



Irish Offshore Operators' Association

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Executive Summary

Implementing the measures proposed in the Petroleum and Other Minerals Development (Amendment) (Climate Emergency Measures Bill) 2018 to ban the granting of any further licences, undertakings or leases offshore Ireland as drafted would have no positive impact on Irish or global climatic conditions and would be highly detrimental to Ireland's economic development. It would:

- lead to an increased dependence on imported oil and gas;
- threaten the security of Ireland's energy supply;
- negatively impact job-creating opportunities in rural and maritime parts of the country;
- lead to a loss of opportunity to capitalise on the current exploration momentum that has the potential to lead to increased foreign direct investment by global industry leaders and the growth of indigenous companies;
- damage business and industry confidence in Ireland;
- result in the loss of a significant revenue stream that could be used to support the infrastructural development needed in the energy transition, and
- lead to an increase in greenhouse gas emissions due to the higher emissions of imported energy.

We need to find and produce our own oil and gas resources to mitigate the impact of the reliance on imported oil and gas, with Ireland importing 100% of our oil and almost 40% of our gas requirements (Appendix 1).

At a time when the exploration outlook has never been more positive on the back of recent investment by global industry leaders, by adopting this Bill as drafted Ireland would be forgoing the opportunity for energy independence, embarking on a policy that would make us increasingly isolated from our European neighbours and dependent upon distant and politically less stable countries to supply a significant proportion of our energy for the foreseeable future. While IOOA shares the view that we need to transition to a low-carbon future, we believe that there are much better ways in which to do so, without the risks inherent in this Bill.

Introduction

The Irish Offshore Operators' Association (IOOA) welcomes the opportunity to present our views in the context of the Committee's examination of the Petroleum and Other Minerals (Amendment) (Climate Emergency Measures) Bill 2018. Members of the Committee have been circulated with our initial submission, dated 14th June 2018. This more detailed presentation builds upon the submission, and highlights key points that are pertinent to the discussion on the Bill.

IOOA is the representative organisation for the Irish offshore oil and gas exploration and production industry. Our 14 members are a mix of large, medium and small Irish and international companies. Our members have a long history of investment in Irish offshore oil and gas exploration and development, having spent in excess of €3 billion in exploration alone, with no financial risk or exposure to the State. Our members have delivered four gas fields, which have helped the Irish economy, Irish citizens and industry in a transformative way by providing the security of affordable energy supply.

Global and national background

The world's energy demand is predicted to grow by approximately 30% between now and 2040. Oil and gas will remain the most important energy sources globally throughout that time.

The world's energy demand is predicted to grow by approximately 30% between now and 2040¹. Oil and gas currently provide more than half (57%) of the world's energy with recent forecasts indicating that by 2040 oil, gas, coal and non-fossil fuels (hydro, nuclear, renewables) will each contribute around 25% of the world's energy. Globally, fossil fuels (oil, gas, coal) provide 86% of primary energy, with renewables providing less than 4%. Most likely energy scenarios show global energy demand rising faster than the growth of renewables supply,

In Ireland, fossil fuels account for 92% of our primary energy requirements, of which almost 71% is imported² (Appendix 1). From 2015 to 2016, gas demand rose by 10% with gas now supplying more than 26,000 businesses and almost 654,000 homes throughout Ireland³.

Gas is an efficient fuel and gas-fired power plants are the most environmentally friendly thermal plant, producing substantially lower emissions than coal, peat or oil-fired plants. Gas is also a vital backstop for renewable energy sources and a growing part of the current and future energy mix. Currently approximately 55% of Ireland's gas requirements are supplied by the Corrib gas field which resulted in our annual energy import bill dropping from €4.6 billion to €3.4 billion in 2016². Comparatively, approximately 8% of Ireland's energy requirements are met from renewable sources². While growth in renewable energy is significant, other energy sources, particularly gas, will be required in Ireland and all developed countries that value energy security and supply reliability during the coming decades to provide the necessary baseload backup for intermittent renewable energy sources such as wind and solar.

Energy Security

Ireland is vulnerable to an interruption on energy supplies. Banning exploration would significantly increase energy isolation and insecurity.

Our geographical location at the edge of Europe makes Ireland extremely vulnerable to potential interruptions in energy supplies. This risk has been heightened in recent times by political instability and increasing uncertainty in both the Middle East and Russia, and by Brexit.

Europe imports 75% of its oil and 50% of its gas requirements⁴. 33% of Europe's gas comes from Russia⁵. The UK, through which Ireland imports almost half our current gas requirements, imports more than 1 million barrels of oil equivalent per day to meet its needs, and UK energy import dependency, currently at 36%, is anticipated to reach 55% by 2030.

Although a new Celtic electricity interconnector is currently being considered, Ireland currently has no direct link to mainland Europe gas or power networks. This poses a significant risk to our energy security in the event of gas interruptions – likely to be further increased when the UK is no longer a member of the EU. During the recent cold spell in early 2018 (Storm Emma), the UK, our only external source of natural gas via the gas interconnector, came close to being unable to meet its own gas demands.

Until recently, the Kinsale Head gas field stored some strategic gas supplies (capacity of 230 million cubic metres). This facility will be decommissioned soon, further increasing the exposure to supply

¹ *World Energy Outlook 2017*. International Energy Agency. <https://www.iea.org/weo2017/>

² *Energy in Ireland 1990-2016. 2017 Report*. Sustainable Energy Authority of Ireland (SEAI). 88 pp. <https://www.seai.ie/resources/publications/Energy-in-Ireland-1990-2016-Full-report.pdf>

³ Gas Networks Ireland. *Systems Performance Report 2016*. 72 pp. https://www.gasnetworks.ie/corporate/gas-regulation/system-operator/publications/GNI_Performance-Reports_Systems_2016_Final.pdf

⁴ IOGP Global Production Report 2018. International Association of Oil & Gas Producers . 33 pp. <https://www.iogp.org>. 33 pp.

⁵ <https://www.britishgas.co.uk/the-source/our-world-of-energy/energys-grand-journey/where-does-uk-gas-come-from>

interruptions. Ireland will then not hold any contingency gas reserves. This further highlights the need for an active exploration sector to provide indigenous supplies.

The cost to the country of losing one day of gas-fired electricity in Ireland is predicted to be in the range €0.1-1.0 billion, depending on the timing and the rationing scheme used⁶. The cost of losing three months of gas-fired power could be as high as €80 billion or 50% of GDP. Losing natural gas for heating for three months is predicted to add another (on average) €8 billion cost to the economy. Interruption of Russian gas supply to the EU could lead to a rise in average gas prices of 28% and 12% in electricity prices⁷.

Gas from the Corrib field currently provides a significant element of protection against interruption to imported gas supplies but a replacement will be required in the coming years as it depletes. Ireland's offshore acreage, through continuing exploration activity, has the potential to enhance Ireland's energy security, providing affordable energy and very significant economic benefits to Ireland, while playing an important role in the transition to a lower carbon future.

Contribution to the Economy

Offshore exploration and development has benefitted local and national economies, delivering important employment opportunities and development in coastal regions. Banning exploration would damage business confidence and lose the opportunity for further such developments.

The Irish natural gas has transformed the energy and economic landscape, being the catalyst for the national gas grid, and having considerable downstream impacts in terms of jobs and value add-ons to regional economies. Kinsale Energy spends around €30 million annually in the local Cork economy. From 2006 to 2015, and throughout the worst period of the recession in Ireland, the Corrib Gas project sustained more than 1,000 full-time jobs through the construction phase. Over €1 billion was spent directly with Irish companies (in excess of 300 Irish contracting companies) during the project. There are 150 direct long-term jobs, not including indirect employment, in Erris for the life of the field. Ten towns in Co. Mayo and Co. Galway have already been connected to the national gas grid as a result of the Corrib project. Local infrastructure has been upgraded with over €21 million invested in roads in north Mayo. The Corrib project is estimated to contribute €6 billion to Ireland's GDP over its lifecycle.

Significant benefits accrue to the local economy from offshore exploration. In 2011, as a result of offshore drilling, in excess of €3 million was generated in business-related activity in Donegal. Oil and gas exploration and development in the Irish offshore provides significant opportunities to Irish-based companies to benefit and grow their business and to expand their operations internationally.

Looking to the future, Ireland has delivered four commercial discoveries, but the recent and current outlook for exploration is very positive. New entrants, including global energy industry leaders, as well as existing international and Irish companies, are investing significant resources in data acquisition. These new data, together with new ideas driven by the vibrant geoscience research sector in Ireland, have led to increased prospectivity in offshore Ireland that is reflected by the recent conversion of Licence Options to Frontier Exploration Licences. This, along with rising oil prices, is likely to result in an increase in drilling activity of the coming few years.

Under the new fiscal regime introduced in 2014 this renewed phase of oil and gas exploration and development has the potential to enhance Ireland's economic development underpinned by security of affordable energy. Direct tax revenue have been estimated in the range €4.5-16 Bn per commercial discovery, with significant additional employment especially in the development phase⁸. Exploration

⁶ Leahy, E., Devitt, C., Lyons, S. and Tol, S.R.J. 2010. The cost of natural gas shortages in Ireland. ESRI Working Paper No. 397, 38pp. <https://www.esri.ie/publications/the-cost-of-natural-gas-shortages-in-ireland/>

⁷ Deane, J.P., Ó Ciaráin, M. and Ó Gallachóir, B.P., 2017. An integrated gas and electricity model of the EU energy system to examine supply interruptions. *Applied Energy*, **193**, 479-490.

⁸ PwC 2013. Oil and gas exploration in Ireland: Making the most of our natural resources. 83 pp.

and development can bring substantial benefits in terms of foreign direct investment, jobs and income to coastal regions away from the main urban centres.

The energy transition

Gas will play an integral role in Ireland's transition to a low carbon economy. It is essential for Ireland to identify the appropriate energy mix that will guarantee reliability, security and affordability, and ensure that it remains competitive in the transition period. Banning exploration would significantly inhibit this transition.

The global climate challenge can only be met realistically and effectively through the implementation of a planned transition to lower carbon involving the collaboration of governments, industry, communities and individual citizens. Technological-leading countries, in particular, must work with the developing world to support efforts to move to more efficient forms of energy with lower CO₂ emissions. Such actions in the developing world, where most of the energy growth and greenhouse gas emissions will occur in the coming years, are critical to making a real difference in lowering emissions. The transition also needs the deployment, at scale, of innovative technologies such as Carbon Capture and Storage (CCS) and the implementation of fiscal tools such as carbon pricing mechanisms.

Many of the renewable energy forms are at an early stage of development (e.g., wave energy), and some are inherently intermittent, and therefore need to be supplemented by more reliable energy forms such as gas and oil. There is a requirement for a combination of the replacement of high GHG-emitting fossil fuels, such as coal, with a range of renewable energy forms, including solar, wind, geothermal and biomass energy, together with the deployment of technologies to capture GHG (greenhouse gas) emissions on a large scale to enable the continued use of cleaner forms of fossil fuels (e.g., gas) over a considerable transition period. Natural gas, in particular, will play a major role in substituting for other higher greenhouse gas-emitting energy forms, while oil will continue to be important in the medium term for international transport in particular (e.g., aviation and shipping) as well as non-burning uses such as petrochemical and other feedstocks and lubricants.

It is essential for Ireland, with a small and relatively isolated energy system, to identify the appropriate energy mix that will guarantee reliability, security and affordability, and ensure that it remains competitive in the transition period. The energy transition requires a coherent and realistic strategy that will ensure energy security and affordability while minimising damage to the economy or society. The transition, which needs to be fully costed and carefully planned, will involve the increasing growth of renewable forms of energy while hydrocarbons (oil and natural gas) will continue to play a key role in terms of security of affordable energy supply, in addition to providing the necessary base load backup for intermittent renewable energy sources such as wind and solar.

The potential for indigenous oil and gas is consistent with government policy as articulated in published strategy documents. These include Project Ireland 2040 National Development Plan 2018-2027⁹, Harvesting Our Ocean Wealth – An Integrated Marine Plan for Ireland (2012)¹⁰, National Marine Research and Innovation Strategy 2017-2021¹¹, while the Energy White Paper (2015)¹² acknowledges that *"Ireland's indigenous oil and gas resources has the potential to deliver significant and sustained benefits, particularly in terms of enhanced security of supply, import substitution, fiscal return, national and local economic development and technology learning."*

The oil and gas industry can play a key role in Ireland's transition to a low carbon economy. This can be done by exploring for, and developing, in a safe and environmentally-responsible manner, indigenous offshore gas and oil, and also by utilising the expertise, innovative ideas and technologies

⁹ Project Ireland 2040 National Development Plan 2018-2027. <http://www.gov.ie/en/project-ireland-2040>

¹⁰ <https://www.ouroceanwealth.ie/publications>

¹¹ <https://www.marine.ie/Home/site-area/research-funding/national-marine-research-strategy/national-marine-research-innovation>

¹² Energy White Paper. 2015. Ireland's Transition to a Low Carbon Energy Future, 2015-2030. Department of Communications, Energy and Natural Resources. <http://www.dcca.gov.ie/documents/Energy%20White%20Paper%20-%20Dec%202015.pdf>

being pioneered by the oil and gas industry. Partnering the oil and gas industry with the developing renewables industry (in which major oil and gas companies are increasingly involved) through natural synergies will help realise the transition to a better and more sustainable energy future. Many oil and gas producing companies are rapidly transitioning to energy companies and are pioneering renewable energy development and deployment including offshore floating wind development and solar energy.

Greenhouse gas emissions

Banning exploration will do nothing to lower greenhouse gas emissions. Instead it will increase emissions due to the need to import oil and gas from other countries, mostly outside the EU.

Ireland produces approximately 1.4% of EU emissions¹³. The largest contribution of Ireland's emissions (33%) comes from the agriculture sector, with the transport sector at 19.8%, the energy industries sector at 19.7% and the residential sector at 10.1%⁷. It is important to consider, with any proposals, what the emissions impact will be. IOOA would proffer that the importation of substitute fuel replacements in the future would lead to an increase in greenhouse gas emissions.

The suggestion that over 80% of all fossil fuels must be left in the ground in order to meet the Paris Agreement target is false. The peer-reviewed scientific paper¹⁴ that is referenced in this debate actually stated "*Our results suggest that, globally, a third of oil reserves, half of gas reserves and over 80 per cent of current coal reserves should remain unused from 2010 to 2050 in order to meet the target of 2°C*". The misquoting of the 80% figure as pertaining to all fossil fuels (and sometimes for oil and gas), instead of just coal reserves, is misleading and damaging to a constructive dialogue on Ireland's plans for a sustainable low-carbon transition.

Indigenous oil and gas offer significant advantages over imported sources. In addition to the obvious economic savings and the enhanced energy security (both of which are important for economic wellbeing and prosperity), there are also environmental advantages. Indigenous and European oil and gas emit 30% less CO₂ than oil and gas imported from outside Europe largely due to a combination of improved production efficiency and lower transport energy¹⁵. Substituting such imports with indigenous supplies can make significant emissions reductions.

Conclusion

IOOA agrees that the future energy outlook requires a transition to a lower carbon economy. In the interim, oil and particularly gas will play a crucial role. As Ireland's indigenous supplies dwindle, it does not make sense to propose limiting opportunities to secure future supply, which is a real prospect given the investment and take-up of licensing options by global energy companies.

The Bill as drafted, if enacted, will do nothing to meet Ireland's emissions targets, and will serve only to increase global emissions due to increased importation of oil and gas from other countries outside the EU.

Instead of banning Irish offshore exploration Ireland should be seeking to replace imported oil and gas with indigenous offshore resources to provide cleaner, affordable and secure energy.

¹³ http://ec.europa.eu/eurostat/statistics-explained/index.php/Greenhouse_gas_emission_statistics

¹⁴ McGlade, C. & Ekins, P. 2017. The geographical distribution of fossil fuels unused when limiting global warming to 2°C. *Nature*, **516**, 197-190. doi:10.1038/nature14016.

¹⁵ IOGP Report 2016e. Environmental performance indicators -2016 data. International Association of Oil & Gas Producers. November 2017. 83 pp. <https://www.iogp.org>

Appendix 1

Key Energy Statistics for Ireland

Based on SEAI Energy in Ireland 1990-2016 Report (2017)

Major USES for primary energy (%)

Heating	32.5%
Electricity	33.5%
Transport	34.0%

Major SOURCES for primary energy

Oil	48.0%	100% imported
Gas	29.4%	45% imported
Coal	9.5%	100% imported
Peat	5.1%	n/a
Renewables	8.0%	n/a

Fossil fuels account for 92% of Ireland's primary energy requirements of which almost 71% is imported

Energy Use by Sector: ELECTRICITY

Gas	48.5%
Coal	22.9%
Peat	10.8%
Oil	1.7%
Renewables	15.6%
Wastes	0.5%

Fossil fuels account for 84% of Ireland's energy consumption for electricity generation

Energy Use by Sector: HEATING

Oil	42.5%
Gas	40.3%
Peat	4.6%
Renewables	6.2%

Fossil fuels account for just over 93% of Ireland's heating requirements

Energy Use by Sector: TRANSPORT

Oil	97.5%
Renewables	2.4%
Electricity	0.1%

Fossil fuels account for almost 98% of Ireland's transport requirements