SUBMISSION TO THE DEPARTMENT FOR THE ECONOMY

ENERGY STRATEGY CONSULTATION FOR NORTHERN IRELAND

ELECTRICITY ASSOCIATION OF IRELAND

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A decarbonised future powered by electricity

Electricity Association of Ireland 127 Baggot St Lower, Dublin 2, Ireland D02 F634

T +353 1 524 1046 | **E** info@eaireland.com | @ElectricityAI | **www.eaireland.com**

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ELECTRICITY ASSOCIATION OF IRELAND

Electricity Association of Ireland

The Electricity Association of Ireland (EAI) is the representative body for the electricity industry and gas retail sector operating within the Single Electricity Market (SEM) on the island of Ireland.

Our membership comprises utilities that represent over 90% of generation and retail business activities and 100% of distribution within the market. Our members range in size from single plant operators and independent suppliers to international power utilities. Our members have a significant presence in NI, ROI and GB across the sector value chain. We represent the interests of the all-island Electricity market in relevant jurisdictions, including the EU through our membership of the European electricity Sector representative body Eurelectric.

Electricity has a fundamental role in providing energy services in a decarbonised, sustainable future, in particular through the progressive electrification of transport and heating. Electricity offers opportunities to decarbonise the all-island economy by 2050, or sooner, in a cost-effective manner. We believe that this can be achieved, in the overall interest of society, through competitive markets that foster investment and innovation.

We promote this vision through constructive engagement with key policy, regulatory, technology and academic stakeholders both at domestic and EU levels.

EAI ELECTRICITY ASSOCIATION OF IRELAND

Introduction

EAI welcomes the opportunity to respond to the consultation on policy options for Northern Ireland's new Energy Strategy. Northern Ireland is facing a number of environmental challenges, such as decarbonising its economy, preserving biodiversity, and providing clean air and water to its citizens. Climate action is crucial to preserve and improve the natural and physical environment in Northern Ireland and increase the standard of living for its citizens. The new Energy Strategy and upcoming Climate Change Bill provide an opportunity to address current policy gaps and outline a clear trajectory for energy policy in the coming decade, with a stronger emphasis on climate action across the economy.

Our response to this consultation will focus on the potential for the parallel electrification and decarbonisation of Northern Ireland's economy and the opportunities presented by pursuing a coordinated approach across the all-island market and system.

The EAI advocates for a whole systems approach to maximise the efficiencies of the all-island system for the mutual benefit of both Northern Ireland and the Republic of Ireland. The EAI believes that there is a strong evidence base in SEM Committee annual reports, market reports and general statements, built up over close to 14 years, to support the continued operation and development of the SEM. The Single Electricity Market between Ireland and Northern Ireland, as well as being a symbol of cross-border political cooperation, is also economically important. By enabling a more open and efficient market of larger scale the all-island approach provides customers with significant benefits. These include increased access to cheaper sources of electricity and the integration of unprecedented levels of renewable energy, leading to enhanced security of supply in both jurisdictions. In this way it underpins the continued expansion of renewable energy on the system in support of international commitments, UK and European goals on carbon reduction.

Context and Strategic Framework (Chapter 2)

The EAI's ambition is to contribute to the realisation of an 82% reduction, on 1990 levels, in GHG emissions and a net zero CO2 target for the economy by 2050 based on advice from the Climate Change Committee (CCC), and we believe that a specific emissions reduction target for 2050, as well as interim sectoral targets for each of the three decades until then, are a necessary and crucial part of climate policy as they give investors and stakeholders clear signals regarding the decarbonisation pathway in Northern Ireland. EAI strongly supports Northern Ireland's Net Zero targets being established based on advice from the Climate Change Committee (CCC). Hence, we welcome the overall goal of the Energy Strategy to achieve net zero carbon energy no later than 2050, consistent with the advice of the CCC, as well as the proposed outcome of "net zero carbon and affordable energy".

Placing Consumers at the Centre of the Energy Strategy (Chapter 4)

We welcome the Strategy's focus on consumers and the need to tailor energy policy measures to the needs of consumers, or subsets of consumers as proposed. Such measures are necessary to enable customers to take part in the energy transition through increased information and advice on their energy consumption, and to protect vulnerable customers (being careful not to conflate customers who are vulnerable and customers who are inactive). These two segments of the market will require different policy interventions to facilitate participation in the energy transition.

The measures proposed to "enable and protect" consumers are comprehensive and will help inform the development of tailored approaches that will be required for different consumer

populations. It is critical that consumer centric supports are put in place to enable consumers to make investments necessary to achieve net zero emissions.

In our view, whilst we recognise the need to protect customers, it must also be recognised that a comprehensive regime is already in place via the Utility Regulators (URs) Codes of Practice. In addition, further work is currently being considered on a Best Practice Framework on Vulnerability which will introduce additional measures across the energy and water sectors in Northern Ireland. As such, in our view Northern Ireland already has a robust consumer protection framework, and any additions must be targeted in such a way that it does not incur additional burden on Supplier. This is particularly true of the "wrap around" provisions, which while we are supportive of must be administered by the soon to be established national sustainable energy organisation or "one stop shop" (referenced below).

In addition, a key component of the consumer protection provisions must be on ensuring that consumers are empowered to make the right decision for their needs. As such, tenet 1 of the framework which focuses on information and advice has an intended outcome of empowered customers who choose the right energy offering/product for their needs. We view this tenet as having a broad reach across customers, and as the outcomes of each tenet are assessed, the requirement for intervention at each subsequent tenet should decrease i.e., the need for wrap around provisions should only be merited for a specific cohort of customers.

A cross-sectoral plan encompassing these five measures is needed so that consumers fully understand the opportunities, upfront costs, processes, and the long-term environmental and financial benefits of measures such as energy efficiency, reducing energy consumption and investing in technologies such as electric vehicles and heat pumps etc. To this end, EAI supports the establishment of a National Sustainable Energy Organisation akin to the SEAI in ROI that is well funded to provide consumers with impartial advice and finance to help them invest in appropriate technologies and to ensure consumers have access to information and support

which will make the energy transition as simple as possible for consumers. It should be fully resourced and equipped to proactively promote and support the energy and climate agenda. A new arms-length body could be established, or the remit of an existing body/agency could be expanded. There needs to be a direct link with Government to ensure the organisation is delivering and completely aligned with climate and energy objectives.

Green Economy (Chapter 5)

Policy must seek to leverage the resources of NI and economic opportunities provided by the energy transition, to guarantee that the transition to a carbon-neutral future will create jobs in new sustainable industries and have a positive impact on communities. The required investment for Net Zero could support Northern Ireland's Green Economic Recovery by 'building back better' using green technologies. We welcome the commitment to invest in energy efficiency as a priority area as improvements in energy efficiency will be key to decarbonisation and growth in this sector will create jobs across the economy.

We support proposals to drive investment in renewable energy infrastructure in NI. A well-functioning power market, efficient carbon pricing and appropriate market arrangements are key to encourage the necessary investments in a wide range of diverse renewable technologies. To meet a RES-E target of 70% or more by 2030, actions must be taken to increase the grid's capability to absorb high levels of renewable generation.

We welcome the initiatives set out to fund research and innovation in clean energy technologies as well as proposals to work with the Utility Regulator to assess how energy regulation can support innovation in regulated industries to facilitate a green economic recovery and encourage green innovation.

Skills development in NI should be fostered through STEM education programmes, apprenticeships and support for significant reskilling opportunities. As the economy decarbonises and the energy sector transforms over the coming decades, it is important that the benefits of transitioning to a low carbon society are distributed equitably.

Energy Efficiency (Chapter 6)

The emissions generated by final energy consumption can be reduced by a combination of a reduction in the total quantum (GWh) and a reduction in the carbon intensity of energy used in both production and consumption of final energy (as measured in gCO2/kWh). Energy policy should prioritise improving the efficiency of final energy consumption, as the most cost-effective approach to emission reduction. The final NIES should prioritise the establishment of a target for the reduction in final energy consumption, with the caveat targets and obligations for key actors should not be overly prescriptive[1].

We strongly support the proposals to set minimum energy efficiency standards for buildings and we agree with the recommendation from Arup that standards need to come with promotion, advice and enforcement. EAI welcomes proposals to uplift current standards for new buildings. More stringent building regulations would ensure that all new builds follow the 'carbon efficiency first' principle.

EAI supports the introduction of a pilot domestic retrofit scheme by Spring 2022 and the delivery of a pilot energy efficiency support scheme for businesses ahead of the establishment of both schemes as part of the "one stop shop". The public sector can lead by example through its procurement practices, energy efficiency projects, use of low carbon fuel and the trialling of on-

[1] Research into the future energy efficiency policy in Northern Ireland, Arup (2021)

site generation. Thus, energy efficiency measures in public buildings should be a key focus in NI and we welcome the commitment to develop an 'invest to save' fund for central government.

Many jurisdictions are actively considering ways to bring forward energy efficiency measures in existing buildings and channelling low-cost finance to building owners is a key part of this. EAI agrees that green private finance solutions have a role to play in supporting both domestic and non-domestic consumers to invest in energy efficiency. Financial institutions are best placed to provide finance options and deal directly with consumers who wish to make investments in energy efficiency. For the able to pay cohort, generous and "always on" grants in combination with low-cost finance offer the best route forward.

Sustainability and the climate action imperative have risen up the corporate agenda. Some businesses have already taken action to green their practices and decarbonise their commercial buildings. For many, however, access to capital, high upfront costs and long payback periods have resulted in other business growth investments taking precedence. SMEs in particular require support. Grants combined with low interest loans will be needed for SMEs and indeed larger businesses.

The EAI agrees that behavioural change should be a key strand of future energy efficiency support. Where information is provided it should focus and target key life choices such as buying a home, replacing a heating system and purchasing a car. The one-stop-shop envisaged should support this work and work with these key sectors to facilitate consumers to move towards greater energy efficiency. Smart meters can play an important role in increasing awareness of actions that impact energy consumption and cost. Smart meter technology provides accurate and timely consumption and financial data and can assist in educating consumers and promoting energy efficiency and demand reduction.

Replace Fossil Fuels with Indigenous Renewables (Chapter 7)

Decarbonise Power

Renewable Electricity Target

The EAI supports the ambition to meet 70% of electricity demand on the island from renewable energy sources over the course of the year in 2030 and continue the progress of the all-island power system towards achieving net zero emissions before 2050. This goal can only be fully realised with actions that increase the capability of the all-island grid and system to absorb the greatest amount of renewable generation. In the absence of such actions the power system will be outside the upper bound of what is required in terms of emissions reduction[2].

Bringing Forward Investment

On the path to net zero in the power sector there are a number of technology choices that could offer further decarbonisation potential and it is not clear which option (or mixture) is most appropriate for the All-Island system. Several technologies could be considered for assisting in the decarbonisation of the conventional fleet beyond 2030. Some technologies may be more suitable than others. Due to the time it takes for such projects to be developed, it is recommended that a cost benefit analysis of the options is completed in the short-term to identify which technologies are best suited to the All-Island power system. Appropriate market arrangements or incentives will be required to encourage investments in these low carbon dispatchable generation technologies. A well-functioning power market and efficient carbon

[2] Our Zero e-Mission Future, UCC MaREI (2020)

pricing are key tools to deliver the necessary investment signals in a technology-neutral way. EAI supports the linkage of the UK and EU Emissions Trading Schemes at the earliest opportunity.

All technologies that could further assist decarbonisation have implicit uncertainty, they share a requirement for significant capital commitment, long lead times for construction, decades-long operational lifetime and a need for investment decisions to be made well in advance of 2030. SONI's ongoing dialogue on the future pathways for the all-island power system is welcomed to ensure the correct policy signals are provided to stakeholders that best position the sector to meet our decarbonisation obligations in the long term. To this end, as part of an overall energy systems integration strategy, EAI would welcome dedicated consideration of power system decarbonisation technologies with a view to identifying an optimum pathway to net zero. Given the all-island nature of the SEM, there are significant benefits to coordinating this work with the Authorities in the Republic of Ireland who are working through many of the same issues.

As per our Call for Evidence response, the EAI believes that an NI-specific renewable support mechanism can provide the opportunity for NI to adopt the best aspects from schemes in other jurisdictions to develop a scheme that can be delivered in a timely manner and that guarantees the delivery of new RES projects in NI. We note from the Consultation Paper that DfE will re-engage with BEIS with a view to extending the Contracts for Difference Scheme to NI. As projects in NI are unlikely to be at the scale required to compete with projects in GB, if NI is to participate by the UK CfD scheme, certain design feature will be needed to ensure projects have a chance of succeeding for example, a separate NI 'pot' within the CfD.

If this option is chosen, we would urge that the discussions and dialogue commence immediately to ensure a timely resolution. There is a risk with this approach that the issues previously identified remain beyond resolve and that investments are lost.

Offshore and Marine Renewables

Achieving the shared renewable energy objective, will require significant additional renewable energy capacity across the island, wind capacity will need to more than double and solar will need to increase by more than 11 times[3]. Batteries will also have to considerably scale up. Investors need clear and reliable long-term signals to allocate funds to such capital-intensive projects. Any new routes to market for renewable technologies must facilitate a diverse renewable portfolio. While it is unlikely that offshore projects at scale will be delivered before 2030 under current policy, there is a need to put the policy in place to support a demonstration offshore floating project to be progressed as part of any 2030 targets. Onshore wind will therefore most likely need to be the main contributor to NI's renewable electricity target. Barriers to the deployment of onshore wind e.g., within the planning system need to be addressed to enable this and appropriate supports must be in place.

We welcome the proposals to develop a targeted action plan to bring forward large scale offshore and marine renewables in NI so that they can be delivered at scale in the early 2030s.

Public Support for Renewables

The growing urgency for climate action requires that decarbonisation is central to all economic planning, regulation and environmental protection. Failure to act early creates a risk of fossil fuel lock in and future regret which will be costly to reverse. Policy and planning systems must find a mechanism which balances delivery of national energy infrastructure with societal acceptance of these projects at a local level. A greater focus on early local community engagement is required and emphasis should be placed on benefit sharing with the impacted communities. The EAI welcomes the Department's intention to ensure local government has a

[3] Our Zero e-Mission Future, UCC MaREI (2020)

stake in addressing climate change to ensure buy-in. There is also a need to communicate the Government's policy on infrastructure and engage the public on the need for electricity infrastructure. The EAI welcomes the decision of the NI Infrastructure Minister to grant planning permission for the North South Interconnector and is hopeful of a positive outcome from the ongoing appeal of this decision.

Decarbonise Heat

We support the proposal to take separate approaches to on-gas and off-gas grid consumers. For new buildings and buildings off the gas grid we recommend electric heat pumps and energy efficiency measures. For buildings that are connected or in close proximity to the gas network, a gas connection has the potential for using renewable gas and hydrogen as low carbon replacement for fossil fuels and remains to be evaluated in tandem with developing a clear definition for renewable gases and a clear and credible route to the decarbonisation of gas. EAI agrees that potential low and zero carbon heat solutions should not be ruled out at this stage.

The proposed "one stop shop" has an important role to play in enabling consumers to make investments compatible with decarbonising heat such as in the roll out of the domestic retrofit scheme and in the provision of information and advice.

Heat Pumps

A significant proportion of heating load can be de-carbonised via the replacement of traditional fossil-fuel technologies with higher efficiency electrified technologies. Lower uptake on technologies such as heat pumps may reduce power system emissions but has a net increase on overall energy system emissions. We suggest that policies that impact buildings are streamlined to make sure that heating and cooling technologies are compatible with emission reduction targets and barriers to electrification are addressed. Heat pumps are well established technologies now and the heat pump market should be encouraged and developed in Northern

Ireland. We welcome the commitment to ensure new energy efficiency support aimed at consumers is aligned with any policy focus for heat pumps. We support the proposal that NI will seek to develop pilot grant schemes to support low carbon heat technologies for domestic and small non-domestic consumers. Generous grants and access to low cost green finance need to form part of the enduring funding solution.

Gas Network

Legislative and regulatory steps should be taken to assess and facilitate the introduction of biomethane and green hydrogen into the gas network. Recently, plans for injection of biomethane to the Northern Irish gas transmission system have progressed and GNI (Gas Networks Ireland) has engaged bilaterally with power generators and incorporated sectoral feedback in its identification of requirements for additional work. While the impact of any potential future changes to technical gas quality specifications needs to be carefully considered, there is a commitment on both sides to collaborate to deepen our understanding on this issue and support decarbonisation of the energy system. Increased awareness and consideration of changes in gas quality specifications both in Great Britain and Ireland from the perspective of large gas users running sensitive equipment is needed. Plans to decarbonize gas out to 2050 should be developed and published by Gas Network Operators. Detailed impact assessments, carried out in conjunction and consultation with gas-fired generators and their respective OEM's, are required to fully assess the impacts before any changes are finalised.

There are significant opportunities for Northern Ireland to produce hydrogen from renewable sources of electricity. NIE Networks suggests that the primary role for hydrogen end use will be primarily in heavy industry, in decarbonisation of the power system and in heavy vehicles / coach road transport and rail[4]. Use of hydrogen in a repurposed gas network for mass rollout requires

[4] Networks for Net Zero, NIE Networks (2021)

a proven technical and economic case and the 2020s should be used as a period of trial as in GB to determine the economic case and possibilities. Until then further extension of the gas grid should be viewed with caution as it may not be in the best interests of the Northern Ireland customer.

Oil and Oil Boilers

The EAI recommends direct regulatory interventions, such as removing the choice to install new or replacement oil boilers, to create behaviour change. For example, revised building standards or banning "the installation of oil boilers from 2022 and the installation of gas boilers from 2025 in all new dwellings", which aligns with recent UK and international policy.

Decarbonise Transport

To maximise the benefit of renewable generation for emissions reduction, the rate of electrification in heating and transport must keep pace. We agree that a Northern Ireland specific strategy, which sets an overarching, long-term plan for cleaner, greener transport and shows how we will meet net zero emissions within the transport sector, should be developed. EAI supports a combined strategy of increasing electrification combined with infrastructure roll out and expanding the use of alternative low-carbon transport fuels to decarbonise transport in NI.

Electrifying Transport

In light of the UK Government's announcement that it will bring forward the ban on the sale of new petrol and diesel cars from 2040 to 2030 and given that this target will apply in Northern Ireland, the electric charging infrastructure industry will need to be urgently developed over the next few years. We agree with the proposals to run an EV communication campaign and the collaboration of public and private partners in developing an EV charging infrastructure plan. A

similar programme to the UK Government's vision for high powered open access EV charging infrastructure at motorway services will be required.

Bloomberg New Energy Finance recently completed a report for Transport and Energy on EV developments[5]. This report suggests that battery electric light vans will reach cost parity with internal combustion in 2025 and heavy vans will reach parity in 2026. This suggests that market forces will see EVs come around the middle of the decade and so there should be focus in Northern Ireland on ensuring that enabling conditions are met in terms of charging infrastructure and incentives to kick start market share. Until then EV incentives will need to continue to encourage uptake of EVs.

Earlier this year, Eurelectric launched a study in partnership with EY which looked at increased fleet electrification in Europe over the next decade[6]. Fleets have significant potential to accelerate decarbonisation of transport as they typically travel 2.25 times more kilometres than personal cars. The study finds incentives and discounts for bulk sales make EVs more attractive fleet purchases. Route predictability, which is a characteristic of fleet operation, enables and accelerates the deployment of charging infrastructure in key locations, which has the added benefit of making EVs more reliable for private individuals. Significant investment will be needed for public and private charging infrastructure. Distribution grids will also require significant investment to support the rollout of charging infrastructure. Transport legislation should be reviewed to ensure the right signals are given to manufacturers, corporate buyers and citizens to go electric. Fleet electrification can be spurred by regulation and tax incentives. Over 300 cities in Europe have already introduced low- and zero-emission zones, incentivising delivery and logistics companies to electrify or face penalties. In addition to CO2 standards, mandatory

[5] Hitting the EV Inflection Point, BNEF (2021)

[6] eVision Study, Eurelectric & EY (2021)

requirements for carmakers to sell zero emissions vehicles would shift cars and light duty vehicles to clean mobility.

EAI believes the barriers to the uptake of EVs can be addressed by:

- Support for home and office charge points where 85% of charging will happen.
- Sufficient deployment of public charging infrastructure, taking account of demographics, EV sales, traffic growth.
- Deploying charging infrastructure in new buildings and buildings subject to major renovations.
- Develop a fast-charging infrastructure to stay ahead of demand.
- Interoperability and payment options.
- Effective website comparisons on £/mi and decision tree for purchase.
- Taking account of Electricity Network visibility, accessibility, capacity, connection and available services.
- Developing off-street, kerb side solutions.
- Align Government procurement and Civil Service travel policies to electric first.
- Bring forward plans for a Low Emission Zones or Clean Air Zones for major urban centres, to help remove cars from the city centres and encourage essential journeys and deliveries to be made by more low emission options.

Alternative Vehicle Fuels

We agree that public sector contracts can be a key driver for developing technologies and markets for alternative fuel vehicles and collaborative research will be important to demonstrate alternative fuels.

Remove Residual Emissions

Carbon capture and storage (CCS) is a uniquely important technology that features strongly in global scenarios that achieve Net Zero emissions in line with the Paris Climate Agreement[7]. Modelling indicates further emissions reductions arise from converting gas fired generation to CCS. The CCC has recommended that carbon capture technology is investigated as a potential method for decarbonising Northern Ireland's power sector. CCS requires a significant capital commitment, has long lead times for construction and decades-long operational lifetime. There is a need for investment decisions regarding infrastructure projects such as CCS to be made well in advance of 2030. Market economics will need to support the necessary investment in post-2030 zero carbon or negative carbon technologies that can provide inertia to support the high level of renewables on the system. Long term stable policy support in addition to the introduction of R&D tax credits and innovation funding will facilitate the development of such technologies.

Flexible, Integrated Energy System (Chapter 8)

EAI believes there needs to be a clear strategy for electricity system flexibility in NI to facilitate increasing levels of intermittent renewable generation, while maintaining security of supply. We support the proposal that electricity Network and System Operators develop a pathway to creating a flexible and integrated energy system to identify routes to integrate renewable energy across power, heat and transport at the least cost whilst ensuring security of supply.

Ensure Flexible Markets and Infrastructure

We welcome the acknowledgement in the consultation paper of the vital role that conventional power generation will continue to play a vital role in meeting our electricity demands and system

[7] CCS in Energy and Climate Scenarios, IEA (2019)

stability in support of increased renewable energy ambition. *Our Zero e-Mission Future* report finds that wind energy will be the main driver of decarbonisation, but the reliable delivery of electricity will require conventional generation to play a necessary role providing energy, system services and flexibility. The required gas fired capacity needed in 2030 is similar to today, but gas fired generation will operate less (~20% less energy compared to 2019).

The construction of the North-South interconnector is a key requirement to eliminate constraints and EAI fully supports its development. We also believe that further interconnection will be needed in the future.

We fully agree that Northern Ireland's power system should be based around flexible solutions to align demand and supply. A power system with high levels of renewable generation demands a resilient power system capable of absorbing and storing fluctuations in weather driven generation and meeting the demand of new electricity loads from electric cars, residential heating and data centres. Increasing offshore wind and solar PV requires significant flexibility and improvement in grid infrastructure across the system. While 100% SNSP is currently not possible, EirGrid and SONI are trialling 75% on an all-island basis. EAI supports EirGrid and SONI's position that 100% SNSP is required to safely achieve a RES–E target in 2030. With lower levels of system flexibility, we are unable to reach a RES-E ambition of 70%. For example, 85% SNSP results in a level of 66% RES-E but with significant levels of variable curtailment (16%) making the financing of renewable projects highly challenging. In the absence of the removal of the constraints, which limit the all-island system's ability to achieve efficient dispatch, all-island emissions will increase, and a lower ambition will be realised.

System services are essential to ensure secure and reliable operation of the power system to the required standards in 2030. Such services include frequency response, reserve, and system inertia. Across all the scenarios we examined for 2030 it is assumed there will be some level of advancement of technologies which leads to the relaxation of the SNSP and the minimum

number of generation units requirements from where they are today. Proven technologies such as synchronous condensers and flywheel storage will form part of the solution, but new and innovative technologies will also be required. Appropriate market arrangements or incentives will be required to encourage investments in these technologies. A well-functioning power market and efficient carbon pricing are key tools to deliver the necessary investment signals in a technology-neutral way.

Clarity is required on the system services needed to support a high volume of renewable generation. Adequate funding for SONI and EirGrid's DS3 programme, accompanied by a framework for delivery, is necessary to ensure the delivery of smart and flexible system service that will facilitate an increase in renewable penetration on the system. SEM has recently undertaken major market reform to bring it in line with the European Target Model and improve price signals to meet desired policy objectives. EAI welcomes discussion on how these price signals can be improved further in the context of evolving policy objectives across Capacity Mechanisms (CRM), Scarcity Pricing Mechanisms (ASP in T&SC), RES financing and Ancillary Services (DS3 and future system services).

Develop a Smart and Digitised Energy System

EAI believes that digitisation, smart meters and the availability of detailed data will help increase flexibility and create more interactive relationships between network and network customers, as well as assist in efforts to decarbonise energy consumption.

We agree that a policy framework should be put in place to enhance access to and use of consumer data, that Northern Ireland should take forward the BEIS Energy Data Taskforce recommendations and that a Cost Benefit Analysis of smart meters should take into account the broader benefits they can bring to consumers as an enabler of energy data and a smart system. To give consumers more control over their consumption and to get the benefit of new electric

solutions, they must have the option to see their energy consumption on a half-hourly basis and to move away from load profile settlement. This would both allow consumers to maximise the financial benefits of the energy transition and utilise renewable generation. Currently demand response programmes are weakened by the large share of the electricity prices that are made up of fixed costs (taxes, levies and network tariffs). There is a need for clear meaningful financial incentives for consumers through pricing that shifts consumption away from peak times.

Facilitate Decentralisation

Microgeneration allows citizens to actively participate in the transition to a low carbon economy. Suppliers can empower customers to take part in the energy transition, by offering products and services, including information and expertise, that can enable customers to both reduce consumption and also to generate, consume, store and export any excess electricity to the grid. An economic analysis was undertaken to inform the development of a Microgeneration Support Scheme in ROI earlier this year. It showed that it is not economically viable for consumers to install microgeneration technologies like solar without financial incentives. A similar study and consultation exercise should be undertaken to determine if the same situation exists in Northern Ireland. While support was in place in the form of Micro-NIRO this was withdrawn in 2017 and there has not been anything in place for new installations since then. Support scheme options should be considered carefully. We believe any support scheme should prioritise an energy efficiency first approach, self-consumption and promote equitable outcomes for customers and suppliers and encompassing the objective that suppliers will be kept whole for any costs incurred.

Electricity grids are key assets to enable a cost-effective decarbonisation with electrification at its core. Their modernisation and digitisation are critical to facilitate connection and transport of distributed, variable renewable energy and the use of technologies such as electric vehicles.

Pricing grid services in the right way for generators, energy consumers and all new players will be critical to optimize the value of the grid for the benefit of network customers and the societies at large, while ensuring sufficient revenues and the right incentives for grid owners.

In Northern Ireland the connecting customer pays for the full cost of the connection works up to and including the next voltage level. In GB and ROI a portion of the total cost is socialised. The current charging mechanism may deter many domestic customers from adopting low carbon technologies and deter inward investment. EAI would ask that the connection policy and charging regulations in Northern Ireland be reviewed and consulted on to ensure they are compatible with facilitating electrification and decarbonisation. It is important that charging structures encourage efficient consumption decisions when renewables are plentiful and wholesale prices are low. This can more efficiently utilise the available renewables while also decarbonising the demand side. A dynamic view to tariff design principles is required to not only focus on cost recovery, but also with a long-term view of the evolution of the energy system and the impact that tariff design could have on electrification and evolution of demand.

Current and future developments that should be taken into account are:

- Changes in the structure and volumes of electricity generated and transported through the grid with increasing shares of decentralized and variable production,
- Growth in electricity consumption with new and less predictable consumption patterns,
- Significant amounts of storage assets including batteries, EVs that may challenge as well as interact positively with grid capacity,
- The increase of demand side flexibility and the ability of all players to react to tariffs,
- Digitalisation, smart meters and availability of much more detailed data increasing flexibility and interactive relationship between network and network customers.

There is a need to ensure those costs are recovered not only today, but also in the future. Network tariffs can contribute to the electrification and the operation of a system dominated by RES and carbon neutral technologies by providing:

- Dynamic short-term price signals that give efficient signals for flexibility and grid operation.
- Long-term signals to facilitate electrification decisions and investments by individual consumers, small and large as competition among energy vectors is much more relevant than in the past.
- Put transparent and accessible data at the centre of demand response and efficient infrastructure performance.

Delivery

Security of Supply

There is a need for greater focus on the issue of security of supply in Northern Ireland. While significant resources will continue to be deployed to overcome both the technical and physical limitations which currently impede a system from deriving 100% of its electricity from 'non-dispatchable' renewable generation sources, dispatchable sources of electricity generation will continue to play a significant role, especially at times of low RES output. Looking out to 2050, energy security in the all-island system, in the form of the ability to draw on zero carbon dispatchable generation for multi-day and even multi-week periods, needs to be addressed. We would ask that the Utility Regulator, through the SEM Committee, assess and satisfy themselves that the market design will enable the investment required in new and existing capacity. This suggested assessment by the Regulatory Authorities of new and existing capacity investment signals should bear in mind the need to maintain security of supply as well as competitive outcomes to ensure lowest costs for consumers.

Costs

Policymakers should seek to identify the range of measures that deliver the most cost-effective abatement return for consumers.

Intelligence

EAI welcomes the support and funding for green innovation outlined in Chapter 5 as well as grants for academic research. We would welcome analysis and research into the post-2030 zero carbon or negative carbon technologies that can provide inertia to support the high level of renewables on the all-island system. Given the all-island nature of the SEM, there are significant benefits to coordinating this work with the Authorities in the Republic of Ireland who are working through many of the same issues.

Legislation

We agree that legislative and regulatory energy frameworks should be aligned and consistent with new energy policies that emerge from the Energy Strategy.

Regulation

EAI strongly supports extending the legislative duty of the Utility Regulator to promote decarbonisation and climate resilience. A detailed review of the remit of the regulator, ease of doing business, the timelines for approvals, cost and the administrative burden on investors must be completed in tandem with strategy implementation. The outcome of this work should be the de-risking of investment to encourage the correct level and sequencing of no-regrets investment in energy network infrastructure to support the energy transition, ensuring that regulators have an expanded and clear remit to deliver decarbonisation and the alignment of economic and energy policy. NI must encourage innovation and new players in the market and the regulatory framework must support behind the meter solutions that can be used to further

policy objectives. The Utility Regulator's outlook must change to provide more guidance and Regulatory Sandboxes to market participants to encourage and foster innovation in the market. A focus for regulators is to entice new market entrants this can be done by a consistent approach between policy goals, legislation and regulatory implementation.

Governance

EAI supports a governance framework which ensures the continuation of an all-island approach to energy and climate issues. Cross-jurisdictional cooperation is needed to support the smooth functioning of the SEM. EAI sees significant room for improvement in the following areas, to ensure that the SEM can withstand and endure, through the significant challenges that lie ahead;

- Greater co-ordination between Government departments on energy policy issues,
- A more robust accountability framework with clarity regarding policy objectives and priorities,
- Greater transparency in reporting and decision making,
- Adequate resourcing for both regulators and Government Departments,
- The introduction of an appeals mechanism for the SEM Committee to ensure confidence in their integrity.

The Electricity Association of Ireland, June 2021

Electricity Association of Ireland
Registered Office: 127 Baggot St Lower, Dublin 2, Ireland D02 F634
Registered No. 443598 | VAT No. IE9682114C
T +353 1 524 1046 | **E** info@eaireland.com | @ElectricityAI
www.eaireland.com