

DECC Security of Supply Consultation

Introduction

CEWEP Ireland welcomes the opportunity to respond to DECC's consultation on Security of Supply. CEWEP is the umbrella association of Waste to Energy (WtE) plants, representing approximately 400 WtE plants from 18 European countries.

Our members make up almost 90% of the WtE capacity in Europe. CEWEP Ireland is the Irish branch of CEWEP Europe and has two members: Indaver, which operates the Meath WtE facility and is proposing to develop a similar facility in Cork; and Covanta, which operates the Dublin WtE facility. Members have a potential treatment capacity of over 900,000 tonnes per annum residual waste and export more than 80MW electricity.

WtE involves the thermal treatment of non-recyclable waste to produce electricity. This non recyclable waste is an indigenous, sustainable fuel source. The electricity produced is partly renewable, as circa 50% of the feedstock is categorised as biogenic /biomass according to the Renewable Energy Directive (RED). Optimising the use of this existing source of electricity generation as well as the renewable energy fraction, particularly during periods of curtailment, will be key in providing security of supply while working towards renewable energy and net zero carbon targets.

WtE can also secure baseload capacity and reliable grid stability, especially in smarter and more integrated energy networks and is also compatible with one of the central tenets of the EU's energy policy, the energy efficiency first principle. WtE fulfils that principle and assists with reducing dependence on fossil fuels and by implication lowering greenhouse gas emissions. In light of the above, energy recovery from residual waste should be regarded as an important and reliable source of energy capable of diversifying the EU's energy mix, boosting energy efficiency and reducing dependency on fossil fuels imports

CEWEP Ireland welcomes the opportunity to respond to this consultation on Ireland's security of supply review. It is critical that Ireland's policy in relation to security of energy supply is in line with our renewable energy, climate action/net zero carbon and circular economy targets. It is also important that and future policy mechanisms are based on a long term vision which takes into account the transition to a decarbonised society and does not just focus on short term solutions which contradict this vision.

We welcome that the aim of this consultation, while focusing on 2030, is to ensure a sustainable transition up to 2050. However, it is critical that suitable mitigation options are implemented as soon as possible in order to work towards 2050.

Response to relevant consultation questions

Risks

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

In order for implementation to be based on realistic timeframes it is important that the planning and permitting system, including associated legal processes, be built into them.

It would be important that new gas power plants are future proofed to ensure they are capable of using renewable gas such as hydrogen as a fuel source.

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

Efficiency of the planning and permitting system, including stakeholder engagement and relevant legal processes, must be improved as a matter of urgency if Ireland is to meet its short term objectives for 2030. Both permitting regimes should work in parallel, rather than in series. 30-50 year planning permissions will be necessary for the development of long-term infrastructure to meet long term needs.

The regulatory, planning & permitting system should require and attach relevant conditions to ensure future proofing of gas power plants.

It is critical that sustainable sources of such renewable gases are identified and necessary support mechanisms are assessed.

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

Connecting Renewables: A robust policy framework for connection of new renewable generators to the electricity system is critical to reducing our dependence on fossil fuels and for transitioning to a decarbonised energy system. It is also critical that enduring policies do not inhibit opportunities to re-enforce security of supply.

Curtailement: In order to address curtailment and variable demand and supply patterns, renewable electricity will need to be complemented with dispatchable energy sources.

Unlike other renewable generators waste to energy plants must continue to run in such circumstances as their primary purpose is to treat non-recyclable waste rather than produce energy which means such produced energy is wasted. This inhibits the processing of an essential service and the sectors contribution to renewable energy, net zero carbon and circular economy targets. CEWEP has highlighted in numerous consultations with relevant policy makers (e.g. SEM Committee) that the consequence to the waste industry and Ireland's legal obligations of being dispatch down is far greater in magnitude to the impediment to the power generation industry to facilitate baseload operation of WtE. Ideally, waste to energy plants should not be curtailed especially now as Ireland navigates its way through an energy crisis. It is CEWEP's submission that waste to energy facilities should have the highest priority dispatch within the hierarchy (subject to hydro safety concerns), as this is justified by

the public health issues that may arise with sustained disruption of the processing of waste and the essential service of waste recovery required under European legislation.

However, as a mitigating measure to the current curtailment situation, enduring and future policy must be flexible to allow waste to energy to develop innovative alternative ways of using this energy when curtailed from the grid, for example battery storage, flywheels, district heating & cooling, hydrogen production. Restrictive electricity connections and mechanisms for dealing with modifications will prohibit investment decisions in such alternatives.

District Heating: Ireland must take advantage and promote the recovery of the heat from Waste-to-Energy facilities in order to avoid additional energy consumption (which would assist with security of supply) while at the same time reducing GHG emissions. CEWEP has participated in the Department's district heating consultations and highlighted what measures need to be taken to support the development of low carbon district heating networks in Ireland which will also aid security of energy supply.

Effective regulation & guidelines in this area will serve as an important measure to incentivise investment in DH infrastructure development. Also, allowing large/major energy users to offset carbon taxes would make use of energy that would otherwise be wasted, assist in decarbonising heat and ultimately increase system efficiency.

Private wire: In the interest of the circular economy, it is critical that future policy allows for private wire arrangements in order to enhance security of supply. This would provide an alternative option to mitigate waste to energy facilities having to waste energy.

Hydrogen: Hydrogen will be an important element of a transition to a net zero carbon energy system and sustainable policy mechanisms and other incentives must be put in place now to allow the industry to develop. Routes to market have been identified and are developing at pace, for example mobility, injection into the gas grid and power generation. Green hydrogen produced from indigenous renewables along with the option of storage can further reduce our reliance on imported fossil fuels and back up the energy system.

Using renewable energy from existing sources of electricity generation such as WtE will be key in generating a sustainable supply of hydrogen to meet future demand as well as for working towards future renewable hydrogen targets. The potential of hydrogen from renewable biomass and non-biogenic waste should not be overlooked and should be treated similarly to that produced from wind and solar whilst Ireland transitions to net zero carbon.

As mentioned previously, provided sustainable sources of hydrogen can be identified and storage capacity developed, hydrogen power plants have the potential to dominate this energy sector.

In order for hydrogen to make a meaningful contribution to security of supply in the medium to long term it is critical that the Government's Hydrogen Strategy includes specific, measurable, actionable, result orientated and timely targets for well defined outcomes. For example, targets for hydrogen production, storage, hydrogen from electrolysis, hydrogen powered generation should be included.

Whilst existing taxation mechanisms act as a signal to search for an alternative fuel source with lower emissions, a blend of policy measures are necessary to bridge the gap between firm level investment, market requirements, national climate targets and hydrogen technology development and facilitate the uptake of hydrogen.

Mitigation Options

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

As part of an overall Hydrogen Strategy conversion of gas fired power plants to hydrogen should be considered. The strategy should call for such an innovative pilot project and suitable innovation funding should be made available to support it.

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

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

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

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

Policy Measures

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

Yes. The regular energy security reviews can also be incorporated in annual development plans and adequacy forecasts completed by the network operators.

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

System Planning

The Electricity and Gas system operator system planning documents must be robust to ensure security of supply is in line with an increase in indigenous sources of energy, a reduction in reliance on fossil fuel imports and a transition to net zero carbon. Security of supply must be assessed in a more holistic manner i.e. depth of security offered by generators and the carbon intensity of that generation¹.

One measure should be that the CRU should consult on the terms of reference for the planning documents mentioned above and make appropriate changes to ensure a framework that ensures security of supply and resilience in the net zero transition.

Adequate Grid Infrastructure

Strengthening grid capacity is critical for a robust energy system and to meet net zero carbon targets. Significantly more transmission infrastructure, non-infrastructure solutions, and the upgrade of the existing network will be required.

The Capacity Market

The existing Capacity Remuneration Mechanism (CRM) was introduced to ensure that the demand for electricity is always met with an overall aim to ensure cost efficient security of supply, as well as ensuring that consumers don't pay for more capacity than is needed. The challenges in delivering security of electricity supply are well reported, and do not need to be repeated here.

A robust market mechanism, similar to the CRM, will be required to ensure predictable security of supply and incentivise sustainable power generation as part of a long term strategy. For example, a revised CRM should take into account longer-term costs and benefits and incentivise existing gas power plants transition to hydrogen. Also, predictable security of supply requires investment signals based on realistic auction price caps and adequate capacity procurement in capacity auctions.

ⁱ **Note 1:** WtE & carbon intensity: WtE plants treat waste that is not suitable for recycling. Waste policy and consumer behaviour determine the composition of the waste. WtE facilities cannot reduce the CO₂ emissions contained in fossil fraction of waste. If operators were forced to reduce the fossil fraction in order to reduce emissions, the rejected waste would need to be landfilled. This at odds with the waste hierarchy and overall GHG reduction targets within the waste sector. Unlike other installations in the ETS, not only is it difficult to control the feedstock composition but the requirements on emissions measurement are designed for homogeneous fuels rather than heterogeneous fuels such as waste. Also, the diversion of non-recyclable waste from landfill to waste to energy results in significant GHG savings. Capture, storage and utilisation opportunities are also being assessed for the non-biogenic fraction of treated waste. This unique situation must be taken into account when determining the carbon intensity of waste to energy generated electricity.