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FUTURE OF EU GAS DEMAND IMPLICATIONS FOR THE US LNG EXPORT SECTOR

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Summary¹

- > The EU is implementing an ambitious package of measures to reduce its reliance on Russian gas, targeting both supply and demand. This will accelerate its move away from reliance on gas imports over the next decade.
- > This will lead to an increased reliance on LNG in the short term. Yet, the EU's outlined strategy does not imply any market growth in the medium term as overall gas demand will reduce as a result of EU and Member State policies.
- > The discrepancy between LNG project development timelines and EU gas demand projections means that newly proposed projects will not come online before EU gas demand declines.
- > Long payback periods mean that any LNG export projects aimed primarily at the EU market may never recover the capital invested in building LNG infrastructure.

The EU accelerates away from gas

In response to Russia's invasion of Ukraine, the EU announced in early March its REPowerEU² programme. It aims to reduce reliance on Russian gas imports, which currently are at around 155 bcm/year. It seeks to reduce gas consumption by 2030 by between 100-155bcm, i.e., equivalent to the current Russian imports. This will be achieved twofold: first, through the full implementation of the pre-existing "Fit for 55 package", which would see the EU's gas demand reduced by 100 bcm by

¹ This version published on 15.04.2022 is an update and includes minor corrections and additional data. The previous briefing was published on 08.04.2022.

² European Commission (2022), **REPowerEU: Joint European action for more affordable, secure and sustainable energy**. The EU is expected to further substantiate this programme mid-May 2022.



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2030 or around 30% of total gas consumption. Second, through additional action such as demand-side measures, including energy efficiency and renewables, and the deployment of hydrogen and biogas.

To reduce reliance on Russian gas imports as fast as possible, the EU will also seek to diversify its supply sources this year, looking to obtain 50 bcm of gas from LNG imports. However, while deployment of renewables and energy efficiency will continue to accelerate throughout the decade, this volume of additional LNG demand in Europe will not. Given the EU's current REPowerEU plans, the amount of additional LNG demand is unlikely to significantly exceed the 50bcm/year between now and 2030. Thereafter, the EU's clean energy plans are likely to successively erode this short-term boost to global LNG demand.

Given the temporary nature of the substitution requirements for Russian gas with alternative gas sources, this target cannot be reached in the short term by investing in new production and export infrastructure, but only by maximising present production capacities and reorganising gas trade flows.

Further, recent analysis shows that more ambitious targets are possible and could end imports of Russian gas by 2025, with two thirds reduction via clean energy deployment. In this scenario, any LNG substitution effect from Russian gas would start to decline after three years.

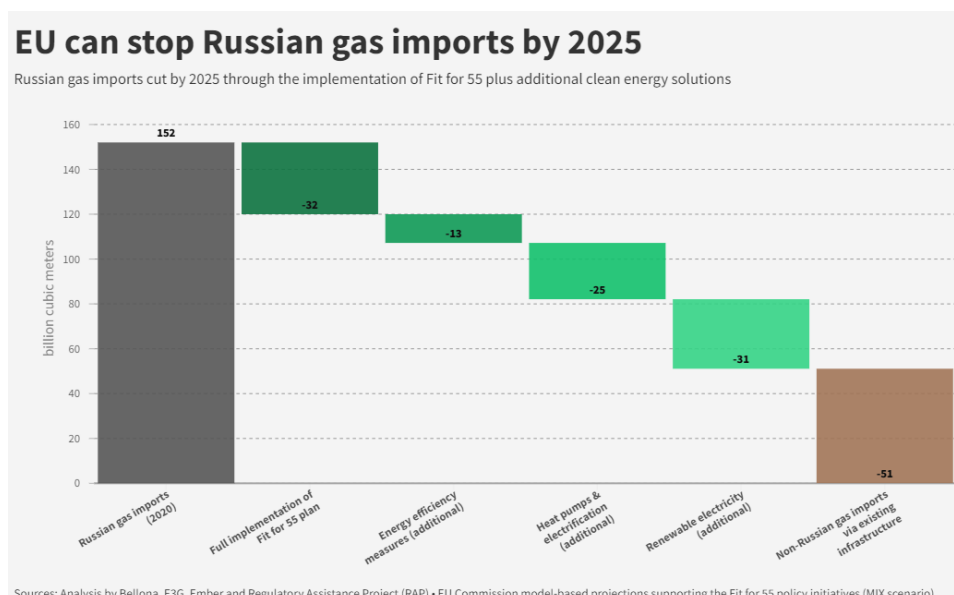


Figure 1: *Joint analysis* by Ember, E3G, Regulatory Assistance Project and Bellona.



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In addition to collective efforts at the EU level, Member States are responding individually by accelerating their clean energy deployment.

Recent steps taken by selected member states to accelerate the energy transition – accounting for over 70% of EU gas consumption

Country	% of EU gas consumption ³	Actions to reduce gas demand announced since February 2022
Germany	22.8	<ul style="list-style-type: none"> ➤ De facto phaseout of new gas boilers from 2024⁴ ➤ 100% renewable power system by 2035 ➤ Boost solar tenders from 5GW to 20GW by 2028, maintained until 2035 ➤ Boost wind tenders from 2 GW to 10 GW by 2027, maintained until 2035⁵
Italy	17.8	<ul style="list-style-type: none"> ➤ Approved six new windfarms and committed to further wind deployment⁶
France	11	<ul style="list-style-type: none"> ➤ End of subsidies for new residential gas heaters ➤ Boosting support for renewable energy heating⁷
Netherlands	9.6	<ul style="list-style-type: none"> ➤ Doubled offshore wind target for 2030⁸
Poland	5.2	<ul style="list-style-type: none"> ➤ Committed to revised energy plan with renewed focus on renewables⁹
Portugal	1.6	<ul style="list-style-type: none"> ➤ 80% renewable electricity by 2026¹⁰

³Eurostat, **Supply, Transformation and Consumption of Gas – % for 2020**

⁴TGA-Fachplaner (2022), **65% Renewable Energy: Including in Heating**

⁵Reuters (2022), **Germany to speed renewables push due to Ukraine crisis**

⁶France24 (2022), **The Med gets first offshore windfarm as Italy vows energy revolution**

⁷Reuters (2022), **France ends gas heaters, boosts heat pumps in bid to cut Russia reliance**

⁸Reuters (2022), **Netherlands ramps up plan for doubling offshore wind capacity by 2030**

⁹Kancelaria Prezesa Rady Ministrów (2022), **Polish Energy Policy to 2040 update**

¹⁰Institute for Energy Economics and Financial Analysis (2022), **Portugal plans boost of electricity renewables share to 80% by 2026**



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Greece	1.5	➤ Plans to accelerate the deployment of solar energy infrastructure ¹¹
Bulgaria	0.8	➤ Regulatory relief for renewables deployment, tripling the use of renewables in the power sector by 2026 ➤ Building storage capacity ¹²
Denmark	0.8	➤ Faster phase-out of gas through energy efficiency and renewable energy ➤ Faster replacement of individual gas heating with central heating or heat pumps ¹³

Implications for the US gas export sector

The US can supply Europe with the 50 bcm of gas called for by the EU-US announcement without expanding its export capacity beyond what is already under construction. Although some of its exports are bound up in long-term contracts, these are in many cases flexible, signed not with end users themselves, but with companies with global portfolios and diverse ways of meeting their commitments.¹⁴

In addition, unlike in 2021, operating capacity is now being fully utilised, and the Sabine Pass expansion recently became partially operational, allowing exports to increase in the last months. Maintaining the US' record shipments to Europe in Q1 2022 throughout 2022 would alone deliver 73 bcm this year—an increase of 48 bcm compared to 2021. Projects coming online this year will increase export capacity by 16 bcm, with 5.1 bcm already contracted to Europe. In 2025, after Golden Pass becomes operational, the US will have at least 21.4 bcm in additional export capacity on top of what it will have by the end of 2022.¹⁵

¹¹ Reuters (2022), [Greek PM inaugurates 204 MW solar park, pledges fast permits for renewables](#)

¹² European Commission (2022), [NextGenerationEU: European Commission endorses Bulgaria's €6.3 billion recovery and resilience plan](#)

¹³ Statsministeriet (2022), [National Compromise on Danish Security Policy](#)

¹⁴ US Energy Information Administration (2021), [Natural Gas Weekly Update](#)

¹⁵ Institute for Energy Economics and Financial Analysis (2022), [Analysis finds US can increase energy shipments to Europe without building new facilities](#)



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However, while projects that are already under construction and scheduled to come online in the next years can help to alleviate Europe's supply issues and ease the tight global supply market, all further LNG projects will face high risks due to the continuing energy transition, construction timelines, and long payback periods.

Newly proposed projects will not be able to capitalise on short-term LNG demand

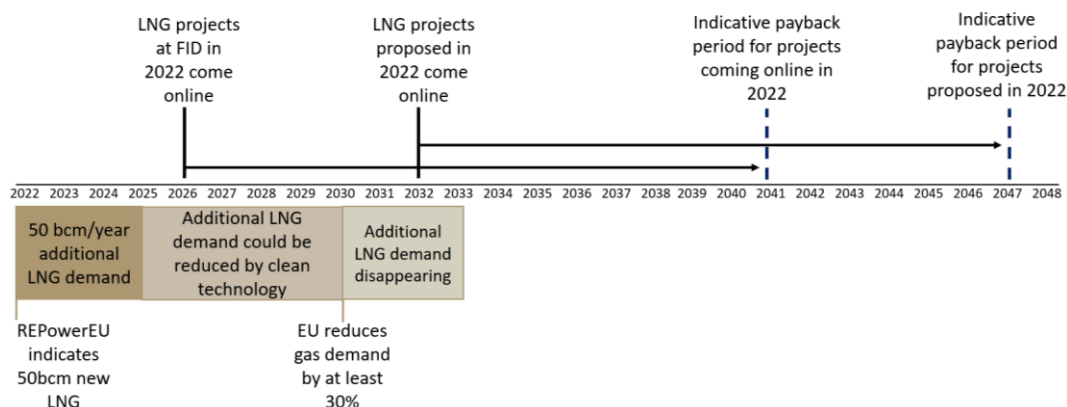


Figure 3: Indicative construction and payback timelines for new LNG terminals, contrasted to additional LNG demand set out in REPowerEU. LNG demand between 2025 and 2030 reflects the potential of increased action on demand-side as set out by E3G

Delivery timelines do not match demand projections: With EU gas demand falling by 30% by 2030, even the assets already under construction risk becoming stranded before the end of their functional lifespan. Any LNG project receiving an FID this year will take 3-5 years to be constructed¹⁶, bringing its first gas between 2025 and 2027, by which point European gas demand could already have started to fall. The risks are even greater for new projects proposed in 2022. LNG terminals can take around 10 years to deliver from conception¹⁷, therefore new proposals are unlikely to come online this decade.

Payback periods are long: The payback period for LNG projects can be around 15 years¹⁸, which is why US LNG contracts are almost always accompanied by 20-year take-or-pay clauses. With falling EU gas demand, new assets may not be in use for long enough to return the capital invested. This issue is thrown into relief in the

¹⁶ Global Energy Monitor (2022), [How Long Does it Take to Build an LNG Export Terminal in the United States?](#)

¹⁷ Oxford Institute for Energy Studies (2014), [LNG Plant Cost Escalation](#)

¹⁸ Centre for Security and International Studies (2022), [How US LNG Could Help Europe and Climate](#)



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energy transition context: low breakeven prices would be necessary to make a return under net-zero scenarios, and the US is among the most expensive producers¹⁹.

About E3G

E3G is an independent climate change think tank with a global outlook. We work on the frontier of the climate landscape, tackling the barriers and advancing the solutions to a safe climate. Our goal is to translate climate politics, economics and policies into action.

E3G builds broad-based coalitions to deliver a safe climate, working closely with like-minded partners in government, politics, civil society, science, the media, public interest foundations and elsewhere to leverage change.

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¹⁹ Nature Energy (2021), [Reframing Incentives for Climate Policy Action](#)