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The Economic and Social Research Institute
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Open letter

Liquefied Natural Gas (LNG) valuation ignores recent science, decarbonization obligations and economic consequences of the climate costs due to inaction

Dear Sir or Madam,

it was very disappointing to read about the recent ESRI report which states that importing fracked liquefied natural gas (LNG) or developing a storage facility could reduce gas prices in future.[1] The illuminating line was that "The ESRI research doesn't focus on environmental questions surrounding LNG".

The ERSI Liquefied Natural Gas Valuation research bulletin builds its assumption on this central perspective "*due to its versatility and environmental advantages relative to more polluting coal and oil, natural gas contributes towards policy objectives that target environment quality and sustainable development*."[2]

However, that is fundamentally wrong and it is shocking to learn that an institution such as ESRI is not willing to pay attention to the amount of existing crucial scientific evidence that proves the significant negative climate role of gas (in particular fracked gas) and the economic consequences related to the need to fully decarbonize our economy by 2050!

Fossil gas is just another fossil fuel that we need to phase-out within the next 10 to 30 years - if we want to avoid overshooting significant climate tipping-points. It is true that gas - when burned - is somewhat "less dirty" than coal. However, this does not take into account full life-cycle emissions of gas - in

[1] https://www.irishexaminer.com/breakingnews/business/lng-facilities-at-shannon-and-co-antrim-would-cut-irish-energy-bills-esri-908678.html
[2] https://www.esri.ie/system/files/publications/RB201908.pdf

particular LNG. The scientific evidence shows that methane emissions from gas extraction in general and from shale gas in particular are a significant driver of global warming and hence climate change.[3]

In a talk titled, "The Role of Shale Gas Development in the Methane Cycle: New Insights from 13C and 14C Data," Robert Howarth, PhD, Cornell University, Ithaca, NY, USA, recently concluded that the global increase in methane over the last 10 years is largely driven by the oil/gas industry. His updated estimate for average, full-cycle methane leakage rate from natural gas operations (fracked and non-fracked) is 4.1%.[4] This makes gas even dirtier than coal.

The 2018 "Jordan Cove LNG and Pacific Connector Pipeline Greenhouse Gas Emissions" briefing provides an estimate of the full lifecycle emissions of the project, calculating a reference and high case estimate using the best available information. It finds that the project "*would add significantly to greenhouse gas emissions both globally and within the state of Oregon. Annual emissions in the Reference Case are 36.8 million metric tons. This is equivalent to over 15 times the 2016 emissions from Oregon's only remaining coal plant, the Boardman coal plant, which is scheduled to close in 2020 because of climate and air pollution concerns. Emissions in the high case are 52 million metric tons annually*."[5]

LNG is a very capital and energy intensive industry. There is also an operational expense and a shipping expense. On top of that the process is complicated and requires up to 25% of the energy content of the gas - making it therefore a risky bet for a country that counts on gas at a time when we need to get completely off fossil fuels.[6] Wind and solar are now cheaper than coal and fossil gas in many regions. This means new fossil gas capacity often displaces new wind and solar rather than old coal.[7]

New gas infrastructure has a significant economic lifespan (usually between 30 and 40 years) that goes beyond the point when we'd need to fully decarbonize. The construction of any new fossil fuel infrastructure therefore contributes to increasing the risk of missing the EU 2050 climate objective and Paris Agreement targets by creating a "lock in" effect to high levels of gas consumption.

All existing EU LNG terminals have an extremely low utilization rate of under 25%.[8] Any new LNG terminal that is going online is very likely to become a stranded asset.

[3] http://www.eeb.cornell.edu/howarth/summaries_CH4.php

[4] https://www.youtube.com/watch?v=1NPuYr1LGMI

[5] http://priceofoil.org/2018/01/11/jordan-cove-lng-and-pacific-connector-pipeline-greenhouse-gas-emissions/

[6] https://www.oiltanking.com/en/news-info/glossary/details/term/lng-liquefied-natural-gas.html

[7] http://priceofoil.org/content/uploads/2018/06/debunked_g20_eng_07_web.pdf

[8] https://www.foodandwatereurope.org/wp-content/uploads/2018/03/FoodandWaterEuropeBlog_LNG-utilization-ratesChart.pdf. New data (with numbers until March 2019) will be uploaded soon.

A 2018 study, commissioned by the EU COM, on "The role of Trans-European gas infrastructure in the light of the 2050 decarbonisation targets"[9] concludes that "*the utilisation level of LNG terminals and import pipelines would significantly decrease, and some assets might need to be decommissioned or used for other purposes*". Referring to Ireland it says that "*capital expenditures will in the future be more focused on replacement rather than on expansion of the network*" and that "*the risk for stranded gas assets is in Ireland limited as it does not have LNG terminals or gas storage facilities*"

All the political attention and public financial support LNG projects receive go to the expense of sustainable and low-carbon solutions - with dire consequences for our climate and our economies.

The 2018 COACCH (Co-Designing the Assessment of Climate Change Costs) study outlines the hundreds of billions of Euros per year that represent the economic costs of climate change in Europe in different scenarios for different sectors. Their review indicates that the costs of inaction will be potentially large in Europe.[10]

In order to reduce the economic costs of climate change, bigger attention must be paid to the progressive developments in the financial markets world. The BNP Paribas Groups, a leading financial services provider in Europe and worldwide, has announced on 11 October 2017 that the group "*will no longer do business with companies whose principal business activity is the exploration, production, distribution, marketing or trading of oil and gas from shale and/or oil from tar sands*." Furthermore, it "*will no longer finance … LNG terminals that predominantly liquefy and export gas from shale*."[11]

We also want to highlight the fact, that the initial investor of the Shannon LNG terminal, Hess Corp., was forced to sell the project - despite an investment of over €60 Mio.[12] - after the High Court ordered that the investor needs to financially support existing gas infrastructure including cost of interconnectors linking Irish gas network to supplies from the UK.[13] Apparently, the High Court is of the opinion that the Shannon LNG terminal would in actual fact lead to higher prices for consumers in Ireland.

The ESRI famously declared the fundamentals of the Irish economy "sound" in May 2008, by failing to look at the whole picture and to scrutinise the balance sheets of the banks. It seems that they are similarly failing to scrutinise the way that this fracked gas is being produced before declaring it "sound" and promoting its importation into Ireland.

The US Democratic senator Alexandria Ocasio-Cortez has recently labelled "climate delayers" almost as bad as climate deniers, because of how quickly change is needed to reduce our emissions. With the ERSI promoting new fracked gas infrastructure in Ireland and despite the fact that the director of the ERSI sits

[9] http://trinomics.eu/wp-content/uploads/2018/11/Final-gas-infrastructure.pdf

[10] https://www.ecologic.eu/sites/files/publication/2018/2811-coacch-review-synthesis-updated-june-2018.pdf

[11] https://group.bnpparibas/en/press-release/bnp-paribas-takes-measures-accelerate-support-energy-transition

[12] https://www.irishexaminer.com/business/mid-west-could-lose-out-on-1bn-gas-terminal-in-shannon-estuary-if-lng-not-sold-365396.html

[13] https://www.irishtimes.com/news/crime-and-law/courts/court-rejects-challenge-to-natural-gas-transmission-network-charges-1.1624453

on the Climate Change Advisory Council, the term "climate delayer" would seem like a suitable description.

We hope that you take our critique seriously and that - taking the obligations under the Paris Agreement and the IPCC 1.5 ° report into account - you also reconsider your assessment concerning the comprehensive economic impacts of fracked gas import terminals for Ireland.

Yours sincerely,

- Futureproof Clare - Gluaiseacht - Safety Before LNG - Friends of the Irish Environment -
- Not Here Not Anywhere - Love Leitrim - Food & Water Europe - Friends of the Earth-