

# Energy Security and Sustainability Review

## Terms of Reference by Stop Climate Chaos



### Background to Energy Security Review

In November 2019 Minister Bruton [announced](#) a review into the security and sustainability of Ireland's energy supply as Ireland moves towards 70% renewables in electricity generation. Due to the January election, and the Covid-19 public health crisis, it is not clear what stage this procurement process is currently at.

Stop Climate Chaos (SCC) believes that this review represents a pivotal moment in Irish energy policy. Carried out in a truly independent manner, based on evidence and best practice, the review should provide the basis for future-proofed decisions on the Irish fuel mix that will 'keep the lights on' as Ireland decarbonises its energy system. The review should set out exactly what role there will be for fossil fuels in the energy mix as Ireland moves towards net zero emissions by at the latest 2050.

However, there is a risk of using energy security as a ruse to satisfy incumbent energy industries and to continue investment in new fossil gas infrastructure, including imported LNG. SCC believes that it is essential therefore that the review is conducted in a manner which will assist Ireland in fully decarbonising the energy system without relying on speculative negative emissions technology, imports of LNG or excessive biogas. Instead the review should show how Ireland should maximise our renewable energy resources, the use of interconnections, energy efficiency, storage and smart technologies to ensure grid stability and security of supply.

SCC would like to see a broad public consultation and all-party support for a review which will set the energy policy agenda for Ireland for the coming decades. To illustrate what we think an evidence-based review should look like, we have commissioned our own Terms of Reference that reflect these over-riding priorities. This work is supported by a detailed, [background technical analysis](#) which sets out the rationale underpinning the key priorities established in the Terms of Reference.

We urge policymakers to ensure that the energy security review reflects the twin priorities of achieving the goals of the Paris Agreement and maximising the sustainability of Ireland's energy system to ensure that our energy supply is secure into the future.

## 1 Review Methodology

**To undertake an impartial and transparent assessment of Ireland's energy security and sustainability through an independent steering group appointed to lead the energy security and sustainability review, commission relevant technical analysis and public consultation. This group should oversee the integrity and objectivity of the review process.**

### - Membership

The Steering Group will consist of representatives of Transmission System Operators for gas and electricity, the SEAI, the EPA, the Commission for Regulation of Utilities, the Climate Change Advisory Council, the UCC MaREI Centre, the Environmental Pillar and other academic experts as required with experience in climate mitigation, adaptation, renewable emerging technologies in other jurisdictions.

### - Operation

The Steering Group will operate for an initial term of 6 months. The Department of Communications, Climate Steering and Environment will provide secretarial support to the group.

### - Legal and Policy Framework

The Steering Group will take account of existing and forthcoming national and EU obligations and objectives relating to both energy security and decarbonisation.

### - Transparency

The Steering Group will adopt an open and transparent approach at all times and carry out its assessment based on a published work programme to be prepared by the Steering Group in conjunction with the Department.

The Steering Group will prepare a public consultation paper within 6 weeks of its instigation based on technical analysis. External experts may be invited to attend meetings for the purpose of providing input to analysis. Steering Group meetings will be held as and when required. Minutes of Steering Group meetings will be circulated to members within 5 working days of each meeting and subsequently published on the Departments website.

### - Conflicts of Interest

If members of the Steering Group are potentially conflicted on a specific issue (for example natural gas investment) they will make such conflicts of interest known to the

Minister and the other members of the Steering Group and recuse themselves in discussions related to relevant recommendations to the Minister.

- Technical

Technical analysis will be provided by independent consultants appointed by the Minister. The technical analysis will include appraisal of the areas and questions detailed below. The Steering Group will oversee the technical analysis including providing guidance on achieving milestones set out in the work programme and providing necessary guidance, information and data to the independent consultants. The Steering Group will review and evaluate the technical analysis as it advances, including assumptions, evidence and conclusions.

- Concluding Report

The Steering Group will prepare a report to the Minister based on the technical analysis. This will include recommendations to the Minister on each of the areas set out below in order to inform policy decisions of the Department. This report will be published on the Department's website.

## 2 Scope and Objectives

**To examine and make recommendations on how Ireland as an isolated grid with declining indigenous fossil fuel resources achieve full decarbonisation by 2050 at the latest and remain energy secure?**

### Questions

- 2.1 How can the security of the state's whole energy system [Total Primary Energy Requirement] be enhanced whilst meeting the objectives of the Paris Agreement and mitigation obligations at national and EU level?
- 2.2 How should the increased penetration of renewables in power generation, in particular offshore wind, be planned in the short (i.e. by 2025) and medium term (i.e. by 2030-35) to improve long-term energy security?
- 2.3 To what extent could additional measures to reduce energy demand in industry and heat provide additional security while also reducing emissions?
- 2.4 How should enhanced energy efficiency and zero-carbon transport measures be designed so as to improve Ireland's energy security and sustainability alongside mitigation?

### 3 Power Sector Infrastructure and Renewable Sources

**To examine and make recommendations regarding additional energy storage, distribution and interconnection infrastructure that will be required to ensure Ireland is energy secure as we move towards 100% renewable electricity, and decarbonisation of all other sectors?**

#### **Questions**

- 3.1 What, if any, are the primary obstacles to new renewable infrastructure and associated grid improvements?
- 3.2 What level of new storage technology and infrastructure (pumped storage, battery, electric vehicles) should be integrated into the grid to improve security as Ireland moves to 70% renewable electricity by 2030 and 100% renewables by 2050 at the latest?
- 3.3 How should system imbalances associated with wind variability be corrected by battery technology, hydrogen and synthetic fuels, storage, improved energy efficiency and demand-side measures?
- 3.4 What is the role of microgeneration and demand side responses, in particular for domestic customers, in balancing the grid?
- 3.5 To what extent is further interconnection required beyond 2030 to ensure Ireland can achieve 100% electricity from renewable sources? Are planning, policy and decision-making processes adequate to facilitate such developments over the coming decades?
- 3.6 To what extent is a reliance by the gas sector upon Carbon Capture Storage and negative emissions technologies consistent with the near-term mitigation obligations of natural gas generators and heavy industry?
- 3.7 What risks would the development of a Carbon Capture and Storage facility pose to rapid near term decarbonisation (including compression, transportation, long-term storage and potential carbon leakage)?
- 3.8 To what extent is the decarbonisation benefit of Carbon Capture Storage related to or limited by the location and geological characteristic of storage sites?

### 4 Natural Gas Phase Out

**To examine and make recommendations on how to manage a phase-out of natural gas in order to avoid stranded assets while ensuring security of gas supply and preventing further carbon lock-in along with supply disruption.**

## **Questions**

### **4.1 Natural Gas Supply and Assets**

- 4.1.1 What planning and regulatory measures are in place to ensure that exploration for and development of new offshore gas sources do not create gas lock-in and conflict with Ireland's decarbonisation commitments?
- 4.1.2 How have other states that mandated a full or partial phase out of fossil fuel exploration in their territorial waters dealt with energy security considerations?
- 4.1.3 To what extent does the twinned interconnector system to Moffat meet system demand and ensure security of gas supply in the medium term, including in the event of an early phase out of Corrib supplies?
- 4.1.4 What direct emissions are associated with the development, operation and phase out of the Corrib gas field and/or typically associated offshore gas fields?
- 4.1.5 To what extent is the security and sustainability of the power sector undermined by growing gas demand, as well as increasing reliance on gas-fired electricity generation for system stability?
- 4.1.6 What security and sustainability risks arise in the context of converting the Moneypoint power station to natural gas?
- 4.1.7 What are the costs and benefits of retaining Moneypoint in its current configuration as a facility for emergency response purposes?

### **4.2 Stranded Asset Risk**

- 4.2.1 How are stranded asset risks currently identified by the State and the gas network operators?
- 4.2.2 To what extent does possible stranding of state energy assets in the context of decarbonisation pathways pose a risk to energy security?
- 4.2.3 To what extent does the prospect of additional gas supplies either in LNG or natural gas form and related infrastructure add to the potential for stranded assets?
- 4.2.4 Which parts of the gas system are the most fundamental to energy security and which are most vulnerable to stranding risk?
- 4.2.5 To what extent should the consumer and/or the state meet costs arising from the maintenance of gas-fired generation and transmission, as opposed to allowing for write-down/devaluation?

- 4.2.6 What additional or increased emissions arise as a result of preventing write-down of natural gas assets and/or expanding the gas network?
- 4.2.7 To what extent do the Commission for Regulation of Utilities and Ervia have regard to the risk of stranded gas infrastructure in the context of mitigation obligations and as part of their monitoring?

### **4.3 Role of Biogas**

- 4.3.1 How should biogas injection into the gas network be managed to avoid natural gas lock-in by maintaining (or expanding) gas demand?
- 4.3.2 To what extent do GNI proposed investments in biogas constitute a sustainable and cost-effective mitigation measure, in comparison with (e.g.) electrification, storage and energy efficiency?
- 4.3.3 To what extent may biogas assist in meeting local and in situ demand for gas taking into account potential challenges in its development and collection?
- 4.3.4 Will the environmental risks and emissions impacts of biogas development from anaerobic digestion be adequately assessed under EU directives, including risk of methane leakage and additional use of nitrogen fertiliser?

### **4.4 Impact of Liquefied Natural Gas**

- 4.4.1 What additional security may be provided by the construction of a new LNG import terminal – i.e. over and above other energy supply measures e.g. interconnection and/or renewables sources?
- 4.4.2 Will the upstream emissions associated with LNG terminals assessed under the planning and approval process, including the likelihood of LNG emanating from hydraulic fracturing sites in the US?
- 4.4.3 What are the geopolitical risks associated with allowing US energy companies to develop LNG terminals in Ireland?
- 4.4.4 What is the risk of stranded LNG assets in GNI onshore transmission network and interconnector systems and how are these assessed?
- 4.4.5 To what extent is the addition of new LNG supplies under the PCI process consistent with GNI's commitment to decarbonise the gas system (through biogas, hydrogen and CCS) by 2050?
- 4.4.6 To what extent would reinforcement of and expansion of the gas transmission network be required as a result of new LNG facilities in Shannon and/or Cork harbour?

## 5 Other Challenges and Risks

**To examine the primary risks and challenges for Ireland's energy security and sustainability in the short, medium and long-term and how relevant state actors should respond accordingly.**

### Questions

#### **5.1 Functions and Mandates**

- 5.1.1 In light of the above assessments, how should government policy be revised to give improved guidance to relevant state actors on matters of energy security?
- 5.1.2 In light of the above assessments, how should the mandates of relevant government bodies and semi-states be updated?
- 5.1.3 To what extent are semi state companies and network operators legally obliged to consider energy security requirements alongside their decarbonisation and mitigation obligations?
- 5.1.4 How are potential conflict of interests addressed, particularly regarding making information transparent and public, and such as recommendations submitted by such bodies in response to this review?

#### **5.2 UK Security of Supply and Brexit**

- 5.2.1 Given that Ireland and UK energy security are interlinked, what are the latest assessments of UK energy security? Is it the case that increasing UK gas imports should necessarily be considered to have definitive negative security implications for Ireland?
- 5.2.2 Are there any circumstances in which the UK's exit from the EU poses a direct risk to the availability of gas/electricity supplies and relevant interconnector infrastructure? What is the likelihood of this risk occurring?

#### **5.3 Data Centre Demand**

- 5.3.1 To what extent do new data centres risk steep increases in electricity demand and resultant carbon 'lock-in' and thus prevent decarbonisation of other sectors?
- 5.3.2 To what extent may the increased number of data centres envisaged by government policy require significant electricity and/or gas network reinforcement?
- 5.3.3 Given data centre energy demand, to what extent may this involve increased gas demand and/or possible expansion of the gas network?

- 5.3.4 How can such facilities ensure their operations are carbon neutral without eroding the rest of the system's capacity to move towards 100% renewable sources and driving up costs for other customers?
- 5.3.5 Can data centres contribute to local energy security in the context of more localised distributed generation and microgeneration?

#### **5.4 Climate Impacts and Emergency Arrangements**

- 5.4.1 Are existing monitoring and emergency response arrangements in the gas and electricity systems adequate?
- 5.4.2 Has a risk assessment been carried out into the impact of increasing sea level rise and extreme weather events on Ireland's offshore gas infrastructure?

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