

Accelerating Renewables

in Northern Ireland







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1. Introduction

1.1 Background to this report

KPMG has been commissioned by RenewableNI to carry out a market consultation on how to accelerate the deployment of renewable energy in Northern Ireland (“NI”).

In 2021, the Department for Economy (“DfE”) published a new Energy Strategy for Northern Ireland outlining the vision to achieve net zero carbon and affordable energy by 2050. The Strategy also detailed a target of 70% of electricity consumption to come from renewable sources by 2030.

In 2022, the Climate Change Act (Northern Ireland) increased this legislative target to 80%. Recently published DfE data for the period to December 2022 reported that 51% of total electricity consumption in Northern Ireland came from renewable sources.

In order to achieve the 80% by 2030 target there is an urgent need to accelerate the current pace of renewable energy deployment.

This report highlights the market’s views on the current challenges in the NI renewables sector which are a barrier to achieving the 2030 target, combined with proposed solutions to accelerate renewable energy deployment.

1.2 Methodology

In undertaking this consultation, KPMG have:

- Engaged with various stakeholders in the industry, holding a series of individual and group consultation sessions.
- Circulated a questionnaire to the wider renewable development community to assess market views on the attractiveness of and barriers to developer investment in Northern Ireland.
- Compared renewable energy policy and development levels in NI with other jurisdictions, namely ROI and GB.
- Utilised KPMG’s extensive data base of renewable asset transactions to provide real-world insights into the process and timelines for development.

This information has been analysed and complemented by KPMG’s own views on the topic.

1.3 Analysis

Whilst the consultation sessions with stakeholders covered a wide range of topics, there was a specific focus on 3 key areas:

- Grid
- Planning
- Route to market

Each of these areas has been identified as a single point of failure in the delivery of renewable energy in Northern Ireland.

80%

electricity consumption that must come from renewable sources in NI by 2030.

51%

total electricity consumption from renewable sources in NI for the period January 2022 to December 2022.

2050

target for net zero carbon and affordable energy in NI.

6

number of years since NI has had a renewable energy support scheme.

2. Executive summary

In this report, KPMG has sought to convey the collective views of more than 30 individuals from 19 organisations across the Northern Ireland renewable eco-system.

Throughout the consultation process stakeholders detailed a variety of specific challenges depending on their particular area of focus. However, what was clear from all participants is that Northern Ireland is not in a position to simply tinker around the edges of the existing system to deliver 2030 targets. The challenges needing to be addressed are at a macro level, with wholesale changes required to the planning system, grid infrastructure and route to market options.

An overview of the key findings in this report are detailed below.

Key findings

- **Grid capacity** is a primary concern for both new and operational assets.
- **NI specific support scheme is vital** to reinvigorate the market and reverse renewable development decline.
- **Planning timelines are highly uncompetitive** and are cited as a major barrier by renewable developers.
- **Lack of clarity on when planning decisions will be received** is having a material impact on development.
- There is a **significant variation** in planning decisions across council areas.
- NI is now **lagging behind** ROI and GB in their efforts to decarbonise.

Market sentiment

Market sentiment in the Northern Ireland renewables sector has changed dramatically in recent years. From one of optimism and rapid growth to frustration and concern. Historic momentum generated by NIRO, a grid with sufficient capacity and a planning system comfortable with renewable technologies, has been lost.

As this report highlights, the current trajectory will see NI fall significantly short of its climate ambitions and a material step change is required to achieve 80% by 2030.

The overall sentiment of this market consultation is highlighted below:

01

Industry confidence is low for delivery of the 2030 target

02

Investment community sees NI as an unattractive location for renewables

03

10-year policy gap has hurt renewables deployment in NI

04

Northern Ireland's status as a market leader in renewables has been lost

05

Critical issues exist across grid, planning and route to market

2. Executive summary

Stakeholder views on the current challenges for renewables in NI were coupled with proposed solutions for accelerating the rate of deployment.

A full summary of these views across grid, planning and route to market is included in the body of this report but the key asks of the renewables community are highlighted below:

Top asks

01

Launch a Northern Ireland specific renewable energy support scheme.

02

Publish a detailed roadmap for a new support scheme including detailed timelines and parameters.

03

Reduce current planning decision timelines to a maximum of 1 year.

04

Introduce a time limit for statutory consultee responses, with a 'use it or lose it' mechanism.

05

Introduce third-party oversight of planning department performance against key metrics.

06

Increased education of planning officers in renewable technologies.

07

Adopt an anticipatory investment approach to grid infrastructure development.

08

Allow grid connection application and planning application to run concurrently.

09

Provide the Utility Regulator with the vires to consider environmental and climate priorities.

10

Permit increased turbine height, as well as removal of 10x rotor diameter set back distance.

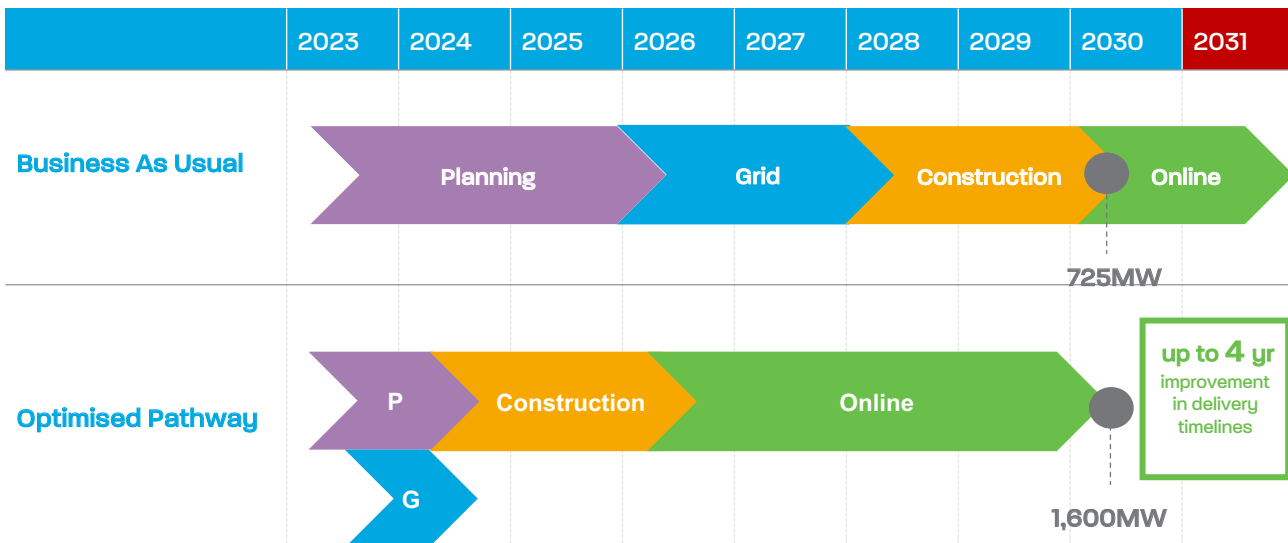
2. Executive summary

Over the past 12 months, Northern Ireland has added only c.30MW of new renewable energy capacity to the system. To put this figure in context, the Republic of Ireland managed to connect more than 20 times this volume over the same 12-month period, connecting 688MW across 23 assets in 2022 alone.

NI's recent performance also compares poorly to historic levels, with NI for example adding c.400MW of new generation capacity in 2016.

According to the 'Shaping Our Electricity Future Roadmap Version 1.1' published by EirGrid and SONI in July 2023, there is a need for Northern Ireland to have built a renewable generation capacity of 3,550 MW by 2030 in order to deliver the target of 80% of electricity consumption from renewables sources. Our analysis suggests that to achieve this, **1,900MW** of new generation from onshore wind, solar and offshore wind will need to be added by 2030.

The NI market has a known pipeline of **3,461MW** of incremental renewables, from pre-planning to consented assets, which in theory could meet NI's required demand. However, by assuming current permitting and grid timelines, and applying realistic probability weightings, we believe a best-case outcome will see **725MW** of this pipeline commence generation by 2030. This is **less than 40%** of the volume required. Furthermore, given the current timelines to progress a project from ideation to operation in NI, unless a project is already within the pipeline, it is highly unlikely to be able to contribute to the 2030 target. This is outlined in the "Business as Usual" scenario below.



If however we were to take the same pipeline of 3,461MW, but adopt and deliver upon the recommendations contained within this report, we estimate that the same pipeline could deliver **1,600MW** of generation capacity by 2030.

Furthermore, the enhanced timelines would provide an opportunity for further projects to be introduced into the system and still connect by 2030, **providing a credible pathway to meeting 2030 targets**. This is outlined in the "Optimised Pathway" scenario above.

3. NI's Renewable Journey

2005

The NIRO Scheme came into effect, designed to incentivise renewable generation in the NI electricity market.

2016

Renewable energy generation in Northern Ireland peaks, with 400MW of new renewables brought online in one year.

2017

NIRO Scheme closed to new entrants with accredited projects receiving ROCs for either 20 years or until March 2037 whichever is earlier.

2019

NI Executive 40% target of electricity consumption by 2020 achieved ahead of schedule.

2022

Climate Change Act (Northern Ireland) 2022 sets out legislative target of 80% renewable electricity consumption by 2030.

2023

Figures released by DfE in June 2023 reported electricity consumption from renewable sources in NI for the 12 month period April 2022 to March 2023 was 48.5%.

2030

NI needs to more than double its renewable capacity by 2030 in order to achieve legislative climate targets.

4.1 Grid



A significant change in process would be if an anticipatory investment approach to the grid was adopted. This would considerably decrease the lead time for renewables getting connected."

Successes

- ✓ Cluster developments.
- ✓ NIE Networks and SONI have strong engagement levels with the market.
- ✓ Ability to apply for grid connection on a continuous basis rather than a fixed window.

Primary challenges

1

Lack of investment in grid infrastructure over the past 10 years has seen the current system come under considerable pressure from increasing renewable energy generation. Demand for new network connections is high but proposed grid development plans are suffering from inaction.

2

Constraint and curtailment issues mean that even if renewable projects can be developed with a viable route to market, system limitations prevent this energy from being used. When delivering the 2020 targets there was spare capacity in the grid so additional renewable generation was welcomed.

3

Skills gap to deliver grid development is a concern for delivery of NIE Network's RP7 business plan, required to meet climate targets. The project is reliant on significant skilled resource being added but there is currently a shortage in the market, particularly around electrical engineering.

4

No willingness to develop the grid ahead of time due to an evidence-based investment approach rather than an anticipatory one. If grid development doesn't begin until projects have all necessary approvals then timelines are further extended.

5

Need for planning permission prior to making grid application compounds the current timeline issues whereas other jurisdictions such as GB do not have this requirement and the two applications can run concurrently.

6

Grid connection costs and timelines are prohibitive in making renewable projects economically viable. Industry stakeholders in GB cannot understand why there has to be so much money spent on planning, studies etc. before grid connection offer, which could be completed before the end of the planning process.

4.1 Grid – Proposed solutions

Adopt an anticipatory investment approach

There is an urgent need to develop the grid ahead of time to decrease overall deployment lead times.

At present it can take 5-6 years for a new renewables project to undertake pre-planning activities, obtain planning permission and receive a grid connection offer.

If an evidence-based approach to grid development continues there will be large windows of inactivity followed by a bottle neck of new generation that cannot be facilitated.

Adopting an anticipatory investment approach in conjunction with industry would take years off overall timelines and allow for more rapid deployment.

Improved transparency between NIE Networks and industry

From an NIE Networks perspective there is a challenge in getting a clear view of what is coming down the track in terms of future renewables development.

Having key information such as project scale, proposed locations and connection requirements would allow for the grid to be planned for appropriately.

Conversely, industry would benefit from enhanced grid information before committing significant funds to developments pre-connection.

A forum for information sharing and collaboration would be mutually beneficial.

Improve engagement with the general public

For members of the general public who have had limited exposure to the renewables industry, 2030 appears to be a long way away.

The widely publicised success of achieving the 40% target and recent DfE statistics reporting this figure is now at c50% can make 80% by 2030 appear to be a formality.

Improving the public's understanding of grid development requirements and timelines required to achieve 2030 is key.

Reinforcing the importance of acting now is vital.

Incentivise development of generation close to demand

Developing renewable energy generation close to demand significantly reduces the work involved in respect of the grid.

While the opportunity for large scale developments to be located close to high demand areas is minimal, there is an opportunity to do this for smaller scale projects.

Appreciating that the achievement of the 2030 target will require both large and small scale developments, there may be scope to incentivise appropriate projects close to demand with areas such as expedited planning application timelines and reduced connection costs being considered.

4.1 Grid - Proposed solutions

Innovate to address skills shortage

Another key challenge around grid development is a potential skills shortage, particularly in relation to electrical engineering.

This skills shortage is seen as an Achilles' heel to achieving climate change targets given the reliance on grid infrastructure development.

Some possibilities to address this are:

- 1) Apprentices and graduates.
- 2) Use of contractors.
- 3) Development of turnkey solutions for standard projects which are not as labour/skills intensive.

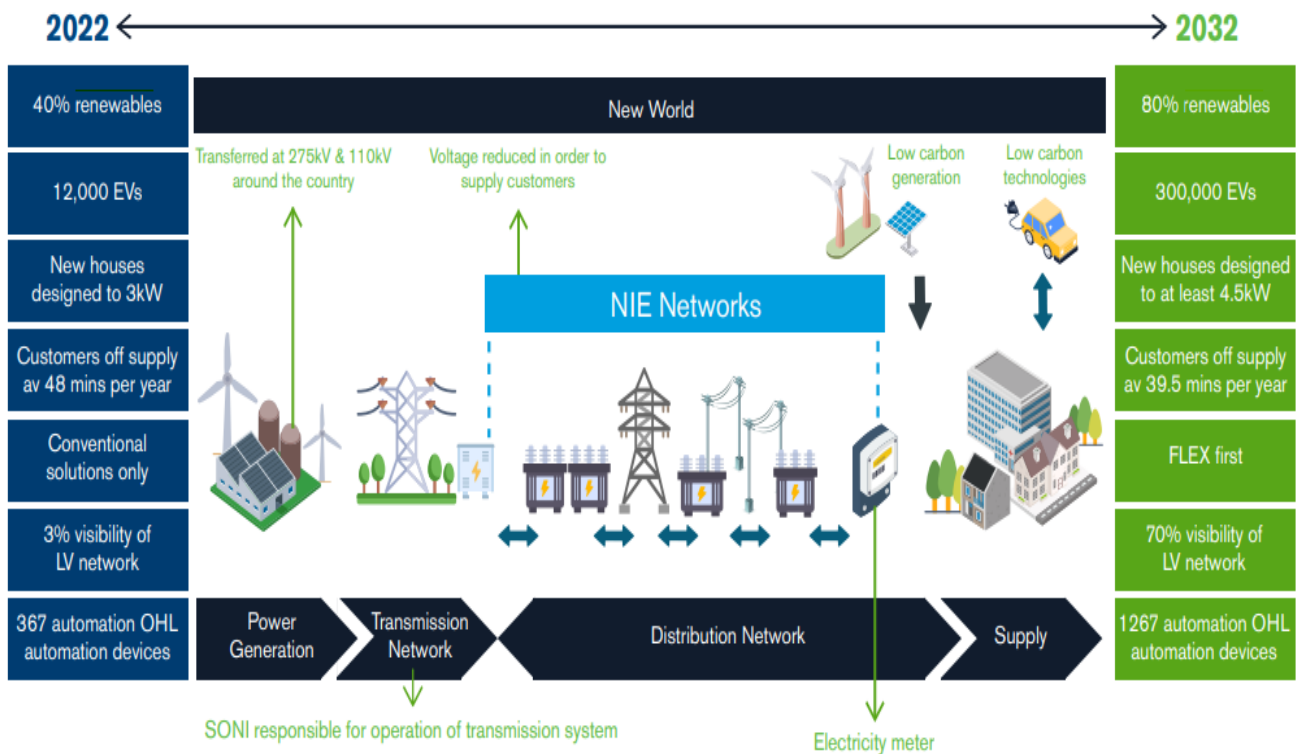
Action planned developments urgently

NIE Network's proposed RP7 business plan (2025-2031) details the required level of grid investment needed to meet NI's climate change commitments.

While the ambition is welcomed by industry, the proposal highlights the magnitude of what is needed, with a c£2.6bn investment required over the period and 1,000 new jobs created.

The network needs the delivery of a large-scale project to significantly upgrade and reinforce the network.

Providing the Utility Regulator with the vires to consider environmental and climate priorities would further support necessary grid developments.



Source: NIE Network's 2030 network vision as detailed in the [RP7 business plan summary](#).

4.2 Planning



A planning application for repowering took 2 years 10 months, for a decision to increase turbine diameter by 10m.”

Successes

- ✓ Strategic planning policy is supportive of renewable energy.
- ✓ Delivery of 40% by 2020 target.

Primary challenges

1

Length of timelines and lack of clarity on decision is having a material impact on renewable project planning and delivery. Decisions can range from 6 months to the current average of 3 years, which is well in excess of statutory targets, but there is also no sense of where on this scale a decision will land.

2

Lack of consistency across councils with individual planners and councils reaching entirely different decisions on similar applications despite working under a single policy. Limited oversight means these inconsistencies are not being addressed.

3

Over consultation in respect of planning applications is a primary source of delay, with the system being frustrated by back and forth with statutory consultees. Each minor change to an application is often circulated to all consultees for comment regardless of whether they will be impacted or not, adding unnecessary layers to the process.

4

Variable quality of planning applications particularly among small-scale projects are making it difficult for planning officers to make a decision. An improvement in quality from small-scale developers would see a smoother passage through to decision.

5

Under resourced planning departments due to budget constraints with staff leaving and not being replaced. The result is that staff have to prioritise workloads which is having an impact on timelines for applications to be determined.

6

Knowledge gap across departments on renewable energy technologies. Previously planning officers were comfortable with the technologies being used which resulted in an average 8-12 month decision time frame.

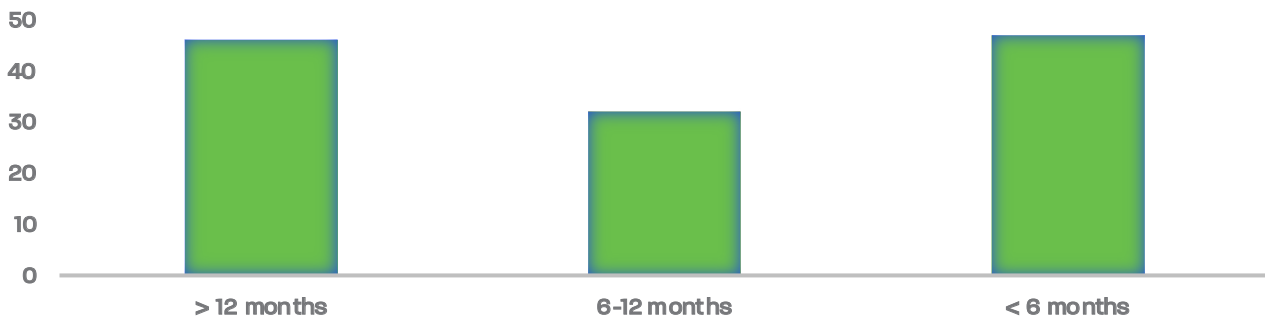
4.2 Planning

According to data published by the Department for Infrastructure in July 2023, there are 125 planning applications for single wind turbines, wind farms and solar farms with the status of ‘Pending’ submitted before the end of March 2023. The earliest of these applications was submitted in November 2012.

This data highlights two of the primary issues raised by stakeholders, that planning timelines are well in excess of statutory targets and there is significant variability in decision timelines.

Figure 1

PENDING RENEWABLE PLANNING APPLICATIONS TO MARCH 2023

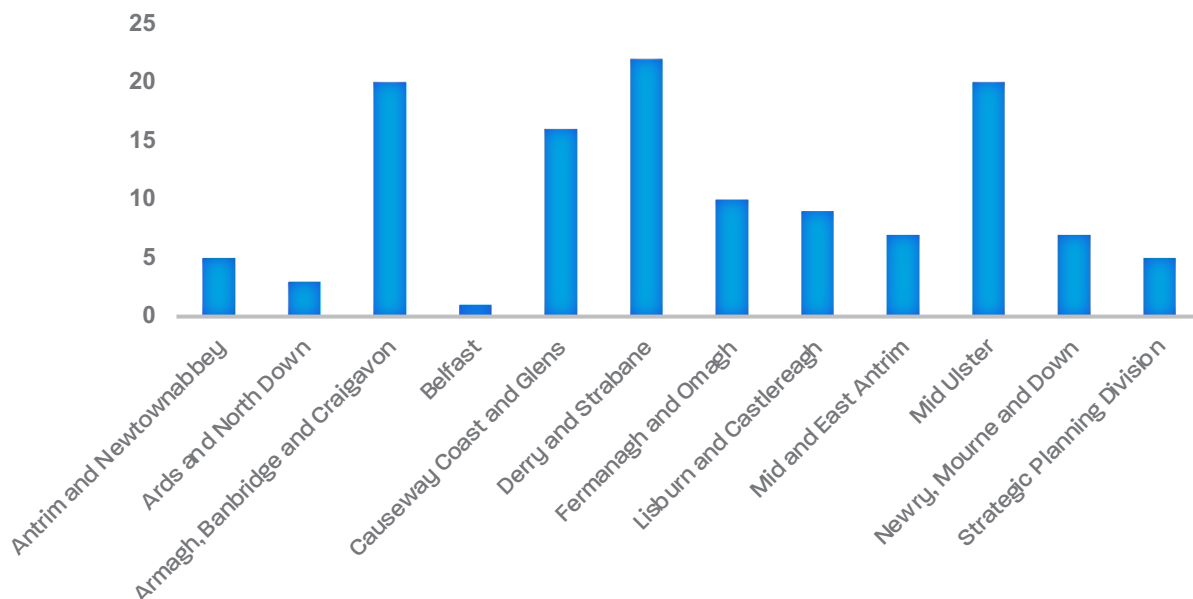


In addition to the widespread planning challenges it was highlighted that not all councils are equal in terms of volume of applications received and subsequent turnaround times.

This issue raised the need for a review of the current resourcing requirements in each council area, the possibility of having a mobile resource pool to address need where it arose, and the introduction of third party oversight to ensure everyone is being held to the same standard. The breakdown of current ‘Pending’ renewables applications is broken down below by individual local authority.

Figure 2

PENDING APPLICATIONS BY LOCAL AUTHORITY



Source: Department for Infrastructure, Renewable energy planning applications list, April 2002 to March 2023.

4.2 Planning - Proposed solutions

Clearly defined timelines for planning decisions

Current statutory planning targets are 15 weeks for projects at a local level and 30 weeks for major projects decided on centrally.

As illustrated in Figure 3, it is taking c3 years on average to receive planning approval for onshore wind which makes up 84.7% of renewable energy as of March 2023.

A significant reduction in timelines coupled with certainty on an upper limit would make a significant difference to renewable energy deployment. For example, industry would like a guarantee that all applications would be decided on within 52 weeks.

While still beyond statutory targets it would represent material progress and align NI with ROI, where the industry is also pushing for timeline improvements.

Overall timelines should also include a limit on response times from statutory consultees, with a 'use it or lose it' mechanism being introduced.

Third party performance oversight

When viewing Local Council and Department of Infrastructure statutory targets against the actual decision timelines it is clear that there is material disconnect.

At present there is no mechanism to hold authorities and individual planners accountable for the statutory targets.

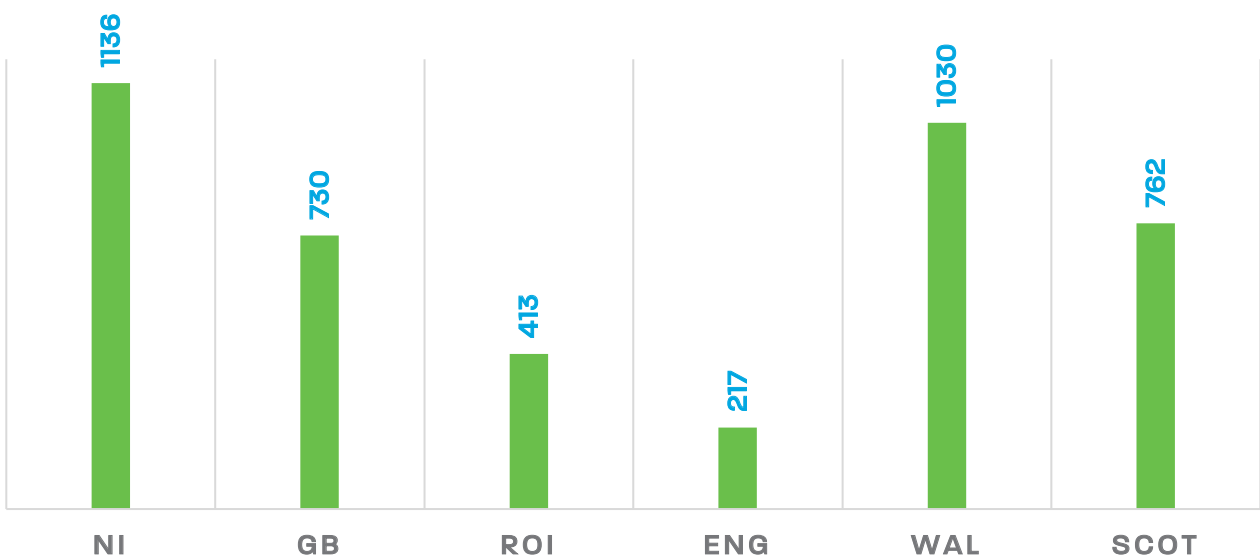
Implementation of independent third party oversight would allow for performance against key metrics to be measured.

The process would help to identify the following:

- Best practice, both locally and in other jurisdictions.
- Process efficiencies which could be standardised and implemented across individual authorities.
- Resource issues, ensuring Local Council and Department of Infrastructure are being resourced appropriately.

Figure 3

AVERAGE NUMBER OF DAYS FOR GRANTING OF ONSHORE WIND PLANNING PERMISSION (2020-2023)



Source: RenewableUK Energy Pulse & Wind Energy Ireland, projects with a capacity >1MW.

4.2 Planning - Proposed solutions

Increased resources in planning departments

Local Council and Department for Infrastructure planning departments are currently suffering from a lack of resource which is contributing significantly to statutory targets being missed.

With the proposed introduction of a new support scheme it is expected that the current volume of applications will increase significantly. Historical data* from before and after the closure of NIRO supports this view:

- **417** – new renewable planning applications from 1 April 2017 – 31 March 2023.
- **2,606** – new renewable planning applications from 1 April 2011 – 31 March 2017.

To achieve 2030 targets planning departments need to be resourced appropriately.

Central pool of planning resources to distribute

There is a material difference in the volume of renewable applications being received by each council.

For example, from 1 January 2020 – 31 March 2023, the highest and lowest number of renewable planning applications received are detailed below*:

- **Belfast** – 4
- **Fermanagh and Omagh** – 53

With such variability in application volumes it would be beneficial to have a central pool of planning resource, comfortable with renewables, that could be deployed appropriately against demand regardless of jurisdiction.

Early engagement between planners and developers

Early engagement between planners, developers and statutory consultees is vital to ensure potential issues can be raised and mitigated before formal applications are submitted.

Possible actions to enable this are highlighted below:

- Ensuring developers are making use of the pre-application consultation sessions with planning officers.
- Involve statutory consultees in early planning discussions so meaningful advice can be provided on potential issues.
- Possible use of a developer checklist.

Improved education on renewable technologies

A significant difference in the current planning system compared with that in operation when the 40% target was achieved is the education of planning officers.

Education undertaken in 2012-13 ultimately contributed towards 2020 target being achieved.

Many planning officers are inexperienced in the renewable technologies being referenced in planning applications and as such cannot make efficient decisions.

Consultation with planning officers indicated an appetite to join industry-led workshops to learn more about technologies and new innovations.

* Source: Department for Infrastructure, Renewable energy planning applications list, April 2002 to March 2023.

4.3 Route to market



Even if there is a 2025 auction, construction will not begin until 2026 at the earliest, and we will soon be in 2030 before generation begins.”

Successes

✓ NIRO.

Primary challenges

1

Lack of a support scheme means there is no primary route to market for renewables in Northern Ireland. Both ROI and GB have functioning, government backed, auction processes which make them significantly more attractive for investors.

2

No definitive timeline on a new support scheme from the Department for the Economy is having a material impact on the ability of developers to plan future developments. The decline in interest from investors for the small number of consented projects in NI supports this view.

3

Lack of scale for alternative route to market options such as CPPAs and private wires. NI has few large electricity users and post Brexit, REGOs are no longer valid in ROI, meaning limited CPPA opportunities exist.

4

Lack of Government is a significant risk for the delivery of a support scheme. While Department for the Economy can progress the planning and structuring of a support scheme, there is concern about what can actually be implemented without a functioning Executive.

5

Possible mandatory participation in auction means projects will bid in an auction and should they miss out, then the project is no longer viable. Allowing flexibility so that an alternative route to market option such as CPPA can be utilised, means the development could still be commercially viable.

6

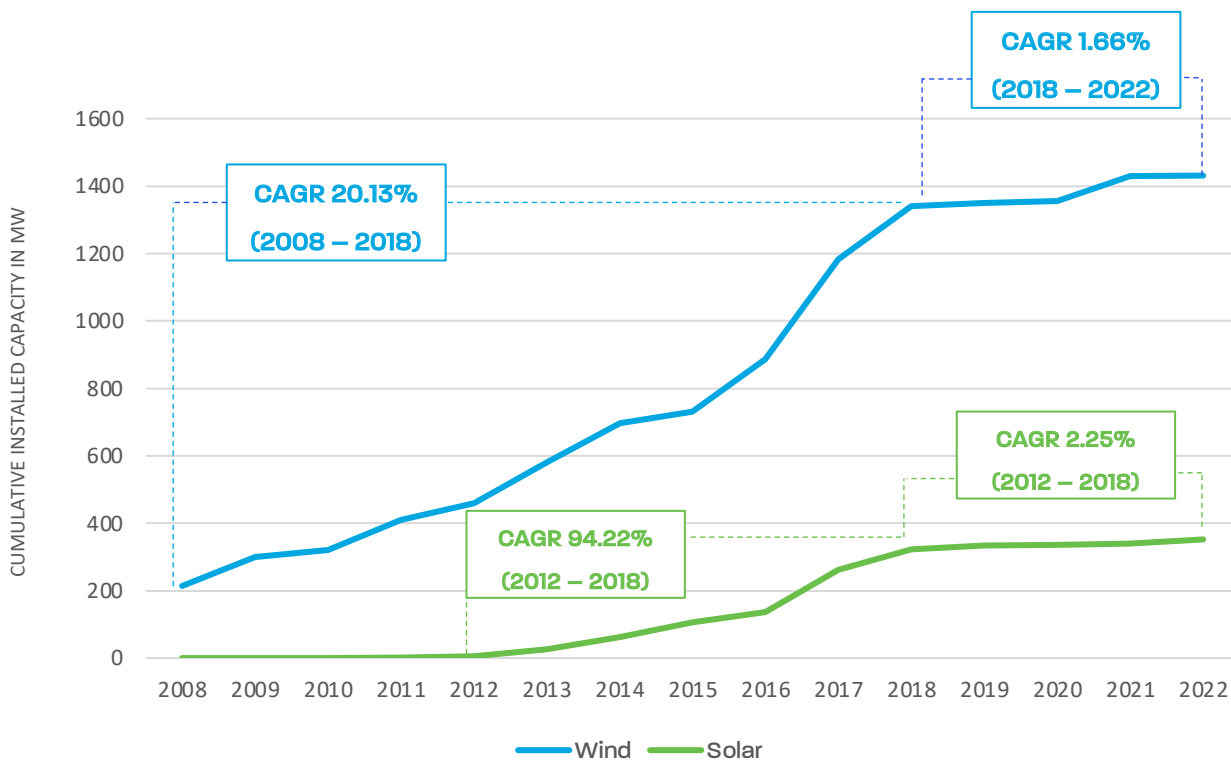
Competitive pricing a challenge in the limited CPPA market as the auction strike price will likely be much higher than CPPA offers, especially in the early stages. Therefore developers are struggling to make projects economically viable.

4.3 Route to market

Stakeholders unanimously agreed that the current lack of a Government sponsored support scheme for renewables has halted the growth trajectory of renewables deployment. The interest in new developments in Northern Ireland has decreased dramatically as investors are struggling to make projects commercially viable without a clear route to market.

To highlight the impact of NI not having a support scheme since March 2017, the growth trajectory of both wind and solar installed capacity is illustrated below. It is clear that no material growth has taken place in NI following the closure of NIRO and a continuation of the current rate will result in NI falling significantly short of the 80% by 2030 target.

Cumulative installed capacity of wind and solar power in Northern Ireland from 2008 to 2022 (in MW)



Source: UK Department for Business, Energy and Industrial Strategy.

From 2008 to 2018 Northern Ireland's wind and solar capacity was typically showing double or triple digit growth rates with a CAGR (Compound Annual Growth Rate) of 20.13% for wind and 94.22% for solar.

Following the closure of NIRO and the final projects which availed of the scheme becoming operational in 2018 the growth rates have plummeted with a CAGR of 1.66% and 2.25% respectively. In several years throughout this period annual growth has been <1%.

Northern Ireland was bringing up to 400MW of new renewables online per year at the peak in 2016, a figure which is widely agreed needs to be replicated again year on year to achieve 80% by 2030.

In the past 12 months there has been c30MW of renewables added to the capacity, a fraction of the levels required.

This data supports the industry view that without a new support scheme and a more accommodating environment for renewable energy in Northern Ireland, the low single digit growth rates will continue.

4.3 Route to market – Proposed solutions

Avoid mandatory inclusion in a CfD auction

Recent Department for the Economy publications around the design of a renewable electricity support scheme suggests that participation in such a scheme would be mandatory.

A policy that forces generators to take part in a CfD auction would remove any sense of freedom around possible route to market avenues and contracts.

Auction, CPPA or a combination of both should be available to developers with the CfD auction being considered as 'a' route to market not 'the' route to market.

Publish clear timelines and parameters for support scheme

Department for the Economy plans to publish a support scheme road map by the end of 2023, however there is no concrete date for implementation of the scheme.

Any publication regarding the scheme needs to be detailed and transparent, covering areas such as:

- Auction implementation date
- Scheme parameters and;
- Budget

Lack of substantive detail will see a continuance of projects being delayed.

There is currently a low level of interest in ready to build renewable assets across NI due to lack of primary route to market.

Increased industry and government collaboration

Industry stakeholders can assist Department for the Economy in designing and accelerating a new support scheme.

There is a significant amount of data and information collated by industry that could be used to assist Government. Specific examples of this include:

- Geographical potential studies
- Mapping (volumes for auctions)
- Grid connection areas
- Development cost analysis
- Other relevant analysis

Ensure a bespoke NI support scheme

Despite not having a renewable energy support scheme for more than six years, Northern Ireland has the opportunity to develop something that is bespoke and optimal.

With other jurisdictions such as GB and ROI operating successful support schemes for a number of years, there is no need to reinvent the wheel.

However, there is an opportunity to extract the best parts of each these, for example the design of RESS in ROI or the administration of the GB CfD scheme.

The industry view is that any variation of these schemes would be workable when compared to having nothing in place.

4.3 Route to market – Proposed solutions

Strike balance between short term delivery and long term sustainability

Within the Department for the Economy there is a major push to achieve 80% by 2030 and given the targets are legislative there is no option but to deliver them.

That being said, it is essential that a view is being taken far beyond 2030 when it comes to a new support scheme.

While 2030 is a key target, the support scheme must be viewed in terms of 15-20 years rather than 4-6 years.

So there is a balance to be struck between short term delivery and long term sustainability of the eco system.

Fast track renewable projects to allow participation in first CfD auction

While there is no confirmed implementation date for the new support scheme, the market view is this could be operational in 2025 or 2026.

To facilitate as much renewable deployment as possible it is vital that as many new and existing projects can participate in the first round of the auction.

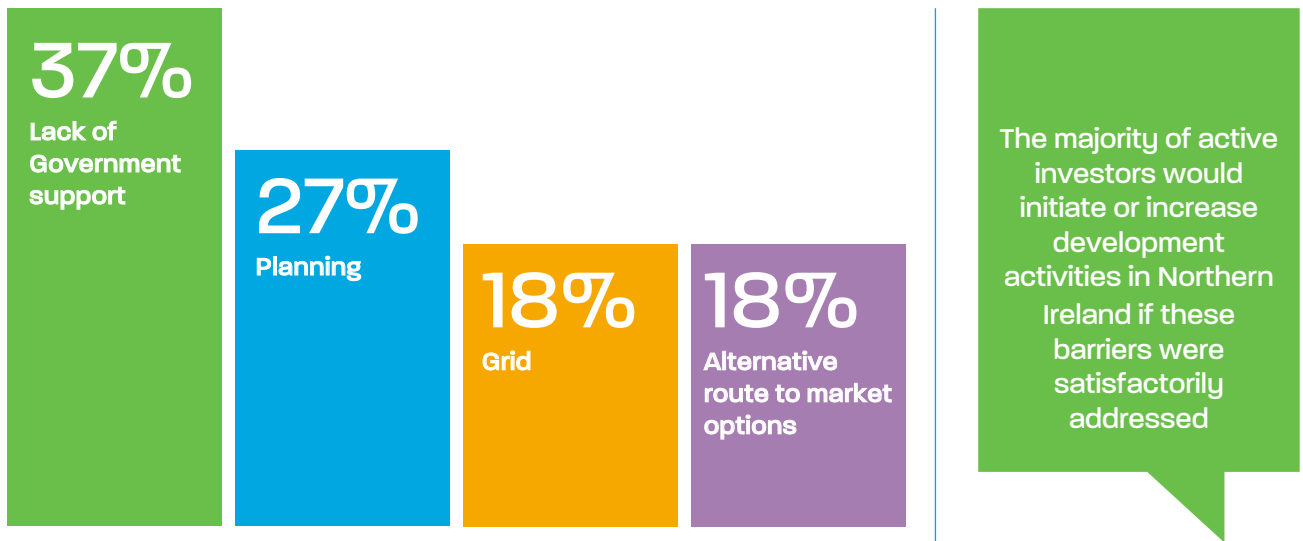
However, with current planning and grid issues it is likely that new projects would only be in a position to participate in future iterations of the auction, perhaps round 3 or 4.

Therefore a mechanism for fast tracking new projects to ensure participation in the initial auction should be considered.

5. Investors' view

As part of this consultation, a survey was issued to renewable investors / developers who are or have been active across the island of Ireland to assess their appetite for renewables in NI. The aggregated views of respondents are detailed below.

What is the main barrier to renewables development in NI?



Is NI currently an attractive location for renewables development?

It is not attractive at the moment given planning delays, lack of regulatory certainty and no revenue route to market in place for renewables.

NI renewables has been on the decline since the closure of NIRO in 2017

400MW

Amount of renewables developed in 2016, at the peak of renewable development in NI

70MW

Amount of large-scale renewables that have been developed in NI in the past 4 years.

30MW

Amount of renewables brought online in NI in the past year.

6. ROI comparison



Government

Active Government with TD Eamon Ryan sitting as Minister for the Environment, Climate and Communications driving focus on the climate agenda.

Government announcements on renewables include:

- Offshore renewables coming into the Irish market by 2030.
- Solar power targets of 5,000MW of capacity being brought forward from 2030 to 2025.
- The latest round of the Renewable Energy Support Scheme (RESS) announced in April 2023 is expected to fuel wind farm development, capable of generating between 2,000-3,500 MWh.

Tip Heights

In ROI tip heights can extend up to 180m which is where real cost reductions and efficiencies can be achieved.

Planning restrictions in Northern Ireland typically result in a maximum tip height of 150m. Permitting increased turbine heights in NI would significantly increase energy generation potential and development efficiency.

Support Scheme

RESS, based on a CfD structure operated through a series of auctions. Designed to increase the supply of renewable energy by providing a route to market for new generation projects.

The latest auction round (RESS 3) includes:

- A support period from 31 October 2024 until 30 April 2042, providing a term of 17.5 years.
- Introduction of partial indexation for onshore projects, reducing participant risk.
- Compensation mechanism for availability not converted to generation for reasons of either curtailment or oversupply. 'Unrealised Available Energy Compensation' (UAEC)

Corporate PPAs

The Irish Government's "Climate Action Plan" has set a target of 15% of all electricity demand being met by renewable generators contracted under Corporate PPAs by 2030.

In 2022, there was 647MW of PPAs with growing interest from large data centres and pharmaceutical companies.

This figure is in stark contrast to Northern Ireland which only recently closed its first ever CPPA arrangement in the region.

Planning

ROI has a statutory target of 18 weeks for a decision on planning applications, similar to the 15 week target in NI.

While the system also has its challenges with meeting targets, the average decision timeframe in ROI is 59 weeks compared to 162 weeks in Northern Ireland.

If Northern Ireland were able to replicate the performance in ROI it would take 2 years off the process in delivering renewable projects.

6. GB comparison



Government

Active government with Graham Stuart appointed as Minister of State for Energy Security and Net Zero driving focus on the climate agenda.

Government announcements on renewables include:

- £22 million increase in government backing for renewables through the flagship Contracts for Difference scheme – taking the total budget to £227 million for the next auction round.
- Pledged to reach its target of 70GW of solar capacity by 2035 and 600,000 heat pump installations by 2028.
- Committed to a fully decarbonised electricity system by 2035.

Corporate PPAs

GB has one of the largest contracted CPPA capacities in Europe.

In 2022, 952MW of renewable energy was contracted through PPAs with a total of 14 agreements signed.

The scale of the market is entirely different to Northern Ireland and provides a viable alternative to the support scheme for route to market.

Support Scheme

CfD auction offering 15-year contract with Government-owned, Low Carbon Contracts Company (LCCC), paying an index linked, flat rate for electricity produced.

The Contracts for Difference scheme has already helped accelerate plans to diversify, decarbonise and domesticate the UK's energy supplies, with the last auction round (AR4) securing 11GW of low carbon capacity – enough to generate sufficient electricity to power 12 million British homes through nearly 100 clean technology projects.

Offshore Wind

GB has the second largest offshore wind market in the world, currently meeting 8% of national electricity demand and on track to meet 33% by 2030.

There is 13.9 GW of offshore wind fully commissioned with a project pipeline of around 77 GW across 80 projects that are either in construction, consented, in development and planned in future seabed leasing auctions.

Grid Connection

There is no requirement for planning permission to be in place prior to grid connection approval reducing overall timelines.

While this has resulted in connection bottle necks Ofgem and National Grid ESO have agreed on steps for a Transmission Entry Capacity (TEC) amnesty that will allow developers to exit the grid connection queue without incurring a charge.

Up to 8GW of unwanted capacity reserved across 50 projects could be released from the current waiting list as a result.

With an appropriate mechanism for queue management this could be a valuable step for Northern Ireland.

7. Timeline analysis

As previously noted, Northern Ireland has added just c30MW of new renewable capacity in the past 12 months compared to 400MW at the height of the NIRO scheme in 2016.

According to the 'Shaping Our Electricity Future Roadmap Version 1.1' published by EirGrid and SONI in July 2023, there is a need for Northern Ireland to have a renewable generation capacity of 3,550 MW by 2030 in order to deliver the target of 80% of electricity consumption from renewables sources.

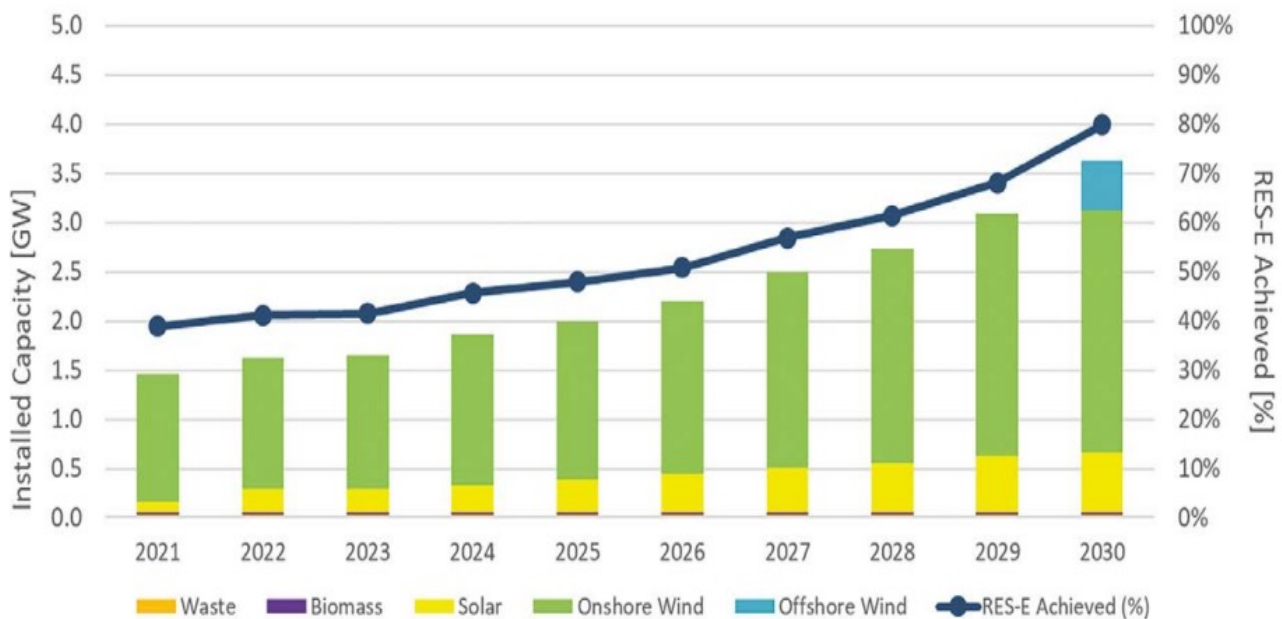
To put the required growth into context, Figure 4 details the level of additional capacity required for wind and solar between 2023 and 2030. Figure 5 illustrates how these numbers translate into an annual growth trajectory through to 2030.

To understand the likelihood of achieving these numbers without making any changes to the existing process, we can look to the current pipeline for new renewables in NI against the current timelines for delivery to see what level of additional capacity could be added.

Figure 4

	Ireland	Northern Ireland
Demand	45.1 TWh (~Median GCS Scenario)	10.8 TWh (~Median GCS Scenario)
Offshore Wind	+5,000 MW +2,000 MW for hydrogen production	+500 MW
Onshore Wind	+4,500 MW	+1,000 MW
Solar PV	+8,000 MW (including 2,500 MW small scale)	+400 MW (including 100 MW small scale)

Figure 5



Source: EirGrid Group, Shaping Our Electricity Future Roadmap Version 1.1, Technical Road map report.

7. Timeline analysis

The tables below show the current pipeline for renewables in NI, detailing the total number of MW at each stage of the process from pre-planning through to currently under construction.

Since not all pipeline projects will be successfully delivered, with earlier stage projects facing an increased risk of project failure, we have applied a probability weighting for delivery at each stage of the current pipeline.

What is apparent from this data is that it is highly unlikely the additional capacity required to achieve 2030 targets will be delivered from the existing pipeline. With new developments required it is essential that there is a process in place that facilitates delivery from origination through to operation by 2030.

Onshore Wind Capacity	Capacity (>5MW)	Capacity (1-5MW)	Capacity (<1MW)	Total Capacity (MW)	Additional capacity required by 2030 (MW)
Capacity	1577.25	43.8	149.49	1770.54	1000

Status	Capacity (>5MW)	Capacity (1-5MW)	Capacity (<1MW)	Total Capacity (MW)	Probability Weighting (business as usual)	Total Capacity delivered (MW)	Probability Weighting (optimised)	Total Capacity delivered (MW)
Under Construction	56.75	0	1.225	57.975	100%	57.98	100%	57.975
Consented with grid	186.3	0	0	186.3	80%	149.04	90%	167.67
Consented (no grid offer/unknown)	204.5	32.8	118.69	355.99	70%	249.19	80%	284.792
In planning	262.4	11	29.025	302.425	60%	181.46	70%	211.6975
Pre Planning	867.3	0	0.55	867.95	20%	173.59	40%	347.18
Total	1577.25	43.8	149.49	1770.54		811.25		1069.31

Solar Capacity	Capacity (>5MW)	Capacity (1-5MW)	Capacity (<1MW)	Total Capacity (MW)	Additional capacity required by 2030 (MW)
Capacity	673.6	16.85	0.2	690.7	400

Status	Capacity (>5MW)	Capacity (1-5MW)	Capacity (<1MW)	Total Capacity (MW)	Probability Weighting (business as usual)	Total Capacity delivered (MW)	Probability Weighting (optimised)	Total Capacity delivered (MW)
Under Construction	0	0	0	0	100%	0	100%	0
Consented	64.5	7.1	0	71.6	75%	53.7	90%	64.44
In planning	50	4.75	0.2	54.95	60%	32.97	70%	38.465
Pre Planning	559.1	5	0	564.1	20%	112.82	40%	225.64
Total	673.6	16.85	0.2	690.65		199.49		328.55

Offshore Wind Capacity	Capacity (>5MW)	Capacity (1-5MW)	Capacity (<1MW)	Total Capacity (MW)	Additional capacity required by 2030 (MW)
Capacity	1000	0	0	1000	500

Status	Capacity (>5MW)	Capacity (1-5MW)	Capacity (<1MW)	Total Capacity (MW)	Probability Weighting (business as usual)	Total Capacity delivered (MW)	Probability Weighting (optimised)	Total Capacity delivered (MW)
Pre Planning	1000	0	0	1000	10%	100	20%	200

7. Timeline analysis

In undertaking our delivery timeline assessment, we have used the following headline assumptions.

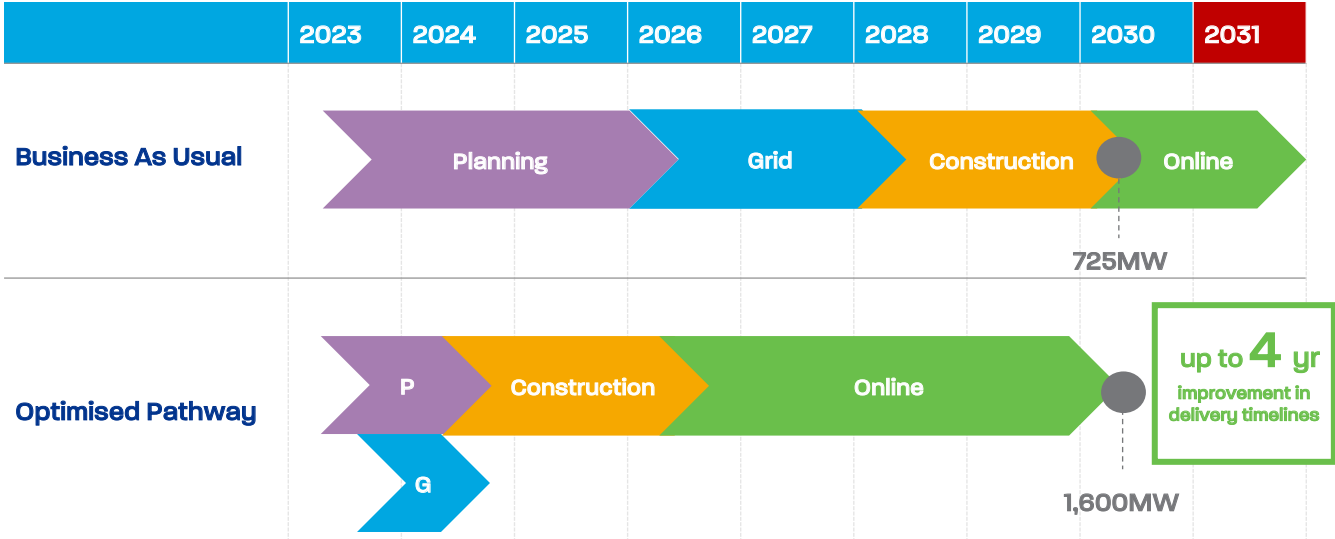
Onshore Wind	Probability Weighting (business as usual)	Assumptions	Probability Weighting (optimised)	Assumptions
Under Construction	100%	All projects currently under construction will be delivered and operational by 2030.	100%	All projects currently under construction will be delivered and operational by 2030.
Consented with grid	80%	20% of consented projects with grid will not be delivered on time due to route to market or grid delays.	90%	Reduced route to market risk with introduction of government backed subsidy scheme.
Consented (no grid offer/unknown)	70%	We have assumed a further 10% reduction in success probability to account for grid offer uncertainty.	80%	10% reduction in probability to account for grid offer uncertainty.
In planning	60%	Dfi Renewable energy planning applications list, April 2017 (post NIRO) to March 2023, 63% of all renewable applications have been approved (246 / 391). The remainder have been rejected, undecided or withdrawn.	70%	10% increase in probability weighting due to reduced decision timelines, increased planning officer education and strict consultation parameters.
Pre Planning	20%	Fairly low success probability assumed due to early stage nature of the assets, with planning, grid and route to market risk all remaining high.	40%	Higher success rate assumed due to improved planning resources, grid investment and route to market options.

Solar	Probability Weighting (business as usual)	Assumptions	Probability Weighting (optimised)	Assumptions
Under Construction	100%	All projects currently under construction will be delivered and operational by 2030.	100%	All projects currently under construction will be delivered and operational by 2030.
Consented	75%	Same methodology as Onshore Wind but a blended rate has been applied due to lack of information on grid connection status.	90%	Reduced route to market risk with introduction of government backed subsidy scheme.
In planning	60%	Dfi Renewable energy planning applications list, April 2017 (post NIRO) to March 2023, 63% of all renewable applications have been approved (246 / 391). The remainder have been rejected, undecided or withdrawn.	70%	10% increase in probability weighting due to reduced decision timelines, increased planning officer education and strict consultation parameters.
Pre Planning	20%	Fairly low success probability assumed due to early stage nature of the assets, with planning, grid and route to market risk all remaining high.	40%	Higher success rate assumed due to improved planning resources, grid investment and route to market options.

Offshore Wind	Probability Weighting (business as usual)	Assumptions	Probability Weighting (optimised)	Assumptions
Total	10%	Fairly low success probability assumed due to early stage nature of the assets, with planning, grid and route to market risk all remaining high.	20%	Higher success rate assumed due to improved planning resources, grid investment and route to market options

7. Timeline analysis

The following scenarios look at current timelines for renewables delivery and the possible timelines if changes proposed in this paper were implemented.



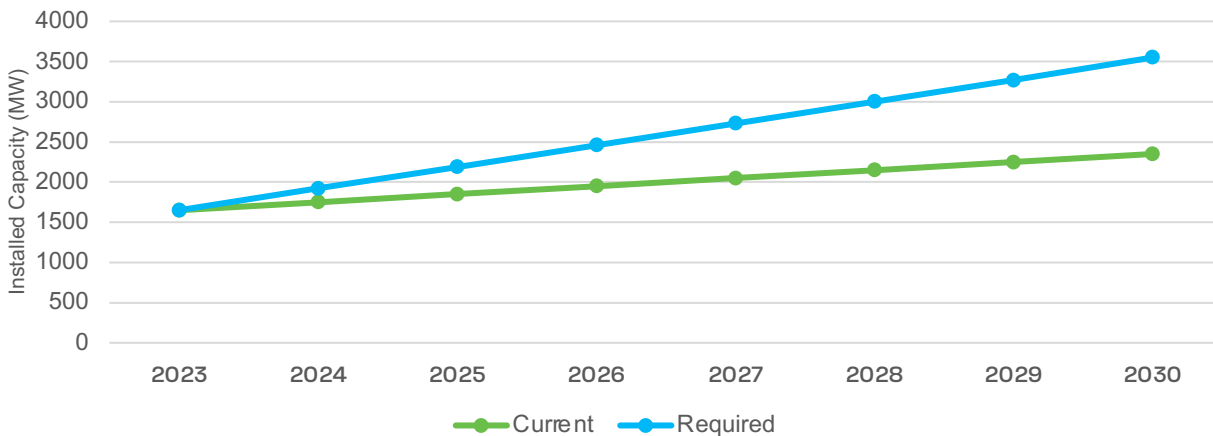
Business as usual

- Planning permission - 3 years
- Grid application/offer/connection – 2 years (6 months for application/offer + 18 month wait for connection)
- Construction 18-24 months.
- Generation - begins in 2030.

Proposed changes

- Planning permission - 1 year
- Grid application/offer/connection - 6 months (6 months for application/offer which can run concurrently with planning + 0 months time delay as the grid could facilitate connection at the point of offer).
- Construction - 18-24 months.
- Generation - begins in 2026.

Figure 6 Projected vs Required growth trajectory for installed wind and solar capacity from 2023 to 2030



Based on our analysis, Figure 6 further highlights how unachievable 80% by 2030 would be, with the current renewables pipeline and delivery timescales.

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