Small Step Up for Renewables, Giant Fall for Gas

New analysis by Ember finds that increasing the EU renewables target to 45% by 2030 would halve fossil gas imports and save €43 billion in 2030 alone. Across the period from 2025 to 2030 this could amount to an estimated €200 billion in additional savings.

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This briefing compares expected gas import requirements in the Fit for 55 plan to the more ambitious REPowerEU scenario. It applies Dutch Title Transfer Facility forward prices to estimate gas cost savings.

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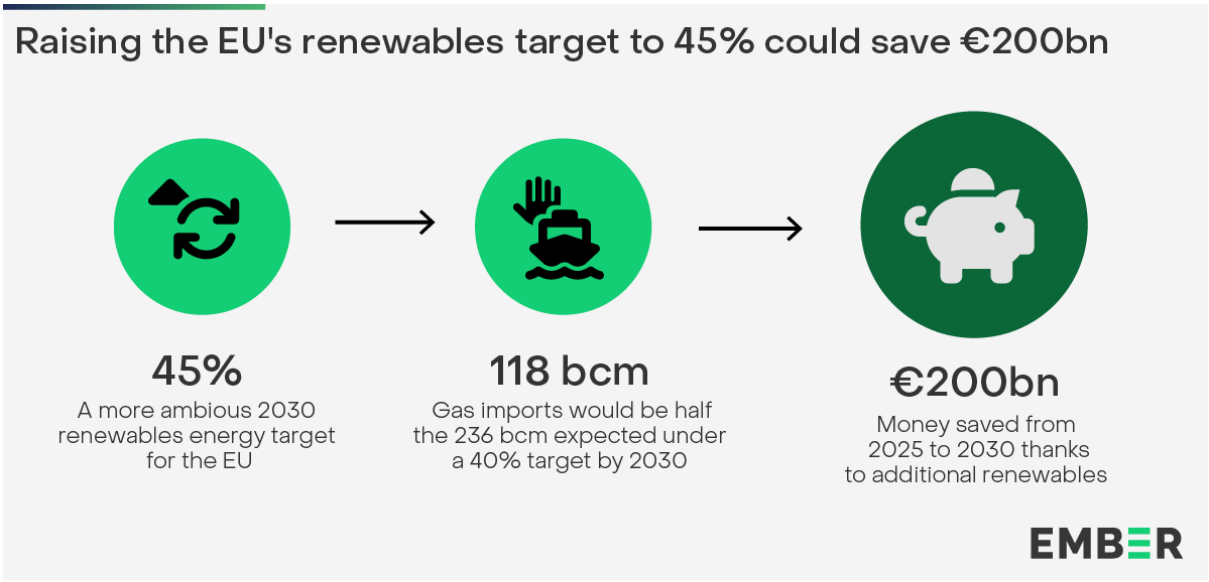
A more ambitious EU renewables target could save €200 billion

This briefing examines why it is imperative that the EU adopts at least a 45% renewable energy by 2030 target. Failing to do so would result in continued over-reliance on imported fossil gas and exposure to the many associated economic, political, reputational and climate risks.



01 Higher RES target could save €200bn

The 45% renewable energy target would slash 2030 EU gas imports in half compared to the Fit for 55 package's 40% target. This equates to €43 billion in additional savings per year by 2030 compared to the 40% target. Extrapolating back, the higher target could achieve potential savings of €200 billion between 2025 and 2030.

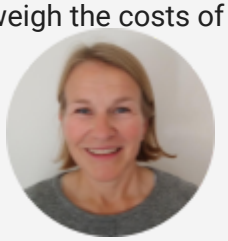
02 More ambition, more savings

Analysis shows that the savings increase further with even more ambitious EU renewable energy commitments. As calls grow from industry and civil society for a 50% renewables target to align with the Paris Agreement, the analysis by Ember shows that this higher target would help avoid €48 billion in gas costs in 2030, compared to a 40% target.

In response to Russia's invasion of Ukraine, the European Commission launched its REPowerEU plan (RPE) and proposed increasing the required share of renewable energy sources (RES) in EU final energy consumption to 45% by 2030. This RES share is higher than the 40% proposed by the Commission in its Fit for 55 (FF55) plan, which was adopted in July 2021.

There is now a heightened sense of urgency to cut Europe's dependence on fossil fuels by accelerating the deployment of renewables. The goal of RPE Is to phase out all Russian gas by 2027. The adoption of the marginally higher 45% RES target is key to achieving this objective. It would substantially reduce fossil gas imports and exposure to global price shocks for the EU and its Member States.

Just one small step up for renewables would see a giant fall in gas imports. Europe has already made great progress towards ditching its fossil gas addiction, it cannot stumble near the finish line. It must seize this opportunity to go the extra mile. The benefits of additional investment far outweigh the costs of insufficient ambition.



Sarah Brown
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Analysis

Small Step Up for Renewables, Giant Fall for Gas

Increasing the EU renewables target to 45% by 2030 would halve fossil gas imports and save €43 billion in 2030 alone. From 2025 to 2030 the more ambitious plan could save an estimated €200 billion.

More ambitious targets slash crippling gas costs

The gas crisis and the resulting skyrocketing prices have had dire economic consequences across the EU. Urgent actions have been implemented to lessen the immediate impact but now is the time to put longer-term policies in place to ensure that the EU cannot be held to ransom by the global gas market in future.

RPE and the associated 45% renewable energy target will cut 2030 gas imports to half those in the July 2021 Fit for 55 package (FF55). FF55 expects EU gas imports to be 236 billion cubic metres (bcm) in 2030 so RPE's 45% target will avoid 118 bcm of these. FF55 assumes 2030 gas imports are only reduced by 85 bcm (-26%) from 2020 levels. REPowerEU reduces gas imports by 206 bcm (-63%) over the same period.

Total installed renewable energy capacity will increase from 1067 GW to 1236 GW under RPE and provide 69% of all power generation. Wind and solar will do the heavy lifting, accounting for 55% of the electricity mix by 2030. European countries have already raised their renewables ambitions since the war began, with current plans already putting the EU on track for 63% renewable electricity by 2030, up from 55% previously.

The 118 bcm reduction in imports equates to €43 billion in additional avoided gas costs in 2030 if the 45% target is adopted rather than 40%. Based on current forecast Title Transfer Facility (TTF) gas prices in 2030, EU gas imports would cost €86 billion with the 40% target, tumbling to €43 billion with 45%. Across the period from 2025 to 2030 this could amount to an estimated €200 billion in additional savings.

Analysis shows that the savings increase further with even more ambitious EU renewable energy commitments. The avoided gas costs versus FF55 would be €48 billion and €55 billion for 50% and 56% targets respectively in 2030. And calls are growing from industry and civil society that a 50% renewables target is required to align with the Paris Agreement.

The EU must seize the opportunity, not escalate the risk

The war in Ukraine and the energy crisis have made it abundantly clear that fossil gas does not create energy security. Instead it brings geopolitical instability and skyrocketing energy bills and inflation. It is critical that the EU Member States do all that they can to end reliance on imported fossil fuels as quickly as possible. The 45% renewable energy target offers a golden opportunity to achieve this.

Fossil gas diversification through increased Liquefied Natural Gas (LNG) imports is not the solution and is simply replacing one risky dependency with another. LNG leaves the EU exposed to global price spikes and supply constraints and could result in Member States being locked into expensive and unnecessary long-term contracts and infrastructure. The costs of FSRU units in Germany are already spiralling upwards before the projects are even operational, with the government's budget more than doubling to €6.6 billion.

The EU's 'rush for gas' is also damaging its international reputation and harming developing economies, with countries in Asia being unable to secure LNG supplies. And the availability of LNG supplies cannot be relied upon. It appears the currently severe global supply constraints are set to continue until at least 2026.

The EU also cannot afford to tie itself into prolonged fossil gas dependence due to the climate implications. Imported LNG has high methane emissions, particularly from the United States.

To achieve the 55% emissions reduction by 2030 target, fossil fuel consumption must rapidly decline and the transition to clean energy accelerate. The majority of Member States have already stepped up their renewables targets beyond pre-war commitments. The EU must not open itself up to accusations of reneging on climate commitments. The war and energy crisis have acted as a catalyst and heightened the urgency to increase investment in and deployment of renewables. The adoption of the more ambitious 45% target would be confirmation of this progress.

Cutting fossil gas dependence is universally beneficial and crucial

Italy is the second largest consumer of fossil gas in the EU behind Germany and 94% of this gas is imported. Consequently, it has much to gain if the 45% target is adopted as it would reduce its gas costs by €6bn in 2030. Between 2025 and 2030, those savings are almost €30bn. After a slow start, Italy has made significant progress by announcing earlier this year that it plans to produce 72% of its electricity from renewables by 2030. However, the new government is proposing multiple new gas projects, including four LNG terminals.

Despite the dominance of nuclear energy in France, it still has a sizeable annual gas consumption and relies on imports for 95% of this. It imported 40 bcm of gas in 2021, ranking it third in the EU. There have been considerable availability issues with France's nuclear power plant fleet. A record number of reactors have gone offline in the last twelve months, contributing to sky-high electricity prices. Accelerated investment in renewables would help mitigate future risks. Adoption of the 45% target as opposed to the 40% one would cut France's gas imports by 9 bcm in 2030 and create additional savings of €3.4 bn. From 2025 to 2030 the savings could be €16bn.

Poland could cut its gas imports by 10 bcm by 2030 and save €18bn from 2025 to 2030 through the adoption of the 45% target. Instead, under existing policies, it plans an unrivalled increase in gas consumption by 2030. Being among the less wealthy EU Member States, the planned fourfold increase in gas power generation poses a significant threat. Poland might not be able to afford adequate gas supplies when prices spike, rendering the constructed gas fleet inoperable and triggering power shortages. Under current plans, the country will also be the last EU economy producing the majority of its electricity from fossil fuels, resulting in high energy prices, inflation and the reduced competitiveness of Polish companies.

EU 45% RES target could save €200 billion in gas costs

Country	2021 gas import dependency	2030 reduced gas imports 45% vs 40% (bcm)	2030 avoided gas costs 45% vs 40% (€bn)	2025-2030 avoided gas costs (€bn)
EU-27	82%	118.2	43	207.9
Belgium	100%	9.2	3.4	16.2
Bulgaria	96%	1.2	0.4	2.1
Czechia	92%	2.3	0.8	4
France	95%	9.3	3.4	16.2
Germany	89%	28.2	10.3	49.7
Hungary	67%	3.1	1.1	5.4
Ireland	70%	1.5	0.5	2.7
Italy	94%	17.1	6.2	29.9
Netherlands	33%	11.5	4.2	20.2
Poland	78%	10.3	3.8	18.1
Romania	24%	3.6	1.3	6.4
Spain	100%	7.5	2.7	13.1

Source: Eurostat data, ICE Dutch TTF Calendar 2030 gas price from Montel, Fit for 55 Policy package - MIX scenario (FF55), DG ENER economic modelling of renewable energy targets (June 2022)
Import dependency represents what proportion of a country's gas consumption came from imports

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EU Member States must not waste this opportunity to demonstrate solidarity, slash costs and ensure future energy security. They are currently experiencing the consequences of flawed past policies and limited ambition. They cannot afford to make similar mistakes now. Adopting at least a 45% renewable energy target is the only viable option.

Supporting Materials

Methodology

Conversion factors

1 bcm = 0.86 Mtoe (BP)

1 ktoe = 11.63 MWh (IEA)

1 boe = 1.65 MWh

1 bcm = 9.7 TWh (GCV)

1 Net Calorific Value = 0.9 Gross Calorific Value

Sources

Fit for 55 policy package MIX scenario has been used for all FF55 data.

Eurostat has been used for all actual fossil gas consumption and net imports data.

Fit for 55 policy package 2030 data has been used to calculate each country's share of total EU expected 2030 fossil gas imports. These proportions have then been applied to the total EU reduced gas imports under the 45% renewable energy target versus the 40% target (118 bcm) to determine each country's reduced fossil gas imports due to the more ambitious target.

REPowerEU Plan, analysis from Bellona, Ember, E3G and RAP and linear interpolation has been applied to estimate gas import reductions from 2025 to 2030 for 45% versus 40% targets

Gas prices

The 2030 fossil gas price applied to calculate avoided gas import costs has been taken from ICE ENDEX Dutch Title Transfer Facility Calendar 2030 settlement price on 29 November 2022.

Acknowledgements

Contributors at Ember

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Cover image

Offshore Wind farm in the Netherlands, in Noordoostpolder in Flevoland.

Credit: fokke baarssen