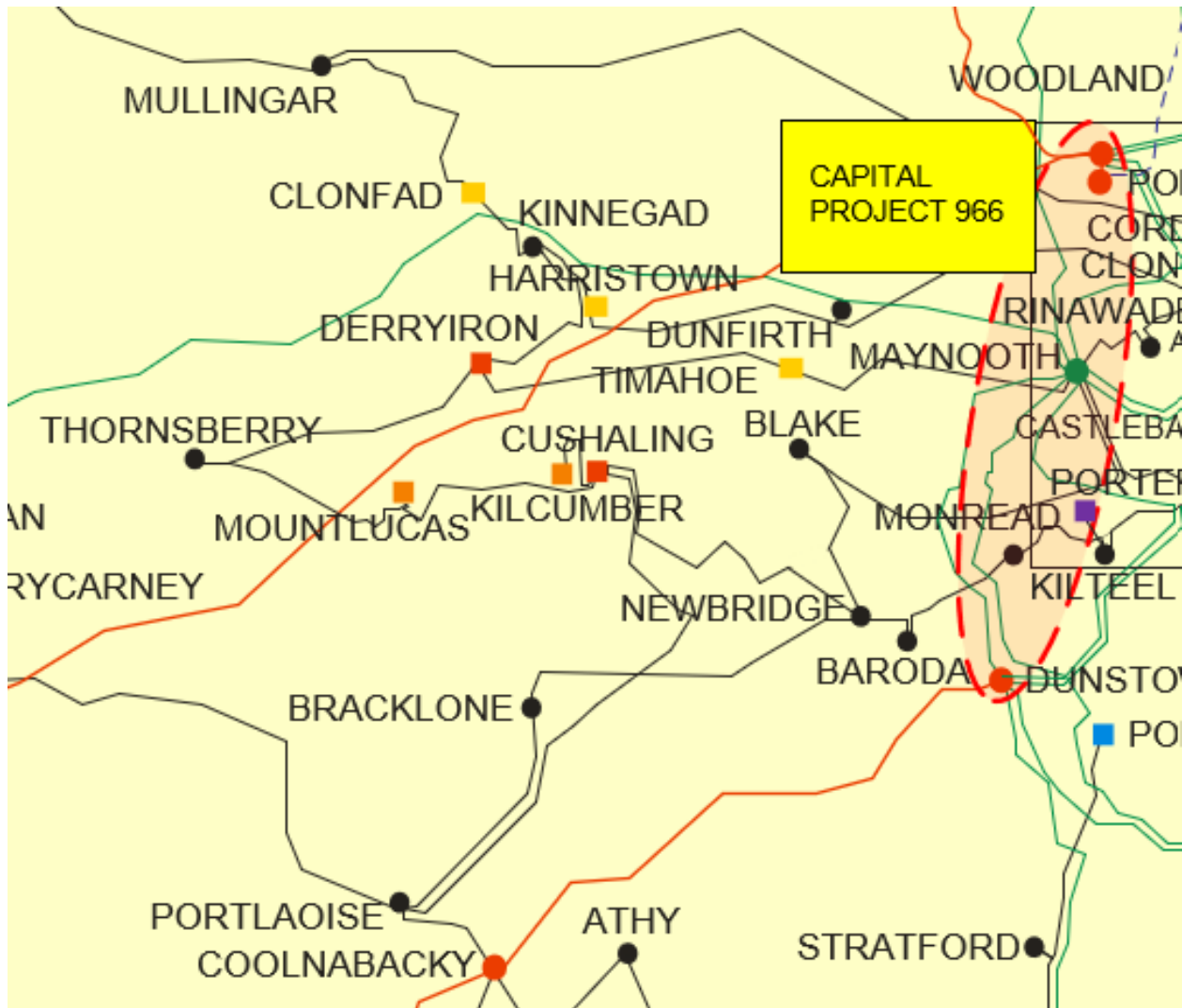


Figure 2-9 - Location of node Bracklone

Generator	SO	Capacity	Type	Status
Treascon Solar Farm	TSO	60.0	solar non-priority	due to connect

Table 2-9 - Generation Included in Study for Node Bracklone



The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		20	40	60		
Installed Capacity (MW)	2028		20	40	60	60	
Installed Capacity (MW)	2030				60	60	60
Available Energy (GWh)	2026		26	51	77		
Available Energy (GWh)	2028		26	51	77	77	
Available Energy (GWh)	2030				77	77	77
Generation (GWh)	2026		20	34	42		
Generation (GWh)	2028		21	35	43	44	
Generation (GWh)	2030				54	55	54
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-10 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

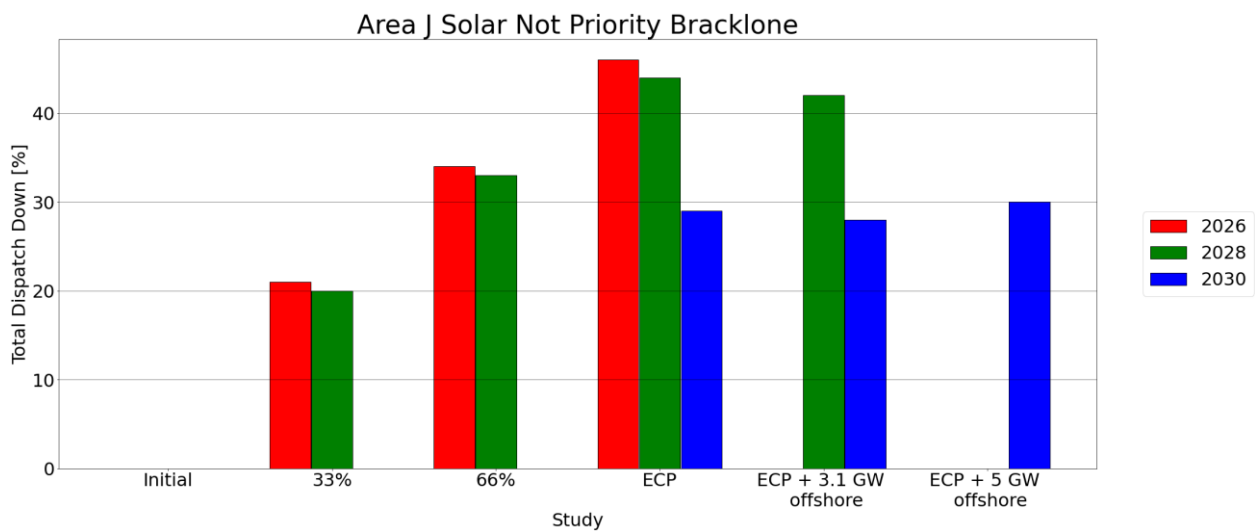


Figure 2-10 - Total Dispatch Down for Solar non-priority for Node Bracklone

## 2.6 Bracklyn

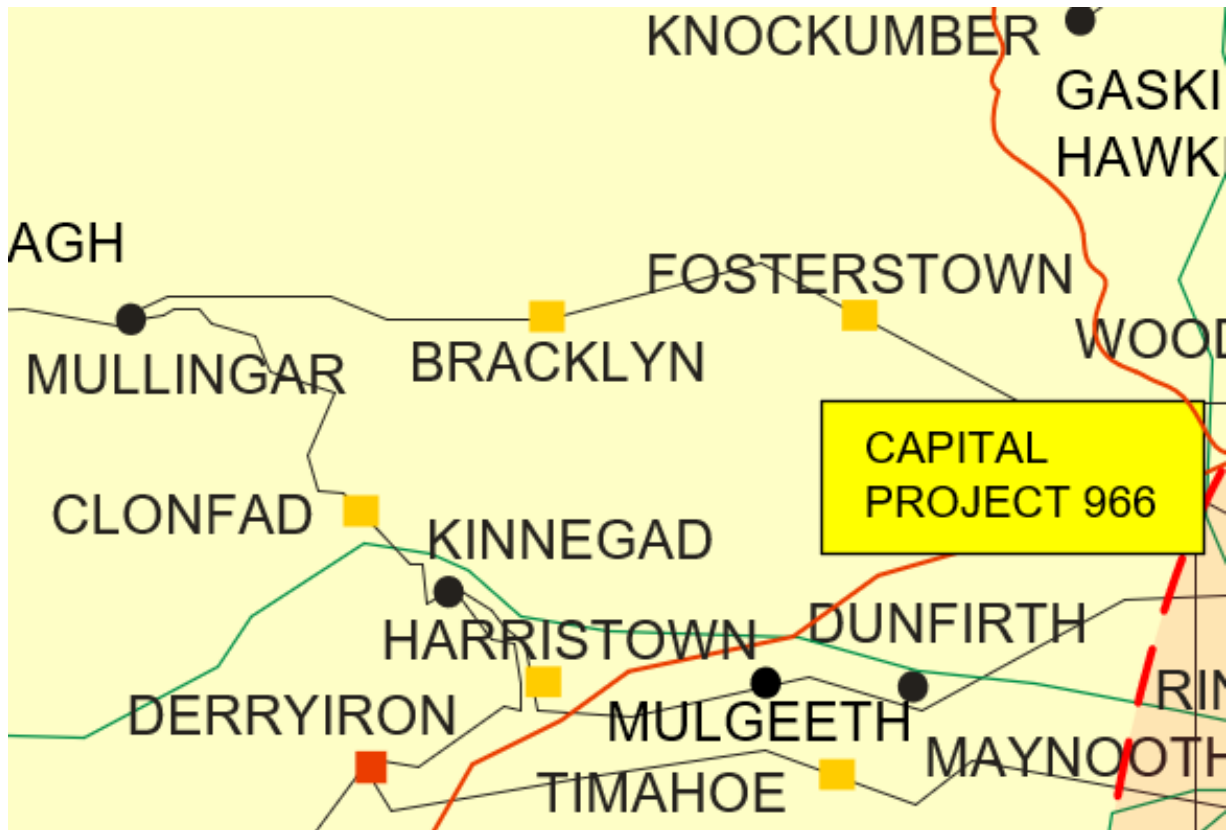


Figure 2-11 - Location of node Bracklyn (this location is indicative and may be subject to change due to planning)

Generator	SO	Capacity	Type	Status
<b>Bracklyn Wind Farm (Wind)</b>	TSO	64.8	wind non-priority	due to connect

Table 2-11 - Generation Included in Study for Node Bracklyn

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		22	43	65		
Installed Capacity (MW)	2028		22	43	65	65	
Installed Capacity (MW)	2030				65	65	65
Available Energy (GWh)	2026		67	133	200		
Available Energy (GWh)	2028		67	134	201	201	
Available Energy (GWh)	2030				200	200	200
Generation (GWh)	2026		39	70	87		
Generation (GWh)	2028		43	78	95	112	
Generation (GWh)	2030				131	153	139
Surplus (%)	2026		5 %	10 %	15 %		
Surplus (%)	2028		1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026		3 %	4 %	5 %		
Curtailement (%)	2028		1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026		34 %	33 %	36 %		
Constraint (%)	2028		34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026		42 %	47 %	56 %		
Total Dispatch Down (%)	2028		36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 2-12 - Surplus, Curtailment and Constraint for Wind non-priority in Area J

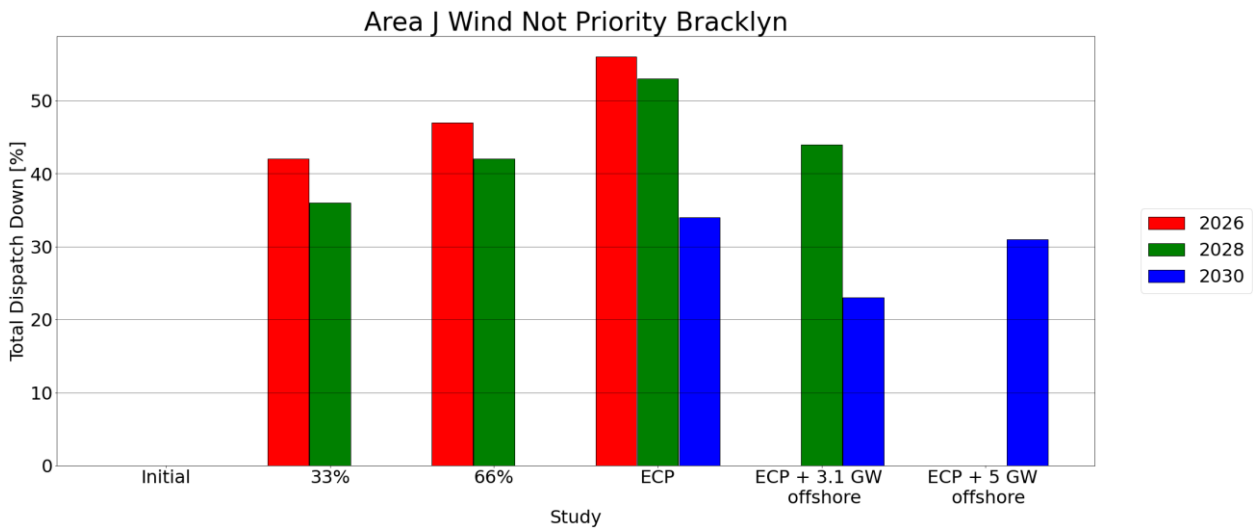


Figure 2-12 - Total Dispatch Down for Wind non-priority for Node Bracklyn

## 2.7 Carrickmines 220 kV

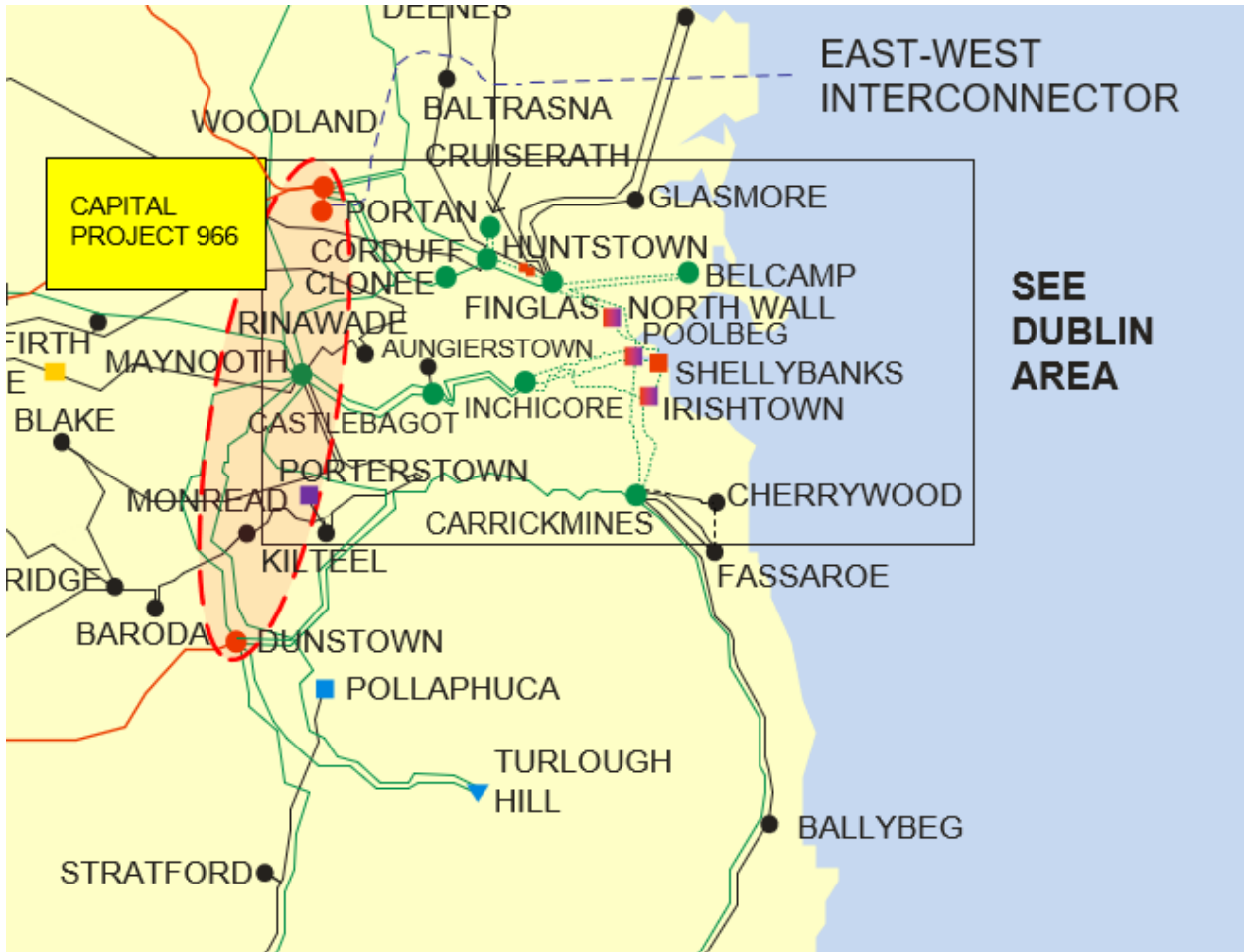


Figure 2-13 - Location of node Carrickmines 220 kV

Generator	SO	Capacity	Type	Status
Kish Bank (Dublin Array)	TSO	412.0	wind non-priority	due to connect
Bray Bank (Dublin Array)	TSO	412.0	wind non-priority	due to connect

Table 2-13 - Generation Included in Study for Node Carrickmines 220 kV

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026						
Installed Capacity (MW)	2028					824	
Installed Capacity (MW)	2030					824	824
Available Energy (GWh)	2026						
Available Energy (GWh)	2028					3331	
Available Energy (GWh)	2030					3313	3313
Generation (GWh)	2026						
Generation (GWh)	2028					2332	
Generation (GWh)	2030					2926	2522
Surplus (%)	2026						
Surplus (%)	2028					19 %	
Surplus (%)	2030					9 %	20 %
Curtailement (%)	2026						
Curtailement (%)	2028					4 %	
Curtailement (%)	2030					2 %	2 %
Constraint (%)	2026						
Constraint (%)	2028					6 %	
Constraint (%)	2030					1 %	2 %
Total Dispatch Down (%)	2026						
Total Dispatch Down (%)	2028					30 %	
Total Dispatch Down (%)	2030					12 %	24 %

Table 2-14 - Surplus, Curtailement and Constraint for Wind non-priority in Area J

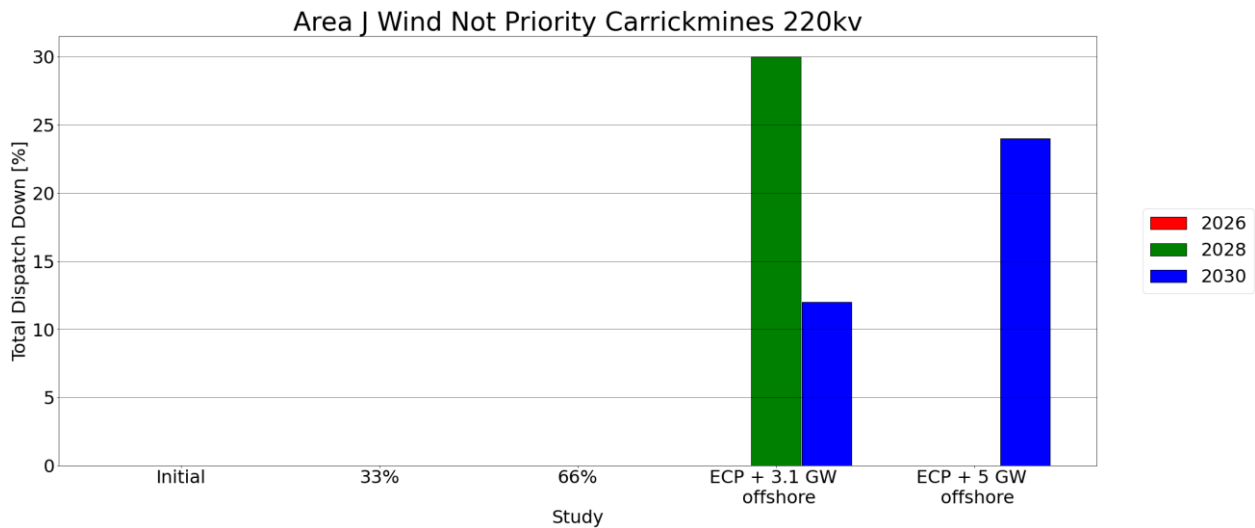


Figure 2-14 - Total Dispatch Down for Wind non-priority for Node Carrickmines 220 kv

## 2.8 Clonfad

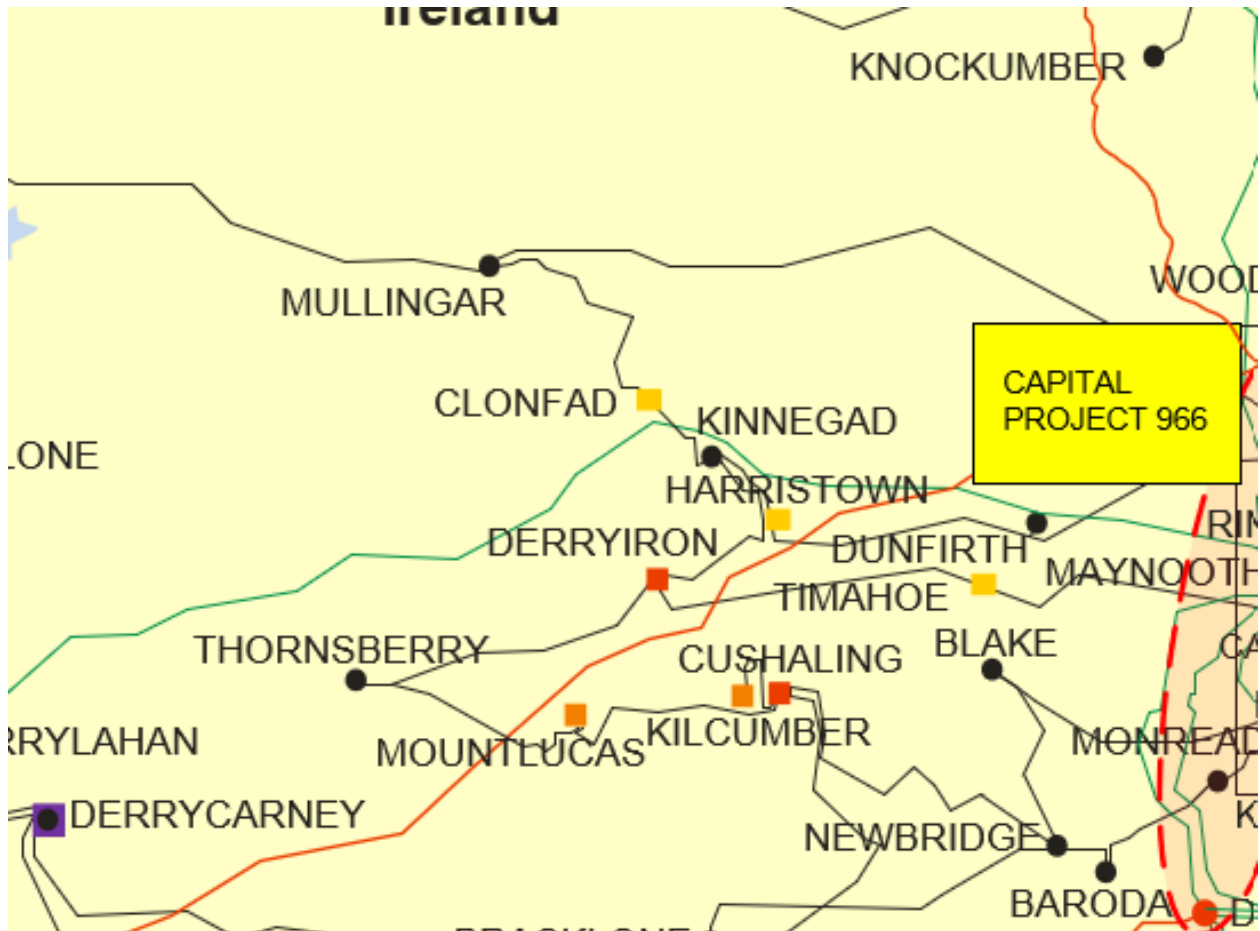


Figure 2-15 - Location of node Clonfad

Generator	SO	Capacity	Type	Status
Clonfad Solar	TSO	100.0	solar non-priority	due to connect

Table 2-15 - Generation Included in Study for Node Clonfad

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		33	67	100		
Installed Capacity (MW)	2028		33	67	100	100	
Installed Capacity (MW)	2030				100	100	100
Available Energy (GWh)	2026		43	85	128		
Available Energy (GWh)	2028		43	86	128	128	
Available Energy (GWh)	2030				128	128	128
Generation (GWh)	2026		34	56	70		
Generation (GWh)	2028		34	58	72	74	
Generation (GWh)	2030				91	92	90
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-16 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

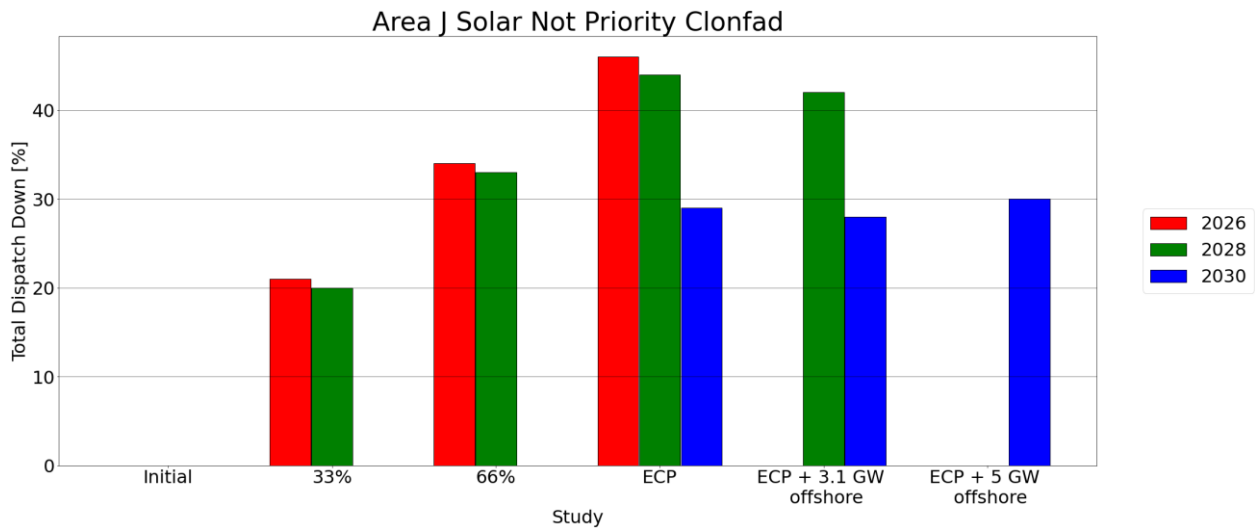


Figure 2-16 - Total Dispatch Down for Solar non-priority for Node Clonfad

## 2.9 Coolnabacky

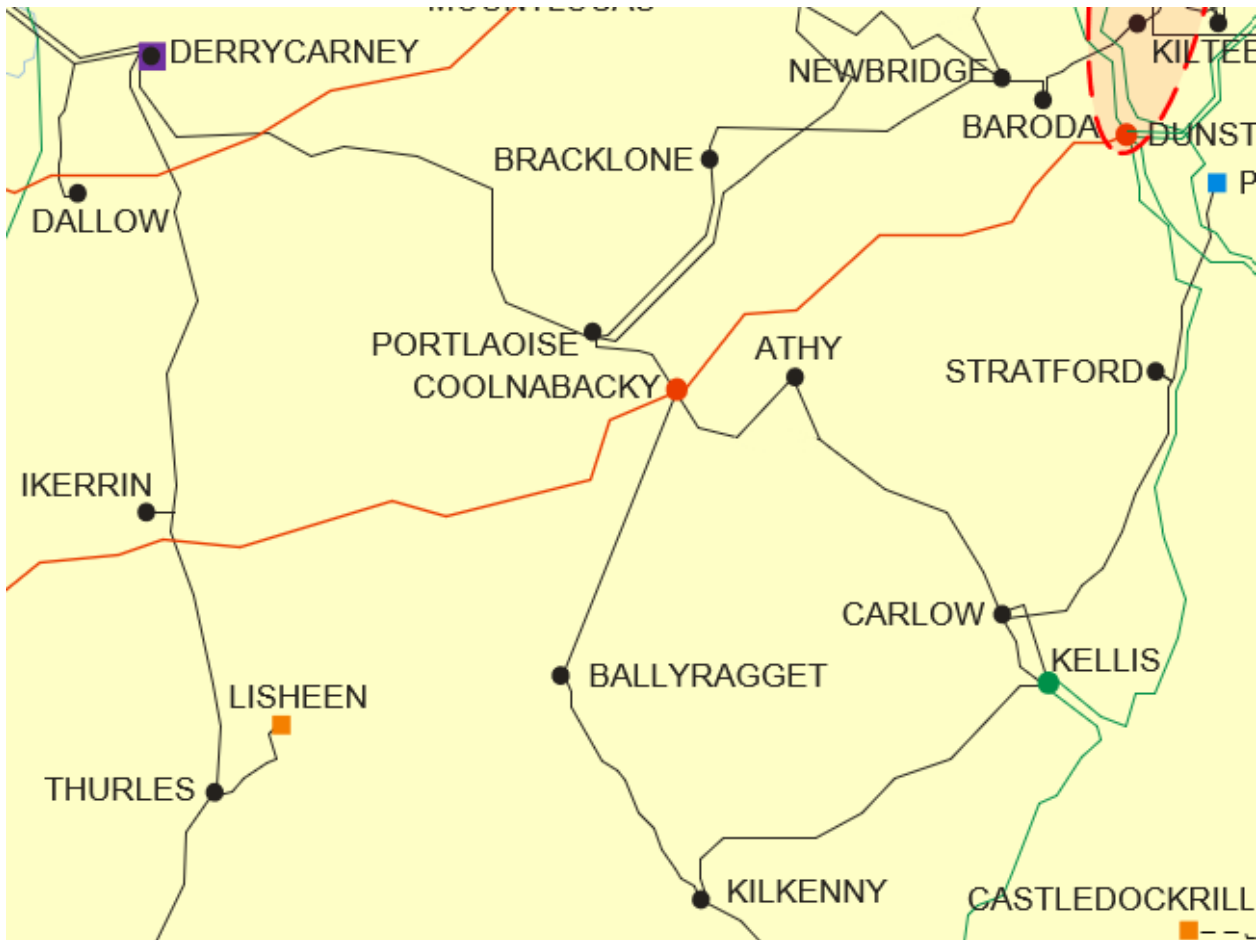


Figure 2-17 - Location of node Coolnabacky

Generator	SO	Capacity	Type	Status
East Laois Solar Farm Extension	TSO	25.0	solar non-priority	due to connect
Loughteague	TSO	55.0	solar non-priority	due to connect

Table 2-17 - Generation Included in Study for Node Coolnabacky



The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		27	53	80		
Installed Capacity (MW)	2028		27	53	80	80	
Installed Capacity (MW)	2030				80	80	80
Available Energy (GWh)	2026		34	68	103		
Available Energy (GWh)	2028		34	68	103	103	
Available Energy (GWh)	2030				103	103	103
Generation (GWh)	2026		27	45	56		
Generation (GWh)	2028		27	46	58	59	
Generation (GWh)	2030				73	74	72
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-18 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

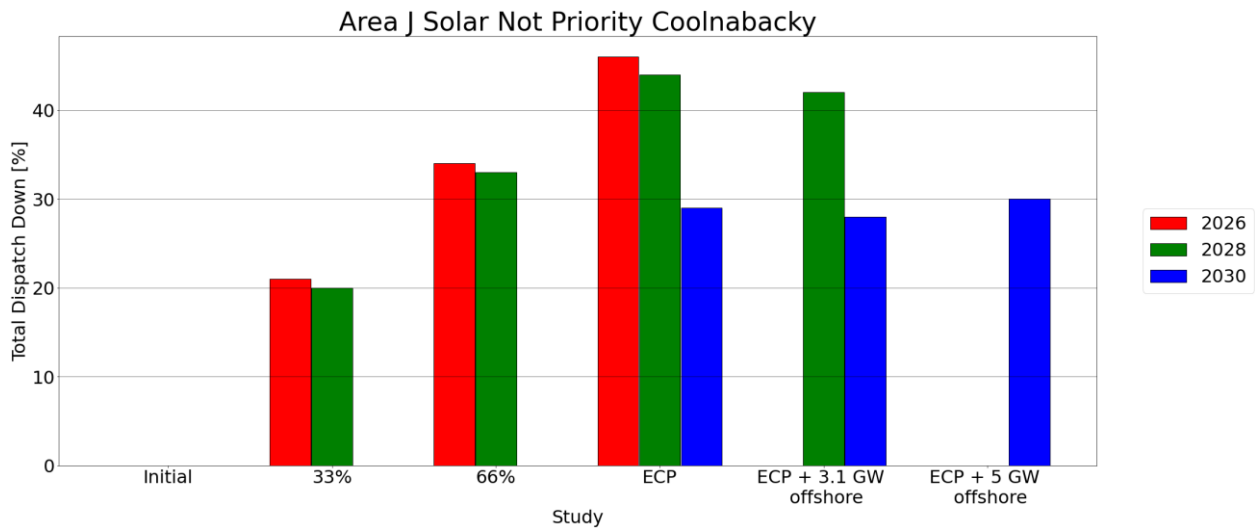


Figure 2-18 - Total Dispatch Down for Solar non-priority for Node Coolnabacky

## 2.10 Cushaling

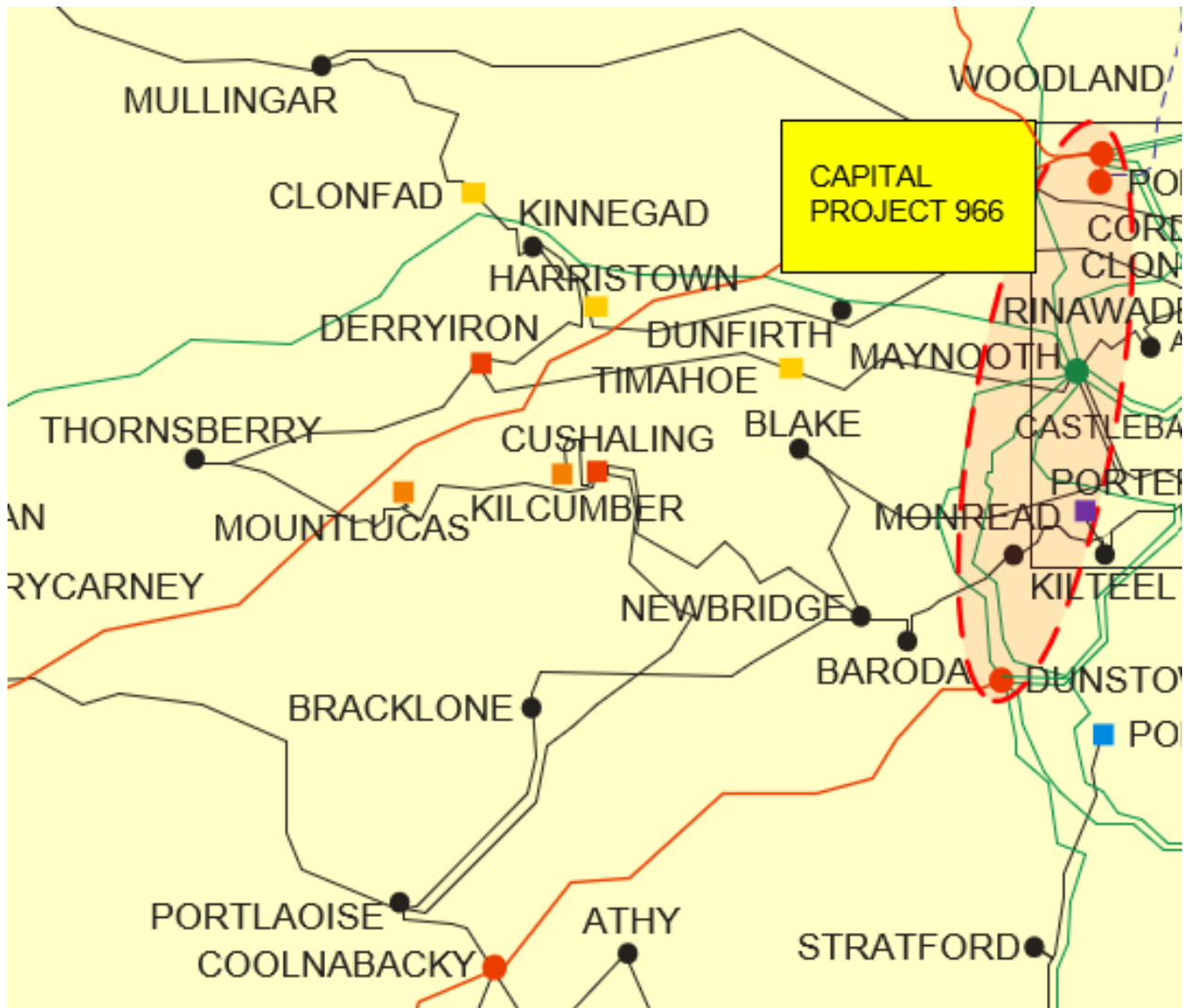


Figure 2-19 - Location of node Cushaling

Generator	SO	Capacity	Type	Status
Clonreen Wind farm	TSO	75.0	wind non-priority	connected

Table 2-19 - Generation Included in Study for Node Cushaling

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	75	75	75	75		
Installed Capacity (MW)	2028	75	75	75	75	75	
Installed Capacity (MW)	2030				75	75	75
Available Energy (GWh)	2026	231	231	231	231		
Available Energy (GWh)	2028	233	233	233	233	233	
Available Energy (GWh)	2030				231	231	231
Generation (GWh)	2026	100	134	122	101		
Generation (GWh)	2028	113	148	136	110	130	
Generation (GWh)	2030				152	178	161
Surplus (%)	2026	2 %	5 %	10 %	15 %		
Surplus (%)	2028	<1 %	1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026	2 %	3 %	4 %	5 %		
Curtailement (%)	2028	<1 %	1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026	53 %	34 %	33 %	36 %		
Constraint (%)	2028	51 %	34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026	57 %	42 %	47 %	56 %		
Total Dispatch Down (%)	2028	52 %	36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 2-20 - Surplus, Curtailment and Constraint for Wind non-priority in Area J

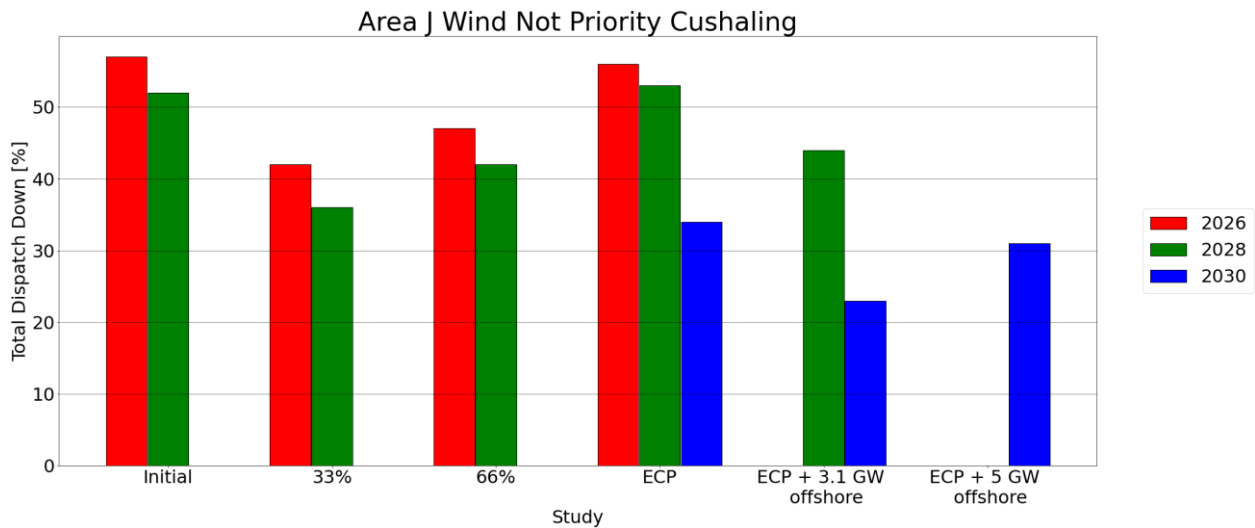


Figure 2-20 - Total Dispatch Down for Wind non-priority for Node Cushaling

## 2.11 Derryiron

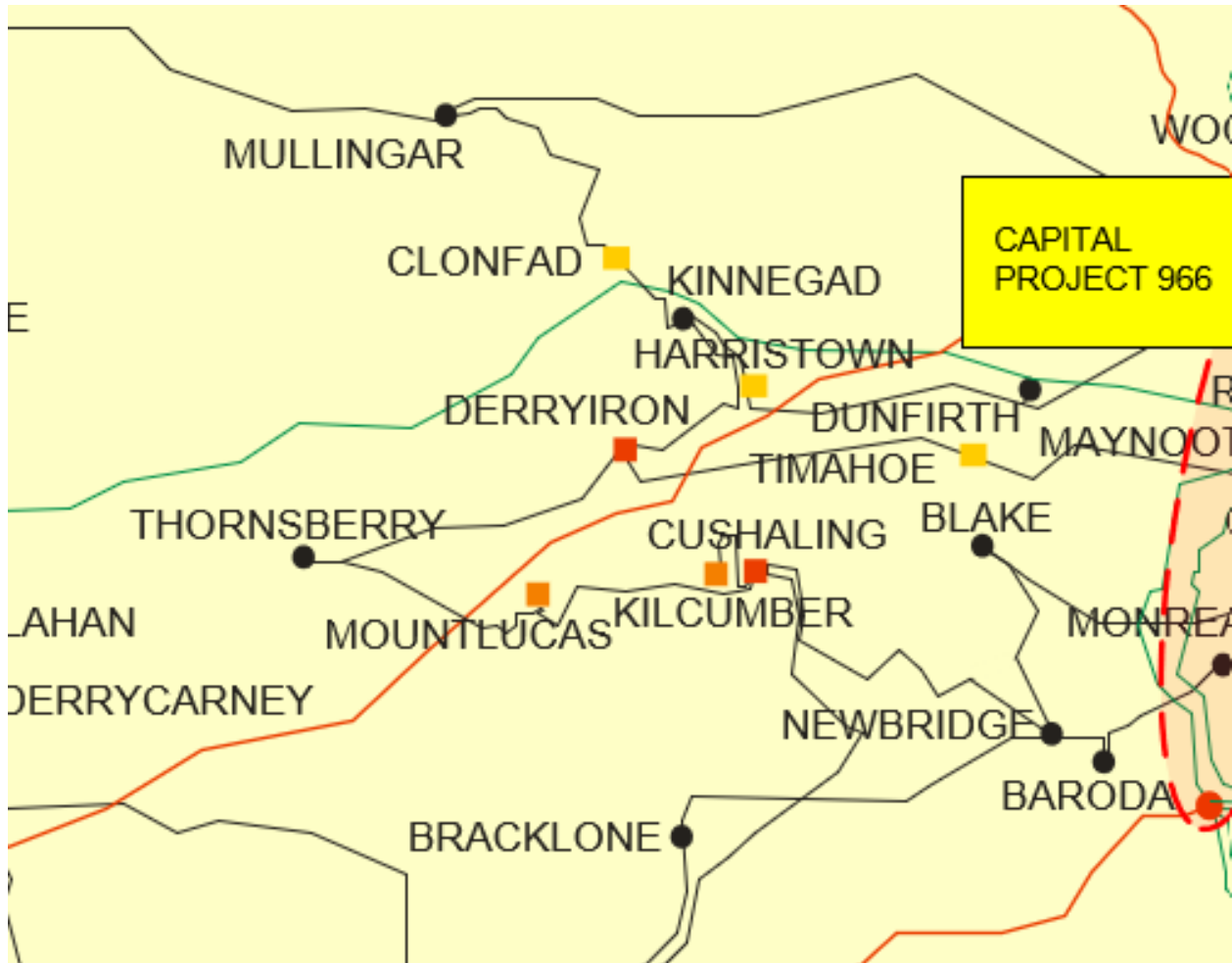


Figure 2-21 - Location of node Derryiron

Generator	SO	Capacity	Type	Status
Clonin North solar	TSO	47.0	solar non-priority	due to connect
Yellow River Wind Farm	TSO	110.2	wind non-priority	due to connect
Rhode Solar Farm	TSO	20.0	solar non-priority	due to connect

Table 2-21 - Generation Included in Study for Node Derryiron

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		22	45	67		
Installed Capacity (MW)	2028		22	45	67	67	
Installed Capacity (MW)	2030				67	67	67
Available Energy (GWh)	2026		29	57	86		
Available Energy (GWh)	2028		29	57	86	86	
Available Energy (GWh)	2030				86	86	86
Generation (GWh)	2026		23	38	47		
Generation (GWh)	2028		23	39	49	50	
Generation (GWh)	2030				61	62	60
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-22 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

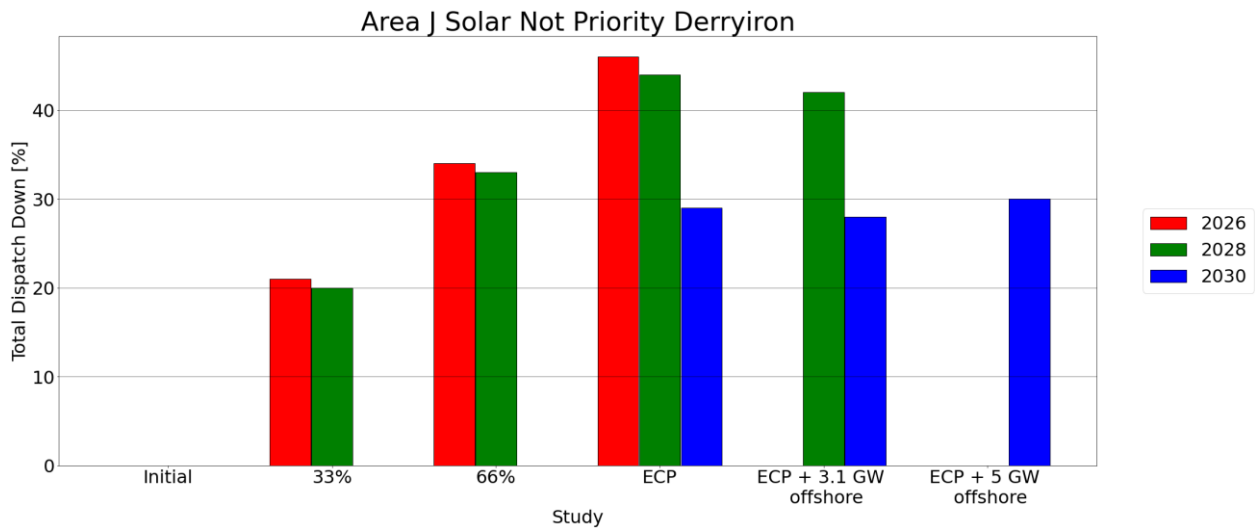


Figure 2-22 - Total Dispatch Down for Solar non-priority for Node Derryiron

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		37	73	110		
Installed Capacity (MW)	2028		37	73	110	110	
Installed Capacity (MW)	2030				110	110	110
Available Energy (GWh)	2026		113	227	340		
Available Energy (GWh)	2028		114	228	342	342	
Available Energy (GWh)	2030				340	340	340
Generation (GWh)	2026		65	119	149		
Generation (GWh)	2028		73	133	162	191	
Generation (GWh)	2030				223	261	236
Surplus (%)	2026		5 %	10 %	15 %		
Surplus (%)	2028		1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026		3 %	4 %	5 %		
Curtailement (%)	2028		1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026		34 %	33 %	36 %		
Constraint (%)	2028		34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026		42 %	47 %	56 %		
Total Dispatch Down (%)	2028		36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 2-23 - Surplus, Curtailment and Constraint for Wind non-priority in Area J

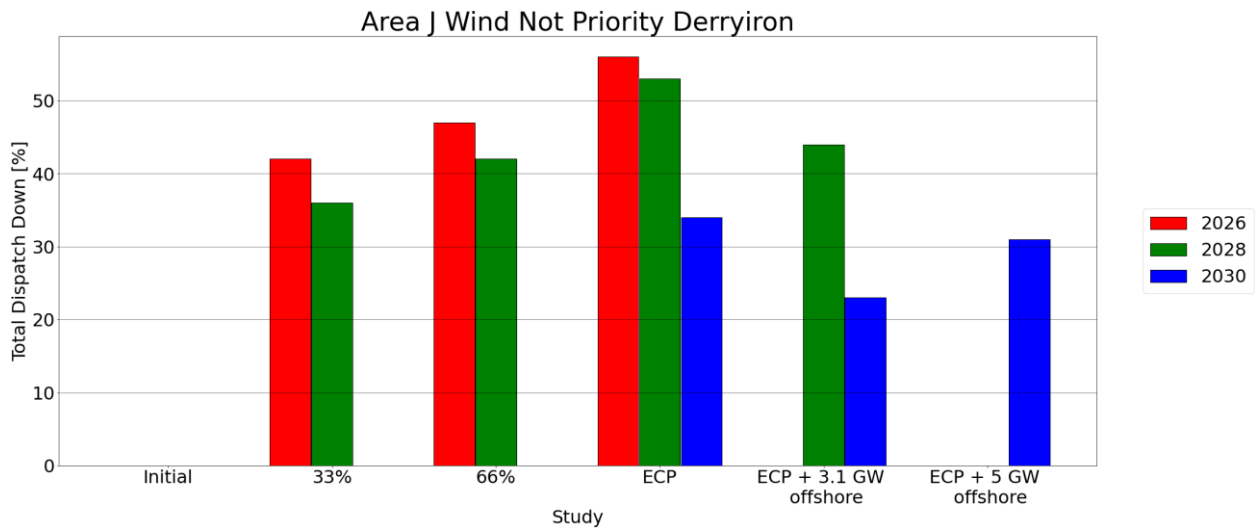


Figure 2-23 - Total Dispatch Down for Wind non-priority for Node Derryiron

## 2.12 Dunfirth

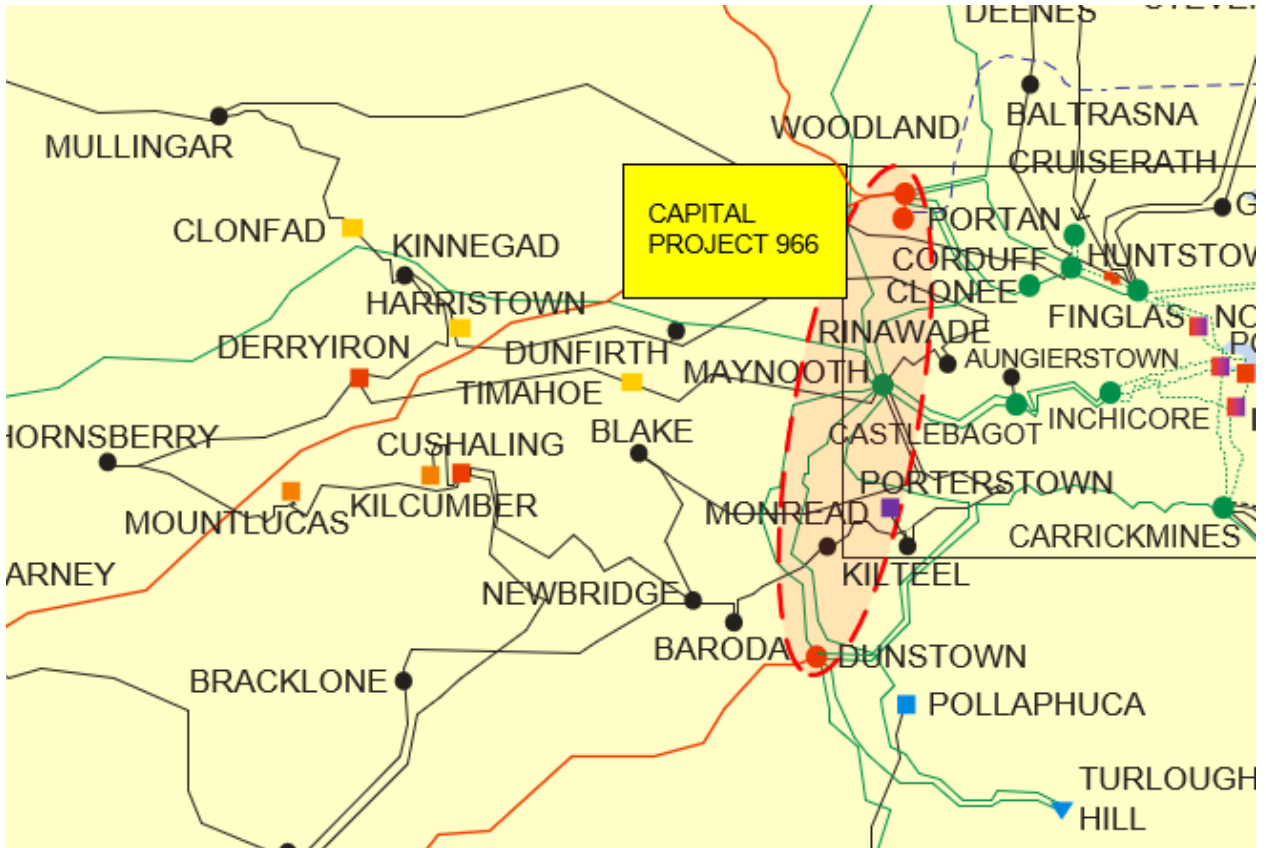


Figure 2-24 - Location of node Dunfirth

Generator	SO	Capacity	Type	Status
Dysart PV	DSO	17.5	solar non-priority	due to connect
Hortland PV (from merge Knockanally and Hortland)	DSO	14.0	solar non-priority	connected
Ovidstown Solar	DSO	4.0	solar non-priority	due to connect

Table 2-24 - Generation Included in Study for Node Dunfirth

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	36	36	36	36		
Installed Capacity (MW)	2028	36	36	36	36	36	
Installed Capacity (MW)	2030				36	36	36
Available Energy (GWh)	2026	45	45	45	45		
Available Energy (GWh)	2028	46	46	46	46	46	
Available Energy (GWh)	2030				45	45	45
Generation (GWh)	2026	42	36	30	25		
Generation (GWh)	2028	43	37	31	26	26	
Generation (GWh)	2030				32	33	32
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-25 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

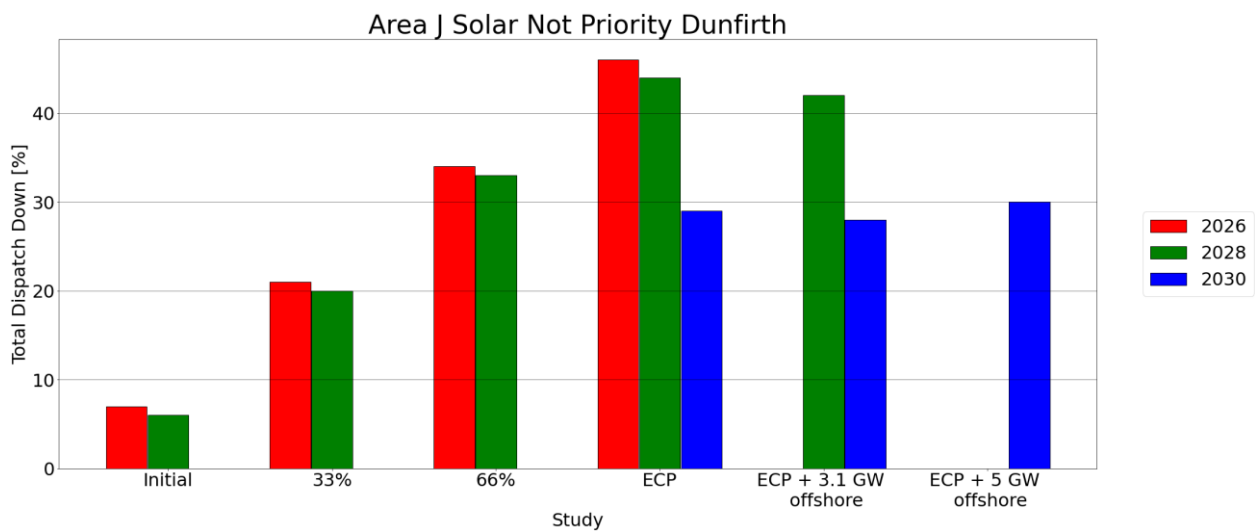


Figure 2-25 - Total Dispatch Down for Solar non-priority for Node Dunfirth



## 2.13 Finglas

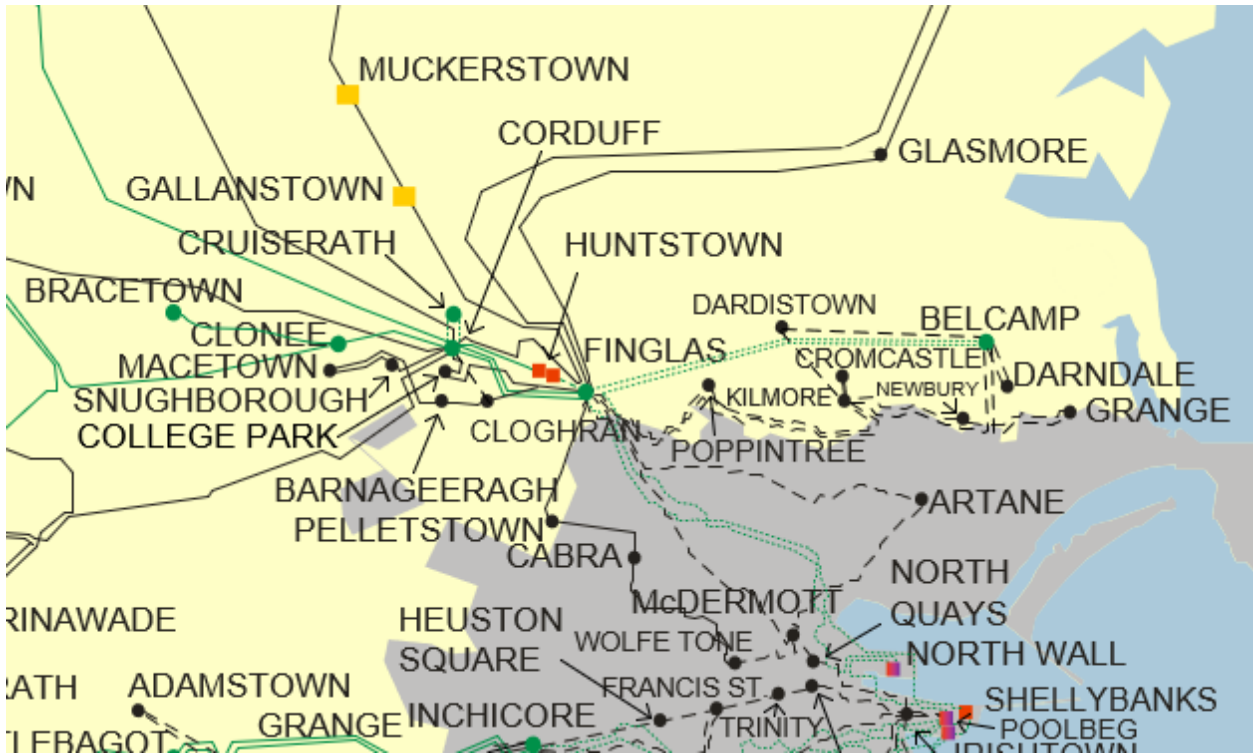


Figure 2-26 - Location of node Finglas

Generator	SO	Capacity	Type	Status
Bullstown Solar Farm	DSO	8.42	solar non-priority	due to connect
Fieldstown Solar	TSO	75.0	solar non-priority	due to connect
Fieldstown Solar Farm Ext	TSO	18.27	solar non-priority	due to connect
LT SolarFruit	DSO	2.8	solar non-priority	due to connect

Table 2-26 - Generation Included in Study for Node Finglas

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		35	70	104		
Installed Capacity (MW)	2028		35	70	104	104	
Installed Capacity (MW)	2030				104	104	104
Available Energy (GWh)	2026		45	89	134		
Available Energy (GWh)	2028		45	89	134	134	
Available Energy (GWh)	2030				134	134	134
Generation (GWh)	2026		42	81	114		
Generation (GWh)	2028		42	85	122	114	
Generation (GWh)	2030				120	120	115
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		2 %	2 %	2 %		
Constraint (%)	2028		4 %	2 %	2 %	1 %	
Constraint (%)	2030				8 %	3 %	3 %
Total Dispatch Down (%)	2026		5 %	9 %	15 %		
Total Dispatch Down (%)	2028		5 %	5 %	9 %	15 %	
Total Dispatch Down (%)	2030				11 %	10 %	14 %

Table 2-27 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

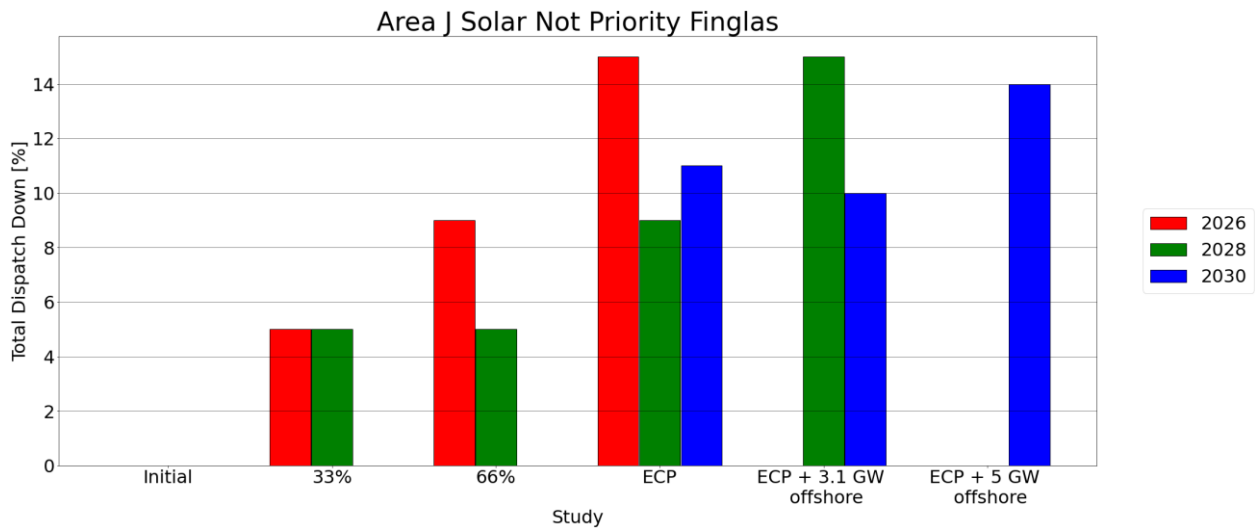


Figure 2-27 - Total Dispatch Down for Solar non-priority for Node Finglas

## 2.14 Fosterstown

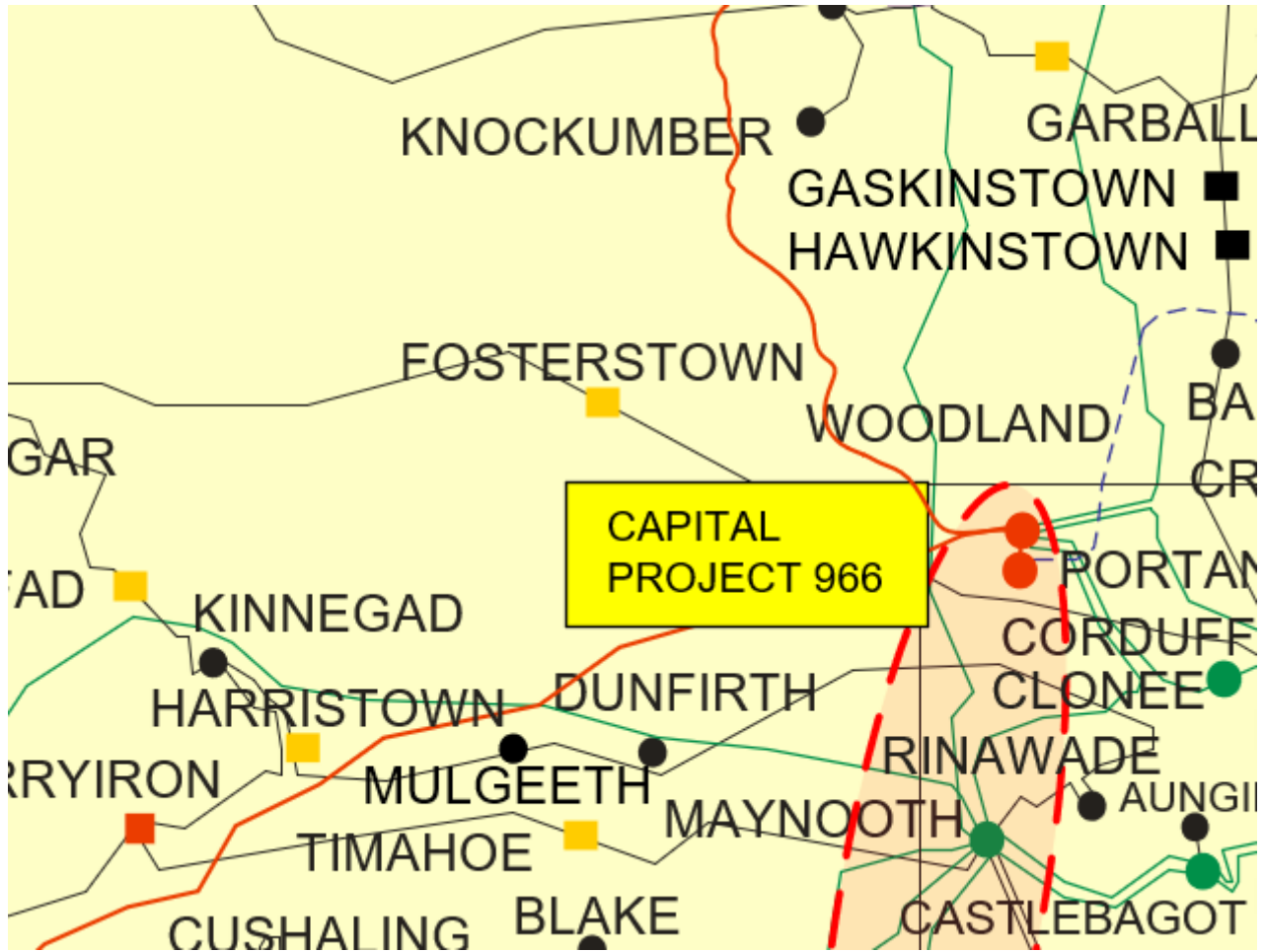


Figure 2-28 - Location of node Fosterstown (this location is indicative and may be subject to change due to planning)

Generator	SO	Capacity	Type	Status
Clonmeath Solar (Solar)	TSO	78.8	solar non-priority	due to connect

Table 2-28 - Generation Included in Study for Node Fosterstown

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		26	53	79		
Installed Capacity (MW)	2028		26	53	79	79	
Installed Capacity (MW)	2030				79	79	79
Available Energy (GWh)	2026		34	67	101		
Available Energy (GWh)	2028		34	67	101	101	
Available Energy (GWh)	2030				101	101	101
Generation (GWh)	2026		27	44	55		
Generation (GWh)	2028		27	45	57	58	
Generation (GWh)	2030				71	73	71
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-29 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

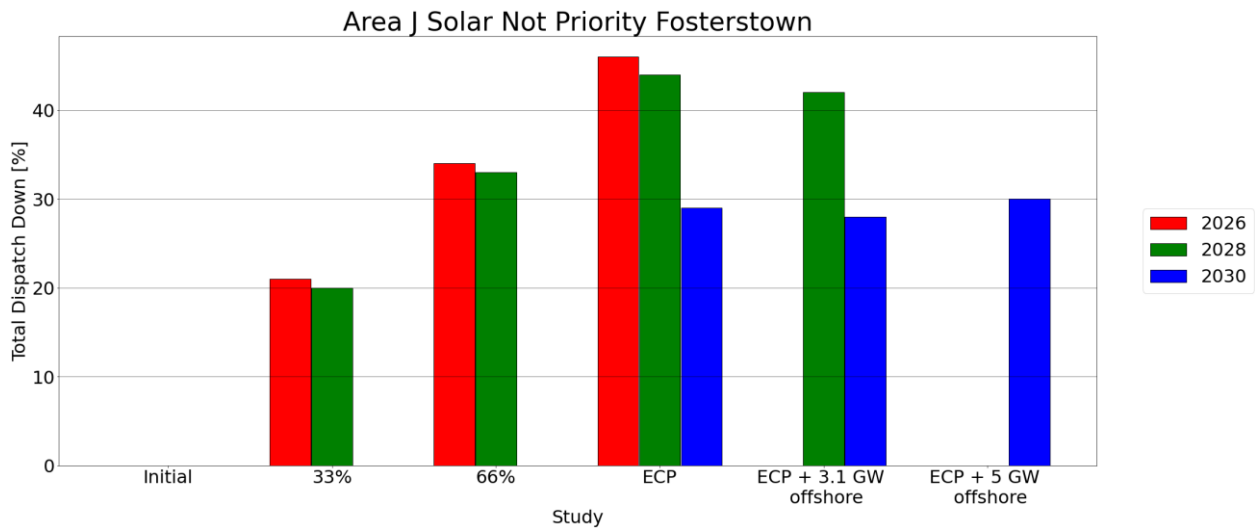


Figure 2-29 - Total Dispatch Down for Solar non-priority for Node Fosterstown

## 2.15 Gallanstown



Figure 2-30 - Location of node Gallanstown

Generator	SO	Capacity	Type	Status
Gallanstown Solar	TSO	119.0	solar non-priority	due to connect
Harlockstown Solar (Gallanstown Solar Extension)	TSO	50.5	solar non-priority	due to connect

Table 2-30 - Generation Included in Study for Node Gallanstown

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	119	136	153	170		
Installed Capacity (MW)	2028	119	136	153	170	170	
Installed Capacity (MW)	2030				170	170	170
Available Energy (GWh)	2026	152	174	196	217		
Available Energy (GWh)	2028	153	174	196	218	218	
Available Energy (GWh)	2030				217	217	217
Generation (GWh)	2026	145	165	178	185		
Generation (GWh)	2028	145	166	185	198	184	
Generation (GWh)	2030				194	195	186
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailed (%)	2026	1 %	1 %	2 %	4 %		
Curtailed (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailed (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	4 %	2 %	2 %	2 %		
Constraint (%)	2028	5 %	4 %	2 %	2 %	1 %	
Constraint (%)	2030				8 %	3 %	3 %
Total Dispatch Down (%)	2026	5 %	5 %	9 %	15 %		
Total Dispatch Down (%)	2028	5 %	5 %	5 %	9 %	15 %	
Total Dispatch Down (%)	2030				11 %	10 %	14 %

Table 2-31 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

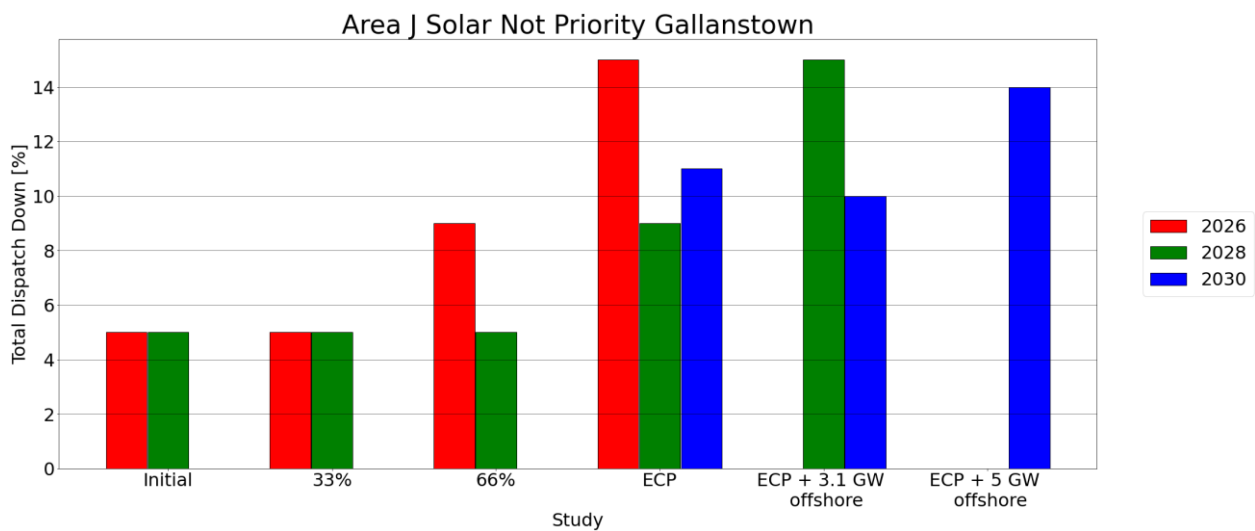


Figure 2-31 - Total Dispatch Down for Solar non-priority for Node Gallanstown

## 2.16 Glasmore

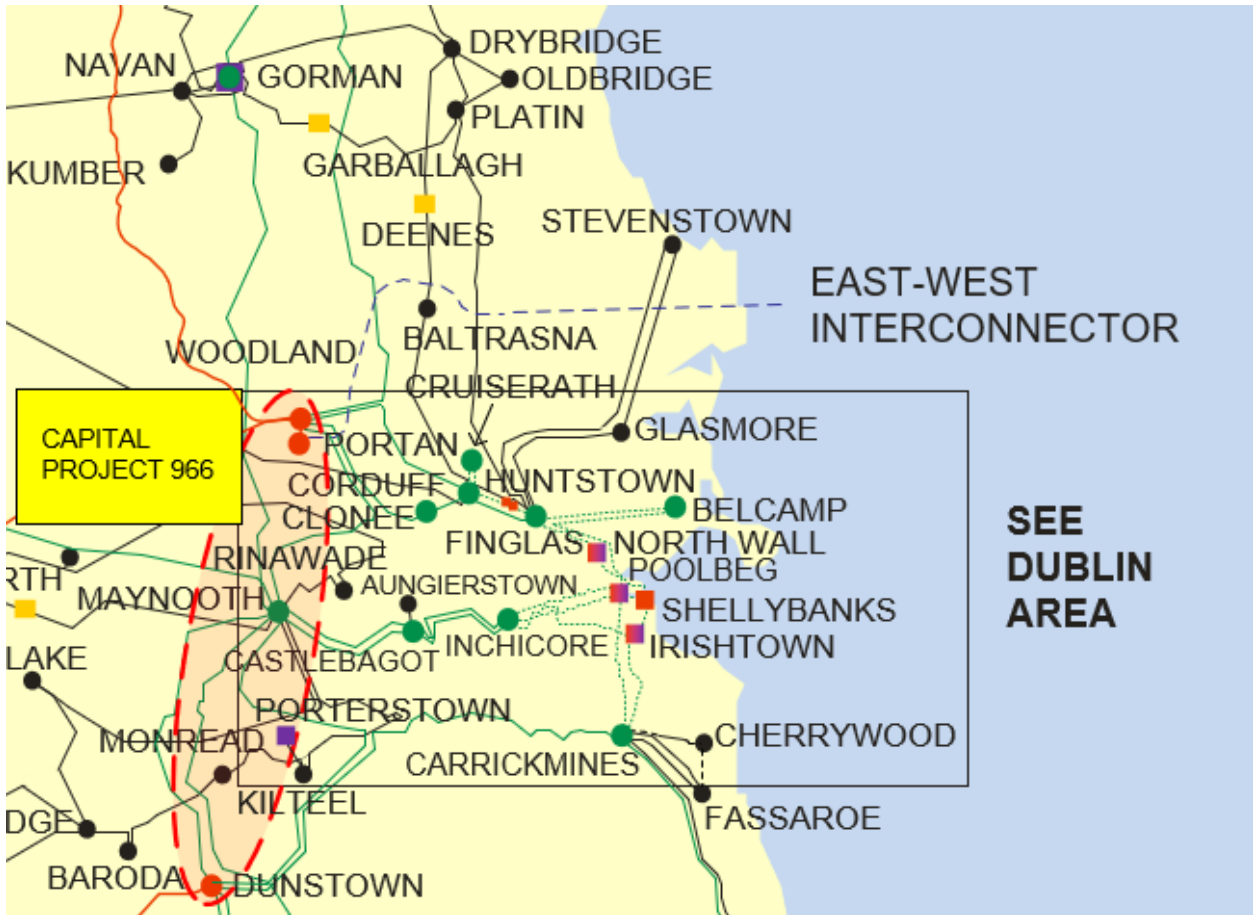


Figure 2-32 - Location of node Glasmore

Generator	SO	Capacity	Type	Status
<b>Mainscourt</b>	DSO	39.99	solar non-priority	due to connect
<b>Featherbed Lane Solar</b>	DSO	4.0	solar non-priority	due to connect

Table 2-32 - Generation Included in Study for Node Glasmore

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	40	41	43	44		
Installed Capacity (MW)	2028	40	41	43	44	44	
Installed Capacity (MW)	2030				44	44	44
Available Energy (GWh)	2026	51	53	55	56		
Available Energy (GWh)	2028	51	53	55	56	56	
Available Energy (GWh)	2030				56	56	56
Generation (GWh)	2026	49	50	50	48		
Generation (GWh)	2028	49	50	52	51	48	
Generation (GWh)	2030				50	51	48
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailed (%)	2026	1 %	1 %	2 %	4 %		
Curtailed (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailed (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	4 %	2 %	2 %	2 %		
Constraint (%)	2028	5 %	4 %	2 %	2 %	1 %	
Constraint (%)	2030				8 %	3 %	3 %
Total Dispatch Down (%)	2026	5 %	5 %	9 %	15 %		
Total Dispatch Down (%)	2028	5 %	5 %	5 %	9 %	15 %	
Total Dispatch Down (%)	2030				11 %	10 %	14 %

Table 2-33 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

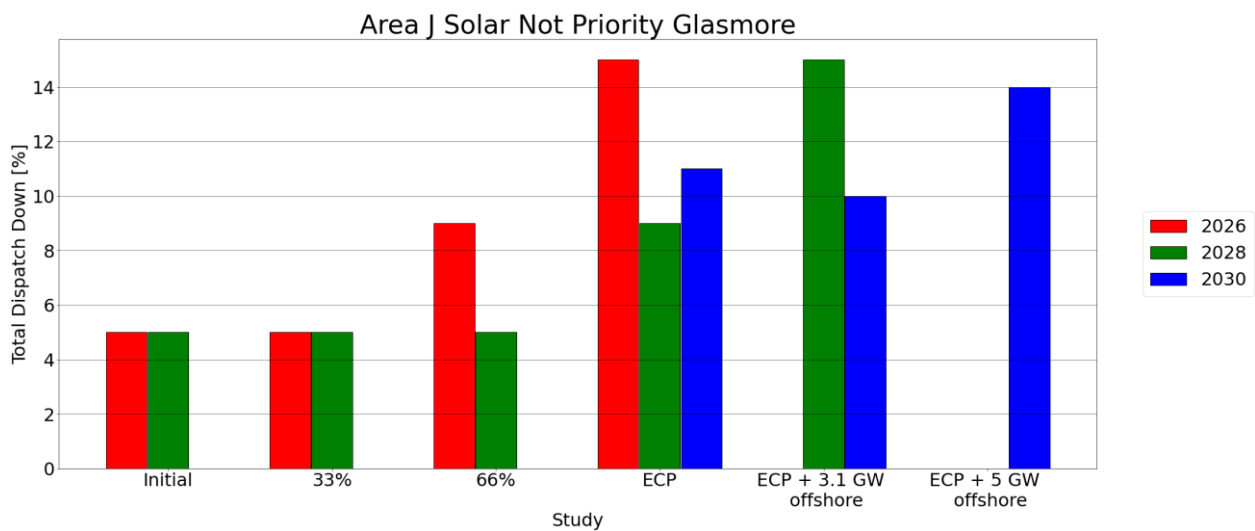


Figure 2-33 - Total Dispatch Down for Solar non-priority for Node Glasmore



## 2.17 Griffinrath

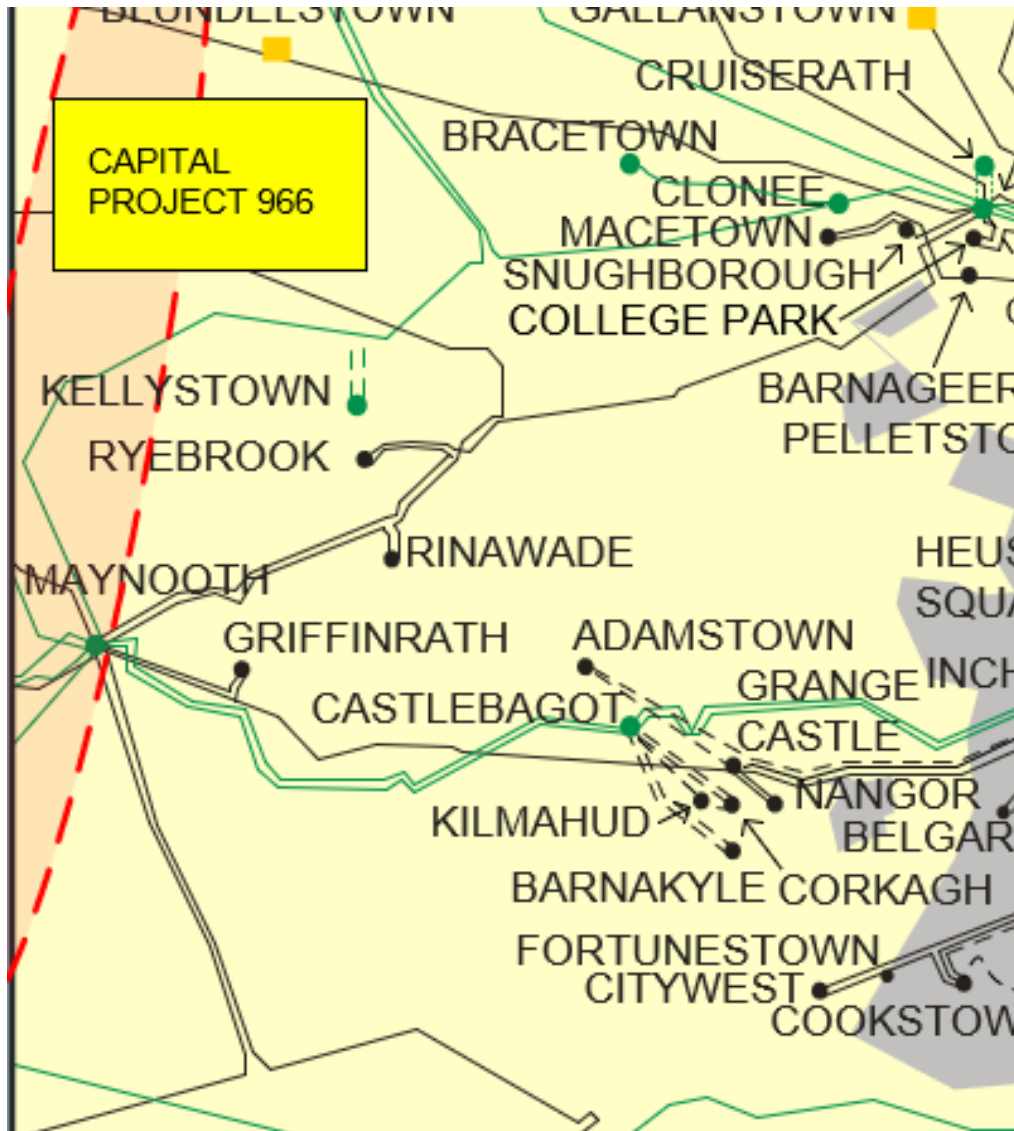


Figure 2-34 - Location of node Griffinrath

Generator	SO	Capacity	Type	Status
Confey Solar Park	DSO	9.5	solar non-priority	due to connect
Smithstown	DSO	25.0	solar non-priority	due to connect
Taghadoe Solar Farm	DSO	25.0	solar non-priority	due to connect
Tower Hill Solar Farm	DSO	6.0	solar non-priority	due to connect

Table 2-34 - Generation Included in Study for Node Griffinrath

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	40	49	57	66		
Installed Capacity (MW)	2028	40	49	57	66	66	
Installed Capacity (MW)	2030				66	66	66
Available Energy (GWh)	2026	52	63	73	84		
Available Energy (GWh)	2028	52	63	73	84	84	
Available Energy (GWh)	2030				84	84	84
Generation (GWh)	2026	49	59	66	72		
Generation (GWh)	2028	49	60	69	76	71	
Generation (GWh)	2030				75	75	72
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailed (%)	2026	1 %	1 %	2 %	4 %		
Curtailed (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailed (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	4 %	2 %	2 %	2 %		
Constraint (%)	2028	5 %	4 %	2 %	2 %	1 %	
Constraint (%)	2030				8 %	3 %	3 %
Total Dispatch Down (%)	2026	5 %	5 %	9 %	15 %		
Total Dispatch Down (%)	2028	5 %	5 %	5 %	9 %	15 %	
Total Dispatch Down (%)	2030				11 %	10 %	14 %

Table 2-35 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

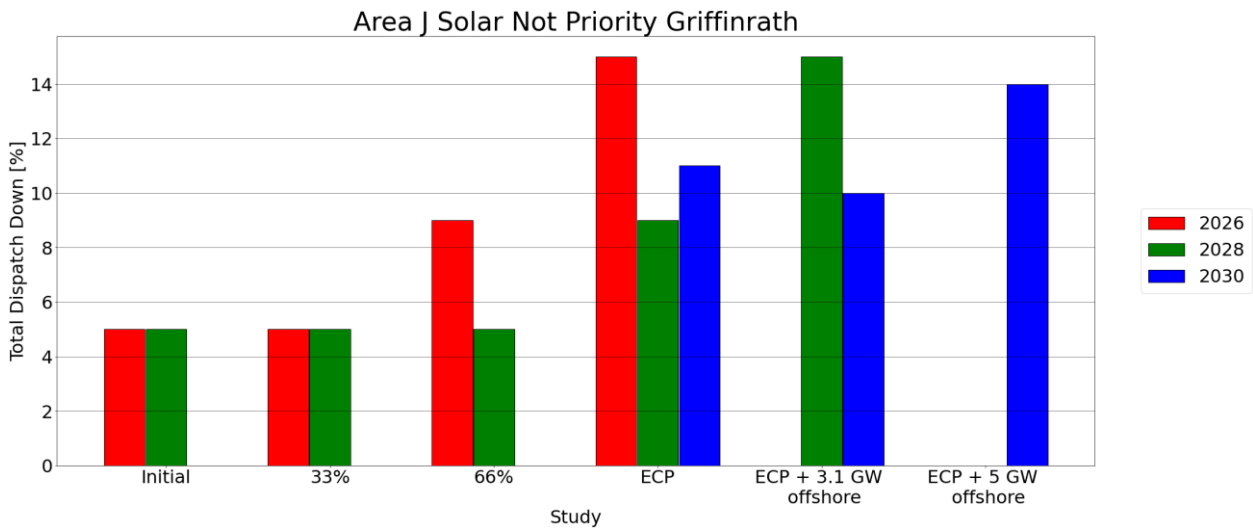


Figure 2-35 - Total Dispatch Down for Solar non-priority for Node Griffinrath

## 2.18 Harristown

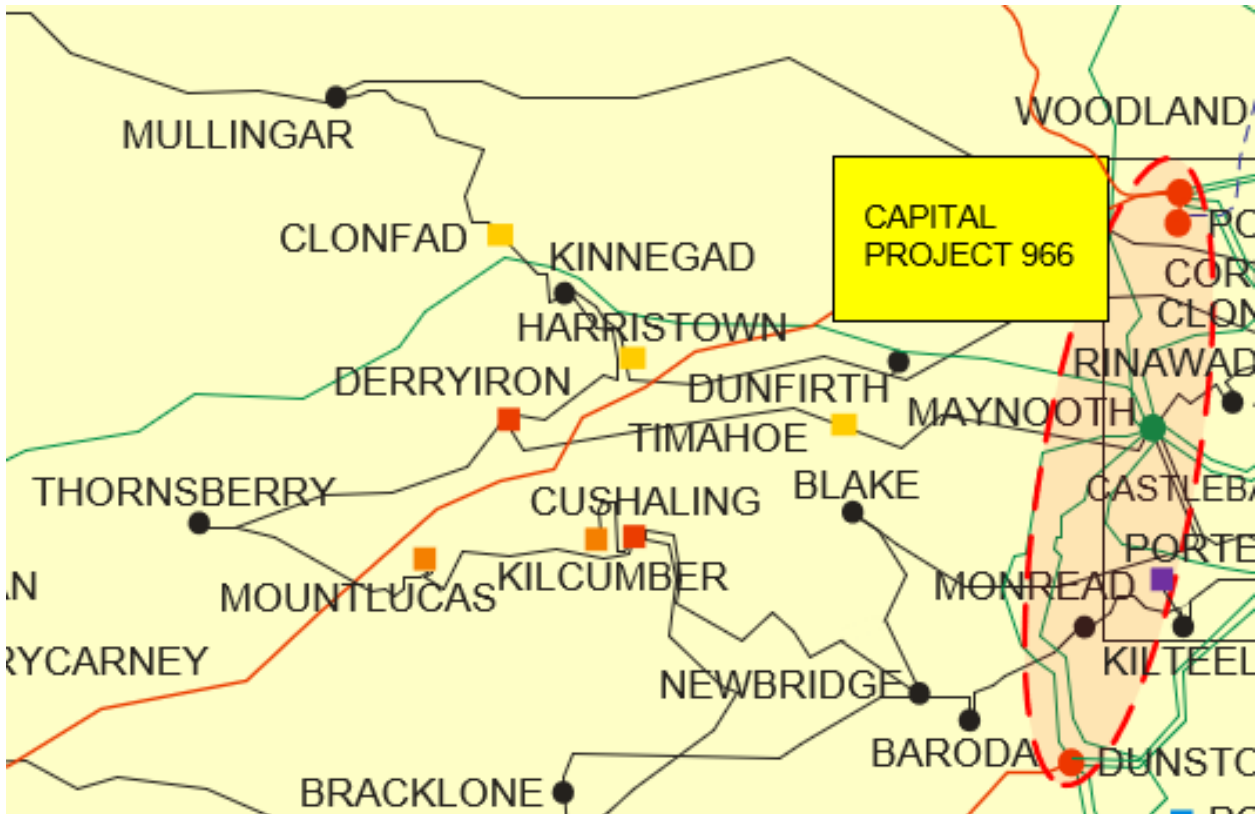


Figure 2-36 - Location of node Harristown

Generator	SO	Capacity	Type	Status
Harristown Solar PV	TSO	42.3	solar non-priority	due to connect
Garr Solar & Storage	TSO	85.0	solar non-priority	due to connect

Table 2-36 - Generation Included in Study for Node Harristown

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	42	71	99	127		
Installed Capacity (MW)	2028	42	71	99	127	127	
Installed Capacity (MW)	2030				127	127	127
Available Energy (GWh)	2026	54	91	127	163		
Available Energy (GWh)	2028	54	91	127	163	163	
Available Energy (GWh)	2030				163	163	163
Generation (GWh)	2026	50	71	83	89		
Generation (GWh)	2028	51	73	85	92	94	
Generation (GWh)	2030				115	118	114
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-37 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

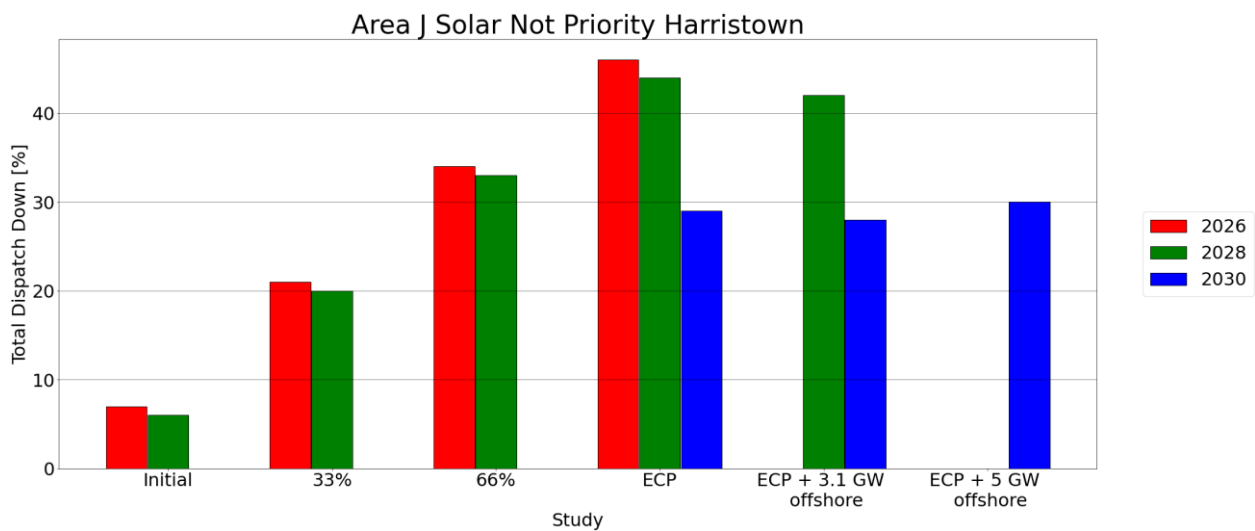


Figure 2-37 - Total Dispatch Down for Solar non-priority for Node Harristown

## 2.19 Kilteel

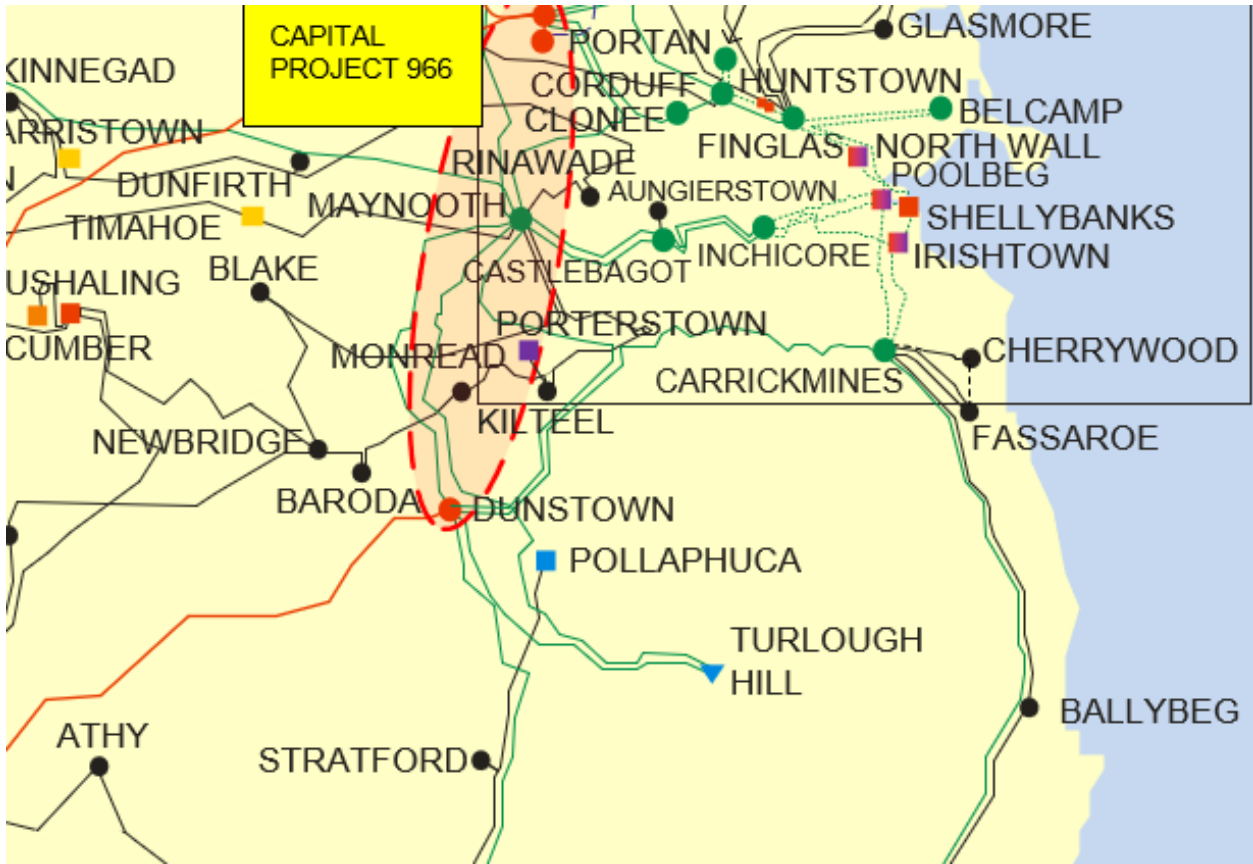


Figure 2-38 - Location of node Kilteel

Generator	SO	Capacity	Type	Status
Threecastles Solar Farm	DSO	15.0	solar non-priority	due to connect

Table 2-38 - Generation Included in Study for Node KILTEEL

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	15	15	15	15		
Installed Capacity (MW)	2028	15	15	15	15	15	
Installed Capacity (MW)	2030				15	15	15
Available Energy (GWh)	2026	19	19	19	19		
Available Energy (GWh)	2028	19	19	19	19	19	
Available Energy (GWh)	2030				19	19	19
Generation (GWh)	2026	18	15	13	10		
Generation (GWh)	2028	18	15	13	11	11	
Generation (GWh)	2030				14	14	13
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-39 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

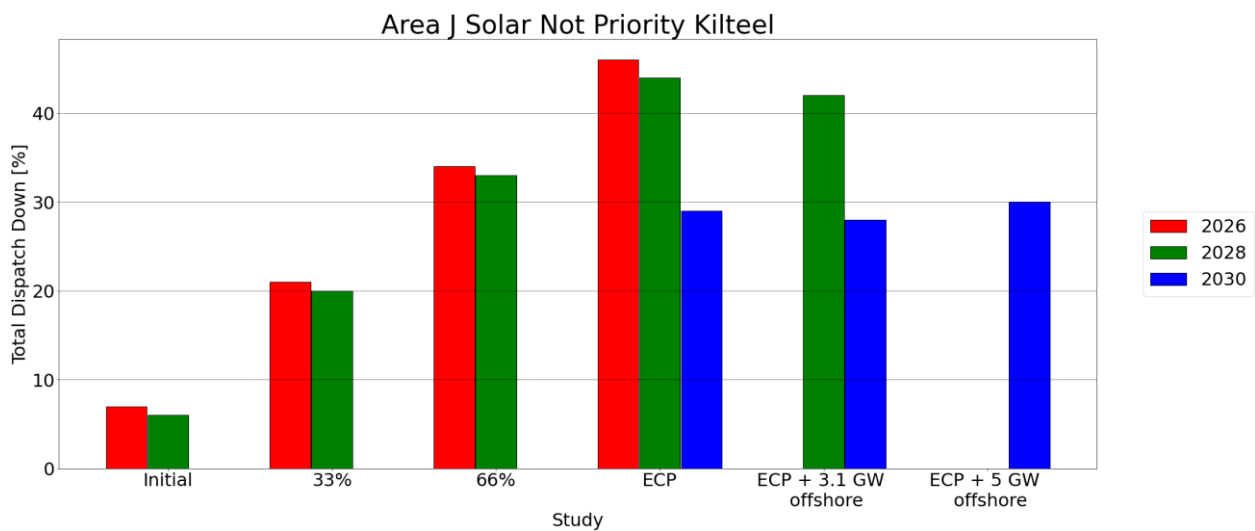


Figure 2-39 - Total Dispatch Down for Solar non-priority for Node Kiltel

## 2.20 Maynooth

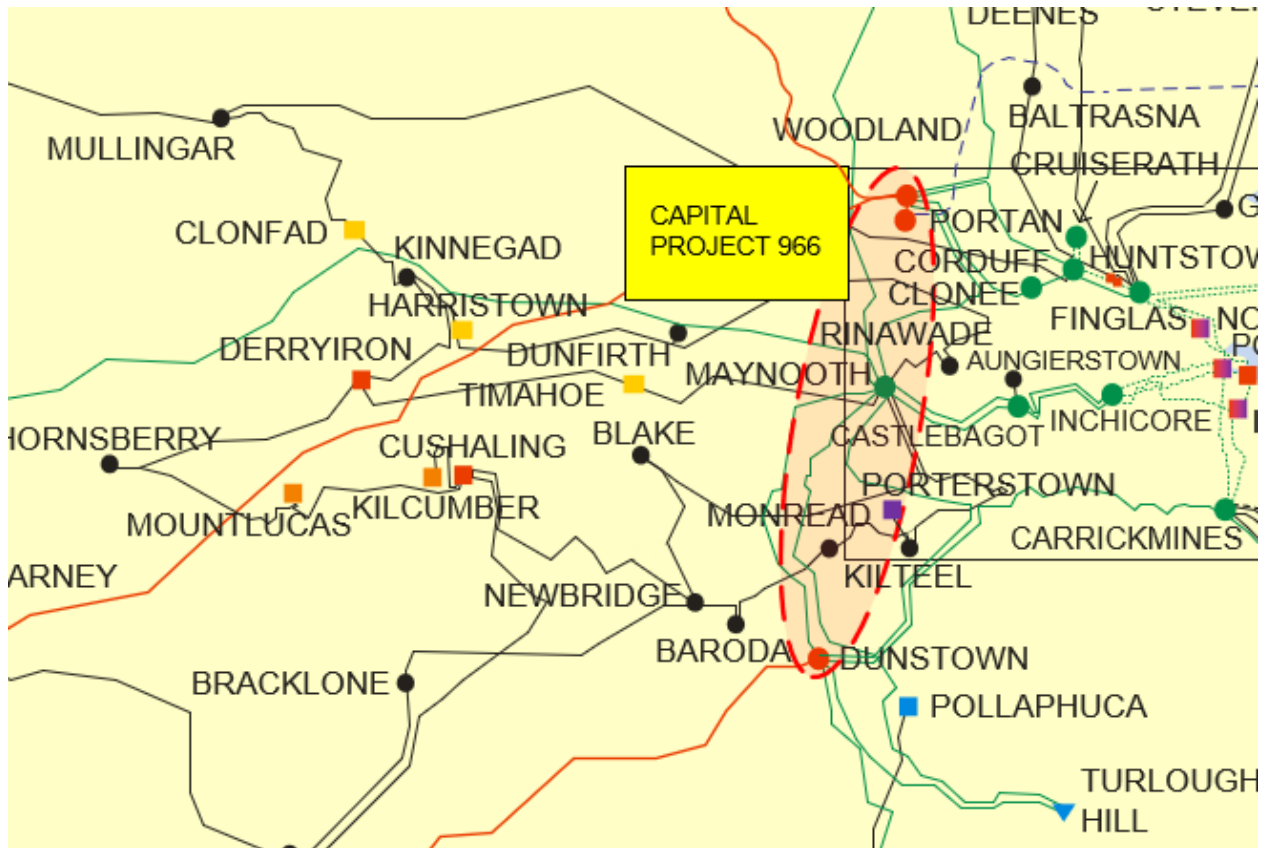


Figure 2-40 - Location of node Maynooth

Generator	SO	Capacity	Type	Status
Toolestown Solar	TSO	50.0	solar non-priority	due to connect

Table 2-40 - Generation Included in Study for Node Maynooth

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		17	33	50		
Installed Capacity (MW)	2028		17	33	50	50	
Installed Capacity (MW)	2030				50	50	50
Available Energy (GWh)	2026		21	43	64		
Available Energy (GWh)	2028		21	43	64	64	
Available Energy (GWh)	2030				64	64	64
Generation (GWh)	2026		17	28	35		
Generation (GWh)	2028		17	29	36	37	
Generation (GWh)	2030				45	46	45
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-41 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

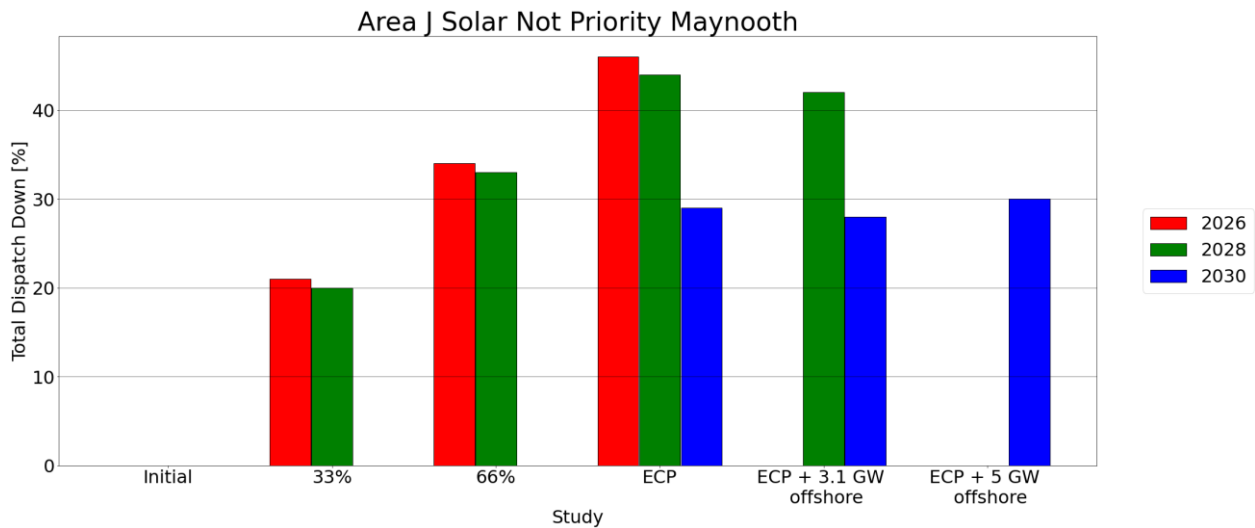


Figure 2-41 - Total Dispatch Down for Solar non-priority for Node Maynooth



## 2.21 Monread

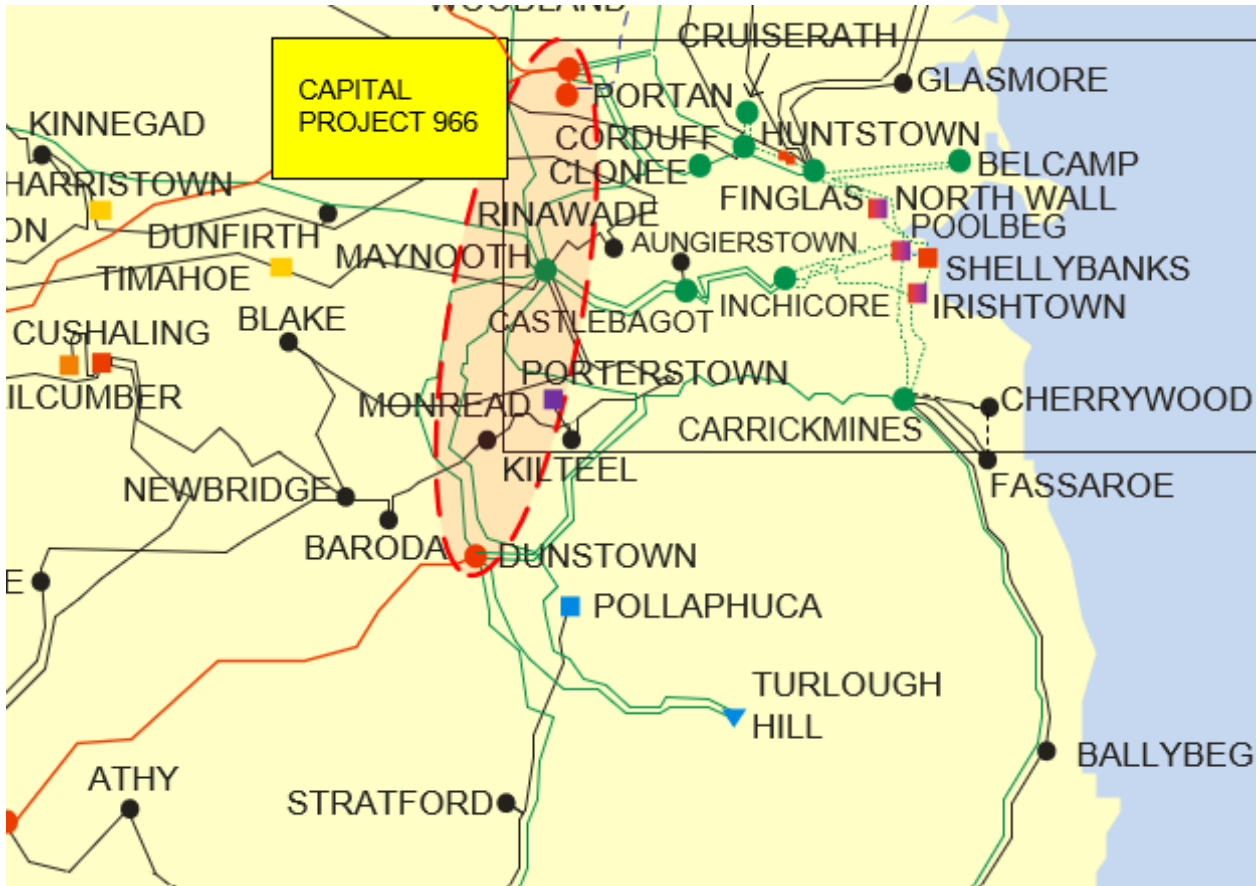


Figure 2-42 - Location of node Monread

Generator	SO	Capacity	Type	Status
<b>Bodenstown Solar Farm</b>	DSO	4.0	solar non-priority	due to connect
<b>Kerdiffstown PV</b>	DSO	4.0	solar non-priority	due to connect

Table 2-42 - Generation Included in Study for Node Monread

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	8	8	8	8		
Installed Capacity (MW)	2028	8	8	8	8	8	
Installed Capacity (MW)	2030				8	8	8
Available Energy (GWh)	2026	10	10	10	10		
Available Energy (GWh)	2028	10	10	10	10	10	
Available Energy (GWh)	2030				10	10	10
Generation (GWh)	2026	10	8	7	6		
Generation (GWh)	2028	10	8	7	6	6	
Generation (GWh)	2030				7	7	7
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	<1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	<1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-43 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

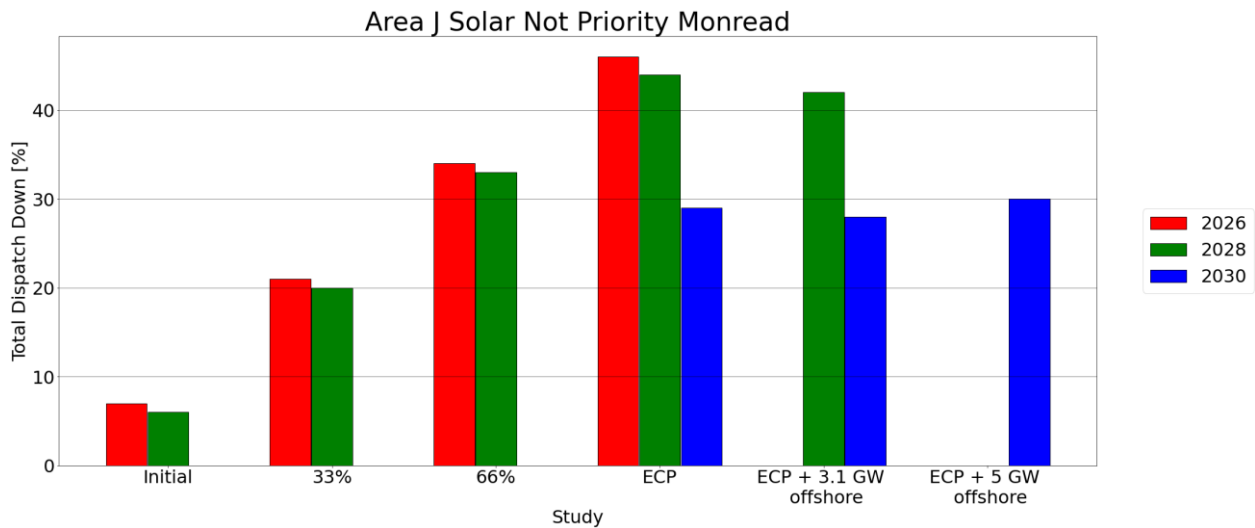


Figure 2-43 - Total Dispatch Down for Solar non-priority for Node Monread

## 2.22 Mount Lucas

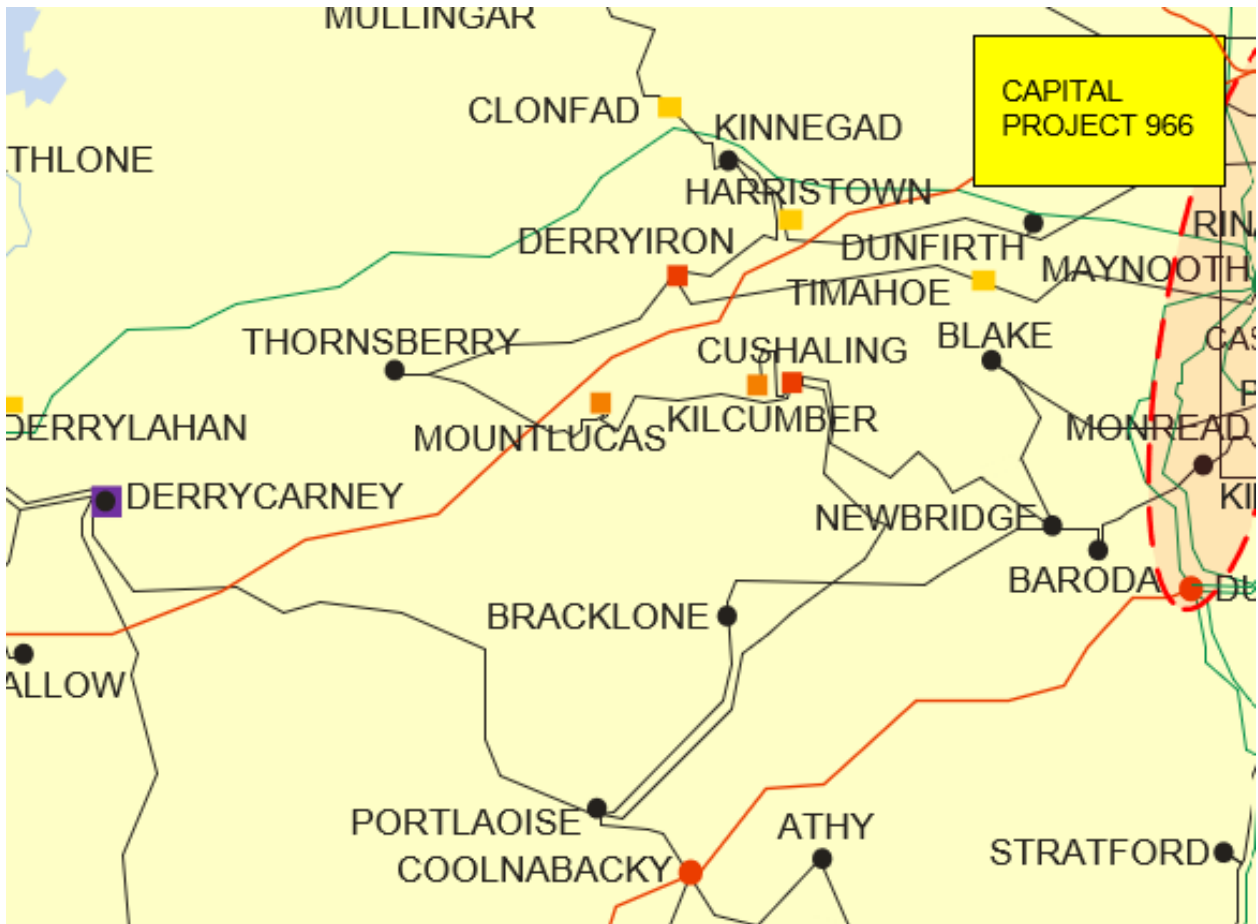


Figure 2-44 - Location of node Mount Lucas

Generator	SO	Capacity	Type	Status
Moanvane wind	TSO	60.0	wind non-priority	due to connect
Mount Lucas (1)	TSO	79.2	wind priority	connected

Table 2-44 - Generation Included in Study for Node Mount Lucas

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		20	40	60		
Installed Capacity (MW)	2028		20	40	60	60	
Installed Capacity (MW)	2030				60	60	60
Available Energy (GWh)	2026		62	123	185		
Available Energy (GWh)	2028		62	124	186	186	
Available Energy (GWh)	2030				185	185	185
Generation (GWh)	2026		36	65	81		
Generation (GWh)	2028		40	72	88	104	
Generation (GWh)	2030				121	142	128
Surplus (%)	2026		5 %	10 %	15 %		
Surplus (%)	2028		1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026		3 %	4 %	5 %		
Curtailement (%)	2028		1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026		34 %	33 %	36 %		
Constraint (%)	2028		34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026		42 %	47 %	56 %		
Total Dispatch Down (%)	2028		36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 2-45 - Surplus, Curtailment and Constraint for Wind non-priority in Area J

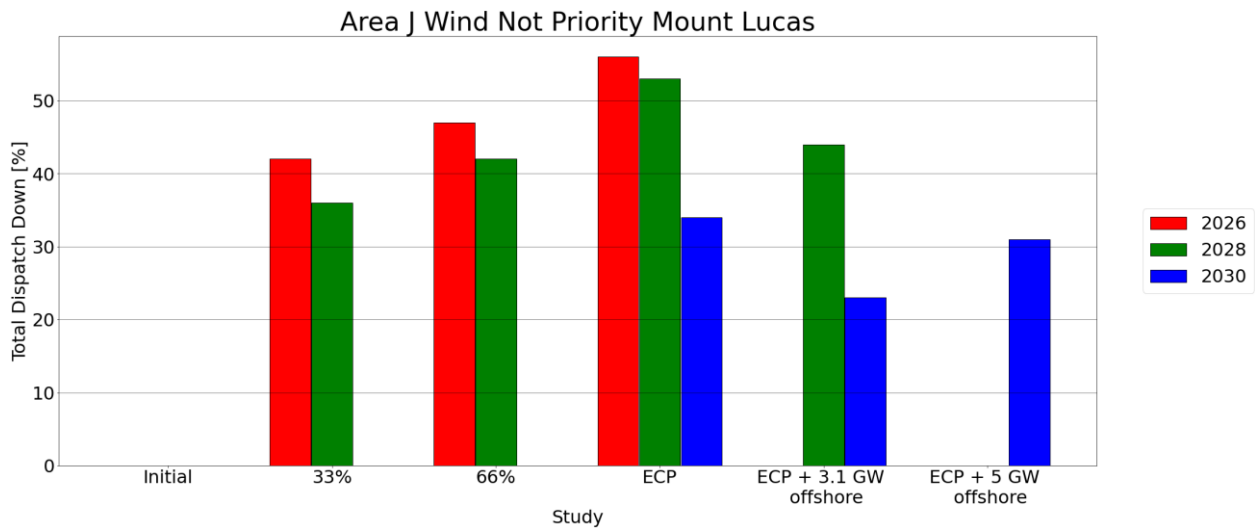


Figure 2-45 - Total Dispatch Down for Wind non-priority for Node Mount Lucas

The wind priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	79	79	79	79		
Installed Capacity (MW)	2028	79	79	79	79	79	
Installed Capacity (MW)	2030				79	79	79
Available Energy (GWh)	2026	244	244	244	244		
Available Energy (GWh)	2028	246	246	246	246	246	
Available Energy (GWh)	2030				244	244	244
Generation (GWh)	2026	238	235	230	227		
Generation (GWh)	2028	245	243	240	237	227	
Generation (GWh)	2030				243	230	236
Surplus (%)	2026	<1%	<1%	<1%	<1%		
Surplus (%)	2028	<1%	<1%	<1%	<1%	<1%	
Surplus (%)	2030				<1%	<1%	<1%
Curtailement (%)	2026	2%	4%	6%	7%		
Curtailement (%)	2028	<1%	1%	2%	4%	8%	
Curtailement (%)	2030				1%	6%	4%
Constraint (%)	2026	<1%	<1%	<1%	<1%		
Constraint (%)	2028	<1%	<1%	<1%	<1%	<1%	
Constraint (%)	2030				<1%	<1%	<1%
Total Dispatch Down (%)	2026	2%	4%	6%	7%		
Total Dispatch Down (%)	2028	<1%	1%	2%	4%	8%	
Total Dispatch Down (%)	2030				1%	6%	4%

Table 2-46 - Surplus, Curtailement and Constraint for Wind priority in Area J

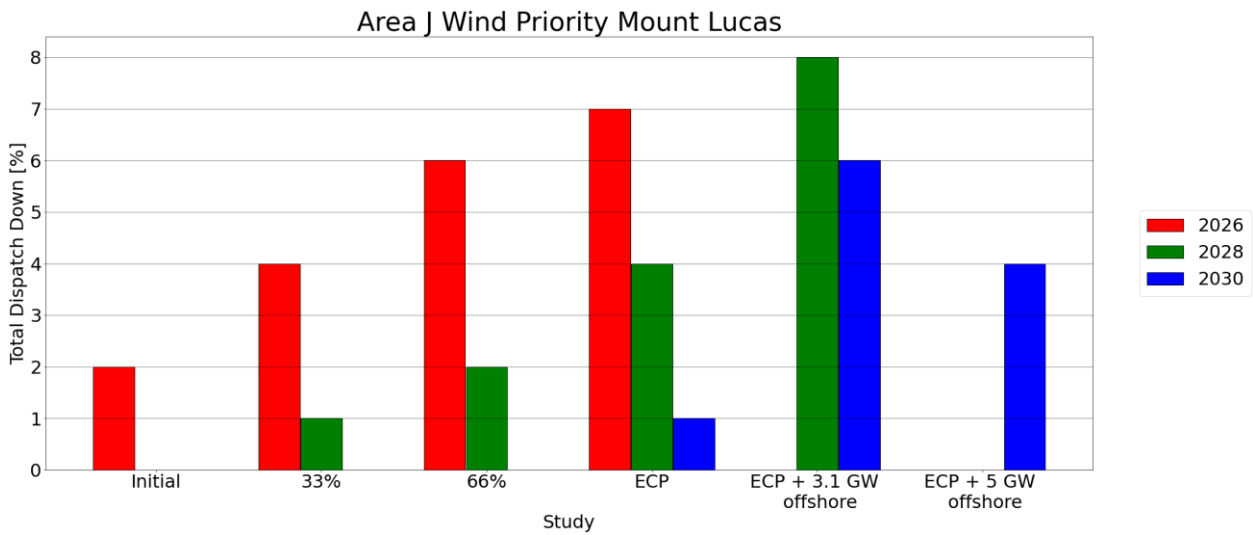


Figure 2-46 - Total Dispatch Down for Wind priority for Node Mount Lucas



The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		20	40	60		
Installed Capacity (MW)	2028		20	40	60	60	
Installed Capacity (MW)	2030				60	60	60
Available Energy (GWh)	2026		62	123	185		
Available Energy (GWh)	2028		62	124	186	186	
Available Energy (GWh)	2030				185	185	185
Generation (GWh)	2026		36	65	81		
Generation (GWh)	2028		40	72	88	104	
Generation (GWh)	2030				121	142	128
Surplus (%)	2026		5 %	10 %	15 %		
Surplus (%)	2028		1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026		3 %	4 %	5 %		
Curtailement (%)	2028		1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026		34 %	33 %	36 %		
Constraint (%)	2028		34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026		42 %	47 %	56 %		
Total Dispatch Down (%)	2028		36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 2-48 - Surplus, Curtailment and Constraint for Wind non-priority in Area J

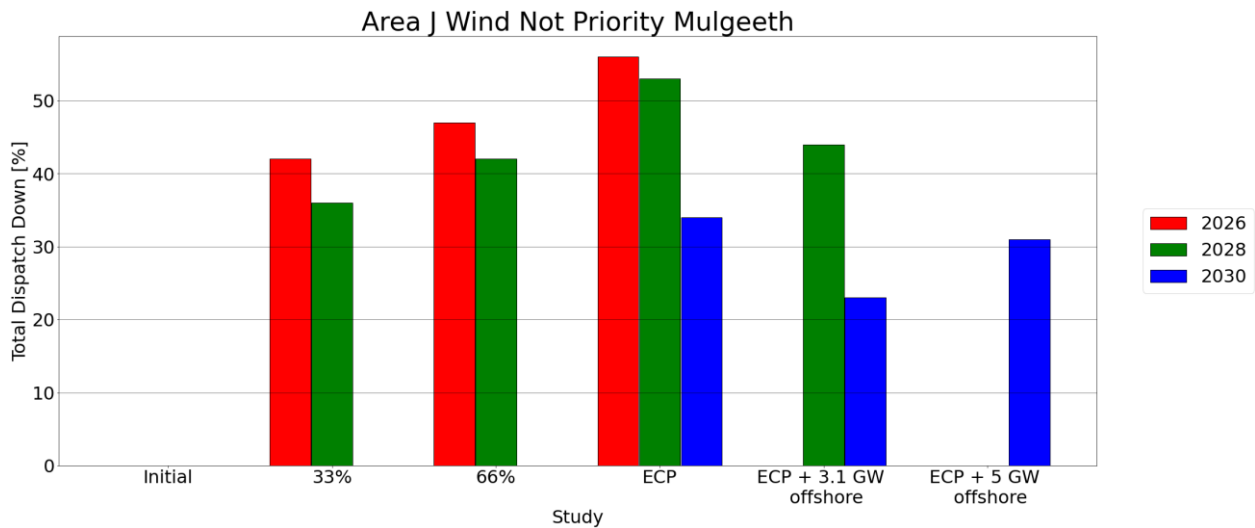


Figure 2-48 - Total Dispatch Down for Wind non-priority for Node Mulgeeth

## 2.24 Newbridge

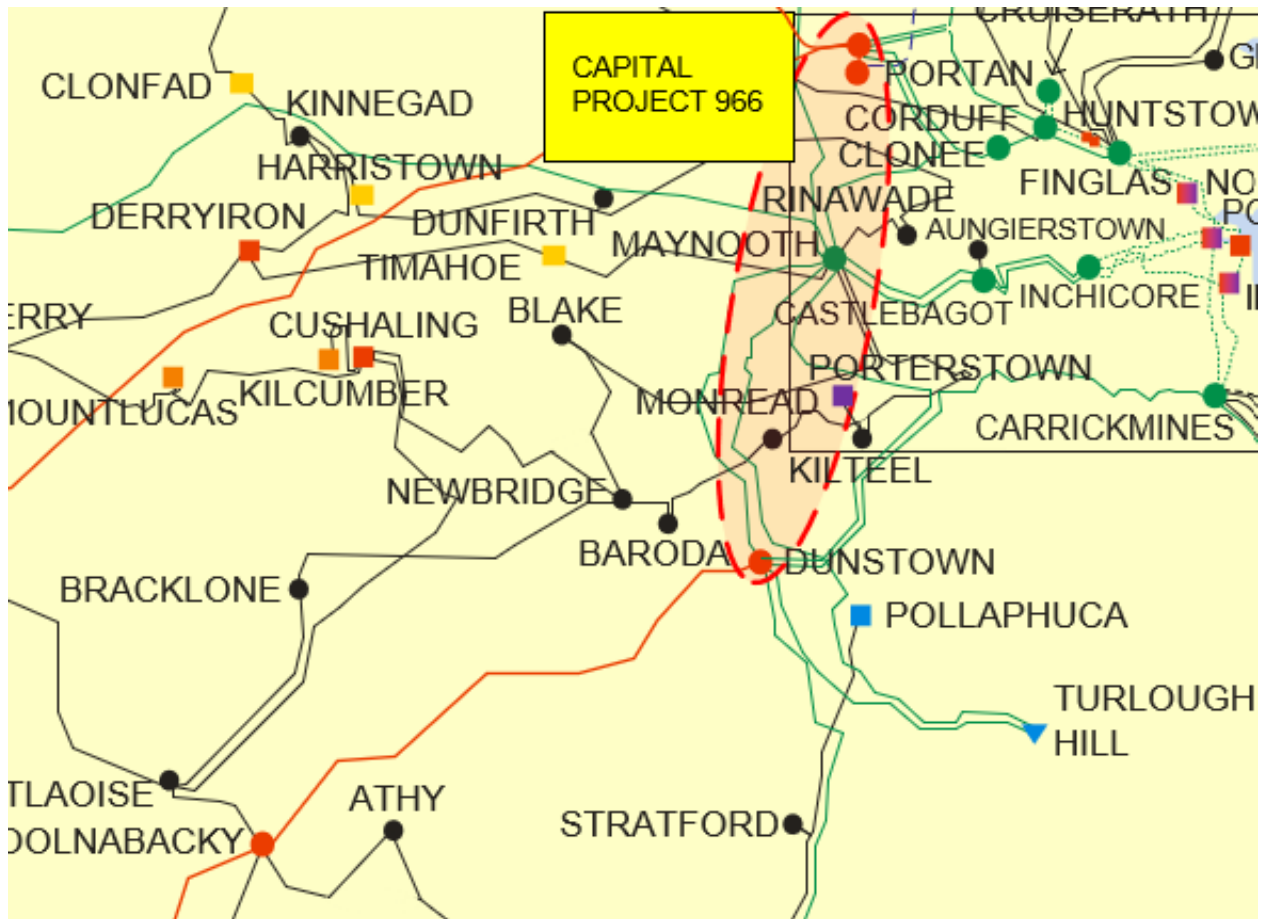


Figure 2-49 - Location of node Newbridge

Generator	SO	Capacity	Type	Status
Dunmurry Springs PV	DSO	12.0	solar non-priority	due to connect

Table 2-49 - Generation Included in Study for Node Newbridge



The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	12	12	12	12		
Installed Capacity (MW)	2028	12	12	12	12	12	
Installed Capacity (MW)	2030				12	12	12
Available Energy (GWh)	2026	15	15	15	15		
Available Energy (GWh)	2028	15	15	15	15	15	
Available Energy (GWh)	2030				15	15	15
Generation (GWh)	2026	14	12	10	8		
Generation (GWh)	2028	14	12	10	9	9	
Generation (GWh)	2030				11	11	11
Surplus (%)	2026	1%	3%	5%	9%		
Surplus (%)	2028	<1%	1%	2%	5%	11%	
Surplus (%)	2030				3%	6%	10%
Curtailement (%)	2026	1%	1%	2%	4%		
Curtailement (%)	2028	<1%	1%	1%	2%	3%	
Curtailement (%)	2030				1%	1%	1%
Constraint (%)	2026	6%	17%	27%	33%		
Constraint (%)	2028	6%	19%	29%	36%	28%	
Constraint (%)	2030				26%	21%	18%
Total Dispatch Down (%)	2026	7%	21%	34%	46%		
Total Dispatch Down (%)	2028	6%	20%	33%	44%	42%	
Total Dispatch Down (%)	2030				29%	28%	30%

Table 2-50 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

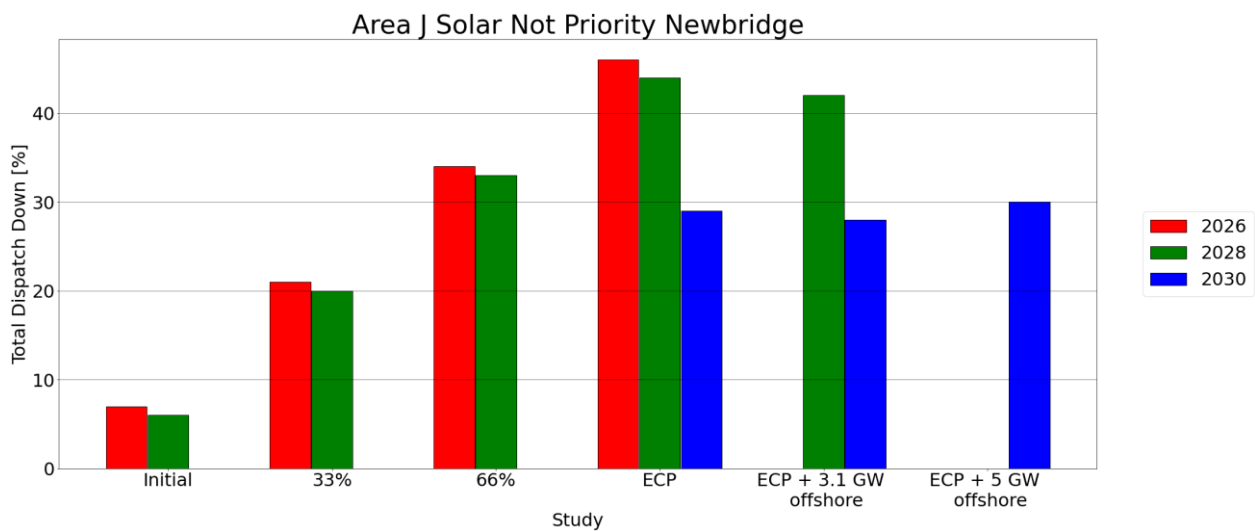


Figure 2-50 - Total Dispatch Down for Solar non-priority for Node Newbridge

## 2.25 Philipstown

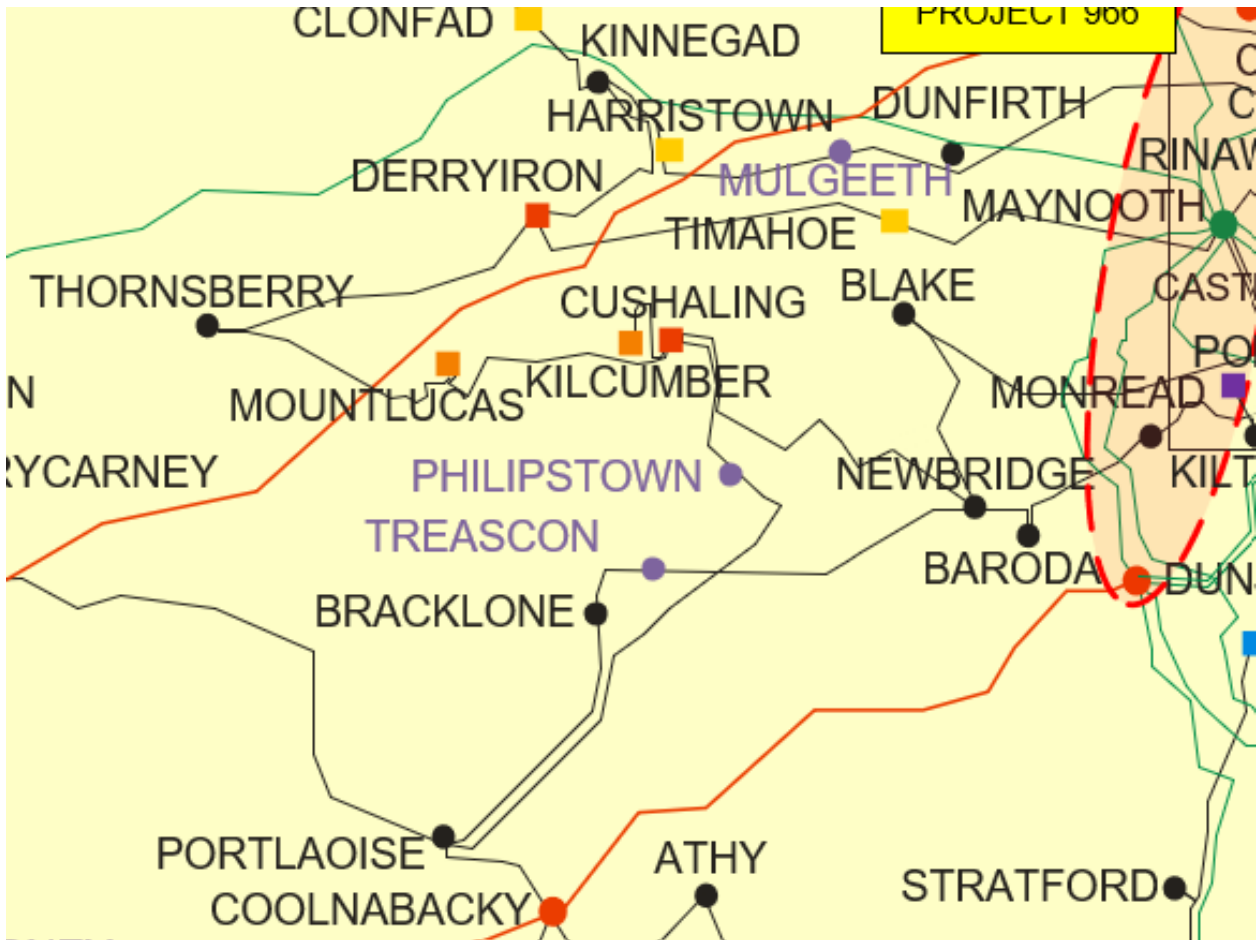


Figure 2-51 - Location of node Philipstown

Generator	SO	Capacity	Type	Status
Cushaling wind (loop into Cushaling - Newbridge)	TSO	50.0	wind non-priority	due to connect
Kilcush Solar Farm	TSO	50.0	solar non-priority	due to connect

Table 2-51 - Generation Included in Study for Node Philipstown

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		17	33	50		
Installed Capacity (MW)	2028		17	33	50	50	
Installed Capacity (MW)	2030				50	50	50
Available Energy (GWh)	2026		21	43	64		
Available Energy (GWh)	2028		21	43	64	64	
Available Energy (GWh)	2030				64	64	64
Generation (GWh)	2026		17	28	35		
Generation (GWh)	2028		17	29	36	37	
Generation (GWh)	2030				45	46	45
Surplus (%)	2026		3 %	5 %	9 %		
Surplus (%)	2028		1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026		1 %	2 %	4 %		
Curtailement (%)	2028		1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026		17 %	27 %	33 %		
Constraint (%)	2028		19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026		21 %	34 %	46 %		
Total Dispatch Down (%)	2028		20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-52 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

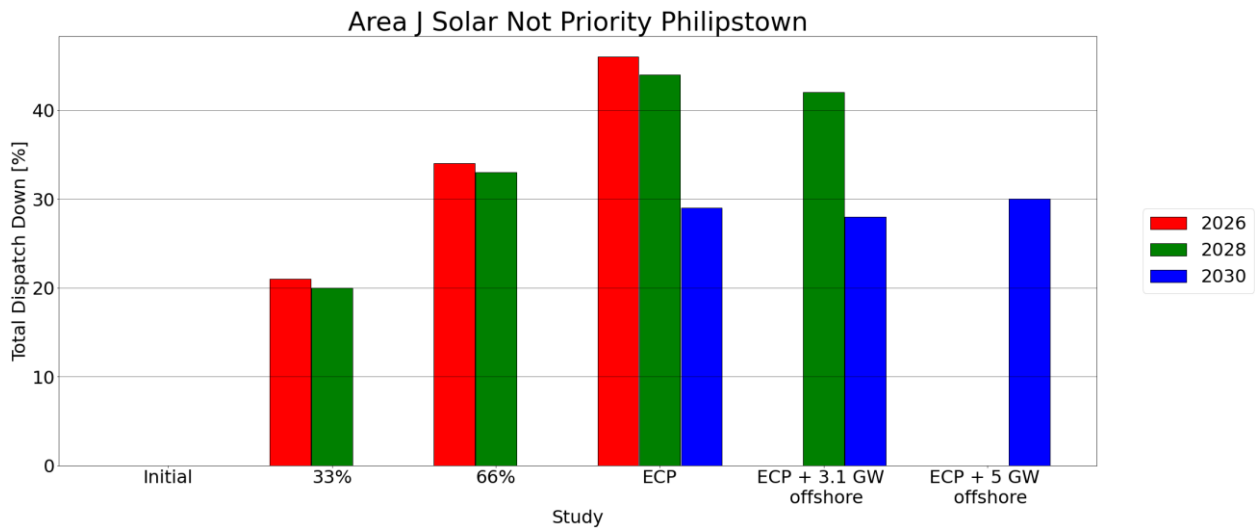


Figure 2-52 - Total Dispatch Down for Solar non-priority for Node Philipstown

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		17	33	50		
Installed Capacity (MW)	2028		17	33	50	50	
Installed Capacity (MW)	2030				50	50	50
Available Energy (GWh)	2026		51	103	154		
Available Energy (GWh)	2028		52	104	155	155	
Available Energy (GWh)	2030				154	154	154
Generation (GWh)	2026		30	54	67		
Generation (GWh)	2028		33	60	74	86	
Generation (GWh)	2030				101	118	107
Surplus (%)	2026		5 %	10 %	15 %		
Surplus (%)	2028		1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026		3 %	4 %	5 %		
Curtailement (%)	2028		1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026		34 %	33 %	36 %		
Constraint (%)	2028		34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026		42 %	47 %	56 %		
Total Dispatch Down (%)	2028		36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 2-53 - Surplus, Curtailment and Constraint for Wind non-priority in Area J

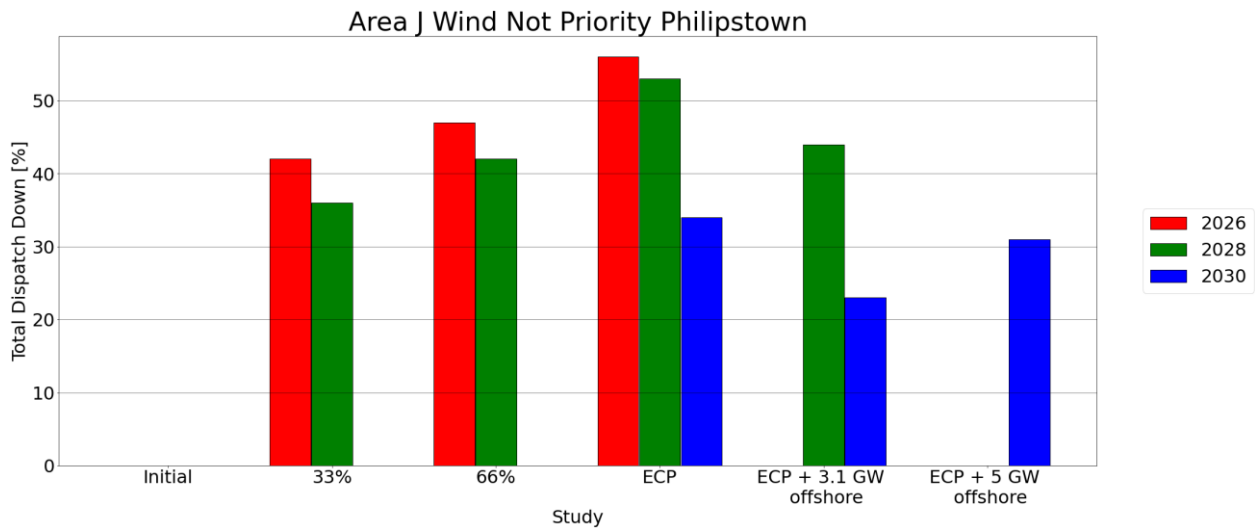


Figure 2-53 - Total Dispatch Down for Wind non-priority for Node Philipstown

## 2.26 Poolbeg North 220 kV



Figure 2-54 - Location of node Poolbeg North 220 kV

Generator	SO	Capacity	Type	Status
Codling Offshore Wind A	TSO	400.0	wind non-priority	due to connect

Table 2-54 - Generation Included in Study for Node Poolbeg North 220 kV

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026						
Installed Capacity (MW)	2028					400	
Installed Capacity (MW)	2030					400	400
Available Energy (GWh)	2026						
Available Energy (GWh)	2028					1685	
Available Energy (GWh)	2030					1676	1676
Generation (GWh)	2026						
Generation (GWh)	2028					1187	
Generation (GWh)	2030					1484	1285
Surplus (%)	2026						
Surplus (%)	2028					19 %	
Surplus (%)	2030					9 %	19 %
Curtailement (%)	2026						
Curtailement (%)	2028					4 %	
Curtailement (%)	2030					2 %	2 %
Constraint (%)	2026						
Constraint (%)	2028					6 %	
Constraint (%)	2030					1 %	2 %
Total Dispatch Down (%)	2026						
Total Dispatch Down (%)	2028					30 %	
Total Dispatch Down (%)	2030					11 %	23 %

Table 2-55 - Surplus, Curtailement and Constraint for Wind non-priority in Area J

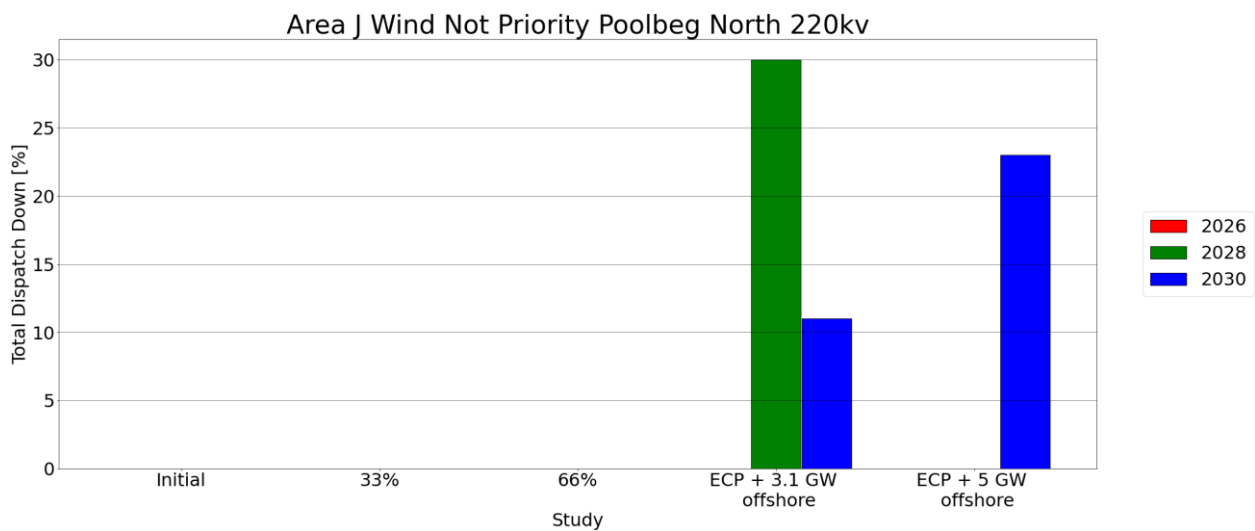


Figure 2-55 - Total Dispatch Down for Wind non-priority for Node Poolbeg North 220 kv

## 2.27 Poolbeg South 220 kV



Figure 2-56 - Location of node Poolbeg South 220 kV

Generator	SO	Capacity	Type	Status
Codling Offshore Wind B	TSO	450.0	wind non-priority	due to connect
Codling Offshore Wind C	TSO	450.0	wind non-priority	due to connect

Table 2-56 - Generation Included in Study for Node Poolbeg South 220 kV

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026						
Installed Capacity (MW)	2028					900	
Installed Capacity (MW)	2030					900	900
Available Energy (GWh)	2026						
Available Energy (GWh)	2028					3790	
Available Energy (GWh)	2030					3771	3771
Generation (GWh)	2026						
Generation (GWh)	2028					2672	
Generation (GWh)	2030					3340	2890
Surplus (%)	2026						
Surplus (%)	2028					19 %	
Surplus (%)	2030					9 %	19 %
Curtailement (%)	2026						
Curtailement (%)	2028					4 %	
Curtailement (%)	2030					2 %	2 %
Constraint (%)	2026						
Constraint (%)	2028					6 %	
Constraint (%)	2030					1 %	2 %
Total Dispatch Down (%)	2026						
Total Dispatch Down (%)	2028					30 %	
Total Dispatch Down (%)	2030					11 %	23 %

Table 2-57 - Surplus, Curtailement and Constraint for Wind non-priority in Area J

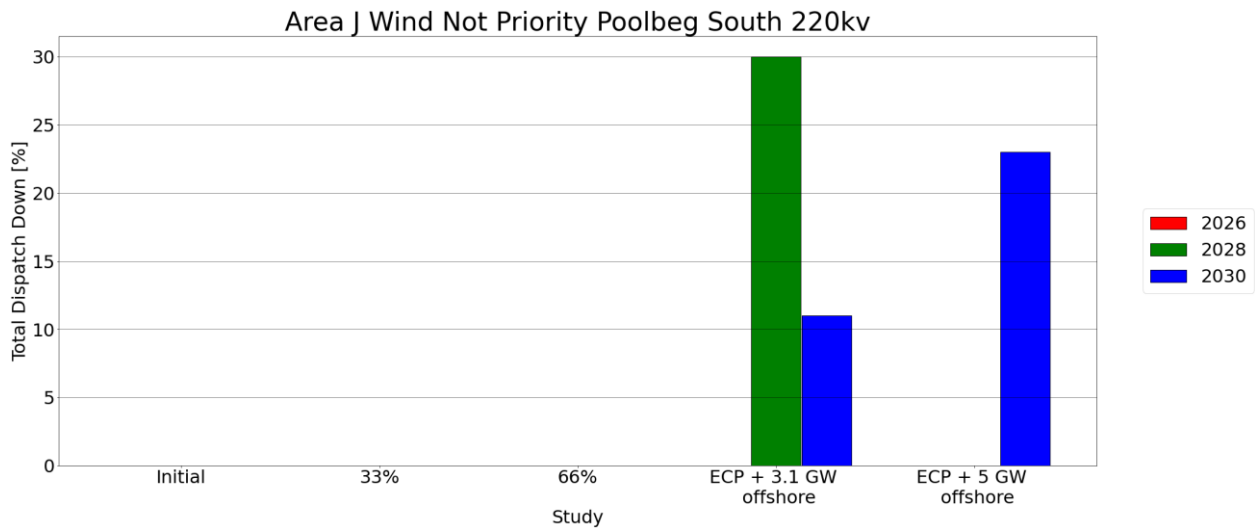


Figure 2-57 - Total Dispatch Down for Wind non-priority for Node Poolbeg South 220 kv



## 2.28 Portlaoise

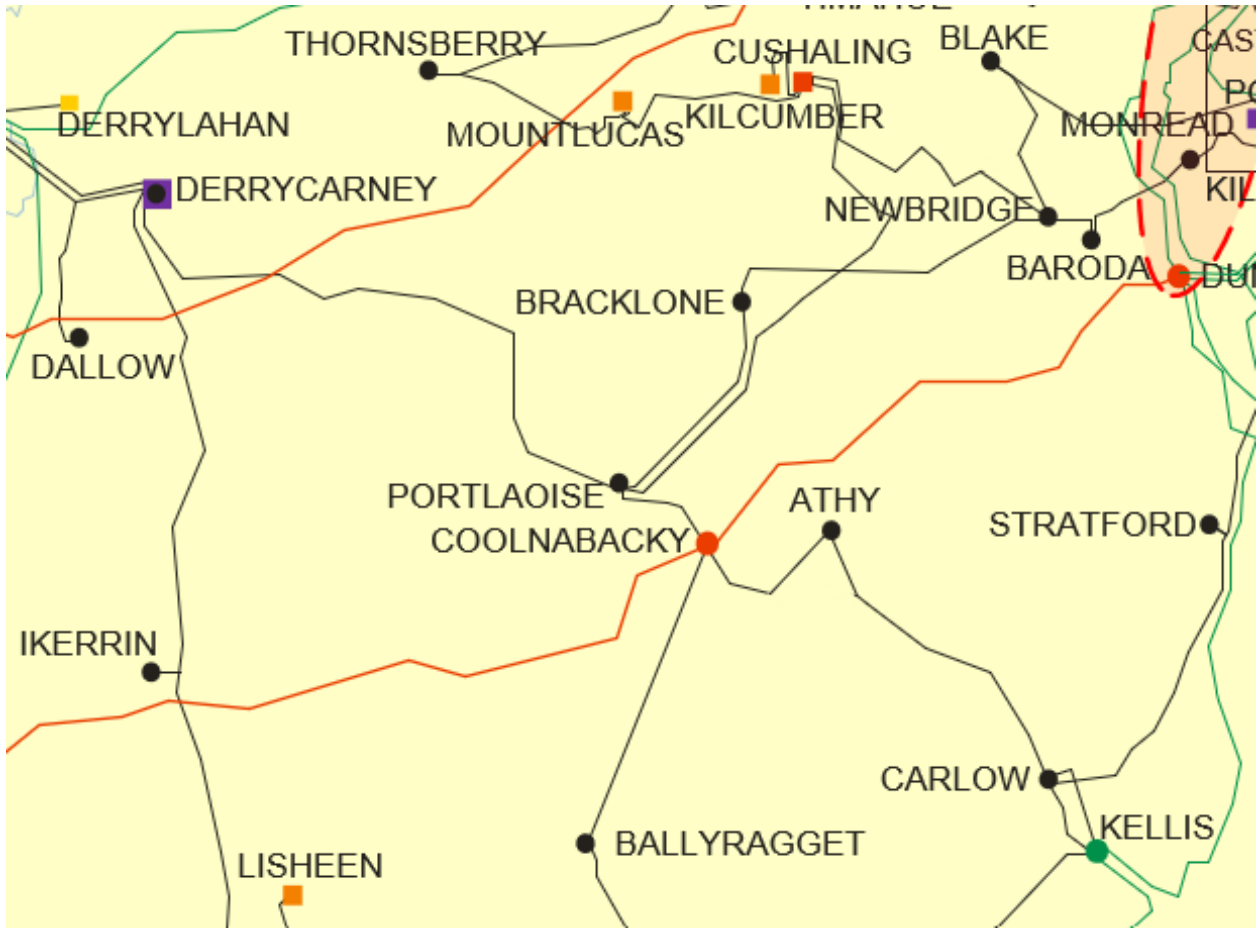


Figure 2-58 - Location of node Portlaoise

Generator	SO	Capacity	Type	Status
Dooray WF	DSO	45.001	wind non-priority	due to connect
Lisdowney (1)	DSO	9.2	wind priority	connected
Shanderry Solar Farm	DSO	4.0	solar non-priority	due to connect
Acragar Solar Farm	DSO	4.0	solar non-priority	due to connect
Derry More Solar Farm	DSO	4.0	solar non-priority	due to connect

Table 2-58 - Generation Included in Study for Node Portlaoise

The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	4	7	9	12		
Installed Capacity (MW)	2028	4	7	9	12	12	
Installed Capacity (MW)	2030				12	12	12
Available Energy (GWh)	2026	5	9	12	15		
Available Energy (GWh)	2028	5	9	12	15	15	
Available Energy (GWh)	2030				15	15	15
Generation (GWh)	2026	5	7	8	8		
Generation (GWh)	2028	5	7	8	9	9	
Generation (GWh)	2030				11	11	11
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	< 1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	< 1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-59 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

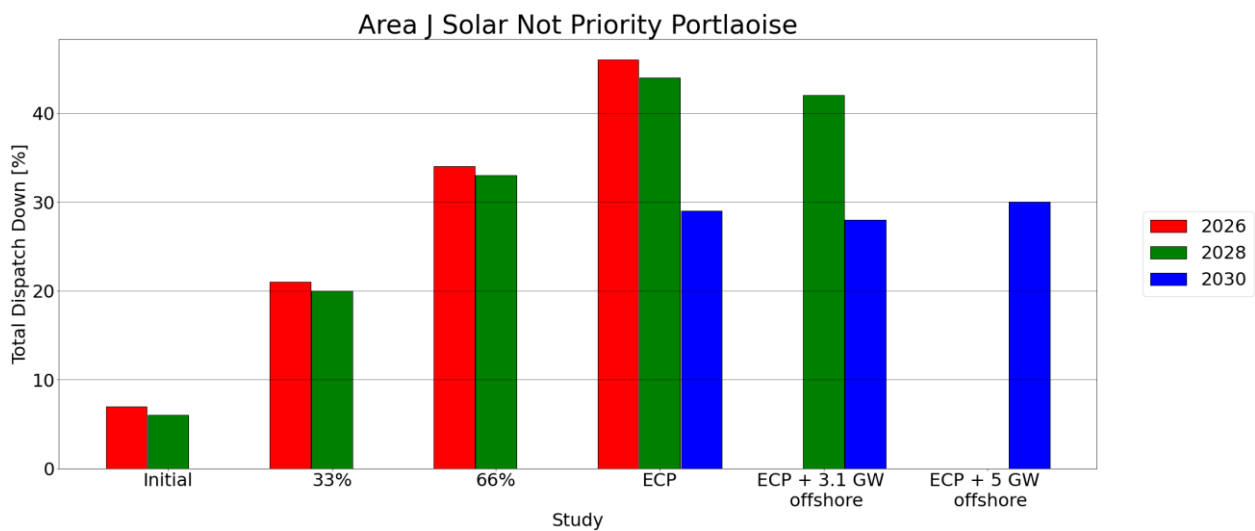


Figure 2-59 - Total Dispatch Down for Solar non-priority for Node Portlaoise

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	45	45	45	45		
Installed Capacity (MW)	2028	45	45	45	45	45	
Installed Capacity (MW)	2030				45	45	45
Available Energy (GWh)	2026	139	139	139	139		
Available Energy (GWh)	2028	140	140	140	140	140	
Available Energy (GWh)	2030				139	139	139
Generation (GWh)	2026	60	80	73	61		
Generation (GWh)	2028	68	89	81	66	78	
Generation (GWh)	2030				91	107	96
Surplus (%)	2026	2 %	5 %	10 %	15 %		
Surplus (%)	2028	< 1 %	1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026	2 %	3 %	4 %	5 %		
Curtailement (%)	2028	< 1 %	1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026	53 %	34 %	33 %	36 %		
Constraint (%)	2028	51 %	34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026	57 %	42 %	47 %	56 %		
Total Dispatch Down (%)	2028	52 %	36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 2-60 - Surplus, Curtailment and Constraint for Wind non-priority in Area J

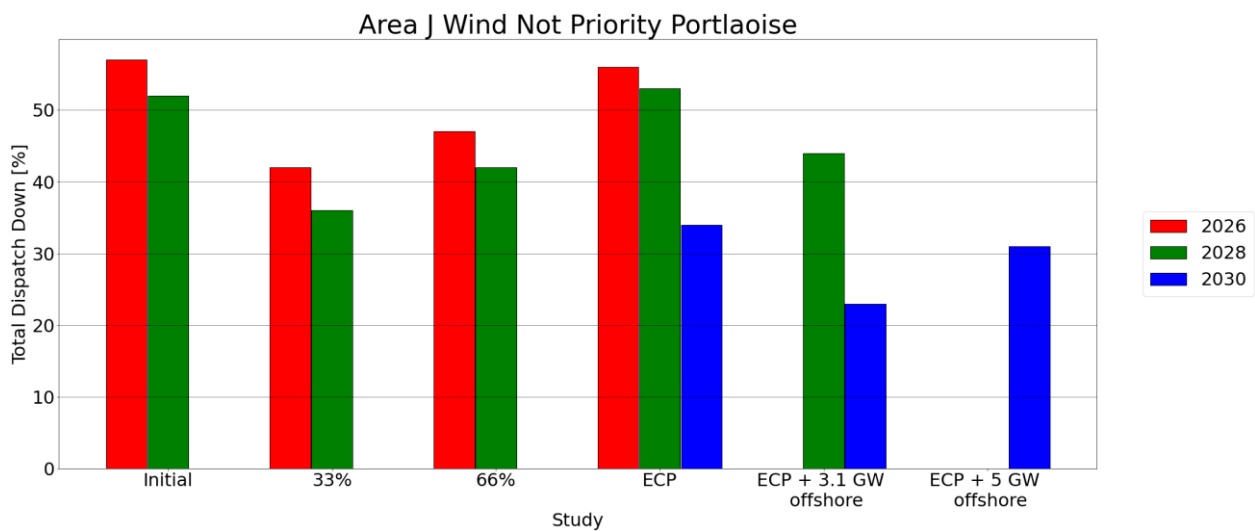


Figure 2-60 - Total Dispatch Down for Wind non-priority for Node Portlaoise

The wind priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	9	9	9	9		
Installed Capacity (MW)	2028	9	9	9	9	9	
Installed Capacity (MW)	2030				9	9	9
Available Energy (GWh)	2026	28	28	28	28		
Available Energy (GWh)	2028	29	29	29	29	29	
Available Energy (GWh)	2030				28	28	28
Generation (GWh)	2026	28	27	27	26		
Generation (GWh)	2028	28	28	28	27	26	
Generation (GWh)	2030				28	27	27
Surplus (%)	2026	< 1 %	< 1 %	< 1 %	< 1 %		
Surplus (%)	2028	< 1 %	< 1 %	< 1 %	< 1 %	< 1 %	
Surplus (%)	2030				< 1 %	< 1 %	< 1 %
Curtailement (%)	2026	2 %	4 %	6 %	7 %		
Curtailement (%)	2028	< 1 %	1 %	2 %	4 %	8 %	
Curtailement (%)	2030				1 %	6 %	4 %
Constraint (%)	2026	< 1 %	< 1 %	< 1 %	< 1 %		
Constraint (%)	2028	< 1 %	< 1 %	< 1 %	< 1 %	< 1 %	
Constraint (%)	2030				< 1 %	< 1 %	< 1 %
Total Dispatch Down (%)	2026	2 %	4 %	6 %	7 %		
Total Dispatch Down (%)	2028	< 1 %	1 %	2 %	4 %	8 %	
Total Dispatch Down (%)	2030				1 %	6 %	4 %

Table 2-61 - Surplus, Curtailement and Constraint for Wind priority in Area J

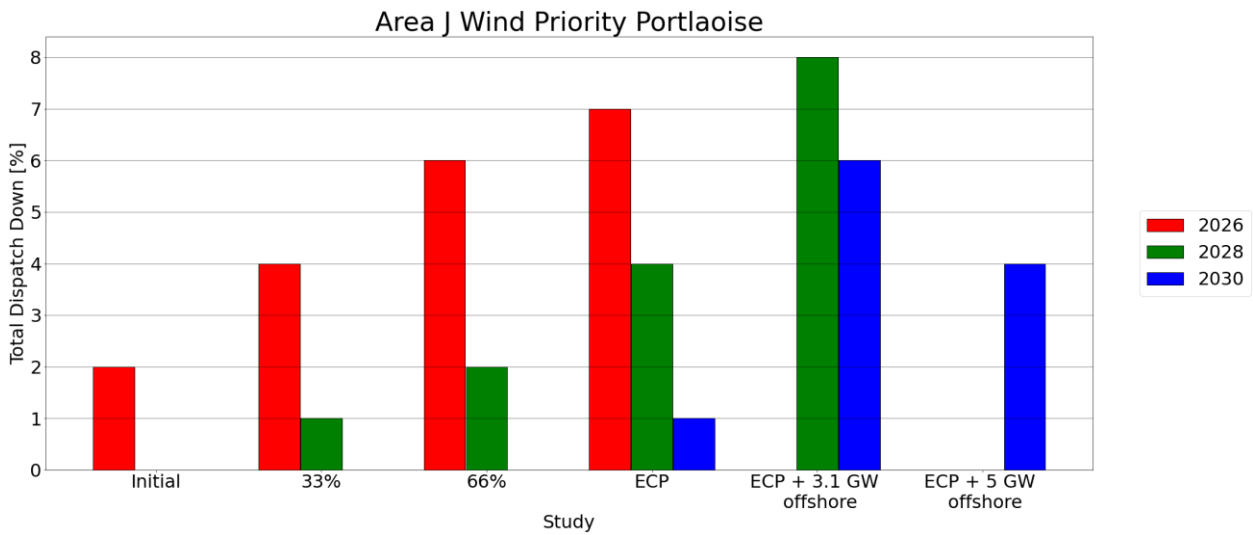


Figure 2-61 - Total Dispatch Down for Wind priority for Node Portlaoise



The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	4	41	77	114		
Installed Capacity (MW)	2028	4	41	77	114	114	
Installed Capacity (MW)	2030				114	114	114
Available Energy (GWh)	2026	5	52	99	146		
Available Energy (GWh)	2028	5	52	99	146	146	
Available Energy (GWh)	2030				146	146	146
Generation (GWh)	2026	5	41	65	79		
Generation (GWh)	2028	5	42	67	82	84	
Generation (GWh)	2030				103	105	102
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	< 1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	< 1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-63 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

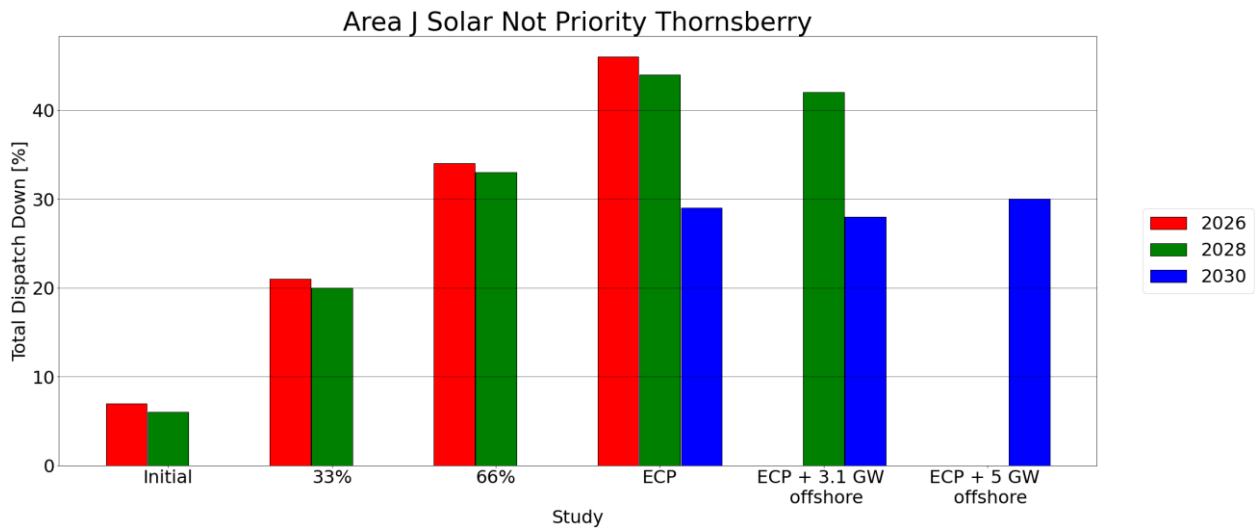


Figure 2-63 - Total Dispatch Down for Solar non-priority for Node Thornsberry

The wind non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026		2	3	5		
Installed Capacity (MW)	2028		2	3	5	5	
Installed Capacity (MW)	2030				5	5	5
Available Energy (GWh)	2026		5	10	15		
Available Energy (GWh)	2028		5	10	15	15	
Available Energy (GWh)	2030				15	15	15
Generation (GWh)	2026		3	5	7		
Generation (GWh)	2028		3	6	7	9	
Generation (GWh)	2030				10	12	11
Surplus (%)	2026		5 %	10 %	15 %		
Surplus (%)	2028		1 %	3 %	6 %	23 %	
Surplus (%)	2030				2 %	12 %	23 %
Curtailement (%)	2026		3 %	4 %	5 %		
Curtailement (%)	2028		1 %	2 %	3 %	5 %	
Curtailement (%)	2030				1 %	2 %	2 %
Constraint (%)	2026		34 %	33 %	36 %		
Constraint (%)	2028		34 %	37 %	44 %	17 %	
Constraint (%)	2030				32 %	10 %	5 %
Total Dispatch Down (%)	2026		42 %	47 %	56 %		
Total Dispatch Down (%)	2028		36 %	42 %	53 %	44 %	
Total Dispatch Down (%)	2030				34 %	23 %	31 %

Table 2-64 - Surplus, Curtailment and Constraint for Wind non-priority in Area J

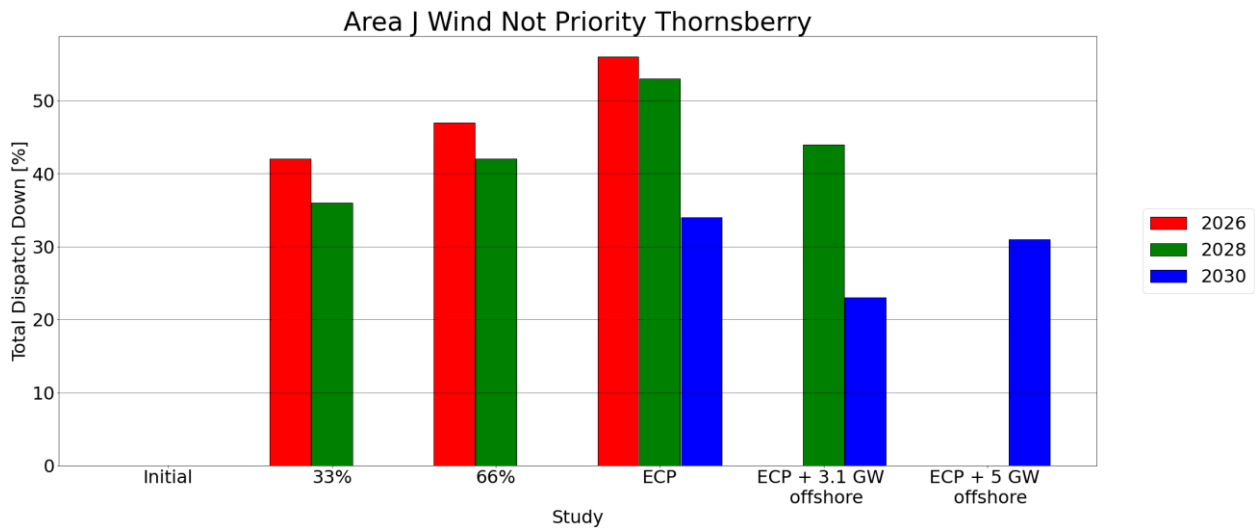


Figure 2-64 - Total Dispatch Down for Wind non-priority for Node Thornsberry

## 2.30 Timahoe North

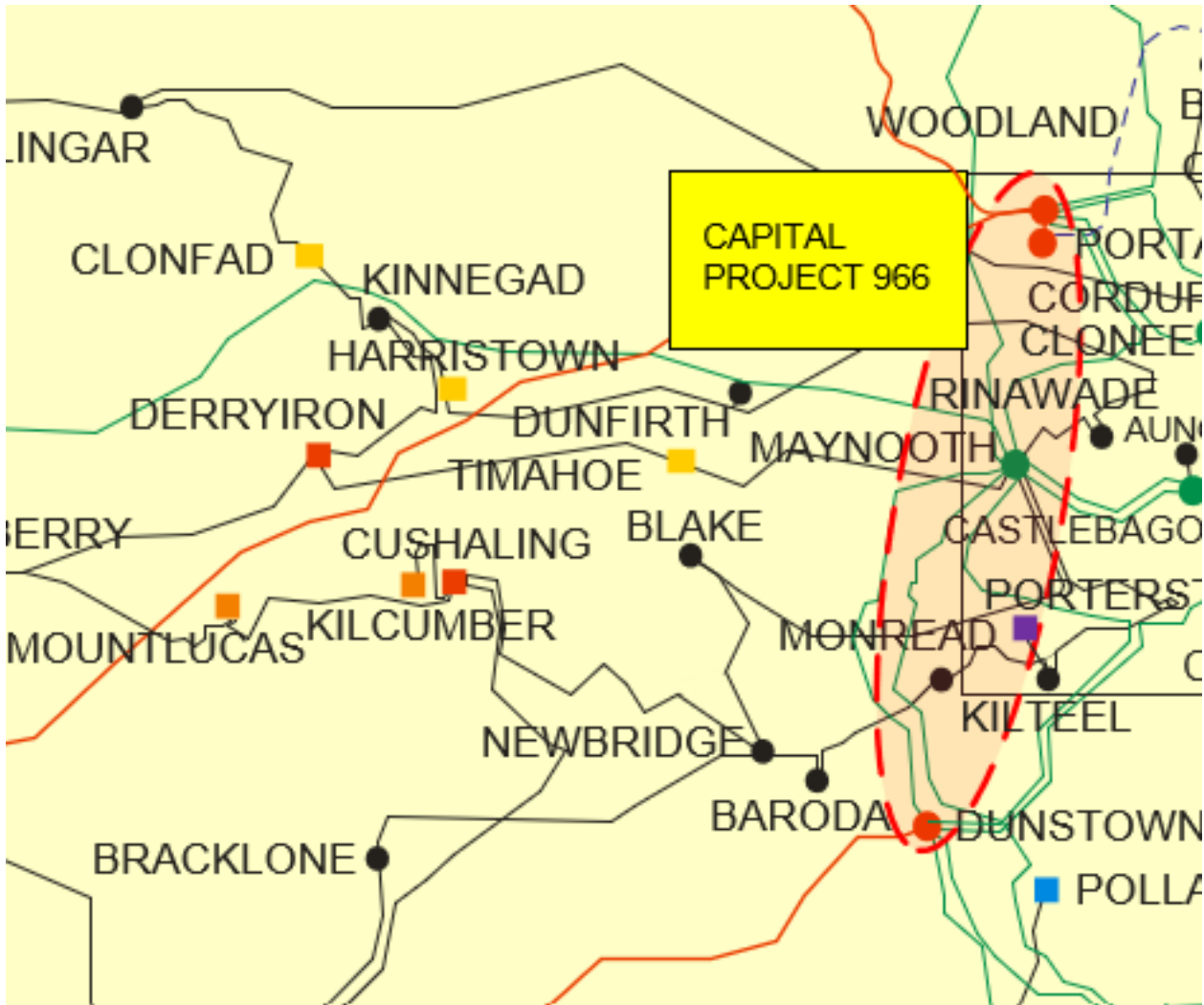


Figure 2-65 - Location of node Timahoe North

Generator	SO	Capacity	Type	Status
Timahoe North Phase 2 Solar Farm	TSO	80.0	solar non-priority	due to connect
Timahoe North solar	TSO	70.0	solar non-priority	due to connect
Old Court Solar Farm	TSO	90.0	solar non-priority	due to connect

Table 2-65 - Generation Included in Study for Node Timahoe North



The solar non-priority data is given in the following table.

Area J	Year	Initial	33%	66%	ECP	ECP + 3.1 GW offshore	ECP + 5 GW offshore
Installed Capacity (MW)	2026	70	127	183	240		
Installed Capacity (MW)	2028	70	127	183	240	240	
Installed Capacity (MW)	2030				240	240	240
Available Energy (GWh)	2026	90	162	235	308		
Available Energy (GWh)	2028	90	163	235	308	308	
Available Energy (GWh)	2030				308	308	308
Generation (GWh)	2026	83	128	154	167		
Generation (GWh)	2028	84	130	158	174	177	
Generation (GWh)	2030				218	222	216
Surplus (%)	2026	1 %	3 %	5 %	9 %		
Surplus (%)	2028	< 1 %	1 %	2 %	5 %	11 %	
Surplus (%)	2030				3 %	6 %	10 %
Curtailement (%)	2026	1 %	1 %	2 %	4 %		
Curtailement (%)	2028	< 1 %	1 %	1 %	2 %	3 %	
Curtailement (%)	2030				1 %	1 %	1 %
Constraint (%)	2026	6 %	17 %	27 %	33 %		
Constraint (%)	2028	6 %	19 %	29 %	36 %	28 %	
Constraint (%)	2030				26 %	21 %	18 %
Total Dispatch Down (%)	2026	7 %	21 %	34 %	46 %		
Total Dispatch Down (%)	2028	6 %	20 %	33 %	44 %	42 %	
Total Dispatch Down (%)	2030				29 %	28 %	30 %

Table 2-66 - Surplus, Curtailment and Constraint for Solar non-priority in Area J

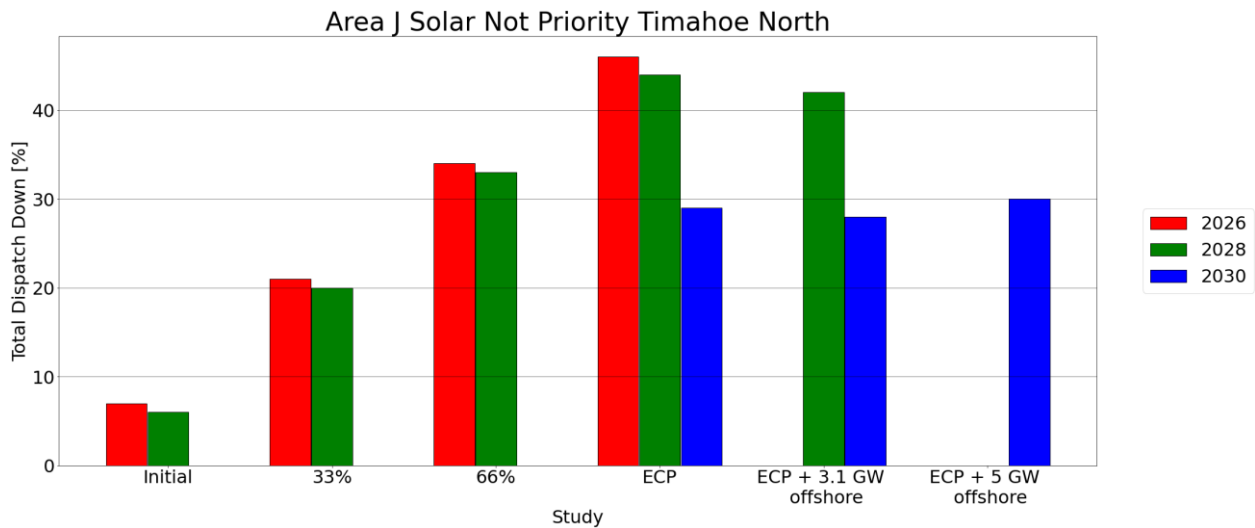


Figure 2-66 - Total Dispatch Down for Solar non-priority for Node Timahoe North