

THE PATH TO NET ZERO ENERGY

Replacing Fossil Fuels with Renewables

Roundtable Discussion Report
Friday 10 November 2023



POLICY EYE

Northern Ireland

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Foreword



In December 2021, the Executive published its Energy Strategy for Northern Ireland. It seeks to reduce carbon emissions and deliver affordable energy over a 10-year period through five energy strategy principles. In June 2022, the Climate Change Act (Northern Ireland) was enacted which, among other things, set an '80% by 2030' renewable electricity target. As we enter the third year in the implementation of the Energy Strategy, it is timely to examine progress towards meeting the objectives of each of the five energy strategy principles and to consider the challenges and opportunities that lie ahead.

Cleaver Fulton Rankin, in partnership with the Electricity Association of Ireland, were delighted to support this Policy Eye roundtable event that discussed the progress and challenges in implementation of the Energy Strategy principle on renewable energy. The event brought together a group of industry experts, ranging from the Utility Regulator and consumer-focused organisations to academics.

We hope that the discussion, as summarised in this report, will increase awareness and inform all sections of the industry and government on the steps to be taken to help achieve the objectives of the Energy Strategy and the goals of the Climate Change Act (NI).

Stephen Cross
Director, Cleaver Fulton Rankin



The Electricity Association of Ireland is delighted to support this roundtable on the challenges of replacing fossil fuels with renewables. These challenges are growing and increasingly codependent on each other. The series of Policy Eye roundtables support greater communication, understanding and collaboration on the vision of a decarbonised electricity system for Northern Ireland.

Power generation companies face substantial uncertainty as they support increased renewables on the energy system. Sustained, regular and meaningful engagement with regulators and government through events such as this roundtable is needed to develop a shared vision for how to completely phase out fossil fuel usage by 2050. The electricity sector is up for this challenge and looking forward to the discussions ahead.

Dara Lynott
Chief Executive, Electricity Association of Ireland



Executive Summary

Twelve leading players from government, industry and academia gathered at the offices of law firm Cleaver Fulton Rankin in Belfast on 10 November 2023 for a Policy Eye discussion on how best to move to renewable sources of heat and power in Northern Ireland.

The event was the first in a series of Policy Eye roundtable discussions organised by Chambré, each themed around a key strand of the Government's long-term Energy Strategy, which aims to deliver a 56 per cent reduction in energy-related emissions by 2030. It was co-hosted by Cleaver Fulton Rankin (CFR) and the Electricity Association of Ireland (EAI) and chaired by energy industry commentator and journalist Jamie Delargy.

"Significant collaboration and engagement will be required to deliver the goals of the Energy Strategy and we think our series of Policy Eye events will help give the process the momentum it needs to succeed," said Policy Eye events editor William Chambré. Upcoming sessions will focus on energy efficiency, the green economy, consumer needs and the resilience of power, heat and transport systems.

Jamie Delargy started the discussion by asking Stephen Cross, head of CFR's banking and finance department, to sum up sentiment in the sector. "It would be fair to say that it's not great... investors have cash and developers have projects, but at the moment there are too many risks for investors to commit," he said. These risks include planning, the grid, routes to market and the lack of a replacement renewables support mechanism, he added.

New Renewables Support Scheme

The conversation then turned to the long-awaited replacement for the Northern Ireland Renewables Obligation, which closed to all new projects on 31 March 2017. Richard Rodgers, Head of Energy at the Department for the Economy, assured participants that his department will deliver the high-level design for the Contracts for Difference (CfD) scheme early in 2024.

Karen O'Reilly, Head of Policy for Ireland at SSE, welcomed the news. Her company plans to make £20.5 billion in 'net zero-related' investments over the next five years. "We would really like some of that

investment to come to Northern Ireland, but that is contingent on policy," she said. "The support scheme is going to be absolutely critical, but planning reform will also be key to ensuring Northern Ireland can bring forward the new projects needed to meet 2030 targets."

Investment in the Grid

Any new support scheme must be accompanied by investment in grid infrastructure, said Dara Lynott, chief executive of the Electricity Association of Ireland. "We need anticipatory grid expenditure. On an all-island basis, we want to triple renewables by 2030. That will go nowhere unless the grid is there. Curtailment across the island will be 20 per cent by 2030," he said.

John French, the chief executive of the Utility Regulator, responded to this concern by saying that more money is going to be made available for the network. "Through the price control process, we are looking to significantly increase the amount of money that is given to NIE in terms of distribution network."

Decarbonising Heat

Decarbonising electricity is one half of the challenge; decarbonising heat is the other. Terry Waugh, chief executive of Action Renewables, said heat accounts for approximately half of Northern Ireland's total energy consumption. "Several different technologies are going to be required to decarbonise heat. We believe that a key pillar of the future of renewable heat in Northern Ireland should be renewable gas."

In parallel with the upcoming launch of a new support scheme for renewables, the government is to consult on the design of a new low-carbon heat support mechanism in early 2024, said Richard Rodgers.

The discussion then examined various low-carbon heat technologies, including geothermal and biomethane (a gas extracted from food waste, sewage sludge and agricultural by-products). "Over



the last year, large energy users have been battering down our door looking for green gas solutions. We need biomethane now”, said Ian Hoy, Energy Transition Manager at Phoenix Energy.

Jonathan McFerran, deputy director of Green Growth at the Department of Agriculture, Environment and Rural Affairs, said that large-scale projects are already being developed. For example, Granville Eco Park in Tyrone recently started injecting biomethane derived from agriculture and food waste into the network.

Martin Doherty, manager of the Centre for Advanced Sustainable Energy (CASE) at Queen’s University, says that the plants, which are essentially large biorefineries, will also generate carbon credits, create valuable by-products such as organic fertiliser and help to deliver nutrient management benefits that could help tackle the well-publicised problems in Lough Neagh. They could also decarbonise industries such as cement production, he said.

The Planning System

In the final segment, delegates aired their views on the planning system. Steven Agnew, director of industry body RenewableNI, described the planning system as “opaque and inconsistent”. He said that not only does Northern Ireland have the “longest timelines for planning decisions on these islands” but there is also “complete uncertainty” over those timelines.

Rosemary Daly, formerly a principal commissioner of the Planning Appeals Commission and now a director with Turley, a UK and Ireland planning and development consultancy, said policy has a major bearing on the decisions that planners make, from determining the relative importance of renewables to the community to limiting where projects are built. The 2030 targets should be visible in local councils’ development plans, but to date they are not directly apparent, she added.

Rules limiting the proximity of wind farms to residential buildings are also a challenge. “Visual amenity needs to be considered very carefully,” she said. “We are concerned that the analysis we undertook shows that the proposed ‘setback distance’ rules will result in there being very little land available for new development or for existing projects seeking to repower.”

Participants

Jamie Delargy	Chair
Steven Agnew	Director, RenewableNI
Stephen Cross	Director, Cleaver Fulton Rankin
Rosemary Daly	Director Planning (Belfast), Turley
Martin Doherty	Centre Manager, CASE, Queen’s University, Belfast
John French	Chief Executive, Utility Regulator
Iain Hoy	Energy Transition Manager, Phoenix Energy
Dara Lynott	Chief Executive, Electricity Association of Ireland
Jonathan McFerran	Deputy Director of Green Growth, Department of Agriculture, Environment and Rural Affairs
Karen O’Reilly	Head of Policy (Ireland), SSE plc
Richard Rodgers	Head of Energy, Department for the Economy
Terry Waugh	Chief Executive, Action Renewables



Replacing Fossil Fuels with Renewables in Northern Ireland

MOOD IN THE SECTOR

Jamie Delargy, Chair: In this session we are going to focus on one element of the Energy Strategy Action Plan 2023; namely, the replacement of fossil fuels with renewable energy. I would like to ask Stephen Cross to give us his impression of the mood in the renewable energy sector at the moment.

Stephen Cross (Cleaver Fulton Rankin): "It is not great. Investors and developers see multiple challenges in the Northern Irish market. Investors have cash and developers have projects, but at the moment there are too many risks for investors to commit. There are other markets around the world where the same challenges do not exist, or at least not to the same extent. That is where investors and developers are focusing at the moment. Northern Ireland is quite far down the queue.

The key issues are planning, grid and route-to-market. The Energy Strategy is addressing these and there is an expectation that it will eventually help us get to where we need to be, but nobody is going to commit until the renewable support mechanism is in place and people see how it is structured and what the rules are.

There is an awareness that there is an awful lot of work to be done to meet the 2030 targets. There is also an awareness that we need the political will and policies to be in place for that to happen. To sum up, the industry is sitting and waiting."

NEW POWERS FOR THE UTILITY REGULATOR

Jamie Delargy: John French, as Chief Executive of The Utility Regulator, you have a critical role to play in helping Northern Ireland meet its net zero targets but, without new powers, how effective can you be?

John French, Chief Executive of Utility Regulator: "New powers would allow us to fully help achieve all the targets within the Climate Action Plan, but we still have significant powers in terms of electricity and natural gas which can make a real difference. We can support the renewable market on smart metering and non-synchronous generation among other things. Whilst we would ideally like new powers, there is a lot we can do with our existing powers."

Richard Rodgers, Head of Energy at the Department for the Economy: "John French [the Regulator] and I share responsibilities for looking after electricity and gas consumers. It is vitally important that the Utility Regulator is able to play its role on behalf of consumers. We have been trying to work out how to ensure that John has sufficient powers to be part of policy development, while we wait for new energy legislation.

I should mention that the room is full of vested interests. And while those vested interests are generally pointed in the right direction in terms of energy decarbonisation, John and I have to try and ensure we have a balanced approach. Ultimately, the Energy Strategy aims to deliver self-sufficiency in affordable renewable energy. That means that we will stop importing fossil fuels, but at the right cost to consumers."



Jamie Delargy: You seem to indicate that you could offer John French more powers without a new Executive. Did I understand you correctly?

Richard Rodgers: “You will be aware of the EFER [Executive Formation and Exercise of Functions] powers that permanent secretaries have. If we need legislation, then we need a decision that would pass the public interest test. In the absence of the Assembly, the only vehicle that can allow the legislation to change would be the Secretary of State.”

Jamie Delargy: Is that something that you will look at?

Richard Rodgers: “It is something that we’re actively discussing because it is clear that the Utility Regulator, from a consumer protection perspective, and the Department, from a policy development perspective, need to be working together on delivering what everybody around the table wants to see – that is acceleration towards renewable energy.”

NEW RENEWABLE ELECTRICITY SUPPORT SCHEME FOR NORTHERN IRELAND

Jamie Delargy: We are awaiting Stormont’s decision on a renewable electricity support scheme, which is expected to employ Contracts for Difference, or CfDs. Assuming they are introduced, do we need higher ceiling prices to encourage investment, given the rising industry costs?

Steven Agnew, RenewableNI: “We need a price ceiling that reflects the true costs, which are higher in Northern Ireland than other jurisdictions. Currently, the developer pays the full grid connection costs, unlike Great Britain and Republic of Ireland where those are partially socialised. We have higher levels of dispatch down and curtailment, which is a greater risk for developers and is associated with a lot of lost revenue. And we have by far the longest timelines for planning on these islands and complete uncertainty over timelines. We need prices that reflect these issues.

The use of CfD in GB has seen the price of renewables come down. Inflationary costs weren’t accounted for after Ukraine and there was an expectation that costs would continue to come down, which wasn’t realistic and is why we saw no offshore projects clear in recent CfD rounds in GB.

RenewableNI is working with Cornwall Insight on a report looking at how we can bring down input costs through the design of the scheme and how we can de-risk the projects and bring down the overall cost for consumers. We are looking at things like indexation and compensation for dispatch down – things that will de-risk the projects in the long term, bring down the bid cost and ultimately bring down the cost for consumers.

We are also looking at policy interventions to bring down costs. The Department [for the Economy] and the Utility Regulator have consulted on grid connection costs and whether to move to ‘shallow charging’. This would bring down costs significantly and would be reflected in lower bid costs.

Another challenge for us [Northern Ireland] is that, typically, we have smaller projects, which are less efficient and more costly. Is our planning system willing to accept taller turbines? Because if they are, that will also bring down bid prices.

There are decisions that need to be made by policymakers that will determine how high or low bid prices will be. We can’t predict the outcome of these decisions, but we are in a higher cost environment.”



Jamie Delargy: Richard Rodgers, when can we expect a decision on CfDs?

Richard Rodgers: “We committed in the Action Plan to publish the high level design this year. We might miss Christmas, but it is coming in the next month or two. We then need to try and ensure we implement it as quickly as possible. I would like to see a first auction by this time [November] next year [2024]. That may be too ambitious because things take time, and we will have to assess whether we have the legal route to do it.

The support scheme [CfD] is really important because it will provide bankable projects, but equally importantly it will provide protection for consumers. If the market delivers more than the projects need, the projects pay back to consumers; if the market delivers less, we (as consumers) will pay the balance. This balance is what makes the scheme attractive.

The irony is that we are facing potentially higher wind costs because the supply chains are more expensive, and people are more expensive because fossil fuel prices have increased. It is a clear example of why we have to break the link with global commodity prices.

The UK Government seems to be in reverse, while suggesting that it is still accelerating on the pathway to net zero. In reality, opting to bring more oil and gas out of the ground and sell it to the highest bidder on the global markets shows that it is not on the net zero pathway. The opportunity for Northern Ireland is not to follow that lead.”

Jamie Delargy: Are wind farm owners open to exchanging their existing RO contracts for longer-running CfD contracts, which would insulate us somewhat better from soaring prices than the existing system?

Karen O’Reilly, Head of Policy (Ireland) at SSE: “It is certainly an idea we would be open to though it is important that such a measure would be voluntary in nature. Something like this was proposed by industry in GB. It would involve the developer stepping away from their ROCs and taking on a fixed-price CfD on a voluntary basis —rather than it being mandatory. The terms of the CfD would need to be carefully considered to ensure that it represented fair value for both parties.

I would also just like to echo Steven’s comments about the importance of indexation and compensation for dispatch down. Another issue is grid delay. If there are delays delivering grid for a project that are outside the control of the developer then an extension of delivery timelines would be appropriate, rather than the developer being penalised. In a support scheme, it is important to ensure that risk sits with the party best able to control that risk.”

Steven Agnew: “The crucial part is the voluntary basis ... mandating [a switch to CfDs] — certainly in a retrospective approach — would be disastrous. However, it has to be sufficiently attractive. If you say to a developer ‘you’re going to be in a 10-year contract instead of maybe five years of ROCs, but the price is going to be minimal’ that is not going to be attractive enough. If you find a reasonable balance people will see the benefit, but it will not suit everyone.

The one thing I would say is let’s not delay the overall CfD scheme because, as Stephen Cross reflected, there are a lot of people looking at Northern Ireland and deciding whether or not to hit ‘go’. They are keeping a watching brief on what comes out from the Department for Economy in terms of market design, timeline and planning.

Decisions made by the Department for the Economy, by the Utility Regulator, plans put in place by SONI and NIE — all these will determine whether or not investments come. If we get the policy right there will be another renewables boom. I hope the policy design this time is such that it doesn’t go over a cliff edge once we get to 2030, like it did in 2020.”





MORE GRID, MORE STORAGE AND BETTER DEMAND MANAGEMENT

Jamie Delargy: Is it realistic that we are still aiming for 80 per cent renewable electricity consumption by 2030?

Richard Rodgers: “To reach 80 per cent by 2030 we are going to need 2,000MW of new capacity. Peak day demand is pretty stagnant at 1,700MW. The elephant in the room is therefore ‘where are we going to put the electricity?’ We switch off wind turbines too often. Worst still, we pay people to switch them off. That’s hardly efficient use of consumers’ money.

The big challenge is the route to market. This is an opportunity to become an abundant energy rich region. We can develop the technologies, the products and services that actually can make use of that abundance of energy (at the right price).”

Jamie Delargy: Does it makes sense to have targets that some people think are not realistic? Should we review targets given we are so far behind the curve?

Dara Lynott, Chief Executive, Electricity Association of Ireland: “It is better to have them than to not have them. What we’re hearing around the table is that all the buttons have to be pressed at the same time. As Stephen said and Karen said, developers will come on board at the pace that policy allows. But there are things that can be done right now without policies in place – and that is north-south interconnection. We need that as fast as possible.

We need anticipatory grid expenditure. On an all-island basis, we want to triple renewables by 2030. That will go nowhere unless the grid is there. Curtailment across the island will be 20 per cent by 2030. So, as Richard says, there is an opportunity for long-term storage. There’s also a need to shift the load by 20 per cent – that’s two gigawatts – to nighttime. To be able to use the excess power we are going to need more grid, for either export or import, and storage to make use of renewables and demand management. These are the three areas that we could work on now.

I’ve never seen such strategy convergence across the entire electricity sector as I see now. There is a huge will to move forward. What is needed is a clear policy that articulates an investment framework for the zero-carbon flexibility needed to support ambitious renewables targets.

I am concerned that if there is a delay in our renewables ambition, we could become stuck in terms of security of supply. There are only two ways to solve that – more interconnection or more ‘flexgen’. We do not want more coal, the ‘flexgen’ of the past. We want a vision for ‘flexgen’ that is low or zero-carbon. There is a big visionary document that needs to come out, both north and south, that says we need backup for all these renewables and here are the types of technologies we are looking at and here is the auction design.”

Jamie Delargy: Is anyone else concerned that the grid could prove to be a pinch point?

Rosemary Daly, Director of Planning at consultancy Turley: “I worked in the Planning Appeals Commission for 18 years, so I’ve seen the patterns in the decision-making process within the renewables market. At a time, when working towards 2020 targets, a main consideration was always ‘has the grid got capacity?’ Ultimately, you may get planning permission, but can you deliver?”

John French, Chief Executive of the Utility Regulator: “Through the price control process we are looking to significantly increase the amount of money that is given to NIE [Northern Ireland Electricity] in terms of the distribution network. SONI [System Operator for Northern Ireland] is independently looking at what Northern Ireland needs in terms of its transmission network.

We also need to recognise that, according to ESB [Electricity Supply Board], the island of Ireland has two and a half times more grid than the UK because of the way we’ve allowed houses to be built here, there and everywhere. We have six times more grid than on Continental Europe. That will have to be considered and will not be solved overnight.”





THE RENEWABLE HEAT CHALLENGE

Jamie Delargy: The Department for the Economy is to consult on a low-carbon heat support scheme. Should subsidies for renewables be aligned with GB, for instance, through a £7,500 heat pump grant?

Terry Waugh, Chief Executive, Action Renewables: "Heat accounts for approximately half of Northern Ireland's total energy consumption. Several different technologies are going to be required to decarbonise heat. There'll certainly be a place for heat pumps (and a heat pump grant) and technologies such as biomass and solar. They all have a part to play in decarbonising our heat and should be supported in any scheme.

But the important point is that the majority of households in Northern Ireland are not highly insulated. What are they going to do? We believe that a key pillar of the future of renewable heat in Northern Ireland should be renewable gas. If a consumer has access to the gas network, then taking out their oil-fired boiler and replacing it with a new gas-fired boiler would reduce the consumer's carbon emissions by 50 per cent immediately. Furthermore, the addition of locally produced biomethane to the gas network opens the door to a pathway to net zero.

Action Renewables commends DfE for the work they're doing towards forming a low carbon heat support scheme. I think all of us are keen to engage with them."

Jamie Delargy: Richard, as a point of principle, do you think we should try and align support with GB?

Richard Rodgers: "Northern Ireland is different to the rest of the UK because 60 per cent of homes still use heating oil. A policy that applies to GB will not necessarily fit Northern Ireland, so it shouldn't be a default.

We need urgent movement on decarbonising heat because we're way behind on that. It's just about the economics, in my mind. As a general principle – I am to appear again next week in front of the Northern Ireland Affairs Committee on RHI – I favour a capital grant over a revenue subsidy. A revenue subsidy that perpetuates potentially inefficient heat and energy is not the way to go. Can we do something to reduce the ongoing running cost by tackling the capital element?

Heat pump technology is moving on rapidly. They can now produce hot water at the required temperature, which is 70 degrees. Heat pumps associated with a water tank, a buffer – back to the old hot press idea – means we could shift the peak. We can use cheap electricity overnight to provide a thermal store that can be used to heat the home during the day. There is lots of opportunity.

We will consult on this. I have seen the first draft [of the low-carbon heat support scheme] so it is imminent. If it doesn't arrive by Christmas, it will arrive in January [2024]. We will launch a low-carbon heat consultation imminently, in which we will look for the industry to come back to us with potential solutions."





USING GEOTHERMAL AS A HEAT SOURCE

Jamie Delargy: We have a rich resource in geothermal and it clearly offers scope to decarbonise heating. But it seems to be the Cinderella of the renewable industry. What can be done to bring this particular lady to the ball?

Martin Doherty, Centre Manager, CASE, Queen's University, Belfast: "My frustration is that we tend to look at things in isolation – electricity, biomethane, geothermal – we need to look at these as part of a whole. For instance, we'll stick the spare electricity that Richard's got in an electrolyser, mix it with biomethane and CO₂ and make a substitute for home heating oil.

We need to look at other means of incentivisation. If local communities see a significant benefit of large-scale, renewable infrastructure they are more likely to approve the planning process, or put up fewer objections, because there's a sense of investment in it.

Geothermal will play a role where sensible. It probably makes sense to do it in the community to help spread the costs and make it easier for people to access. In relation to incentives, I personally see it as a middle class preserve because you can afford to move yourself off the grid. This is not available to people in desperate fuel poverty."

Richard Rodgers: "Martin is absolutely right. It is about the integrated energy system – power, heat and transport. CAFRE [The College of Agriculture, Food and Rural Enterprise] is trying to prove that by 2025 we can have reasonable flow rates at 70 degrees centigrade minimum of hot water out of the ground. That will lead to a network solution, which could be part of a community wealth solution.

The heat network solution is similar to what Iain Hoy's [Energy Transition Manager at Phoenix Energy] team does in gas, except instead of a boiler there is a heat exchanger in every home.

An integrated energy system will help the route to market for renewable electricity. Geothermal is a stable source of energy. It is not going to be subject to global commodity price shocks, it is going to be a cost that is broadly a capital cost, and it will provide secure heat at a stable price to tackle fuel poverty."



BIOMETHANE, NATURAL GAS FROM ORGANIC WASTE

Jamie Delargy: We are expecting a 'call for evidence' on the options for supporting biomethane production. Iain Hoy, in your view, are subsidies needed to prime the pumps, or would support need to be sustained over an extended period?

Iain Hoy, Energy Transition Manager, Phoenix Energy: "No one has built up biomethane production without some sort of support. A lot of early biomethane producers will be able to get the RTFO [Renewable Transport Fuel Obligation]. The problem with this is that it means green credits are going elsewhere and are not available to large energy users here in Northern Ireland.

This year we've seen large energy users battering down our door looking for green gas solutions. We need something now. We can't wait for hydrogen, because it'll be at least 2030 before enough is available due to the delays building out renewable electricity.

But can the government really afford to cover a full premium, especially given the competitive aspect with the RTFO? I think it is about looking at different types of innovate support schemes, not necessarily ongoing subsidies, but more probably capital grants.

A lot can be done through the biomethane sector in terms of additional extras, such as management of nutrients (such as at Lough Neagh) and biogenic carbon. It is about valorising those aspects. How do you change the market? It is not going to happen overnight.

Some sort of subsidy is required to get biomethane up and running and then, when hydrogen becomes available at scale, to create a proper, integrated energy system."



Jamie Delargy: Martin, what is the likely impact of biomethane on consumer bills initially?

Martin Doherty, manager of the Centre for Advanced Sustainable Energy (CASE) at Queen's University: "We are looking at it as a product. If you build [biomethane plants] at the correct scale you will be able to compete with fossilised gas. We are funding a research programme exploring the development of a potential 20MW capacity plant in Mid-Ulster at present [in partnership with Tobermore Concrete, CemCor, Dale Farm and RSC Group]. It is basically a large-scale biorefinery that will use hydrogen to produce a range of high-value products over and above the biomethane potential. Research indicates there is potential for approximately 10 such large-scale plants with some smaller satellites.

There are huge benefits from biomethane that people are completely overlooking – the creation of valuable by-products such as bio-CO₂, biochar and organic fertiliser, plus it can help to deliver nutrient management benefits (much needed in the farming sector) and help tackle the well-publicised problems in Lough Neagh. The wider circular economic benefits will also allow hard-to-abate industries such as cement production achieve net zero manufacturing. Then there are the carbon credits. Northern Ireland is probably the only place on the planet that has monitored every single field. We are the carbon Fort Knox of the world. We need to look at how we can make use of carbon credits.

Complementary activities will make the price of biomethane fairly irrelevant because it will only be one of numerous streams coming out of a large-scale biorefinery. Entrepreneurism is needed – dairy companies could become energy companies. Farmers could form cooperatives and set up their own energy companies.

We are being approached by investors wanting to build this out at pace. The Mid-Ulster Partnership has appointed a planning consultant who has mapped out a site in Mid-Ulster and the project partners are hopeful for spades to be in the ground in 24 to 30 months. The plant will decarbonise cement production meaning that Tobermore and others will be able to sell low-carbon products across the whole of the UK and globally.

We need to move away from the archaic concept of anaerobic digestion to understand that we are building a large-scale biorefinery and bioeconomy."

Richard Rodgers: "Unless we achieve a fully integrated biomethane value chain, the cost will be 10 pence a kilowatt hour, compared with the

extraordinarily high gas price today of 4p. We need to get it down from 10p. Heating oil today is 7p. If we want to tackle fuel poverty with a sustainable energy fuel, then it has to be somewhere in the range of 5p to 6p.

To get there we need agricultural policy. Farming has lived on subsidy for decades. Ironically, if a farmer moves to producing an energy crop they lose their single farm payment. We have got to fix that. If we're going to have this really brilliant idea of a biorefinery that uses surplus electricity, for example to make a low-cost energy environment, then we need the rest of the value chain.

While the government across the water is talking about the unicorn of carbon capture from natural gas, we are talking about capturing CO₂ from the land and using it in sustainable aviation or sustainable maritime fuels. It has to be all joined up. Agricultural policy has to realise it is part of the value chain so that consumers pay the right price for the energy part of it."

Jamie Delargy: Jonathan McFerran, what contribution could biomethane make? For instance, how much natural gas could it end up displacing?

Jonathan McFerran, Deputy Director of Green Growth at the Department of Agriculture, Environment and Rural Affairs (DAERA): "We are very conscious of the need to support agriculture. It is a different kind of industry, and it does need support. Some people don't like that, but it does need support to function.

The environmental aspects are absolutely critical. The agriculture industry is very dense in Northern Ireland. We produce a lot of emissions and waste – 10 million tonnes of slurry every year. There is an opportunity to harness that. Rather than just spreading slurry back on the land (where it can go into the water and causes problems, such as that in Lough Neagh and other places) it can be put into anaerobic digesters to produce biomethane and digestate, which is an organic fertiliser. If you're able to develop a circular economy where you are able to produce organic fertiliser, you help to stop artificial fertiliser with high emissions coming into the country.

There are about 80 anaerobic digestors (AD) in Northern Ireland, but the problem is that they're quite small and were started up a while ago. They all produce some biomethane. Earlier this year, we kicked off a Small Business Research Initiative project



that selected six organisations to look at producing biomethane from slurry and all of these other things. The key one is the Mid-Ulster Biomethane Project mentioned by Martin. We're going into phase two of that now, all being well.

It all comes back to Richard's point – how do we do that? Do we fund it from a capital point of view, or an ongoing subsidy? I'm a bit torn. We may need something, as Iain said, to get things going. Agriculture can play a big role. We see this as a clear win-win-win for the environment, for agriculture and for energy.

In terms of numbers, it is very hard to say exactly what can be done because there is potential from energy crops. But I'm really interested in livestock slurry. We see it happening in Denmark. We see it happening across Europe where this is starting to shift."

Dara Lynott: "No one could argue with anything that is being said. The difficulty is the economics. You're trying to do all these stages – collecting slurry, making biogas, combining it with heat, using the excess – adding cost on top of cost compared with land spreading. Compare the two costs. You can either spread it on the land or drive tonnes of material every day 50 miles away.

It is important and it is great innovation, but there is a challenge to decarbonise homes. This is pilot scale. It is research level and there is no policy behind it. It is almost a '2050' kind of implementation. We have policy right now that talks about insulation of substandard homes and about heat pumps in Northern Ireland. We need to be aware of the overall policy direction and that has to be the biggest bang for your buck in terms of the number of people affected."

Jonathan McFerran: "One thing that you might find interesting: Stream BioEnergy in Ballymena takes poultry litter from across Northern Ireland and produces biomethane and it has plans to take 200,000 tonnes of poultry litter every year and turn it into biomethane, equivalent to four per cent of the gas requirement of Northern Ireland. This is actually happening. Then we've got Granville [Granville Ecopark combined heat and power plant] in Dungannon that is about to start injecting biomethane derived from food waste into Evolve's gas network. [It started in November].

We are working with local farmers, so you are not getting slurry travelling. It is being separated on farms. There is a network of AD plants so you're minimising almost all the transport emissions and you're reducing the amount that is spread on land and causing problems to our water quality."

Martin Doherty: "What we are advocating for is widespread across Europe and can be rolled out here without any significant risk. From an investor point of view, you can go and see how it works. In terms of de-risking, I don't agree with you, Dara."

Dara Lynott: "It is a very clear question. It is 10p a kilowatt hour now. How do you bridge that gap?"

Martin Doherty: "It is 10p a kilowatt hour, but our colleagues in UCC have produced another paper that says you can drive down the cost. There is another feedback loop. Fertiliser is very expensive, but with this you can make your own fertiliser. Within three years, you have actually reduced the cost of producing your crops. You have actually got a contraction method there.

Dara, you are saying that this is experimental and pilot scale. We are not going at pilot scale. We are going at a grand scale. The investment wants it to happen at that size.

In the absence of a centralised government, which may or may not come back, we do have local governments who have a significant role to play in terms of local economic and planning considerations. They could be the powerhouses that drive this through.

Whilst I am not saying that cost isn't a concern, I don't think there's anywhere near enough research with the best people – and we include ourselves in that – to see a better figure arrived at."

Iain Hoy: "The costs of biomethane are coming down and it has the advantage of biogenic carbon. AstraZeneca and Future Biogas in GB, for example, are talking about unsubsidised biomethane at 8p per kWh.

You mentioned energy efficiency and heat pumps. The key issue for Northern Ireland is that we don't have massive amounts of corporate tax income, unlike the Republic of Ireland, and so we can't spend our way through this. We have a billion pound hole in the public finances. If you were trying to meet CCC targets with heat pumps at £7,500 per installation you're talking about £112 million per year. We can't do that. We have to do something different in Northern Ireland."

Dara Lynott: "Absolutely, there is only so much money around. Maybe half this conversation has been about biogas, but it is only a fraction of Northern Ireland's path to net zero."

Karen O'Reilly: "We're going to need multiple technologies to get to 'net zero', but electrification needs to be at the heart of it in our view. Looking at ROI, a stable and predictable framework has been introduced with attractive grant arrangements.



We completely appreciate that there are funding constraints on Northern Ireland, but similar levels of support and policy certainty is what Northern Ireland should be aiming for. SSE has a 'one-stop-shop' for energy efficiency, which is helping to deliver on the [ROI] Government's targets in relation to heat pumps and energy savings. When grants were increased in 2022, we saw a 300 per cent increase in inquiries.

But it is not just about grants. It is a whole system approach that includes clear targets and a public body that has responsibility for driving it forward, be that the administration of grants or standards or building consumer confidence, in addition to multi-annual funding and business planning. There also need to be models that cater for those who can't afford it."

Jamie Delargy: How can the supply of biomethane be guaranteed? Where are you going to store it?

Iain Hoy: "Well, you've got the Islandmagee gas caverns, which are of course going to be used to store hydrogen to 100 per cent decarbonise the grid."

Dara Lynott: "Hydrogen is never going to go into domestic houses."

Iain Hoy: "I'm not talking about hydrogen."

Dara Lynott: "You are saying 100 per cent hydrogen."

Iain Hoy: "I'm not saying that at all. You're applying a GB point, where it is either gasification or electrification. You don't have to do that in Northern Ireland because we have a large supply of biomethane. We've got a theoretical maximum of 8 terawatt hours (TWh) of biomethane. We're talking about a network strategy here."

Dara Lynott: "What's the maximum biomethane concentration that could be put into houses?"

Iain Hoy: "One hundred per cent."

Dara Lynott: "At the right octane level?"

Iain Hoy: "Yes. I'm getting really annoyed by the gasification or electrification argument. It is about being integrated. You can do both. That is why we're talking about hybrid heat pumps going forward, which has an immediate benefit because that significantly lowers the amount of biomethane you would require. With energy efficiency and hybrid heat

pumps the current distribution network demand in Northern Ireland for gas is between 6.5 and 7.5TWh. You could decrease that to 3.5 to 4.5TWh with energy efficiency measures."

Jamie Delargy: But you're talking about storing it in salt caverns, which haven't yet been developed yet and which are being strenuously opposed.

Iain Hoy: "You can't get a 100 per cent decarbonised electricity network without salt caverns. That is why the Irish government is trying to find salt caverns to put hydrogen into. Ultimately, the problem with heat is that it is seasonal. Yes, you can do certain things in terms of demand flexibility if you have sufficient insulation, but the cost of that is going to be the problem."

What you want is an integrated network with sufficient backup to cover those long periods where you don't have electricity, so for instance hydrogen would provide power backup while biomethane is distributed to large energy users and used for domestic backup."

Rosemary Daly: "In terms of biomethane, a big consideration is emissions and their impact on biodiversity. There is a clear lack of guidance as to what is acceptable in terms of emissions. So, for example, you could have a farm in Tyrone, but because there is an ASSI [Areas of Special Scientific Interest] 7km away it could be refused on the basis of an increase in ammonia emissions."

Biomethane is a really good way of contributing to the mix of energy. However, we need to look at how we protect the environment while delivering it. Decision-makers are trying to work out the impacts of biomethane on the environment, whether it is safe and how we can know that."

Richard Rodgers: "We like the idea of big, well-designed and well-developed projects that have economics of scale. I do have a slight fear of the small farmer idea because I do not think that is the best way to go."





THE PLANNING SYSTEM, A KNOTTY PROBLEM

Jamie Delargy: Rosemary, the planning system has come in for criticism with regard to new renewable projects. Is the system showing any signs of improvement?

Rosemary Daly: “Prior to the transfer of planning powers to local councils in 2015, significant renewable energy proposals were all dealt with centrally by the Department for Infrastructure (DfI). That model seemed to work quite well, but that model is not there now.

The PAC has two work streams – the appeals process (which is the decision-making) and referred case work (hear and report). Some of that ‘hear and report’ case work relates to whether a project requires an environmental impact statement and some of it relates to regionally significant applications. The PAC is managing a backlog of these cases, which adds to the decision-making timescales. I am aware that the PAC consider resources to be an issue in dealing with cases.

The UK and ROI have totally different processes for managing regionally significant infrastructure development. In the wider UK and ROI jurisdictions they have dedicated systems to manage infrastructure development, including significant renewable energy proposals. Northern Ireland could learn from these models.”

Jamie Delargy: Stephen Cross, do you see consistency in renewables planning decisions?

Stephen Cross: “It is hard to see how there can be. The way decision-making is structured in Northern Ireland makes consistency difficult. Industry wants consistency. The structure in England probably delivers that much better than the structure in Northern Ireland where decisions are delegated to local councils with limited authorities. People want to know what decision is going to be made and how long it will take to make.”

Steven Agnew: “There isn’t even consistency within the councils. One member [of RenewableNI] said to me he’d been developing wind farms here for 15 years and every time it is like rolling a Magic 8 Ball. You don’t know what the outcome is going to be. You don’t know the timeline and you have no realistic criteria. In a recent judicial review of a wind project in Armoy there were no community objections, but the PAC recommended refusal on grounds of visual

impact. I don’t say it was wrong, but no developer can reasonably know the criteria by which visual impact is adjudicated. It’s planetary breakdown versus ‘I don’t like the look of it’ and we are not striking the balance correctly.”

Jamie Delargy: Rosemary Daly, let’s say you were called on to write the Draft Regional Strategic Planning Policy for Renewable and Low-Carbon Energy, what would you like to see in it?

Rosemary Daly: “We are going through a transition in policy-writing in Northern Ireland. Planning policies should be sufficiently prescriptive to give an amount of certainty.

To date, local development plan policies are also not giving enough weight to targets set out in The Climate Change Act. A joined up approach between government departments is important in the formulation of policy. The 2030 and 2040 targets set out by the Climate Change Act should be evident in the emerging local development plans.”

Jamie Delargy: Given that any project of a sufficient size is going to be deemed of ‘regional significance’ and then referred to Stormont, does it really matter what view the councils take?

Rosemary Daly: “Absolutely. It is a plan-led system. Local plan policies are important and can be determining when considering a proposal for renewable energy. A development proposal should, where possible, meet the requirements of planning policy, unless there are other material considerations that outweigh the constraints of planning policy.”

Karen O’Reilly: “From the perspective of a developer [SSE], we agree with the points made by Rosemary and Stephen. We have over 100MW of onshore renewables in Northern Ireland. We plan to make £20.5 billion in net zero-related investments over the next five years and we’d really like some of that investment to come to Northern Ireland, but that is contingent on the policy in place. While the support scheme is going to be absolutely critical, planning reform is also key.

The draft PPS18 policy [Department of the Environment’s Planning Policy Statement 18] published for consultation earlier this year [2023] was concerning for industry. There are proposals in the Draft Statement that do not compare well with other jurisdictions. We modelled the impact that



these proposals would have in Northern Ireland, and the reality is that it would result in very little land available for new development and projects seeking to repower. We 100% understand that visual immunity needs to be respected but we are concerned that what is being proposed is severe and does not align with Northern Ireland's obligations under the Climate Act.

There is also the question around weighting and unfortunately what is in the draft policy with regard to the weight that should be applied to the benefits of renewable energy is a step backwards from what is there currently. We really hope that the next iteration of that draft policy will be a bit more facilitative and aligned with the Energy Strategy and our carbon targets."

Steven Agnew: "SSE's mapping showed that if you apply the '10 times rotor diameter' rule we can't hit our targets because onshore wind and solar are what will get us there. If you apply that rule the 80% renewables by 2030 target is dead. We can pack up and go home now. We're not going to meet it. It's that stark."

Jamie Delargy: Is it significantly easier to get a planning decision through in the Republic than it is in Northern Ireland?

Karen O'Reilly: "Well, there are lots of challenges in Rol as well and we're pushing for improvements there too. I think Steven's recent research bears out that it is certainly quicker to get a decision in Rol."

Steven Agnew: "We're looking at an average of three years in Northern Ireland. It was 59 weeks at the time we did the research in Rol, so three times as long. The industry in Rol is saying it's still too long. Part of the problem is that it is as if almost all responsibility for 80% by 2030 is on Richard [Rodgers]."

Richard Rodgers: "One of the positive things that politicians did was pass the Climate Change Act. It is real legislation with real targets. But some of the same politicians who voted in those real targets also behave as if they do not exist when it comes to local planning scenarios. There is a disconnection. Effectively they are saying: 'These targets exist, but I don't think we can support them being achieved.' It is disappointing."

Steven Agnew: "Hopefully the Climate Action Plans will turn the dial on this. The responsibility sits with the DfE. The DfI in their planning policies don't have to meet '80 by '30' because it is not their responsibility. But it is a legislative requirement of government and we do need joint government cooperation."

Richard and I have discussed the idea of an Accelerating Renewables taskforce to bring together key stakeholders, including the Utility Regulator, DfE, DfI and DAERA. Northern Ireland is a small place. All of us have offices in Belfast, or near enough. Why are we not getting around a table regularly to thrash out the myriad of issues... grid, planning, markets? We're on the cusp of a renewables boom if we get this right.

It is a climate emergency. The Assembly declared that. It put in the Climate Change Act. What is lacking is urgency. The planning system is the most obvious symbol of that: the DfI kicks it to the PAC, the PAC gives it back for a final decision. Councils are coming in and objecting. Councillors are saying, "Yes, our party may have declared a climate emergency, but we still don't want this project here." It all needs to join up and the only way that will happen is if we all get around the table and then start delivering."

Jamie Delargy: Who has ownership of the Draft Regional Strategic Planning Policy? DfI? Does it have to consult with you?

Richard Rodgers: "We're a statutory consultee."

Jamie Delargy: Is there an awareness within DfI of the issues that Steven, Rosemary and Karen are talking about?

Rosemary Daly: "There is an awareness, but there is no pressure or accountability. The planning system, in terms of renewables, appears dormant. It is time to ensure processes are in place to make sure it is effective. The question is how do we do that? I think we need to look to the other jurisdictions such as England and ROI and learn lessons."

Karen O'Reilly: "... and Scotland as well."

Martin Doherty: "My understanding is every government department is responsible for the carbon budgets, are they not? Why don't you lump all responsibility for the carbon budget reduction onto the planning service?"



Richard Rodgers: "It is important that DfI see the need for acceleration of renewable energy project planning approvals. We have to add 2,000MW in the next six years. We need a planning system that supports that."

Rosemary Daly: "Two-thirds of the PAC's work is in the countryside. Priority could be given to renewable energy proposal over single houses in the countryside or development proposals that have a wider significance to society and the economy."

Jamie Delargy: John, does the Utility Regulator have a role as an honest broker to say, 'This is what needs to happen'?

John French: "Not in terms like that. Policy comes from government and then it is up to us to enable it, in terms of the industry, and to make sure there is a fair balance between what the industry does and the final cost to consumers. We work with the various departments, exchanging data and ideas but, ultimately, policy is set by government."

Richard Rodgers: "John is the economic regulator. He doesn't have any say in planning policy. It is a matter for DfI to set planning policy and to liaise with the councils, making sure that it is in line with economic policy and climate change targets. At the moment, it tends not to be joined up."

Jamie Delargy: It's almost like a market failure in information. There are relatively few bodies that have the information, the knowledge and the respect and few that cannot be said to have a vested interest, who could set out exactly what needs to happen and therefore influence policy and persuade politicians to take a particular course of action.

Dara Lynott: "Not only that, it's also about the grid... transmission wires are a big issue."

Richard Rodgers: "To be fair, Dara, I have great optimism."

Dara Lynott: "The amount of resistance to any type of infrastructure that is needed, whether it be anaerobic digesters, whether it be the grid or renewables... there's a collective effort needed. We need to build these things."

Richard Rodgers: "But, Dara, the great thing is that we can do that. John's team is gearing up to do that. NIE is gearing up to have hundreds of employees to do that. He can make the money available – the

consumer can pay the right price. But with other aspects of this such as planning, it's difficult to see the solution."

Steven Agnew: "The grid needs planning. I think that was your point. It is not that we won't build the grid. It has to get planning permission first and that can delay it."

Rosemary Daly: "This is a very important issue and so complex. Maybe planning has too many competing issues. A consideration could be a 'fast track' for renewables in the planning system."

Steven Agnew: "There will be a 'that's not how things are done' attitude. But, as we saw during the Covid Crisis, things don't have to be done the way they've always been done. Is it an emergency or is it not? If it is an emergency, and I think there is a consensus that it is, then we need to start putting in emergency measures. That's not what we're seeing. What I'm hearing from the Department for Infrastructure is, 'We have to find the balance of meeting needs'. It is 'climate emergency' versus 'I don't like the look of it'. I'm sorry, that is not a balance. They shouldn't be given equal weighting."

Rosemary Daly: "We need to accept that it is no longer necessary to prove that there is need for renewable energy proposals. The need is a given."

Steven Agnew: "We're still trying to please everybody, and everybody's needs are not equal."

Jamie Delargy: We're coming to the end of the discussion. This is an opportunity to air any gripes...

Martin Doherty: "We haven't talked about skills. Who is going to insulate your houses? What standard do they have to be to? It's one of those underpinning requirements that people tend to overlook."

Terry Waugh: "These conversations should have been happening 20 years ago. They are only happening now, and it is almost too late. Steven said the clock hand is almost at 12. It scares the pants off me where we're going to be in 10 or 15 years' time."

Jamie Delargy: I had hoped to end on a more positive note but as they say on reality TV shows, "It is what it is!"



THE PATH TO NET ZERO ENERGY

Replacing Fossil Fuels with Renewables

Roundtable Discussion Report
Friday 10 November 2023



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