

ZERO WASTE ALLIANCE IRELAND

Towards Sustainable Resource Management



Submission to the Department of the Environment, Climate and Communications in Response to the Public Consultation on a Review of the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems

28 October 2022

Zero Waste Alliance Ireland is a member of



and



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28 October 2022

Review of the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems Consultation,
Wholesale Electricity and Gas Policy Division,
Department of Environment, Climate and Communications,
29-31 Adelaide Rd,
Dublin 2,
D02 X285.

BY EMAIL TO:
energyconsultation@decc.gov.ie

Dear Sir / Madam,

**Response to the Public Consultation on a Review of the Security of
Energy Supply of Ireland's Electricity and Natural Gas Systems**
***Submission by Zero Waste Alliance Ireland to the Department of
Environment, Climate and Communications***

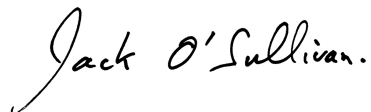
On behalf of Zero Waste Alliance Ireland (ZWAI), we attach our submission in response to the public consultation on a review of the security of energy supply of Ireland's electricity and natural gas systems.

ZWAI is very pleased to have the opportunity to respond to this important public consultation, and the intention of our submission is to provide observations on energy security, where we are especially concerned about waste of energy, inefficient use of energy, and failure to consider the integration of energy policy and other policies, taking into account climate change. It is our considered view that we have four linked crises in Ireland: a climate crisis, biodiversity crisis, a critical raw materials crisis, and an energy crisis; but the fact that they are linked (and are impacting the country at different rates and timescales) should not prevent the development and emergence of a strong coherent policy to address all of these concerns in a practical and integrated manner.

It is one of the key points of our submission that the more efficient use of materials and the avoidance of waste at every stage are also energy saving activities; and an integrated energy security policy must also take into account management of raw materials, critical resources, waste reduction, re-use, repairing, recycling and the circular economy.

We look forward to your acknowledgement of the attached submission, and to seeing in due course the final version of the energy security policy for all of aspects of energy generation and use; while taking into consideration the overarching importance of addressing climate change.

Yours sincerely,

A handwritten signature in black ink that reads "Jack O'Sullivan." The signature is written in a cursive, flowing style.

Jack O'Sullivan

On behalf of Zero Waste Alliance Ireland.

ZERO WASTE ALLIANCE IRELAND

Towards Sustainable Resource Management

Submission to the Department of the Environment, Climate and Communications in Response to the Public Consultation on a Review of the Security of Energy Supply of Ireland's Electricity and Natural Gas Systems

28 October 2022

1. INTRODUCTION

When the Department of the Environment, Climate and Communications announced a public consultation on a review of the security of energy supply of Ireland's electricity and natural gas systems, we initially saw this consultation as external to the area in which Zero Waste Alliance Ireland normally contributes to debate on policy issues.

Our primary areas of work are focussed on prevention of waste, and on the eventual elimination of the wasting or discarding of substances, materials, manufactured objects and products of every description; and especially their end-of-life fate by incineration or landfilling, resulting in the continuing extraction and processing of yet more raw materials to replace them. Closely allied with these area of work are our promotion of the Circular Economy, and support for schemes such as "deposit and return" which would have the effect of increasing the rate at which materials and objects are re-used and recycled. These activities may be summarised as promoting the transition from a wasteful linear to a more efficient circular economy, with accompanying changes in how our society values and uses raw materials and objects.

But if we consider that the extraction and processing of nearly all raw materials are energy intensive, while re-use and recycling are energy saving, it becomes clear that the more efficient use of materials and the avoidance of waste at every stage are also energy saving activities. We can therefore establish an obvious link between these activities and energy demand, so that the more efficient and less wasteful our society becomes, less energy will be needed at many different levels. While it may appear at first glance that waste and resources management, and the achievement of energy-related goals (including the formulation of energy policy) are not linked, it is our belief that that the two are intimately connected.

Not only must discarded materials be replaced in the continuing cycle of production, but the processes of extraction, transformation, transport, processing, manufacturing and distribution require yet further energy which could be used more beneficially or avoided completely.

Secondly, Zero Waste Alliance Ireland has always taken the view that the term "waste" should encompass not only discarded materials, but should also cover the waste of water and the waste of nutrients contained in wastewater which we discharge to the environment; and these are areas in which we have made previous submissions in response to public consultations.

It is only a small additional step to consider that inefficient use of energy, and the use of energy for activities which are unnecessary and may be environmentally damaging, also fall within the definition of "waste".

We therefore see this public consultation as a welcome opportunity to provide feedback on a topic in which Zero Waste Alliance Ireland should have an interest. Furthermore, it has always been our policy that any type of wasteful activity (including the wasteful or inefficient use of energy) has the potential to have detrimental effects on the Earth's climate, and would have adverse effects on Ireland's energy security.

Widespread failure to use energy efficiently, and to recover, re-use and recycle discarded substances, materials and products, are symptoms of our European-wide and Irish failure to consider the linked issues of scarcity and security. We have also failed to adequately implement the Circular Economy, with a resulting increase in greenhouse gas emissions, serious damage to ecosystems, major loss of biodiversity, changes in sea level, stronger and more frequent storm events, threats to the security of food supplies, damage to human health, and other adverse consequences of climate change.

As the Department has stated in its call for submissions:

"Ireland's energy system is going through a period of transformational change and as we transition to a net-zero emissions future we must ensure the pathway of decarbonisation is underpinned by affordability, and security in how we access and use energy in our everyday lives.

The most secure energy is the energy that we do not use [our emphasis] *and therefore, energy efficiency should always form part of our response to energy security".*

Zero Waste Alliance Ireland fully supports that call, and we would add that **Ireland is in an energy emergency** (along with our climate and biodiversity emergencies) and it is of utmost importance that Government takes immediate action.

2. ZERO WASTE ALLIANCE IRELAND (ZWAI)

Zero Waste Alliance Ireland is therefore pleased to have the opportunity to make this submission in response to the Department's public consultation on a review of the security of energy supply of Ireland's electricity and natural gas systems; and at this point we consider that it is appropriate to describe briefly the background to our submission, especially the history, policy, strategy and activities of ZWAI.

2.1 Origin and Early Activities of ZWAI

Zero Waste Alliance Ireland (ZWAI), established in 1999, and registered as a company limited by guarantee in 2004, is a Non-Government Environmental Organisation (eNGO) and a registered charity.

During the past two decades, ZWAI has prepared and submitted to the Irish Government and to State Agencies many policy documents on waste management, on using resources sustainably, on promoting re-use, repair and recycling, and on development and implementation of the Circular Economy. During more recent years (2021 and 2022), ZWAI has additionally responded to the European Commission's call for submissions on a variety of topics in the areas of wastewater and solid wastes.

Our principal objectives are:

- i) sharing information, ideas and contacts,
- ii) finding and recommending environmentally sustainable and practical solutions for domestic, municipal, industrial and agricultural waste management in Ireland;
- iii) lobbying Government and local authorities to implement environmentally sustainable waste management practices, including clean production, elimination of toxic substances, re-use, recycling, segregation of discarded materials at source, and other beneficial practices;
- iv) lobbying Government to follow the best international practice and EU recommendations by introducing fiscal and economic measures designed to penalise the manufacturers of products which cannot be re-used, recycled or composted at the end of their useful lives, and to financially support companies making products which can be re-used, recycled or are made from recycled materials;
- v) raising public awareness about the long-term damaging human and animal health and economic consequences of landfilling and of the destruction of potentially recyclable or re-usable materials by incineration;

- vi) investigating, raising public awareness and lobbying Irish Government departments and agencies about our country's failure to take adequate care of vulnerable and essential natural resources, including clean water and air, biodiversity, and soil;
- vii) advocating changes in domestic and EU legislation to provide for more ecologically appropriate, environmentally sustainable and efficient uses of natural resources; and,
- viii) maintaining contact and exchanging information with similar national networks in other countries, and with international zero waste organisations.

2.2 Our Basic Principles

Human communities must behave like natural ones, living comfortably within the natural flow of energy from the sun and plants, producing no wastes which cannot be recycled back into the earth's systems, and guided by new economic values which are in harmony with personal and ecological values.

In nature, the waste products of every living organism serve as raw materials to be transformed by other living creatures, or benefit the planet in other ways. Instead of organising systems that efficiently dispose of or recycle our waste, we need to design systems of production that have little or no waste to begin with.

There are no technical barriers to achieving a "zero waste society", only our habits, our greed as a society, and the current economic structures and policies which have led to the present environmental, social and economic difficulties.

"Zero Waste" is a realistic whole-system approach to addressing the problem of society's unsustainable resource flows – it encompasses waste elimination at source through product design and producer responsibility, together with waste reduction strategies further down the supply chain, such as cleaner production, product repairing, dismantling, recycling, re-use and composting.

ZWAI strongly believes that Ireland should have a policy of not sending to other countries our discarded materials for further treatment or recycling, particularly to developing countries where local populations are exposed to dioxins and other very toxic POPs. Relying on other countries' infrastructure to achieve our "recycling" targets is not acceptable from an ecological or societal perspective.

2.3 What We are Doing

One of our principal objectives is to encourage Irish government agencies, Irish local authorities and other organisations to develop and implement environmentally sustainable resources and waste management policies, especially resource efficiency, waste reduction and elimination; to promote reuse,

repair and recycling, to develop and implement the Circular Economy, and to recognise that climate change and biodiversity loss are existential threats.

As an environmental NGO, and a not-for-profit company with charitable status since 2005, ZWAI also campaigns for the implementation of the UN Sustainable Development Goals, including (but not limited to) Goal 12, Responsible Consumption and Production; Goal 6, Clean Water and Sanitation (having particular regard to the need to avoid wasting water); and Goal 15, to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, to halt and reverse land degradation and halt biodiversity loss.

Zero Waste Alliance Ireland has prepared many policy documents on waste management, we continue to lobby the Government on the issue of sustainable resource management, and to express our concern at the failure to address Ireland's waste problems at a fundamental level.

In recent years, ZWAI has responded to many Irish and EU public consultations; and, in its role as an environmental NGO, has given presentations and made submissions on:

1. Proposed amendments to the Irish Building Regulations (February 2016 and October 2021);
2. Submission to the Department of Housing, Planning and Local Government on Water Services Policy (April 2018);
3. How the European Union has addressed the problem of plastic waste (March 2019);
4. Response to Irish public consultation on proposed new environmental levies (Nov-2019);
5. Submission on single-use plastic packaging by the food industry (November 2019);
6. Response to a public consultation by the Department of Housing, Planning and Local Government on significant water management issues in Ireland (August 2020);
7. Submission to Department of Environment, Climate and Communications on the proposed introduction of a deposit and return scheme (DRS) for beverage containers (November 2020), and on the legislative framework and scope of a Deposit Return Scheme in Ireland (May 2021);
8. Submission to the European Commission in response to a public consultation on the revision of the Urban Wastewater Treatment Directive (July 2021);
9. Submission to the Joint Oireachtas Committee on Environment and Climate Action on the general scheme of the Circular Economy Bill (October 2021);

10. Feedback to the European Commission in response to a public consultation on the proposed revision of the EU Regulation on Shipments of Waste (January 2022);
11. Feedback to the European Commission in response to a public consultation on protecting, sustainably managing and restoring EU soils, including comments on the updating of the 2006 EU Thematic Strategy on Soil (February 2022);
12. Feedback to the European Commission in response to public consultation on revision of the EU plant and forest reproductive material legislation (March 2022);
13. Providing feedback to the European Commission on the waste-related environmental performance of Ireland and certain other EU Member States, and the probability of their achieving the 2025 recycling targets and the 2035 landfill target (August 2022);
14. Providing feedback to the European Commission on the need to reduce the waste of unwanted or discarded food, at every stage of the food production process (August 2022);
15. Response to the European Commission's public consultation on an integrated action plan for the management of nutrients (August 2022);
16. Response to the public consultation on Ireland's Climate Action Plan 2023 (September 2022);
17. Submission to the European Commission on state aid and challenges facing environmental Non-Government Organisations (response to the Aarhus Convention Compliance Committee complaint to the European Commission) (05-Oct-2022);
18. Several presentations on transforming the construction industry so that it could become climate neutral; and,
19. Several submissions on the separation, recovery and reuse of the phosphorus and nitrogen content of wastewater (2019 to 2022).

It will be clear that ZWAI is primarily concerned with the very serious issue of discarded substances, materials and goods, whether from domestic, commercial or industrial sources, how these become "waste", and how such "waste" may be prevented by re-design along ecological principles. These same ecological principles can be applied to how we abstract and use water as a resource, to the volumes of wastewater produced as a consequence of these uses, to the way in which we generate, use and waste energy, and to climate change mitigation and adaptation strategies.

ZWAI is represented on the Irish Government's Water Forum (An Fóram Uisce) by one of our Directors; ZWAI is a member of the **Irish Environmental Network** (IEN), and is funded by the Department of Communications, Climate Action and the Environment through the IEN.

In 2019 ZWAI became a full member of the **European Environment Bureau** (EEB); and a member of the **Waste Working Group** of the EEB. Through the EEB, we contribute to the development of European Union policy on waste and the Circular Economy. In 2021, the EEB established a **Task Force on the Built Environment**; ZWAI is a member of this group, and we contribute to discussions on sustainability of construction materials, buildings and on the built environment.

3. ENERGY USE, ENERGY SECURITY, CLIMATE CHANGE, AGRICULTURAL FERTILISER USE, AND COMMUNITY-OWNED RENEWABLE ENERGY

From an energy security perspective, it is essential to note that the most recent data from the Environmental Protection Agency has shown that in the year 2021, greenhouse gas emissions rose rather than fell; and Ireland used a quarter of its first five-year carbon emissions budget in just one year. A significant proportion of these greenhouse gas emissions are generated not only by energy production and distribution as electricity, but by the energy used in transportation, heating and other purposes.

It is therefore imperative that we keep within the binding five-year carbon emissions budget for 2021-2025 (as adopted by the Dáil); and, even more critical, that Ireland succeeds in reducing greenhouse gas emissions by at least 50% by the year 2030. Reaching this target requires achieving a reduction in emissions by more than 8% per annum for the remainder of this decade.

If we had started on this greenhouse gas reduction pathway a decade ago; or, better still, two or three decades ago, the rapidity of the necessary reduction in emissions (the steepness of the downward slope) would not be as great, and measures could have been taken with less urgency. Unfortunately, it is now well past the time for such measures to be taken, in order to reduce emissions rapidly, and to meet the scale and the urgency of the challenge – and it is our submission that meeting this challenge requires significant reduction in energy demand.

If we compare the global response to the Covid-19 pandemic, we can see the problem more clearly. Following the identification of the SARS-CoV-2 virus, the global response to the emergency has been guided by international scientific and public health experts. Vaccines were developed, produced and delivered at a rate and scale not previously seen; the epidemiology of the virus was studied intensively, information was exchanged world-wide among scientists and medical experts; and, in Ireland, Government agencies provided advice about social distancing and hand hygiene, information about the virus was provided widely, public facilities and businesses were advised to close, large public gatherings were cancelled or postponed, and vaccines given freely to the population.

At the same time, funding was provided to mitigate the damaging effects that the Covid-19 pandemic and the measures to prevent its spread were having on the economy. These measures were considered to be necessary precautions, given the immediate threat of the virus; and, in most cases, the work done by Ireland's medical experts and personnel was widely praised, and (again with some exceptions) the Government was applauded for handling the crisis effectively.

In contrast, climate scientists, conservationists, and even the epidemiologists who have guided our response to Covid-19 have spent decades – sometimes their entire careers – trying to influence the political and public discourse to

recognise the dangers of rapidly accelerating climate change and the resulting biodiversity loss, while explaining that these crises raise very significant food and water security issues as well as public health concerns.

The slower onset of the linked climate, energy and biodiversity crises (compared to the rapidity of the Covid-19 pandemic) resulted in the implementation of mitigation and adaptation measures being postponed, argued against, and postponed again. It seems that some human societies and governments (especially in countries such as Ireland which are less dramatically affected) have normalised the incremental changes brought on by climate change and biodiversity loss. We barely notice now the silence that was once filled with the sound of our birds and other wildlife; while the loss of insect species is less noticed, but is a more serious long-term problem and threat to food supply.

As the dramatic effects of climate change in the form of large-scale wildfires and massive flooding in susceptible countries are becoming more widely reported, a willingness to act on the evidence-based advice of the scientific community remains largely absent. Government, local authorities and the media continue to recommend individual behavioural changes or relatively minor lifestyle changes as the correct responses to climate change; but this type of advice fails to point out that drastic and far-reaching changes in energy sources, energy demand and use, infrastructure, industry and the way we produce and use products, and our lifestyles, are urgently needed.

The effects of climate chaos are becoming “headline news”, from the record heat in Europe, the drought in the Horn of Africa, and the floods in Pakistan; these are clear signals of a climate changed future, in which those who have done least to cause the problems are hit hardest.

Western Europe's dependency on natural gas from the Russian Federation, and the threat of gas supplies being cut off or severely reduced, is a warning sign that all EU Member States, including Ireland, must relinquish our dependence on all fossil fuels, which should ultimately be kept in the ground. We are already witnessing how the increased cost of obtaining natural gas has resulted in higher prices for artificial fertiliser, leading to high cost of food, and ultimately threatening food security. Increasing our use of, and reliance on, natural gas as a temporary source of energy until countries can obtain all energy from renewable sources, is a policy fraught with danger; and we submit is one which Ireland should not follow.

The recovery of essential plant nutrients (nitrogen and phosphorus) lost through wastewater is also important when considering the need for synthetic fertilisers currently used in agriculture. Municipal wastewater treatment plants do not currently recover and recycle phosphorus and nitrogen for re-use in agriculture; and Zero Waste Alliance Ireland has consistently advocated that these vital substances should be conserved, recovered and re-used. The production of artificial fertilisers is a very energy-intensive process, with adverse effects on the climate; and therefore their replacement and curtailment of demand by a

transition to regenerative or organic agriculture would have positive climate and energy security consequences. It is therefore our submission that there is direct link between Ireland's energy demand and our use of artificial fertilisers; therefore, replacing these by naturally-produced plant nutrients (natural fertilisers) would have an energy security benefit.

ZWAI supports the energy review's assessment that Ireland needs to rapidly reduce its emissions to fulfil our decarbonisation goals; and, in order to meet our domestic and international climate commitments, Ireland must not permit the construction of new fossil-fuelled power generation facilities, which would dramatically increase Ireland's energy use. Instead, our energy security policy must urgently focus on sustainable options such as offshore and onshore wind, solar, energy efficiency, demand reduction and district heating (see section 5 below).

It is important for a revised or new energy security policy to include innovative solutions for upgrading the national electricity grid to permit a much more rapid growth and spread of community-owned and generated renewable energy. For example, it is our understanding that in Denmark slightly more than 50% of all wind-generated electricity is produced by community-owned windfarms and wind turbines; whereas in Ireland the wind industry is dominated by large corporate-owned windfarms, frequently located and constructed in the face of local residents' strong opposition. To our knowledge, we have only one community owned windfarm in Ireland (in County Tipperary with two turbines) and the community's intention to use the turbines' output to supply their homes and farms was inhibited by the lending bank's requirement that the windfarm should enter into a contract with a single large corporate user. This approach would be unheard of in Denmark.

4. ENERGY RELIABILITY, RESILIENCE AND ENERGY SECURITY

As quoted in section 1 above, from the Department's call for submissions:

"Ireland's energy system is going through a period of transformational change and as we transition to a net-zero emissions future we must ensure the pathway of decarbonisation is underpinned by affordability, and security in how we access and use energy in our everyday lives. Having a reliable source of energy is vital for consumers to have confidence in the transition to a net zero emissions future.

Energy is an essential part of life and a basic human need. As a society, having a continuous and stable supply of energy is extremely important".

Resilience should also be an important component of Ireland's energy security policy, and it appears that we have very little direct and practical means of achieving this necessary resilience.

The Department's call for submissions notes that, in March 2022, the European Commission proposed an outline plan to make Europe independent from Russian fossil fuels well before 2030, starting with gas, as a consequence of Russia's invasion of Ukraine. The plan also outlines a series of measures to respond to rising energy prices in Europe and to replenish gas stocks for next winter.

Revisions to the security of supply regulation to enable more effective gas storage have been agreed and will help to ensure a high level of gas storage at the beginning of the heating period in the EU to compensate for potential temporary shortages of gas supplies. However, instead of taking steps to provide the necessary storage for natural gas supplies (for example by using some of the depleted gas fields of the south coast, mentioned briefly in section 7.1 on page 42), Ireland sought and has been granted an exemption from the gas storage requirement, on the excuse that this country is not directly connected to another EU Member State. It is our submission that this "isolation" from the European gas grid should be a reason for Ireland providing its own gas storage, and not for requesting an exemption.

In this context, we may draw a comparison with the oil storage requirement which Ireland was able to provide, using the very large tank farm on Whiddy Island in Bantry Bay, together with the oil refinery tanks at Whitegate in Cork Harbour. Both of these facilities were given free of charge to the Irish government several decades ago, and were effectively managed by the Irish National Petroleum Corporation, and subsequently by the National Oil Reserves Agency (Nora). The outcome of this effective management was that both facilities were sold to United States companies, which in turn sold them to other companies, with the inevitable result that they are currently of no value to Ireland's strategic oil reserve or to Ireland's energy security.

ZWAI welcomes the REPowerEU Plan, published in May 2022, which focuses on saving energy, producing clean energy and diversifying the EU's energy supplies. This plan sets out a series of measures to rapidly reduce the EU's dependence on Russian fossil fuels and to accelerate the green transition, while increasing the resilience of the EU-wide energy system.

Addressing Ireland's "isolation" from the European electricity grid should be an important component of increasing our resilience and improving security of supply. The technical analysis (CEPA report) undertaken for the Department considered three planned electricity interconnectors, including:

- i) an increase in transfer capacity to 1,500 MW within Ireland, i.e., between the Republic of Ireland and Northern Ireland;

- ii) the 700 MW Celtic interconnector to France by 2030, which has already received approval, is financially supported by the Irish and French governments and by the EU, is in the advanced planning stage, and will be commissioned by 2030; and,
- iii) a proposed 500 MW interconnector to Britain by 2030.

While all of these three proposed interconnectors will have some benefit, it is our submission that the interconnector to France, thereby linking Ireland to the European electricity grid, will have the most benefit from a security and resilience perspective. It will increase the electricity transfer capacity between Ireland and France, and will provide an additional source of flexible electricity capacity. This electricity interconnector may further alleviate the potential for critical electricity unmet demand at times when there is a “shock scenario” (except of course when there is a correlated or similar shock event in neighbouring countries, thus reducing the likelihood of electricity imports over the interconnector during such a widespread shock event).

5. IRELAND'S ELECTRICITY DEMAND AND SUPPLY

Section 4.2 of the Department's call for submissions provides the following information which we consider underlines the need for more rapid transition to renewable energy sources, preferably sources which are under our control within Ireland or within Ireland's EEZ on our portion of Europe's continental shelf on the eastern margin of the Atlantic Ocean, and in the Irish Sea.

These serious concerns include:

- Ireland's electricity consumption growth rate has increased rapidly in recent years and is significantly higher than the EU average;
- Data centres are forecast to continue to grow by up to ~9 TWh in 2030 (~23% of total demand);
- Transport electricity demand is forecast to grow (~23% p.a.) as a result of fast uptake of EV charging; and,
- Electrical heating in industry will increase by more than 2.5 times in 2030 from 2017 levels.

It is important that these concerns are addressed in any revised energy security policy. For example:

- ✓ Ireland's electricity consumption per capita can be reduced by more efficient use of smart meters which are being installed currently in many thousands of homes; but it is our experience that householders are not

being appropriately advised about how to use smart meters in order to save electricity;

- ✓ The use of air-to-water heat pumps and ground-source heat pumps, while environmentally desirable, must necessarily increase household electricity use, and we have seen no data on the expected level of this increase;
- ✓ Building energy efficiency improvements from an extensive retrofit programme are expected to moderate the growth in electricity demand from new heat pumps in buildings, but these efficiency improvements need to be implemented more rapidly;
- ✓ We agree with the statement in the Department's document that *"future data centres need to deliver strong economic benefits, have sustainable energy plans, and demonstrate a willingness to promote Ireland's national decarbonisation objectives. The Decarbonisation section of this Government Statement highlights the undesirability of "Islanded" data centres that would be powered mainly by fossil fuels"* (section 5.2, page 27);
- ✓ In 2020, the Sustainable Energy Authority of Ireland (SEAI) reported that the most significant driver of Ireland's anticipated increase in energy demand is the expected growth of data centres, which can have demand levels comparable to those of large towns. Thus, the construction of new data centres is in direct opposition to Ireland's climate emissions reduction goals set out in the Climate Action Plan. This conclusion is confirmed in a recent study published by the International Institute for Sustainable Development (IISD) which reports a consensus view that increasing numbers of data centres are incompatible with the Paris Agreement's target of limiting global warming to 1.5°C;
- ✓ Reducing the electricity demand of transportation cannot be achieved by the introduction of electrically powered vehicles alone; table 1 on page 28 suggests a 50% reduction by 2030; and it is our submission that this requires very significant improvements nationwide in public transport, preferably by small electrically-powered minibuses serving rural areas, connected to a much improved and electrified rail service;
- ✓ Ireland's rail network has been drastically reduced (one might say, almost demolished or dismembered) in recent decades; and without some restoration of this network, and electrification of all rail lines, it will be difficult to achieve an energy-efficient transportation system. The EU has declared rail to be the most efficient form of transportation, especially between cities, and a few years ago a European year of rail was declared, but this appeared to have no effect in Ireland;
- ✓ Industries and housing need heat, but this is best supplied by combined heat and power systems serving district heating networks; these are

common throughout most northern European countries, resulting in a significant improvement in the efficiency of power generation facilities. In Ireland, none of our power stations supply excess heat to other industries or to adjoining towns, with the result that they operate at an extremely low thermal efficiency, even if their efficiency for the generation of electricity is regarded as acceptable;

- ✓ The failure of one (and possibly two) of our former peat-fired power stations to make provision for transition to renewable sources of fuel, for example, by burning rapidly-grown willow, is reprehensible; as a result of this failure, one of our major power stations was unable to secure planning permission for the next 20 years, and it is now *en route* to be decommissioned, with resulting loss to the security of Ireland's electricity supply. The power station operator appears to be blaming the agricultural community for failing to supply renewable fuel; the agricultural community is blaming the power station operator for refusing to accept fuel grown in willow plantations; while the chief culprit must be the government departments jointly responsible for failing to integrate agricultural and energy policies.

6. COMMUNITY OWNED RENEWABLE ENERGY

We have referred in section 3 above to Ireland's unique single community-owned windfarm, it is our submission that the reason for so few community-owned renewable energy sources in Ireland lies in the reluctance of Eirgrid and ESB Networks to allow connections from this type of small or micro-generation facility, together with the high charges made by Eirgrid and ESB Networks for seeking a connection, and for actually obtaining a connection.

It is our submission that the energy security review report fails to properly address opportunities for micro-generation at household and community levels. Ireland needs to support increased energy efficiency, solar PV and community owned renewable energy and storage, as energy security measures, along with much greater support for the EU initiatives on "renewable energy communities", run by cooperatives. Eirgrid and ESB Networks should be required to actively support micro-generation, and both of these state owned organisations should be asked to consider themselves as promoting and developing Ireland's infrastructure. Instead, if we follow what appears to be their policy, it seems that they regard micro-generators as competitors in the field, competing with large company-owned power generation facilities. Even if this may not be the case, the impression is strong that dealing with Eirgrid and ESB Networks is extremely difficult and time-consuming.

It is our submission that communities must be resourced, facilitated and empowered to be involved in co-creating energy security in Ireland.

7. CONCLUDING REMARKS

Past and present Irish Government policies have proven to be inadequate for addressing the country's energy security; and, while this may be understandable in previous decades when electrical energy was not such a key element in every part of our economy and our lives, we are now in a serious energy crisis, and it is essential to implement necessary rapid and appropriately targeted actions.

Ireland's energy security and resilience policy, including the supply of electricity and natural gas, must be free of distortions caused by sectoral interests, or by influential industrial lobbying, and must not be influenced by individuals or organisations who deny the urgency needed for action to ensure energy security and resilience.

Ireland's energy security and resilience policy must also take into account climate change, and must be closely linked with the country's climate action plan, and with the urgent requirement to eliminate or dependence on any form of fossil fuel. Even though Ireland may be less detrimentally affected than many other countries, the damaging effects of climate change are being felt globally, and will have repercussions in Ireland.

Actions at individual levels, and at community level, and in each village, town, city and rural townland are important; and therefore the raising of peoples' awareness of the need to reduce energy use (including electricity demand) must be a key element of Ireland's energy security. The same time, great care should be taken to ensure that vulnerable groups have access to electricity (and other forms of energy) at a reasonable cost; *"no one should be left behind"*.



Jack O'Sullivan

Zero Waste Alliance Ireland

This submission was researched and written by Jack O'Sullivan (ZWAI founder member, Director and environmental scientist).

28 October 2022