26th February 2024

[redacted]

Department of the Environment, Climate and Communications,

29-31 Adelaide Road,

Dublin 2, D02 X285

Via e-mail to: FutureFrameworkpublicconsultation@decc.gov.ie

Dear Sirs

Call for Consultation on the "Draft Offshore Renewable Energy Future Framework Policy Statement"

Please find my observations on the Future Framework Policy Statement consultation to provide constructive feedback in support of a successful delivery of an Irish Offshore Wind Industry which ensures Ireland's relevance to the EU's energy security through green hydrogen, consider the following strategic actions:

I have answered the questions posed at the end of the aforementioned document in Red at the end of this document.

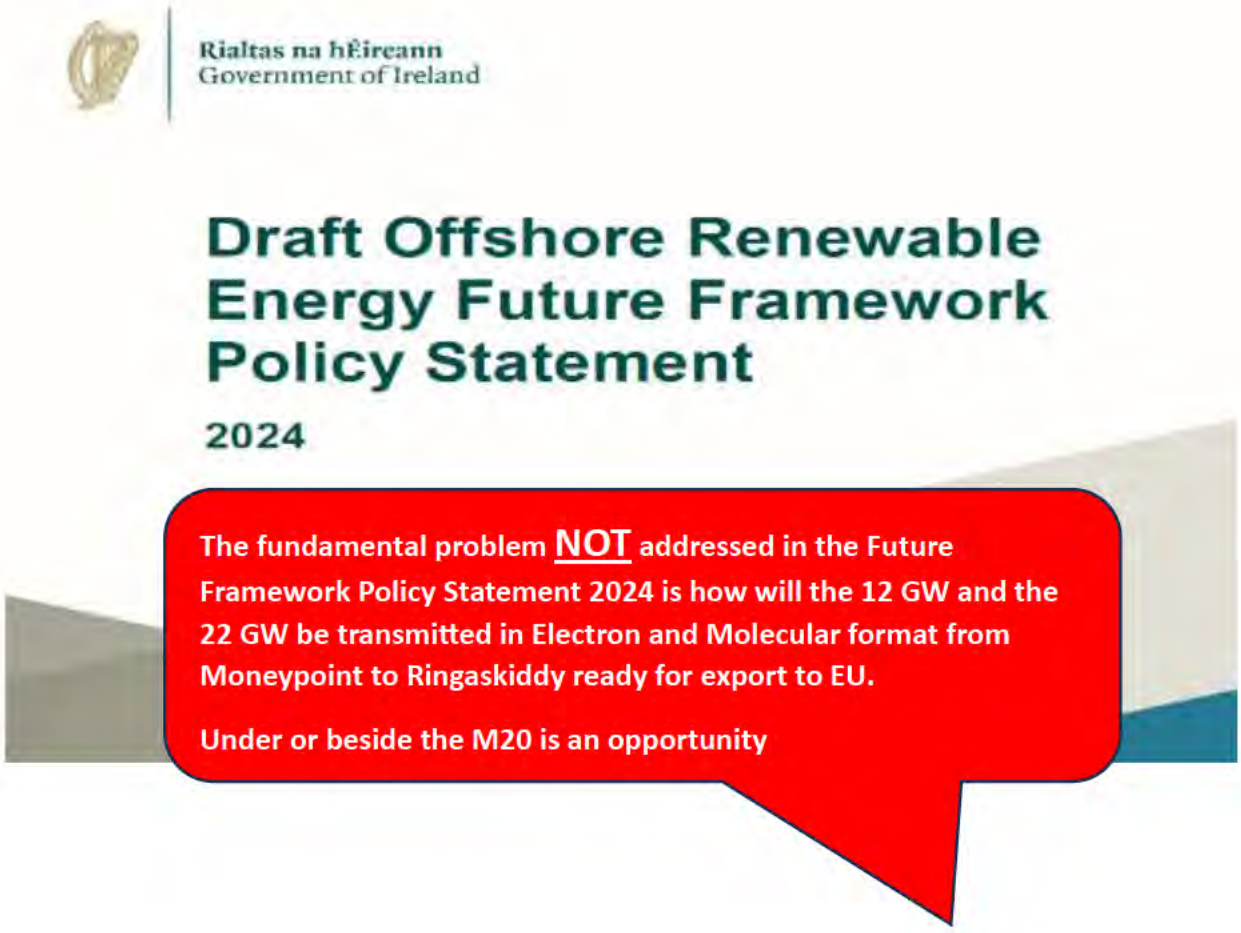

Table 1: ORE generation capacity targets from 2030 to 2050

	2030 target	2040 target	2050 target
Generation capacity (GW)	5	20	37

Assumption this is 12 GW in the Atlantic and 8 GW in the Irish and Celtic Seas is a

Assumption this is 22 GW in the Atlantic and 13 GW in the Irish and Celtic Seas is a

Action Item

[17] https://www.eirgridgroup.com/site-files/library/EirGrid/Tomorrows-Energy-Scenarios-2023-Consultation-Report.pdf

[18] https://energy.ec.europa.eu/topics/infrastructure/trans-european-networks-energy_en

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1. Conduct a study to assess the potential to deploy floating offshore wind in Irish waters, taking account of the upcoming first dedicated floating wind auctions to take place globally, including in France, in 2024.
2. Investigate the feasibility of a floating offshore wind demonstrator site.
3. Maintain State support for our existing or planned test sites and explore the feasibility of supporting additional test sites.
4. Conduct an analysis to determine the economic and practical viability of various innovative ORE technologies.

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Key Message

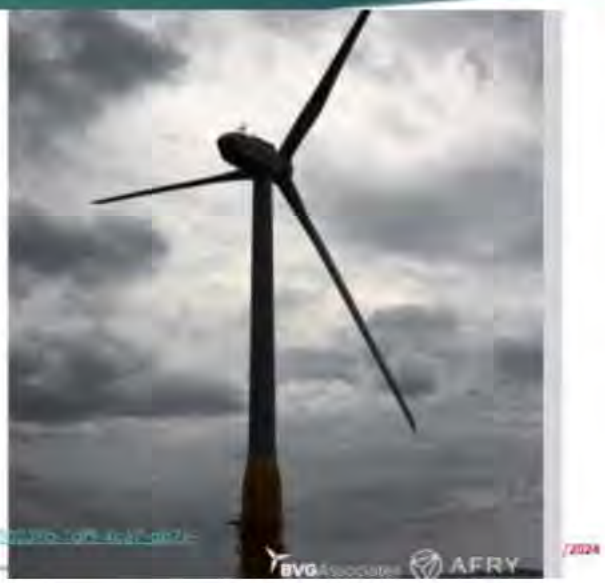
This is hugely significant

Key messages from Work Stream 4: policy analysis

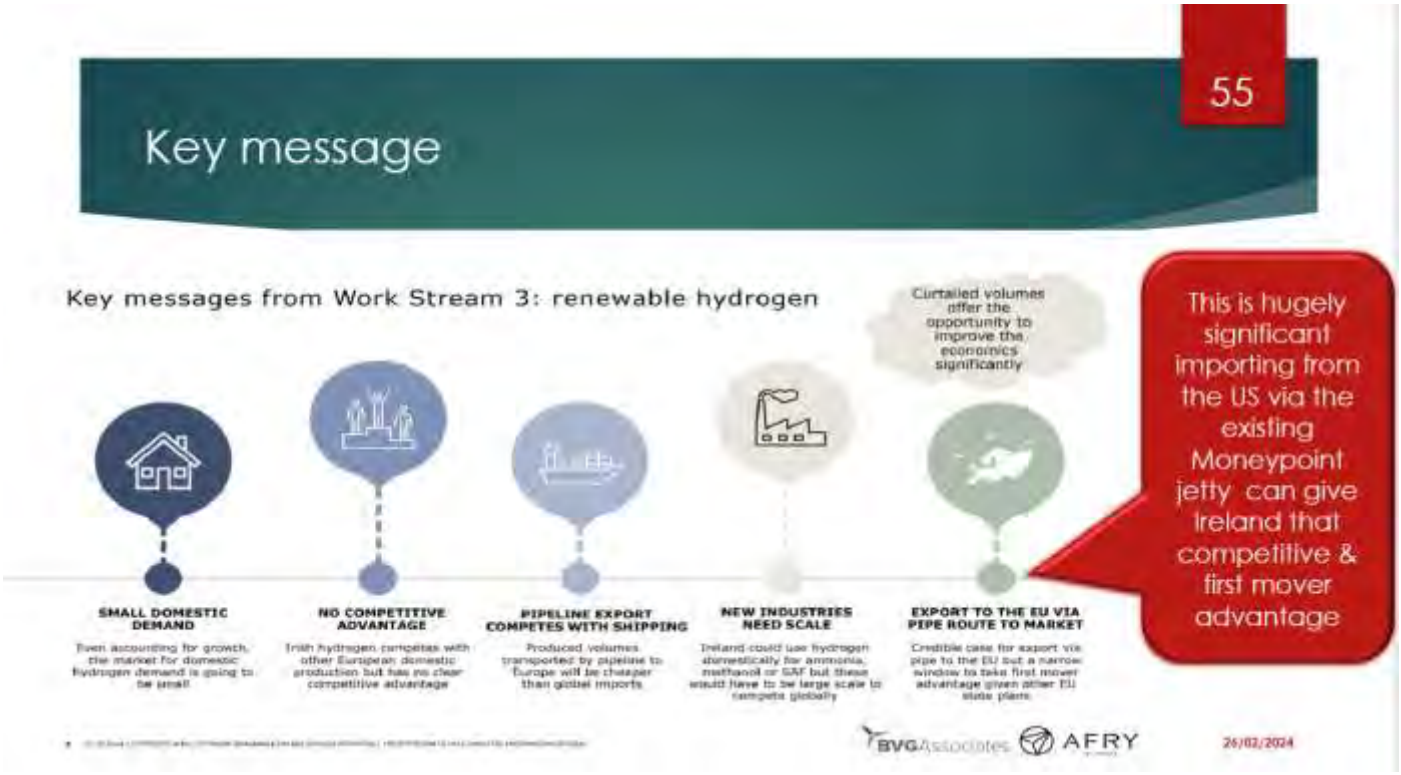
Offshore Wind
- Government should not take too much responsibility for project design, allowing flexibility in design envelopes
- State bodies should be properly resourced and have expertise to take on technical tasks such as site surveys, project design and permitting.
- Long term clarity and stability of frameworks is key to building investor confidence.

Interconnection
- Ireland set to benefit from interconnected European energy market. Existing strong GB collaboration also a strength.

Hydrogen
- Critical to build confidence in market through long-term supportive policies to stimulate both supply and demand.
- Policies should be used to ensure Ireland secures the economic benefits that come with industry growth.
- Clear standards and continued alignment with EU efforts should be sought to facilitate export.



Offshore Renewable Energy – Economic Analysis - 6e88239b-1df9-4c67-ab74-3bb190b62b5e.pdf (www.gov.ie)



Integrating the new elements into the SWOT analysis highlights Ireland's strengthened position in the green hydrogen and E-Methanol production landscape, leveraging its geographical advantages and strategic infrastructure investments.

Missed Strategic Advantage: Failure to act on these opportunities outlined below risks Ireland's position in EU energy security, emphasizing the urgent need for investment in the proposed infrastructure to avoid becoming peripheral in the European energy landscape.

This expanded approach underscores Ireland's potential to become a central hub in the European green energy network, emphasizing the critical need for timely action to seize these strategic opportunities.

- An immediate decision is required on how 15 to 20 GW of Green energy in the form of Hydrogen and Electricity is going to be transmitted across the county from Moneypoint to Ringaskiddy for onward export to our EU partners in Europe considering the UK will be an aggressive competitor for the same market. The design of the M20 between Limerick and Cork will be finalised by mid-April 2024
- Increasing levels of certainty and clarity are needed.
- Transitioning from conceptual to specific implementations.
- Coordination with the Future Framework and Industrial Strategy is crucial.

ALL THE SCREENSHOTS AND MORE ARE INCLUDED IN THE DECK ACCESSIBLE VIA THE LINK BELOW PLEASE RUN IN PRESENTATION MODE AS SOME SLIDES HAVE A LOT OF ANIMATION

[The Power to Make a Difference for Future Irish Generations February 21st 2024 for the submission Compressed.ppsx]


Hydrogen line and HVDC and Fibre Optic from Germany Via Scotland
Londonderry
Derry
NORTHERN IRELAND
Sligo
Ireland
Dundalk
Isle of Man
Drogheda
Dublin
Galway
Kilkenny
Waterford
Tralee
Dingle
Killarney
Hydrogen line and HVDC and Fibre Optic to France
400km hydrogen pipeline planned for North Sea | Construction News
GREEN CORRIDOR FROM MONEYPOINT TO BREMERHAVEN & LE HARVE ON THE OTHER END GETS
THE M20 BUILT & FUNDED UNDER TEN-E plus TWO EU TEN-T EU funded programmes & Ireland's GREEN and NG energy needs secured too.
"Scandinavian to Med Ten-T route" and the separate "North Sea to Med" Ten-T route could be joined via a Scottish and Irish interconnector forming a circular "Green Energy & Data Corridor" for HVDC, H2 & Fibre Optic backbone with Moneypoint as an extra Green gas source too.
Pick up wind energy from the North Sea, Atlantic off Ireland and Celtic Sea on the way to France as well.
Old head of Kinsale caverns could be used for H2 storage in a non-NATO neutral country.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Moneypoint as a transhipment hub for US Produced Green H2 until the Atlantic Green Hub is operational circa 2037
Massive Carriers from Texas offered a Quick Turnaround Time
Feed all the Small Ports along the coast and up the rivers as well
Navigable Rivers of Europe where Hydrogen Barge Carriers could deliver
Oslo
Edinburgh
Dublin
Paris
Bordeaux
Marseille
Milan

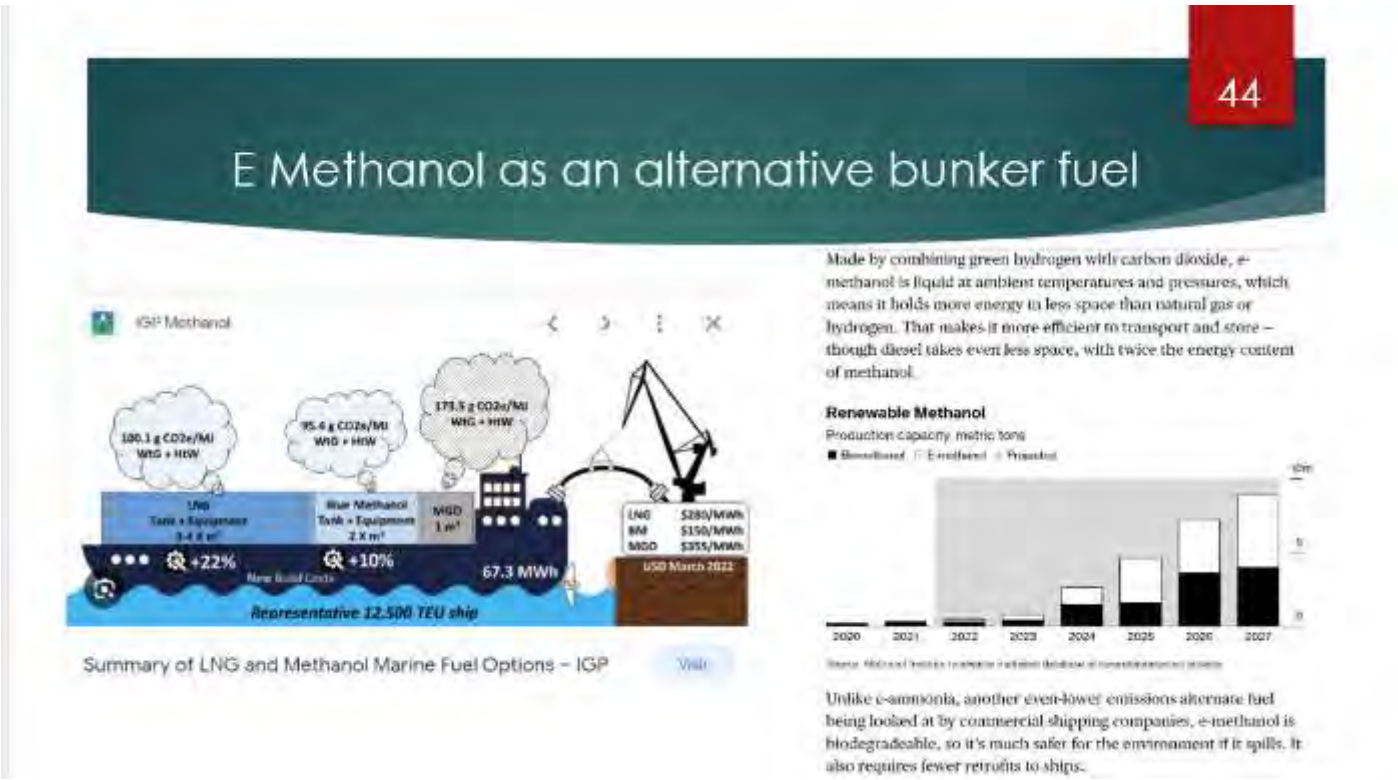
ACTION PLAN

Step 1. Put an H2 Pipe and a 15 KV HVDC and High-Capacity Fibre Array under or beside the M20 and extension road to Foynes. Unfortunately, the opportunity to place this inter-EU state "Green Energy and Data Corridor" under the M28 from the Cork ring road to Ringaskiddy has already been missed as construction has commenced.

Step 2. Given what I sent you yesterday please open negotiations with the US that they are using Moneypoint Jetty as a beachhead for supplying heavily subsidised US-produced GREEN Hydrogen under the "Inflation Reduction Act ". Specialised barges can transport H2 to small ports across Western Europe and Ireland not yet connected to the extended circular H2 Backbone Pipeline. At the quayside, the H2 can be converted to E Methanol by combining it with locally captured CO2 to produce this valuable Green Bunker for Vessels and Trawlers plus heavy Agricultural Machinery fuel.

The aforementioned circular H2 Backbone is an extension of Pat Cox's "Scandinavian to the Mediterranean Ten T Transport" corridor via the already in feasibility planning stage "Green Energy corridor" from Bremerhaven to Aberdeen.

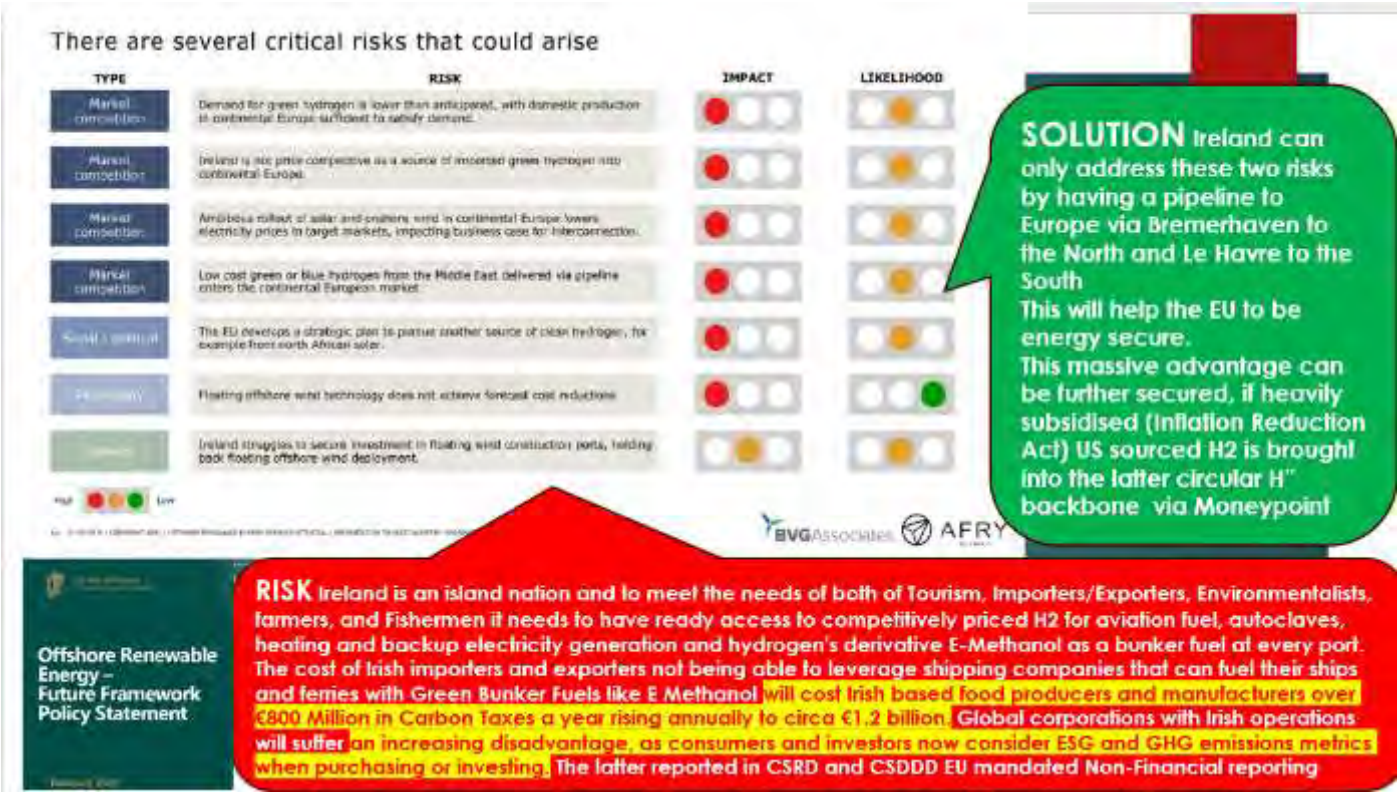
The next step is just to extend the above to Edinburgh to Glasgow, then on to Larne and from there down the "Irish Sea" hugging the coastline to Kinsale feeding every port in between with H2 to be converted at the quayside to Methanol. The pipeline and accompanying 15GW (21 times the capacity of the current Celtic Connector) plus High-Capacity Fibre array heads across the Celtic Sea to Le Havre, not Roscoff. The reason is that if landed at Roscoff it is highly likely that Marie Le Pen followers will be as resistant to pylons as the farmers along the North-South Connector and indeed what Golden Vale Farmers will likely be as well. The "icing on the cake" for both the Washington and Brussels strategists is the spur to Moneypoint to pick up US imported gas until 2037 when we may have an indigenous H2 production capacity.

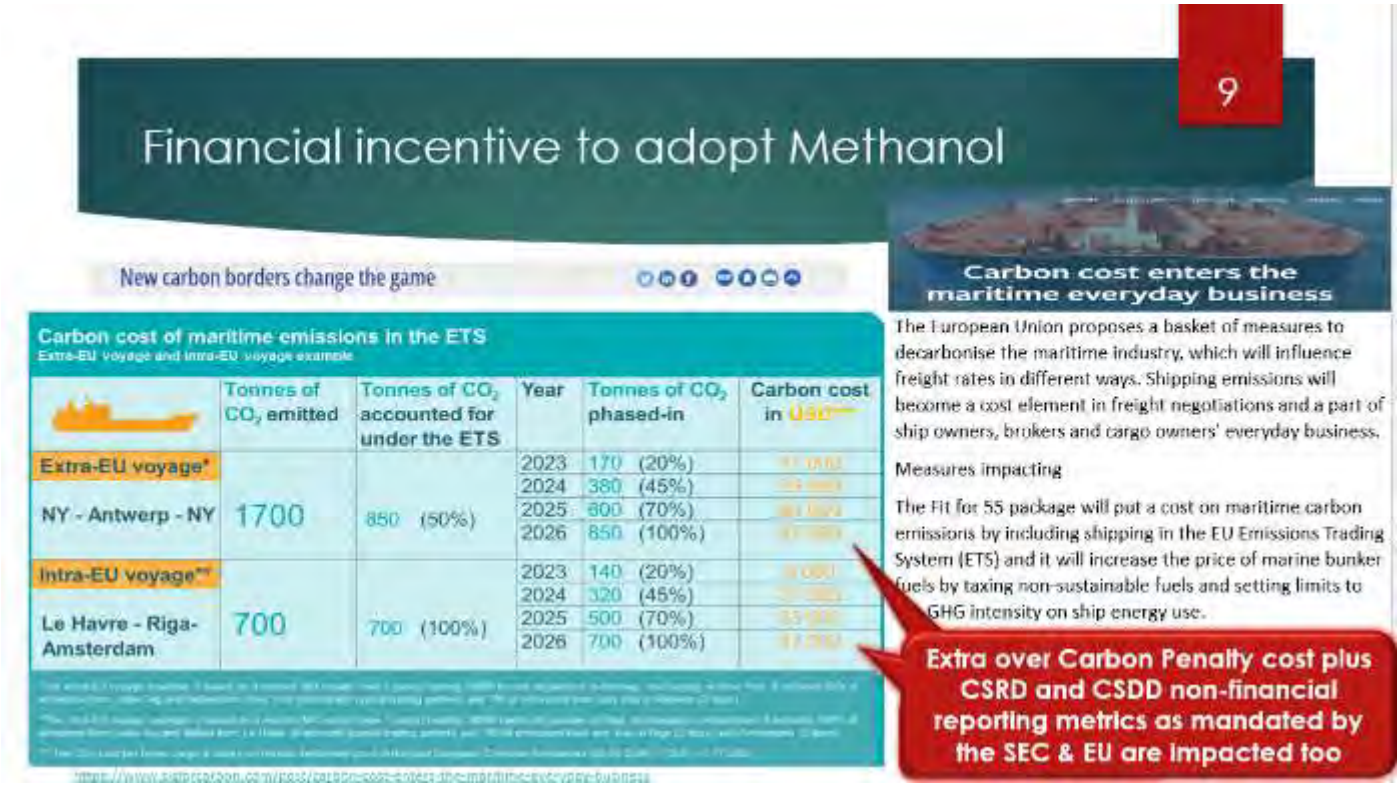


These steps would not only secure Ireland's energy independence but also position it as a key player in the EU's transition to green energy.

Maximize Wind Energy Potential: Ireland's significant offshore wind resources (30GW in the pipeline, with a goal of 5GW operational by 2030) present an opportunity to lead in green hydrogen production. This can mitigate grid congestion and promote energy storage and export but first enabling energy imports via Moneypoint.

Existing infrastructure, like Moneypoint, offers the potential for repurposing towards green hydrogen.



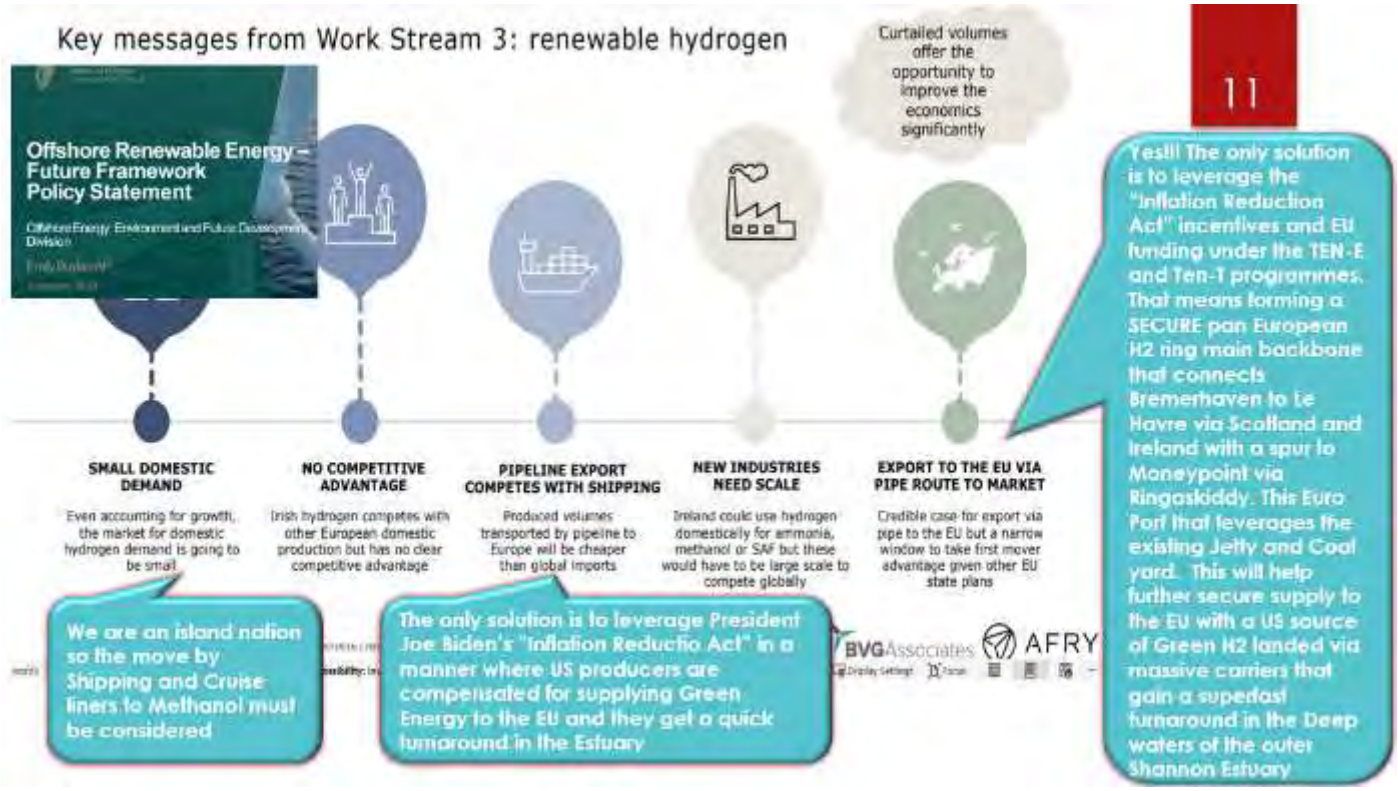


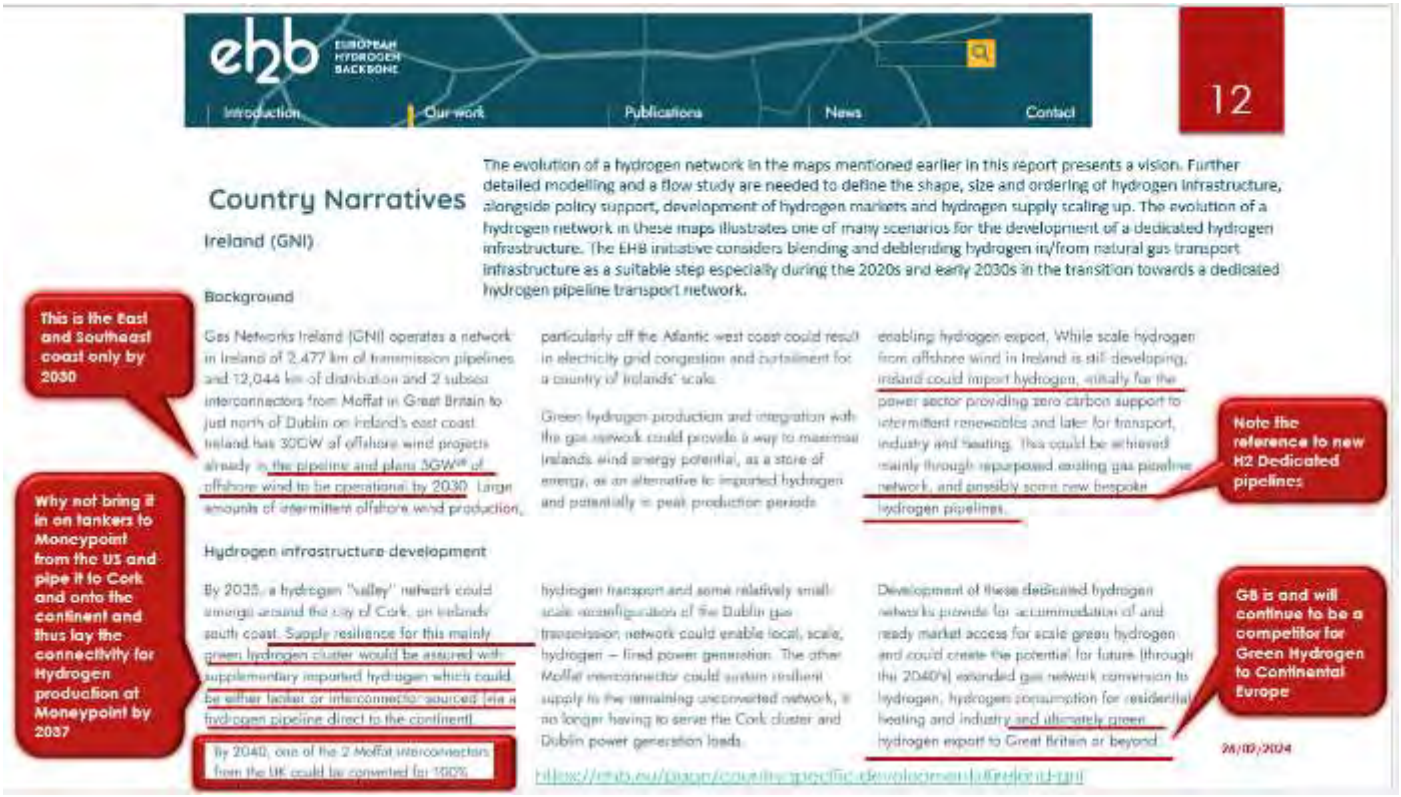
Given the above inhibitors and the massive avoidable financial burden of Carbon Tax on Diesel and Heavy fuel-guzzling vessels, Ireland must consider the possibility of a pipeline from Moneypoint carrying US-produced Gas being placed under or beside the M20 and the extension to Foynes. This pipeline could also head up under the Irish Sea to Larne and feed all ports in between with H2 for the local production of E-Methanol as a Bunker fuel for all vessels including ferries and fishing trawlers. Once in Larne cross over to Glasgow and then Edinburgh and up to Aberdeen before coming part of the already designed Aberdeen to Northern Germany H2 pipeline as part of the Scandinavian to Mediterranean Ten-T Transport Corridor chaired by [redacted].

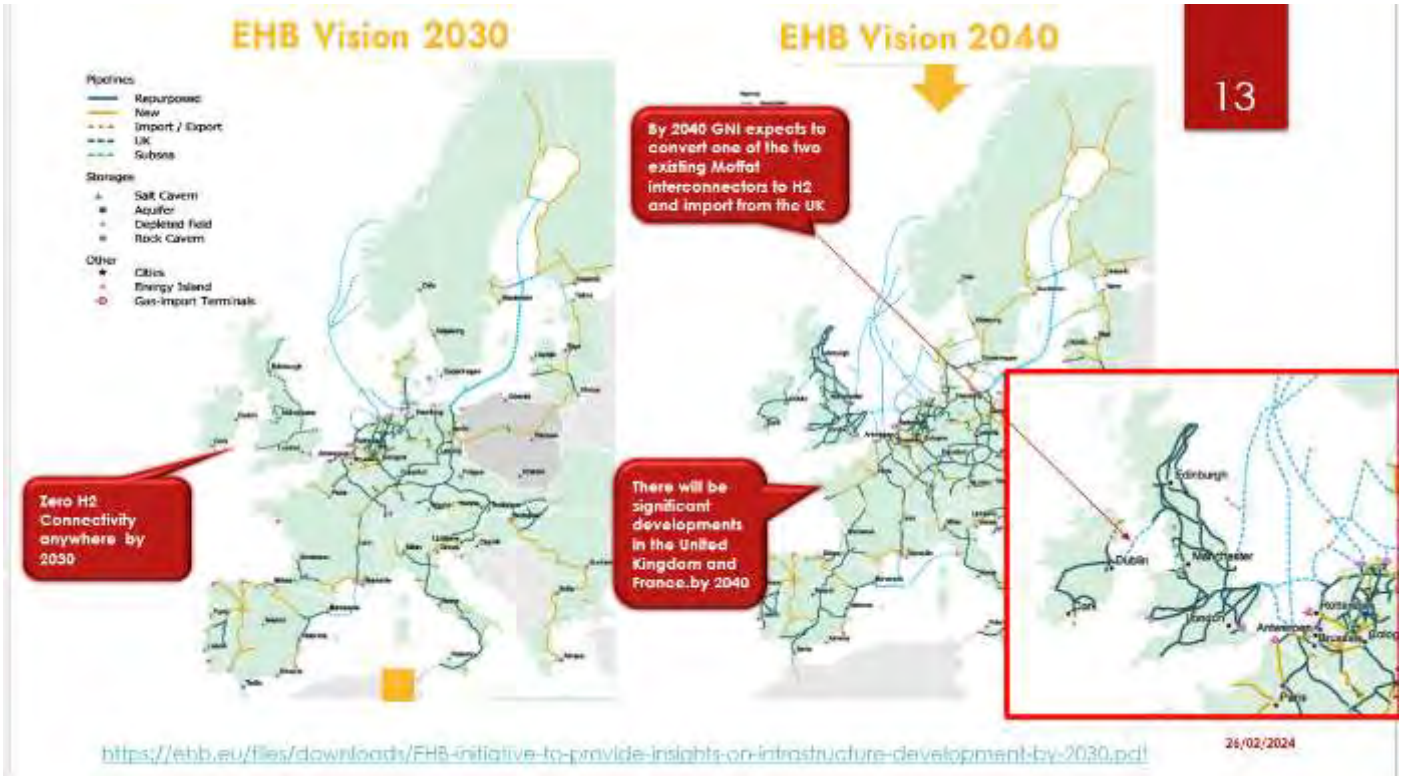
The result would be a much more secure circular Hydrogen Pipeline connecting Le Havre to Bremerhaven via Ireland North and South plus Scotland. Circular networks are always more secure and the access to Green Hydrogen in Moneypoint makes it even more secure. Furthermore, US Green Hydrogen could be shipped in specialised barges from Moneypoint to every small port across Western Europe not yet connected to the aforementioned European Hydrogen Backbone. On the risks side if Ireland Does not take this ACTION now like placing HVDC cable arrays and an H2 pipeline under the M20 motorway from Moneypoint to Ringaskiddy then this proud Irish Nation will become as relevant to the EU energy security as the Canary Islands

Develop Hydrogen Infrastructure:** Transition towards a hydrogen economy, starting with a hydrogen valley network around Cork by 2035, leveraging both local production and imports.


Offshore Ren
Future Frame
Policy Statement
Presentation last saved: Just now
Messages from the National Hydrogen Strategy (July 2023)
10
at variance to the BVG and AFRY conclusions
Ireland will prioritise the scale-up and production of renewable hydrogen.
Ireland has one of the best offshore wind resources globally. It has the potential to develop a decarbonised industrial opportunity in proximity to this resource and to become a net exporter of renewable hydrogen in the longer term.
The deployment of renewable hydrogen in Ireland will focus on hard-to-decarbonise sectors where energy efficiency and direct electrification are not feasible or cost-effective solutions.
Hydrogen infrastructure is expected to roll out initially across regional clusters where production, high-priority demand end-uses and large-scale storage are co-located.
Long duration storage is essential to the future cost competitiveness and price resilience of hydrogen. Geological storage solutions will be needed to support this.
Next Steps for Hydrogen Policy in Ireland
The strategy sets out the long-term vision for hydrogen in Ireland
Considers the entire value chain including production, end uses, infrastructure needs, regulation and safety, as well as innovation and partnerships
Includes a list of 21 actions which are set across the entire hydrogen value chain, in the aim of facilitating early action in the sector on low regrets aspects / knowledge development
The key action for 2024 is to develop a detailed work programme for the implementation of the National Hydrogen Strategy and ensure appropriate governance arrangements are in place to support the delivery
Work has commenced on many of the actions set out in tandem to this.
Closely engaging with the OWDT in respect to coordination with Future Framework proposed actions of relevance to hydrogen.
26/02/2024


Key messages from Work Stream 3: renewable hydrogen
11
Offshore Renewable Energy – Future Framework Policy Statement
Curtailed volumes offer the opportunity to improve the economics significantly
SMALL DOMESTIC DEMAND
Even accounting for growth, the market for domestic hydrogen demand is going to be small
NO COMPETITIVE ADVANTAGE
Irish hydrogen competes with other European domestic production but has no clear competitive advantage
PIPELINE EXPORT COMPETES WITH SHIPPING
Produced volumes transported by pipeline to Europe will be cheaper than global imports
NEW INDUSTRIES NEED SCALE
Ireland could use hydrogen domestically for ammonia, methanol or SAF but these would have to be large scale to compete globally
EXPORT TO THE EU VIA PIPE ROUTE TO MARKET
Credible case for export via pipe to the EU but a narrow window to take first mover advantage given other EU state plans
We are an island nation so the move by Shipping and Cruise liners to Methanol must be considered
The only solution is to leverage President Joe Biden's "Inflation Reductio Act" in a manner where US producers are compensated for supplying Green Energy to the EU and they get a quick turnaround in the Estuary
BVGAssociates
AFRY
Yes!!! The only solution is to leverage the "Inflation Reduction Act" incentives and EU funding under the TEN-E and Ten-T programmes. That means forming a SECURE pan European H2 ring main backbone that connects Bremerhaven to Le Havre via Scotland and Ireland with a spur to Moneypoint via Ringaskiddy. This Euro Port that leverages the existing Jetty and Coal yard. This will help further secure supply to the EU with a US source of Green H2 landed via massive carriers that gain a supedast turnaround in the Deep waters of the outer Shannon Estuary





Support Green Bunker Fuels: Facilitate access to green bunker fuels for shipping, fishing, and ferry companies at Irish ports, aligning with Ireland's maritime logistics and commitment to decarbonization.

In addition to these environmental benefits, the pharma and food processing industries would also enjoy lower Scope 3 emissions, on top of the benefits of the Ethanol Recovery initiative in the Scope 1 and 2 arenas.

PACIFYING THE POTENTIAL OBJECTORS TO HARD BOTTOM WIND FARMS IN THE IRISH SEA.

In particular, I want to emphasize the benefits of using modular methanol production units that can be located on the quaysides of every commercial and fishing port down the East Coast plus Foynes, Auganish, Tarbert, Ballylongford and the Clare side, Moneypoint, Kildysart and Shannon Aviation Fuel tank yard and jetty plus of course Limerick City as well.

These modular units will be able to capture locally sourced CO2 from the farming and industrial sectors, thereby helping to reduce the pressure on farmers to reduce their herd sizes.

It will also pacify any Fishermen and Environmentalists who have the potential to disrupt the ongoing development of fixed-bottom wind farms in the Irish Sea, it also avoids overland power gas and data transmission disputes with local farmers given the disruption caused by the tree-hugging back in the time of the "Glen of the Downes" protests over the widening of the M11 through the Wicklow Glens

As you can see in the very important link below Amazon has already spotted this opportunity to leverage Ethanol

https://www.aboutamazon.com/news/sustainability/amazon-zero-carbon-shipping#:~:text=The%20effort%2C%20led%20by%20our,emissions%20compared%20to%20other%20fuels.

Key Risk: The long-term nature of the strategy and reliance on a single, competitive route for EU connection through the UK are significant risks that could impact Ireland's ambition to be a leader in green hydrogen within the EU. Immediate action to diversify connections and accelerate infrastructure development is crucial to mitigating these risks.

Immediate action in these areas will position Ireland as a key player in green energy within the EU, leveraging its unique geographic and resource advantages.

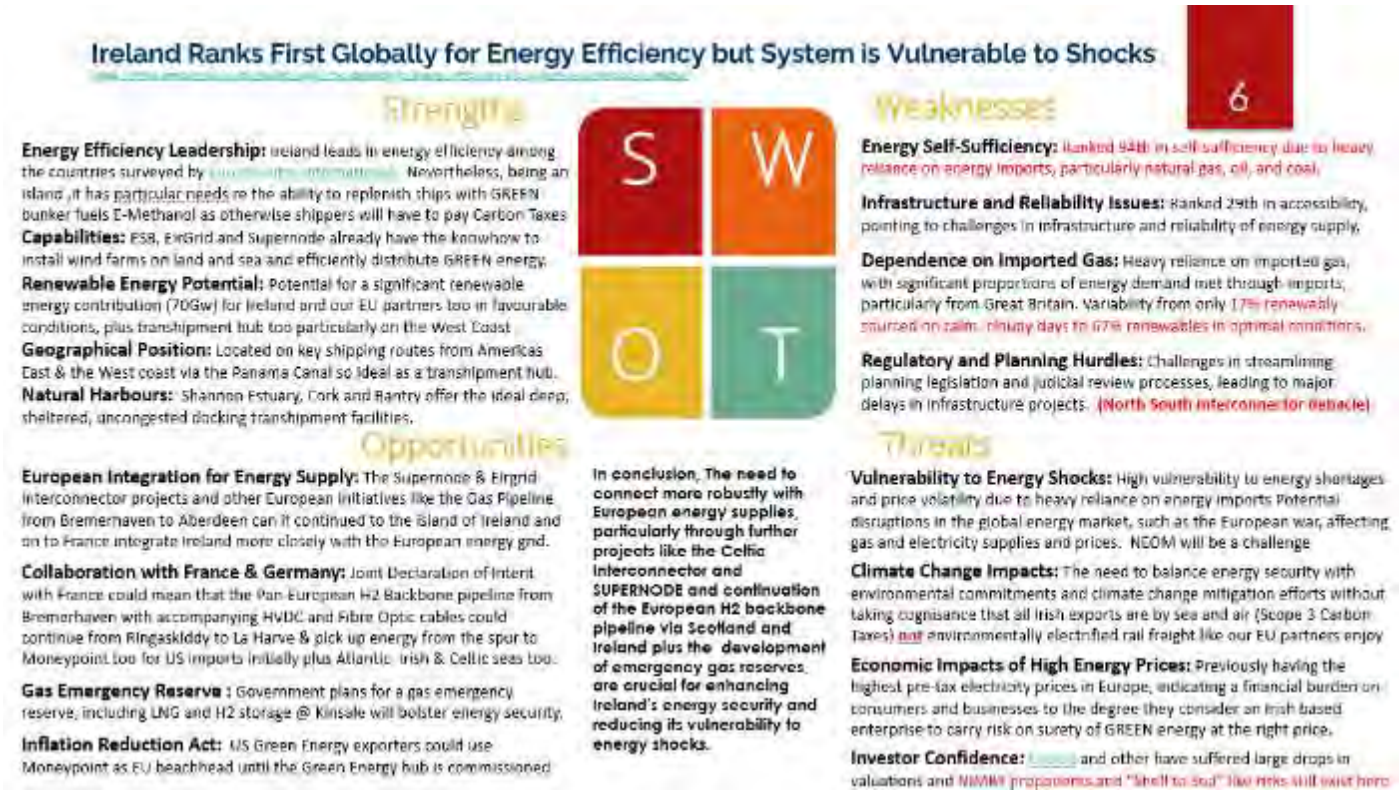
A single 400 kV network line, under the assumed conditions (1,500 A current and a 0.9 power factor), can carry approximately 0.935 GW of electricity. Therefore, three such lines can carry about 2.806 GW of electricity in total. It's important to note that this is a simplified estimation. The actual capacity can vary significantly based on specific line constructions, environmental conditions, and operational practices.

Therefore, six number 400 KV lines from Moneypoint going outside Dublin can carry only 5.6GW.

So, per the graph below how can we get 15GW of the 20GW mentioned in the image below from the West coast to Cork for relay to Continental Europe? Please see my last request below the image

Given the North South Interconnector debacle for the last 11 years plus a host of other militant approaches by NIMBY proponents like Shell to Sea, LNG and M11 there is zero chance of running six 400 KV lines using pylons from Clare to Cork and onto Europe.

The only hope for West Clare is the US Gas Transhipment as using the existing Moneypoint jetty is a no-brainer when you consider the huge tax benefits they would get under the "Inflation Reduction Act".



A more specific SWOT analysis based on the report and the recent Eirgrid and Gas Network Ireland reports.

The Power to Make a Difference for Future Irish Generations February 21st 2024 for the submission Compressed. ppsx

Strengths

- Robust Offshore Wind Potential: Ireland's significant wind projects set a strong foundation for green hydrogen production.
- Strategic Infrastructure & US Partnerships: The potential use of Moneypoint and strategic partnerships with US companies strengthen Ireland's position in green hydrogen production and distribution.
- Robust Offshore Wind Potential: With 30GW of offshore wind projects in the pipeline, Ireland is well-positioned to lead in green hydrogen production.
- Strategic Infrastructure Development: Plans to develop a hydrogen infrastructure, including a hydrogen valley in Cork, enhance Ireland's capability for green energy production and storage.
- Offshore Wind Potential & US Partnership: Ireland's extensive offshore wind resources, complemented by potential investments from US energy companies leveraging the Inflation Reduction Act, present a robust foundation for leading in green hydrogen production.
- Strategic Infrastructure & Tax Incentives: Plans for hydrogen infrastructure, including leveraging Moneypoint Power Station for imports and a hydrogen valley in Cork, are bolstered by attractive tax incentives for foreign investment.
- Potential partnerships with US energy companies under favourable tax incentives like President Joe Biden's "Inflation Reduction Act".
- Strategic geographical position for harnessing wind energy and importation up to 2037 and production thereafter of green hydrogen.
- Given the benefits of a circular main from Bremerhaven to Le Havre via Scotland and Ireland, there should be strong EU and US support for the envisaged green energy and data corridor initiatives.
-

Weaknesses:

- Long-Term Execution & Dependency: The 2040 timeline and reliance on the UK for hydrogen as feedstock for E-Methanol for shipping to both global and EU markets will introduce vulnerabilities due to geopolitical and market changes.
- Dependency on UK Interconnector: Reliance on a single route through the UK for EU connections could introduce strategic vulnerabilities and could be complicated by geopolitical tensions or competitive strategies as England will be striving to be the dominant supplier of Green Energy to Germany, Denmark, Benelux countries and French markets as a competitor to both Irish and US interests, hence the pipeline directly from Ringaskiddy to Le Havre
- Market and Technological Uncertainties: The evolving nature of green hydrogen technologies and fluctuating market demands could impact the feasibility and competitiveness of Ireland's green hydrogen initiatives.
- Key Risk: The long-term nature of the strategy and reliance on a single, competitive route for EU connection through the UK are significant risks that could impact Ireland's ambition to be a leader in green hydrogen within the EU. Immediate action to diversify connections and accelerate infrastructure development is crucial to mitigating these risks.
- Long-Term Execution: The timeline extending to 2040 introduces risks associated with technological advancements, policy changes, and market dynamics.
- Dependency on Interconnector: Reliance on the UK for hydrogen transport to the EU could pose strategic vulnerabilities, given competitive interests in harnessing wind energy.

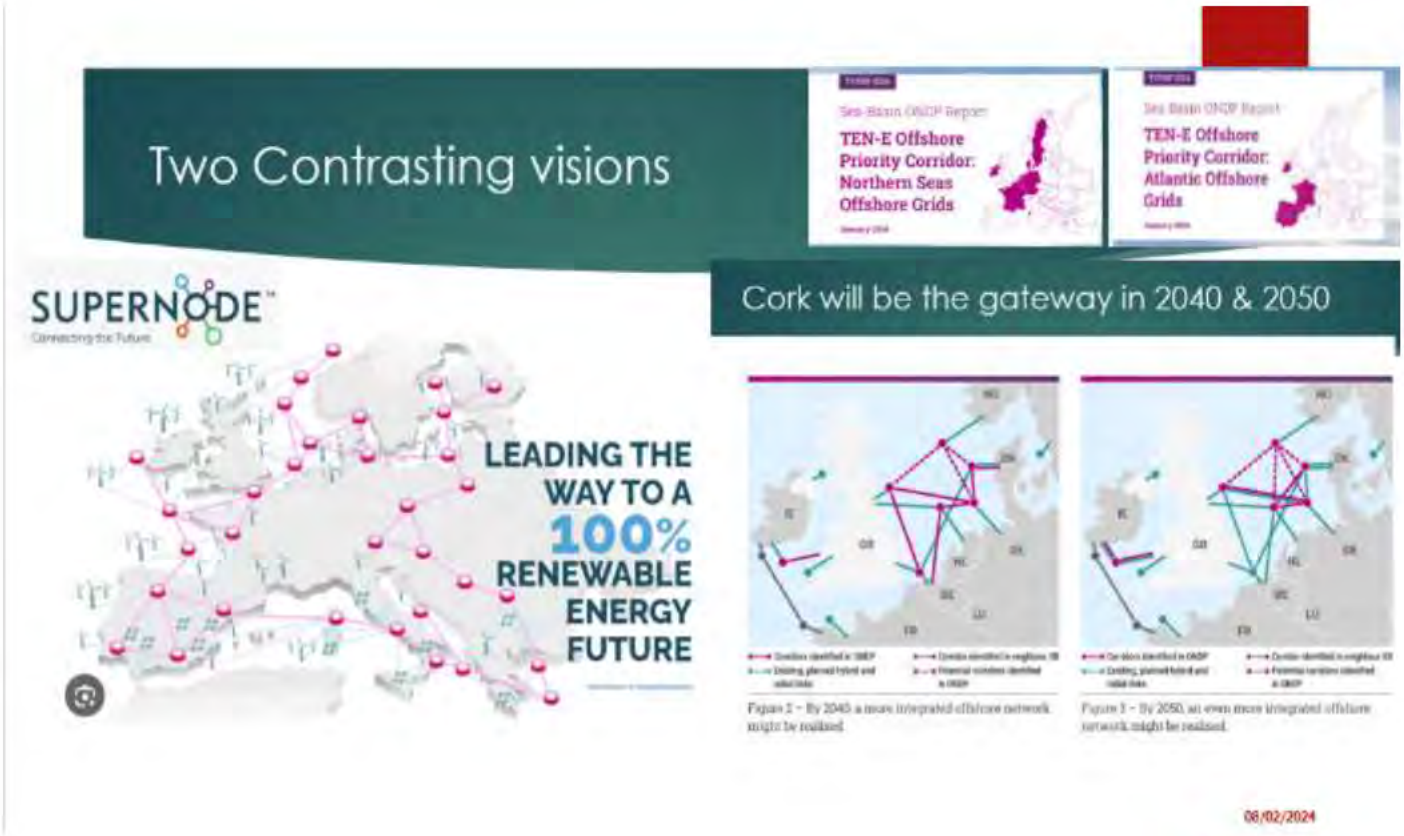
Opportunities:

- EU & Global Energy Security: Maximizing wind energy and developing green hydrogen production with US partnership can significantly enhance Ireland's and the EU's energy diversification and security.
- Innovative Energy Transport: The possibility of importing US-produced hydrogen and integrating wind power en route to Europe via Cork and Le Havre opens new avenues for energy collaboration and infrastructure innovation.
- Innovation in Green Bunker Fuels: Promoting green bunker fuels for maritime activities aligns with decarbonization goals and enhances Ireland's maritime logistics sector.
- Innovative Circular Hydrogen Network: The envisioned pipeline from Moneypoint through the Irish Sea to Larne, connecting to a broader European network, presents a groundbreaking opportunity for Ireland to lead in green bunker fuel production. This network would not only secure energy supply but also facilitate the local production of E-Methanol, supporting decarbonization efforts in maritime logistics.
- Innovation in Green Bunker Fuels: Developing local E-Methanol production for maritime uses aligns with decarbonization efforts and boosts the maritime logistics sector.
- EU Energy Security Contribution: Post 2037 when Floating Wind is up to adequate sustained generation levels Ireland can maximize its wind energy potential and develop green hydrogen production at Moneypoint and as the invaluable route to market will already be in place based on US Imports via Moneypoint Ireland can continue to play a significant role in the EU's energy diversification and security.
- Innovation in Green Bunker Fuels: Promoting green bunker fuels for maritime activities aligns with decarbonization goals and enhances Ireland's maritime logistics sector.

Threats:

- Geopolitical Risks & Market Uncertainties: Dependence on geopolitical relationships for energy transport and the evolving nature of green hydrogen technologies pose significant uncertainties and thus risks to Ireland's green hydrogen ambitions.
- Potential public resistance to extensive infrastructural changes if Fishermen and environmentalists located along the East Coast and the route of the M20 don't see tangible benefits like GREEN relatively cheap e-methanol for their trawlers and farmers and co-op owners getting access to Green H2 for autoclaves etc in Mallow and Mitchelstown.
- Strategic Miss: Without immediate action, Ireland risks missing out on cementing its role in the EU's green energy landscape.

- Geopolitical Risks: The reliance on the UK for the sole proposed connection to the EU could be complicated by geopolitical tensions or competitive strategies.
- Market and Technological Uncertainties: The evolving nature of green hydrogen technologies and fluctuating market demands could impact the feasibility and competitiveness of Ireland's green hydrogen initiatives.
- Immediate diversification of connections and strategic partnerships, especially with US companies for hydrogen imports, are essential to solidify Ireland's position in the green energy sector.



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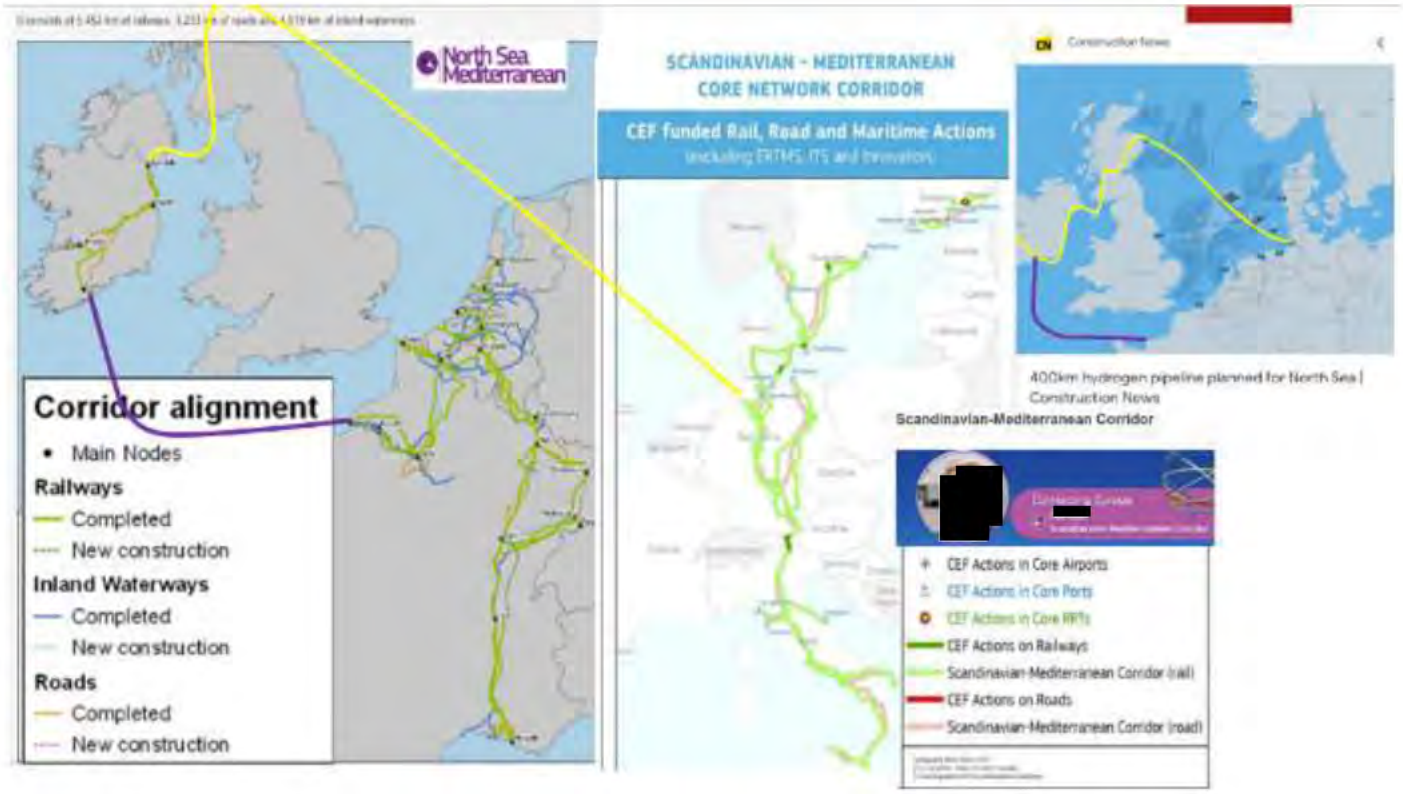

Before we look at the Irish Government Report it is important to look at the wider picture like the ENTSO-E report first and establish where Ireland fits into EU-wide thinking and the answer is "NOT TOO MUCH"

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ENTSO-Es report falls short on ambition

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ENTSO-E's inaugural European offshore grid plan is incomplete

26th January 2024 by Supernode Energy

ENTSO-E, the European Network of System Operators for Electricity, has published its first ever Offshore Network Development Plans (ONDPs), indicating the amount of offshore transmission system needed to deliver Europe's offshore renewables targets, agreed by EU Member States in January 2023. ENTSO-E is legally required to publish the report and integrate offshore renewables in its long-term grid planning.

SuperNode CEO [redacted]

"Europe now has its inaugural plan for an offshore transmission system to deliver Europe's offshore renewables targets for 2030, 2040 and 2050. I see the contours of a meshed offshore grid, but not yet something that can deliver on our shared vision for a system that is secure, sustainable and affordable, and that integrates the expected amount of renewable energy."

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Some constructive critics on this incredibly important report on Europe's future

SUPERNODE
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SuperNode CEO John Fitzgerald:

"The ONDP seeks to create optimal offshore transmission systems. However it omits more than 80% of Europe's 2050 electricity generation and does not consider what happens to the offshore power once it lands at the beaches of Europe, integration with the onshore grid and ultimately reaches electricity consumers. These pivotal elements must be included before the ONDPs can be considered an effective tool for planning Europe's transition to energy independence and decarbonisation."

Need for Holistic Pan-European Plan

The vision and primary goal is to decarbonise. The purpose of the offshore renewable energy initiative is to produce and deliver energy to onshore demand centres. The approach of developing isolated offshore plans without considering how they integrate with one another and the onshore system precludes optimisation. An optimal energy grid must be designed around offshore renewables and onshore energy production and demand to be considered a holistic plan.

The grid takes time to develop and has already emerged as a critical bottleneck to delivering Europe's renewables targets due to grid congestion issues. The sooner we have a fuller appreciation of the challenge the sooner we can set out to address it. This iteration of the ONDPs delivers huge amounts of offshore renewables to shore without due consideration of:

1. what onshore reinforcements would be needed to handle that energy as well as onshore energy production
2. how such a system can provide secure, sustainable and affordable energy; and
3. identification of technology gaps where innovation will be needed.

TYNDP 2024

Sea-Basin ONDP Report

TEN-E Offshore Priority Corridor: Northern Seas Offshore Grids

January 2024

Ireland

The generation and offshore network data provided for Ireland is guided by the non-binding goals provided by the Irish government, the ongoing projects that are being developed and by the processes being established to support longer term offshore development.

Table 6 shows the non-binding goals provided by the Irish government for offshore renewables in the Irish EEZ for the North Sea and Atlantic sea basins. The North Sea basin for Ireland includes the Irish Sea and the Celtic Sea. The Atlantic basin includes the Atlantic Ocean area to the west, north-west and south-west of Ireland.

North Sea	4.3	11	15
Atlantic	3.5+1	7	11
Total	8.8+1	18	26

Table 6 – Non-Binding Goals for Ireland

The approach in Ireland envisages several phases for offshore RES development:

- Phase 1 should be complete by 2030 and would include an initial group of windfarms intended to deliver much of the 2030 goal. Projects are already identified for Phase 1 and some have been successful in the recent auction for the first Offshore Renewable Electricity Support Scheme (ORESS 1). The Phase 1 projects are largely sited off the East Coast of Ireland in the Irish Sea and would be AC radially connected to the on-shore Irish transmission system. One project is located off the West Coast of Ireland. This would also be AC radially connected to the on-shore system.
- Phase 2 would include 2 further windfarms with a total capacity of around 700 – 900 MW. These would be located off the South Coast of Ireland in the Celtic Sea. The 2 projects are intended to be operational by 2030 and would be radially connected to the on-shore Irish transmission system.
- Phase 3 would include a further 2 GW of windfarm resources to be in development by 2030. These resources would be located in the Celtic Sea or Atlantic Ocean and would be designated for the production of green hydrogen.
- Following Phase 3, an enduring offshore regime would be established with EirGrid as offshore transmission operator. The RES projects developed after 2030 would be located in zones identified through Ireland's Offshore Renewable Energy (ORE) Designated Areas, which will be designated according to the legislative provisions for Designated Maritime Area Plans (DMAPs) in the Maritime Area Planning (MAP) Act. These projects are likely to be a mixture of fixed base and floating wind turbine technologies. They might be radially connected to the onshore transmission system or they might be connected via hybrid arrangements.

Windfarms included up to 2030

The windfarms included up to 2030 for the North Seas include a number of projects that are in development to help meet the 2030 goals (3,949 MW rotor capacity). A relatively small existing windfarm was also included in (Arklow 1,25 MW). These projects up to 2030 are well understood in terms of proposed location, capacities and electrical connections. The Phase 2 projects were also included as 2 x 350 MW wind farms, making a total of 4,874 MW. All these projects are assumed to be radially connected to the on-shore Irish transmission network.

Windfarms included up to 2040 and 2050

For the position beyond 2030, national windfarms are connected up to a level that delivers the non-binding goals for 2040 and 2050. These windfarms were largely assumed to be windfarms of 2 GW capacity with a hybrid configuration and HVDC connected. The commissioning dates for these projects were phased so that a new project would commission every second year.

- From 2030 up to 2040, a further 5 projects were included to meet the overall non-binding goal of 13 GW for the North Seas. Three of these additional projects were assumed to be windfarms of 2 GW capacity. The other 2 projects were assumed to have lower capacities that would deliver the overall non-binding goals of 13 GW by 2040. All but one of these projects were assumed to have a hybrid configuration and to be HVDC connected.

Figure 20 – Potential Broad Areas of Interest (ORESS 2)

- From 2040 up to 2050, a further 4 projects were included. Three of these additional projects were assumed to be windfarms of 2 GW capacity. The other project was assumed to be 1 GW capacity so that the overall non-binding goal of 38 GW is met. All but one of the additional projects from 2040 to 2050 were assumed to have a hybrid configuration and to be HVDC connected.

The additional projects connected through to 2040 and 2050 were each connected to an offshore transmission node. These transmission nodes are intended to be the hub points for a transmission network in the North Seas. Two hub points were located in the Irish Sea (IE_01 and IE_02), and 2 hub points were located in the Celtic Sea (IE_03 and IE_04). Each hub point was assumed to have a 2 GW rated HVDC connection to an onshore location, close to a relatively strong connection point on the existing Irish onshore grid.

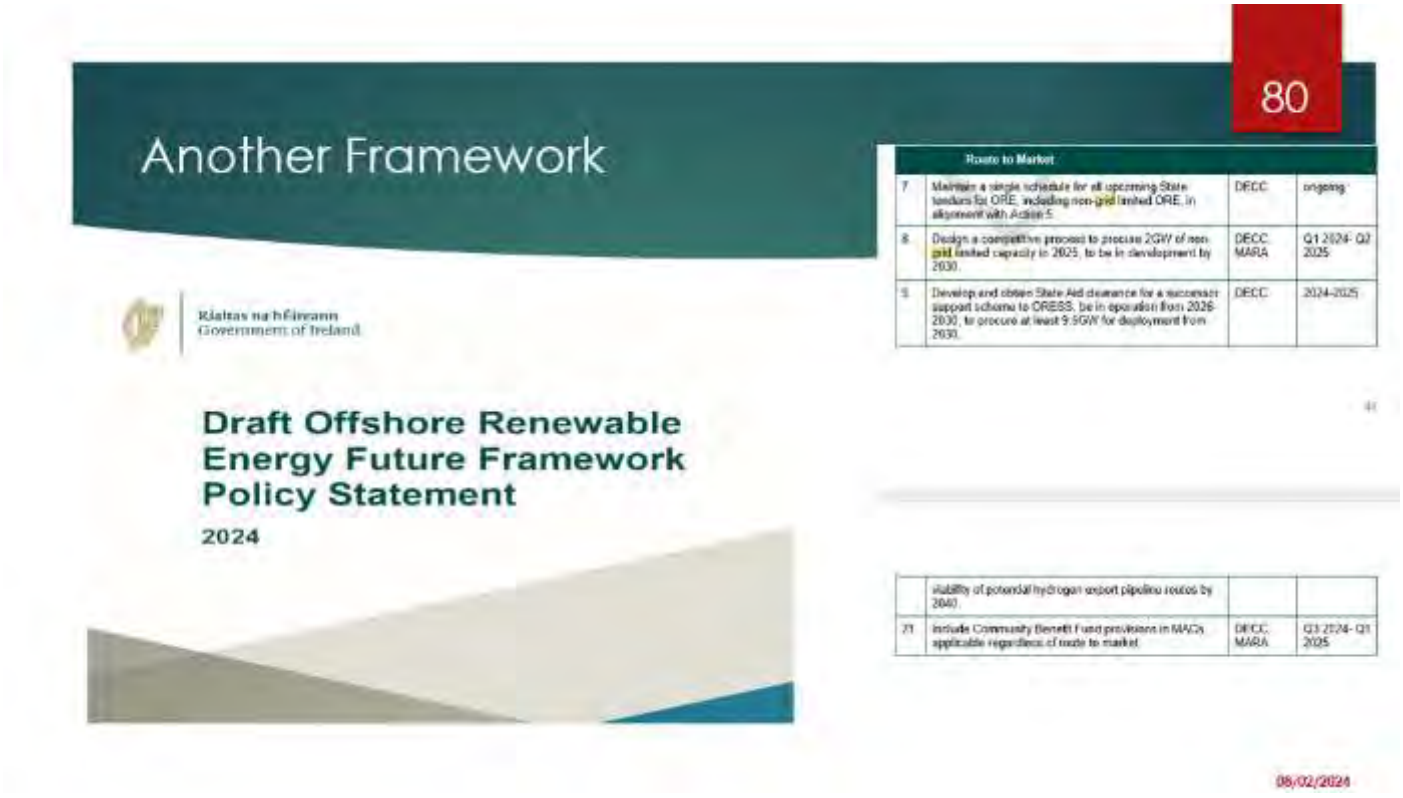
The location of the windfarms after 2030 and for the offshore transmission nodes was guided by three potential broad areas of interest for floating windfarms, which are illustrated in the Offshore Renewable Energy Development Plan II that is being developed by the Irish government. These are illustrated in Figure 28.

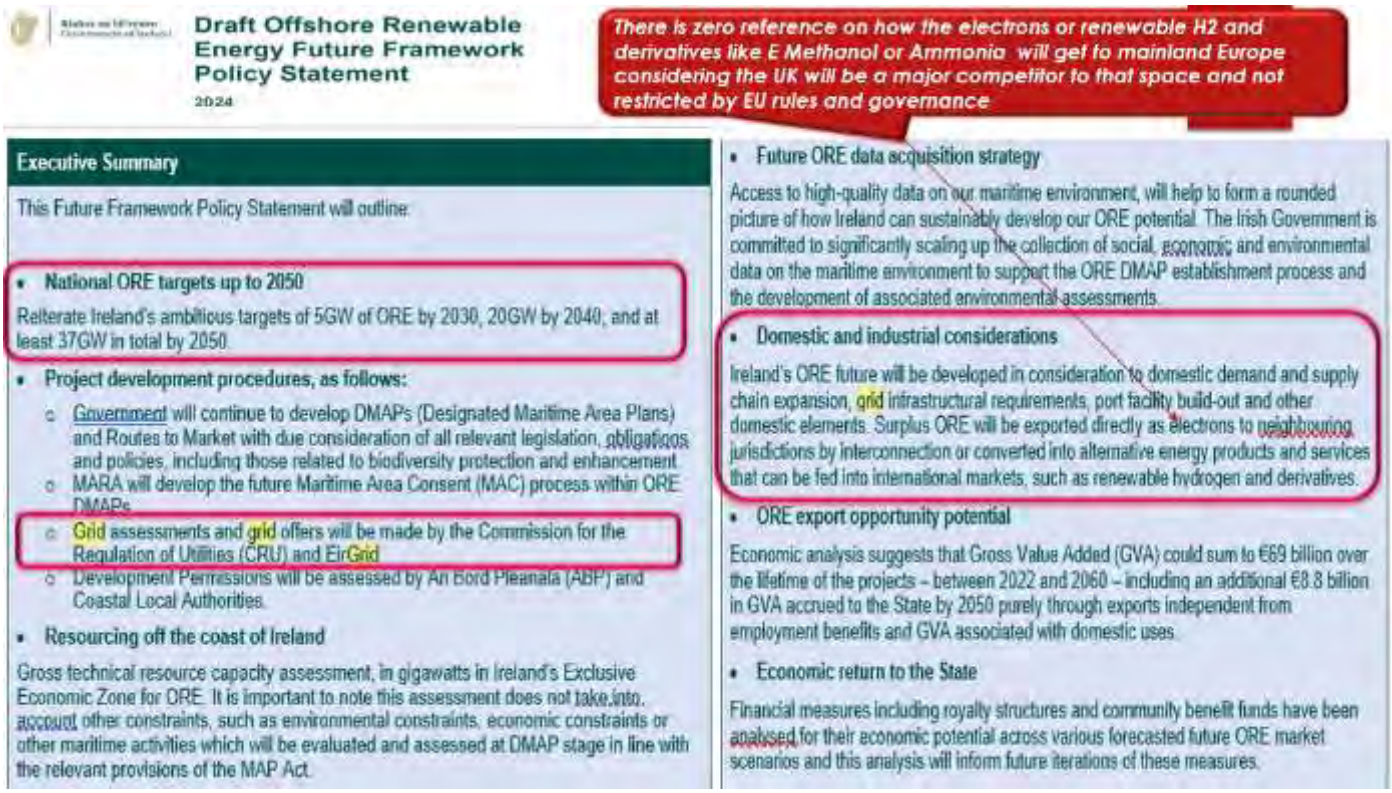
The overall data representation was shared with the Irish ministry (DECC). This representation of windfarms and nodes for both the North Sea and Atlantic sea basin areas is illustrated in Figure 29.

Figure 29 – ONDP Generation and Node Data for Ireland

Text in Purple & Italics is a product of GPT 4 pulling out key points with Edits added by [redacted]

The Government statement by Minister Eamon Ryan TD outlines Ireland's ambition and strategy to become a world leader in offshore renewable energy (ORE), emphasizing the potential benefits for local communities, the national economy, and the global environment. Here's a summary of the key policy points and their rationale:





e) Renewable hydrogen

As described by the National Hydrogen Strategy, renewable hydrogen production through electrolysis addresses carbon emissions while also improving Ireland's energy security.

Additionally, by diverting surplus electricity generation into electrolysers electricity curtailment is minimised. Renewable hydrogen effectively stores electricity for use in its generated form or it can be converted into derivatives such as ammonia or methanol, which could substitute carbon-intense fuels in the aviation and maritime industries and in high temperature refining or industrial processing industries such as steel manufacturing.

f) Ports

Port facilities are required during various project stages including installation, operations and maintenance, and decommissioning. Distinct infrastructures are required depending on the technology, particularly in the case of fixed bottom compared to floating wind. Extensive resources are required to build, store, repair, and low out machinery to project sites. This will include physical space and buildings to carry out activities both in onshore facilities and in offshore wet storage, access to various vessels, and proximity to other components of the supply chain. A dedicated workstream of the OWDT, led by the Department of Transport, is driving the development of Irish ports to meet these needs.

The Future Framework policy sets out the evidence base for Ireland's ORE targets as well as provides for the plan led approach by outlining key priorities and processes to ORE delivery from 2030 to 2050. This includes identifying relevant potential for ORE generation as well as interconnection and renewable hydrogen production post-2030. Additionally, the associated constraints, information provided by existing policy to clarify the regulatory pathway to successful delivery including any opportunities or barriers to implementation. Crucially, the Future Framework policy outlines how a plan-led approach will link all relevant components of the energy system, streamline the ORE consenting process, and integrate key priorities – such as environmental assessments and consultation processes – into the establishment of a sustainable regime for ORE delivery in Ireland.

1 Practical considerations

1.1 The Future of ORE

Ireland has commitments for renewable electricity to reach 80% of demand by 2030 and extensive plans to electrify end uses as outlined in the Climate Action Plan. Ideally, grid capacity should maximise the amount of ORE landed in Ireland resulting in significant in-country benefits. As examined in EirGrid & ONI's Tomorrow's Energy Scenarios[1], energy demand in Ireland is expected to at least double largely as a result of increased electrification, especially in the transport and residential sectors.

Domestic utilisation of the greatest possible proportion of indigenous ORE should maximise climate, economic and social benefits for Ireland. Domestic demand opportunities will be further examined by the upcoming National Industrial Strategy for Offshore Renewable Energy currently being developed by DETE. Additional domestic demand opportunities and associated considerations are further considered in Section 2. Any surplus ORE will be exported directly as electrons to neighbouring jurisdictions by interconnection or else converted into products and services that can be fed into international markets, such as renewable hydrogen and derivatives. Ireland ORE export ambitions and rationale are further analysed in Section 3.

Given the domestic demand and export considerations, Table 1 outlines the targets for ORE delivery in Ireland along with anticipated timelines. The ORE capacity ambitions are consistent with the ambitions of the revised EU TEN-E Regulation[2], as well as Ireland's climate and energy commitments – including the goal to become an annual net exporter of ORE. Our ambitions take into consideration practical constraints such as environmental concerns, area limitation for other marine activities, and project costs. Timelines have evolved from assumptions on technology readiness, policy and consenting processes, and project planning and construction. These targets are ambitious but necessary in order to meet Ireland's commitments to become a net zero economy by 2050.

Table 1: ORE generation capacity targets from 2030 to 2050

	2030 target	2040 target	2050 target
Generation capacity (GW)	5	20	37

Action Item

[1] https://www.eirgridgroup.com/site-files/library/EirGrid/Tomorrows-Energy-Scenarios-2023-Consultation-Report.pdf

[2] https://energy.ec.europa.eu/topics/infrastructure/trans-european-networks-energy_en

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More Reports and consultancy fees Please Go visit Scotland or Denmark let's not have a repeat of the MMC offsite £3.5 Million ++++ demonstration park in Mount Lucas

1. Conduct a study to assess the potential to deploy floating offshore wind to Irish waters, taking account of the upcoming first dedicated floating wind auctions to take place globally, including in France, in 2024.
2. Investigate the feasibility of a floating offshore wind demonstrator site.
3. Maintain State support for our existing or planned test sites and explore the feasibility of supporting additional test sites.
4. Conduct an analysis to determine the economic and practical viability of various innovative ORE technologies.

To meet these ambitious targets the plan-led approach to ORE is coordinated across all relevant Government Departments and agencies by the OWDT to deliver the necessary policy and regulatory development, financial supports for projects, grid build-out, port development, supply-chain management, opportunities for skills advancement, domestic demand prospects, and structures for export of ORE. Opportunities for domestic industrial uses and other domestic considerations are further examined in Section 2 of this document. Electricity interconnection will support the potential export of ORE that is surplus to domestic supply and improve energy security. ORE deployment post-2030 however will no longer be strictly limited by grid availability, with a range of potential applications for green products and services (including green hydrogen and green data), which may be entirely off-grid, or with a partial connection only to the domestic grid. In this way, at least 2GW of non-grid limited capacity is targeted to be in development by 2030. Ireland's interconnection and renewable hydrogen opportunities and considerations are based on robust economic analysis as described in Section 3 of this document.

1.2 Pathway to success

This section provides a detailed pathway for ORE projects under the plan-led regime in the post 2030 period, including timelines relative to other objectives and deliverables. The framework also highlights a requirement for further policy development to ensure timelines are met, eliminate delays and meet Ireland's ORE targets.

From 2030 onwards, all ORE development in Ireland will be led by the State including through the establishment of DMAPs, project auctions such as ORESS and other routes to market, grid connections, planning permission, environmental considerations, grid build-out and connections, increasing domestic demand opportunities, developing export markets, and establishing a financial return to the state and local communities. Government will play an increasingly involved role during pre-construction stage ORE development, including through the oversight and commissioning of marine surveys and environmental assessments, and providing guidance on project design envelopes. This is the plan-led approach. Government will work with industry to ensure ORE operations are undertaken with utmost consideration of cost-competitiveness and delivery timelines.

There are several key priorities that will remain at the centre of the Future Framework:

i. **Environmental concerns**

Environment considerations and protection is of the utmost priority during the development of new ORE projects in Ireland's maritime area. As such environmental concerns must be at the forefront of the plan-led approach, from project planning to project decommissioning. An emphasis should be placed on taking an ecosystems-based approach with full consideration for the protection of marine environment and biodiversity as required in the DMAP process under the regulations set forth by the MAP Act. This approach is also crucial to assessing cumulative impacts such that co-location of various marine activities with ORE development does not present additional and significant detrimental effects.

The ORE planning and development process must comply will all relevant environmental legislation including Environmental Impact Assessments, Strategic Environmental Assessments and Appropriate Assessments, as required. Environmental surveys and consultations with relevant environmental groups and interest parties are required. Following proper environmental procedure, in part facilitated by data collection and data sharing as well as extensive consultation practice, will streamline the consenting process for ORE projects.

ii. **Public and stakeholder consultation**

In line with the MMPF, opportunities for comprehensive public participation will remain central to the establishment of future Government ORE policy and development of ORE and associated infrastructure. In particular, targeted engagement will take place with local coastal communities and other marine users in order to avoid, minimise and mitigate impacts of the development of ORE and associated infrastructure.

iii. **Return to the State and local communities**

The delivery of ORE will seek to maximise associated economic benefits to the State and to relevant local communities. Particular focus will be given to affordability for households and businesses in line with the commitments set out under the package for

What is in it for the Fishing industry and coastal SMEs communities and environmentalists ???

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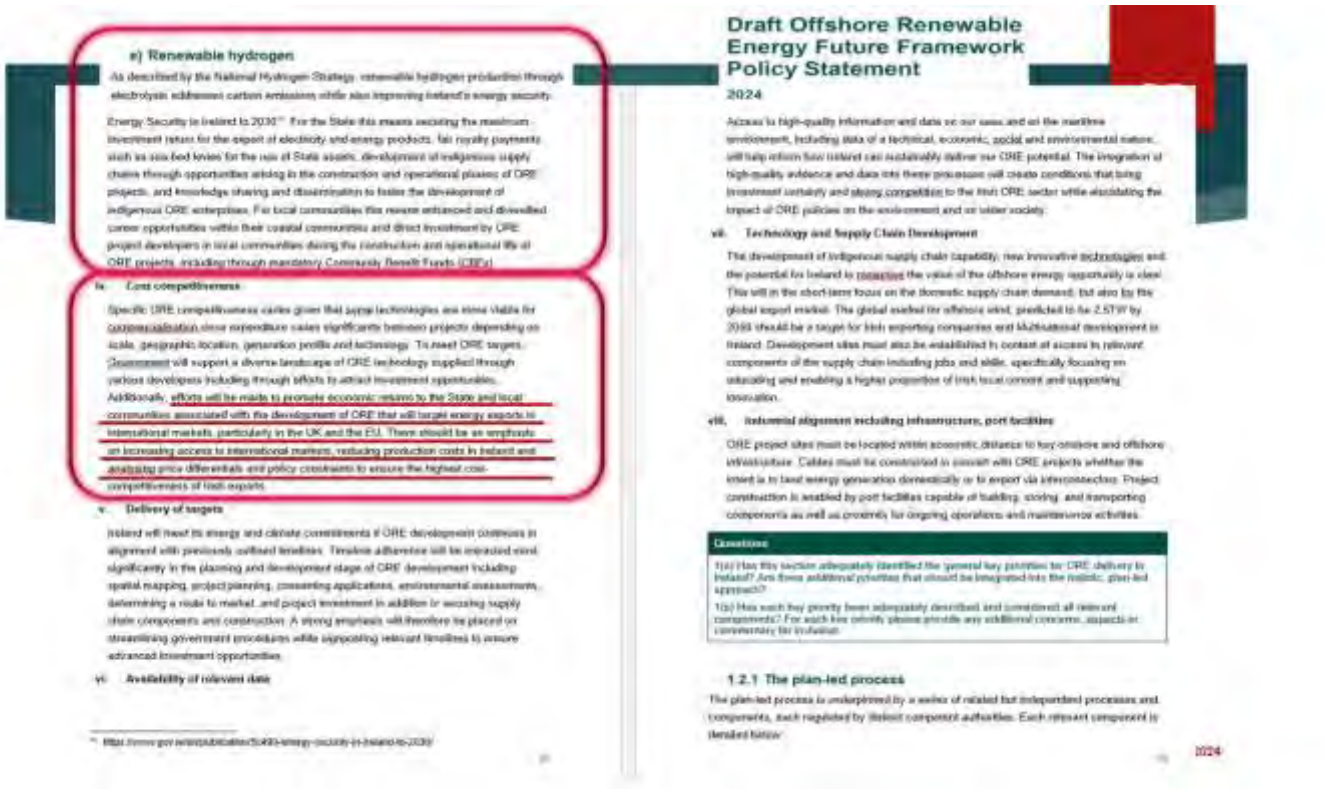

e) Renewable hydrogen

As described by the National Hydrogen Strategy, renewable hydrogen production through electrolysis addresses carbon emissions while also improving Ireland's energy security.

Energy Security in Ireland to 2030[...] For the State this means securing the maximum investment return for the export of electricity and energy products, fair royalty payments such as sea-bed levies for the use of State assets, development of indigenous supply chains through opportunities arising in the construction and operational phases of ORE projects, and knowledge sharing and dissemination to foster the development of indigenous ORE enterprises. For local communities this means enhanced and diversified career opportunities within their coastal communities and direct investment by ORE project developers in local communities during the construction and operational life of ORE projects, including through mandatory Community Benefit Funds (CBFs).

ix. Cost competitiveness

Specific ORE competitiveness varies given that some technologies are more viable for commercialisation since expenditure varies significantly between projects depending on scale, geographic location, generation profile and technology. To meet ORE targets, Government will support a diverse landscape of ORE technology supplied through various developers including through efforts to attract investment opportunities. Additionally, efforts will be made to promote economic returns to the State and local communities associated with the development of ORE that will target energy exports to international markets, particularly in the UK and the EU. There should be an emphasis on increasing access to international markets, reducing production costs in Ireland and analysing price differentials and policy constraints to ensure the highest cost-competitiveness of Irish exports.

v. Delivery of targets

Ireland will meet its energy and climate commitments if ORE development continues in alignment with previously outlined timelines. Timeline adherence will be impacted most significantly in the planning and development stage of ORE development including spatial mapping, project planning, consenting applications, environmental assessments, determining a route to market, and project investment in addition to securing supply chain components and construction. A strong emphasis will therefore be placed on streamlining government procedures while supporting relevant timelines to ensure advanced investment opportunities.

vi. Availability of relevant data

[...] https://www.gov.ie/en/publication/5c493-energy-security-in-ireland-to-2030/

Draft Offshore Renewable Energy Future Framework Policy Statement

2024

Access to high-quality information and data on our seas and on the maritime environment, including data of a technical, economic, social and environmental nature, will help inform how Ireland can sustainably deliver our ORE potential. The integration of high-quality evidence and data into these processes will create conditions that bring investment certainty and strong competition to the Irish ORE sector while elucidating the impact of ORE policies on the environment and on wider society.

vii. Technology and Supply Chain Development

The development of indigenous supply chain capability, new innovative technologies and the potential for Ireland to maximise the value of the offshore energy opportunity is clear. This will in the short-term focus on the domestic supply chain demand, but also by the global export market. The global market for offshore wind, predicted to be 2,57TW by 2030 should be a target for Irish exporting companies and Multinational development in Ireland. Development sites must also be established in context of access to relevant components of the supply chain including jobs and skills, specifically focusing on unlocking and enabling a higher proportion of Irish local content and supporting innovation.

viii. Industrial alignment including infrastructure, port facilities

ORE project sites must be located within economic distance to key onshore and offshore infrastructure. Cables must be constructed in concert with ORE projects whether the intent is to land energy generation domestically or to export via interconnectors. Project construction is enabled by port facilities capable of building, storing, and transporting components as well as proximity for ongoing operations and maintenance activities.

Questions

1(a) Has this section adequately identified the 'general key priorities for ORE delivery to Ireland? Are there additional priorities that should be integrated into the holistic, plan-led approach?

1(b) Has each key priority been adequately described and considered all relevant components? For each key priority please provide any additional concerns, aspects or commentary for evaluation.

1.2.1 The plan-led process

The plan-led process is underpinned by a series of related but independent processes and components, each regulated by distinct competent authorities. Each relevant component is detailed below:

2024

1. ***National Ambition and Strategic Approach:*** *Ireland aims to achieve 20 GW of offshore renewable energy by 2040 and 37 GW by 2050. This ambition is grounded in leveraging Ireland's significant natural resources to secure a clean, renewable, and affordable energy supply, thereby contributing to green growth and export market opportunities. It aligns with the EU's climate neutrality goal by 2050, by the Paris Agreement.*
    a. ***Risks***
        i. *The SWOT analysis deals with the Strengths Opportunities, Weaknesses and Threats*

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Financial incentive to adopt Methanol

New carbon borders change the game

Carbon cost of maritime emissions in the ETS
Extra-EU voyage and intra-EU voyage example

	Tonnes of CO_2 emitted	Tonnes of CO_2 accounted for under the ETS	Year	Tonnes of CO_2 phased-in	Carbon cost in USD***
Extra-EU voyage*			2023	170 (20%)	
			2024	380 (45%)	
NY - Antwerp - NY	1700	850 (50%)	2025	600 (70%)	
			2026	850 (100%)	
Intra-EU voyage**			2023	140 (20%)	
			2024	320 (45%)	
Le Havre - Riga-Amsterdam	700	700 (100%)	2025	500 (70%)	
			2026	700 (100%)	

Carbon cost enters the maritime everyday business

The European Union proposes a basket of measures to decarbonise the maritime industry, which will influence freight rates in different ways. Shipping emissions will become a cost element in freight negotiations and a part of ship owners, brokers and cargo owners' everyday business.

Measures impacting

The Fit for 55 package will put a cost on maritime carbon emissions by including shipping in the EU Emissions Trading System (ETS) and it will increase the price of marine bunker fuels by taxing non-sustainable fuels and setting limits to the GHG intensity on ship energy use.

Draft Offshore Renewable Energy Future Framework Policy Statement

5-10 years. Once a DMAP is approved by Government and the Oireachtas, it has a statutory basis which will guide future planning application decisions. The South Coast DMAP is expected to be submitted for Oireachtas scrutiny and approval by summer 2024.

The first phase of offshore wind deployment is referred to as the Future Framework, which builds on previous ORE policy both published and in development, is informed by all previous public consultation carried out by DECC and is complemented by independent economic analysis commissioned by DECC. The intention is that following consultation, the draft Future Framework policy will be submitted for Government approval and publication by March 2024, to coincide with the publication of the National Industrial Strategy Roadmap by the Department of Enterprise, Trade and Employment (DETE).

Components of an ORE system

To realise Ireland's potential of offshore renewables extensive build-out of the appropriate structures is required, all which are governed by distinct authorities and regulatory procedures.

Physical components include specific ORE technologies, grid infrastructure including private wires and bootstrapping, port and O&M facilities, energy storage mechanisms, interconnection components, and the developing renewable hydrogen industry.

Technological innovation is constantly altering system efficiency, price, and regulatory constraints but will ultimately drive industry participation and enhance Ireland's competitiveness in global markets.

Key Components of an ORE System

a) Technology

All ORE technologies will play a vital role as we aim for 20GW of ORE generation by 2030 and 37GW by 2050. This includes both fixed-bottom and floating offshore wind turbines as well as other ocean energy generation including wave and tidal devices.

- **Maximisation of more competitive technologies:** Each of the ORE technologies above have their own costs and technical considerations and thus have varying degrees of commercialisation. It is imperative that more competitive technology resources are maximised while simultaneously preparing for additional technology to mature. Innovation is driving larger capacity machinery as well as the potential for marine multipurpose sites and ORE technological co-location and the emerging opportunity for biodiversity enhancing infrastructure.

- **SEAI Technology Roadmap:** Key ORE technologies and future innovation will be detailed within the upcoming Technologies Roadmap being developed by the Sustainable Energy Authority of Ireland (SEAI). Innovative technologies will also play a role in data collection and management facilitated by remote operating vehicles and artificial intelligence, advanced cabling and grid infrastructure design including interconnection, energy storage mechanisms, and hydrogen electrolysis and related technology.

b) Grid

Given the targeted increase in offshore capacity, Ireland's electricity grid must be strengthened leading up to 2040. Grid development will accommodate the greater electricity supply and demand, variability in renewable generation, and spatial discrepancies between energy generation and demand centres. This means bolstering and reinforcing existing and developing new grid infrastructure through increased construction of cables, overhead lines, substations and other infrastructure. To meet the vast demand for grid build-out, we anticipate a role for private wire development and bootstrapping connections.

c) Storage

Due to the inherent intermittency of wind and ocean energy, discrepancies between supply and demand necessitate energy storage mechanisms including batteries, pumped hydro, electric vehicles, and renewable hydrogen. There are several battery options available including short-term lithium-ion batteries ranging from two to eight hours and longer term 100-hour iron-air batteries. Energy storage options should consider storage duration, generation technology cost, additional storage costs, reliability, and storage space.

d) Interconnection

Another method for ensuring security of supply is interconnecting electricity markets between neighbouring jurisdictions. Exporting electricity can represent a source of revenue to the country of origin contingent on energy price differentials between importing and exporting jurisdictions. Currently, the predominant technology for electricity interconnection are point-to-point interconnectors. The upcoming DECC Offshore Transmission Strategy will explore the potential to develop multipurpose interconnectors in Ireland.

e) Renewable hydrogen

As described by the National Hydrogen Strategy, renewable hydrogen production through electrolysis addresses carbon emissions while also improving Ireland's energy security.

	Route to Market		
7.	Maintain a single schedule for all upcoming State tenders for ORE, including non-grid limited ORE, in alignment with Action 5.	DECC	ongoing
8.	Design a competitive process to procure 2GW of non-grid limited capacity in 2025, to be in development by 2030.	DECC, MARA	Q1 2024- Q2 2025
9.	Develop and obtain State Aid clearance for a successor support scheme to ORESS, be in operation from 2026-2030, to procure at least 9.5GW for deployment from 2030.	DECC	2024-2025

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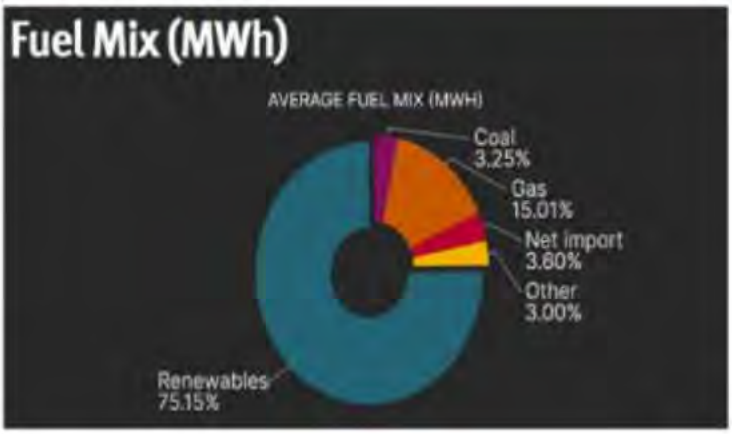
	viability of potential hydrogen export pipeline routes by 2040.		
21.	Include Community Benefit Fund provisions in MACs, applicable regardless of route to market.	DECC, MARA	Q3 2024- Q1 2025

2. ***Economic Benefits and Job Creation:*** *The statement highlights the potential economic benefits of investing in offshore renewable energy, including job creation, and fostering green technology innovation. This rationale underpins the move towards sustainable development that can offer long-term economic prosperity through indigenous industries.*
3. ***Inclusive and Dynamic Policy Framework:*** *The Future Framework Policy Statement is part of a broader suite of initiatives, coordinated through the Offshore Wind Delivery Taskforce. It signifies a commitment to a dynamic, responsive policy environment that supports evolving technologies and practices in the offshore renewable energy sector, including wind, wave, and tidal energy sources.*
4. ***Community Engagement and Environmental Protection:*** *The policy emphasizes extensive community consultation and environmental safeguards as essential elements of the Designated Maritime Area Plan (DMAP) process. This approach aims to ensure that the development of offshore renewable energy is inclusive, respects local knowledge and biodiversity, and gains broad societal support.*
    a. *If the government want collaboration, they need to give something back to those most impacted and three which groups are the*
        i. *Fishermen could avail of GREEN competitively priced E-Methanol*
        ii. *Irish Importers Exporters would avoid annually increasing punitive carbon taxes on Carbon Bunker Fuels like Diesel and Heavy Marine Fuel Oils as bunker fuel.*
        iii. *Environmentalists would witness modular (Shipping container sized Methanol Production Units sucking in CO2 locally as a feedstock combined with H2 from the US initially and eventually from the Green Hub in Moneypoint by 2037*

5. ***Preparation for Future Technologies:*** *The statement underlines the government's proactive stance on future technologies such as deepwater and floating wind, as well as wave energy. By planning and preparing the necessary frameworks and market pathways ahead of time, Ireland intends to swiftly capitalize on these technologies once they are ready for large-scale deployment, ensuring a competitive edge in the global market.*
6. ***Energy Security and International Connectivity:*** *The policy sets out a vision for enhancing Ireland's energy security and fostering deeper connections with neighbouring states through increased electricity interconnection and export capabilities. This objective seeks to position Ireland as a key player in the European energy market, contributing to regional energy security and integration.*

- System demand has just crossed 4GW and we have 3.3GW of wind out-put on the system. Remarkably in the European context it's virtually all on-shore. So for a day in Early November 2023 82% of demand was being met by wind energy.



7. ***Collaborative and Cross-Governmental Approach:*** *The statement calls for a collaborative effort across government departments, local communities, Irish industry, and international partners. This collaborative approach is crucial for realizing the ambitious targets set forth, ensuring a coordinated and effective implementation of Ireland's renewable energy strategy.*

In summary, Minister Eamon Ryan's foreword articulates a comprehensive and forward-looking policy stance aimed at positioning Ireland at the forefront of offshore renewable energy development. It underscores the importance of ambition, strategic planning, community involvement, and environmental stewardship in achieving Ireland's renewable energy and climate goals.

THE BIGGEST RISK IS PLANNING DELAYS CAUSING INVESTOR UNCERTAINTY AND MILITANT NIMBYISM

THIS CAN BE ADDRESSED BY GIVING SOMETHING TANGIBLE BACK THAT LOWER COST OF DOING BUSINESS AND FISHING

22

The Planning System presents Ireland with a major problem in the context of meeting targets

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How a planning blockage is threatening Ireland's wind farm industry: ABP has not approved a single wind farm project submitted to the body within the last 12 months

How a planning blockage is threatening Ireland's wind farm industry

thejournal.ie • 4 min read

The aim for 2030, which feeds directly into Ireland's 2030 emission reduction targets, is to roughly double Ireland's current 4.5 GW of onshore wind capacity to 9 GW.

This makes the latest round of the RESS auction all the more disappointing – the capacity of the three onshore wind projects approved which received contracts was just under 150 MW.

As RESS is one of the main ways new wind farms are developed, it calls into question how close Ireland will come to meeting its 2030 targets.

To explain how this links in with the planning system and more specifically ABP: almost every wind farm application goes through ABP, whether it is appealed to the body, or a developer applies straight to the regulator under strategic infrastructure legislation.

This means if ABP is not functioning as quickly as it should, no new wind farms can be cleared for development.

As well as the issues around Paul Hyde, ABP has also faced a significant increase in its workload as it has been tasked with deciding on appeals as to whether or not plots of land should be liable for vacant sites taxes.

The issue has now become the number one concern for the Irish wind sector and was top of the list in budget requests from industry body Wind Energy Ireland.

The group has highlighted that ABP is taking an average of 90 weeks to issue decisions on wind farms, rather than its target of 18 weeks. It has said there is now 2 GW of onshore wind projects "stuck" in the planning system.

23

Most Renewable Projects **Take ten (10) Years** to go from initial design to the GRID

THE IRISH TIMES

Ireland will miss renewable energy goals unless wind and solar projects get timely planning permission, conference told

Ireland will not achieve its renewable energy goals unless the timetable for adding wind and solar projects to the grid is considerably shortened, a conference has been told.

Renewable Energy Ireland chair Dr Tanya Harrington told the Engineers Ireland annual conference in Dublin on Wednesday that it takes two years for an environmental assessment on a renewable energy project to be carried out. Such a project spends a further year to four years waiting for planning permission to be granted at local or national level.

That is followed by a grid connection application (ECP) which typically takes several years to achieve. The project developers then need to sell the electricity to the grid.

Dr Harrington warned that Ireland will not meet its renewable energy targets unless a "fit for purpose" planning system is introduced. There is also a need for other agencies involved in approving such projects to make decisions quicker.

https://www.irishtimes.com/environment/2023/10/25/ireland-will-miss-renewable-energy-goals-unless-wind-and-solar-projects-get-timely-planning-permission-conference-told/

03/02/2024

The Body of the Report

The document outlines a comprehensive policy framework for the development of Offshore Renewable Energy (ORE) in Ireland, setting ambitious targets and detailing the processes, benefits, and strategic considerations necessary for successful implementation. Here's a summary of the key action points and the potential benefits if these are implemented:

Key Action Points

1. ***Achieve Ambitious ORE Targets**:*** *Commit to reaching 5GW by 2030, 20GW by 2040, and at least 37GW by 2050 to significantly increase Ireland's renewable energy capacity.*
2. ***Develop and Implement DMAPs**:*** *Continue to develop Designated Maritime Area Plans (DMAPs) and Routes to Market, ensuring alignment with biodiversity protection and environmental enhancement.*
3. ***Streamline Consenting Processes**:*** *Support the Maritime Area Regulatory Authority (MARA) in developing a future Maritime Area Consent (MAC) process within ORE DMAPs to streamline project approvals.*
4. ***Enhance Grid Infrastructure**:*** *Strengthen Ireland's electricity grid to accommodate increased ORE supply and demand, including assessing and developing grid offers by the Commission for the Regulation of Utilities (CRU) and EirGrid.*
5. ***Maximize Economic Return**:*** *Implement financial measures like royalty structures and community benefit funds to maximize the economic benefits from ORE projects across various market scenarios.*
6. *Promote Research and Data Acquisition**: Scale up the collection and sharing of maritime environmental data to support ORE development and environmental assessments.*
7. ***Focus on Domestic and Industrial Benefits**:*** *Consider domestic demand, supply chain expansion, and export opportunities in planning for ORE development.*
8. ***Engage Public and Stakeholders**:*** *Ensure comprehensive public participation and stakeholder engagement in ORE development, prioritizing local coastal communities' involvement.*

Potential Benefits

1. ***Economic Growth and Job Creation:*** *Substantial increase in Gross Value Added (GVA) and job opportunities, both direct and indirect, enhancing community wealth and employment prospects across the country.*
2. ***Energy Security and Climate Goals:*** *Achieving net-zero emissions in the power sector before 2050, contributing to Ireland's long-term energy security and meeting its climate commitments.*
3. ***Industrial and Technological Advancements:*** *Development of a new ORE industrial base, promoting innovation, and technological advancements, and positioning Ireland as a leader in renewable energy.*
4. ***Export Potential:*** *With significant ORE capacity, Ireland can become a net exporter of renewable energy, contributing to the EU's green transition, and creating additional revenue streams.*
5. ***Environmental Protection:*** *A plan-led approach emphasizing an ecosystems-based approach and environmental considerations will protect marine biodiversity and promote sustainable development.*
6. ***Community Benefits and Participation:*** *Implementation of community benefit funds and public engagement strategies to ensure local communities share in the benefits of ORE projects.*

Implementing these action points will position Ireland as a leader in offshore renewable energy, contributing to economic growth, energy security, environmental sustainability, and community well-being.

The Benefits that will accrue via the extension of the H2 Backbone pipeline to Scotland and Ireland to form a circular main and use the Moneypoint Jetty for the Transhipment of US-produced H2 until 2037

The Proposal

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Shannon Estuary: An EU transhipment hub acting as A Strategic Beachhead for US Green Energy Sales to Europe

Introduction:

- The Shannon Estuary offers a strategic advantage for US Green Energy sales (H2) to Europe, aligning with the growing need for Green Hydrogen imports and the slow down in the investment in offshore wind farms in Europe due to Environment Regulation, High interest rates and cross border differences in policy.
- The EU's demand for Green Hydrogen is on the rise, with a price benchmark of $1.50 per KG of H2 set by the US, Saudi Arabia and possibly Egypt by 2031 so each producer must achieve an optimal production capacity to remain within these price bands.

Key Reasons to Consider the Shannon Estuary:

- Uncongested ports ensures superfast turnaround, reducing transit time and costs for the mega sized ships that could sail from the West coast of the Americas via the Panama Canal across the Atlantic to Moneypoint.
- Moneypoint Jetty already exists and thus if European H2 Backbone pipe network can be extended from Hamburg to Aberdeen, to Belfast, to Cobh, To Rosslare, Ringaskiddy and then back to Le Harve with a spur off to Foynes and Moneypoint from Ringaskiddy then the existing deep water jetty provides an ideal facility for mega-sized H2 carriers from the US transshipping to both the European H2 Backbone plus smaller coaster delivering US sourced green energy to the smaller still to be connected coastal and river estuary ports across Western Europe

Scalability and Capacity:

- The current plan for Moneypoint Hub is to produce 1.4 GW by 2032, which is insufficient for domestic H2 production at scale.
- Partnership opportunities are available for shared equity to accelerate development.

Transshipment Solution:

- Shannon Estuary can start off as a Transshipment Hub for US Green Hydrogen while at the same time set up production facilities for the production of Methanol, and Ammonia. Imports of H2 will continue until a point in time post 2035 when offshore wind farms will be of a sufficient capacity to make it financially viable for US companies to product H2 in Moneypoint as well
- Methanol as the preferred option over Ammonia can fuel Dry Bulk Carriers out of all the ports listed later offering exporters much more attractive ESG related logistics near zero emissions options.

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Ensuring Secure and Diverse Green Hydrogen Supply for Europe

Strategic Backup for Europe:

- Hydrogen or Methanol powered Tug/Pusher boats could deliver H2/Methanol Tanker barges to various points across Rivers, Estuaries and Small coastal ports, ensuring a diversified Green Bunker supply. Note small to medium sized H2 to Methanol modular production units could be established in these ports so that eventually when H2 is piped to these locations they can still enjoy the benefits of being able to provide Methanol as a bunker fuel for ships, ferries and their respective fishing fleets.
- The ability to ship H2 from a neutral NoNATO country like Ireland reduces reliance on vulnerable Hydrogen backbone pipelines susceptible to sabotage as they cross over the European Mainland and seas.

Competitive Advantage:

- Ireland's EU membership distinguishes it from potential competitors like the UK, China, Russia, KSA, and others.
- American companies based in Ireland gain enhanced connectivity via airports and seaports if more ships are transshipping H2 to other ports across Europe. In time Aircraft out of Shannon could be using an aviation fuel with a growing concentration of H2.

Geopolitical Considerations:

- In case of continued conflict with Russia, a secondary backup from Ireland provides a secure option for the EU.
- Smaller, dispersed gas carriers are less susceptible to disruption compared to mega-sized vessels passing through critical areas like the "Straits of Dover" or the "North Sea"

Infrastructure Development:

- The initial importation of H2 into Ireland given the slow progress is of crucial importance to Ireland as Atlantic energy abortion and then transmission to the East Coast and beyond faces challenges.
- A much larger capacity Cork to Brittany Celtic 1 HVDC Interconnector provides a longterm solution but requires time for development.

Conclusion:

- Leveraging the Shannon Estuary as a European Transshipment HUB for US Green Energy sales aligns with President Joe Biden's vision and safeguards Europe's energy security.
- It positions the US as a dominant Green Hydrogen provider and maintains global trade dominance amid geopolitical shifts.

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THE IRISH TIMES

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The opportunity for a Green Energy and Data corridor under the M20 is disappearing fast

Transport Infrastructure Ireland seeks approval for Cork-Limerick motorway upgrade

The €1.4bn upgrade would involve the construction of more than 80k

[redacted]

Concept A

Active travel route positioned along one edge of new N/M20

Wouldn't it be ideal if a H2 pipeline plus HVDC 2.4GW and High-Capacity Fibre Optic cables were buried under the road or the side margin on the motorway side of the active travel pathway.

Onshore Cable Burial

- Buried in trench
- Approx. 1.1 m wide (220 kV)
- Approx. 1.45 m wide (400 kV)
- Approx. 1.25 m deep (both)
- Reinstated to as it was before

400km hydrogen pipeline planned for North Sea | Construction News

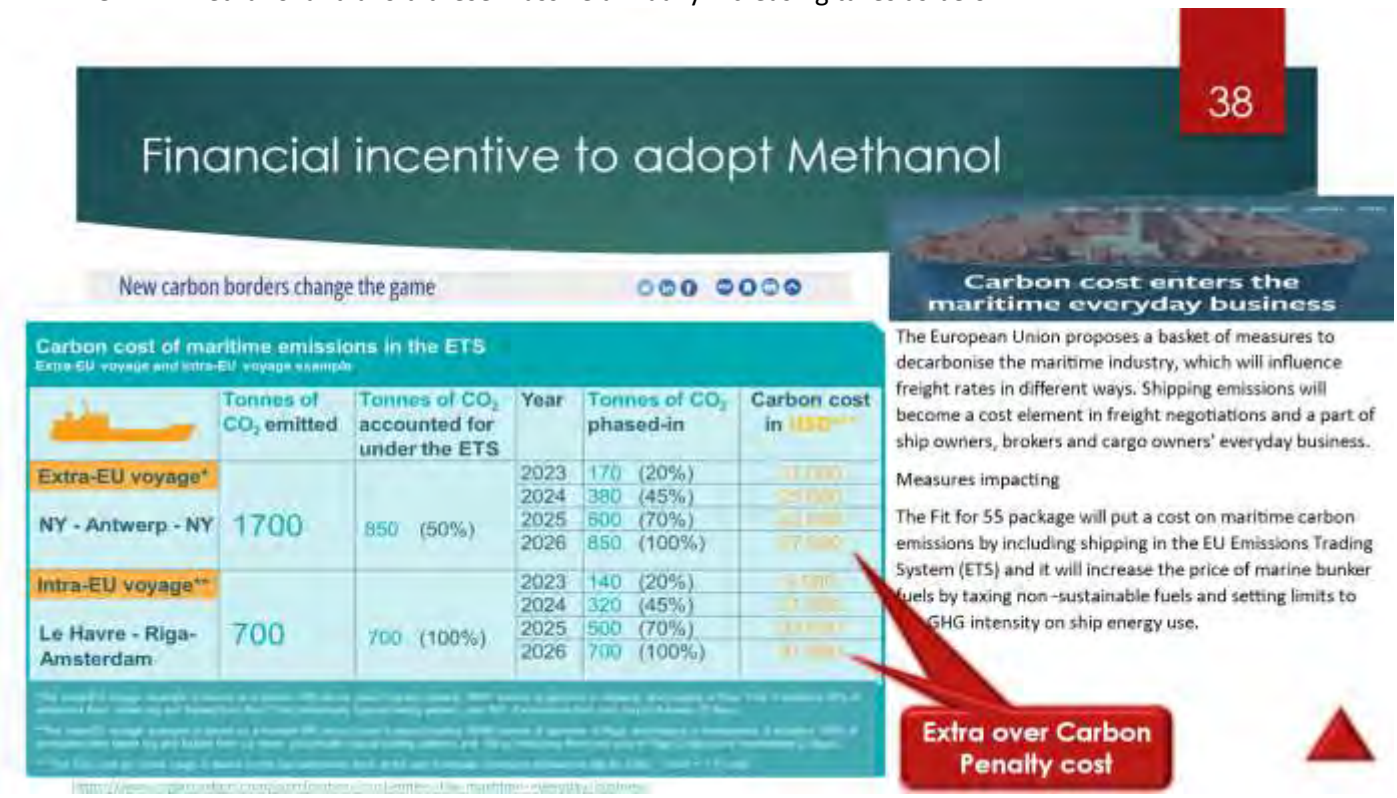
GREEN CORRIDOR FROM MONEYPOINT TO BREMERHAVEN & LE HARVE ON THE OTHER END GETS

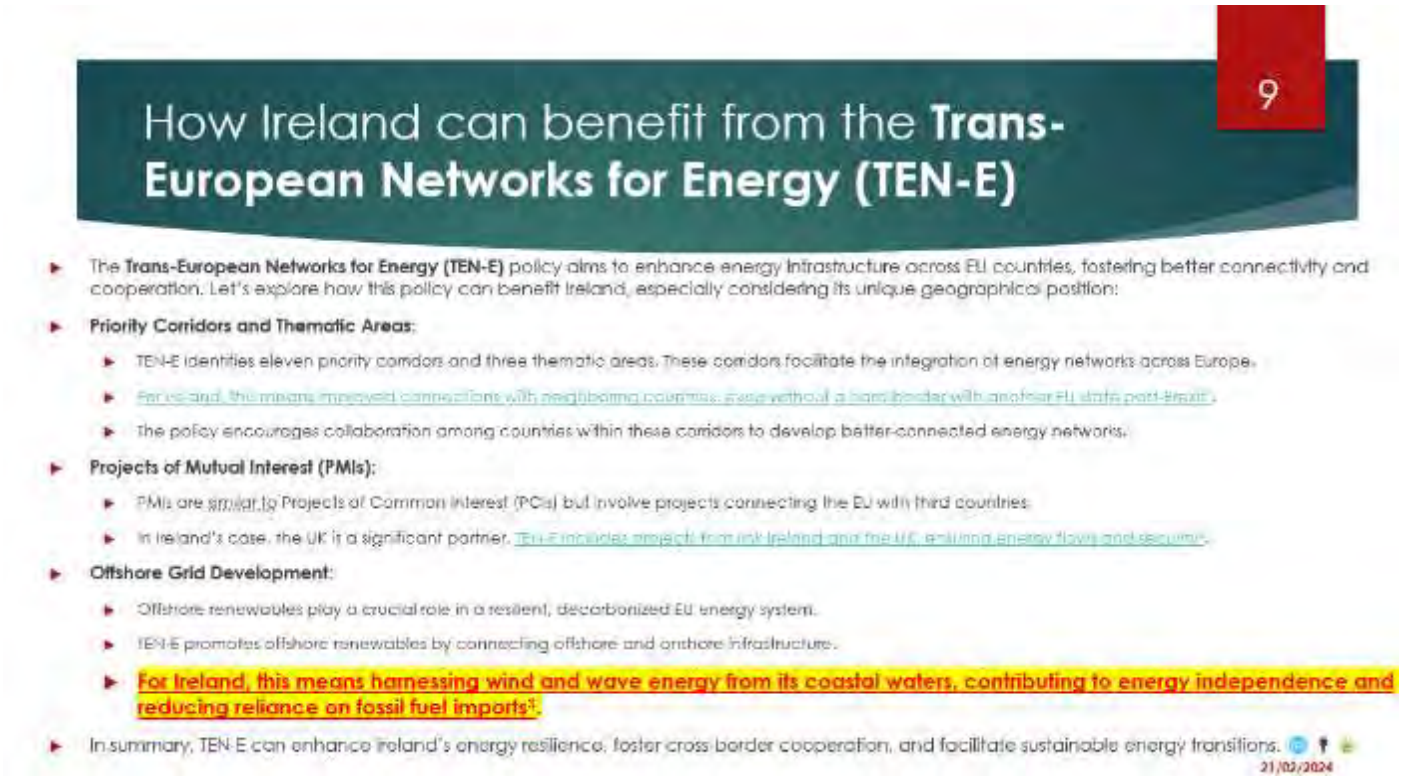
- **THE M20 BUILT & FUNDED UNDER TEN -E plus TWO EU TEN-T EU funded programmes & Ireland's GREEN and NG energy needs secured too.**
- **"Scandinavian to Med Ten -T route" and the separate "North Sea to Med" Ten -T route could be joined via a Scottish and Irish interconnector forming a circular "Green Energy & Data Corridor" for HVDC, H2 & Fibre Optic backbone with Moneypoint as an extra Green gas source too.**
- **Pick up wind energy from the North Sea, Atlantic off Ireland and Celtic Sea on the way to France as well.**
- **Old head of Kinsale caverns could be used for H2 storage in a non-NATO neutral country.**

The Benefits

1 **FUNDING:** Ten-T combined with Ten-E funding promoted by [redacted] will get the M20 from Limerick to Cork finally **fully EU funded and built.** Consequently, the two Cities will advance in unison and present a credible alternative to Dublin as TEN T is about connectivity to every corner of the EU as you can see in the two screenshots below.

1 **CARBON TAX AVOIDANCE:** Via providing Methanol at the ports via simply taking a tee-off the H2 line running from Larne to Kinsale all ports in between can provide departing ships, ferries and cruise liners with GREEN methanol and avoid these massive annually increasing taxes as below.





2 **TOURISM:** Tourists landing in Shannon can quickly start the "Wild Atlantic Tour" from Kinsale drive through Kerry Clare and Limerick to Donegal then quickly drive back down the motorway way to Shannon for the departure flight.

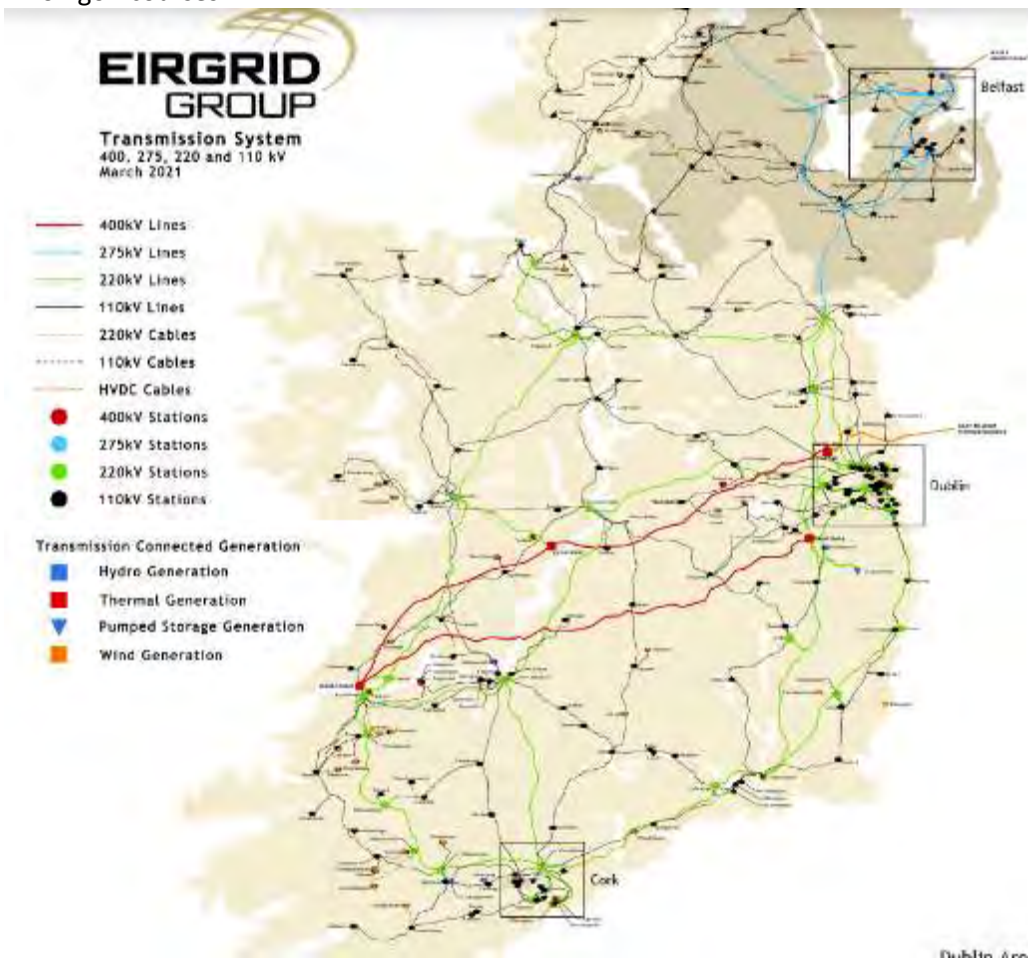
3 **CRUISE SHIPS:** Cruise Ships can dock at ports connected to the Extended H2 Pan European Pipe Now Circular Backbone and replenish their bunkers with E-Methanol making the stopovers very lucrative and thus

more attractive to dock in Foynes, Belfast Dublin or Cobh over other ports where they have no GREEN bunker fuel on tap.

4 **MORE FLIGHTS:** Michael O'Leary will be able to use the imported H2 from the US until 2037 to blend it with Aviation Fuel landed at the Shannon Estuary Terminal at Shannon Airport. The US-sourced H2 will be highly subsidised to allow it to be imported via Moneypoint based on President Joe Biden's "Inflation Reduction Act" generous Tax credits. In 2037 Ireland may have Atlantic wind on tap itself so at least the Route to Market will be in place and all the Risks identified in the Consultant's Report will have been addressed. [The green hydrogen ecosystem for aviation explained | Airbus]

5 **AIR CARGO 3PL:** Shannon Airport and its environs could leverage the local blending of Aviation Fuel landed by sea with H2 landed and eventually produced at Moneypoint circa 2037 to attract massive investment by Amazon like online retailers from India Africa and South America.

6 **RURAL DEVELOPMENT** The increased US activity at Moneypoint will lead to more revenue for the Trump Golf Hotel and West Clare plus extended stays to play golf in Lahinch, Dromoland, Shannon, Adare, Ballybunnion golf courses.



7 **LOW SCOPE 3 GHG EMISSIONS**. Ireland's exporters including farmers and fishermen too will benefit from Competitively priced Methanol as a Green Bunker Fuel that they can use for effective marketing and lower production and logistics costs.

8 **CSRD and CSDDD**. The improved mandated non-financial reporting will help multinational corporations based in Ireland to gain from being able to report lower Scope 3 GHG Emissions in their SEC and EU-mandated annual non-financial reporting.

9 **HUNDREDS hundred million of IMPOSED FINES IS AT RISK HERE** Ireland will meet its EU-set 2030 and 2050 emission targets without farmers having to cut back on herd size and they will benefit from food processors being able to place the True Nett Zero Tag on their dairy products.

10 **STRATEGIC IMPORTANCE** Ireland will prosper as it will be of more strategic importance to decision-makers in Washington, Brussels, Paris, and Berlin.

11 **SECURITY OF ENERGY SUPPLY:** Europe will benefit as it will have another source of energy and will benefit from a circular H2 Backbone pipeline connecting one Ten T corridor owned by Pat Cox to another via a pipeline through Scotland and Ireland

12 **VISION REALISED:** The Late Eddie O'Connor's vision of a Supergrid will become reality.

13 **SFPC:** Shannon Foynes Port Company SFPC will enjoy sustained revenue as the port fees for coal unloading will be replaced by Gas Import and re-export by specialised barges to small commercial and fishing ports across Western Europe that have not yet been connected to the Pan-European H2 backbone also fed from Moneypoint as well.

14 **EMPLOYMENT:** Jobs at Auganish Island Tarbert, Ballylongford, Irish Cement, Ennis, Shannon Airport, Foynes and Limerick City will grow via the development of industries that can leverage cheap highly US-subsidised Green H2

15 **More:**

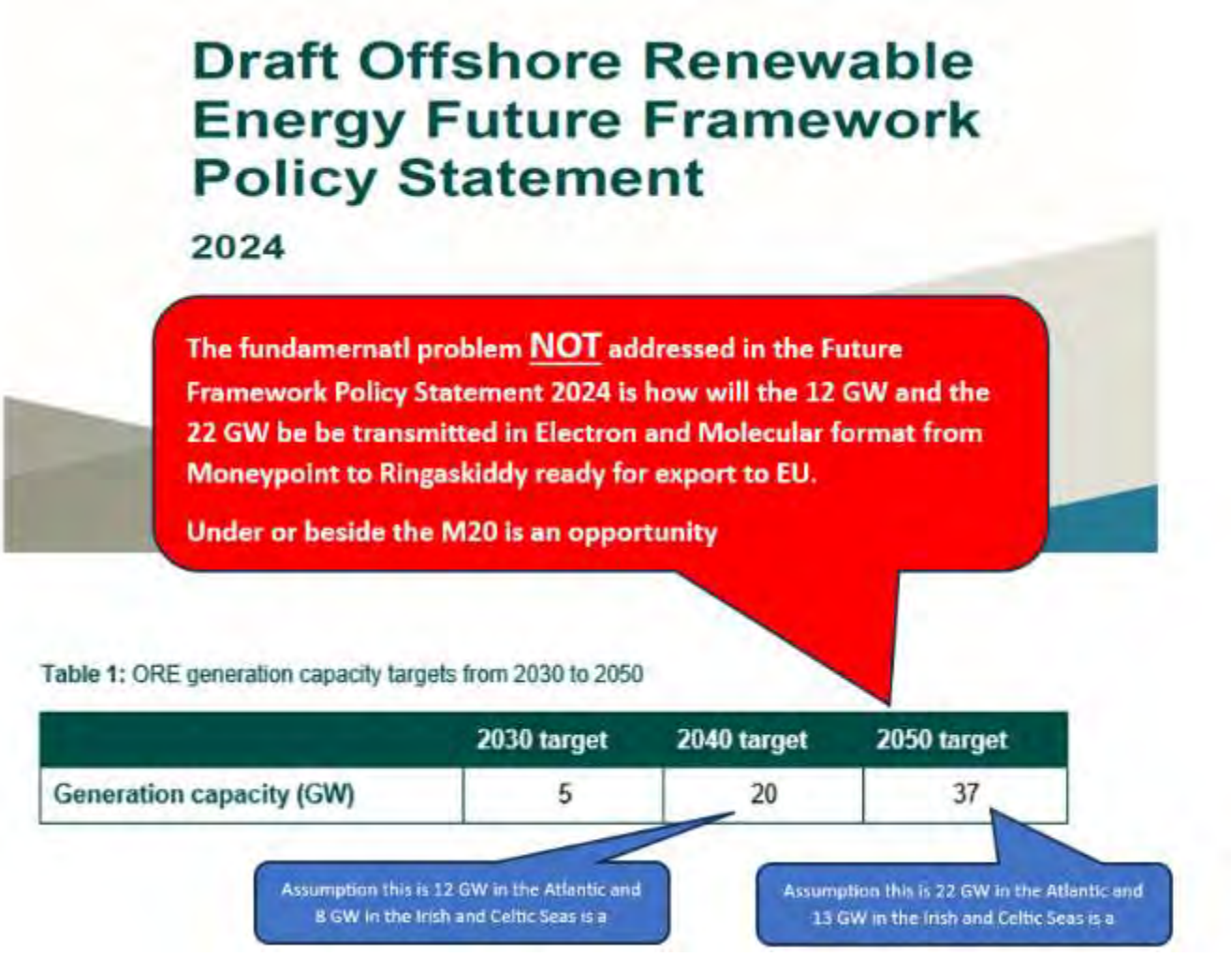
- Secure, sustainable, and cost-effective indigenous energy supply.
- Unlock green energy export opportunities.
- Economic growth and job creation, especially in coastal and marine communities.
- Enhanced environmental protection and biodiversity conservation.
- Increased grid capacity and interconnectivity for reliable energy supply.
- Development of renewable energy infrastructure and supply chains.

- Transition towards cleaner energy sources and reduced carbon emissions.
- Integration of emerging offshore technologies like floating wind and green hydrogen production.
- Development of a skilled workforce and support for innovation.
- Strengthening of regional and national energy security.

Questions

1(a). Has this section adequately identified the general key priorities for ORE delivery in Ireland? Are there additional priorities that should be integrated into the holistic, plan-led approach? NO

1(b). Has each key priority been adequately described and considered all relevant components? NO as the route to market has not been identified nor is there a strategy to deliver a means of getting 22GW of Green Energy across the country by 2050.



1(c). How best should the 2GW of non-grid limited offshore wind capacity be procured? In a manner where any investor has confidence in the process and a route to market is both realistic and financially viable

1(d). What are your views on the design parameters for the successor scheme to ORESS, what else should/should not be considered? Just copy what the Danes and Koreans are doing.

1(e). What frameworks and/or supports are required for alternate routes to market such as CPPAs, Power-to-X projects, interconnector-hybrid projects, and export projects? Any interconnector projects must be connected to France as the UK is a competitor in time Scotland may seek and gain independence from the UK and rejoin the EU.

1(f). What additional capacities and responsibilities should be held by the industry in the context of the plan-led approach? Establish the route to the EU first and how the 37GW less 12GW for Domestic use by then 2040 (7 to 8 GWs today)

1(g). How can the Government facilitate a more comprehensive and streamlined engagement process with developers to ensure national ORE targets are delivered? Establish the route to the EU first and how the 37GW less 12GW for Domestic use by then 2040 (7 to 8 GWs today)

2(a). What grid infrastructure should be of particular focus in facilitating the build-out of capacity to support ORE generation targets? Place the Green Energy and Data pipe and cable array under or beside the M20.

2(b). About National Security/Department of Defence interaction with ORE development, are there any issues you would like to highlight?

Bury the combination of H2 and six by 400 KV HVDC plus high-capacity Fibre in one sub-sea trench.

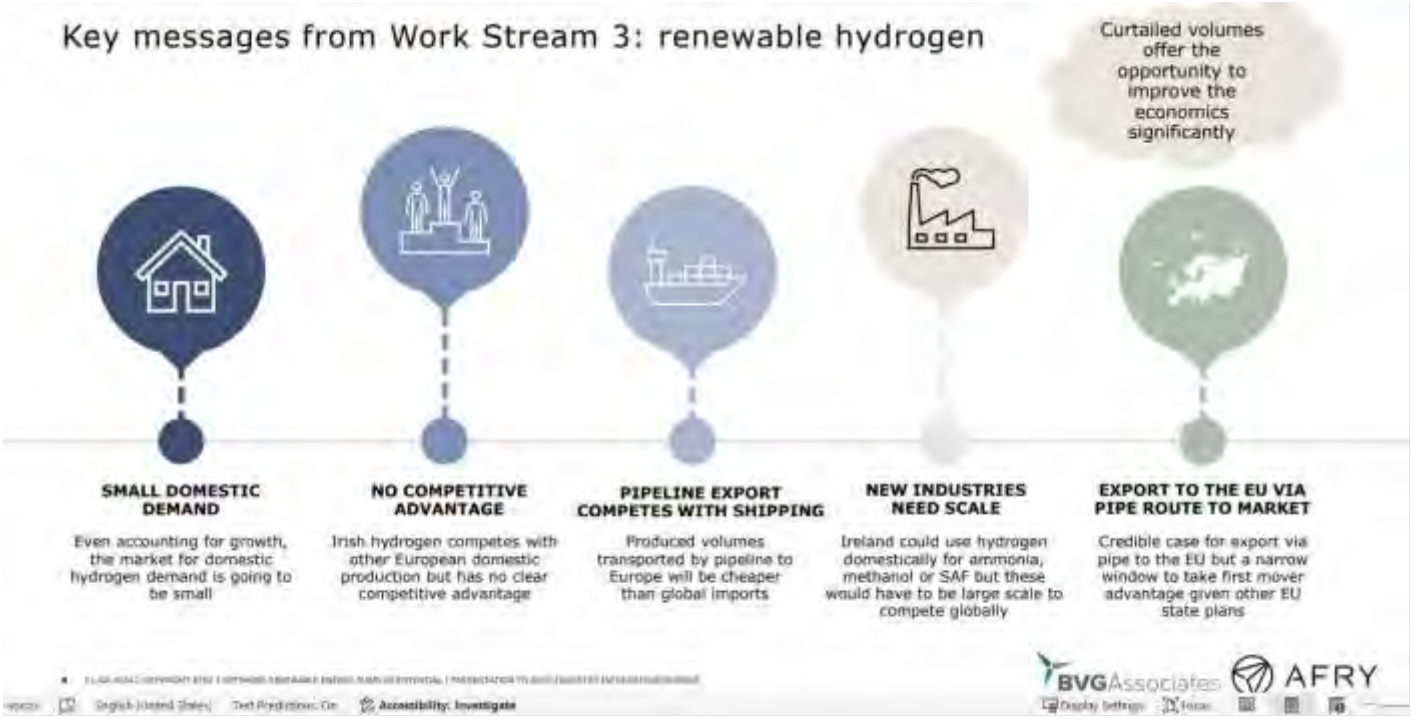
4(a). What structures, measures, and interventions can the State and State agencies implement to assist in the development of long-term, sustainable skills and workforce pipeline? Provide any recommendations on what the State can do to promote careers in ORE across a range of educational backgrounds and movements from other relevant sectors. All it needs is all the stakeholders including TII, Eirgrid Gas Networks Ireland, SFPC, Shannon Airport and Clare, Limerick, Kerry, and Cork County councils working together on the first step by Mid-April and placing pipes and ducts under or beside the M20.

4(b). Are you aware of initiatives in other jurisdictions or at a European level that would be relevant to Ireland's ambition of building a sustainable skills and workforce pipeline for offshore wind? Yes Denmark, China, Chile and Korea

4(c). To what extent should an emphasis be placed on multipurpose sites for ORE delivery, including the colocation of devices? What Government structures should be developed to encourage and facilitate progress in this aspect? **Stop talking about test sites or experimental hubs just copy what other countries have successfully done, consider buying the concrete floaters in Norway and assembling them in only two locations, one on the Southeast Coast and the other on the West Coast**

4(d). How can the Government ensure the policy is kept in line with evolving technological innovation and developments in ORE devices? What structures and government procedures should be implemented to future-proof the ORE planning process and account for technological shifts? **Watch what is happening in other jurisdictions**

END



Findings and Actions: Hydrogen from Offshore

1. ***Policy Direction for Offshore Renewable Energy (ORE) Development (2030-2050):***
    - *Findings:*
        - *Signposts a plan-led approach for ORE development from 2030 to 2050.*
        - *Outlines the integration of ORE policy with all relevant components of the energy system.*
        - *Identifies pathways to optimize financial and economic returns for the State and local communities.*
        - *Prioritizes an ecosystems-based approach with full consideration for marine environment protection and biodiversity.*
        - *Establishes the evidence base for Ireland's ORE targets.*
        - *Explores expert analysis of financial mechanisms and job creation opportunities.*
        - *Explores export potential for ORE.*
        - *Outlines an overarching framework for long-term ORE development.*
    - *Actions:*
        - *Maintain a single schedule for all upcoming State tenders for ORE.*
        - *Design a competitive process to procure 2GW of non-grid limited capacity by 2025.*
        - *Develop and obtain State Aid clearance for a successor support scheme to ORESS, operational from 2026-2030.*
        - *Assess enabling supports and frameworks to maximize capacity from alternative routes to market.*
        - *Rollout EirGrid's Grid Implementation Plan and future iterations to aid infrastructure alignment.*
        - *Consider provision for expanding grid capacity in regulatory reviews.*
        - *Align resourcing needs across Government Departments and agencies for ORE responsibilities.*
2. ***Offshore Transmission Strategy (OTS):***
    - *Findings:*
        - *Increasing levels of certainty and clarity are needed.*
        - *Transitioning from conceptual to specific implementations.*
        - *Coordination with the Future Framework and Industrial Strategy is crucial.*
    - *Actions:*
        - *Develop a post-2030 infrastructure focus.*
        - *Design a grid to enable a hub approach identified through DMAPs.*
        - *Implement an integrated grid planning approach.*

        - *Establish alignment frameworks for grid, generation, and routes to market.*
        - *Explore hybrid interconnection/offshore bidding zones.*
        - *Engage internationally for policy development and collaboration.*
        - *Ensure organizational readiness within CRU and EirGrid.*
3. ***Hydrogen Policy Update:***
    - *Findings:*
        - *Ireland prioritizes scaling up renewable hydrogen production.*
        - *Potential to become a net exporter of renewable hydrogen.*
        - *Focus on hard-to-decarbonize sectors.*
        - *Initial hydrogen infrastructure rollout in regional clusters.*
        - *Long-duration storage essential for cost competitiveness.*
    - *Actions:*
        - *Develop a detailed work program for National Hydrogen Strategy implementation.*
        - *Ensure appropriate governance arrangements support delivery.*
        - *Coordinate with relevant actions proposed in the Future Framework.*

Reasons to Act:

1. ***Economic Opportunity:*** *Maximizing financial and economic returns for the State and local communities through optimized ORE development.*
2. ***Environmental Protection:*** *Prioritizing ecosystems-based approaches to protect marine environments and biodiversity.*
3. ***Policy Alignment:*** *Ensuring coherence and alignment with future energy and industrial strategies.*
4. ***International Engagement:*** *Capitalizing on export potential and collaborating with international partners for policy development.*
5. ***Energy Transition:*** *Facilitating the transition to renewable energy sources, including hydrogen, for a sustainable future.*

Executive Summary:

The Offshore Renewable Energy (ORE) sector presents a critical avenue for Ireland's future energy development and economic growth. As outlined in the Future Framework Policy Statement, it is imperative to take decisive action now to capitalize on the opportunities and address the challenges inherent in this sector. Several key findings and actions emerge from the consultation process, underscoring the necessity for immediate action:

Key Findings and Actions:

1. ***Policy Direction for ORE Development (2030-2050):***
    - ***Findings:*** *The plan-led approach for ORE development emphasizes integration with the energy system, financial optimization, and environmental protection.*
    - ***Actions:*** *Maintain a unified schedule for state tenders, design competitive procurement processes, develop support schemes, and align resources across government departments.*
2. ***Offshore Transmission Strategy (OTS):***
    - ***Findings:*** *Clarity and coordination are essential for transitioning from conceptualization to implementation.*
    - ***Actions:*** *Develop post-2030 infrastructure focus, implement integrated grid planning, and engage internationally for policy development.*
3. ***Hydrogen Policy Update:***
    - ***Findings:*** *Ireland prioritizes renewable hydrogen production for hard-to-decarbonize sectors, aiming for net export potential.*
    - ***Actions:*** *Develop detailed work programs for National Hydrogen Strategy implementation, ensuring governance supports delivery.*

Reasons to Act NOW:

1. ***Economic Opportunity:*** *Maximizing financial returns for the state and local communities.*
2. ***Environmental Protection:*** *Prioritizing ecosystems-based approaches to protect marine environments.*
3. ***Policy Alignment:*** *Ensuring coherence with future energy and industrial strategies.*
4. ***International Engagement:*** *Capitalizing on export potential and collaborating for policy development.*
5. ***Energy Transition:*** *Facilitating the shift to renewable energy sources, including hydrogen, for sustainability.*

Guiding Principles:

- *Protection of the environment and biodiversity.*
- *Affordability of energy.*
- *Equitable return to communities.*
- *Alignment of key policies.*
- *Clarity and confidence for investment.*
- *Engagement with stakeholders and public consultation.*

In conclusion, the urgency to act is clear. By implementing the outlined actions and adhering to guiding principles, Ireland can position itself as a leader in offshore renewable energy, reaping economic benefits while safeguarding the environment and advancing towards a sustainable energy future.

List of Actions and Accruing Benefits:

1. ***Policy Direction for ORE Development (2030-2050):***
    - ***Action:*** *Maintain a unified schedule for state tenders.*
    - ***Benefits:*** *Streamlined procurement processes, ensuring timely project development and investment.*
2. ***Offshore Transmission Strategy (OTS):***
    - ***Action:*** *Develop post-2030 infrastructure focus.*
    - ***Benefits:*** *Enhanced clarity and coordination, facilitating efficient infrastructure development.*
3. ***Hydrogen Policy Update:***
    - ***Action:*** *Develop detailed work programs for National Hydrogen Strategy implementation.*
    - ***Benefits:*** *Facilitate scaling up of renewable hydrogen production, fostering economic growth and sustainability.*

Down to phase 5 Actions:

1. ***Commit to Offshore Wind Targets:***
    - *Targeting at least 5 GW of grid connected offshore wind to be delivered by 2030, with a distinct program to enable a further 2 GW of floating offshore wind.*
    - *Long-term targets to increase offshore wind capacity to 20 GW by 2040 and at least 37 GW by 2050.*
2. ***Develop Policy Framework:***
    - *Develop and publish revised Offshore Renewable Energy Development Plan, National Policy Statement on Electricity Interconnection, net zero electricity system pathway, and Green Hydrogen Strategy.*
    - *Consult on and publish Enduring Regime for Offshore Wind policy and Phase 3 policy.*
3. ***Government-Wide Delivery Plan:***
    - *Implement a government-wide delivery/acceleration plan for offshore energy program with the Offshore Wind Delivery Taskforce.*
4. ***Designate Offshore Renewable Energy Areas:***
    - *Immediately designate specific areas of the Maritime Area for renewable energy production.*
    - *Develop Offshore Renewable Energy (ORE) Designated Areas and Designated Maritime Area Plans (DMAPs) to guide investment and decision-making.*
5. ***Environmental Conservation and Management:***
    - *Invest in processes and principles to increase knowledge on marine biodiversity/nature conservation.*
    - *Develop appropriate management plans to ensure consistency between green energy transition and nature protection.*
6. ***Grid Infrastructure Development:***
    - *Invest in onshore grid to handle increasing renewable generation.*

- *Prioritize development of regional meshed offshore grids to match offshore energy ambition and enable surplus renewable export.*

7. ***Enhance Energy Interconnectivity:***
    - *Increase energy interconnectivity with EU partners, particularly France, Spain, Belgium, Germany, and the Netherlands.*
    - *Enhance existing interconnector infrastructure to import/export energy with the UK grid.*
8. ***Support Port Development:***
    - *Support port development through a new National Ports Policy to facilitate offshore renewable generation and grid infrastructure.*
9. ***Workforce Development:***
    - *Create a specific workforce action plan to foster new skills required for offshore energy.*
10. ***Support Supply Chains and Industrial Strategy:***
    - *Support development of offshore wind supply chains in Ireland via Enterprise Ireland.*
    - *Develop an Industrial Strategy for a competitive and sustainable offshore energy industry.*
11. ***Legislative Support:***
    - *Legislate, resource, and innovate to meet offshore energy targets and overcome challenges.*
12. ***Support Regional Task Forces:***
    - *Support regional task forces and match their ambitions for offshore energy goals.*
13. ***Mobilize State Agencies:***
    - *Prioritize energy-related developments by mobilizing State actors like the SEAI and the Marine Institute.*
14. ***Integrated Marine Spatial Planning:***
    - *Develop integrated marine spatial planning capability involving all relevant stakeholders.*
15. ***Maximize Societal Benefits:***
    - *Develop a regime to ensure maximum societal, business, and economic benefits from the offshore energy industry.*
16. ***Offshore RESS Auctions:***
    - *Conduct at least four Offshore RESS auctions over the decade to support the offshore green energy industry.*
17. ***Enable Hybrid Grid Connections:***
    - *Develop a policy for hybrid grid connections to facilitate efficient offshore wind resource harnessing.*

Benefits:

- *Secure, sustainable, and cost-effective indigenous energy supply.*
- *Unlock green energy export opportunities.*
- *Economic growth and job creation, especially in coastal and marine communities.*
- *Enhanced environmental protection and biodiversity conservation.*
- *Increased grid capacity and interconnectivity for reliable energy supply.*
- *Development of renewable energy infrastructure and supply chains.*
- *Transition towards cleaner energy sources and reduced carbon emissions.*
- *Integration of emerging offshore technologies like floating wind and green hydrogen production.*
- *Development of skilled workforce and support for innovation.*
- *Strengthening of regional and national energy security.*

Executive Summary:

The Future Framework Policy Statement for Offshore Renewable Energy (ORE) development presents a crucial roadmap from 2030 to 2050, integrating various components of the energy system while prioritizing environmental protection, economic optimization, and international collaboration. The timely execution of outlined actions is imperative due to significant economic opportunities, environmental imperatives, and the need for policy alignment with future energy strategies. The convergence of expert analyses, stakeholder engagement, and government readiness underscores the necessity for immediate action.

Actions and Accruing Benefits:

1. ***Policy Direction for ORE Development (2030-2050):***
    - ***Actions:***
        - *Maintain unified tender schedules.*
        - *Procure 2GW of non-grid limited capacity by 2025.*
        - *Develop successor support schemes.*
        - *Assess alternative market routes.*
        - *Implement grid alignment strategies.*
        - *Expand grid capacity.*
        - *Align resource allocation.*
    - ***Benefits:***
        - *Maximized financial returns.*
        - *Environmental protection.*
        - *Enhanced policy coherence.*
        - *Increased international collaboration.*
        - *Facilitated energy transition.*
2. ***Offshore Transmission Strategy (OTS):***
    - ***Actions:***
        - *Develop post-2030 infrastructure focus.*
        - *Design grid for hub approach.*
        - *Implement integrated grid planning.*
        - *Establish alignment frameworks.*
        - *Explore hybrid interconnection.*
        - *Engage in international collaboration.*
        - *Ensure organizational readiness.*
    - ***Benefits:***
        - *Enhanced infrastructure clarity.*
        - *Coherent strategy implementation.*
        - *Increased international cooperation.*
        - *Improved organizational preparedness.*
3. ***Hydrogen Policy Update:***
    - ***Actions:***
        - *Develop detailed work program for strategy implementation.*
        - *Ensure governance supports delivery.*
        - *Coordinate with Future Framework actions.*
    - ***Benefits:***
        - *Prioritized renewable hydrogen production.*
        - *Potential for becoming a net exporter.*
        - *Focus on hard-to-decarbonize sectors.*
        - *Long-term cost competitiveness.*
        - *Enhanced coordination with OWDT.*

Why Action is Required NOW:

1. ***Economic Opportunity:*** *Immediate action maximizes financial returns for the state and local communities, capitalizing on ORE development.*
2. ***Environmental Protection:*** *Urgent measures are needed to prioritize ecosystems-based approaches, safeguarding marine environments and biodiversity.*
3. ***Policy Alignment:*** *Ensuring coherence and alignment with future energy and industrial strategies is imperative for long-term sustainability.*
4. ***International Engagement:*** *Timely action fosters collaboration with international partners, tapping into export potential and facilitating policy development.*
5. ***Energy Transition:*** *Prompt initiatives facilitate the transition to renewable energy sources, particularly hydrogen, crucial for a sustainable future.*

The convergence of economic viability, environmental responsibility, and strategic alignment underscores the urgency for immediate action to realize the full potential of offshore renewable energy development.

The Benefits that will accrue via the extension of the H2 Backbone pipeline to Scotland and Ireland to form a circular main and use the Moneypoint Jetty for the Transhipment of US-produced H2 until 2037

The Proposal

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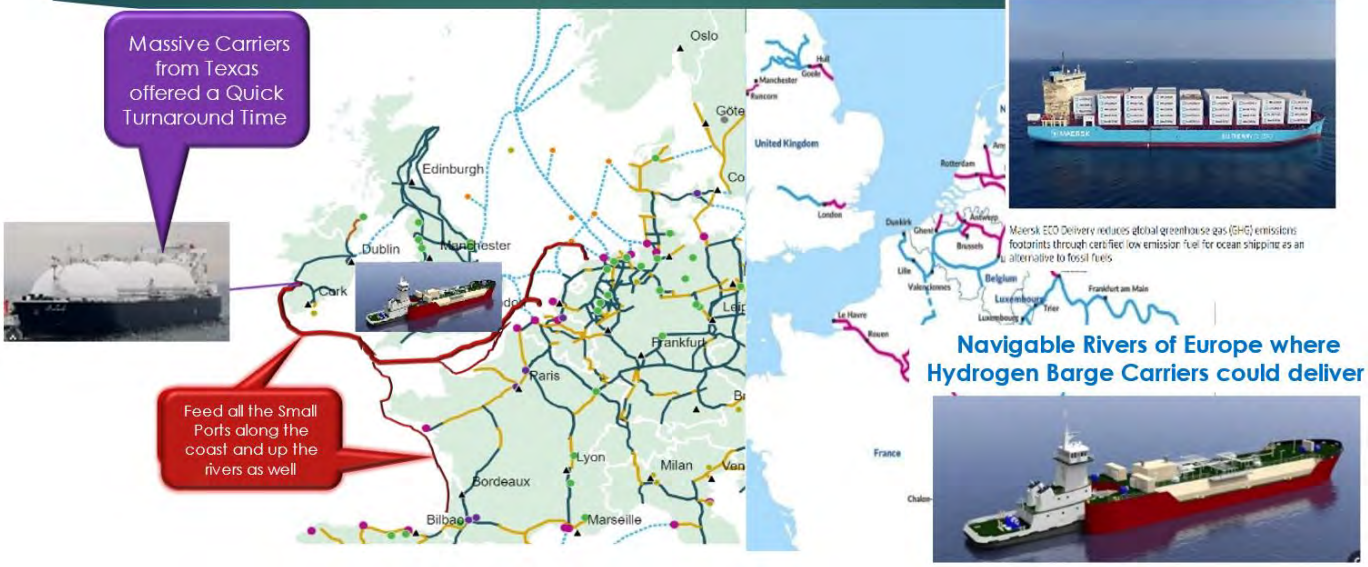
Moneypoint as a transhipment hub for US Produced Green H2 until the Atlantic Green Hub is operational circa 2037



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Shannon Estuary: An EU transhipment hub acting as A Strategic Beachhead for US Green Energy Sales to Europe

Introduction:

- The Shannon Estuary offers a strategic advantage for US Green Energy sales (H2) to Europe, aligning with the growing need for Green Hydrogen imports and the slow down in the investment in offshore wind farms in Europe due to Environment Regulation, High Interest rates and cross border differences in policy.
- The EU's demand for Green Hydrogen is on the rise, with a price benchmark of $1.50 per KG of H2 set by the US, Saudi Arabia and possibly Egypt by 2031 so each producer must achieve an optimal production capacity to remain within these price bands.

Key Reasons to Consider the Shannon Estuary:

- Uncongested ports ensures superfast turnaround, reducing transit time and costs for the mega sized ships that could sail from the West coast of the Americas via the Panama Canal across the Atlantic to Moneypoint.
- Moneypoint Jetty already exists and thus if European H2 Backbone pipe network can be extended from Hamburg to Aberdeen, to Belfast, to Dublin, To Rosslare, Ringaskiddy and then back to Le Harve with a spur off to Foynes and Moneypoint from Ringaskiddy then the existing deepwater jetty provides an ideal facility for mega-sized H2 carriers from the US transshipping to both the European H2 Backbone plus smaller coaster delivering US sourced green energy to the smaller still to be connected coastal and river estuary ports across Western Europe

Scalability and Capacity:

- The current plan for Moneypoint Hub is to produce 1.4 GW by 2032, which is insufficient for domestic H2 production at scale.
- Partnership opportunities are available for shared equity to accelerate development.

Transshipment Solution:

- Shannon Estuary can start off as a Transshipment Hub for US Green Hydrogen while at the same time set up production facilities for the production of Methanol, and Ammonia. Imports of H2 will continue until a point I time post 2035 when offshore wind farms will be of a sufficient capacity to make it financially viable for US companies to product H2 in Moneypoint as well
- Methanol as the preferred option over Ammonia can fuel Dry Bulk Carriers out of all the ports listed later offering exporters much more attractive ESG related logistics near zero emissions options.

Ensuring Secure and Diverse Green Hydrogen Supply for Europe

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Strategic Backup for Europe:

- Hydrogen or Methanol powered Tug/Pusher boats could deliver H2/Methanol Tanker barges to various points across Rivers, Estuaries and Small coastal ports, ensuring a diversified Green Bunker supply. Note small to medium sized H2 to Methanol modular production units could be established in these ports so that eventually when H2 is pipped to these locations they can still enjoy the benefits of being able to provide Methanol as a bunker fuel for ships, ferries and their respective fishing fleets.
- The ability to ship H2 from a neutral NonNATO country like Ireland reduces reliance on vulnerable Hydrogen backbone pipelinesusceptible to sabotage as they cross over the European Mainland and seas. .

Competitive Advantage:

- Ireland's EU membership distinguishes it from potential competitors like the UK, China, Russia, KSA, and others.
- American companies based in Ireland gain enhanced connectivity via airports and seaports if more ships are transshipping H2other ports across Europe. In time Aircraft out of Shannon could be using an aviation fuel with a growing concentration of H2.

Geopolitical Considerations:

- In case of continued conflict with Russia, a secondary backup from Ireland provides a secure option for the EU.
- Smaller, dispersed gas carriers are less susceptible to disruption compared to megaized vessels passing through critical areaslike the "Straits of Dover" or the "North Sea".

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- The initial importation of H2 into Ireland given the slow progress is of crucial importance to Ireland as Atlantic energy production and then transmission to the East Coast and beyond faces challenges.
- A much larger capacity Cork to Brittany Celtic 1 HVDC interconnector provides a longterm solution but requires time for development.

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Ireland

Transport Infrastructure Ireland seeks approval for Cork-Limerick motorway upgrade

The €1.4bn upgrade would involve the construction of more than 80k

[redacted]

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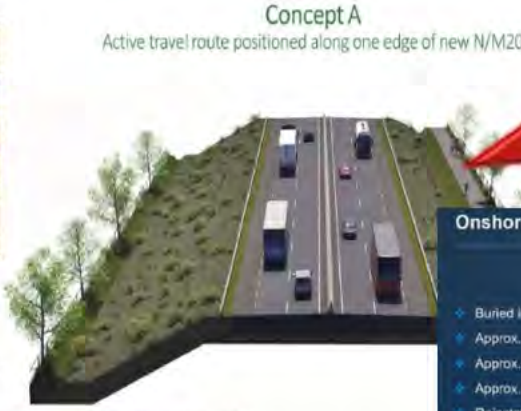
Transport Infrastructure Ireland (TII) hopes to seek Government approval next year to apply for planning permission for a long-awaited €1.4 billion upgrade of the N20 road between Cork and Limerick to a full motorway.

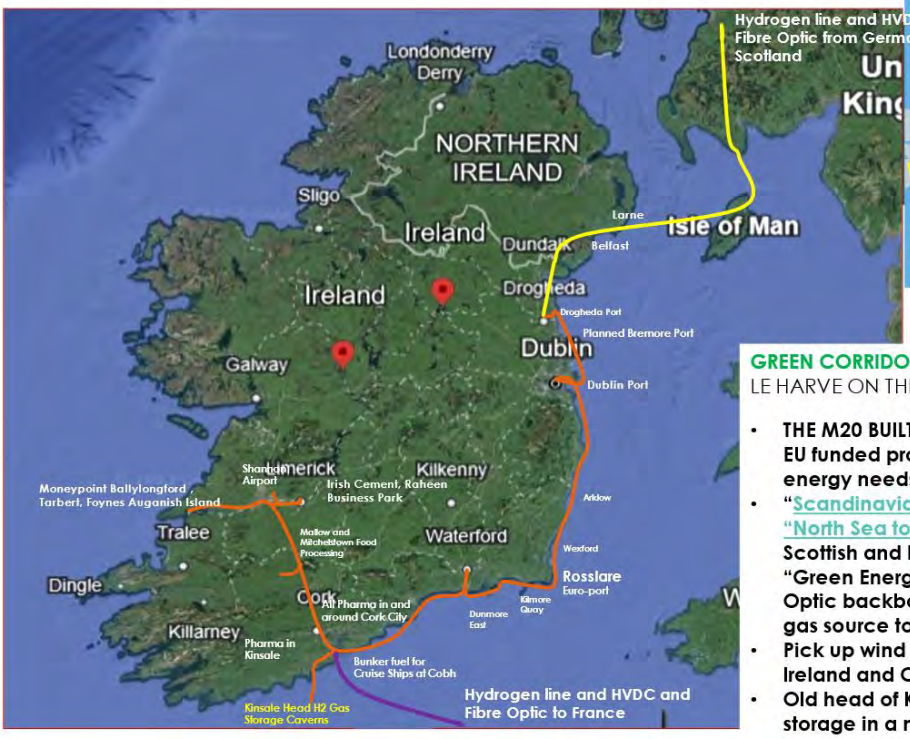
https://www.businesspost.ie/news/eirgridand-road-authority-face-off-over-plan-for-cables-under-roads/



Wouldn't it be ideal if a H2 pipeline plus HVDC 2.4GW and High-Capacity Fibre Optic cables were buried under the road or the side margin on the motorway side of the active travel pathway.

Onshore Cable Burial

- Buried in trench
- Approx. 1.1 m wide (220 kV)
- Approx. 1.45 m wide (400 kV)
- Approx. 1.25 m deep (both)
- Reinstated to as it was before



400km hydrogen pipeline planned for North Sea | Construction News

GREEN CORRIDOR FROM MONEYPOINT TO BREMERHAVEN & LE HARVE ON THE OTHER END GETS

- **THE M20 BUILT & FUNDED UNDER TEN -E plus TWO EU TEN-T EU funded programmes & Ireland's GREEN and NG energy needs secured too.**
- **"Scandinavian to Med Ten -T route" and the separate "North Sea to Med" Ten -T route could be joined via a Scottish and Irish interconnector forming a circular "Green Energy & Data Corridor" for HVDC, H2 & Fibre Optic backbone with Moneypoint as an extra Green gas source too.**
- **Pick up wind energy from the North Sea, Atlantic off Ireland and Celtic Sea on the way to France as well.**
- **Old head of Kinsale caverns could be used for H2 storage in a non -NATO neutral country.**

The Benefits

1 **FUNDING:** Ten-T combined with Ten-E funding promoted by [redacted] will get the M20 from Limerick to Cork finally **fully EU funded and built.** Consequently, the two Cities will advance in unison and present a credible alternative to Dublin as TEN T is about connectivity to every corner of the EU as you can see in the two screenshots below.

1 **CARBON TAX AVOIDANCE:** Via providing gn ia en-T cVia providing Methanol at the ports via simply taking a tee-off the H2 line running from Larne to Kinsale all ports in between can provide departing ships, ferries and cruise liners with GREEN methanol and avoid these massive annually increasing taxes as below.

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Financial incentive to adopt Methanol

New carbon borders change the game

The European Union proposes a basket of measures to decarbonise the maritime industry, which will influence freight rates in different ways. Shipping emissions will become a cost element in freight negotiations and a part of ship owners, brokers and cargo owners' everyday business.

Measures impacting

The Fit for 55 package will put a cost on maritime carbon emissions by including shipping in the EU Emissions Trading System (ETS) and it will increase the price of marine bunker fuels by taxing non -sustainable fuels and setting limits to GHG intensity on ship energy use.

Carbon cost of maritime emissions in the ETS
Extra-EU voyage and intra-EU voyage example

	Tonnes of CO_2 emitted	Tonnes of CO_2 accounted for under the ETS	Year	Tonnes of CO_2 phased-in	Carbon cost in USD***
Extra-EU voyage* NY - Antwerp - NY	1700	850 (50%)	2023	170 (20%)	11 000
			2024	380 (45%)	25 000
			2025	600 (70%)	40 000
			2026	850 (100%)	57 000
Intra-EU voyage** Le Havre - Riga-Amsterdam	700	700 (100%)	2023	140 (20%)	9 000
			2024	320 (45%)	21 000
			2025	500 (70%)	33 000
			2026	700 (100%)	47 000

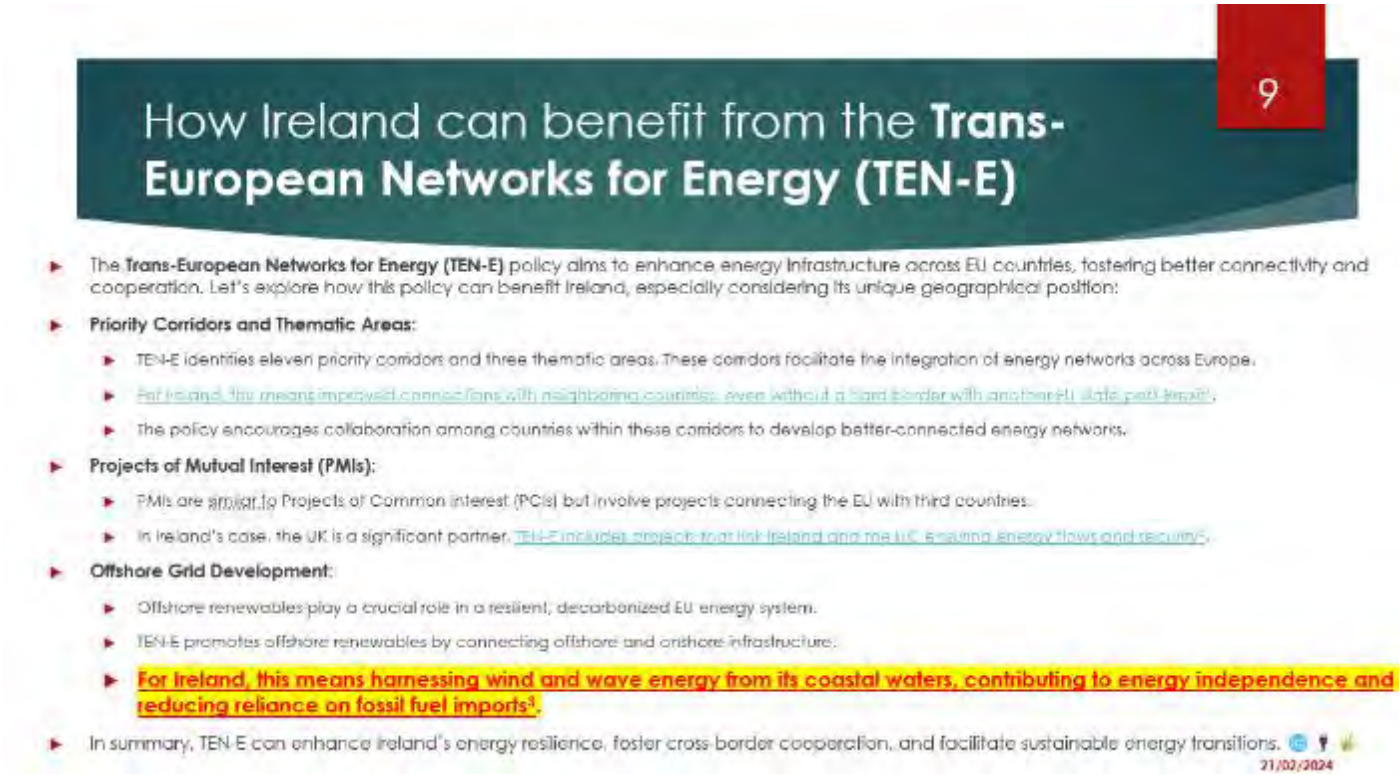
*The extra-EU voyage example is based on a modern MR vessel (max 5 years) loading 38000 tonnes of gasoline in Antwerp, discharging in New York. It includes 50% of emissions from laden leg and ballast from New York (historically typical trading pattern) and 100 of emissions from port stay in Antwerp (2 days)

**The intra-EU voyage example is based on a modern MR vessel (max 5 years) loading 38000 tonnes of gasoline in Riga, discharging in Amsterdam. It includes 100% of emissions from laden leg and ballast from Le Havre (historically typical trading pattern) and 100 of emissions from port stay in Riga (2 days) and Amsterdam (2 days)

*** The CO_2 cost per tonne cargo is based on the last settlement price of the spot European Emission Allowances (56.69 EUR). 1 EUR = 1.17 USD

https://www.siglarcarbon.com/post/carbon -cost-enters -the-maritime -everyday -business

Extra over Carbon Penalty cost



2 **TOURISM:** Tourists landing in Shannon can quickly start the "Wild Atlantic Tour" from Kinsale drive through Kerry Clare and Limerick to Donegal then quickly drive back down the motorway way to Shannon for the departure flight.

3 **CRUISE SHIPS:** Cruise Ships can dock at ports connected to the Extended H2 Pan European Pipe Now Circular Backbone and replenish their bunkers with E-Methanol making the stopovers very lucrative and thus more attractive to dock in Foynes, Belfast Dublin or Cobh over other ports where they have no GREEN bunker fuel on tap.

4 **MORE FLIGHTS:** Michael O'Leary will be able to use the imported H2 from the US until 2037 to blend it with Aviation Fuel landed at the Shannon Estuary Terminal at Shannon Airport. The US-sourced H2 will be highly subsidised to allow it to be imported via Moneypoint based on President Joe Biden's "Inflation Reduction Act" generous Tax credits. In 2037 Ireland may have Atlantic wind on tap itself so at least the Route to Market will be in place and all the Risks identified in the Consultant's Report will have been addressed. [The green hydrogen ecosystem for aviation explained | Airbus]

The Ryan Air Commitment to transition to GREENER Aviation fuels

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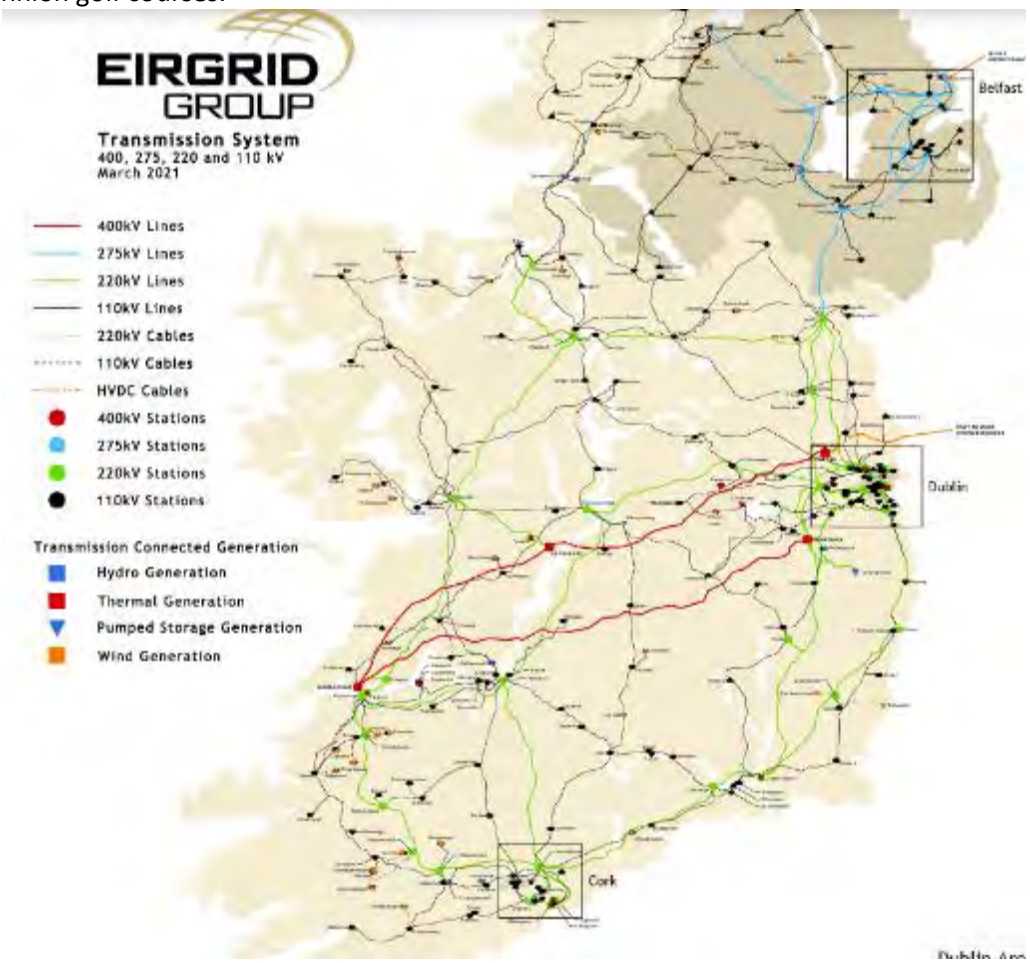
- Ryanair has set ambitious goals to reduce its environmental impact and transition toward greener aviation. By **2030**, the airline aims to achieve the following:
- **Sustainable Aviation Fuels (SAF)**: Ryanair plans to power **12.5%** of its flights using sustainable aviation fuels. These fuels are more environmentally friendly and can significantly reduce carbon dioxide (CO_2) and noise emissions. This commitment aligns with the airline's goal of being a **carbon-neutral** airline by **2050**[1].
- **Investment in New Aircraft**: Ryanair is investing **$22 billion** in new Boeing 737 8-200 'Gamechanger' aircraft. These modern planes are designed for greater fuel efficiency, further contributing to emission reduction over the next decade[2].
- **Pathway to Net Zero**: Ryanair has developed a comprehensive pathway to achieve **net-zero emissions by 2050**. This pathway aligns with the **Paris Agreement** and the aviation industry's **Destination 2050** initiative. It includes technological improvements, increased use of sustainable aviation fuel, collaboration with industry partners, and prioritization of carbon reduction efforts[1].
- By combining these efforts, Ryanair is taking significant steps toward a more sustainable and environmentally responsible future in aviation.
- While progress is promising, challenges remain. Ensuring sufficient green hydrogen availability for aviation requires continued investment and collaboration.
- Innovations like Johnson Matthey's **HyCOgen technology**, which converts CO_2 and green hydrogen into sustainable aviation fuel (SAF), contribute to the transition[2].
- The aviation industry must work collectively to accelerate the adoption of green hydrogen and develop a robust ecosystem to meet future needs

21/02/2024

5 **AIR CARGO 3PL:** Shannon Airport and its environs could leverage the local blending of Aviation Fuel landed by sea with H2 landed and eventually produced at Moneypoint circa 2037 to attract massive investment by Amazon like online retailers from India Africa and South America.

6 **RURAL DEVELOPMENT** The increased US activity at Moneypoint will lead to more revenue for the Trump Golf Hotel and West Clare plus extended stays to play golf in Lahinch, Dromoland, Shannon, Adare, Ballybunnion golf courses.



7 **LOW SCOPE 3 GHG EMISSIONS**. Ireland's exporters including farmers and fishermen too will benefit from Competitively priced Methanol as a Green Bunker Fuel that they can use for effective marketing and lower production and logistics costs.

8 **CSRD and CSDDD**. The improved mandated Non-Financial reporting will help multinational corporations based in Ireland to gain from being able to report lower Scope 3 GHG Emissions in their SEC and EU-mandated annual Non-Financial reporting

9 **HUNDREDS OF MILLIONS OF EU IMPOSED FINES IS AT RISK HERE** Ireland will meet its EU-set 2030 and 2050 emission targets without farmers having to cut back on herd size and they will benefit from food processors being able to place the True Nett Zero Tag on their dairy products

10 **STRATEGIC IMPORTANCE** Ireland will prosper as it will be of more strategic importance to decision-makers in Washington, Brussels, Paris and Berlin.

11 **SECURITY OF ENERGY SUPPLY:** Europe will benefit as it will have another source of energy and will benefit from a circular H2 Backbone pipeline connecting one Ten T corridor owned by Pat Cox to another via a pipeline through Scotland and Ireland

12 **VISION REALISED:** The Late Eddie O'Connor's vision of a Supergrid will become reality

13 **SFPC:** Shannon Foynes Port Company SFPC will enjoy sustained revenue as the port fees for coal unloading will be replaced by Gas Import and re-export by specialised barges to small commercial and fishing ports across Western Europe that have not yet been connected to the Pan-European H2 backbone also fed from Moneypoint as well

14 **EMPLOYMENT:.** Jobs at Auganish Island Tarbert, Ballylongford, Irish Cement, Ennis, Shannon Airport, Foynes and Limerick City will grow via the development of industries that can leverage cheap highly US-subsidised Green H2

15 **More:**

- Secure, sustainable, and cost-effective indigenous energy supply.
- Unlock green energy export opportunities.
- Economic growth and job creation, especially in coastal and marine communities.
- Enhanced environmental protection and biodiversity conservation.
- Increased grid capacity and interconnectivity for reliable energy supply.
- Development of renewable energy infrastructure and supply chains.
- Transition towards cleaner energy sources and reduced carbon emissions.
- Integration of emerging offshore technologies like floating wind and green hydrogen production.
- Development of a skilled workforce and support for innovation.
- Strengthening of regional and national energy security.

All it needs is all the stakeholders including TII, Eirgrid Gas Networks Ireland, SFPC, Shannon Airport and Clare, Limerick, Kerry and Cork county councils working together on the first step by Mid-April and placing pipes and ducts under or beside the M20.

The getting together of these stakeholders is down to the collective action and it is the job of strong Government which Ministers Simon Coveney, Pascal Donohoe, Michael McGrath, and Senator Timmy Dooley represent.