

Executive Summary

Insurers in recent years have made considerable progress in terms of climate. 26 major insurers have adopted coal exclusion policies on underwriting activities, for instance. However, if we are to stand a chance of reaching the Paris climate goals, action is needed on oil and gas too. This paper looks into gas and liquefied natural gas (LNG) terminals. It also highlights the role of leading insurers like Allianz, Generali, Munich Re and Talanx in supporting construction and operation of the LNG terminals Świnoujście, Zeebrugge and Dunkirk. The paper concludes with demands for the insurance industry: to be in line with a 1.5°C pathway, insurers need to cease underwriting new LNG terminals and new gas or oil infrastructure in general, as well as divest from and phase out insurance for oil and gas companies.

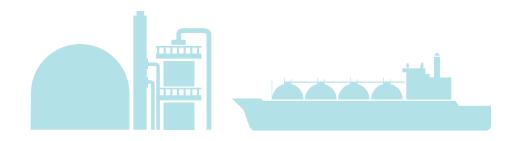
Liquified natural gas or LNG is gas that has been cooled down to -162°C to form a liquid that can be more easily and safely transported over bodies of water in LNG tankers, or over ground in LNG trains. It is made up of fossil gas that is predominantly methane (75-99%). LNG is imported and exported via LNG terminals at either end that have liquefaction facilities at the export side, and regasification facilities at the import side so that it can be turned back into a gas form and funnelled into the local gas grid.

Europe currently has 28 large-scale LNG import terminals and 6 small-scale import terminals. These terminals are in a state of chronic under-utilisation, running regasification facilities at a fraction of their capacity at an average of 25% since 2012. Despite that under-utilisation, more are currently planned. As of 2019, 21 new LNG facilities were planned and 6 were already under construction. If Europe wants to stand a chance of meeting emissions reduction targets, these terminals must never be built.

Burning fossil gas is not a clean alternative to burning coal. In fact, it is dirtier than previously thought. LNG is made up almost entirely of methane, which has 86 times more of a warming effect as a greenhouse gas than ${\rm CO_2}$ over a 20 year period. Methane makes up a quarter of the current greenhouse gas emissions and methane emissions are increasing by at least 1% per year. The oil and gas industry has been shown to be a main driver of methane emissions increases. Leakages at all stages of extraction and burning of fossil gas release methane. These leaks are widely underreported and it is very unclear how much methane is being leaked by the industry. Fossil gas loses its climate advantage over coal at 2.4-3.2% leakage rates, but leaks could be as much as 9% of total gas extracted from the earth.

US LNG comes mainly from fracking, which is associated with groundwater contamination, excessive water usage, land erosion, habitat destruction, increased seismic activity, toxic chemical exposure, risk of explosions, air pollution, flaring and venting of unwanted methane and heavy truck traffic. It therefore poses a reputational risk for its users. Additionally, it is more expensive than Russian LNG. As a result, in 2019, Russian LNG gas had a 20% market share in Europe, higher than the 16% market share the US LNG holds. Russian LNG gas comes from the Yamal Peninsula in the Siberian Arctic. While much less publicly discussed than US gas, these gas operations are extremely environmentally damaging and harmful to the Indigenous Nenets People who traditionally herd reindeer in seasonally nomadic lifestyles.

The EU has set clear targets for CO_2 reductions. This will exacerbate already falling demand for gas. In 2020, it fell by 7%, following an average reduction of 5% year on year in the proceeding few years. Any new investments in LNG infrastructure would not be following the market but rehashing tired models of fossil fuel dependency that the global society can no longer afford.



Introduction

"Gas is over"

Werner Hoyer, President of the European Investment Bank on the 22nd January 2021.1

The tide is turning and the story about gas is changing. Mounting awareness of the true climate cost of fossil gas has upended its portrayal as a cleaner alternative to burning coal. The truth is that gas is much dirtier than portrayed. It risks locking us into extended dependency on fossil fuels or creating stranded assets through unnecessary infrastructure. Gas is also already in a state of oversupply.

Despite its devastating impacts on the climate and public health, the perception that gas is a clean alternative to coal is pervasive. Plans for new gas infrastructure still threaten to lock us into fossil fuel dependent energy systems that the global society simply cannot afford to build. Liquified Natural Gas (LNG) facilities are at the forefront of this infrastructure enthusiasm. As of 2019, 21 additional LNG facilities were planned in Europe alone and 6 were already under construction.² This is alongside major new gas lines like Nord Stream 2 and the East Med Pipeline that are being planned or built to channel more fossil gas to Europe. Although a few of the LNG terminals have since been cancelled or put on hold due to environmental concerns, not nearly enough have been halted to call LNG a technology of yesterday.³ ⁴ ⁵

In contrast to the growing supply of new gas infrastructure, demand for gas is decreasing. Cheap renewable energy, warmer winters, and ambitious emissions reduction targets set by governments and businesses are contributing towards a steady downwards trend in fossil gas demand.⁶ The argument for trying to use US imports of LNG to subvert European dependence on Russian gas is also misguided and dangerous for the climate.

Private insurers play a key role in securing and thus enabling gas infrastructure and need to reconsider their role in this industry if they want to align with Paris goals and avoid losing investments through stranded assets. The last five years have seen considerable progress in the insurance sector on coal policies to exclude the dirtiest fossil fuel. By 2020, at least 65 insurers with combined investments worth US\$12 trillion had adopted a divestment policy or committed to making no new investments in coal. At the same time, 26 major insurers have adopted coal exclusion policies on underwriting activity, up from zero in 2016.⁷

Gas is the next coal. Successes in recent years in regards to coal have turned activists' attention towards oil and gas as the next big targets. Insurers would be wise to get ahead of this new focus by announcing further exclusions on all fossil fuels. As of yet, only one major insurer, Australia's Suncorp, has ended cover for all new oil and gas production.⁸ 10 insurers currently cover around 70% of the oil and gas market-the largest being AIG, Travelers, Zurich and Lloyd's of London.⁹ As a result of this market concentration, action by just a few of these players would be extremely impactful.¹⁰

In 2015, the CEO of AXA, Henri de Castries, famously acknowledged that: "A 2°C world might be insurable, a 4°C world certainly would not be." It is high time for insurers to take the next step in their action against climate change and cease underwriting new fossil fuel infrastructure. Leading insurers like Allianz, AXA, Zurich, Generali, Munich Re and Talanx are underwriting LNG or gas projects across Europe. However, LNG cannot be part of even a 2°C, let alone a 1.5°C world. Bold action is needed - and fast - if we want to stand a chance of achieving the Paris climate goals.

¹ https://www.euractiv.com/section/energy-environment/news/gas-is-over-eu-bank-chief-says/

² https://www.gie.eu/index.php/gie-publications/maps-data/lng-map

³ https://www.reuters.com/article/engie-lng-france-unitedstates-idUSKBN27808G

 $^{4 \}quad https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/111020-new-blow-for-us-lng-in-europe-as-irish-court-quashes-shannon-lng-consents$

⁵ https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/110620-uniper-to-re-evaluate-plans-for-wilhelmshaven-lng-terminal-after-tepid-interest

⁶ https://globalenergymonitor.org/wp-content/uploads/2020/07/GasBubble_2020_r3.pdf

⁷ https://insurance-scorecard.com/

⁸ https://insurance-scorecard.com/

⁹ https://insurance-scorecard.com/

¹⁰ https://insurance-scorecard.com/

¹¹ https://www.forbes.com/sites/dinamedland/2015/05/26/a-2c-world-might-be-insurable-a-4c-world-certainly-would-not-be/



Gas and oil production at Mys Kamennyi in Yamal, Russia. @GegenStrömung-CounterCurrent_DariaMorgounovaSchwalbe

1. Fossil gas: dirtier than portrayed and not compatible with a 1.5°C pathway

1.1 The European gas market

EU countries currently consume around 400 billion cubic meters (bcm) of fossil gas per year. Less than 15% is sourced from within Europe, the rest is imported. Over 50% of those imports arrive via pipeline from Russia, 30% from Norway, 10% from Algeria and the remaining 10% from LNG - imported mostly from Russia, Algeria, Qatar and the US. Even though a large majority of gas comes via pipeline, more LNG terminals are planned, banking on a future fuelled by fossil gas.

LNG terminals are expensive to build and take an average of 5 - 10 years to finish. Due to their sizeable cost, they are difficult to construct without government support. They

often require 20-year or longer buyer contracts to get final investment decision approval. By nature therefore, LNG facilities are built for future demand rather than current energy needs, at sizeable public cost. They represent future infrastructure for a tomorrow powered by gas. However, this imagined tomorrow is incompatible with a liveable world. The UNEP-backed 2020 Production Gap Report clearly outlines a need to reduce fossil fuel production by 6% globally a year - and specifically 3% reduction in gas per year - until 2030 if we are to stand chance of remaining under 1.5°C warming. 14 New gas infrastructure is completely incompatible with this goal.

¹² In 2019 it amounted to 482 bcm, up by 2% (10 bcm) compared to 2018. https://ec.europa.eu/energy/sites/ener/files/quarterly_report_on_european_gas_markets_q4_2019_final.pdf

¹³ EU Methane strategy notes that "Estimates show that the external carbon or methane emissions associated with EU fossil gas consumption (i.e. the emissions released outside the EU to produce and deliver fossil gas to the EU) are between three to eight times the quantity of emissions occurring within the EU" https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1833

¹⁴ https://productiongap.org/wp-content/uploads/2020/12/PGR2020_FullRprt_web.pdf

1.2 Methane emissions are higher than anyone knew

Methane emissions from fossil gas production and distribution are a major problem. Methane (CH4) makes up 75-99% of fossil gas. It is a highly potent greenhouse gas with a warming effect that is 86 times greater than carbon dioxide over a 20 year period. It is responsible for around a quarter of the greenhouse gas effect, and methane emissions are increasing by around 1% per year. He oil and gas industry, and in particular shale industry, has been found by new research to be the main driver of the increase in concentration of methane in the atmosphere. He than emitted by the oil and gas sector annually is equivalent to the yearly CO_2 emissions of France and Germany combined. Fossil gas also emits large amounts of CO_2 when burnt.

Studies have shown that leakages in gas extraction, production, processing, transport, distribution, storage, and final use could range from between 2.8-9% of the total gas that is extracted from the ground. The US has the largest known amount of leakages. However, it must be noted that other large gas producers like Russia are hard to compare to due to a lack of objective data. Overall, even by the lowest estimates, fossil gas loses its climate advantage over coal as soon as leakages are between 2.4% and 3.2%. Overall, even by the lowest estimates, fossil gas loses its climate advantage over coal as soon as leakages are between 2.4% and 3.2%.

The US oil and gas industry systematically employs the practice of gas flaring and venting - releasing unwanted gas into the atmosphere. However, subsequent methane emissions have been historically under-reported by the Environmental Protection Agency (EPA).²¹ The first independent measurements on the US gas industry in 2015 showed 60% higher leakage rates than the EPA.²² In 2018, Alvarez et al. found a similar gap of 63% under-reporting by the EPA.²³ This suggests endemic problems of under-reporting methane leakages by the EPA.²⁴

To offset more punitive regulations, the industry set up the OII and Gas Methane Partnership (OGMP). The OGMP has pledged since 2014 to track methane emissions and lower them by 45% by 2025 with future increases baked into the agreement.²⁵ Although 62 companies have already signed up, they only represent 30% of total oil and gas emissions.²⁶ Without a single US oil and gas major, this organisation is in no way a stand-alone solution to the problem.

The EU does not seem to be convinced by the industry's proposal to regulate itself. In October 2020, the European Commission announced a new EU Methane Strategy as part of the Green Deal. The strategy singles out energy imports as a major source of methane emissions and will set targets, incentives and standards for energy imports.²⁷

If we scale out to look at the big picture, there is simply no room in the carbon budget for more gas. Oil Change International's Sky's the Limit report concluded that the coal, oil and gas reserves in fields or mines that are already producing will take us over 2°C . In fact, even without coal, oil and gas reserves are more than we can afford if we want a 50% chance of staying under 1.5°C . Methane emissions that are many times more potent as a greenhouse gas in the short term than CO_2 must be vigorously tackled in order to increase our chances of a liveable future.

¹⁵ https://www.ipcc.ch/report/ar5/wg1/anthropogenic-and-natural-radiative-forcing/

¹⁶ https://www.esa.int/Applications/Observing_the_Earth/Copernicus/Sentinel-5P/Mapping_methane_emissions_on_a_global_scale

¹⁷ Prof. Howarth concludes that "shale-gas production in North America over the past decade may have contributed more than half of all of the increased emissions from fossil fuels globally and approximately one-third of the total increased emissions from all sources globally over the past decade." https://bg.copernicus.org/preprints/bg-2019-131/bg-2019-131.pdf

¹⁸ https://www.duh.de/fileadmin/user_upload/download/Projektinformation/Energiewende/FAQ_Methanemissionen_EN.pdf

¹⁹ https://www.duh.de/fileadmin/user_upload/download/Projektinformation/Energiewende/FAQ_Methanemissionen_EN.pdf

²⁰ http://www.eeb.cornell.edu/howarth/publications/f_EECT-61539-perspectives-on-air-emissions-of-methane-and-climatic-warm-in_100815_27470.pdf

²¹ https://science.sciencemag.org/content/361/6398/186

 $^{22\} www.eeb.cornell.edu/howarth/publications/f_EECT-61539-perspectives-on-air-emissions-of-methane-and-climatic-warm-in_100815_27470.pdf$

in_100815_27470.pdf
23 https://science.sciencemag.org/content/361/6398/186

²⁴ https://advances.sciencemag.org/content/6/17/eaaz5120

 $^{25\} https://www.ccacoalition.org/en/news/ccac-oil-gas-methane-partnership-companies-release-first-annual-public-reports-mitigation.$

²⁶ https://www.unep.org/news-and-stories/press-release/oil-and-gas-industry-commits-new-framework-monitor-report-and-reduce

²⁷ https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1833

²⁸ Data compiled from Rystad, IEA, World Energy Council and IPCC. http://priceofoil.org/2016/09/22/the-skys-limit-report/

²⁹ http://priceofoil.org/2018/10/17/the-skys-limit-ipcc-report-15-degrees-of-warming/



Massive LNG Vessels would transport fracked gas across the Atlantic. ©The Mariner 2392

1.3 Dirty and contested: fracked gas

Since 2000, worldwide gas production has grown by 51%. The majority of this is a result of the US fracking boom, with horizontal drilling making hitherto inaccessible fossil gas accessible.³⁰ Since 2016, much of that gas has been coming to Europe, which makes up an annual third of US gas exports today.³¹

The drive for more imports of fracked gas from the US is certainly not environmentally motivated. LNG is more CO_2 intensive than pipeline gas. LNG has to be cooled to -162°C to turn it into a liquid. It is then loaded onto specially made LNG tankers, shipped to purpose-built LNG terminals, where it is re-gasified and transported through pipelines to the gas grid. The process requires a large amount of fuel, usually gas, to power the complex and industrially intensive process.

LNG from North America has additional negative impacts on the environment: the imports come almost exclusively from fracked fossil gas. Fracking causes groundwater contamination, excessive water consumption, air pollution, toxic chemical exposure, decreased health outcomes in exposed areas, 32 land erosion, habitat destruction, in-

creased seismic activity, heavy truck traffic, the dangers associated with industrial worker camps and the toxic and explosive nature of gas and associated hydrocarbons.³³

There is evidence that the perception of US fracked gas as a 'dirty fuel' is starting to have a real impact on investment decisions made by energy firms and countries alike. In November 2020, the French utility company Engie dropped a 20 year contract worth US\$7 billion that would have imported LNG from NextDecade's export facility in Texas. The decision came amid growing concerns about the environmental impact of fracked gas as well as a lack of buyers. The French bank Société Générale has also faced public pressure to drop its support for the project. The start of the project.

In June 2020, the Irish government scrapped the €500 million euro Shannon LNG import terminal; a decision that was seen as a success for environmental campaigners who had long argued against the project based on importing dirty 'fracked gas' from the US.³6 This was complimented in January 2021 by the decision to drop an LNG terminal in Cork that was going to be supplied by Rio Grande LNG from Texas.³7

³⁰ http://priceofoil.org/2019/05/30/gas-is-not-a-bridge-fuel/

³¹ https://ec.europa.eu/energy/sites/ener/files/eu-us_lng_trade_folder.pdf

³² https://concernedhealthny.org/compendium/

³³ https://concernedhealthny.org/compendium/

³⁴ https://www.reuters.com/article/engie-lng-france-unitedstates-idUSKBN27808G

³⁵ The Rio Grande LNG export facility is facing legal action over its environmental and public health threats and has not yet reached final investment decision. https://www.sierraclub.org/texas/blog/2021/01/victory-plan-import-and-store-rio-grande-lng-fracked-gas-cork-har-bour-scrapped

 $^{36\} https://www.spglobal.com/platts/en/market-insights/latest-news/natural-gas/111020-new-blow-for-us-lng-in-europe-as-irish-court-quashes-shannon-lng-consents$

³⁷ https://www.sierraclub.org/texas/blog/2021/01/victory-plan-import-and-store-rio-grande-lng-fracked-gas-cork-harbour-scrapped. Additionally, Ireland wants to introduce an import ban for US LNG https://www.gov.ie/en/publication/7e05d-programme-for-government-our-shared-future/



Pipeline Construction in the Permian Basin @Shutterstock_G B Hart

Permian Basin, Texas, United States

The Permian Basin, located in the US states of Texas and New Mexico, is one of the highest producing oil and gas regions in the world. In early 2020 it was on a par with Iraq, with an average of 5 million barrels a day.³⁸ After extraction, the crude oil and fossil gas are transported through pipelines to the Gulf Coast. There they are processed in an area of Louisiana referred to as the Petrochemical Corridor, or increasingly, Cancer Alley, due to the staggering rates of cancer in the area, now linked to local industrial activity.³⁹

Horizontal drilling and hydraulic fracking are used in nearly all oil and gas extraction in the Permian Basin; both processes require vast amounts of water, intensive drilling (increasing the risk of geological tremors), sand and toxic chemicals. The area is supervised by minimal regulation. Oil and gas waste is exempt from hazardous waste regulations and thus can be transported with very little oversight. Flaring and venting of unwanted gasses (mostly methane) during the production process is also endemic, resulting in staggering amounts of extra methane emissions. It

The US Department of Energy, known to underestimate methane emissions, reported in 2018 that the Permian Basin accounted for over half of emissions from flaring and venting in the United States at 1.28 billion cubic feet per day.⁴² Additionally, in terms of CO₂ emissions, the Permian Basin is projected to cause total emission of 46.1 Gt. of CO₂ equivalent if fully extracted, more than 10% of the world's remaining carbon budget if we want a 50% chance of staying below 1.5 degrees.⁴³ Put simply, the Permian Basin is a carbon bomb we simply cannot afford to continue expanding.⁴⁴

Much of the fossil gas extracted in the Permian Basin is refined for export as LNG to world markets. However, recent focus on flaring and venting, long standing negative attitudes regarding fracking and increasing concerns of environmental racism in fence communities in Texas and around refineries in Louisiana are having a noticeable effect on the gas's ability to be exported. This is demonstrated by the decisions taken last year in Ireland and France to cancel LNG facilities importing fracked gas.⁴⁵

³⁸ https://urgewald.org/sites/default/files/media-files/FiveYearsLostReport.pdf

³⁹ https://www.propublica.org/article/welcome-to-cancer-alley-where-toxic-air-is-about-to-get-worse

⁴⁰ https://www.texasstandard.org/stories/the-hidden-danger-of-radioactive-oil-and-gas-wastewater/

⁴¹ https://www.rystadenergy.com/newsevents/news/press-releases/Permian-natural-gas-flaring-and-venting-reaching-all-time-high/

⁴² https://www.energy.gov/sites/prod/files/2020/06/f75/Texas%20Flaring%20and%20Venting%20Regulations%20Fact%20Sheet_0.pdf

⁴³ https://urgewald.org/sites/default/files/media-files/FiveYearsLostReport.pdf

 $^{44\} https://www.bloomberg.com/news/articles/2020-01-23/gas-exports-have-dirty-secret-a-carbon-footprint-rivaling-coal-secret$

⁴⁵ https://www.propublica.org/article/welcome-to-cancer-alley-where-toxic-air-is-about-to-get-worse



Świnoujście LNG facility at night. @Shutterstock_MikeMareen

2. LNG: energy security and geopolitics

LNG has been portrayed for a long time as a geopolitical tool to free Europe from dependence on Russian pipeline gas. 46 This idea was bolstered by the Trump administration, referring to its own US LNG exports as 'Freedom Gas' in 2019. 47 The previous year, the Trump administration had signed a deal with the European Commission to import more US fossil gas - to make EU gas supply 'more secure'. 48 Since then, there has been a 760% growth in US exports of LNG to the EU. 49 US sanctions have also slowed down progress on the

Nord Stream 2 pipeline to supply Germany with Russian gas. In the beginning of 2021, the insurers Zurich, Munich Re, AXA, Chubb, Tokio Marine and Travelers dropped insurance for the Nord Stream 2 pipeline in the face of looming US sanctions against companies supporting the project.⁵⁰ However, despite the increase, US LNG is being outpaced by LNG imports from Russia. In 2019, Russia sold US\$7.9 billion of LNG to Europe, a 20% market share. The US had a 16% market share that year, Qatar 28%.⁵¹

Świnoujście Polskie LNG Terminal – insured by PZU, Warta, ERGO Hestia, Generali Poland and Allianz Poland

No country in Europe subscribes to the gas independence goal quite as forcefully as Poland. Poland currently receives a majority (56%) of its gas supply from Russia's Gazprom. Since 2007, however, it has pursued a strategy of energy security, trying to make LNG imports a robust alternative to its contracts with Gazprom, which end in 2022. LNG imports currently amount to 6% of gas supply, coming mostly from Qatar and the US.⁵²

The keystones of the Polish strategy for energy independence from Gazprom are a planned sixfold increase in LNG and a threefold increase in pipeline gas coming from Norway through a new Baltic Pipeline. The goal is to supply 43% of Poland's gas by 2022. However, the Baltic Pipeline project has been delayed. Difficulties with LNG supply and extension of existing infrastructure due to the Covid Pandemic mean that both strategies seem doomed

⁴⁶ https://ec.europa.eu/energy/sites/ener/files/quarterly_report_on_european_gas_markets_q3_2019.pdf

⁴⁷ https://www.nytimes.com/2019/05/29/us/freedom-gas-energy-department.html

⁴⁸ https://ec.europa.eu/energy/sites/ener/files/eu-us_lng_trade_folder.pdf

⁴⁹ https://ec.europa.eu/energy/sites/ener/files/eu-us_lng_trade_folder.pdf

⁵⁰ https://euobserver.com/tickers/151052

⁵¹ https://ec.europa.eu/energy/sites/ener/files/quarterly_report_on_european_gas_markets_q4_2019_final.pdf

⁵² https://www.trade.gov/country-commercial-guides/poland-energy

for longer delays. Poland is locking itself into insecure gas supplies. By 2022, the country's energy mix will be going in the complete opposite direction from its fellow EU countries and at the expense of pursuing a truly renewable transition.

In 2015, PGNiG, the polish state-owned oil and gas company, started building an LNG terminal in the Baltic Sea, the Świnoujście Polskie LNG Terminal. The EU supported it under the Project of Common Interest (PCI) scheme. In four years of operating between 2016 and 2020, the terminal received 100 tankers of LNG, mostly from Qatar (67), but also from the US (21) and Norway (11).⁵³ This in no way matches the annual regasification capacity of 5 billion cubic meters a year, showing a corresponding pattern of underuse consistent with LNG infrastructure elsewhere in the EU. Even so, the plan is to rapidly increase regasification capacity by another 4.5 bcm and increase the amount of LNG coming into the country mostly by relying on US fracked gas from Texan companies exporting gas from the Permian Basin. 54 In 2018, the Polish oil and gas company PGNiG signed 20 year supply contracts with the US company Sempra for 2.7 bcm/year, the companies Venture Global Calcasieu Pass LLC, Venture Global Plaquemines LNG for 2.7 bcm/year and Cheniere Marketing International for 1.95 bcm/year. 55 The deliveries are due to start in 2022 after the Świnoujście Polskie LNG Terminal is extended with further regasification installations. The end result is that by 2022, Poland hopes to receive 37% of its gas supply from LNG.

The facility causes an enormous amount of greenhouse gas emissions. Świnoujście has imported a total of 12.6 bcm of fossil gas since 2016, causing greenhouse gas

emissions of 55.1 million tons of CO_2e , about equal to the annual emissions of Finland. See page 19 for details on the emissions calculations. 56



 $\rm CO_2$ emissions of Świnoujście LNG terminal from 2016 to 2020. See page 19 for details on the emissions calculations. Mio $\rm tCO_2$ e: Million tons of $\rm CO_2$ equivalent.

The construction and erection of the LNG terminal has been underwritten in 2015 by an insurance consortium led by the Polish insurer PZU, together with Warta (Polish Talanx subsidiary), ERGO Hestia (Polish Munich Re subsidiary) and the Polish subsidiaries of Generali and Allianz.⁵⁷ The same consortium insured in 2016 the LNG terminal's operation (machinery breakdown and business interruption cover in 2016).⁵⁸

While Poland banks on LNG for independence from Russian gas, increasingly, Russian LNG exports from gas behemoths Novatek and Gazprom are carving out large segments of the European LNG import market. The Russian company Novatek has grown into a major player in plans to increase LNG import infrastructure in northern Europe.

Deepening connections between European LNG providers and Novatek in northern Europe are being supercharged by loosening ties with US LNG companies that are heavily dependent on fracked gas - viewed as a reputational risk in the EU and a risk to achieving climate targets. On top of all that, Russian LNG is simply cheaper.⁵⁹

⁵³ https://www.offshore-energy.biz/polish-lng-terminal-receives-milestone-100th-cargo/

⁵⁴ https://www.trade.gov/country-commercial-guides/poland-energy

⁵⁵ https://www.trade.gov/country-commercial-guides/poland-energy

⁵⁶ https://stats.oecd.org/Index.aspx?DataSetCode=AIR_GHG

⁵⁷ https://ted.europa.eu/udl?uri=TED:NOTICE:20228-2015:TEXT:EN:HTML

⁵⁸ https://ted.europa.eu/udl?uri=TED:NOTICE:209457-2016:TEXT:EN:HTML, contracts terminated 2017/18 by Allianz

⁵⁹ https://www.aa.com.tr/en/energy/energy-diplomacy/us-lng-price-up-to-40-higher-than-russian-gas-novak/20225



Zeebrugge LNG Facility in Belgium, the main European port for Russian LNG imports. ©Shutterstock_ClaudineVanMass

Zeebrugge: Europe's Bridge to Arctic Gas, supported by AXA and Talanx

Novatek's closest relationship in Europe is with Fluxys, the Belgian utility company with a dominant command of northern European LNG infrastructure. Zeebrugge LNG is Fluxys' largest port and one of the largest in Europe with an annual import capacity of 9 billion cubic meters of LNG. It has been operating since 1987. Fluxys has also recently acquired Dunkirk LNG facility, the largest in Europe, with a huge 12.5 bcm regassification capacity.⁶⁰

In 2015, Fluxys signed an agreement with Novatek to import 8 million tons of LNG a year over a 20-year period. A large new storage tank was built for that purpose. The LNG imported from Russia into Zeebrugge comes entirely from the Yamal LNG facility in the Arctic province. This corresponds to potentially 214 additional LNG carriers a year. In 2018, relations between the two companies deepened even further when Fluxys and Novatek signed a lease on land in Rostock, where a transshipment LNG terminal importing 0.3 million tons of LNG a year - mainly for maritime and heavy haulage refuelling - is planned. By deepening its connections to Novatek, Fluxys is also enabling the ex-

pansion of the environmentally destructive gas facilities in the Yamal region of Russia, where Novatek has a large LNG facility hub.

Annual greenhouse gas emissions

Mio tCO₂e 92

Combined future greenhouse gas emissions (next 25 years)

Mio tCO₂e 2,303

 CO_2 emissions of Dunkirk and Zeebrugge LNG terminals based on combined annual regasification capacities. See page 19 for details on the emissions calculations. Mio tCO_2 e: million tons of CO_2 equivalent.

Zeebrugge and Dunkirk LNG facilities have a combined regasification capacity of 16.2 million tons of LNG per annum (mtpa). This translates into yearly greenhouse gas emissions of 92 million tons of CO_2 e. Both facilities have contracts with suppliers like Qatar until 2044, meaning that there are potential emissions of 2.3 Gigatons CO_2 e over the next 25 years, or in other words, nearly three times the annual greenhouse gas emissions of Germany in 2018.

⁶⁰ https://www.montelnews.com/de/story/fluxys-led-group-takes-major-stake-in-dunkirk-lng-terminal/948713

⁶¹ https://www.fluxys.com/en/press-releases/fluxys-belgium/2020/20200107_press_long_term_contract_started

⁶² https://www.fluxys.com/en/press-releases/fluxys-belgium/2020/20200107_press_long_term_contract_started

⁶³ https://www.fluxys.com/en/press-releases/fluxys-belgium/2020/20200107_press_long_term_contract_started

⁶⁴ https://www.offshore-energy.biz/novatek-fluxys-to-build-lng-terminal-in-rostock-germany/

⁶⁵ https://stats.oecd.org/Index.aspx?DataSetCode=AIR_GHG



Map of LNG Terminals in the EU. Information from the European Commission. ©iStock_Fourleaflover

Companies running facilities like these are prone to be held liable for the climate damage they cause by activists going to court, which adds to the risks for insurers involved with them.⁶⁶

Zeebrugge LNG has insurance relationships with some of the major European insurance companies. As recently as 2019, AXA Belgium alongside Baloise Belgium, RSA Luxemburg and HDI Global (Talanx subsidiary) signed a policy with Fluxys for Zeebrugge and the Dunkirk LNG facility for cover of material damage and business interruption. ⁶⁷ Similar policies were bought in previous years. Dunkirk LNG (the largest LNG terminal in Europe) was acquired by a consortium led by Fluxys in 2018, including a 15.19% stake from both AXA Investment Managers and Crédit Agricole Assurances. ⁶⁸ This shows a consistent support of the LNG facilities operated by Fluxys by important insurers in Europe.

Novatek is developing a network of partnerships across northern Europe. Nauticor, a German LNG and cryogenic engineering logistics provider, signed a letter of intent with Novatek regarding cooperation in developing a joint LNG supply infrastructure in the Baltic Sea.⁶⁹ Both companies have been active in the northern European LNG market and see significant potential for further growth by joining forces. Rotterdam Gate Terminal also made its intentions clear in 2018 to become a major hub for Russian LNG, possibly to spice up a comparably poor capacity utilisation rate.⁷⁰ In

2019, LNG from Yamal to Canada was shipped for the first time through the Netherlands. 71

Despite talk of "energy security" and "independence from Russia", the pattern of increasing connections between European LNG operations and Novatek is clear and unlikely to turn around in favour of US imports that are more expensive and a reputation and environmental risk due to fracking. However, while less known, the environmental and social problems with Russian LNG are equally huge.

⁶⁶ https://www.foei.org/press_releases/liability-roadmap-make-big-polluters-pay

⁶⁷ https://ted.europa.eu/udl?uri=TED:NOTICE:109481-2020:TEXT:EN:HTML

⁶⁸ https://realassets.axa-im.com/en/content/-/asset_publisher/x7LvZDsY05WX/content/acquisition-15-19-stake-in-one-of-the-largest-lng-terminals-in-continental-europe

⁶⁹ https://www.rostock-port.de/en/press-news/aktuelle-meldungen/news-detail/nauticor-und-novatek-vereinbaren-kooperation-fuer-die-entwicklung-einer-small-scale-lng-versorgungsinfrastruktur-in-der-ostsee

⁷⁰ https://www.offshore-energy.biz/dutch-gate-terminal-positions-itself-as-lng-transshipment-hub-for-russian-yamal-volumes/

⁷¹ https://www.offshore-energy.biz/canada-gets-first-yamal-lng-cargo-via-dutch-gate-terminal/



View from Indigenous People's housing of the Tundra, Seyakha, Yamal. ©GegenStrömung-CounterCurrent_DariaMorgounovaSchwalbe

Yamal Arctic LNG, Russia: An environmental catastrophe⁷²

Novatek's LNG facility with accompanying seaport and airport has production capacity for 16.5 million tons of LNG a year. 73 Yamal LNG is made up of the Yuzhno-Tambeyskoye gas field and the Transport infrastructure of the Sabetta Seaport and Airport, which has been in operation since 2017. The terminal currently has a fleet of 15 LNG ships with icebreakers. Each icebreaker/tanker is designed to operate year round from the Yamal Peninsular and to break ice up to 2.5 meters thick.

There are around 41,000 Indigenous People who live in the Yamalo-Nenets Autonomous Okrug (YNAO) region, where the gas comes from. The majority - nearly 30,000 - are Nenets, reindeer breeders and herders. Around 300,000 reindeer are thought to reside in the province, most of them bred and herded by around 6,000 Nenets people living on the Tundra. Yamal LNG has had a clear and long-lasting detrimental effect on the lives of Indigenous People in YNAO.

Land has been appropriated, leaving herders with less land for seasonal migration patterns and more competition over remaining resources. In the area around the Yuzhno-Tambeyskoye gas field, approximately 170,500 hectares of pasture have been taken out of use, which makes up around 3.5% of the total amount of Yarsalinskii Municipal Reindeer Enterprise. Around Sabetta Port, there is a 10km radius of destroyed vegetation with open pits and a network of gas pipes leading from drilling rigs to the Sabetta Port. The result of this has been that many formally nomadic Nenets families have moved to villages like Seyakha to live stationary and often unemployed lives dependent on the state for survival.

Adverse health outcomes are also a problem with increased numbers of people experiencing infant suffocation, tuberculosis and cancer, which seem likely to be connected to increased volume of hydrocarbons in the surrounding area. There has also been an increase in the spread of HIV and syphilis among Indigenous groups as a result of the large numbers of 'foreign', often single male workers who live temporarily in the area.

There has been an extremely negative impact on fish stocks in the Gulf of Ob from dumping over 40 million cubic meters of soil removed in the course of dredging work. Massive fish mortality has been recorded and could be long-lasting. There has also been an underestimation of the cumulative environmental and social impacts of the project on local groups.



The Yamal Peninsula, Nenets children playing in the Reindeer pasture on a cold winters day. ©Shutterstock_EvgeniiMitroshin

 $^{72\} https://www.gegenstroemung.org/Yamal_LNG_Report_INFOE.pdf$

3. Gas risks locking us into a fossil fuel future and creating stranded assets

Europe is looking towards a carbon neutral future; thus, EU taxonomy is becoming less favourable to large gas projects. In 2020, the EU Recovery Package earmarked a third of the €1.8 trillion for a green transition. €430 billion will go towards creating a plan for green hydrogen infrastructure - including a target to reach 40 GW of clean hydrogen by 2030.⁷⁴ While the definition of "clean hydrogen" might be a tough future battleground and the package does not go nearly fast or far enough, the writing is on the wall for fossil fuel producers: there will be no future for EU level spending on coal, oil and gas projects.

On January 22nd 2021, the President of the European Investment Bank announced during a press conference, referring to EIB's energy lending policy, that "Gas is over".⁷⁵

Regarding public support for gas infrastructure through the "Projects of Common Interest" (PCI) scheme, the European Ombudswoman ruled in November 2020 that the EU failed to properly assess climate risks of gas projects. "Given the EU's objectives concerning climate change and sustainability, it is regrettable that gas projects were included on previous PCI lists, without having their sustainability properly assessed," said Ombudswoman O'Reilly following a complaint by campaigner Andy Gheorghiu.⁷⁶

Even so, investments in still more fossil gas infrastructure is occurring with around 16 planned LNG projects that endanger plans to reduce emissions and invest in renewables and green hydrogen by locking us into long project lifespans.

3.1 Weak Demand and Oversupply

Demand for fossil fuels generally collapsed in spring of 2020 as a result of the pandemic. In its annual Gas 2020 report, the IEA revealed that gas demand had fallen by 7% in Europe year on year in the first five months of 2020.⁷⁷ This should not be simply written off as a pandemic outlier, rather an extreme trend multiplier. Warmer winters that require less heating and cheaper renewables have shown up in sluggish demand in recent years (5% decrease year on year).78 In the next 10 years, EU demand is set to drop again by at least 13-19% and by 2050 to have dropped by as much as 75-85%.⁷⁹ A 2020 study from a prominent German economics institute, DIW, outlined that current gas infrastructure is more than enough to fuel the European energy transition, and any additional infrastructure is unnecessary.80 As early as 2015, the European court of Auditors was sounding the alarm on new gas infrastructure by saying that gas demand in the EU had been "repeatedly overestimated" as a result of strong and successful industry lobbying efforts.81

Weak demand and oversupply is endemic throughout Europe's existing LNG infrastructure. For one, LNG facilities in Europe are widely under-used. Europe currently has 28 large-scale LNG import terminals and 8 small-scale terminals. For years now, these LNG terminals have been running regasification facilities at a fraction of their capacity. Since 2012, most have been running at an average of 25%. Phis means that the EU currently has twice the gas import capacity that it needs. At current rates of demand there is no need for new LNG infrastructure and analysis done in recent years projects falling demand. Any new investments in LNG infrastructure, therefore, would not be following market trends, but a tired model of fossil fuel dependent systems that pose an existential threat to the environment.

⁷⁴ https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_1257

 $^{75\} https://www.euractiv.com/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/energy-environment/news/gas-is-over-eu-bank-chief-says/section/en-gas-is-over-eu-bank-chief-says$

⁷⁶ https://www.foodandwatereurope.org/wp-content/uploads/2020/02/FoodandWaterEuropeEU-Ombudsman-Complaint.pdf

⁷⁷ https://www.iea.org/reports/gas-2020/2021-2025-rebound-and-beyond

⁷⁸ https://www.iea.org/reports/gas-2020/2021-2025-rebound-and-beyond

⁷⁹ https://euobserver.com/green-deal/149675

⁸⁰ https://www.diw.de/documents/publikationen/73/diw_01.c.794609.de/diw_focus_5.pdf

⁸¹ https://euobserver.com/green-deal/149675

⁸² https://www.diw.de/documents/publikationen/73/diw_01.c.794609.de/diw_focus_5.pdf

⁸³ https://globalenergymonitor.org/wp-content/uploads/2020/07/GasBubble_2020_r3.pdf



Ottawa, February 24 2020. Protesters from Indigenous groups supporting the Wet'suwet'en in their fight to stop the Coastal GasLink pipeline running through their land in BC. ©Shutterstock_BingWen

3.2 Stranded Assets

Insecurities in the gas market as a result of the price collapse, tighter restrictions on methane emissions and a lack of good policy arguments for building new LNG terminals have led to a staggering failure rate of 60% of projects that had already been planned since 2014. Hoating LNG Terminals (FSRUs) are extremely costly and especially prone to project cancellation: Global Energy Monitor reported in May 2020 that 12 projects out of 17 currently planned FSRUs amounting to 39.3 metric tonnes per year (mtpa) of capacity have shown no developmental progress in at least two years and are likely headed toward abandonment or cancellation. If this were to occur, the project failure rate in the 2014–2020 period would rise to 69%. This eradicates the investment case in FSRUs globally.

The rate of rejection for LNG terminals is increasing exponentially. As previously mentioned, Engie cancelled its contract with NextDecade and the government of Ireland cancelled the LNG facilities in Shannon and Cork because of resistance to importing fracked gas from the US. It is also worth noting that in Germany, the utility company Uniper announced

that it was indefinitely suspending their planned LNG facility at Wilhelmshaven in November 2020. A lack of buyers was cited as a reason, following sustained opposition by local environmental groups. Ref Bottom up resistance to LNG projects is also having a major impact on the ability for these projects to go forward. In early 2020 in British Columbia, Canada, the Wet'suwet'en nation blockaded train lines to protest the construction of the Coastal GasLink Pipeline in BC. The protest movement that lasted months, until it was brought to a halt by Covid, had far reaching effects; Warren Buffet attributed his decision to pull US\$4 billion from the planned Saguenay LNG Terminal in Quebec to public protest coordinated by the Wet'suwet'en.

Last year, Friends of the Earth UK challenged the UK's decision to back an LNG project in Mozambique in court after outcry that the government had claimed it wanted to be a climate leader. ⁸⁹ In Gothenburg, Sweden, plans for an EU-backed LNG terminal were cancelled by the Swedish government on environmental grounds following years of dedicated campaigning by those who described it as a

⁸⁴ https://globalenergymonitor.org/wp-content/uploads/2020/07/GasBubble_2020_r3.pdf

⁸⁵ https://globalenergymonitor.org/wp-content/uploads/2020/07/GasBubble_2020_r3.pdf

⁸⁶ https://www.uniper.energy/news/ltew-is-considering-new-focus-of-the-plans-for-an-import-terminal-in-wilhelmshaven

⁸⁷ https://globalnews.ca/news/6560125/timeline-wetsuweten-pipeline-protests/

 $^{88\} https://financialpost.com/commodities/energy/warren-buffett-reportedly-pulls-out-of-lng-project-in-quebec-due-to-challenges-in-canada$

⁸⁹ https://www.theguardian.com/business/2020/jul/20/uk-could-face-lawsuit-over-1bn-aid-to-mozambique-gas-project

'climate wrecking disaster'. ⁹⁰ The LNG Goldboro project in Nova Scotia – aiming at exporting fracked gas from Canada or the US and heavily reliant on a loan guarantee from the German government - has been discussed since 2013, but hasn't yet managed to materialise. It also faces increasing opposition on both sides of the Atlantic. ⁹¹

Additionally, Export Credit Agencies and European banks are under more pressure to step up their climate change obligations, and may struggle to justify LNG financing or guaranteeing going forward. 92 The UK government announced in December 2020 that it would end overseas fossil fuel finance 93 and President Biden's Executive Order on Tackling the Climate Crisis at Home and Abroad brings the

US back into the game for ending fossil fuel subsidies.⁹⁴ In its Outlook 2020 report, the British oil major BP expressed doubts over whether it will be easy to raise credit for future LNG projects, and specifically whether lenders will accept a fully traded gas market with gas market pricing and an absence of long-term contracts.⁹⁵

The arena of public opinion is moving its eye away from coal and towards gas, widely seen in Europe as the next frontline in the battle to save the climate. The time to be a vanguard in exclusions of gas activities would be now. Insurers left behind will no doubt be considered the laggards pulling us further and further away from effective action to stop runaway climate change.

4. Next steps for insurance

Five years ago it seemed unlikely that the insurance industry would start moving its business away from coal to the extent that it did: despite understanding the risk of the climate crisis, insurers were sticking to coal in their investment portfolios as well as in underwriting. However, a huge shift has occurred since then. To date, at least 65 insurers with combined investments worth US\$12 trillion have adopted a divestment policy or committed to making no new investments in coal. Additionally, 26 major insurers have policies that exclude coal to some extent in their underwriting. The result has been a drastic increase in premiums, and effectively a 'pricing in' of climate risk into the coal industry.

Emerging reports also show that coal exclusion policies have, in fact, been financially rewarding for companies that adopted the most ambitious ones. Société Générale SA prepared a report in December 2020 on European insurers and reinsurers that showed stock valuations could be as much as +9% depending on the insurers position on coal underwriting and investments. ⁹⁶ Using a scoring metric weighted heavily toward environmental issues, the analysts increased the share valuation for AXA SA by 6%, Swiss Re AG, Zurich Insurance Group AG, Assicurazioni

Generali SpA, Allianz SE and Munich Re by 5%, and SCOR SE by 4%.⁹⁷ This correlated exactly with insurers that did more to exit coal.⁹⁸

However, coal is only the starting point. Burning oil and gas causes 55 percent of all CO₂ emissions, if we exclude deforestation (for which no precise figures are available). ⁹⁹ The 2015 Paris Climate Accord set clear, ambitious targets that require a fundamental transition. Insurers must play a role in this transition. Many are already heading in the right direction but need to move faster and be more ambitious. Expanded oil and gas production is incompatible with the Paris Agreement limits, since carbon dioxide emissions from developed reserves of oil and gas alone will take us well beyond 1.5°C warming. ¹⁰⁰

Insurers involved in ambitious initiatives like the UN-backed Net Zero Asset Owner Alliance Allianz, AXA, Zurich, Generali, and Munich Re are likely candidates to join the proposed Net Zero Underwriters Alliance, which will hopefully take pioneering further steps towards oil and gas underwriting exclusions. However, these companies have also been involved in underwriting LNG terminals and companies in the past and are active in insuring the oil and gas

⁹⁰ https://350.org/press-release/sweden-rejects-major-gas-terminal-on-climate-grounds/

⁹¹ https://www.halifaxexaminer.ca/province-house/the-goldboro-gamble-2/

⁹² https://www.oxfordenergy.org/wpcms/wp-content/uploads/2020/11/Insight-78-LNG-Finance-will-lenders-accommodate-the-changing-environment.pdf

⁹³ https://www.ft.com/content/920aeefa-9779-485d-b478-9fce0bd40020

⁹⁴ https://www.nrdc.org/experts/han-chen/biden-climate-eo-will-us-end-finance-fossil-fuels

⁹⁵ https://www.bp.com/en/global/corporate/energy-economics/energy-outlook.html

 $^{96\} https://www.bloomberg.com/news/articles/2021-02-02/dumping-coal-can-be-good-for-insurer-stock-value-green-insights$

⁹⁷ https://www.bloomberg.com/news/articles/2021-02-02/dumping-coal-can-be-good-for-insurer-stock-value-green-insights

⁹⁸ https://www.bloomberg.com/news/articles/2021-02-02/dumping-coal-can-be-good-for-insurer-stock-value-green-insights

⁹⁹ See http://www.globalcarbonatlas.org/en/CO2-emissions. Figures do not include the emissionsfrom land-use changes, for which no recent data exists.

sector. So they must individually and collectively take urgent steps to cease underwriting in this sector. The science is clear that in order to reach the Paris goals, no new fossil infrastructure can be built. Starting with no longer underwriting LNG terminals and companies is a necessary first step, not only from a climate perspective but beneficial as well from an economic one.

Given the dimension of the climate catastrophe, insurers should start with but not limit themselves to action on LNG, which is just the tip of the iceberg. The Insure Our Future network of organisations campaigning on insurance and climate asks underwriters to:

Our Demands:

- 1. Immediately cease insuring new oil or gas expansion projects.
- **2.** Commit to phasing out insurance for oil and gas companies in line with a 1.5°C pathway.
- **3.** Divest all assets from oil and gas companies that are not in line with a 1.5°C pathway, including assets managed for third parties.

4. Bring stewardship activities, membership of trade associations and positions as a shareholder and corporate citizen in line with a 1.5°C pathway in a transparent way. This must also include forceful advocacy for a green and just recovery from Covid-19.

Annex: A further glimpse into insurance for gas and oil companies

This paper concentrates on liquefied natural gas and insurers' support for LNG. However, the Insure Our Future campaign has demands to the insurance industry going beyond LNG. The campaign has formulated concrete demands for the oil and gas sector, specifically the building of new infrastructure, which is incompatible with limiting the temperature rise to 1.5°C.

Information on concrete insurance contracts is difficult to obtain, although slightly easier in the case of public companies in Europe, whose contracts are published in an EU data-base (TED – tenders electronic daily). Research in this database allows an insight into who is insuring some of the European gas and oil infrastructure and companies. The following is an unrepresentative sample of insurers' role in the sector.

The projects that profited from insurance coverage are the following:

Interconnector Greece - Bulgaria (ICGB)

Interconnector Greece – Bulgaria, a gas pipeline between Greece and Bulgaria under construction to deliver gas from Azerbaijan to Bulgaria. Project promoter is ICBG (IGI Poseidon 50% and Bulgarian Energy 50%)

Baltic Pipe

Baltic Pipe is a gas pipeline that is supposed to connect Denmark and Poland to Norway's gas fields. Project promoter is the Danish gas company Energinet in collaboration with the Polish gas transmission system operator GAZ-SYSTEM S.A

EuRoPol Gaz

Polish section of Yamal-Europe gas pipeline.

Nord Stream 2

Contested gas pipeline transporting gas from Russia to Germany bypassing the Baltic States, Poland and Ukraine

Insurer	Project/Company	Type of insurance	Year of contract & source
AIG Europe	Interconnector Greece – Bulgaria	All risks during construction (CAR) Delay of start of operation (DSU) Third Party Liability (TPL)	2020 (1)
	Energinet (Danish gas company involved in Baltic Pipe)	Executive and Board Liability insurance	2019 (2)
	N.V. Nederlandse Gasunie (Dutch gas company)	Fire/Commercial Damage Insurance	2018 (3)
	N.V Nederlandse Gasunie	Cyber Insurance	2018 (4)
Allianz	Polski LNG	Construction and Assembly Risks 2	2014 (5) (25)
	Polski LNG	Property and civil liability insurance for operation of the LNG terminal	2016 (6) (25)
AGCS (Allianz Global Corporate & Speciality)	Energinet	Liability Insurance	2019 (7)
AGCS	Energinet	Executive and Board Liability Insurance	2019 (2)
	Energinet	Third Party Liability Insurance	2018 (8)
AGCS	N.V. Nederlandse Gasunie	Cyber Insurance (local city gas distribution)	2018 (4)
AXA	Nord Stream 2		(9)
	Fluxys (Belgium gas company)	Project Property Damage and Business Interruption Zeebruges (B) and Dunkirk (F) LNG Terminals	2019 (10)
	Fluxys	Project insurance network all risks	2016 (11)
	Energinet	Third Party Liability Insurance	2018 (8)
	N.V. Nederlandse Gasunie	Fire/Commercial Damage Insurance	2018 (3)
XL Catlin	Energinet	Liability Insurance	2019 (7)
	N.V. Nederlandse Gasunie	Fire/Commercial Damage Insurance	2018 (3)
	N.V. Nederlandse Gasunie	EA liability insurance	2017 (12)
Chubb	Energinet	Third Party Liability Insurance	2018 (8)
	N.V. Nederlandse Gasunie	EA liability insurance	2017 (12)
	Nord Stream 2		(9)
Generali	Polski LNG	Construction and Assembly Risks	2014 (5)
	Polski LNG	Property and civil liability insurance for operation of the LNG terminal	2016 (6)
	Gaz-System (Polish gas transmission system operator running gas pipelines)	Property and civil liability insurance	2015 (13)
Liberty Mutual N.V. Nederlandse Gasunie N.V. Nederlandse Gasunie	N.V. Nederlandse Gasunie	Fire/Commercial Damage Insurance	2018 (3)
	N.V. Nederlandse Gasunie	EA liability insurance	2017 (12)
Lloyds	Energinet	Liability Insurance	2019 (7)
•	Energinet	Executive and Board Liability Insurance	2019 (2)
			()
Munich Re	Nord Stream 2		(9)
ERGO Hestia	Transit Gas Pipeline System EuRoPol GAZ	Insurance of property, business interruptions and civil liability	2016 (14)
ERGO Hestia	Transit Gas Pipeline System EuRoPol GAZ	Insurance of property, business interruptions and civil liability	2013 (15)
ERGO Hestia	Polski LNG	Construction and Assembly Risks	2014 (5)
ERGO Hestia	Polski LNG	Property and civil liability insurance for operation of the LNG terminal	2016 (6)
	Energinet	Liability Insurance	2019 (7)
ERGO	N.V. Nederlandse Gasunie	EA liability insurance	2017 (12)

Insurer	Project/Company	Type of insurance	Year of contract & source
PZU	Transit Gas Pipeline System EuRoPol GAZ	Insurance of property, business interruptions and civil liability	2016 (14)
	Transit Gas Pipeline System EuRoPol GAZ	Insurance of property, business interruptions and civil liability	2013 (15)
	Polski LNG	Construction and Assembly Risks	2014 (5)
	Polski LNG	Property and civil liability insurance for operation of the LNG terminal	2016 (6)
	Lotos Petrobaltic (Polish oil company doing exploration and production of hydrocarbons in the Baltic Sea)	Marine Risk Insurance Service	2016 (16)
SCOR	Energinet	Liability Insurance	2019 (7)
	N.V Nederlandse Gasunie	Fire/Commercial Damage Insurance	2018 (3)
Swiss Re	Snam (Italian gas company)	All assembly risks	2018 (17)
Talanx Warta	Transit Gas Pipeline System EuRoPol GAZ	Insurance of property, business interruptions and civil liability	2016 (14)
Warta	Transit Gas Pipeline System EuRoPol GAZ	Insurance of property, business interruptions and civil liability	2013 (15)
Warta	Gaz-System	Property and civil liability insurance	2015 (13)
Warta	Lotos Petrobaltic	Marine Risk Insurance Service	2016 (16)
Warta	Lotos Petrobaltic	Provision of marine risk insurance for platform (liability and casco), marine crude oil mine, third party liability	2015 (18)
Warta	Lotos Petrobaltic	Insurance service against risks related to the development of the B8 field Drilling risk insurance	2014 (19)
Warta	Polski LNG	Construction and Assembly Risks	2014 (5)
Warta	Polski LNG	Property and civil liability insurance for operation of the LNG terminal	2016 (6)
HDI Global	Energinet	Liability Insurance	2019 (7)
HDI Global	N.V. Nederlandse Gasunie	EA liability insurance	2017 (12)
HDI Global	N.V. Nederlandse Gasunie	Cyber Insurance	2018 (4)
HDI Global	Fluxys	Project Property Damage and Business Interruption Zeebrugge (B) and Dunkirk (F) LNG Terminals	2019 (10)
HDI Global	Fluxys	Project loss of gas insurance	2017 (20)
HDI Global	Fluxys	Public, Product and Professional Liability Insurance	2015 (21)
Tokio Marine	Nord Stream 2		(9)
Travelers	Nord Stream 2		(9)
Vienna Insur- ance Group	Transpetrol (state-owned Slovak company transporting and storing crude oil)	Property insurance and business interruption insurance	2015 (22)
	Transpetrol	Property insurance and business interruption insurance	2014 (23)
Zurich	Baltic Pipe	Offshore Construction Third Party Liability Insurance	2019 (24)
	Nord Stream 2		(9)
	Energinet	Liability Insurance	2019 (7)
	N.V. Nederlandse Gasunie	Fire/Commercial Damage Insurance	2018 (3)
	N.V, Nederlandse Gasunie	EA liability insurance	2017 (12)
			1

Source:

- (1) https://ted.europa.eu/udl?uri=TED:NOTICE:203196-2020:TEXT:EN:HTML
- (2) https://ted.europa.eu/udl?uri=TED:NOTICE:5754-2019:TEXT:EN:HTML
- (3) https://ted.europa.eu/udl?uri=TED:NOTICE:363372-2018:TEXT:EN:HTML https://ted.europa.eu/udl?uri=TED:NOTICE:360771-2018:TEXT:EN:HTML
- (4) https://ted.europa.eu/udl?uri=TED:NOTICE:217378-2018:TEXT:EN:HTML
- (5) https://ted.europa.eu/udl?uri=TED:NOTICE:20228-2015:TEXT:EN:HTML
- (6) https://ted.europa.eu/udl?uri=TED:NOTICE:209457-2016:TEXT:EN:HTML
- (7) https://ted.europa.eu/udl?uri=TED:NOTICE:160398-2020:TEXT:EN:HTML
- (8) https://ted.europa.eu/udl?uri=TED:NOTICE:48981-2019:TEXT:EN:HTML&src=0
- (9) https://euobserver.com/tickers/151052
- (10) https://ted.europa.eu/udl?uri=TED:NOTICE:109481-2020:TEXT:EN:HTML
- (11) https://ted.europa.eu/udl?uri=TED:NOTICE:7935-2017:TEXT:EN:HTML
- (12) https://ted.europa.eu/udl?uri=TED:NOTICE:230341-2017:TEXT:EN:HTML
- (13) https://ted.europa.eu/udl?uri=TED:NOTICE:258926-2015:TEXT:EN:HTML
- (14) https://ted.europa.eu/udl?uri=TED:NOTICE:4386-2017:TEXT:EN:HTML
- (15) https://ted.europa.eu/udl?uri=TED:NOTICE:10456-2014:TEXT:EN:HTML
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- (25) Contracts terminated by 2017/2018 by Allianz

Greenhouse gas emissions calculations methodology

In order to arrive at an estimate of the amount of greenhouse gas emission an LNG terminal could enable, we combine company data about the capacity of the terminal in million tons LNG per annum (mtpa) or billion cubic meters of gas (bcm) with emissions factors by the Intergovernmental Panel on Climate Change (IPCC). We consider both the direct CO₂ emissions from burning the gas and the heat-trapping effects of methane, which escapes along the supply chain. Methane is considered on a 20-year timescale (GWP20) and accounts for more than half the heating contribution of these infrastructures. The calculations were performed by Kjell Kühne of the Leave it in the Ground Initiative (LINGO) and can be made available upon request.



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