LIQUEFIED GAS, SOLID PROBLEM

Why private finance should not support any new LNG terminal project in Europe
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Authors:
Claire Maraval

Contributors:
Henri Her
Lucie Pinson
Paul Schreiber

Graphic design:
Guénolé Le Gal
Jordan Jeandon

Publication date:
September 2022

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The urge to end Europe’s Russian fossil fuel dependency as quickly as possible has put LNG in the spotlight. In the past few months, new LNG import terminal projects have sprung up all over Europe amid a surge in the push to diversify gas supplies, adding to several existing plans.

Plans for new LNG regasification terminals in Europe are highly disproportionate and threaten to drive Europe into a carbon lock-in for decades to come, while simultaneously generating an increased risk of stranded assets. Indeed, planned additions in LNG import capacity would:

- Not provide an adequate response to the short-term urgency that Europe is facing, as the construction of new LNG regasification terminals takes several years.
- Largely exceed the capacity necessary to respond to EU gas demand in scenarios aligned with a 1.5°C trajectory, and thus are useless if the EU is to uphold its commitment to the Paris Agreement.
- Be at odds with the EU’s objectives to reduce greenhouse gas (GHG) emissions by 55% by 2030 and become the world’s first climate-neutral continent by 2050, due to LNG’s methane emissions and leakages, as well as the carbon lock-in risk associated with new fossil fuel infrastructures.
- Hinder Europe’s transition by diverting investments from renewable energy deployment and energy efficiency action.
- Bring the threat of detrimental effects on energy poverty due to LNG’s high prices.

Private finance is critical to enabling the construction of new fossil fuel infrastructure. Many LNG import terminal projects have yet to secure financing and insurance coverage. Private financial institutions must take account of the responsibility they hold and commit not to support these projects at the risk of compromising their own climate commitments.
1. LNG IS TRENDING IN EUROPE

a. Tightening gas markets

Before the Russian war in Ukraine, Europe’s gas supply was already causing concern. Global gas prices have been increasing since the second half of 2021, driven by a growing demand in Asia and Europe, which led the EU to enter the winter of 2021/2022 with historically low gas storage levels.1

In the first month of 2022, the gas crisis in Europe became even more acute with the simultaneous decision by the EU to progressively stop importing gas from Russia – in 2021, this represented more than 40% of total gas consumption in Europe² – and the sudden cut-off of gas supplies from Russia to several countries. As a result, European gas prices surged fourfold between Q1 2021 and Q1 2022, resulting in a bill of around €78 billion in gas imports for the EU in Q1 2022, up from €16 billion in Q1 2021.³

b. Europe’s headlong rush to LNG

In 2021, LNG constituted 20% of the EU’s gas imports.⁴ At the beginning of 2022, there were already 48 LNG import facilities⁵ operational in Europe⁶ – 37 of these in the EU only.⁷ Even with four LNG projects under construction and several already planned at the beginning of 2022,⁸ such as the Brunsbüttel and Stade projects in Germany, Russia’s war in Ukraine led many stakeholders, including gas lobbies Eurogas and Gas Infrastructure Europe,⁹ to advocate for increased reliance on LNG with new import capacities.

At least 16 new projects have been proposed in Europe,¹⁰ including several onshore terminals, such as in Wilhelmshaven (Germany) and Gate (the Netherlands), as well as many floating storage and regasification units (FSRUs), for instance, in Le Havre (France) and Brunsbüttel (Germany). Extensions of existing or planned LNG import terminals have also been planned, for example in Krk (Croatia).

In addition, at least six previously dormant projects have also been reactivated since February 2022. For example, two previously shelved onshore projects in Italy have been revived, the Porto Empedocle terminal and the Gioia Tauro LNG terminal. Idle terminals could also be recommissioned, such as the Musel LNG terminal in Spain.

In total, projects currently under construction, plus pre-Russian war plans and new or newly revived projects could almost double Europe’s existing LNG import capacity, from 235 bcm/year currently operational to 449 bcm/year.
2. LNG IS A LOOMING CLIMATE DISASTER

a. Methane menace

Every single drop of LNG is fossil gas, composed mostly of methane, which is a greenhouse gas 86 times more damaging than CO2 over 20 years11 and responsible for 30% of the rise in global temperatures since the industrial revolution.12 Because it has such a significant shorter-term impact, methane is one of the most important levers to limit global warming: methane emissions could fall rapidly, and would be out of the atmosphere within a few decades.

Accordingly, the IEA Net Zero by 2050 scenario requires a fall of about 75% of methane emissions from fossil fuel operation between 2020 and 2030, and states that the LNG trade must peak in the middle of this decade.13 In parallel, UNEP’s Global Methane Assessment points out that any new LNG terminal is incompatible with keeping warming to 1.5°C,14 which was echoed in the IPCC’s latest report stating that any new fossil infrastructure will make it more difficult to limit global warming to 1.5°C or even 2°C.15

Indeed, when it comes to LNG, its long and complex supply chain involves multiple potential leakage points, in particular during the liquefaction and shipping processes.16 In a word, using LNG instead of piped gas will likely amplify methane emissions, and therefore the global warming potential of European gas.

b. Carbon lock-in and stranded assets risk

Little information has been provided on the anticipated operating period of the proposed new European projects, but the expected lifespan of LNG terminals can extend to 30 years or more. The new LNG projects are extremely likely to create a carbon lock-in, which would strongly challenge the EU’s climate objectives to reduce emissions by 55% in 2030 and reach climate neutrality by 2050. According to Reclaim Finance’s own calculations, if all European LNG projects – currently operating, under construction, or proposed – are built and operated at full capacity, the combustion of the transported gas will lead to 4.34 gigatons of CO2 emissions by 2029.15

In order to spare Europe from the carbon lock-in associated with new LNG import terminals, the next option for these assets is to be stranded. In its Net Zero 2050 report, the IEA underlines that “most of the 200 bcm worth of LNG projects currently under construction do not recover their invested capital “resulting in “stranded capital estimated at USD 75 billion”. Indeed, in the IEA’s Net Zero 2050 scenario, global LNG trade “peaks in the mid-2020s at 475 bcm and falls to 2020 levels of 390 bcm by 2030”. European regasification capacity is already 235 bcm/year, and Europe could reach a capacity of almost 450 bcm/year by 2029 with current projects planned and in construction. The fact that Europe could reach such disproportionate capacities, in excess of the IEA’s global projected capacity to achieve net zero in 2050, can only lead to most of these new assets being stranded.

Furthermore, in Europe’s case, LNG imports are particularly methane-intensive because a major part of these are US shale imports. During the first four months of 2022, 74% of all US LNG exports were sent to Europe, compared to an average of 40% in 2021.17 The increasing dependence of the EU on US shale gas is of particular concern given that 3.6% to 7.9% of methane from shale gas production escapes into the atmosphere as vents and leaks during the lifecycle of a well. These methane emissions are at least 30% higher, and possibly more than twice as high, as those from conventional fossil gas. Due to methane emissions, the footprint of shale gas could be up to twice as significant as that of coal over a 20-year time horizon, and is comparable over 100 years, and that is excluding emissions during liquid gas transportation.18 Even a conservative upstream leakage rate of 3.2%, if accounting for a US to EU delivery, would lead to 10% higher emissions than are produced by coal in electricity generation.19

Additionally, LNG’s purification, liquefaction, shipping and regasification processes are twice as energy intensive as transporting fossil gas through international pipelines, which further increases LNG’s GHG emissions when compared to conventional fossil gas.20

Figure 2: LNG’s supply chain

Exploration & Production → Processing → Pipeline transport → Liquefaction 

Shipping → Regasification → Pipeline transport → Distribution

Figure 3: Projected regasification capacity and cumulative equivalent emissions of European LNG terminals over time

Source: EnerData World LNG database for operational capacity, own calculations based on BP statistical review for cumulative equivalent emissions
3. EUROPE’S LNG RUSH WILL NOT SOLVE THE ENERGY CRISIS

a. Newly planned projects will come too late

The projects currently under study for new European regasification terminals will not meet the short-term urgency Europe is facing. A recent study by Global Energy Monitor shows that liquefaction LNG terminals in the US have typically taken three to five years to build, therefore excluding new terminals as a solution for near-term concerns. In Europe, analysis of data available on the most recently built land-based regasification LNG terminals shows that these took more than five years on average from the time of proposal to the time of operation. Between final investment decision (FID) and commissioning, an average of more than three and a half years passed.

To address delays in onshore terminal construction, the gas industry promotes the rapid deployment of floating storage and regasification units (FSRUs). But given the small size of the current FSRU fleet, limited to 45 units worldwide, developers of new floating terminal projects may have to order new ones, for which the average delivery time is between 2.5 years to just above 3 years.

Utilities’ dirty LNG contracts

In recent months, news about LNG contracts between European utilities and foreign LNG exporters has been popping up. These contracts, several of which expire after 2045, could lock the continent into fossil fuels for decades to come.

Additionally, such contracts are creating an enhanced reliance on a small number of LNG-exporting countries. In 2021, the US, Qatar and Russia provided almost 70% of European LNG imports. The US, which supplied 26% of the LNG received in Europe in 2021, is the main LNG supplier to the EU and the UK.

Recent contracts signed by European utilities illustrate the rise of US LNG – shale gas for the most part, such as the 20-year deal between US Venture Global and German utility EnBW starting in 2026 or the heads of agreement between US Sempra Energy and Polish PGNiG from 2027 to 2047.

Engie takes the plunge into LNG

Engie’s recent deals are particularly telling, with an extension to 2041 of its existing contract with US Chenière Energy and a new agreement with US NextDecade running from 2026 to 2041. A similar deal between Engie and NextDecade had fallen through in November 2020 due to concerns over the environmental impact of US shale gas, but such considerations seem to carry little weight now for the French utility.

Indeed, Engie now seems to be content with NextDecade’s claims that its LNG exports will be carbon neutral through its proposed Rio Grande LNG liquefaction terminal equipped with carbon capture and storage (CCS) devices. However, very little information is known regarding how NextDecade’s carbon capture and storage system will function, and the project is only in its very early stages. Additionally, even if the CCS system performed up to NextDecade’s claims, its LNG would remain far from being carbon neutral, due to methane emissions occurring at every stage throughout the LNG value chain, and not just during the liquefaction process.

In parallel, Engie plans on expanding its importing capacities in France from 20 to 31 bcm/year, with the expansion of two of its LNG terminals located at Montoir de Bretagne and Fos Cavaou. The company is also involved in two FSRU projects, at Le Havre and Wilhelmshaven.

Source: EnerData World LNG Database & Global Energy Monitor
**b. Additional LNG import capacities are redundant**

Even in the unrealistic scenario that these additional LNG projects are completed in time, they will be unnecessary, as current import capacities are sufficient. Europe’s current gas problem is not the lack of import capacity but the tightness of global gas markets due to increasing demand. Indeed, if all of Russia’s pipeline import capacity were unavailable, the EU’s net import capacity would still exceed demand under 1.5°C scenarios from the International Energy Agency (IEA) and from the European Network of Transmission System Operators for Gas (ENTSOG), as well as scenarios from the European Commission’s 2030 Climate Target Plan. 33

In addition, the utilization rates of existing LNG terminals in Europe were relatively low before the energy crisis. In 2021, European terminals were used at 45%, which further undermines the case for building new terminals. In the same year, even the European countries receiving some of the largest volumes of LNG did not use as much as half of their import capacity.14

At a time when the European transition requires considerable investment, squandering funds on unnecessary new fossil fuel infrastructures seems very short-sighted. In fact, the EU can exit Russian gas by 2025 without any new fossil fuel infrastructure by accelerating the deployment of renewable electricity, energy efficiency and electrification. 35 Implementing a structural change towards renewable energies is more cost-efficient than maintaining the EU’s reliance on gas, as investments in renewables, energy efficiency and electrification will be outweighed by a decrease in fossil gas, LNG and coal supply cost, as well as CO2 emissions and stranded assets risks.36

**c. LNG worsens energy poverty**

Stopping new regasification terminals from being built is essential, not only to limit global warming, but also to protect the most vulnerable against rising gas prices. In 2019, one in four European households were financially unable to properly heat, cool or light their homes.37 In 2022, as household incomes still recover from the consequences of the Covid-19 pandemic, the energy crisis bears a high risk of drastically increasing energy poverty in Europe. Indeed, even from a historical perspective, the current surge in energy inflation is significant, and gas and electricity prices are driving the spike.38

To limit the impacts of high gas and LNG prices on European households, it is essential to get out of Europe’s fossil fuel dependency and to invest in alternative energies and energy efficiency. Indeed, more LNG imports would contribute to an increase in the EU’s gas dependency and of global demand for LNG freights (which is already very high), thus feeding the increase of gas prices and ultimately passing on costs to EU energy consumers.

Moreover, the rush to import LNG into Europe is not only impacting European households, but also citizens in the Global South. Due to increased competition in the global LNG market, LNG-dependent countries are being outbid by European buyers. Countries such as Bangladesh, Thailand and Pakistan are having trouble securing LNG imports, risking energy shortages and power outages. 39 Between October 2021 and June 2022, more than a dozen of planned LNG shipments to Pakistan were canceled, leaving the country with extremely limited energy resources.40
CASE STUDIES

Brunsbüttel LNG terminal

Project background
Located at the mouth of the Elbe River, the Brunsbüttel onshore regasification terminal project has been in talks since 2015. Current plans involve a capacity of 8 bcm/year (equivalent to 5.92 mtpa), but an expansion to 10 bcm/year has been under discussion. The promoters of the project are Gasunie, RWE and the German development bank KfW. The investment cost of the project is about €450 million, with a final investment decision expected in 2023. Brunsbüttel LNG Terminal will be operated by Gasunie and has already been booked by RWE, most likely to import LNG from the US or Qatar.41

A project riddled with flaws
• The date of the commission, scheduled for 2026, will come too late to address the drop in German gas supply.
• With a 30 to 50-year lifespan, the project has two possible outcomes: either become a stranded asset, or be used for the duration, preventing Europe from reaching its emission reduction objectives.
• The 8 bcm projected annual volume would result in CO2 emissions of approximately 14 million tons per year, not including methane emissions along the whole LNG supply chain.44
• Located near the former Brunsbüttel nuclear power plant, the current nuclear waste storage facility and a chemical park, the LNG terminal project comes with significant associated safety risks. The explosion risk of LNG facilities is a fact, and the Freeport LNG accident in June 2022 calls for the utmost caution in the location of installations.

Stade LNG terminal

Project background
Located on the banks of the Elbe River, the Stade onshore LNG terminal project has been pushed by Dow Chemical since 2018, with Hanseatic Energy Hub as developer. Initial planned capacity was 4 bcm/year, but this has been revised to over 13 bcm/year. Shareholders include Buss Group, Dow Chemical, Fluxys and Partners Group. EnBW, which has reserved a capacity of 3 bcm/year, will be one of the terminal’s users. Investment costs reach €850 million, and the FID date is scheduled for 2023.43

A project riddled with flaws
• Similar to the Brunsbüttel project, the Stade LNG terminal project has a scheduled commissioning date in 2026, which eliminates its relevance regarding the current gas crisis. Stranded asset risks are also similar to the Brunsbüttel project.
• An initial cooperating partner for LNG supply was Quebec LNG, which withdrew from the project following the government’s refusal to authorize the associated LNG export terminal due to environmental risks and significant local mobilization. LNG supply for the Stade LNG terminal is now expected to be US shale.
• The projected LNG annual volume of 12 bcm would result in CO2 emissions of approximately 21 million tons per year, not including methane emissions along the supply chain.44
• At the planned terminal site, further deepening of the river would be necessary for the construction of the port and access road, and LNG tankers would have to make frequent turning maneuvers in the already busy Elbe navigation channel.

FSRU projects

Gdansk
The Gdansk LNG project, also known as the Polish Baltic Sea Coast Terminal, is a proposed FSRU dating from 2017. Its operator is the Polish company Gaz-System, which until recently planned a capacity of 8.1 bcm/year. But following the war in Ukraine, these plans have been revised upwards to 12 bcm/year. Polish company PGNiG has already booked 4 bcm/year of capacity to accommodate its 20-year contract with US shale gas producer Sempra Energy. LNG will come from two of Sempra Energy’s proposed export terminals in the Gulf of Mexico: the future extension of the Cameron LNG terminal and the Port Arthur LNG terminal.45

The expected commissioning date of the FSRU is 2026 or 2027. The relevance of the project is undermined by the upcoming commissioning of the Baltic Pipe in October 2022, a gas pipeline connecting Denmark to Poland with a capacity of 10 bcm/year.46

Le Havre
The FSRU project in Le Havre is a project directly resulting from Putin’s war and the gas crisis in Europe. First details were released in March 2022, and commissioning is scheduled for September 2023. The FSRU project, operated by TotalEnergies, is expected to have a capacity of 5 bcm/year.51 Little information has been made public, notably about the cost of the project, the projected operating time of the FSRU or the associated importing contracts. Unfortunately, details of the environmental impacts of the terminal will also be omitted from public scrutiny, due to the French government’s determination to fast-track the project. A recently passed law provides the project with numerous exemptions from the French environmental code, with environmental impact studies ignored as well as public consultations. Construction of the project will also be allowed to begin after all normal authorizations have been granted.
CONCLUSION

The current boom in LNG regasification terminals in Europe is the result of panic over the decline in Russian gas imports, and is completely inappropriate to the situation. The import capacities needed to ensure the diversification of gas supplies in the short term are already in place. The EU must urgently embrace an energy transition to reach its 2050 net zero objective, which will be strongly hindered by any new LNG terminal.

Although many private financial institutions have adopted coal policies, the oil and gas sector remains largely unchallenged. Two-thirds of the 369 institutions screened by the Oil and Gas Policy Tracker do not even have oil and gas policies. The harms of fossil gas remain largely undervalued, and existing policies often only address oil. However, fossil gas is a major concern today, and private finance must address the issue as a whole - along the entire gas value chain. LNG provides a perfect example of the need to consider emissions not only from fossil gas production but also transportation and distribution, given the extent of methane leakage throughout the value chain. Yet, oil and gas policies regarding LNG infrastructures are virtually non-existent.

Private financial institutions committed to limiting global warming to 1.5°C, including GFANZ members, can no longer support destructive LNG projects. Funds for LNG terminal projects must be denied, and private finance must develop serious exclusions regarding LNG projects, as well as engagement practices with the utilities fueling Europe’s LNG dependence.

“The best, the cleanest and the safest way out of the dependency on fossil fuels are renewables. So the new security environment is the best argument to speed up deployment of renewables. Renewables are homegrown. They give us independence from Russian fossil fuels. They are more cost-efficient. And they are cleaner than anything else. So let us take the opportunity and really invest in renewable energy.”

Ursula von der Leyen, European Commission President
References

1. European Commission, Quarterly report on European gas markets Q4 2021, 2022
2. European Commission, In focus: Reducing the EU's dependence on imported fossil fuels, 2022
3. European Commission, Quarterly report on European gas market Q1 2022, 2022
4. European Commission, Liquefied natural gas
5. Extensions of existing terminals developed in a separate timeline are counted as distinct facilities.
6. The term Europe includes Albania, Montenegro, Turkey and the UK in addition of EU member states - based on EnerData World LNG Database's scope.
7. Data sourced from EnerData World LNG Database.
9. Influence Map, Monthly Briefing for June: Oil and Gas Sector, 2022
15. Intergovernmental Panel on Climate Change Working Group III, Climate Change 2022: Mitigation of Climate Change. 2022
17. Upstream Online, US ships nearly 75% of its LNG cargoes to Europe. 2022
20. Carbone 4, Importations de gaz naturel : tous les crus ne se valent pas. 2021
23. Data sourced from EnerData World LNG Database.
27. US Energy Information Administration, Three countries provided almost 70% of liquefied natural gas received in Europe in 2021. 2022
28. EnBW, Venture Global and EnBW announce LNG sales and purchase agreements. 2022
29. Reuters, Poland's PGNiG secures LNG supply from U.S. firm Sempra. 2022
30. Cheniere Energy, Cheniere and Engie Increase Volume and Extend Term of LNG Sale and Purchase Agreement. 2022
31. NextDecade, NextDecade and ENGIE Execute 1.75 MTPA LNG Sale and Purchase Agreement. 2022
32. Data sourced from EnerData World LNG Database
35. Ember, E3G, RAP, Bellona, EU can stop Russian gas imports by 2025. 2022
36. Artylys, Does phasing-out Russian gas require new gas infrastructure? 2022
37. Right to Energy Coalition, About Energy Poverty
39. Ember, Europe's dash for gas means blackouts for the Global South. 2022
40. Bloomberg, Europe's Plan to Quit Russian Fuel Plunges Pakistan Into Darkness. 2022
41. Global Energy Monitor, Brunsbüttel LNG Terminal
42. Deutsche Umwelthilfe, LNG Terminals für Deutschland: Flüssiggaserzeugung oder lass ich das? 2021
43. Global Energy Monitor, Stade LNG Terminal
44. Deutsche Umwelthilfe, LNG Terminals für Deutschland: Flüssiggaserzeugung oder lass ich das? 2021
45. Global Energy Monitor, Polish Baltic Sea Coast Terminal
46. Global Energy Monitor, Baltic Pipe Project
47. EnerData, France selects TotalEnergies to install a 5 bcm/year FSRU in Le Havre | Enerdata. 2022

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Reclaim Finance is an NGO affiliated with Friends of the Earth France. It was founded in 2020 and is 100% dedicated to issues linking finance with social and climate justice. In the context of the climate emergency and biodiversity losses, one of Reclaim Finance’s priorities is to accelerate the decarbonization of financial flows. Reclaim Finance exposes the climate impacts of some financial actors, denounces the most harmful practices and puts its expertise at the service of public authorities and financial stakeholders who desire to bend existing practices to ecological imperatives.

contact@reclaimfinance.org