



What happened to coal power amidst Europe's winter crisis?

About this briefing

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Beyond Fossil Fuels, an expansion of the Europe Beyond Coal campaign, is a coalition of civil society organisations striving for a just transition to a fossil-free, fully renewables-based European power sector by 2035: <https://beyondfossilfuels.org/>

The following individuals contributed to this briefing:

Coordinating author:

Alexandru Mustață

Significant contributions from, and thanks to:

Alastair Clewer, Cyrille Cormier, Kathrin Gutmann, Fabian Huebner, Perceval Pradelle, - Beyond Fossil Fuels secretariat; Sarah Brown, Harriet Fox - Ember; Marta Anczewska - CAN Europe; Nikos Mantzaris - The Green Tank; Apostol Dyankov - WWF Bulgaria; Alexandra Doroftei - Bankwatch Romania; Zuzana Vondorva - Centrum pro dopravu a energetiku; Csaba Vaszko - independent consultant; Alexa Botar - Magyar Természetvédők Szövetsége

Credits:

Cezary Kowalski - Workshop for All Beings, Greg McNevin - Beyond Fossil Fuels, Mert Çakır

Cover design:

Julia Pazos

For enquiries, please contact:

Alexandru Mustață - Coal and gas campaigner, Beyond Fossil Fuels
alexandru.mustata@bff.earth

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Executive Summary

In this briefing, we analyse the way that seven European countries (Bulgaria, Czech Republic, Germany, Greece, Hungary, Poland and Romania) responded to the fossil fuel crisis over the previous winter, with a focus on the power sector and coal: October 2022 - March 2023. We find that total European coal power generation was lower this winter than the previous one, despite many headlines trumpeting a return to coal. We analyse these country-level measures and find that in most instances they were disproportionate. This is owing to an important drop in power demand driven by mild temperature during the winter as well as demand savings delivered by businesses and households, and a record electricity generation from solar and wind.

In the country sections below, we outline the individual reasons for their plans to increase their reliance on coal during the winter. The report finds that there is no justification for the emergency coal plants to continue to participate in the energy market in the way that was envisaged for the winter of 2022/23 as countries have many other measures available to them beyond falling back on coal or fossil gas. For example, mandatory peak power demand reduction, which has been implemented since last year, can be implemented in the coming period, while deployment of solar and wind can be accelerated to manage the coming winter seasons. All European countries should therefore return to, or begin, the process of accelerating the phasing out of coal by 2030 at the latest.

In order for Europe to safeguard its energy security and simultaneously the energy transition to a fossil-free, renewables-based power system, while quickly reducing and eventually completely eliminating its dependence on Russian fossil fuels, it must ensure that:

1. **Any decision to prolong the use of coal in the power sector is taken following a 'Resource Adequacy Assessment'**, that is performed using the methodology by ENTSO-e, which proves its absolute necessity. These additional power plants should operate under a **strategic reserve scheme**, i.e. not participate in the electricity market. These rules must also apply to all units which had their capacity limits lifted or their retirement postponed since 2022.
2. **Solar PV and wind power deployment is accelerated.** This means removing barriers of all kinds (permitting, grid access, sufficient workforce, financial support), with specific provisions to support households, communities and small and medium sized enterprises..
3. **Measures to cut energy demand are maintained** and transformed into structural measures, commensurate with a pathway for a 2030 coal exit and a



2035 fossil gas phase-out for the power sector, so power becomes renewables-based.

4. **Private and public finance is unlocked** for the energy transition, including as well as beyond power generation (e.g. efficiency in industry, building renovation etc.).

The role of coal in Europe during the 2022/23 winter

The fossil fuels crisis impacted Europe across the board, from heating and power to industry, but the ramifications were also felt in other sectors such as agriculture and transport. A plethora of policies were deployed over 2022 to help prevent the most negative effects on economies and households. In this briefing, we analyse those targeting coal-fired power generation in Europe, and the broader electricity sector in the seven countries looked at below.

Europe¹ relied on many measures that are not based on burning more coal and fossil gas to help navigate the fossil fuels crisis. As the 2022 cold season approached, uncertainty loomed even as gas storages were being filled up. But an increase in solar and wind power generation, energy-saving efforts, massive public support schemes and an unusually mild winter meant Europe exited the cold season largely unscathed.

Overall power demand dropped in Europe by 114.5 TWh during the winter 2022/23 compared to winter 2021/22.² Power generation also faced a significant drop, primarily when it came to nuclear reactors (mainly those from France – a 23% year-on-year fall between 2022 and 2021 to 279 TWh.³) and hydro power plants (after the worst drought in 500 years),⁴ changing power exchange flows across Europe.

Based on Ember's monthly electricity data the following becomes clear (see chart 1): Driven by a drastic fall in power demand, coal units produced 19.9 TWh less during winter 2022/23 compared to winter 2021/22, while fossil gas installations generated 49.5 TWh less over the same period. Coal demand could have been significantly lower if nuclear generation in France had reached pre-2021 levels.

The only increase in generation during winter 2022/23 compared with winter 2021/22 was registered by solar (7.7 TWh) and wind power (15.9 TWh). Consequently, solar and wind power combined produced more power than coal or fossil gas.

¹ In this report, Europe refers to the European continent: the EU-27, the United Kingdom, Norway, Switzerland, Turkey, Ukraine, Moldova, and all countries in the Western Balkans. It excludes Russia and Belarus. EU will be used to refer to the European Union.

² In this report, the period defined as winter 2022/23 refers to the period between October 2022 and March 2023; similarly, winter 2021/22 refers to the period between October 2021 and March 2022.

³ [EDF's power generation in France reached a record low in 2022](#), Enerdata, 17 January 2023.

⁴ [Europe's drought the worst in 500 years - report](#), BBC, 23 August 2022.

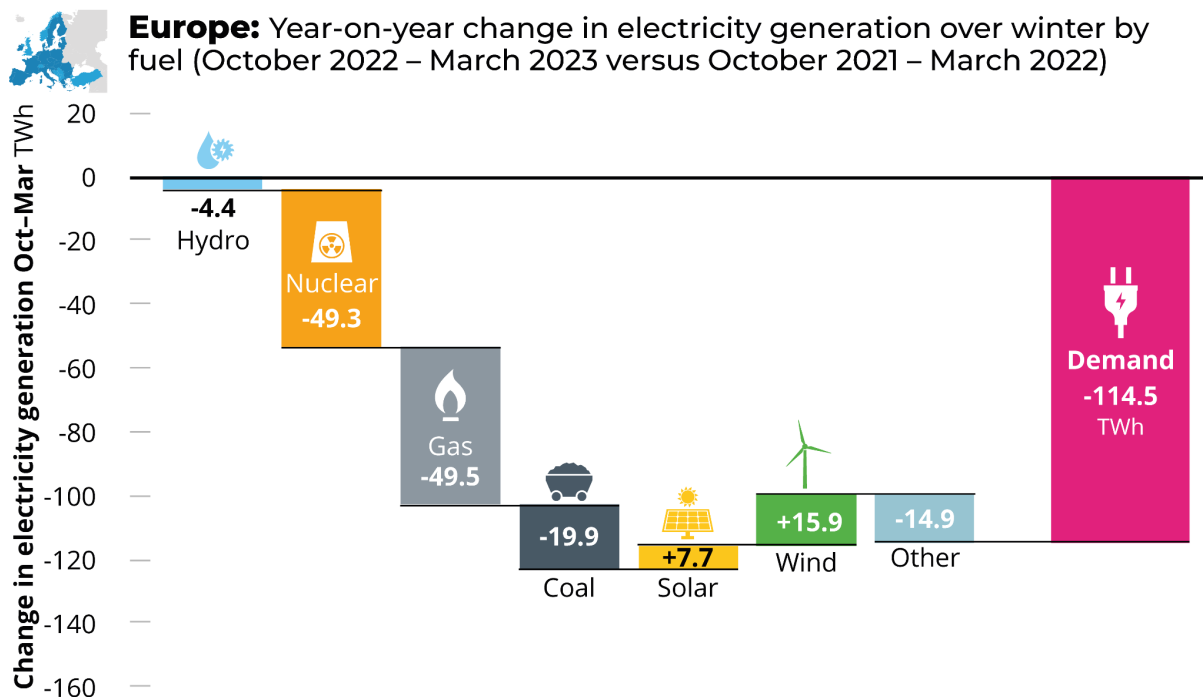


Chart 1: Europe year-on-year change in electricity generation by fuel: winter 2022/23 versus winter 2021/22. Oct. 2022 - Mar. 2023 compared to Oct. 2021 - Mar. 2022. Source: Ember (Monthly electricity data). "Other" includes bioenergy, other renewables, other fossil fuels and net imports. Europe refers to the EU-27, Norway, Turkey, the United Kingdom, Switzerland and all countries in the Western Balkans.

There are clear signals that ordinary people across Europe have learnt the painful lesson of fossil fuel dependence as a consequence of the crisis. Household solar and heat pump installations are up in many countries, while over 80 percent of Europeans surveyed by the European Union in the summer of 2022 said they want massive investments in renewable energy to ensure energy security and independence from Russia, drive down costs, and ward off climate breakdown.⁵

Unfortunately, at the policy level, there has not consistently been the same laser-like focus on the right solutions. Yes, solar and wind combined are now supplying more power to Europe's energy mix than fossil gas or coal, and many governments have announced additional measures and targets to drive forward the expansion of renewable energy, smart consumption, energy efficiency and savings. The European Commission launched the RePower EU package in May 2022, aimed at increasing energy savings, accelerating renewables deployment, gas supply diversification and providing additional financial resources for Member States to achieve those goals.⁶

⁵ [Standard Eurobarometer 97- Summer 2022](#), European Commission, 6 September 2022.

⁶ [REPowerEU, European Commission website](#), access 19 April 2023.

But there are also a number of instances where governments have sought to ride the coattails of the crisis to pursue knee-jerk responses based upon fossil fuels, whether that be diversifying fossil gas imports from third countries, reactivating old coal plants, or delaying national coal phase out dates. However, it should be noted that no European country has gone back on its decision to phase out coal.

The measures taken to prevent any threats to energy security that involved coal power plants can be broadly divided into two categories: delayed retirements (Bosnia and Herzegovina, Denmark, France, Germany, Greece, Hungary, Montenegro, Romania, and the UK) and capacity limits lifted (France, Italy, the Netherlands).

Country	Coal power capacity subject to delayed retirement, reactivation or changes in permitted operating limits	Gross capacity (GWe)	New maximum retirement year	Electricity generation during winter 2022/23 (GWh)	Average capacity factor during winter 2022/23
Austria	Reactivation risk	0.2 GW	Unclear	0 GWh	0%
Bosnia and Herzegovina	Delayed retirements (likely)	0.3 GW	Unclear	617 GWh	46%
Denmark	Delayed retirements	0.8 GW	2024	954 GWh	28%
Finland	Capacity moved from reserve to market operation	0.6 GW	No change	467 GWh	17%
France	Delayed retirements	0.6 GW	2023	1,474 GWh	18%
	including:	· capacity reactivated	2023		
		· capacity limits lifted	No change		
Germany*	Delayed retirements	8.3 GW	2024	15,593 GWh	35%
	including:	· capacity reactivated	2024		
		· capacity moved from reserve to market operation	2024		
	Moved from reserve to market operation (no delayed retirement)	2.0 GW	No change		
Greece	Delayed retirements	2.2 GW	2025	2,557 GWh	20%
	Delayed retirement and at risk of operating beyond 2028	0.7 GW	2028		
Hungary	Delayed retirement risk	0.8 GW	Potentially 2029	1,378 GWh	46%
	including:	· capacity to be reactivated	Potentially 2029		
		· capacity limits lifted (increased production)	-		
Italy	Capacity limits lifted (increased production)	6.2 GW	No change	11,623 GWh	43%
Montenegro	Delayed retirement	0.2 GW	Unclear	917 GWh	93%
Netherlands	Capacity limits lifted	4.5 GW	No change	9,511 GWh	49%
Romania	Delayed retirements	0.7 GW	2023	819 GWh	28%
Spain	Capacity moved from reserve to market operation	0.7 GW	No change	472 GWh	15%
UK	Delayed retirements	3.0 GW	2024	0 GWh	0%

Table 1: Country-level summary of coal capacity in Europe subject to delayed retirement, reactivation, or changes in operating hours or in permitted operating limits during winter 2022/2023 (or in the preceding months with an impact during the winter months) Source: Beyond Fossil Fuels, Ember.

*Capacity and generation figures cover individual coal units reactivated, brought out of reserve or extended during winter 2022/2023 (October 2022 to March 2023, or in the preceding months with an impact on the winter period). Most units included in the analysis for Germany are subject to the EKBG (Substitute Power Plants Maintenance Act, Ersatzkraftwerkereithaltungsgesetz, of 8 July 2022), a few are not (delayed retirements or conversions of units not covered by the EKBG).

The delayed retirements applied to coal power plants which were scheduled to close soon (between 2022 and 2025) and which were allowed to function for longer (between 2023 and 2029). Effectively, this means that no country which planned to phase out coal before 2030 reversed that commitment. Some of these units already closed at the end of winter. For example, in the UK, Drax 5 and 6 and West Burton 3 and 4 were retired at the end of March 2023. The two West Burton units ran for just seven hours on 7 March 2023, the ones at Drax were only warmed to prepare them for generation, but were never used.⁷

Some of the largest regional coal burning countries in Europe, like Serbia, Turkey, Poland, Bulgaria and the Czech Republic did not announce emergency coal measures and consequently do not appear in the table above. They did not postpone any power plant retirement, since none were scheduled to shut down in the short term, nor did they see a need to reactivate any plants. Despite this, some of these governments took additional measures to support the fossil fuel sectors, as detailed in the case studies below.

⁷ [EDF and Drax confirm closure of coal plants despite call for contingency contract extension](#), Current News, 16 March 2023.



Selected Case Studies

Bulgaria

Key findings and recommendations: *Increased imports and a strong reduction of demand compensated for a drop in coal and fossil gas generation of 3.3 TWh. The lack of investments in renewable energy sources became clearly noticeable during winter 2022-23, as wind and solar generation did not register significant changes compared to winter 2021-22 (-0.2 TWh and +0,1 TWh respectively). Consequently, removing Bulgaria's coal and fossil gas dependence permanently and rapidly would require large and persistent investments in renewable energy in 2023 and the following years, as well as a clear commitment from the Bulgarian government to exit coal by 2030.*

Total electricity demand decreased by 1.5 TWh in Bulgaria in 2022 compared to 2021, as businesses and households engaged in energy saving measures and installed solar panels to produce their own energy. During the second half of the winter, as temperatures remained above normal averages, Bulgaria's electricity exports slumped. Coal power generation declined year-on-year, reaching its lowest output since mid-2021, and the average capacity factor of its coal power plants during last winter was 55%, lower than in winter 2021-22 (69%). Domestic electricity consumption for January-March 2023 was 6.6% lower than during the same period in 2022.⁸

⁸ [Цената на тока пада, производството от въглища също](#), Capital Weekly, 30 March 2023.

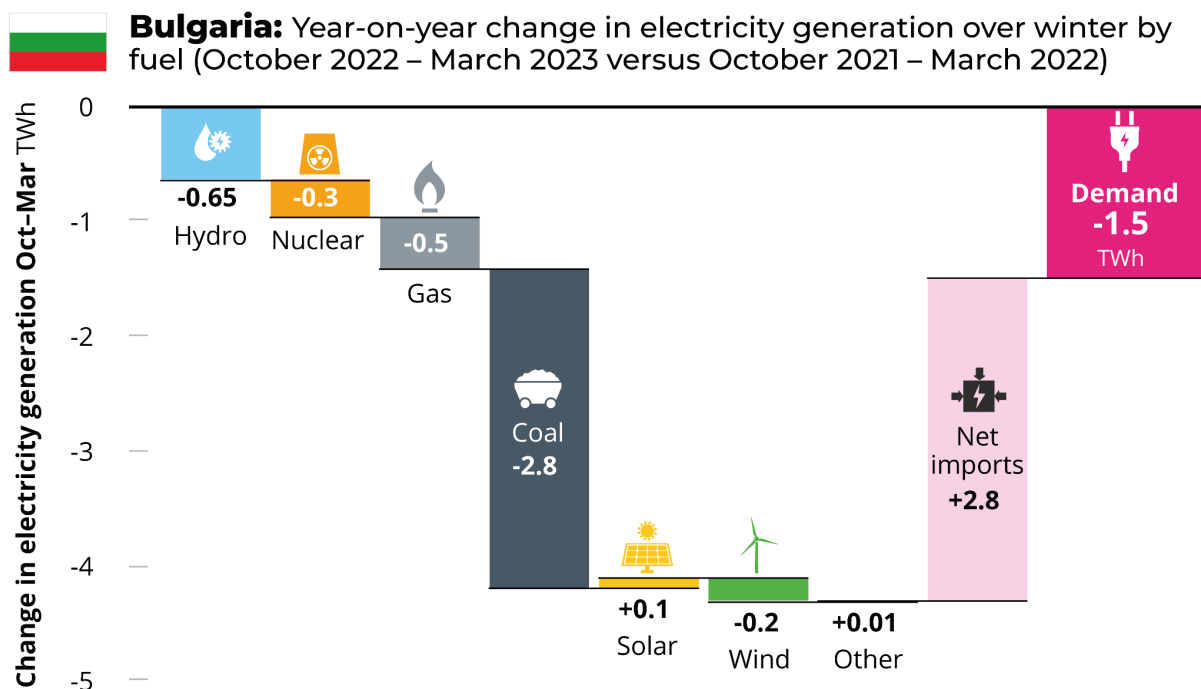


Chart 2: Bulgaria year-on-year change in electricity generation by fuel: winter 2022/23 versus winter 2021/22. Oct. 2022 - Mar. 2023 compared to Oct. 2021 - Mar. 2022. Source: Ember (Monthly electricity data). "Other" includes bioenergy, other renewables and other fossil fuels.

Against this backdrop, the Bulgarian caretaker government continues with its efforts to cancel or delay the country's coal decarbonisation reform. In January, the parliament adopted a decision obliging the Council of Ministers to renegotiate the National Resilience and Recovery Plan's (NRRP) CO₂ emission reduction target of reducing power generation from coal by 40% by the end of 2025.⁹ They also requested that coal plants remain open until at least 2038, which is also the deadline for their closure contained within the NRRP.

The economic stakes for this decision are high: the renegotiation of the NRRP will delay the second and third payments from the EU worth EUR 1.5 billion, but it also risks delaying the implementation of other reforms included in the NRRP. Meanwhile, the impasse to the reform of the NRRP is holding back the final completion and adoption of Bulgaria's Territorial Just Transition Plans, where EUR 100 million has already been irreversibly lost, and another EUR 800 million could be forgone if the plans are not submitted by June 2023.¹⁰

⁹ [The Parliament's populism will come at a high price](#), Za Zemiata, 17 January 2023.

¹⁰ [Bulgaria's coal giant stands on feet of clay](#), Euractiv, 15 March 2023.

According to Bulgaria's energy minister, Rosen Hristov, coal power plants will not shut down even if the renegotiation fails, as the government considers their economic benefits to outweigh the potential losses.¹¹ This is despite the most recent economic data indicating that production costs at Bulgaria's largest state-owned coal (lignite) plant, Maritsa East 2, increased by close to 40% in March 2023.¹² In an open letter signed by NGOs WWF, Za Zemiata and Greenpeace,¹³ Bulgarian civil society explained how Bulgaria could actually end up meeting its coal decarbonisation obligations of 40%, but tragically also lose the NRRP funds.

Work to update Bulgaria's National Climate and Energy Plan in parallel to delivering the TJTPs and NRRP (including the RePowerEU chapter on new renewables development) has not yet started in earnest, while the Ministry of Energy has unofficially suspended work by the Energy Transition Commission – the multilevel dialogue, multi-stakeholder body tasked with developing a National Decarbonisation Roadmap. Instead, the ministry published a flawed “strategic vision” for the development of the energy sector until 2053, focused on fossil, nuclear and hydro mega projects. Greenpeace Bulgaria has referred the document to Bulgaria's Supreme Administrative Court with the aim of reversing its adoption, citing its numerous and significant flaws. These include the failure to assess the necessary investments, the lack of a strategy for the deployment of renewables, and a lack of cohesion with the NECP and the NRRP.¹⁴

Bulgaria's fifth round of parliamentary elections in two years were held on 2 April 2023. They proved inconclusive and are unlikely to yield a stable government or parliamentary majority capable of wresting climate policy away from fossil interests.

Czech Republic

Key findings and recommendations: *Increased imports as well as a significant drop in power demand covered for the entirety of the 2.6 TWh drop in coal and fossil gas generation this winter compared to winter 2021-22. Other sources of power generation (nuclear, hydro, wind and solar) saw very few changes between the years and failed to cover for the drop in coal and fossil gas demand. The Czech Republic would need to increase investments in immediate solutions, such as wind and solar, in order to permanently cut its dependence on*

¹¹ [Bulgaria's 2053 energy strategy: coal until 2030, new nuclear capacities](#), Balkan Green Energy News, 18 January 2023.

¹² [Цената на тока пада, производството от въглища също](#), Capital Weekly, 30 March 2023.

¹³ [Open letter: Negotiations between Bulgaria and the European Commission on the possibility of revising the C4.R10 reform in the Bulgarian National Recovery and Resilience Plan \(NRRP\)](#), WWF, Za Zemiata and Greenpeace, 27 March 2023.

¹⁴ [„Грийнпийс“ – България дава на съд Стратегическата визия за енергетиката на служебния кабинет](#), Greenpeace Bulgaria, 9 February 2023.

fossil gas and coal. A commitment to phase out coal by 2030 would send a clear signal to investors, businesses and local authorities on the Czech Republic's commitment to decarbonisation.

The Czech Republic, another country heavily dependent on coal for power generation (42% of total power generation in 2022), and one of the few left in Europe without a plan to phase out coal before 2030, also managed to burn less coal than it normally does. In fact, coal-fired generation was 1.6 TWh smaller than the previous winter, which coincidentally is the same amount that the country achieved in power demand reduction. But the burning of fossil gas for electricity production also decreased, and the country turned to imports as power generation from renewables stagnated.

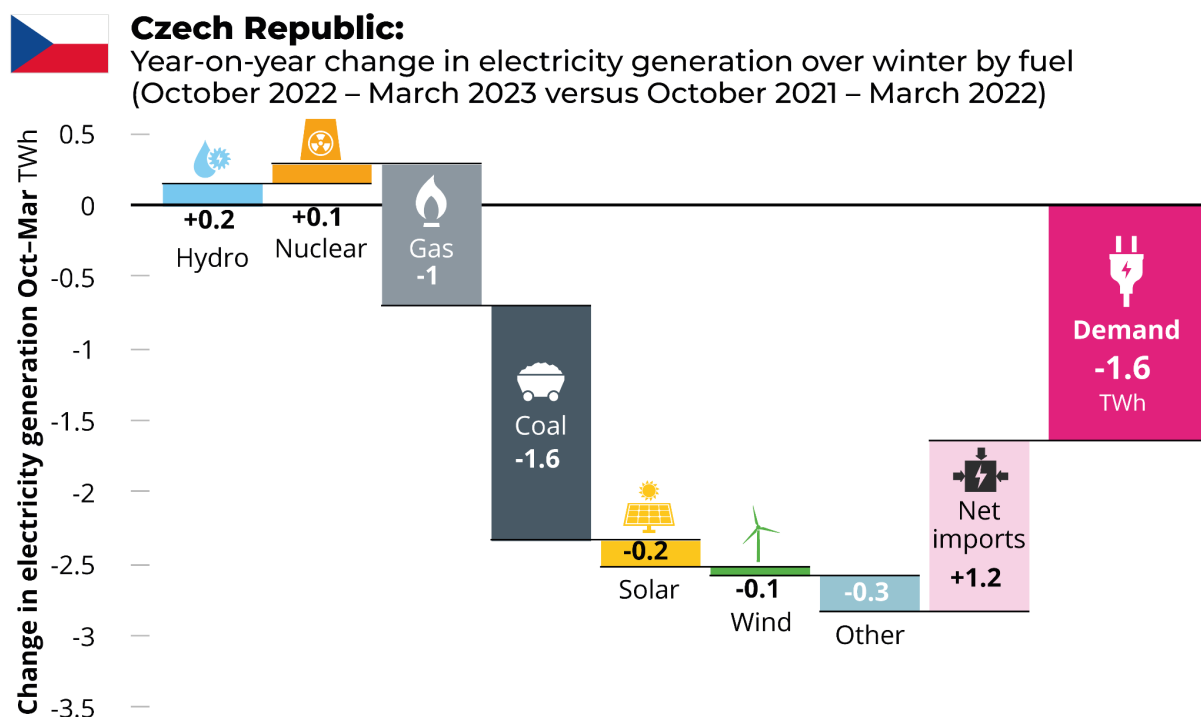


Chart 3: Czech Republic year-on-year change in generation by fuel: winter 2022/23 versus winter 2021/22. Oct. 2022 - Mar. 2023 compared to Oct. 2021 - Mar. 2022. Source: Ember (Monthly electricity data). "Other" includes bioenergy, other renewables, and other fossil fuels.

On 30 June 2022, the Czech government announced that state-owned mining company OKD would continue to mine hard coal at the ČSM mine in the east of the country until at least the end of 2023,¹⁵ with the possibility to extend until 2025 – effectively scrapping plans to halt mining in 2022. The coal mined by OKD is used to fuel the

¹⁵ [Czech Republic to extend coal mining amid high demand](#), Associated Press, 30 June 2022.

Detmarovice power plant, which was scheduled to close in spring 2023, but has been granted a reprieve by its operator ČEZ.¹⁶

The state-owned enterprise DIAMO is also exploring the possibility to prolong the operation of the already closed ČSA and Darkov mines¹⁷, which are also located in the country's Moravian-Silesian region. Mining company Severočeské doly, which operates in the north-west of the country, harbours similar plans. In March 2023, the regional mining office extended the permit for the Bilina lignite mine, located in the country's Ustecky region, from 2030 to 2035.¹⁸ This was done despite the fact that the government confirmed in its program statement, its commitment to achieve a shift away from coal by 2033.¹⁹

On the other hand, the Czech TJTP was approved by the European Commission in September 2022.²⁰ It states that the goal of the just transition process is to accomplish the Czech Republic's coal phase out by 2033 in compliance with the government's declaration (dated Dec 2021).²¹ There is a clear conflict between the European Commission-approved TJTPs and recent decisions to prolong coal burning.

Germany

Key findings and recommendations: *Reduced exports during the winter season as well as a significant drop in power demand covered for the entirety of the nearly 21 TWh drop in coal and nuclear demand, and it prevented a fossil gas demand increase. A lower output from wind and solar during this winter compared to winter season 2021-22, and insufficient new capacity deployment in recent years, hindered Germany's chance to reduce fossil gas and coal further. Consequently, we can identify two clear leverages to remove Germany's dependence on fossil fuels: maintaining demand reduction over the coming years through increased energy efficiency, load shifting and smart consumption choices and doubling down on wind and solar capacity deployment.*

The German government put in place significant measures to make as much coal-fired power available as possible in order to minimise the use of fossil gas for power and heating. Fossil gas in Germany is widely used for power and heating (also in combined heat and power plants) as well as in industry. Germany's coal plants either provide

¹⁶ [Czech coal miner OKD extends production until at least end-2023](#), Reuters, 30 June 2022.

¹⁷ [Diamo dokončuje analýzu možné obnovy těžby ve dvou dolech na Karvinsku](#), iDNES, 5 October 2022.

¹⁸ [CEZ gets extension at Bilina lignite mine until 2035](#), Nasdaq, 22 March 2023.

¹⁹ [Policy Statement of the Government of the Czech Republic](#), 7 January 2022.

²⁰ [EU Cohesion Policy: €1.64 billion for a just climate transition in Czechia](#), European Commission, 26 September 2022.

²¹ [Plán spravedlivé územní transformace](#), Ministerstvo pro místní rozvoj ČR, 26 September 2022.

power or operate as Combined Heat and Power (CHP) plants. Another factor that played a role in Germany's public debate around what power sector measures to put in place was the strain that France's much reduced nuclear power output placed on overall European electricity production.

On 8 July 2022, the German parliament passed a package of energy laws which include provisions to allow for the reactivation of coal-fired power plants or an extension to their lifespans, such as RWE's Neurath D and E units.²² The Substitute Power Plants Maintenance Act²³ enables the activation of Germany's reserve capacity²⁴ of hard coal, lignite, and oil and the delayed closure of coal units foreseen to be shut down by the coal exit law until the end of March 2024 at the latest – in total, a capacity of 10GW. This meant that some units required upgrades; that those which served as grid reserves, i.e. for stabilising the electricity grid, were prepared to be used for production; and that those units from the safety standby, previously allowed to be restarted only in extreme emergencies, could return to the electricity market upon the decision of their operator from 1 October 2022.²⁵

Of the 10 GW installed capacity affected by the law, 5.7 GW of hard coal and 1.8 GW of lignite have been brought back to the market. Analysis by the Energy Brainpool²⁶ Institute found that increased coal burning by German coal plants in 2022 resulted in an additional 15.8 megatons of CO₂ emissions.

Overall, electricity generation from coal increased in 2022 compared to 2021 by 8.4%.²⁷ However, Germany registered a decrease in its use of lignite and hard coal plants this winter compared to the previous winter. An even steeper decline was registered by nuclear power, because three nuclear units were shut down at the end of 2021. The country confirmed once again that it will stick to its Energiewende strategy and shut down its remaining three nuclear units on 15 April 2023. This signified an extension, with the units originally scheduled to shut down in 2022.²⁸

As the European country with the highest dependence on Russian fossil gas imports, Germany adopted some of the most ambitious measures to reduce energy demand. This, combined with an unusually mild winter, resulted in a spectacular decrease of power demand of 17.7 TWh. Some of the decrease had repercussions for the economy,

²² [Factbox: German to pass energy laws before parliament breaks for summer](#), Reuters, 7 July 2022.

²³ [Beschlussempfehlung des Ausschusses für Klimaschutz und Energie](#), 5 July 2022.

²⁴ [Back to black? Germany's coal power plan hits hurdles](#), Reuters, 26 July 2022.

²⁵ [Weniger Gasverbrauch im Ernstfall](#), Die Bundesregierung, 12 July 2022.

²⁶ [Kompensation der Kohle-Mehremissionen durch die Energiekrise](#), Energy Brainpool, February 2023.

²⁷ [Stromerzeugung 2022: Ein Drittel aus Kohle, ein Viertel aus Windkraft](#), Destatis, 9 March 2023.

²⁸ [Germany will complete nuclear phase-out as planned but technology's risks remain - env min](#), Clean Energy Wire, 31 March 2023.

as 16% of the companies surveyed by the Chambers of Industry and Commerce either scaled back production or partially discontinued business operations due to rising energy prices.²⁹

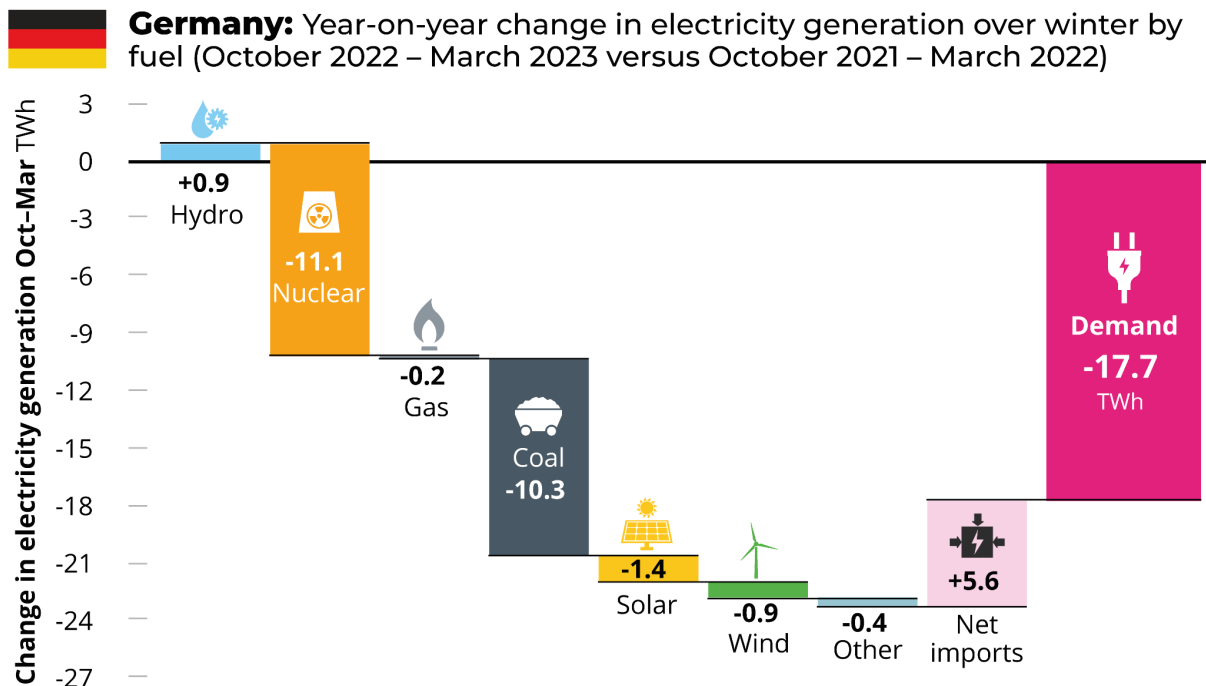


Chart 4: Germany year-on-year change in generation by fuel: winter 2022/23 versus winter 2021/22. Oct. 2022 - Mar. 2023 compared to Oct. 2021 - Mar. 2022. Source: Ember (Monthly electricity data). "Other" includes bioenergy, other renewables, and other fossil fuels.

On 6 April 2022, Germany announced that it will accelerate the transition to a fossil-free energy system, with a target for renewable energy to produce 80% of its power by 2030 – up from its previous target of 65% – based on a projected increase in electricity demand of 750 TWh. This ramped-up renewables ambition had already been agreed as part of the government's coalition treaty in 2021, and was subsequently put into law.³⁰ Germany updated its Renewable Energy Sources Act, with plans to reach 110 GW of onshore wind, 30 GW of offshore wind, and 200 GW of solar PV by 2030.³¹

The coalition government reconfirmed its intention to 'ideally' phase out coal by 2030. In order to reverse the 2038 exit timeline introduced by the previous administration, the German government struck a deal with German utility RWE, which operates lignite

²⁹ [Will gas crisis spell end for 'Made in Germany'?](#), Deutsche Welle, 16 September 2022.

³⁰ [Germany unveils plans to accelerate green energy expansion](#), Reuters, 6 April 2022.

³¹ [Germany to double down on wind, solar amid wider energy policy review](#), S&P Global, 4 March 2023.

plants and mines in Western Germany, to see the company exit coal by 2030, eight years earlier than previously planned, strengthening plans for national coal phase out by the same date. However, the agreement struck with the federal and state government for North Rhine-Westphalia and implemented into federal law by Germany's parliament still saw RWE destroy the village of Lützerath, and commit to 3GW of fossil gas investments.³² Although RWE will now close its coal plants (and mines) earlier, the deal with the government does not save any emissions compared to a 2038 coal exit pathway.³³

In March 2022, the utility won a legal battle for the right to clear forested areas, demolish buildings and excavate land in order to expand its Garzweiler mine. Meanwhile, activists promised to fight this decision and try to save the village of Lützerath.³⁴ One of the largest climate demonstrations of the decade took place in and around the village in January 2023, with 35 000 people – among them Greta Thunberg – taking part.³⁵ Activists emphasised how extending coal burning at Germany's Neurath D and E units would undermine Germany's climate law.³⁶

Germany's Ministry for Economic Affairs and Climate Action is now focused on securing a similar 2030 phase out for lignite operations in the east of the country.³⁷

³² [RWE concedes 2030 coal exit, but still plans to destroy villages and to invest in fossil fuel projects](#), Beyond Fossil Fuels, 4 October 2022.

³³ [Hintergrundbriefing der Aurora Strommarkt-Modellierung](#), Aurora Energy Research, 1 December 2022

³⁴ [German court will let RWE expand coal mine](#), Deutsche Welle, 28 March 2022.

³⁵ [Lützerath: Protesters, police clash near German coal mine](#), Deutsche Welle, 14 January 2023.

³⁶ [Hintergrundbriefing der Aurora Strommarkt-Modellierung](#), Aurora Energy Research, 1 December 2022

³⁷ [Bundeswirtschaftsminister in der Lausitz](#), Tagesspiegel, 21 February 2023



Greece

Key findings and recommendations: *The Greek power system has experienced a significant drop in power demand and an increase of imports during winter 2022-23. Supported by a noticeable increase in solar generation, demand reduction and imports accounted for an important decrease in fossil gas (-4.4 TWh) and hydropower generation (-0,9 TWh), while coal demand remained stable (-0,2TWh compared to winter 2021-22). Power generation data for winter 2022-23 illustrates that joint efforts to maintain demand low and persistent investments in immediate solutions (such as wind and solar power generation) could reduce Greece's dependence on fossil fuels greatly and permanently.*

Despite the Greek government's endeavours to avoid substantial reductions in fossil gas consumption, there was a 19.2% decline in its utilisation across all sectors in 2022, as compared to the previous year. Dependence on Russian fossil gas, in particular, was cut by more than two-thirds (-68%). Net electricity imports were also reduced by 6.4%, meeting less than 7% of electricity demand. At the same time, lignite power generation remained close to record low levels recorded in 2021, meeting only 11% of total power demand, making it the third largest source of electricity in Greece, far behind renewables and fossil gas, despite numerous announcements and administrative decisions made by the Greek government to double its use to cope with the energy crisis. This success story is a direct result of the growth of Greece's renewable energy sector, which, in 2022, for the first time became the top source of electricity in Greece covering (together with large hydroelectric plants) almost 47% of demand for the entire year, even reaching 100% coverage for five hours straight in October 2022.³⁸

³⁸ [Trends in electricity production](#), The Green Tank, February 2023.



Greece: Year-on-year change in electricity generation over winter by fuel (October 2022 – March 2023 versus October 2021 – March 2022)

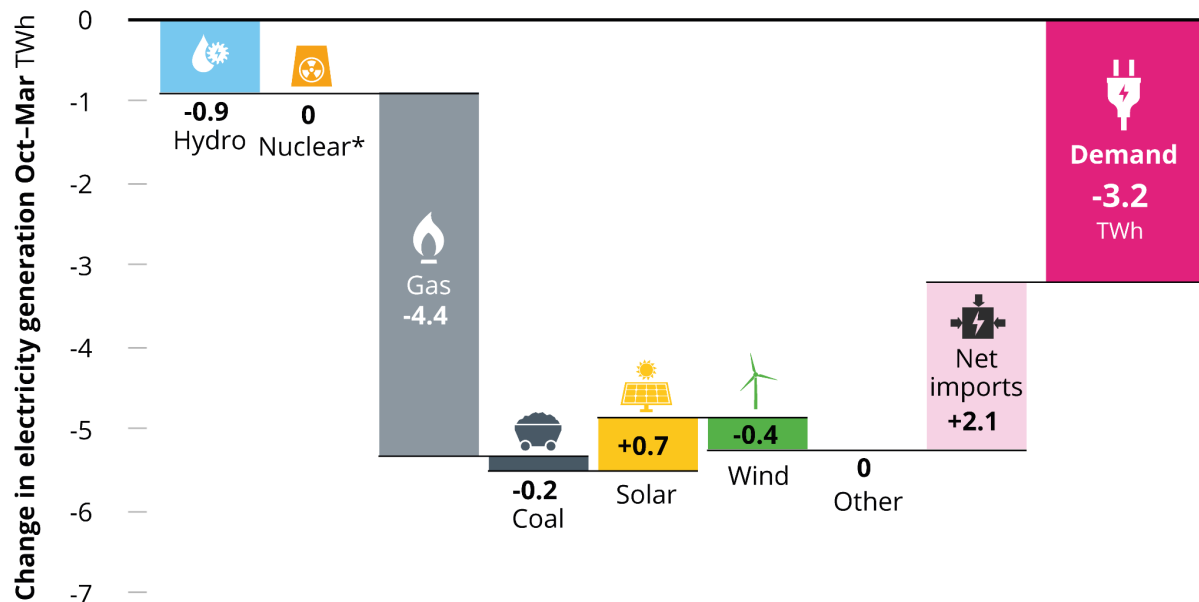


Chart 5: Greece year-on-year change in generation by fuel: winter 2022/23 versus winter 2021/22. Oct. 2022 - Mar. 2023 compared to Oct. 2021 - Mar. 2022. Source: Ember (Monthly electricity data). "Other" includes bioenergy, other renewables, and other fossil fuels. * No nuclear in the electricity mix.

On 6 April 2022, Greece's Prime Minister Kyriakos Mitsotakis announced that the country would increase lignite mining by 50% and extend the operation of its existing lignite-fired power plants for at least two more years,³⁹ instead of closing them down by 2023 as was previously planned. Greece will also operate its newest lignite plant, Ptolemaida 5, which was inaugurated on 14 February 2023, until 2028. It was previously scheduled to be converted to run on fossil gas in 2025. This effectively shifts the country's lignite phase out date from 2025 to 2028. Furthermore, with two administrative decisions on 27 December 2021 and 14 December 2022,⁴⁰ the Greek government allowed for massive increases in the operating hours of all existing lignite plants until 2025, with an option to extend the mandate further into the future. Finally, on 14 February 2023, the Prime Minister stated that Ptolemaida 5 will remain in operation beyond 2028 as a strategic reserve.⁴¹

³⁹ [Greece pushing back phase-out of lignite plants to reduce dependence on Russian natural gas](#), eKathimerini, 6 April 2022.

⁴⁰ Decisions of the Director-General for Environment Policy of the Ministry of Environment and Energy, [27 December 2021](#) and [14 December 2022](#).

⁴¹ [Greek PM: Ptolemaida 5 is an important energy security project](#), ot.gr, 14 February 2023.

An upshot of the crisis is that people in Greece are more fervently engaged in the shift towards renewable energy, viewing it as a way to protect themselves against the persisting energy crisis. Applications from citizens to connect their own solar PV to the grid have increased by 200%, while applications from energy communities have increased by 140% in 2022 compared to 2021.⁴²

Unfortunately, the Greek government appears to have been unable to fully comprehend what was transpiring “on the ground” – namely that Greek citizens consider clean energy and energy savings to be the solutions to the crisis and not fossil fuels. Thus, it decided to postpone the retirement of all existing lignite power plants by two years, and accompany this decision with a massive administrative increase in their operating hours equivalent to an almost 100% capacity factor (non-stop operation) until 2025.⁴³

These decisions regarding existing and new lignite plants in Greece are not accompanied by concrete justification that such prolongations are needed to ensure energy security or that they constitute the cost-optimal pathway. Instead, they are accompanied by vague and non-quantitative references to energy security, and the need to reduce the use of fossil gas which drives energy price spikes.

In addition to extending the lifetime of lignite plants, the Greek government is also promoting the use of fossil gas. In the electricity sector in particular, a new 826 MW fossil gas plant entered into operation in early 2023. In addition, two more fossil gas plants with a combined capacity of more than 1.7 GW (840 MW and 877 MW) are currently under construction and are set to come online in 2024 and 2025, respectively.⁴⁴ These additions will expand the capacity of the Greek fossil gas fleet to a whopping 7.7 GW (from 5.2 GW today) and there are two more fossil gas-fired plants for which investment decisions are expected to be made soon.

Hungary

Key findings and recommendations: *The important drop in power generation from fossil gas and the increased electricity exports were proportional to the drop in electricity demand in Hungary. The country's power system has seen very little structural changes between this winter compared to that of 2021-22. In particular, coal power generation was the same as during winter 2021-22. The recent uptake in solar deployment, driven by the wish of consumers to reduce their energy bills, illustrates that there is appetite in Hungary to deploy immediate, permanent, cost-effective solutions to the country's dependence on fossil fuels. With accelerated investments in solar and wind, Hungary could not only fulfil its commitment*

⁴² [Energy Communities in Greece and its Lignite Areas #3](#), The Green Tank, January 2023.

⁴³ [Greece delays closure of three coal plant units to 2025](#), Balkan Green Energy News, 16 December 2022.

⁴⁴ [Greek power grid: PPC and private individuals build five new plants](#), ot.gr, 23 December 2022.

to exit coal in 2025, and protect people's health, but also engage the country towards a fossil-free, renewable-based power system by 2035.

Coal-fired electricity generation in Hungary remained mostly the same in 2022 compared to 2021, and the same applies for the winter period. Fossil gas use in the power sector was cut by 10%, while solar boomed by 23%⁴⁵. Net electricity imports, which cover a significant share of electricity demand, decreased over the winter period by almost 1 TWh. The country also consumed less electricity: the reduction was more than 7.1% in December 2022, and by almost 3% in 2022 compared to 2021.

The total installed capacity owned by prosumers increased from 720 MW at the end of 2020 to 1127 MW by the end of 2021 – a record increase of 407 MW – the most that has been added in any of the last ten years. In terms of the type of installed household-scale small power plants, solar power plants continue to lead the way, with 99.8% of users that are seeking to become prosumers choosing solar PV units. By 1 March 2022, the capacity of solar plants had increased to 1195 MW. By the beginning of October 2022, the installed capacity of household-scale power plants had increased to 1388 MW and the number of units to over 160,000.⁴⁶

Hungary witnessed a second wave of growth in the domestic solar panel sector in 2022, with people installing solar panels to reduce their electricity bills. Many consumers also bought digital metres to boost energy savings.

⁴⁵ [Bruttó villamosenergia-termelés](#), Magyar Energetikai és Közmű-szabályozási Hivatal

⁴⁶ [Tovább nőtt a háztartási méretű kiserőművek beépített teljesítménye](#), mnnsz.hu, 9 June 2022; [Nem engedélyköteles kiserőművek és háztartási méretű kiserőművek adatai](#), Magyar Energetikai és Közmű-szabályozási Hivatal (MEKH.hu), 30 January 2023.

Hungary: Year-on-year change in electricity generation over winter by fuel (October 2022 – March 2023 versus October 2021 – March 2022)

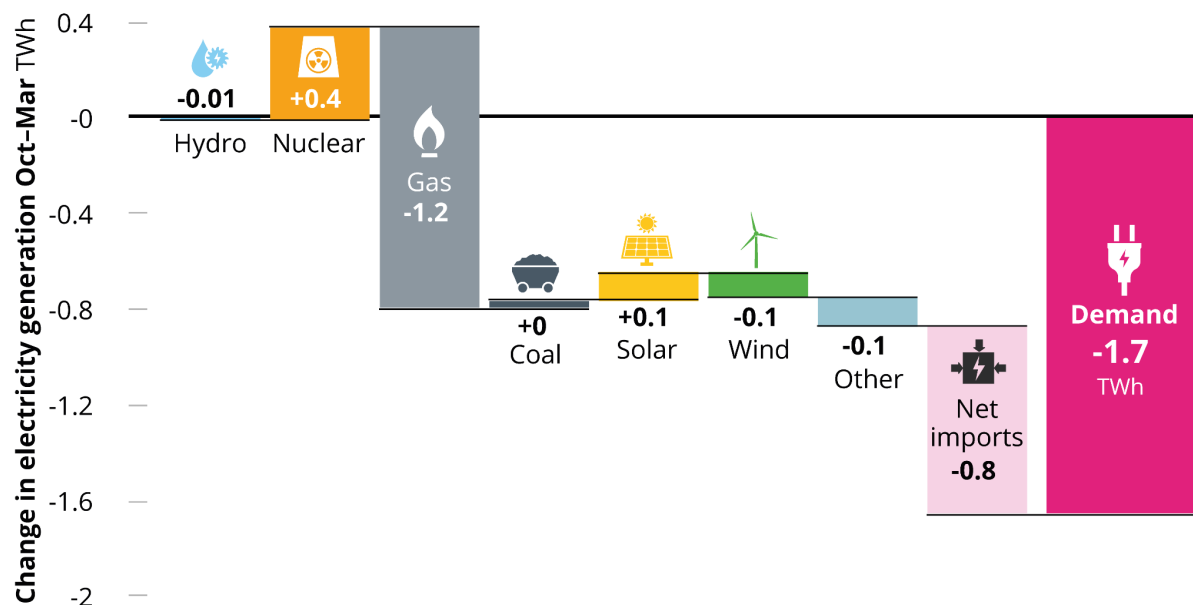


Chart 6: Hungary year-on-year change in generation by fuel: winter 2022/23 versus winter 2021/22. Oct. 2022 - Mar. 2023 compared to Oct. 2021 - Mar. 2022. Source: Ember (Monthly electricity data). "Other" includes bioenergy, other renewables, and other fossil fuels.

On 15 July 2022, the Hungarian government published an emergency decree, mandating an increase of the domestic production of lignite without a clear timeline and scope, and the re-entry into operation of all units at the country's Mátra coal plant.⁴⁷ This means that the plant will aim to operate with four units instead of the two units it has been using until recently. Restoring all units so they are ready for operation will require significant investment, as well as hiring more workers, increasing lignite extraction. Should Mátra be restored, it will breach the LCP BREF through the operation of Block II.⁴⁸

There is a distinct possibility that the Mátra coal power plant will continue to operate until 2029, postponing Hungary's 2025 coal phase out by four years. The government's decision published on 19 September 2022 (Government Decision 1452/2022 (IX. 19.)) called on the state-owned MVM to increase production at the Mátra Power Plant. It also instructed the Minister of Energy to examine with the involvement of the "ministers concerned", how to speed up the necessary investments. The government decision also gave the minister the task of examining by June 2023 how to extend the operating life of

⁴⁷ [Magyar Közlöny](#), 15 July 2022.

⁴⁸ [Large Combustion Plants](#), European IPPC Bureau, December 2021.

the lignite plant from the original closure date of 2025 to the end of 2029.⁴⁹ The decision is in conflict with the European Commission-approved TJTP, as it is built around the previous closure date.⁵⁰ Two ministerial commissioners have also been appointed (Sept 2022 - Aug 2024): one in charge of the enhancement of domestic lignite exploration and extraction, the other of increasing lignite-based electricity production at Mátra Power Plant.⁵¹

Although solar energy is being developed in Hungary, the recent boom in household solar PV was hindered by administrative decisions, and wind energy development is essentially arrested by stringent constraints⁵². The government passed a law at the end of October 2022 temporarily banning solar installed on residential buildings from supplying the grid. The reason given was that the explosion in interest in solar panels meant that the enormous influx of additional electricity could not be handled by the domestic electricity grid, which would need to undergo major upgrades⁵³. In 2017-18, the government expected solar capacity connected to the grid to reach 6.5 GW by 2030, but by 2022 it was already over 3 GW, and if the expansion continues at the same pace, the 2030 target would be met by 2024. However, grid development has not kept pace with this expansion. In order to access European funding from the Resilience and Recovery Facility, the government has to quickly adjust the solar PV- and wind-related regulations (deadline, 31 March 2023). Consequently, the Energy Minister announced that the PV feed-in ban is to be lifted “possibly even by the end of 2023” and a more permissive national wind regulation is imminent in 2023⁵⁴.

The government also announced the construction of two combined cycle fossil gas units with a maximum capacity of 500 MW each at MVM Tiszaújváros, and one fossil gas unit with a maximum capacity of 650 MW at the Visonta site of Mátra Power Plant. These are intended to meet the expected huge increase in industrial energy demand and to replace the lignite-fired units that have been phased out.⁵⁵ The conditional public procurement calls for these CCGTs were published (by MVM) in March 2023.⁵⁶

⁴⁹ [A Kormány 1452/2022. \(IX. 19.\) Korm. határozata az MVM Mátra Energia Zártkörűen Működő Részvénytársaság lignitalapú termelése fokozásához szükséges intézkedésekről](#), Hungarian Government, 19 September 2022.

⁵⁰ All approved Territorial Just Transition Plans are available on the European Commission's dedicated [webpage](#).

⁵¹ The official gazette 048/2022 includes the two ministerial instructions appointing the commissioners.

⁵² [Hungary to loosen its rules on deployment of wind turbines](#), CEEnergy News, 9 February 2023.

⁵³ [Hungarian solar is on the rise but much needs to be resolved](#), PV Magazine, 21 March 2023.

⁵⁴ [Lantos Csaba: Akár már idén eltörölhetik a napelemeseket sújtó korlátozást](#), hvg.hu, 16 March 2023.

⁵⁵ [Kiderült, miért pörgött rá a kormány a gázerőművekre](#), napi.hu, 10 March 2023.

⁵⁶ Közbeszerzési Értesítő száma 2023/56 for [Matra CCGT](#) and [Tiszai CCGT](#), 21 March 2023.

Poland

Key findings and recommendations: *Poland significantly reduced its power generation from coal over winter 2022-23 (-6 TWh compared to the previous winter). This success is owed to the contextual drop in power demand and increased imports, but also to the recent uptake in wind and solar generation. Winter 2022-23 shows that the exit from coal in Poland could significantly accelerate in the coming years, if persistent investments are made in immediate and cost-effective solutions such as solar and wind power generation. A commitment to exit coal, no later than 2030, would send a clear signal to investors, business leaders, communities and households that now is the time for building a cost-effective, fossil-free and renewable based power system in Poland.*

The growth of renewables was spectacular in Poland in 2022. Compared to 2021, wind power generation increased by 23% (despite delayed amendment to the onshore wind regulation containing the 10H rule, which was relaxed only in February 2023, but not sufficiently to allow for the country's full potential),⁵⁷ while the contribution of solar more than doubled (+104%) from 4 TWh to 8 TWh.

This allowed for the country's highest electricity generation in history and even energy exports to neighbouring countries.

Fossil gas-fired power plants generated 20% less power, and coal power registered a decrease of 2.7%, mainly due to a lack of hard coal, and plants navigating the energy price crisis in a way that maximised profits (which meant burning a lot of coal in the first half of the year and not providing power in the second half, when the fuel became expensive). Lignite based production noted a non-significant increase (+0,93 TWh) as compared to 2021. In general wind and solar, combined with demand decrease, allowed Poland to make it through the crisis unscathed.

In 2022, the total number of solar PV prosumer installations registered in the country reached 1,200,000.⁵⁸ The enabler of that growth was a subsidy program for households and growing awareness among homeowners of the benefits of solar for bringing down energy bills. Despite regulatory constraints (rules for prosumer billing became less attractive in the second half of 2022),⁵⁹ interest is still high and the sector is playing an increasingly important role in creating new jobs. By November 2022, the total installed capacity of prosumer installations was 8.6 GW. On top of that, Poland is now among the leaders in Europe in terms of heat pump sales.⁶⁰

⁵⁷ [Poland's controversial wind energy law voted on this week](#), Euractiv, 6 February 2023.

⁵⁸ [Mikroinstalacje w Polsce](#), PTPIREE, 28 February 2023.

⁵⁹ [Poland's transition from net metering to net billing](#), PV Magazine, 13 July 2022.

⁶⁰ [Heat pump record: 3 million units sold in 2022, contributing to REPowerEU targets](#), EHPA, 20 February 2023.

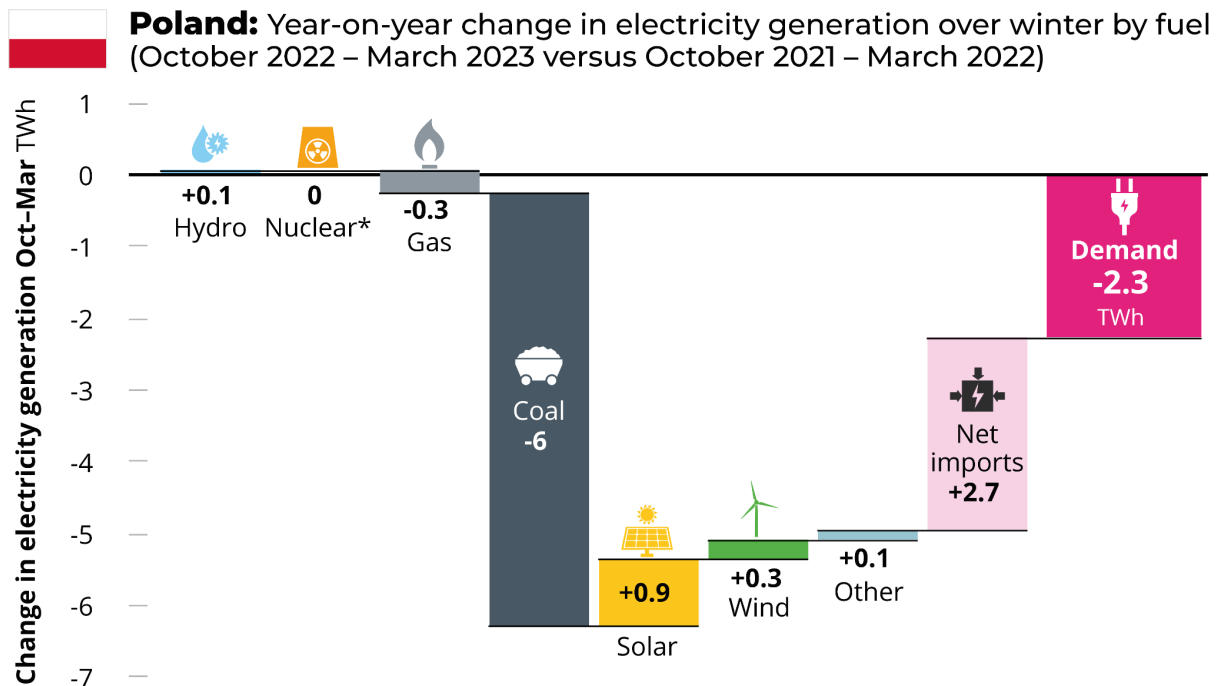


Chart 7: Poland year-on-year change in generation by fuel: winter 2022/23 versus winter 2021/22. Oct. 2022 - Mar. 2023 compared to Oct. 2021 - Mar. 2022. Source: Ember (Monthly electricity data). "Other" includes bioenergy, other renewables, and other fossil fuels. * No nuclear in the electricity mix.

Poland is one of the countries with a non-binding coal phase out date, which is tentatively set for 2049. The national energy and climate strategies being revised currently are set to increase the role of coal in electricity and heat generation (over 35% / 41 TWh production projected for 2030⁶¹). Coal is now supposed to play a key role in the power sector until it is replaced with nuclear power in the early 2030s. Keeping such an amount of coal power is only possible if a dedicated state aid measure is approved by the European Commission for a number of 200 MW coal power units which require modernisation in order to stay in the system, but the form and the legal basis of the aid is still not specified.

Moreover, at the end of 2021, the Polish government proposed the creation of a state agency to take over all coal assets from the state utilities. The "National Agency of Energy Security" (NABE), which is still under creation, could prolong the operation of coal power plants indefinitely. Additionally, Poland is awaiting a decision from the European Commission in response to its application from early 2022 to grant state aid to the hard coal mining sector, in order to cover for the loss of hard coal mines in case they are not profitable. The reasons for the EU to grant such aid were doubtful from the

⁶¹ [Szybkie, ale wolniejsze pożegnanie z węglem. Co tam panie w PEP 2040?](#), wysokienapiecie.pl, 5 April 2023.

outset, as described by CAN Europe⁶², and now, with new market dynamics as a consequence of the war in Ukraine, there is even less justification, with Polish mines only profitable again due to the energy price crisis.

Romania

Key findings and recommendations: *The power system in Romania saw coal and fossil gas demand drop over the winter, but most significant was the overall fall in demand for electricity. Despite an increase in hydropower output over the cold season, the lack of investment in wind and solar over preceding years hindered the chance to further reduce coal and fossil gas demand. While Romania has recently committed to shut its coal plants no later than 2030, the government now needs to send a clear signal that it is high time to build permanent, immediate and cost-effective solutions such as wind and solar at scale.*

Romania's power system was heavily affected by the extended drought that Europe experienced in 2022, with a dramatic decrease of hydro power generation of 3.2 TWh compared to 2021. However, hydropower generation was also affected last winter, so generation actually increased by 1.6 TWh in the 2022-23 winter compared to the 2021-22 winter.

Fossil gas-based net electricity generation increased by only 0.3%, while coal burning was reduced by 2.3% in 2022 compared to 2021. The change in generation from renewable energy wasn't significant, as the lack of predictable legislation and grid access has made Romania unattractive for large-scale deployment. There was, however, a significant shift at the household level, and the country now expects to reach 100,000 prosumers by the end of 2023, in large part due to a support scheme which has its flaws but overall has had a positive impact.⁶³

⁶² [No reason for European Commission to greenlight Polish hard coal subsidies](#), CAN Europe, 12 January 2023.

⁶³ [Romania expects number of prosumers to reach 100,000 by year-end](#), Balkan Green Energy News, 21 February 2023.

Romania: Year-on-year change in electricity generation over winter by fuel (October 2022 – March 2023 versus October 2021 – March 2022)

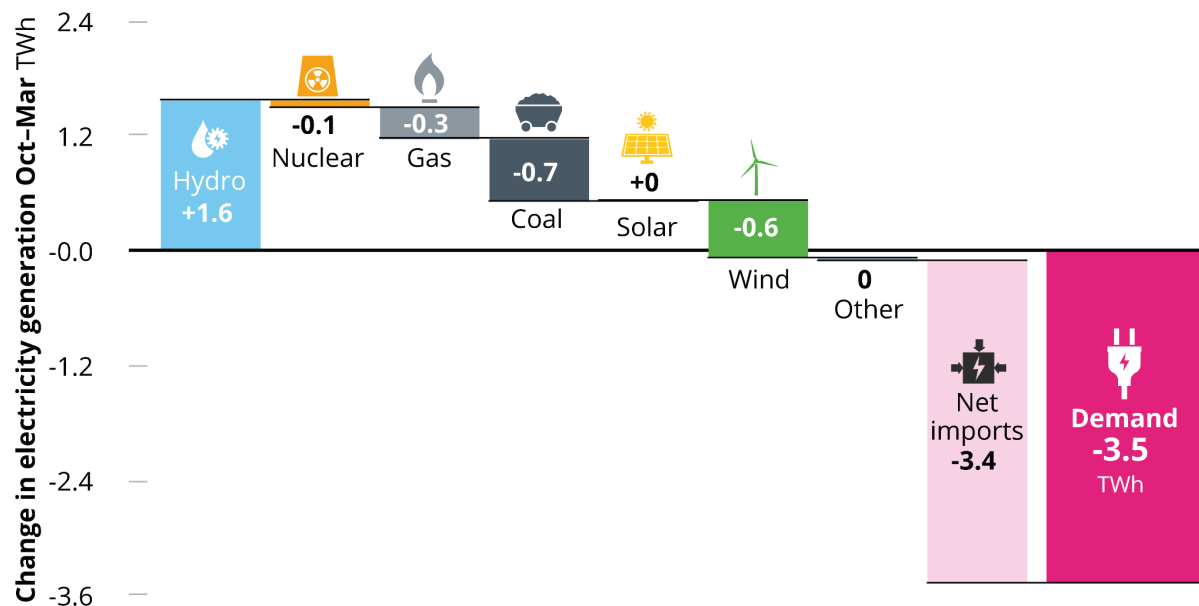


Chart 8: Romania year-on-year change in generation by fuel: winter 2022/23 versus winter 2021/22. Oct. 2022 - Mar. 2023 compared to Oct. 2021 - Mar. 2022. Source: Ember (Monthly electricity data). "Other" includes bioenergy, other renewables, and other fossil fuels.

In June 2022, the Romanian government published its decarbonisation Law,⁶⁴ which was approved with some changes by the parliament in November that year. The law states that it will phase out coal by 2032 rather than 2030, as previously planned. However, the law mentions that all lignite plants will be shut down by 2026, with a few kept in technical reserve until 2030, while the country's last hard coal plant will shut down in 2030. The only mention of 2032 in the law is for the environment and safety post-closure work for two hard coal mines. Finally, a paragraph in the law states that in an energy crisis, previously closed units could be reopened as long as they are closed before 2032.

The government approved the expansion of the Timișeni-Pinoasa mine in Gorj county to a capacity of 8 million tonnes per year,⁶⁵ and extended the operation of 660 MW of coal plants by 10 months at the end of 2022.⁶⁶ These two government decisions are in

⁶⁴ [Romania fast-forwards coal exit to 2030](#), Beyond Fossil Fuels, 2 June 2022.

⁶⁵ [Romania U-turns on decarbonisation to expand a lignite mine in Gorj and wipe out 106 hectares of forest](#), Bankwatch, 13 January 2023.

⁶⁶ [Romania's CE Oltenia delays closure of two coal plant units](#), Balkan Green Energy News, 8 November 2022.



contradiction with Oltenia's restructuring plan approved by the European Commission (and the power plants decommissioning schedule attached to it) and the decarbonisation process enshrined in the National Recovery and Resilience Plan (NRRP) and in national law. Understanding the risk of losing the NRRP payment, just three months later, the Romanian Government took back its decision to postpone the closure of the two aforementioned coal units.⁶⁷

⁶⁷ [DECIZIE Guvernul și-a tăiat prerogativa de a amâna prin HG închiderea unor centrale pe cărbune, la presiunea Bruxelles-ului, pentru a nu pierde bani din PNRR](#), Profit.ro, 15 March 2023.



Conclusions

The evolution of the power sector during winter 2022-23 illustrates that fossil gas and coal dependence can be rapidly reduced with a mix of actions to maintain or reduce the power demand and with a fast deployment of solar and wind power. Hungary and Poland are characteristic examples of where coal power generation actually fell in 2022 (Poland recorded the biggest decrease in absolute terms in the EU), whereas in Greece, the increase compared to 2021's historic low was negligible. Three Member States which increased coal-fired power generation (Bulgaria, the Czech Republic and Germany) exported power to neighbouring countries, facing shortages because of the dry year and the major cuts in nuclear output.

These accomplishments were largely the result of an acceleration in the deployment of renewables, as well as massive cuts in power and energy consumption, which led to a considerable drop in fossil gas use overall. It is particularly noteworthy that citizens in various countries (e.g. Poland, Hungary, Greece, Germany) played a significant role in this progress by either installing renewables to cover their own electricity needs or replacing their fossil fuel-based heating systems with heat pumps.

The EU significantly overachieved its -15% fossil gas consumption reduction target set in July 2022.⁶⁸ Even Member States that requested and obtained derogations to lower the reduction requirement, such as Greece, managed to significantly exceed the target (-20.9%).⁶⁹ But Europe was also undeniably fortunate that a mild winter lowered potential energy demand.

Nonetheless, the learnings are clear: Europe has many other means to secure its energy than relying on burning more coal. It is able to deploy other measures, to both ensure it is not importing Russian coal and fossil gas, nor resorting to expensive fossil gas imported from elsewhere. Europe has to build more wind and solar, and implement efficiency and smart consumption measures ahead of the coming winter. These structural measures are the only permanent, and sustainable answer to the energy crisis.

The 2022/23 winter proved that increasing coal-fired power generation – which is a distinct threat to Europe's climate targets, public health and national economies – was, in most cases, not necessary to meet electricity demand. With such high carbon prices –

⁶⁸ The introduction of this regulation last July has generated savings of 19%, equivalent to 41.5 billion cubic metres (bcm), between August 2022 and January 2023. [Preparing for the next winter starts now: Commission proposes to prolong the gas demand reduction measures](#), European Commission, 20 March 2023.

⁶⁹ [Trends in electricity production](#), The Green Tank, February 2023.

further boosted after the revision of the EU ETS Directive in 2022⁷⁰ – this persistence on coal is bound to exacerbate electricity bills in the coming years. To address this threat going forward, national decisions to prolong coal need to be thoroughly justified. Any decision to prolong coal use in any European country should fulfil the following criteria - including for the units which had their capacity limits lifted or retirement postponed since 2022:

- a) A Resource Adequacy Assessment is performed using the methodology by ENTSO-e and shows that the prolongation of the lifetime of coal plants is necessary to ensure security of electricity supply.
- b) If coal prolongation is deemed necessary through a Resource Adequacy Assessment, then the additional coal plants necessary should operate under a strategic reserve scheme, i.e. do not participate in the electricity market. This measure is necessary in order to prevent any operation of the coal plants beyond what is needed to ensure security of supply, with the aim of gaining profits from the electricity market.

Europe's power sector needs to be free from coal by 2030 and from fossil gas by 2035. These are necessary milestones towards limiting global warming to 1.5°C, to ensure predictable and affordable energy, and to decrease energy-related air pollution which will help reduce health costs. In order to get there, we need to be investing significantly more in wind and solar power, efficiency and savings, energy storage, as well as upgrading and expanding our electricity grids. Our recently published report, *Freedom from Fossil Fuels*, details how we can achieve this.⁷¹ The following section provides a summary of the report's main findings.

If we deploy the proposed package of measures described in the report and below, paired with enabling measures such as grid expansion, demand response and flexibility, we can reduce our fossil gas and coal use by 35% and 44% respectively by 2025, compared to 2021 levels. This is similar to the amount of fossil gas and coal that Europe imported from Russia in 2021. More than half of this reduction can be achieved based on the transformation of the power sector.

European governments, municipalities, financial institutions, utilities and businesses, as well as citizens should deploy an extra 481 GW of solar (459 GW in the EU-27), 102 GW of new wind capacities (78 GW in the EU-27) and nearly 29 million heat pumps (24 million in the EU-27) between 2022 and 2025. This means that every day, Europe needs to install 14 wind turbines and 37 large solar plants to cover areas with lowest

⁷⁰ [Carbon Price Tracker](#), Ember, updated daily.

⁷¹ [Freedom from Fossil Fuels](#), Beyond Fossil Fuels, 27 March 2023.

environmental impact such as car parks and/or degraded land. In addition, nearly 54,000 homes need to either be solarised, equipped with heat pumps or deeply renovated each day. This scale of industrial project is achievable in a continent where each day nearly 45,000 new cars are manufactured,⁷² and more than 12,000 gas boilers are installed in homes.⁷³

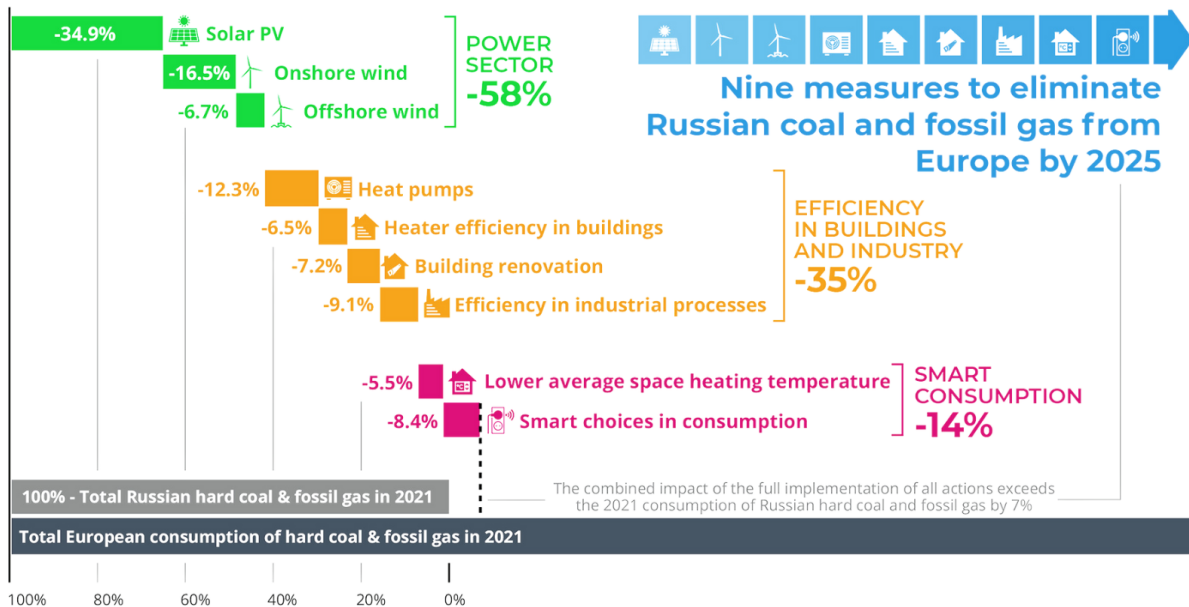


Chart 9: Impact of the nine categories of measures on fossil gas and hard coal demand and on the level of imports from Russia in 2021. Source: Freedom From Fossil Fuels, published by Beyond Fossil Fuels, 2023.

Despite the significant potential that wind power presents, the rate of deployment over the past ten years – stagnating at an annual rate of 12-18 GW – remained well below the 30 GW WindEurope says must be installed every year to meet the EU’s 2030 renewable energy target. New wind projects have been facing growing difficulties in recent years, including long and complex permitting processes, a lack of spatial planning, underinvestment in grids, and even governments actively hindering new investments. These hurdles have led to permitting times ranging from 30 months to 10 years in

⁷² [World motor vehicle production](#), European Automobile Manufacturers’ Association (ACEA), 2022.

⁷³ 4.3 million gas boilers were installed in 2020 in the following 11 European countries: Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden, Switzerland and the UK. [Heating Market Report](#), European Heating Industry (EHI), 2021.

European countries. For these reasons, WindEurope foresees a cautious deployment of 26 GW annually on average in Europe.⁷⁴

The REPowerEU Plan aims at shortening the average permitting period across the EU (up to 1 year) and proposes that Member States should give priority status for certain types of renewable energy projects and frame them as overriding public interest initiatives. While there is an urgency to accelerate the deployment of renewable energy, it must be done with the full involvement of citizens and communities while ensuring nature protection.

There are a number of measures that need to be quickly embraced by national and European decision-makers in order to ensure energy security and significantly bring down coal and gas demand, while eliminating the continent's dependence on Russian fossil fuels:

1. **Accelerate solar PV deployment:** Cross-sectoral policies are necessary in order to secure coherent and robust deployment frameworks that remove existing barriers, including permitting, grid modernisation, workforce training, supply chain build-up and financial support – especially at the national level. These frameworks should include specific provisions to support installations by households (prioritising vulnerable households), communities, and small and medium enterprises (SMEs).

2. **Urgently fix the barriers slowing down wind project deployment:** National and local governments, grid operators, wind developers and utilities must come together to solve existing barriers and ensure wind (in addition to solar) is identified as a strategic priority, in particular onshore wind.

This means investing in transparent, digitalised, and well-staffed planning, and faster permitting procedures, including community energy projects, without compromising biodiversity, community participation and social safeguards. Decision-makers must also develop a stable electricity market, which would in turn restore investor confidence in the European wind market. Boosting community support through shared financial benefits is equally important.

3. **Maintain emergency measures to cut energy demand:** Targeted, temporary emergency measures aimed at reducing energy demand for the coming two winters must be continued. In 2022, EU governments agreed to a set of voluntary energy reduction targets: a 15% reduction in fossil gas demand, which was recently prolonged

⁷⁴ [Wind energy in Europe: 2021 Statistics and the outlook for 2022-2026](#), Wind Europe, 24 February 2022.

Since this report was published, [the EU raised its binding renewable target](#) for 2030 to a minimum of 42.5%, up from the current 32% target.

until 31 March 2024.⁷⁵ This should be transformed into a structural measure (to be increased gradually to achieve a 2035 fossil gas phase out), including an obligation to reduce electricity demand by at least 5% during peak hours through demand-side flexibility and energy savings.⁷⁶ Combined with the structural measures proposed in the *Freedom from Fossil Fuels* report, they would reduce European hard coal demand by 44% and fossil gas demand by 35%, a level for which there would be no need to build more gas import infrastructure in Europe, such as gas pipelines and LNG terminals.

4. Unlock public and private finance for the transition: Governments, banks, investors and insurers must deliver the necessary investments in the energy transition (renewable energy, efficiency in industry, building renovation etc.) that will secure deployment at an unprecedented scale. This includes funding for enabling technologies (e.g. grids, storage, demand-side flexibility, digitalisation), as well as workforce training and the expansion of the European supply chain.

⁷⁵ [Preparing for the next winter starts now: Commission proposes to prolong the gas demand reduction measures](#), European Commission, 20 March 2023.

⁷⁶ [Energy system of tomorrow](#), CAN Europe, February 2023.

The following organisations contributed to the development of the paper:

Bankwatch Romania

CAN Europe

Centrum pro dopravu a energetiku

Ember

Magyar Természetvédők Szövetsége

The Green Tank

WWF Bulgaria

Contact: hello@bff.earth

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