

COAL-POWERED CRISIS

The cost of Germany's energy U-turn



Protecting People and Planet

“The chance of global near-surface temperature exceeding 1.5°C above preindustrial levels for at least one year between 2023 and 2027 is more likely than not (66%).”

World Meteorological Organization, Global Annual to Decadal Climate Update, 17th May 2023¹

“Every country must be part of the solution. Demanding others move first only ensures humanity comes last. The Acceleration Agenda calls for a number of other actions... Specifically, no new coal, the phasing out of coal by 2030 in Organisation for Economic Co-operation and Development (OECD) countries...”

UN Secretary-General António Guterres, 20 March 2023²



EXECUTIVE SUMMARY

As an energy crisis swept across Europe in 2022, it proved an injurious year for Germany's climate goals. The outbreak of the Russo-Ukrainian conflict in February saw Europe's energy supply pushed into a precarious state. For Germany, this triggered a U-turn on commitments to move away from coal power: retired coal-fired power plants were brought back onto the grid and imports of coal increased.³ Germany relies on imports of hard coal and extracts lignite from mines within the country, with these two types of coal producing over 30% of all electricity in 2022.⁴ While other European countries made less damaging changes in response to the energy crisis, only Germany's coal relapse was deemed "significant" by the International Energy Agency.⁵

However, Germany's increased use of coal predates the outbreak of war and, worryingly, its ability to meet global and national climate targets hangs in the balance. At a time when the world must take decisive action to fight the climate crisis and uphold global commitments, Germany's moves backwards are concerning.

Key findings:

- Over the past two years, Germany has significantly increased its reliance on coal, in direct conflict with national and international climate commitments. If the country continues on this trajectory, it will fail to meet legally binding commitments such as the EU 2030 climate targets.
- Germany has committed to reducing emissions by 65% of 1990 levels by 2030, 88% by 2040, and becoming carbon-neutral by 2045.⁶ However, current emissions from coal and other sectors such as transport and construction have proved worrying and the government's own independent council of experts fears that Germany is veering off its climate targets.⁷
- In the past, Germany relied on other countries, including Russia, to supply it with non-renewable energy sources instead of committing to phasing them out and securing self-sufficient energy production. Although Germany stopped coal imports in August 2022 in line with the EU's sanction regime, through the continued purchasing of Russian coal between February and August 2022, Germany indirectly helped fuel the war in Ukraine.
- Germany's reliance on coal, both domestically sourced and imported, is incongruous with its climate commitment of generating 80% of its electricity from renewable sources by 2030.
- Germany's renewable energy industry requires rapid expansion to replace fossil fuels and to ensure the country meets its climate commitments. The current rate of expansion is not sufficient.
- Germany has committed to phasing out coal entirely by 2038, which is eight years later than scientists have urged is necessary. The government set out in its non-binding Coalition Agreement, published in 2021, that this will "ideally" be completed by 2030.⁸
- By eliminating coal by 2030 instead of 2038, Germany would save 1.84 billion tonnes of CO₂ emissions,⁹ equivalent to Russia's annual CO₂ emissions in 2021.¹⁰
- Germany must uphold the global responsibility to fight the climate crisis by pushing forward with renewable energy and irreversibly transitioning away from coal by 2030. "Ideally" is not enough.

This briefing aims to analyse Germany's increased use of coal and what this means for the country's ability to meet legally binding climate commitments. While there are other important questions within this issue, this briefing is focused on the coal phase out and Germany's energy transition. The consequent recommendations to phase out coal in electricity production by 2030 are aimed at the German government.

1. Coal, a challenge to the climate

As global greenhouse gas emissions continue to increase, the toll of the climate crisis is being felt in the form of rising sea levels, extreme weather and an increase in natural disasters. Germany itself has been a victim of these changes, as seen in the devastating floods in 2021 and Europe-wide heat waves in 2022. Coal, as the 'dirtiest' of fossil fuels, is one of the largest culprits of the climate crisis.¹¹ In addition to the environmental impact, air pollution from burning coal has severe impacts on human health, increasing the risk of lung disease and cancer.¹²

In light of scientific evidence presented by the Intergovernmental Panel on Climate Change (IPCC), the Secretary General of the United Nations has called for all Organisation for Economic Co-operation and Development (OECD) countries to end coal use entirely by 2030 to stay on target for limiting global warming to 1.5°C.¹³ The IPCC states that coal-fired power plants are the biggest contributors to fossil fuel emissions, and phasing out coal in the energy sector is a crucial transformation needed to keep global warming limited to 1.5°C or 2°C.¹⁴ The IPCC calls for global coal use to fall by 80% relative to 2010 usage by 2030, while analysis from Climate Analytics indicates that OECD countries must end all coal use by 2030 to meet this climate target.¹⁵

Given the gravity of the situation, many countries have made commitments to phasing out coal to uphold the Paris Agreement.¹⁶ Despite numerous statistical models and subsequent pledges on paper to move away from coal, the reality has proved different for some global leaders like Germany. Germany's actions are still not sufficient to meet its climate goals and commitment to ending the use of coal. The government's target of eliminating coal by 2030, which scientists have deemed imperative, seems unrealistic given the country's current trajectory.

BOX 1: Definitions

Hard Coal: Also called anthracite, this type of coal has the highest carbon content and the highest energy density.

Lignite: Also known as brown coal, it has a low carbon content and higher CO₂ emissions than hard coal.



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2. German Coal Use in 2022

In stark contrast to its commitments to a phase out (see Section 2.1), Germany ramped up coal usage and restored coal-fired power plants in 2022. According to the Federal Statistics Office, coal was the primary energy source in electricity production in 2022, and 8.4% more coal-generated energy was fed into the German grid than in 2021.¹⁷ In fact, coal produced a third of all of Germany's electricity in 2022, and the continued operation of German coal-fired power plants produced an additional 15.8 Mt of emissions.¹⁸

Despite the significant increase in coal-fired electricity production, Germany was still able to reduce its overall emissions by 1.9%.¹⁹ This minor improvement was due to the large success of its renewable energy sector in 2022. However, higher reliance on coal in 2022 nearly completely negated this progress.

2.1 What has Germany committed to?

Germany's commitment to phasing out coal is outlined in the Act to Reduce and End Coal-Fired Power Generation (Gesetz zur Reduzierung und zur Beendigung der Kohleverstromung).²⁰ The Act stipulates that Germany is obligated to shut down all coal-fired power plants by the end of 2038.²¹ The government set out in its non-binding Coalition Agreement, published in 2021, that this will "ideally" be completed by 2030. However, recent developments in energy production and a reliance on coal in Germany has rendered this improbable. As the 2030 target outlined in the Coalition Agreement is non-binding, there is no political consequence for Germany failing to meet this. Germany's legally binding closure deadline of 2038 is eight years later than the majority of other OECD countries' commitments to uphold the Paris Agreement.²²

BOX 2: EU emissions targets

In April 2023, the EU Parliament approved the deals reached with EU countries in late 2022 on several key pieces of legislation that are part of the "Fit for 55 in 2030 package".²³ This package lays out the EU's plan to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels, in line with the European Climate Law.²⁴ In order to achieve this target, a complete phase out of coal in Europe by 2030 is imperative.²⁵ This means that Germany's binding 2038 commitment to phase out coal will be eight years too late and as a result the EU risks not meeting the binding commitment to reduce emissions by 55%.

The first target specified in the Act was a total reduction to 30GW of power generated by coal by the end of 2022, with 15GW each coming from hard coal and from lignite use. However, at the end of 2022, Germany's total coal capacity was 36.4GW (made up of 18.7GW for lignite production, and 17.7GW for hard coal), 20% higher than the target set out in the legislation.²⁶ Indeed, as the German Environment Agency (UBA) notes, 2022 marked the second year in a row where the use of coal actually increased in Germany.²⁷ In 2022 alone, Germany increased its coal capacity by 6.2GW, recommissioning 1.9 GW of lignite and 4.3 GW of hard coal power plants, the operation of which is permitted until April 2024, and postponed the decommissioning of 2.6 GW of hard coal power capacity and 1.2 GW of lignite capacity.²⁸ The planned approach to reduction seems to have fallen at the first hurdle.

The next target detailed in the Act is reducing coal power to an 8GW output from hard coal and 9GW from lignite-fired power stations by 2030, with a hard deadline of 31 December 2038 for eliminating the use of coal. As noted this is far later than the majority of other OECD countries, and the government's tentative goal of "ideally" completing the phase out by 2030 is far from achievable if Germany continues on its current trajectory.²⁹

The Act also lays out that, in the medium term, energy output from coal-fired power plants will be replaced by renewables. However, in 2022 Germany's increased coal power output was greater than its increase in solar and wind power capacity.³⁰ Although Germany did increase the use of renewables significantly and set a new record, the benefit in terms of emissions was almost entirely offset by the increased dependence on coal and the country is still not in line to meet its climate goals.³¹ Furthermore, the record use of renewables has been attributed to favourable "sunny and windy weather" and "not a success of climate policy".³²

Additionally, Germany's Climate Protection Act stipulates that emissions will be reduced to 65% of 2010 levels by 2030, and that the country will be carbon neutral by 2045.³³ Germany's progress is reviewed every two years, with the first report published in 2022.³⁴ The findings of this first report showed that the German energy industry's emissions exceeded the sector target outlined in the Climate Protection Act, meaning the country is failing to uphold its commitments.³⁵

BOX 3: The Renewable Energy Act (EEG 2023)

As of the 1st of January 2023, the new Renewable Energy Act (EEG) came into force in Germany. This Act lays the foundations for Germany to become climate neutral, in alignment with the 1.5°C path outlined in the Paris Agreement. Under the new EEG, Germany undertakes to increase the share of consumption of electricity from renewable energy sources from 46.2%, as it stood in 2022, to 80% by 2030.³⁶ This will involve a serious push to expand onshore and offshore wind production, and solar power.

In recent years, Germany's solar and wind power industries have suffered due to slow expansion of capacities and several rounds of onshore wind and solar auctions being undersubscribed in 2022.³⁷ Wind has been particularly impacted due to long permit processing times, however the European Commission has proposed legislation to identify areas suitable for wind farms and to fast-track approvals within these regions.³⁸ Additionally, in March 2023, the German government made legislative changes to simplify and accelerate the planning and approval of renewable energy projects.³⁹ Solar capacity building has also lagged behind in Germany, and a lack of skilled labour as well as competitive advantages from Asian market actors are causing roadblocks.⁴⁰

Strong commitments such as the goals outlined in Germany's EEG 2023 are essential in fighting the climate crisis. However, the country's investment in renewable energy must coincide with a swift and decisive move away from coal and other fossil fuels so as not to undermine this progress.

3. Coal mining, imports and use in Germany

Historically, Germany's industrial development was inextricably linked to coal. The legacy of this is seen in both hard coal and lignite still playing a significant role in the country's energy production today. Germany still mines lignite in its own territory and imports hard coal from various countries to power a series of plants that feed into the German grid. In fact, hard coal and lignite currently generate 31.3% of the country's electricity (up from 28.1% the previous year).⁴¹ This is one of the reasons why the use of coal is so significant in the political debate about Germany's energy transition.

It is also the reason why phasing out coal will be one of Germany's biggest climate triumphs. According to the independent global energy think-tank Ember, **75% of energy sector emissions in Germany come from hard coal and lignite plants.**⁴² **In 2021, Germany's CO₂ emissions from coal were 230Mt.**⁴³ **As the energy sector is responsible for 32% of Germany's overall emissions, phasing out and closing coal-fired power plants will have a significant impact on the country's carbon footprint.**⁴⁴

3.1 Coal-fired power plants

Germany accounts for 38% of the EU's coal capacity, making it the largest player.⁴⁵ The country is also the largest producer of lignite and took steps to expand coal power to replace gas use in the wake of the Russian attack on Ukraine.⁴⁶ Despite originally planning to shut down 1.6GW of lignite-fired power plants in 2022, the government issued a waiver to continue production until March 2024 as a reserve capacity.⁴⁷ According to Federal Network Agency data, Germany has 147 coal-fired units including six which are currently in reserve.⁴⁸

According to Ember, Germany is home to six of the 10 largest coal-fired power plants in the EU.⁴⁹ These six plants all burn lignite which produces more emissions and causes more environmental damage. As a result, Germany's power sector emissions are the highest in the EU. Although Germany has committed to phasing out coal, the country brought 14 hard coal power stations back online or ceased their scheduled decommissioning in 2022.⁵⁰ An additional five lignite-power plants were also allowed to return to the market, with permission initially valid until the end of June 2023.⁵¹

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BOX 4: Datteln IV

Despite making a clear commitment to phase out coal power steadily and surely, Germany opened a new coal-fired power plant in 2020. Datteln IV is run by the company Uniper and has a net electrical output of 1,000MW.⁵²

The justification given was that the deal had been made prior to the plan to phase out coal and to stop the plant from opening would require paying “massive” compensation.⁵³ Uniper announced that they would request €1.5 billion if they were required to keep the power plant off the grid.⁵⁴ They intend to run the power plant until 2038.

The German government has stated that “against the background of the overarching goal of reducing CO₂ emissions, the focus is not on individual power plants, but on the total emissions of all coal-fired power plants in Germany”.⁵⁵ It reasons that focusing on decommissioning older power-stations which were perhaps less efficient would be a better approach. However, introducing new coal-fired power onto the German grid is the antithesis of what is needed to cut emissions and phase out coal.

Due to Uniper’s high reliance on Russian fossil fuels, the market instability following the invasion of Russia into Ukraine led to the company incurring heavy financial losses in 2022.⁵⁶ Uniper was effectively nationalised by the German state to stem the company’s losses. As part of this rescue action, the European Commission set a condition that Datteln IV must be sold off by 2026.⁵⁷

3.2 Coal mines

Germany’s last hard coal mine shut down at the end of 2018 and thus the country currently has no operational hard coal mines, meaning it relies on imports for this type of coal.⁵⁸ However the country does have 10 active lignite mines. This type of coal yields less energy than hard coal and produces more CO₂, making it more problematic for emissions and the climate crisis (see Box 6).

Active lignite mines in Germany

Name	Region	Size (km ²)	Ownership
Welzow-Süd	Brandenburg, Lusatia	108	LEAG
Nochten	Saxony	107	LEAG
Hambach	North Rhine-Westphalia	85	RWE
Jänschwalde	Brandenburg, Lusatia	80	LEAG
Reichwalde	Saxony	55	LEAG
Garzweiler II	North Rhine-Westphalia	48	RWE
Inden	North Rhine-Westphalia	17	RWE
Profen	Saxony-Anhalt	17	MIBRAG
Vereinigtes Schleenhein	Saxony	17	MIBRAG
Amsdorf	Saxony-Anhalt	2	Romonta

Data from Clean Energy Wire⁵⁹

BOX 5: RWE

RWE is a German multinational energy company and the largest electricity producer in Germany. In their 2022 reports, the company announced a profit of €3.2bn.⁶⁰ In 2022, nearly 80% of the electricity RWE generated came from non-renewable sources.⁶¹ In 2021, the energy company reported total GHG emissions of around 112.3 million tonnes of CO₂ equivalent (MtCO₂eq), up 20.5% from 2020.⁶²

RWE currently owns the three lignite mines in North Rhine-Westphalia which supply its three coal-fired power plants. This includes the Neurath Power Plant which produced a staggering 24.22 Mt of emissions in 2022, the second highest of all European power plants.⁶³ This figure increased from 22.08Mt of emissions in 2021.⁶⁴ RWE was also part of the move to bring retired coal-fired power plants back on the grid in 2022, with three of their plants reinstated. In 2022, RWE used 65.3 million metric tons of lignite to power these plants which was 2.7 million tons more than in 2021.⁶⁵

In October 2022, the Federal Ministry for Economic Affairs and Climate, the Ministry of Economic Affairs, Industry, Climate Action and Energy of the State of North Rhine-Westphalia and RWE announced that a compromise had been found to end lignite-based electricity generation in 2030 instead of 2038.⁶⁶ The company announced an investment of €15 billion in Germany's renewable energies on the same day. While these are welcome announcements, there are notable caveats, beyond the agreement between RWE and the government and criticisms over the transparency of how it was agreed.⁶⁷

Firstly, the German federal government has until 2026 to decide whether the last lignite-fired power plants will be placed on security standby until the end of 2033. Additionally, in relation to the recently recommissioned power plants, the government has until the end of 2023 to extend the lifetimes of all the stations brought back onto the grid until 31 March 2025.⁶⁸ The final notable caveat, specific to RWE, is that the decommissioning of two power stations scheduled for the end of 2022 has been deferred until 31 March 2024. Essentially, two RWE coal-fired power plants will remain on the grid for two years longer than originally agreed, on the understanding that RWE will end all coal-fired electricity production by 2030, instead of 2038.

The company will not request additional compensation for bringing forward the phase out date beyond a previously agreed amount of €2.6 billion.⁶⁹ RWE is the only company to agree to the earlier phase out to date, with some eastern German states refusing to speed up the transition and claiming that the 2038 deadline is "realistic".⁷⁰

Meanwhile, rather than make a wholesale, rapid transition to 100% renewable energy, RWE is playing a significant role in supplying Germany with liquified natural gas (LNG).⁷¹ In 2022 the RWE subsidiary Supply & Trading established itself as an intermediary for pipeline gas and LNG, which included developing infrastructure such as the floating LNG terminal at Brunsbüttel.⁷² While it is described as less 'dirty' than coal, LNG is nevertheless a fossil fuel which should not be seen as an alternative to renewable energy sources. LNG produces large quantities of methane at every stage of production and, concerningly, the investment in infrastructure is long-term and locks governments into fossil fuels for decades to come.⁷³ Moreover, the plans for LNG terminal infrastructure have already been found to lead to overcapacity, outstripping likely demand.⁷⁴ If Germany is to keep to its climate targets, LNG will need to be phased out due to its high emissions. This will leave the country with stranded assets as they will no longer have use for the expensive infrastructure associated with LNG production. Clearly, replacing one fossil fuel for another is not a long term solution.

3.3 Coal imports

In 2022, Germany imported 42.3 million tonnes of hard coal from both inside and outside the European Union, which is a 9.5% increase from 2021, according to data reported in Eurostat.⁷⁵ Due to smaller import volumes from Russia, which had previously supplied Germany with 50% of its hard coal, Germany turned to other countries such as South Africa and Colombia to meet demand.⁷⁶ Regardless, the largest quantity of imported coal still came from Russia in 2022, despite not having imported coal from the country after August 2022 in line with European Union import bans on Russian coal.⁷⁷

Germany’s extra-EU27 coal imports 2022⁷⁸

Country	Quantity (million tonnes)	Increase (%)
Russia	4.6	-46
USA	3.4	91.5
Australia	2.2	41
South Africa	1.3	-79
Colombia	1.1	300

BOX 6: The problem with lignite

Lignite or brown coal is considered the most polluting and health-harming form of coal. As it has a higher sulphur and ash content than hard coal, and a lower energy value, it creates more air pollution per megawatt generated.⁸⁰ The environmental and human health cost is therefore much higher.

In 2022, Germany generated 116.2 billion kWh of energy from lignite coal alone, making up 20.1% of the country’s total energy production.⁸¹ This was also an increase on the previous year.

Given the damaging impacts of lignite, running the two power plants for an additional two years will be hugely detrimental for Germany’s emissions regardless of the fact that RWE has agreed to shut down operations earlier than the government’s legally binding 2038 closure date. As 2030 still remains an “ideal” target for the German government and not a legally binding commitment, allowing coal-fired plants to remain on the grid for longer is a worrying move in the wrong direction. Continued reliance on fossil fuels for energy production is environmentally and economically unsustainable, and Germany should be looking to its burgeoning renewable energy production instead.

4. Russia's invasion of Ukraine and its impacts

Russia's illegal invasion of Ukraine in February 2022 sparked an energy crisis across Europe. As Putin strengthened his hold over much of the energy supply in Europe, along with concurrent sanctions by the EU, many European countries sought energy security as they had historically depended on Russian resources. The severity of the crisis was a clear indication of the continuing reliance of the European market on fossil fuels, despite commitments on paper to reduce their use and cut emissions.

In response to the precarious energy situation, Germany opted to bring retired coal-fired power plants back on the grid thus reversing efforts to phase out coal usage. The fear of energy shortages seems to have been unfounded, despite the Russian invasion of Ukraine cutting supplies and pushing gas prices sky-high. In fact, across the whole of the EU, renewables generated more power than fossil fuels over the winter of 2022 for the first time.⁸²

Additionally, the Russian invasion of Ukraine cannot be entirely blamed for Germany's increased coal consumption, as the pattern was already emerging ahead of the war. Germany's increased use of coal predates the conflict, as 2022 marked the second year that more coal-fired power was fed into the grid and resultant emissions climbed.⁸³ In 2021, Germany imported €4.5 billion worth of hard coal from both inside and outside the European Union, an 89% increase from the previous year.⁸⁴

According to the UBA, Germany must now install three times as much renewable energy capacity as previously anticipated, if the country is to meet its climate goals.⁸⁵ A statement from the UBA's President has said that "in order to achieve the German government's goals by 2030, six percent of emissions must now be reduced per year. Since 2010, the average has not even been two percent."⁸⁶ This demonstrates that actions to date have been insufficient. The pattern of renegeing on commitments only to scramble to compensate is a far cry from the decisive action needed to mitigate climate breakdown.

Kyiv, 25 February 2022. Photo: Oleksandr Ratushnyak, UNDP Ukraine (CC BY-ND 2.0)



BOX 7: The Garzweiler coal mine expansion

In January 2023, the Bureau of Investigative Journalism (TBIJ) reported that HSBC had made a \$340m deal with the energy company RWE to expand the Garzweiler coal mine.⁸⁷ This mine extracts up to 30 million tonnes of lignite per year, and is responsible for supplying some of the largest power plants including the Neurath plant, the second largest emitter in the European Union (see Box 5).⁸⁸ The loan from HSBC was granted just three months after the bank committed to phasing out financing of coal-fired power and thermal coal mining by 2030 in markets in the EU and OECD.⁸⁹ However, HSBC is not alone in lending RWE money, as data from Refinitiv showed that the company has borrowed a total of \$5.4bn in loans arranged by 25 banks including Barclays and Santander.⁹⁰

According to TBIJ, the deal was structured as a sustainability-linked loan, which was aimed at funding transitions to more environmentally-friendly operations.⁹¹ However, according to TBIJ, there were no restrictions on how the funds were to be spent and, although the HSBC loan came with a commitment from RWE that it would meet certain climate targets, the financial consequences for failing to do so represented a tiny fraction of the sum received.⁹²

RWE's creation and expansion of the Garzweiler mine has already seen 13 villages destroyed, with activists protesting against the prioritisation of profit over people and the environment.⁹³ Thousands of protestors gathered in the last village in the area, Lützerath, in January 2023 to demonstrate their outrage, with environmentalists arguing that expanding the mine would result in catastrophic greenhouse gas emissions.⁹⁴

Attempts to expand coal energy production undermine Germany's commitment to phase out the energy source and take responsibility for reducing emissions. Robert Habeck, Germany's Economy and Climate Minister, has referred to the expansion of mining in Lützerath and the reboot of coal-fired power plants as a "painful consequence" of the war in Ukraine.⁹⁵ However, contrary to the assertions of the German government and RWE, research suggests the expansion of the Garzweiler coal mine was far from necessary, and that the coal reserves under Lützerath are not needed for Germany's energy security.⁹⁶

New investments in Germany's coal industry also raise serious questions over finance industry commitments to phasing out coal. Evidently, there is still significant commercial support for Germany's coal use, suggesting that financial motivations trump commitments to the green energy transition. As evidenced by the case of the Garzweiler mine, all too often the commitments of banks and financial institutions to net-zero remain hollow targets.⁹⁷

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5. What is at stake?

Achieving the goals of the Paris Agreement will require radical, industry-wide transformations and an overhaul of the current energy system. As an economic powerhouse in Europe, Germany should be leading the way in making positive changes in energy production and reducing emissions. Essentially, the transition to “green” energies should be seized as an opportunity to become a leader in renewable technology, leading to job creation that will outweigh employment losses in the fossil-fuel sector.



Appolinary Kalashnikova / Unsplash

5.1 The cost of inaction

The environmental and social costs of failing to meet climate goals are already being felt, as highlighted by the increasing prevalence of extreme weather and natural disasters. But, aside from widespread environmental devastation, there is a severe economic cost to inaction for Germany's economy.

A recent report found that the impacts of climate change could result in a cumulative economic cost to Germany of up to €900 billion by 2050.⁹⁸ Financial consequences worsen with continued inaction, yet reduce commensurate with actions taken to fight the climate crisis. In other words, the more action taken to combat the climate crisis, the lower the cost will be for Germany and for the world more broadly.

“Climate change is already having serious economic consequences... Every euro invested in climate protection reduces the economic costs that could arise in the future as a result of extreme events.”

Parliamentary State Secretary in the Federal Ministry for Economic Affairs and Climate Protection Stefan Wenzel (2023)⁹⁹

“The consequences of the climate crisis are having a significant impact on prosperity in Germany... the figures also show that without effective climate adaptation, the costs [of the climate breakdown] will be much higher.”

State Secretary for the Environment, Christiane Rohleder (2023)¹⁰⁰

In eliminating coal by 2030 instead of 2038, Germany would save 1.84 billion tonnes of CO₂ emissions.¹⁰¹ This is the equivalent of taking 409.5 million petrol-powered passenger vehicles off the road for one year.¹⁰²



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6. What needs to be done?

Now is the time for Germany to commit to meaningful investments in long-term sustainable energy solutions. Although the government has committed to bringing the share of renewable power consumption up to 80% by 2030 (see Box 3), it is currently not on track to meet this goal.

“...Only a massive rollout of renewable energies and grid expansion will break our dependence on fossil energy imports and put us on track to meet Germany’s climate target for 2030.”

Simon Müller, Germany director of Agora Energiewende (2022)¹⁰³

With the worrying developments in LNG and a trend of increasing coal use, Germany appears to be wasting effort and resources on fossil fuels which is entirely at odds with the Paris Agreement to which the country is a signatory and the views of the scientific community.

6.1 Renewable energy

Germany’s renewable energy production has shown great promise and preliminary calculations show that in the first three months of 2023, renewables were responsible for nearly half of the country’s electricity production.¹⁰⁴ Onshore wind power, biomass and solar power proved the most impactful. This success is to be applauded, but to meet its 2030 goals Germany still needs to intensify its efforts to expand the sector.

In 2020, German economic expert Claudia Kemfert argued that “Germany’s expansion of renewables capacity needs to be at least twice as fast as it currently is... its phase out of coal should likewise be happening at a much faster rate.”¹⁰⁵ Little seems to have changed in the interim, with a report from December 2022 concluding that the current expansion efforts are “far from sufficient” to meet the 2030 targets.¹⁰⁶ Despite this, Germany’s renewable energy industry shows great promise. A concerted and expedited expansion of renewable energy in Germany is necessary in conjunction with phasing out coal.



RECOMMENDATIONS

“[To] stay within the 1.5° limit on heating... requires faster timelines to phase out fossil fuels and ramp up renewables. It means putting a price on carbon and ending fossil fuel subsidies. I call on the G7 to phase out coal completely by 2030”

United Nations Secretary-General António Guterres message to G7 leaders,
Hiroshima, 21st May 2023¹⁰⁷

Germany must not be the brake on swift international action to curb global heating. The Federal Government must take steps to eliminate coal-fired power plants as a clear sign that it intends to act in alignment with its commitments and policies to fight the climate crisis. Germany's continued reliance on coal - as well as the historical lack of renewable energy expansion for many years, and the more recent decisions to secure energy supply in the short term through fossil fuels - shows that the current government's ambition to phase out coal has thus far been questionable.

To achieve climate neutrality, countries across the globe including Germany must enact a host of measures. While this briefing focuses on the use of coal, albeit the dirtiest source of fossil fuel, to meet its obligations under the Paris Agreement and to play its role in ensuring global temperature increase does not exceed 1.5° C, the Federal Government must urgently:

- Act on its pledge to phase out coal by 2030
- Ensure that, while the coal exit is brought forward, the amount of coal extracted and burnt is not increased to stays within the emission limits to meet the 1.5° target
- Set aside appropriate resources to ensure a just transition for the people in areas where coal production is to be phased out by 2030
- Invest in renewable energy sources, while other fossil fuels, such as LNG, and biomass should not be seen as viable alternatives to coal
- Similar to its “Wind-on-land” legislation from February 2023, expedite processes for the quick expansion of renewable energy, both on land and at sea
- Work with the European Commission and its EU partner countries to push for ambitious EU-wide climate protection legislation
- By eliminating coal by 2030 instead of 2038, Germany would save 1.84 billion tonnes of CO₂ emissions.¹⁰⁸
- This is essential for meeting the IPCC calls for global coal use to fall by 80% relative to 2010 usage by 2030.¹⁰⁹

- 1 WMO, https://library.wmo.int/index.php?lvl=notice_display&id=22272
- 2 UN Secretary General António Guterres video message for the press conference to launch the Synthesis Report of the Intergovernmental Panel on Climate Change <https://press.un.org/en/2023/sgsm21730.doc.htm>
- 3 Anon (2022) 'Germany to fire up coal plants as Russia turns down the gas', *Deutsche Welle*, 19 June, <https://www.dw.com/en/germany-to-fire-up-coal-plants-as-russia-turns-down-the-gas/a-62182321>
- 4 Destatis Statistisches Bundesamt (2023) 'Gross electricity production in Germany', <https://www.destatis.de/EN/Themes/Economic-Sectors-Enterprises/Energy/Production/Tables/gross-electricity-production.html> (Accessed 27 April 2023)
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Tel: +44 (0) 207 239 3310 | Email: info@ejfoundation.org
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