

Wholesale Electricity and Gas Policy Division
Department of the Environment, Climate and Communications
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By email

Irish Bioenergy Association (IrBEA)

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From: [REDACTED]

To: energyconsultation@decc.gov.ie

28th October 2022

IrBEA Response to the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems Consultation

Dear Sir / Madam,

The Irish Bioenergy Association (IrBEA) notes the security of energy supply of Ireland's electricity and natural gas systems consultation and provides its response on behalf of its members. In the context of energy security, Ireland should prioritise the deployment of a wide range of currently available renewable technologies and fuel options to diversify our reliance on imported fossil fuels. Specifically, we promote and encourage the widespread use and deployment of bioenergy in this transition. Bioenergy is Europe's largest renewable energy source and can be deployed in solid, liquid, and gaseous forms.

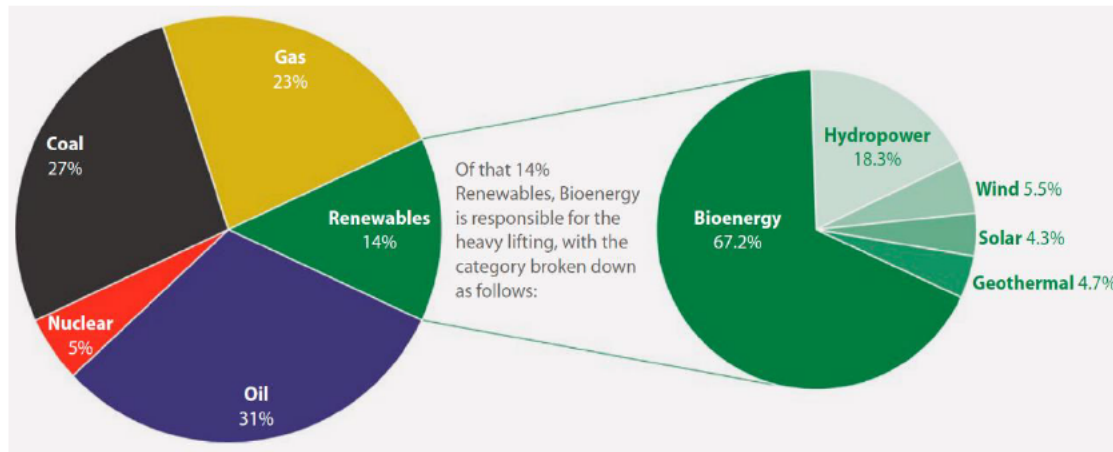
We note in this consultation the generic references to renewable gases. IrBEA is of the view that the short and medium focus should be on available technology such as biomethane, rather than the Department focusing on the role of hydrogen in this consultation. We encourage the government to firstly focus on a strategy around biomethane. Hydrogen is a technology with promise but has not yet achieved wide commercial adoption. Biomethane is a well-proven and available technology, widely deployed across the EU and can be mobilised and deployed in Ireland, at scale, replicating other European Union member states. A strategy for the adoption of biomethane should be prioritised in the short and medium term to address the immediate concerns of gas and electricity security via indigenous production. There is already national gas grid connection infrastructure in place for the injection of biomethane into the gas grid.

IrBEA as the representative organisation for the bioenergy sector strongly advocates for clear government strategies to provide Ireland with secure, reliable, cost-effective sustainable energy. This should include a wide range of currently available technologies and fuel options.

We have answered the relevant, specific consultation questions below, and wish to make some high-level, strategic points in response to this consultation.

Bioenergy as a proven and widely deployed renewable energy

According to data provided by the World Bioenergy Association, which looks at the world’s TPES or Total Primary Energy Supply, in 2018, the energy mix by different sources looked like the following:



IrBEA is also of the view that the state should be placing an emphasis on proven renewable technologies that are already available and deployed extensively in other European Union member states. In particular, anaerobic digestion to produce biogas/biomethane, pyrolysis for syngas, and gasification. These technologies are available to address the urgent and immediate priorities of security of supply, rising costs, and de-carbonisation to meet 2030 targets.

The recent SEAI-published Heat Study includes the potential of bioenergy in hydrogen production through gasification. IrBEA welcomes this inclusion in the Heat Study.

There is a wide range of technological options available for consideration to bolster energy security. Each technology must pass several key tests before they can be considered as viable options. These include:

- Each technology must be developed to where they are technically reliable
- They must be ecologically sound in their full life cycle assessment
- They must possess sufficient scale to deliver
- They must be economically competitive
- They must be renewable.

A clear distinction needs to be made between technologies that have proven viability, and technologies that are at an early stage of development. Government and societal investment and time cannot afford to be mis-directed to technologies that are not yet proven. Decisions must be made to secure our energy supply with proven, viable technologies.

IrBEA notes that the consultation document posits that the gas and electricity systems are likely to experience increased pressure due to increased penetration of both electric vehicles and heat pump technologies. Whilst IrBEA acknowledges the positive contributions both these technologies will offer in our efforts to decarbonise, the truth on the ground is that the roll-out and uptake of both are nowhere near the levels of ambition as outlined by Government. There are additional measures that could be implemented which would further counteract the potential pressures these technologies might place on our systems. IrBEA's recent report on renewable transport, titled "Transport in Ireland: A Pathway to Halving Emissions"¹ outlined how the Government can act by increasing the biofuels blends immediately to E10 for petrol and B12 for diesel. The report also highlights the role that biomethane could play in decarbonising heavy transport.

Renewable Energy Ireland (REI) also produced a report titled "40 By 30- Renewable Heat Plan"², which forecasts potential routes for the decarbonisation of the heating sector and achievement of 40% renewable heat by 2030. Bioenergy focused measures including the use of solid biomass and biomethane/biogas as well as heat networks can contribute to this 40% target. Through further supporting these sectors, additional future pressures on our gas and electricity systems can also be reduced.

We welcome an opportunity to engage with the Department further on this topic.

Yours sincerely,

[Redacted signature]

[Redacted name]

[Redacted title]

Tel: [Redacted phone number]

With technical input from [Redacted] (IrBEA Technical Executive), [Redacted] (IrBEA Project Executive) and [Redacted] (IrBEA Project Executive).

¹ <https://www.irbea.org/wp-content/uploads/2021/12/Irish-Bioenergy-Association-UCC-MaREI-Renewables-In-Transport-Report-Final.pdf>

² <https://renewableenergyireland.ie/wp-content/uploads/2021/05/Renewable-Energy-Ireland-Renewable-Heat-Plan-Final.pdf>

Specific Consultation Question Responses

Risks

1. Are there any other security of supply risks that you can identify in addition to those set out in section 6?

IrBEA Response

We note the identification of high risk centred around times of low temperatures and low wind, this is particularly acute during frosty winter weather predominated by high pressure causing low temperatures and low wind. In weather conditions above there will be significant demand for electricity from the anticipated 600,000 houses using heat pumps.

We strongly agree with the identified risk posed by pursuing a heavily weighted electrification of heat and transport. We have stated this in several previous public consultations.

2. If there are other risks that you have identified, could you outline some mitigation options to address the risk(s)?

IrBEA Response

We identify a significant risk in the current Renewable Electricity Support Scheme (RESS). Whilst the scheme is promoted to be technology neutral, it is in practice discriminatory against secure dispatchable generation sources such as bioenergy due to the reward criteria being solely on a cost per kw basis. Ireland now clearly recognises that grid stability and power dispatchability are essential components of a stable energy system. Future rounds of RESS auctions need to place value on all elements equally.

3. Are the five shock scenarios that were considered, and the additional scenarios related to the Russian invasion of Ukraine, sufficiently broad?

IrBEA Response

We particularly note that Scenario 1 poses a substantial risk in Ireland and that this scenario is generally a matter of 'when' rather than 'if'. The other scenarios do represent sufficient testing to the robustness (or lack of) of the Irish electricity and gas supply to shocks. The scenarios outline the vulnerability of Ireland from an energy supply perspective and the

number one priority of government should be to diversify our energy supply and that policy encompass as much indigenously produced fuel and resources as possible.

Mitigation Options

4. Do you have any additional mitigation options that you think should be considered?

IrBEA Response

Rather than developing large new renewable capacity using biomass and biogas/biomethane resources, the focus should be smaller scale decentralised CHP units fuelled by local supply chains to provide dispatchable low carbon power. One significant advantage to this is that the heat supplied can be used to provide renewable heat through district heating, thus allowing for rapid reduction of demand of fossil gas as heating fuel in urban areas.

Planning must consider the increased risk from policy measures of electrification of heat and transport. These policies were put together at a time where electricity security and dispatchable energy security was not considered a risk. Other options for renewable heat such as biomass, biogas/biomethane and district heating offer far greater energy security than electrification of heat. By switching heating sources to biomass, biogas/biomethane and district heating, we can achieve higher rates of decarbonisation and do so without increasing the risk posed by electricity and gas supply. Indigenously generated, dispatchable energy brings many benefits such as rural employment, balance of trade and energy security.

5. Which gas supply mitigation options, if any, should be considered for implementation?

IrBEA Response

We have no additional measures to consider in the short term, however Technology Readiness Levels (TRLs) needs to be considered for all technologies proposed. In the medium to longer term, the use of hydrogen from gasification of biomass has potential, as outlined in the SEAI Heat Study.

6. Which electricity supply mitigation options, if any, should be considered for implementation?

IrBEA Response

We note the proposed additional 450MW of new capacity from biomass in Moneypoint. However, we believe that consideration must be given to the most efficient use of the biomass resource, this could be in the form of further roll-out of biomass heating systems and a state-wide roll out of CHP units to provide dispatchable electricity and heat for district heating. Decentralised CHP systems make more use out of the heat and could further ease pressure on both the gas and electricity systems.

The conversion of Edenderry Power to biomass has been a positive development for the sector and for Ireland's power supply, we fully support the extension of this to 100% biomass. In the shorter term it would be beneficial to consider re-powering one or both of Shannonbridge and/or Lanesborough with 100% biomass. Both can use biomass without much modification and could be powered using locally available resources, any additional biomass requirements above what are currently locally available could be produced from short rotation coppice grown on local farmland. It would be very disappointing to see these power plants dismantled here to be rebuilt in other EU countries to generate power. Consideration all times must ensure using the right bioenergy type for the right use at the right time.

IrBEA is working on a biomass capacity statement now which will demonstrate the significant volumes of biomass available for utilisation, most of which resulting from forestry investment by the state since 1990. We are happy to clarify that the bioenergy resource will only be coming from sustainable forestry management using by-product material from normal lumber production. This sustainable forest management practice complements the production of quality construction timber vital to drive a low carbon construction sector.

7. What measures should be considered on the demand side to support security of supply of electricity and gas?

IrBEA Response

A key measure required is to diversify to energy sources that are indigenous, dispatchable, and renewable. Deployment of technology such as biofuel and biomethane for transport, solid biomass for heating and CHP for heat and power should be prioritised. These technologies are fully developed and only require sufficient policy and supports to develop. They also diversify our energy mix away from an electricity dominant scenario at a time where it is evident that over reliance on electricity will lead to greater risk.

8. Do you have any views on how the mitigation options should be implemented?

IrBEA Response

The use of dispatchable bioenergy sources should be added as a mitigation option given the following advantages

- Dispatchability
- Indigenous supply/generation
- Grid security & stability.

Policy Measures

9. Do you support the policy measures proposed in section 8 of the consultation paper?

IrBEA Response

Yes

10. What further tools and measures do you think would contribute the most to Ireland's energy security of supply

IrBEA Response

As previously noted, whilst the increased electrification of both heat and transport are to be welcomed, there are measures that could be implemented today which could further reduce risk to both the gas and electricity supply systems. IrBEA's recent report on renewable transport, titled "Transport in Ireland: A Pathway to Halving Emissions³" outlined how the Government can act by increasing the biofuels blends immediately to E10 for petrol and B12 for diesel. The report also highlights the role that biomethane could play in decarbonising heavy transport.

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⁴ https://renewableenergyireland.ie/wp-content/uploads/2021/05/Renewable-Energy-Ireland_Renewable-Heat-Plan_-_Final.pdf

Biomethane strategy – Ireland needs a biomethane strategy for the value and immediate impact of this technology to be realised. A range of incentives supports and measures which are sufficient to ensure the viable development operation and maintenance of biomethane facilities should be immediately introduced in consultation with the industry. All EU biomethane industries have mobilised on the back of dedicated policy measures to kickstart and support the industry. Biomethane is a ready to deploy technology. It requires supports for investment and price supports to ensure its roll-out. It should not be entangled with green hydrogen in policy drafting until such time as green hydrogen technology is at a stage where it has been demonstrated and is being deployed and green hydrogen can be used for de-carbonising the national gas grid.

Renewable Heat Obligation (RHO) - The introduction of an RHO needs to take place in 2023, not 2024. The RHO needs to be ambitious and allow for the utilisation of a wide range of renewable energy fuels and technologies.

The entire system of public administration must recognise that the de-carbonisation of both the electricity and gas systems is required, and that the two can support each other – rather than promoting a ‘mono’ culture of electrification-only, which is what is currently emanating in practice from government departments, state agencies and other public bodies.

Inter-connecting gas and electricity are a welcome theme throughout this document as most other government policy positions are focused on electrification-only and de-carbonisation of electricity only, to the exclusion of the gas grid or de-carbonisation of the gas used off-grid.

We note ‘biomethane’ is mentioned six times in the consultation document. Biogas (as distinct from biomethane, its main component part) is not mentioned at all. ‘Hydrogen’ is mentioned 46 times.

We support the use of biomass and biogas for localised heat and district heating as much as possible, policy should consider avoiding electrification where possible to take demand pressure off the electricity and gas grids.