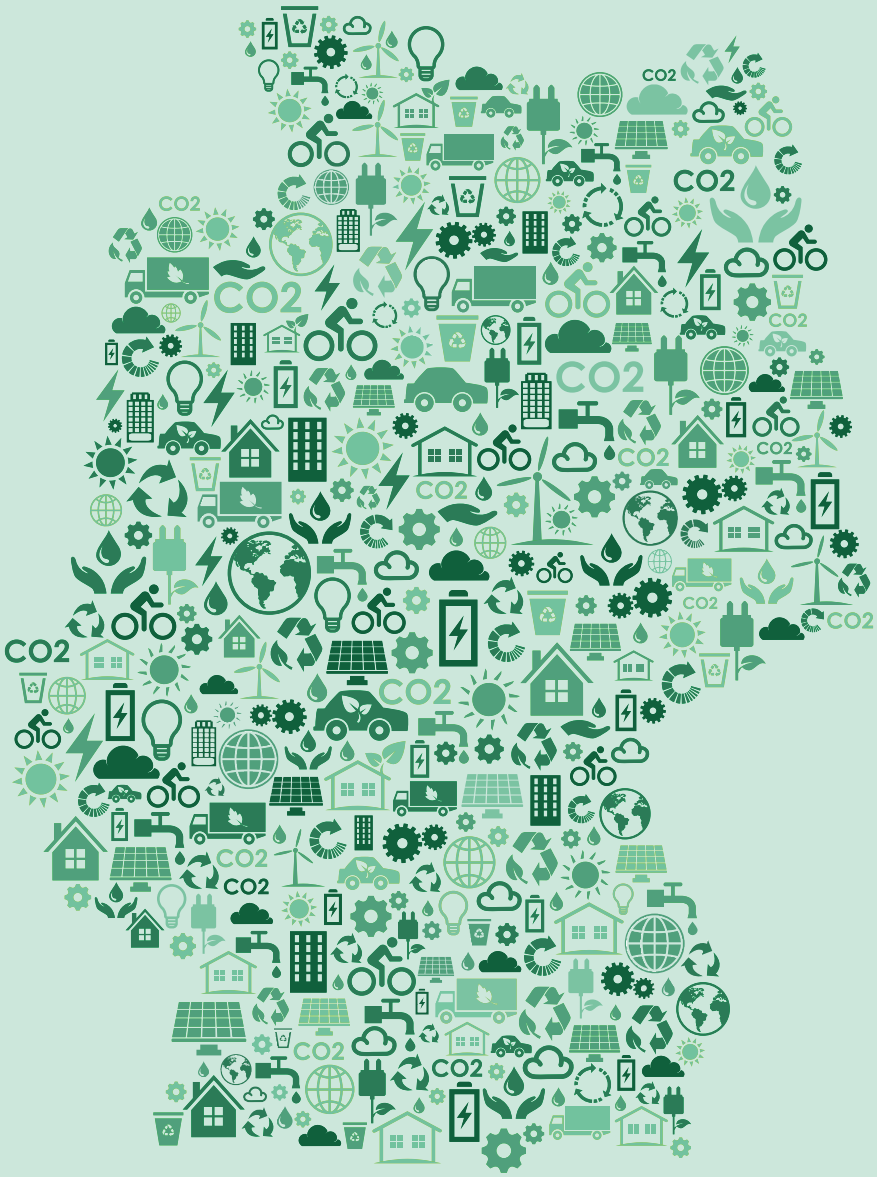
The
Federal Government



Germany's Roadmap for Transitioning Away from Fossil Fuels

Date: September 2026

Contents

1. Summary 2
2. International dynamics in the transition away from fossil fuels 3
3. Current status of fossil fuel use in Germany 4
4. Overview of climate policy in Germany 5
   4.1. The Federal Climate Action Act 5
   4.2. Germany's progress on the road to climate neutrality 6
   4.3. Germany's 2026 Climate Action Programme 7
5. Measures to transition away from fossil fuels 8
   5.1. Energy sector 8
   5.2. Transport 10
   5.3. Buildings 12
   5.4. Industry 14
6. Carbon pricing 15
7. Research and innovation 16
8. Social design of the transition to climate neutrality 16
9. Germany's international action to support the transition away from fossil fuels 17
   9.1. Global alliances: Powering Past Coal Alliance, Electrify Now, Climate Club, Global Alliance for Buildings and Construction and Global Methane Pledge 17
   9.2. Just Energy Transition Partnerships (JETPs) and bilateral development cooperation 18
   9.3. Energy partnerships and dialogue 19
   9.4. Germany's climate finance to support the transition away from fossil fuels 19
   9.5. Export promotion and investment protection agreements 21

1. Summary

Fighting global climate change is one of the foremost challenges facing the international community this century. The German government has affirmed its commitment to international, European and national climate targets. Under the provisions of the Federal Climate Action Act (Bundes-Klimaschutzgesetz, KSG) Germany must achieve net greenhouse gas neutrality no later than 2045. The country has so far cut emissions by some 48% of the 1990 level, while its economy has grown by around 48% over the same period.

Reducing greenhouse gas emissions is inextricably linked to gradually transitioning away from fossil fuels to generate energy. In the energy, industrial, buildings and transport sectors, new environmentally sustainable, efficient technologies and management practices are gradually gaining ground, not only in Germany but also at global level, enabling modern industrial societies to become climate-neutral. Research and innovation are helping enhance competitiveness, raise value creation and underpin technological sovereignty. Germany has consistently pursued a pathway to transition away from fossil fuels.

The percentage of electricity generated from renewables is rising rapidly. In Germany, renewables already account for about 55% of gross electricity consumption, and this figure is set to rise to at least 80% by 2030. This, along with the phase-out of coal-fired power no later than 2038, the decarbonisation of dispatchable power plants and the expansion of electricity grids, will allow Germany's electricity supply to become climate-neutral. Energy consumption is increasingly being electrified. Heat pumps and district heating are replacing oil- and gas-fired heating systems. For the first time, more heat pumps than gas central heating systems were sold in Germany in 2025. Electric mobility is beginning to take off – in August 2026, battery electric cars accounted for over 32% of first time registrations. The market for battery electric heavy-duty vehicles is still at a dynamic stage of development. While battery electric vehicle models are now widely available, and are increasingly being used by logistics companies, the level of market penetration is still limited as a result of the general prevailing conditions, in particular regarding the availability of a nationwide network of fast charging infrastructure. Nevertheless, the percentage of newly registered heavy-duty vehicles accounted for by battery electric vehicles quintupled between 2023 and 2026 (from 0.91% to 4.70%).

These developments are allowing Germany to significantly reduce its imports of fossil fuels, thereby lowering its dependence on supply chains vulnerable to geopolitical crises. The 2026 Climate Action Programme alone, with its 67 measures, will ensure savings of almost seven billion cubic metres of natural gas and some four billion litres of petrol by 2030. The German government is underpinning the transition away from fossil fuels with measures to foster social participation and structural change, and targeted support for households, employees and companies.

Germany is also supporting the international transition away from fossil fuels, with the Powering Past Coal Alliance, the Electrify Now Initiative**,** the Climate Club, the Global Alliance for Buildings and Construction (GlobalABC), extensive climate finance (11.8 billion euros in 2024**)**, Just Energy Transition Partnerships (JETPs), bilateral energy partnerships with a current total of 33 partner countries, and the alignment of export promotion measures with the Paris Agreement targets.

This roadmap lays out the policy framework and the key strategies Germany will be pursuing in the various sectors in order to achieve its goal of climate neutrality and thus transition away from the use of fossil fuels no later than 2045.

The scientific reports of the Intergovernmental Panel on Climate Change (IPCC) indicate that ambitious climate action is urgently needed to mitigate the risks posed by climate change and secure prosperity for future generations. In spite of the progress being made, unceasing efforts are still needed. It is not only in Germany that climate policy faces massive challenges in view of the constantly shifting geopolitical and geoeconomic parameters. International cooperation on climate action and transitioning away from fossil-fuel-generated energy is absolutely critical in this regard.

2. International dynamics in the transition away from fossil fuels

The 2015 Paris Agreement stipulates that climate neutrality is to be achieved by the second half of this century, and provides for a balance between global greenhouse gas emissions and the use of carbon sinks. Some 75% of global greenhouse gas emissions can be attributed to energy systems, primarily in conjunction with the use of coal, oil and gas. Fossil fuels currently account for about 80% of global energy consumption.

At the 28th Conference of the Parties to the UN Framework Convention on Climate Change (COP28) in 2023, the parties agreed on "transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science" (Decision 1/CMA.5, paragraph 28 (d)).

At COP30 in 2025, the Brazilian COP30 President announced that an international roadmap for transitioning away from fossil fuels would be elaborated. It was to be published in 2026 in the run-up to COP31.

In April 2026, 57 governments including Germany, took part in the First International Conference on Transitioning Away from Fossil Fuels. Held in Santa Marta it was jointly chaired by Colombia and the Netherlands. The follow-up conference in 2027 will be hosted by Tuvalu and Ireland and is currently being prepared with three workstreams (production of national roadmaps, finances and partnerships), with the involvement of producer and consumer countries.

The European Union plans to largely end the use of fossil fuel in Europe's energy sector well before 2050. The European Climate Law introduces a binding net greenhouse gas emission reduction target of 90% of the 1990 levels by 2040, including an appropriate level (of up to 5%) of high quality, international emission credits that have undergone ethical auditing.

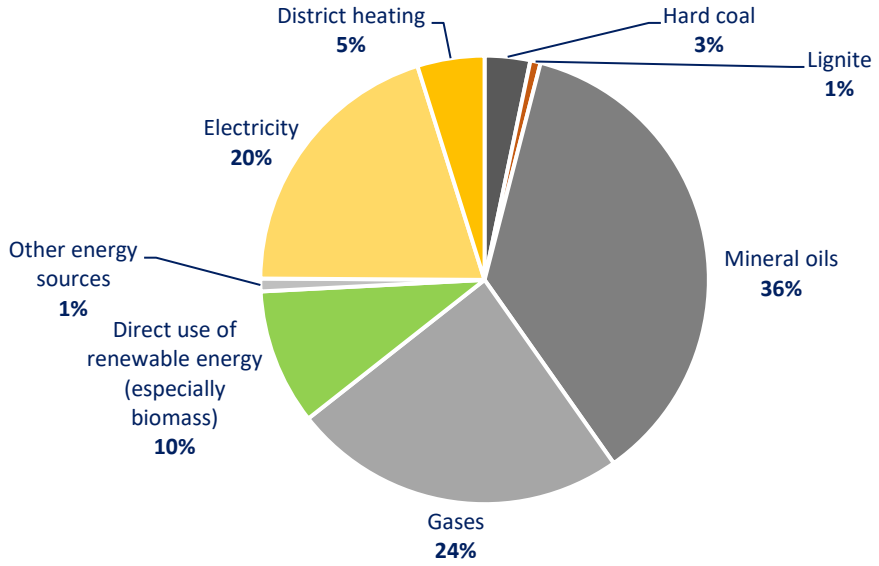
Against the backdrop of hostilities in Iran and the wider region, in April 2026 the Council of the European Union acknowledged "the EU's geopolitical and economic exposure due to a significant reliance on imported fossil fuels" and confirmed that "the energy transition based on clean, abundant and homegrown energy remains the most effective strategy towards achieving Europe's strategic autonomy". The EU plans to complete its Grids Package and review its Renewable Energy Directive by the end of 2026. In July 2026 it published an Electrification Action Plan including an indicative target for 2040. These efforts will help accelerate the transition away from fossil fuels and the shift to renewables in the industrial, transport and buildings sectors. The European Commission has calculated that the blockade of the Strait of Hormuz has added 50 billion euros to the costs of importing fossil

fuels to the EU. Electrification could cut gas and oil imports by more than 70% and 40% respectively by 2040, while also reducing the overall cost of importing fossil fuels by 260 billion euros.

3. Current status of fossil fuel use in Germany

In 2024, fossil fuels accounted for almost 65% of Germany's final energy consumption. Mineral oils were responsible for 36% of consumption, followed by natural gas (24%) and coal (4%). The combustion of fossil fuels caused over 83% of all greenhouse gas emissions in Germany in 2024. This makes transitioning away from fossil fuels a central objective of Germany's climate policy and an essential precondition for achieving the country's climate targets.

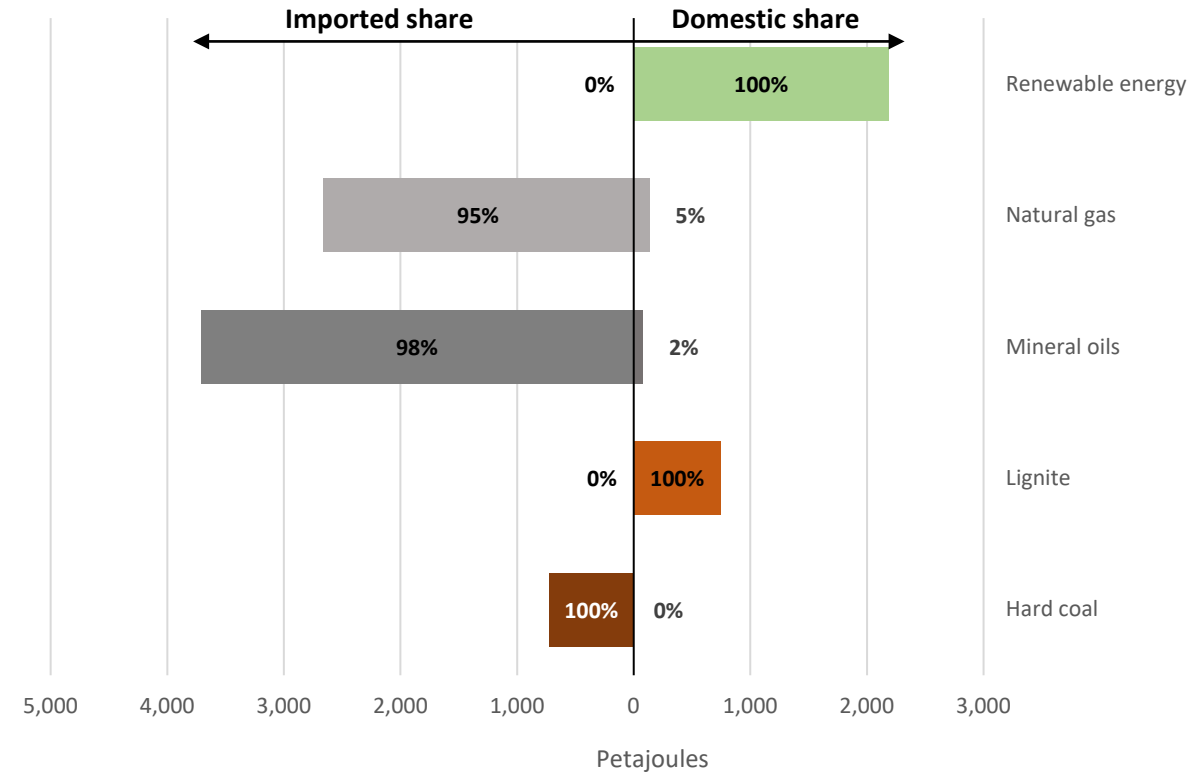
Figure 1: Shares of final energy consumption by fuel type (2024)



Source: Working Group on Energy Balances (2025)

Most of the fossil fuels used in Germany are imported. According to data of the Working Group on Energy Balances, in 2024 Germany imported some 98% of the mineral oils it used, along with some 95% of natural gas and 100% of hard coal. Lignite is the only fuel produced wholly inside Germany. Germany's net imports of fossil fuels cost about 76 billion euros in 2024. Around 51 billion euros were accounted for by oil, petroleum products and related products, while 19 billion euros were spent on gases and almost 5 billion euros on coal, coke and briquettes.

Figure 2: German energy imports as a percentage of total consumption (2025)



Source: Working Group on Energy Balances (2026)

4. Overview of climate policy in Germany

4.1. The Federal Climate Action Act

The main framework for Germany's climate policy is provided by the Federal Climate Action Act. It lays down binding greenhouse gas emission reduction targets. Germany is required by law to reduce emissions of greenhouse gases by at least 65% of 1990 levels by 2030, rising to at least 88% by 2040. The Federal Climate Action Act also lays down the legally binding target of achieving net greenhouse gas neutrality by 2045. Net negative emissions are to be achieved after 2050. This means that carbon sinks (natural sinks such as forests or technological solutions for CO_2 removal) must be expanded.

This sets out a clear, reliable and binding long-term reduction pathway for Germany to achieve climate neutrality and thus also transition away from fossil fuels.

Figure 3: Germany's climate targets as set out in the Federal Climate Action Act

National climate targets	2030	2040	2045	>2050
Reduction in greenhouse gas emissions Reduction compared to 1990 (not including LULUCF)	Minimum **65%**	Minimum **88%**	Net greenhouse gas neutrality	Net negative emissions

Targets for natural carbon sinks (LULUCF)	2030	2040	2045
Removal of greenhouse gases in million tonnes CO_2 equivalents (e.g. in forests and peatlands)	-25	-35	-40

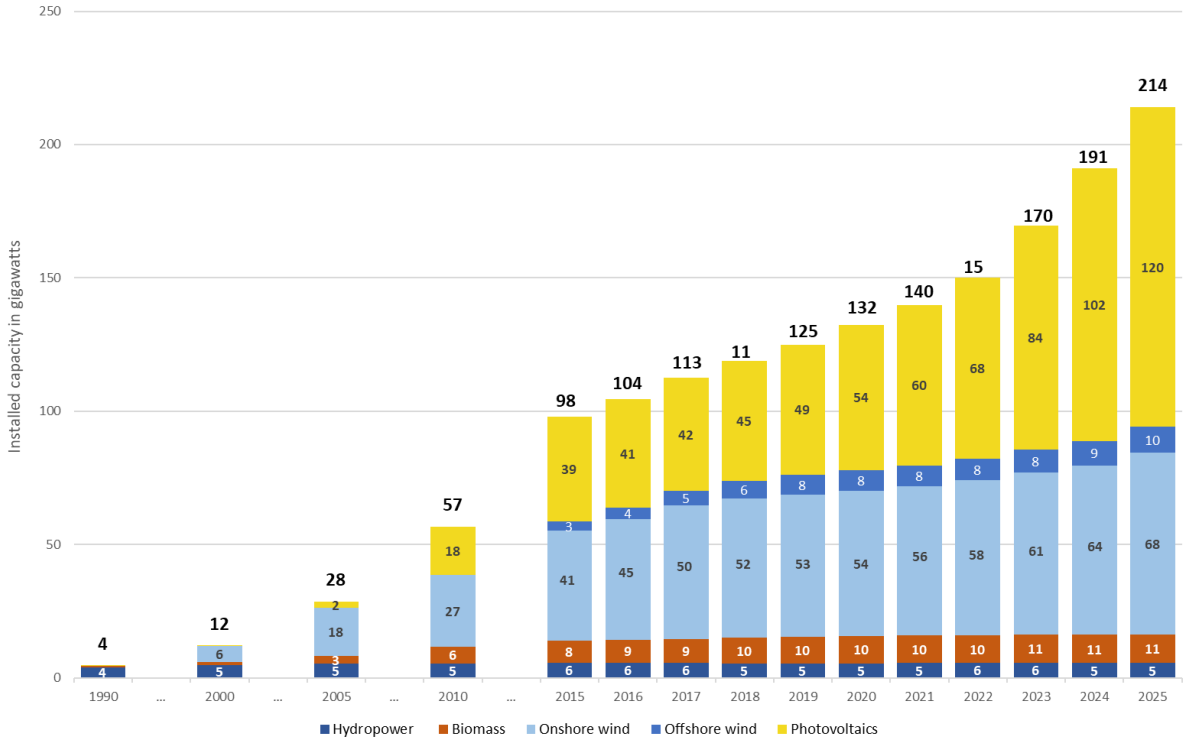
Source: Federal Environment Ministry

4.2. Germany's progress on the road to climate neutrality

Germany has already made good progress on the way to achieving climate neutrality and the associated transition away from fossil fuels. Since 1990, greenhouse gas emissions in Germany have been reduced by around 48%. Over the same period, Germany's economic output has risen by some 48%. The transition is progressing across all sectors in Germany. In energy supply, industry, buildings, transport and land use, new environmentally sustainable, efficient technologies and management practices are becoming established, making climate neutrality possible – with fossil-free energy and an increasingly carbon-neutral economy. This is spawning new business models and high-quality jobs, which can in turn help Germany achieve greater economic independence and resilience.

Solar and wind energy are playing an increasingly significant role in the electricity system, while fossil fuels will become less important in the long term. In 2025 some 55% of the country's gross electricity consumption was already generated from renewables.

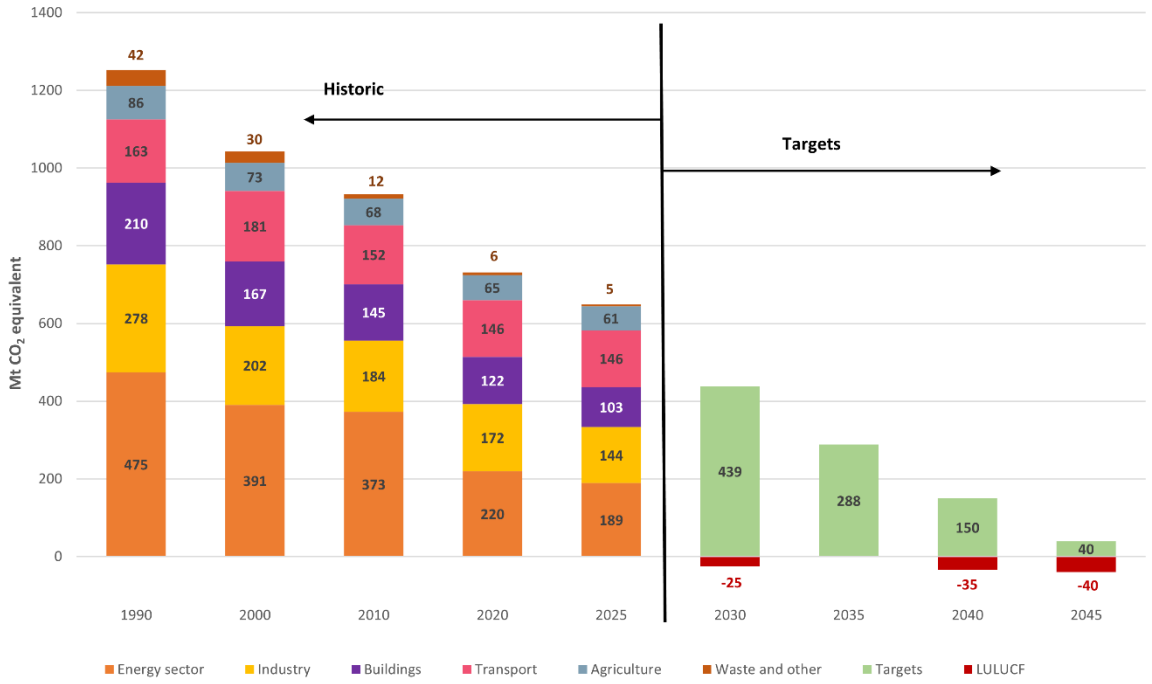
Figure 4: Development of installed capacity to generate electricity from renewables



Source: AGEE (2026)

2025 saw more heat pumps than gas central heating systems sold for the first time on Germany's heating market. Across Europe, the rise of this key technology, which seems certain to be the most climate-friendly option, is even more marked. Rising sales of battery electric passenger cars and trucks and the increasing numbers of electric buses operating in local public transport networks in Germany, Europe and worldwide are demonstrating that the future belongs to electric mobility. Based on manufacturers' announcements, and on initial registration figures, the use of hydrogen fuel cell technology can also be expected to rise significantly in trucks and buses. In industry too, companies are investing in modern technology and following market incentives offered by emissions trading in conjunction with funding measures.

Figure 5: Development of greenhouse gas emissions and climate targets in Germany



Source: Federal Environment Ministry

On the basis of the climate measures taken to date, a further significant decline in emissions can be expected by 2045. Key to this is the continued dynamic expansion of renewable electricity generation, the further electrification of final energy consumption across all sectors and the use of climate-neutral fuels wherever direct electrification is not yet economically or technically viable.

4.3. Germany's 2026 Climate Action Programme

The German government adopted a new Climate Action Programme on 25 March 2026. It sets the course for achieving statutory climate targets set for 2030 and 2040. Many of the measures set out in the programme are based on the accelerated expansion of renewables, energy efficiency and electrification, and thus drive the transition away from fossil fuels. At the same time, the programme also contains a series of measures designed to make climate policy more socially balanced. In the years ahead the programme will serve as a roadmap for federal climate policy, and will help modernise Germany's economy while reducing the country's dependence on fossil fuels.

The 2026 Climate Action Programme comprises **67 measures**, which together will bring an additional reduction of over **27 million tonnes** of greenhouse gas emissions by 2030, while making Germany more modern and less dependent on imported fossil fuels.

This will make it possible to use **almost seven billion cubic metres less of natural gas** and some **four billion litres less of petrol** by 2030.

The programme will also issue invitations to tender for an **additional 2,000 or so wind turbines** (resulting in a total of 12 GW more installed capacity). This will save Germany about 1 billion euros every year on natural gas imports.

A new federal funding programme will provide means-tested grants to allow recipients to purchase **some 800,000 electric vehicles as well as certain plug-in hybrids and range extended electric vehicles,** and launch additional support to help industry with decarbonisation and the electrification of process heat. This will make it possible to save **over 800 million litres** of petrol and at least **2.5 billion cubic metres of natural gas** by 2030.

In the commercial vehicles sector, the CO_2 emissions-based toll provides a strong incentive for the use of vehicles that are emission-free at the point of use, particularly for long-distance transport. The German government is also laying the groundwork to increase the number of electric heavy-duty vehicles on roads, with its expansion of the charging network on federally-owned land along motorways and its new funding programme for the development of both private and public charging infrastructure.

5. Measures to transition away from fossil fuels

5.1. Energy sector

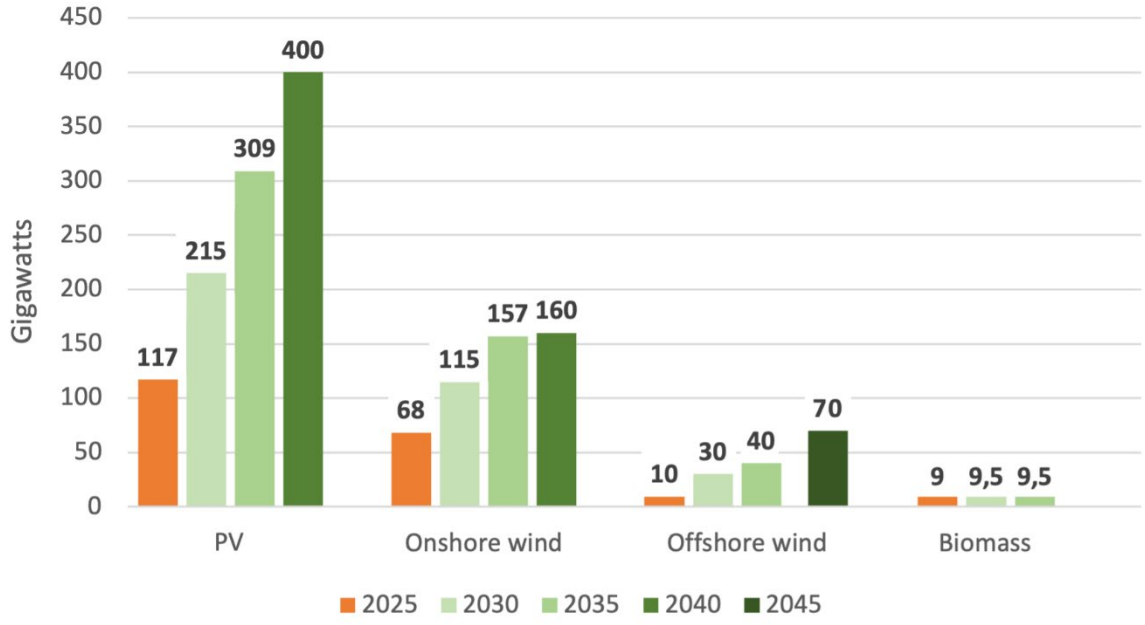
In the energy sector, the development of renewables is meeting a prime precondition for the decarbonisation of other sectors. It enables the increasing electrification of applications that were previously based on fossil fuels, partly thanks to the increased use of heat pumps and the rise in electric mobility. Overall, the German government will endeavour to decarbonise power plants in line with climate targets by 2045 at the latest.

In 2025 renewables already generated 290 terrawatt-hours of electricity, accounting for about 55% of gross electricity consumption. Wind power and photovoltaics have been mainly responsible for the positive trend seen in recent years. These two technologies are today responsible for more than three quarters of green electricity.

The EU Emissions Trading System (ETS 1) provides a central economic incentive and is set to develop a strong steering effect in the 2030s, increasingly pushing fossil fuels out of the electricity system. The steering effect seems likely to become even more important in the 2030s. Faster grid expansion and the ongoing adaptation of energy sector regulations to reflect an electricity system increasingly dominated by renewable energy are also important measures with a view to making the overall electricity system even more flexible.

The expansion targets for renewable energy are set out in Germany in the Renewable Energy Sources Act (Erneuerbare-Energien-Gesetz, EEG). Under the provisions of section 1 of the Act, the percentage of gross electricity consumption generated from renewables is to be increased to at least 80% by 2030 with a view to achieving greenhouse gas neutrality. To achieve the overarching objectives of the Renewable Energy Sources Act, the Offshore Wind Energy Act (Windenergie-auf-See-Gesetz, WindSeeG) and the Renewable Energy Sources Act set out specific expansion targets for the individual renewable energy technologies.

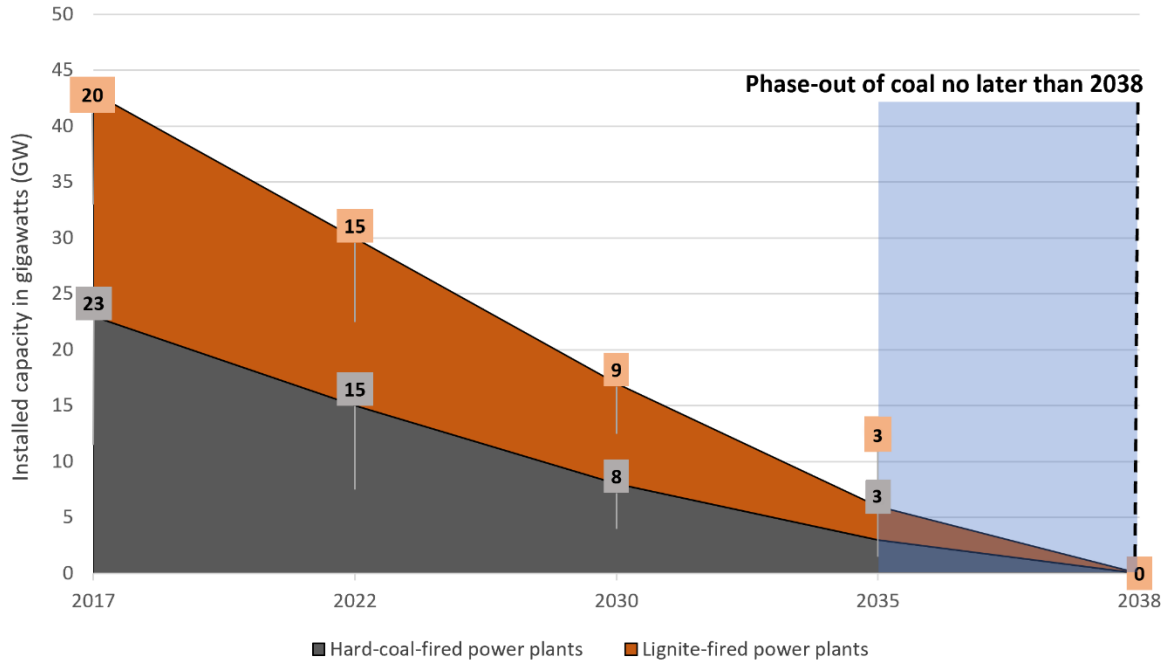
Figure 6: Installed capacity in 2025 and targets for 2030, 2035, 2040 and 2045 in gigawatts pursuant to the Renewable Energy Sources Act and the Offshore Wind Energy Act



Source: Federal Environment Ministry based on section 4 Renewable Energy Sources Act, section 1 Offshore Wind Energy Act and the Federal Network Agency (Bundesnetzagentur)

Overall, the German government is striving to decarbonise all power plants in line with climate targets by 2045 at the latest. The phase-out of coal-fired power generation is regulated by law. All coal-fired power plants are required to end operations no later than 2038. Capacities will be gradually scaled back until then. The German government is also exploring the option of bringing forward to 2035 the final phase-out deadline.

Figure 7: Phasing out coal-fired power generation by 2035/2038 in Germany



Source: Federal Environment Ministry based on the Commission on Growth, Structural Change and Employment (2019)

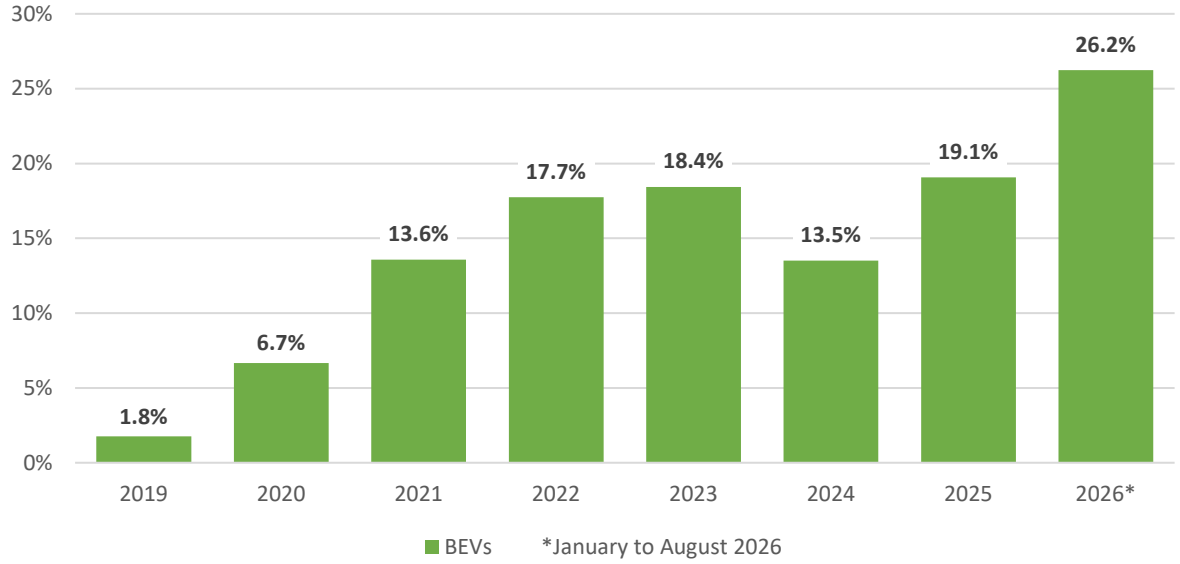
Germany is also pursuing clear goals to transition to the use of climate-neutral fuels in dispatchable power plants. It has been decided that new power plants receiving funding to ensure the security of supply must be hydrogen-ready and that operations must be climate-neutral no later than 2045.

Within the framework of the 2026 Climate Action Programme, Germany has also resolved to establish the conditions for the increased use of climate-neutral fuels in gas-fired power plants already in the 2030s. Germany will take additional steps to accelerate the transition from natural gas to hydrogen and to reduce the need for new power plants by increasing flexibility in the electricity system, with greater use of batteries, for instance.

5.2. Transport

In the transport sector, progress is being made on the electrification of all vehicle classes. In August 2026 there were already around 2.6 million battery electric passenger cars on roads. 32.4% of all passenger cars registered for the first time in August 2026 were battery electric vehicles.

Figure 8: Battery electric passenger cars as a percentage of first-time registrations in Germany



Source: Federal Environment Ministry based on Federal Motor Transport Authority (Kraftfahrt-Bundesamt) (2026)

The key elements in climate-friendly mobility include electrification, the use of sustainable renewable fuels, improving public transport and conditions for walking and cycling, while ensuring that these modes of transport can be effectively combined. Hydrogen, in particular its derivatives, electricity-based and sustainable bio-based fuels also have an important part to play, particularly in hard-to-abate sectors like air transport and shipping, but also in heavy goods transport. The overall goal of climate neutrality by 2045 is to be achieved also by effectively combining these elements.

To increase sales of electric passenger cars, as part of the 2026 Climate Action Programme, the German government has introduced a funding programme to help lower and middle income households purchase electric vehicles. A total of some 2.8 billion euros in funding is to be made available by 2029 within the limits of available budgetary resources.

The ramp-up of electric mobility depends largely on the rigorous expansion of the charging infrastructure. In November 2025, the Federal Charging Infrastructure Master Plan 2030 was published, setting out an overall strategy for the development of a nationwide, needs-driven, user-friendly charging infrastructure for both passenger cars and heavy-duty vehicles, with a total of 41 specific measures.[1]

Thanks to the initiative of the private sector and municipal companies and their readiness to invest, alongside federal projects, Germany already has an excellent public charging infrastructure for passenger cars. The charging structure currently in place already exceeds the minimum targets set by the EU's Alternative Fuels Infrastructure Regulation (AFIR) by about 200%.

To support the electrification of heavy-duty commercial vehicles, Germany's 2026 Climate Action Programme extends road toll exemptions for electric heavy-duty vehicles until mid-2031. To complement the development of a fast charging network on federally-owned land along Germany's

[1] https://www.bmv.de/SharedDocs/EN/Documents/K/masterplan-charging-infrastructure-2030.pdf?__blob=publicationFile

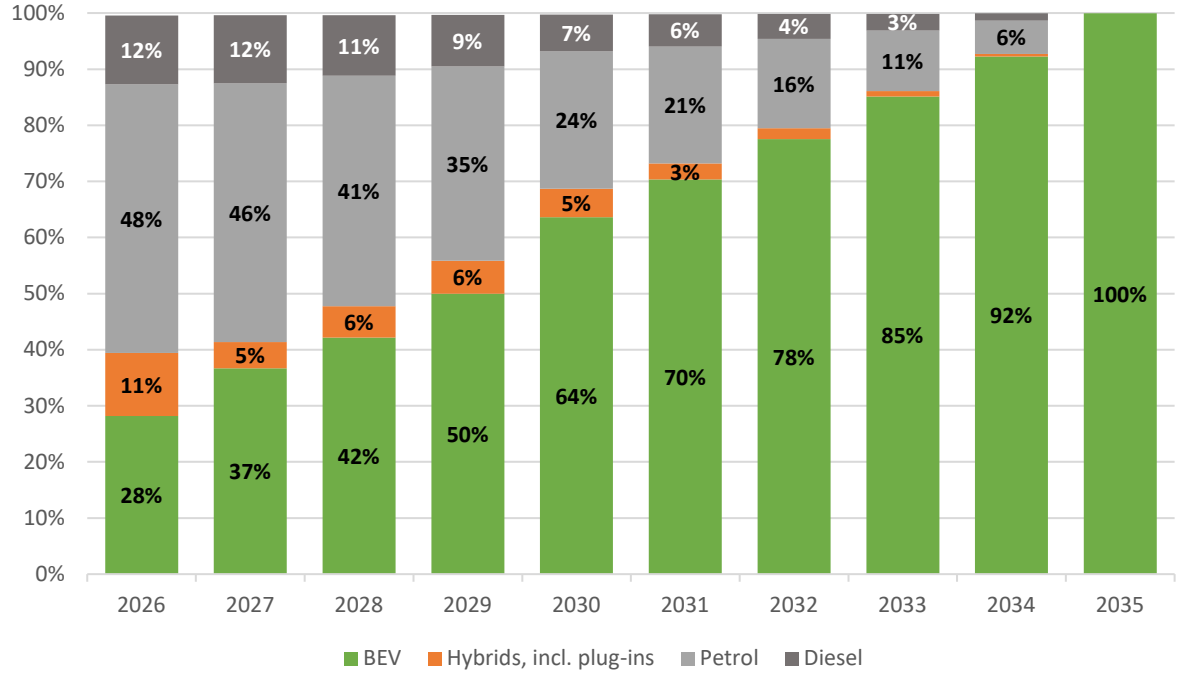
motorways, a programme is also being launched to promote public and private charging infrastructure for heavy-duty vehicles.

Sustainable biofuels are already helping to replace fossil fuels in the vehicle fleet, alongside electrification. In particular, advanced biofuels produced from agricultural residues and waste that can be sustainably sourced – such as straw, slurry and manure – offer significant potential.

Other modes of transport, such as rail, air and shipping, are also being systematically aligned with the national climate targets.

The EU-wide CO_2 fleet targets for new passenger cars and for new light and heavy-duty commercial vehicles are driving a corresponding trend in first-time registrations of electric vehicles in Germany. This suggests that, for passenger cars in particular, the percentage of first-time registrations of battery electric cars will be high even before 2030, rising to 100 percent by 2035; this will be reflected in increasing percentages of electric vehicles in both the national vehicle fleet and the mileage driven. The most recent forecast of the German Environment Agency (UBA) points to a total of 7 million battery electric passenger cars on roads by 2030. This would translate as 17 million by 2035. A similar development can be expected for trucks and other commercial vehicles, with a slight time lag.

Figure 9: Projected drive types in first-time registrations of passenger cars



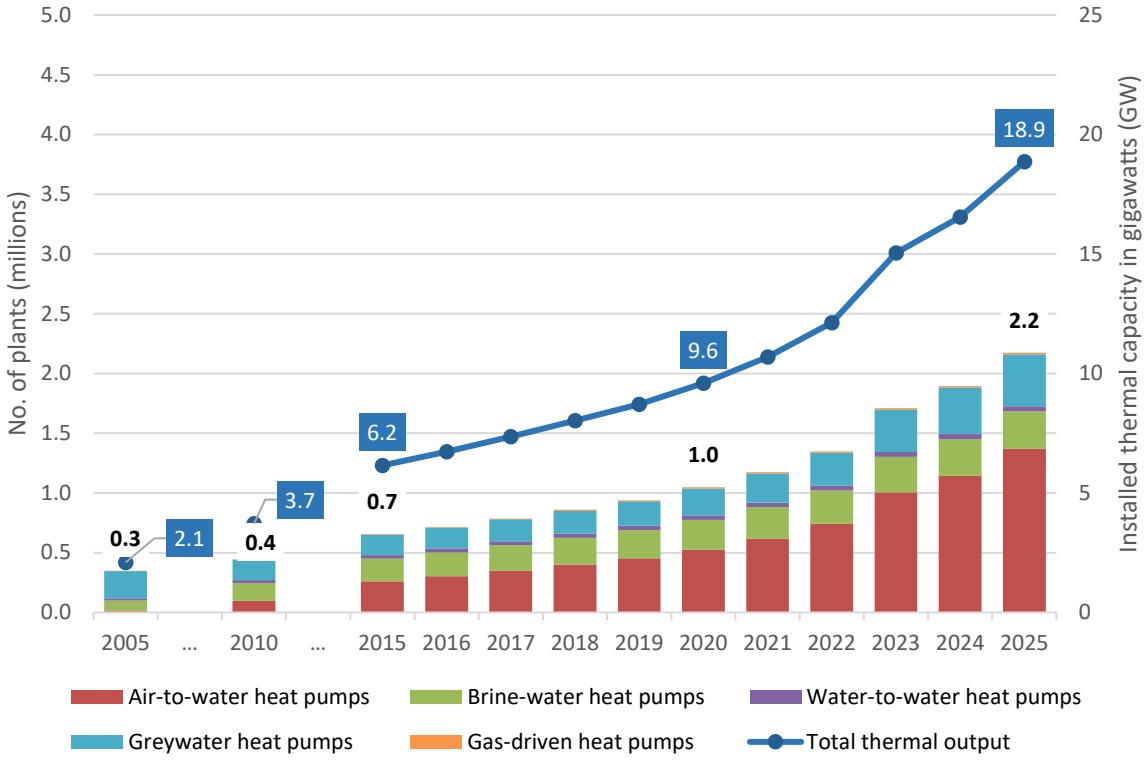
Source: Projection Report 2026

5.3. Buildings

In the buildings sector, the transition to climate-neutral heating systems continues to be dynamic. In 2025 some 300,000 heat pumps were sold in Germany, making this the most frequently purchased heating technology and giving it a market share of 48%. The vast majority of market growth is thus accounted for by heat pumps, with sales rising by some 55% compared to 2024. Across Europe a strong shift towards heat pumps can also be seen. The German government's most recent projections (2026)

expect heat pumps to be the predominant form of heating in Germany in the coming years and decades. They are expected to account for significantly more than 70% of all new heating systems sold.

Figure 10: Development of heat pumps in Germany



Source: AGEE (2026)

The buildings sector too must be fully decarbonised in line with the goal of climate neutrality. Heat pumps are increasingly operating on green electricity. The Heat Planning Act (Wärmeplanungsgesetz, WPG) and municipal heat plans aim to achieve a gradual decarbonisation of district heating by 2045 at the latest. The new Building Modernisation Act (Gebäudemodernisierungsgesetz, GModG), with its technology-neutral and less complex regulations, allows for all heating options. Anyone who replaces an old heating system with a new gas or oil heating system after 29 July 2026 will, from 2029 onwards, gradually use an increasing share of carbon-neutral fuels (60% from 2040).

Under the proposed legislation to introduce a green gas/green heat quota, suppliers of gas, oil and liquefied natural gas will in future be required to ensure that, from 2045, the fuels used for heating buildings are switched entirely to climate-neutral fuels. Under the provisions of the Heat Planning Act, a minimum of 30% of Germany's heat networks must be powered by renewables or unavoidable waste heat by 2030, with this figure rising to 80% by 2040. Today, new networks must be at least 65% powered by renewables. By 2045 Germany's heat networks will have to be completely climate-neutral.

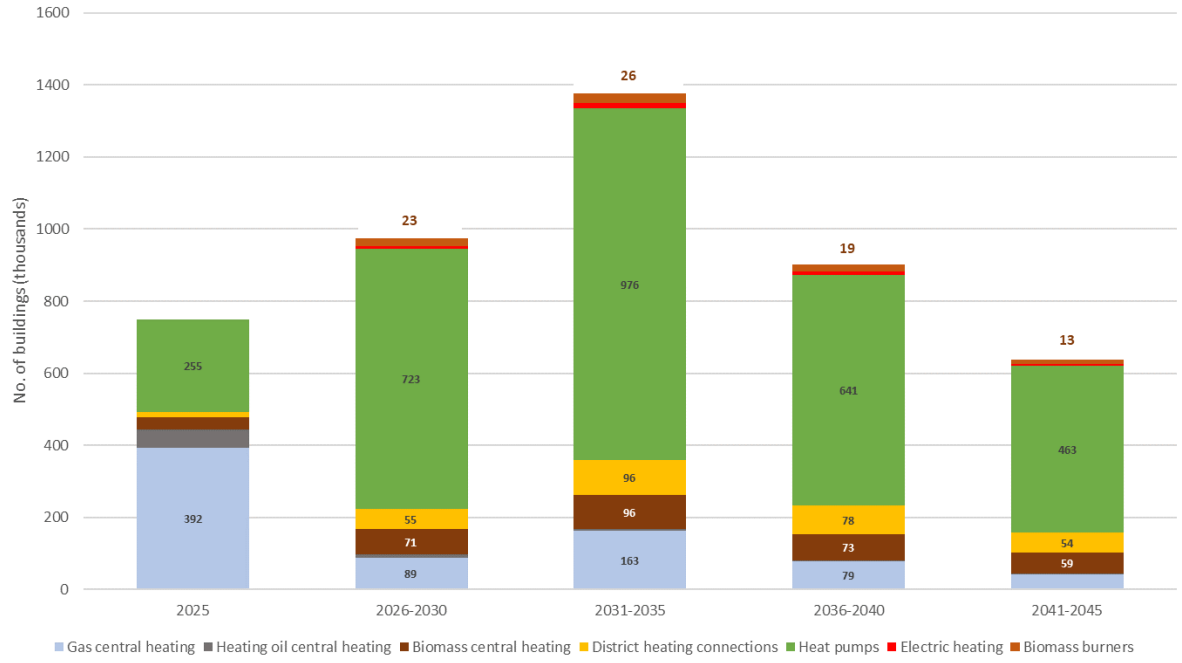
Funding programmes for energy efficient buildings and efficient heat networks, municipal heat plans, carbon pricing measures (BEHG/ETS 2) and information and advisory activities along with regulatory law, where economically and technically feasible, are the main components in ensuring a successful heating transition in line with climate targets and the gradual transition away from fossil fuels.

The funding programme for efficient buildings offers extensive means-tested grants to install climate-friendly heating and refurbish buildings (including insulating roofs and external walls and replacing

windows), as well as low-interest loans with repayment subsidies for complete refurbishment. Next year the German government will make available over 12 billion euros through these climate programmes in the buildings sector – by 2030 a total of some 44 billion euros will be provided within the limits of available budgetary resources.

Federal funding for efficient climate-neutral heat networks acts as an incentive to build new heat networks that use a high percentage of renewables and unavoidable heat waste, as well as incentivising the development and decarbonisation of existing networks. The planned introduction of development plans for gas and hydrogen distribution networks under the Energy Industry Act (Energiewirtschaftsgesetz) is a key element in the implementation of the European hydrogen and gas decarbonisation package.

Figure 11: Development of newly installed heating supply systems year by year (2025-2045)



Source: Projection Report 2026

5.4. Industry

In industry, electricity accounted for a substantial 31% of final energy consumption in 2024. If the use of additional non-fossil fuels or only partial fossil fuels in areas such as renewable heating, cooling, fuels and district heating is factored in, the total came to about 42%. This demonstrates that even today Germany's industrial sector offers huge potential for full decarbonisation, especially through electrification, with the exception of some hard-to-avoid emissions.

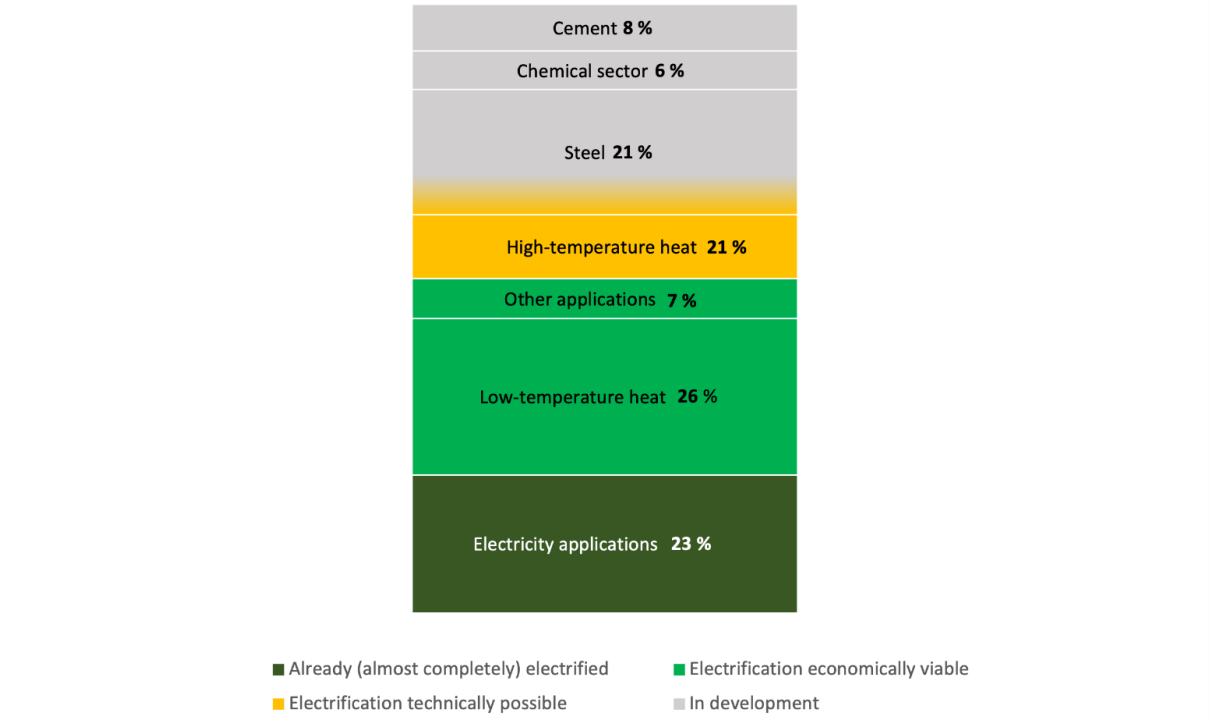
In the industrial sector too, action is guided by the goal of achieving climate neutrality by 2045. This is compounded by the market-based impact of the EU's Emissions Trading System (ETS 1), which sets out a clear transition pathway with its annually decreasing emissions cap and other stipulations to decarbonise industry, combined with effective carbon leakage protection.

To decarbonise industry, a fundamental shift will be needed in industrial production processes. Electrification, energy efficiency and digitalisation, circular economy and the use of hydrogen and its derivatives offer the main leverage, with Carbon Capture and Utilisation/Storage (CCU/CCS) for hard-

to-avoid emissions. The decarbonisation of process heat, through electrification in particular, also has an important part to play. It is expected that hydrocarbons will continue to be needed for material applications, and these must be gradually defossilised. In addition to establishing suitable framework conditions, and using the EU's Emissions Trade System (ETS) as a key instrument, the German government is helping companies transition with appropriate financial support, including a federal funding programme for industry and climate action, as well as Carbon Contracts for Difference.

It will be important to make consistent use of the electrification potential in those parts of the industrial sector where it is already technically and economically viable, and to tap new potential elsewhere in the sector.

Figure 12: Share of industry's final energy consumption by sub-sector and electrification potential (2025, global)



Source: Federal Environment Ministry, based on Ember (2026)

The swift and ambitious roll-out of renewable energy is an important basis, particularly to drive electrification of various application technologies and better shield industry against the price risks posed by fossil fuels in the medium term. This can be augmented by leveraging opportunities for greater flexibility in industry, such as load management.

To achieve statutory climate targets, German industry will need to use reinvestment windows during this decade to convert their production plants and make them more climate-friendly and to adopt climate-friendly production processes, as well as harnessing the potential offered by digitalisation across the board.

6. Carbon pricing

Carbon pricing is an essential component of German and European climate policy as well as being a vital driver of the transition away from fossil fuels across all fuel-using sectors covered by the Federal

Climate Action Act. In Germany some 85% of emissions are currently covered by the EU's Emissions Trading System or by national emissions trading, making them subject to carbon pricing.

The European Emissions Trading System (ETS 1) has been in place since 2005 and covers major energy and industrial plants, along with inner-European air and sea transport. An emissions cap determines the total permissible emissions. Emissions certificates are auctioned or allocated free of charge to carbon leakage sectors. Like ETS 1, ETS 2 is to become fully operational in 2028 and cover emissions from buildings, road transport and other sectors. The relevant emissions, which have until now been covered by national emissions trading are to be transferred to the European system. In the next trading period, as of 2031, the emissions caps of ETS 1 and ETS 2 will be aligned with the EU's climate target for 2040.

Because of the annually declining emissions caps in the emissions trading systems, fossil fuels will face rising carbon prices in all sectors covered by the systems, and will in this way be successively reduced. This will provide incentives to shift to more affordable, climate-neutral technologies.

7. Research and innovation

Research and innovation are the universal foundation for developing greenhouse gas-mitigating technologies, processes and innovations. Since 2025, the High-Tech Agenda Germany has launched and implemented large-scale flagship measures in the key technologies of fusion and climate-neutral energy generation and technologies for climate-neutral mobility, as well as in the development of clean technologies in strategic research fields, with a large number of research and innovation measures for climate action, adaptation to climate change and climate change mitigation technologies. These measures are the basis for achieving long-term climate targets, while also helping make Germany more competitive in key markets of the future, enhancing value creation and underpinning technological sovereignty.

8. Social design of the transition to climate neutrality

Effective climate policy and measures, and the associated transition away from fossil fuels, can also create opportunities for progress and greater social justice. A better indoor environment and lower long-term costs of living in modernised buildings, higher quality of life and better living conditions in cities, and less pollution and noise from road traffic are just a few examples. However, there can be a social downside to climate measures designed to transition away from fossil fuels, particularly if they result in rising prices and higher costs of living. This is why Germany's climate policy keeps a close eye on potential social impacts. Socially balanced climate measures strengthen resilience to rising prices and result in greater equality. They also facilitate personal agency and foster inclusion, strengthening motivation and public support for the necessary transition.

The structural transformation in coal-mining regions demonstrates what form a socially balanced climate policy could take. Under the Structural Development Act for Coal-Mining Regions (Strukturstärkungsgesetz Kohleregionen), the German government is to provide funding for the affected regions until the end of the 2030s. The funding is channelled mainly into infrastructure and the development of local value creation. Additionally, members of the workforce receive support with skills development and retraining for new employment. At international level the transition away from

coal is seen as an example of a just transition, because the phase-out of coal-fired power generation is linked to extensive measures for coal industry employees and the affected regions.

Increasingly, a more socially differentiated approach is being taken to support and relief measures for private households. Eligible households can, for instance, receive support to help install climate-friendly heating or purchase an electric vehicle, with support depending on family size and income. Households as a whole also benefit from various measures to reduce the cost of electricity.

9. Germany's international action to support the transition away from fossil fuels

Global energy-related CO_2 emissions continue to rise, setting a new record of almost 38.4 gigatonnes in 2025. In spite of the massive increase in the use of renewables, fossil fuels still account for the vast majority of global energy supply (about 80%). Coal remains the largest source of energy-related CO_2 emissions (42%), although only about 27% of the global energy supply is generated from coal. Oil continues to generate the highest percentage of global energy supply (30%) and is responsible for some 30% of energy-related CO_2 emissions. Natural gas accounts for around 23% of global energy generated and produces about 21% of energy-related CO_2 emissions.

Germany is actively supporting the transition away from fossil fuels internationally. Alongside foreign and economic policy, climate finance and development cooperation play a key role in supporting partner countries to transition away from fossil fuels.

9.1. Global alliances: Powering Past Coal Alliance, Electrify Now, Climate Club, Global Alliance for Buildings and Construction and Global Methane Pledge

On the basis of its own experience in phasing out coal, the German government supports partner countries particularly in their coal transitions. Since 2019, Germany has been a member of the Powering Past Coal Alliance (PPCA) and one of the Alliance's major donors.

Germany joined the global Electrify Now initiative in June 2026. It promotes international dialogue on the electrification of industry, transport and buildings, and mobilises investment, especially in developing countries and emerging economies.

The Climate Club with its around 50 members from industrialised nations, emerging economies and developing countries advocates extensive measures to decarbonise the industrial sector and strives to establish lead markets for green, near-zero emission raw materials. Additionally, the Climate Club is driving industrial decarbonisation in developing countries and emerging economies, partly through the Global Matchmaking Platform funded by Germany. Within the scope of the 2024 UN Climate Change Conference in Baku (COP29), Germany, the United Kingdom, Canada and the Climate Investment Funds (CIF) also pledged over 1.3 billion US dollars to support emerging economies and developing countries in the field of industrial decarbonisation. This support is needed to create a level playing field for new, climate-friendly, green markets, and is driving a successful, global, just transition to climate neutrality.

Germany is supporting the decarbonisation of the building sector by providing financial support for the Secretariat of the Global Alliance for Buildings and Construction (GlobalABC), which facilitates dialogue among more than 400 members from the public and private sectors. Additionally, in

cooperation with France, Germany has established the Partnership for Energy Efficiency in Buildings (PEEB), which prevents 204,000 tonnes of CO_2 emissions every year by building local capacities in over 30 partner countries and facilitating access to financing.

While Germany is actively promoting the transition away from fossil fuels at national and international level, the German government recognises that fossil fuels will continue to be used for a transitional period. This is why, as a Global Methane Pledge Champion, Germany is committed to taking all technical measures to reduce methane emissions resulting from the production of fossil fuels and thus to achieve the Global Methane Pledge's target of reducing methane emissions by at least 30% of 2020 levels by 2030.

9.2. Just Energy Transition Partnerships (JETPs) and bilateral development cooperation

Just Energy Transition Partnerships (JETPs) bring together donor countries and ambitious emerging and developing countries, which national economies are highly dependent on fossil fuels. Together they develop specifically tailored measures, investment plans and projects to accelerate the energy transition.

Within the framework of these partnerships, Germany has pledged to provide a total of around 5.4 billion euros.

South Africa (2021): The focus is on transitioning away from coal and expanding renewables, while not losing sight of social justice. The aim is to prevent between 1 and 1.5 gigatonnes of greenhouse gas emissions over the next 20 years. The total volume of the partnership is 12.8 billion US dollars.

Indonesia (2022): The goals are for electricity sector emissions to peak by 2030, for renewables to account for 44% of electricity generation by 2030 and for the electricity sector to achieve climate neutrality by 2050. The financing volume totals 21.4 billion US dollars. At the start of 2025, Germany and Japan became joint chairs of the donor partnership.

Viet Nam (2022): The partnership supports reducing emissions and coal-fired power generation as well as expanding the use of renewables to generate 47% of the electricity mix by 2030. There is also a focus on a just coal transition. A total of 15.5 billion US dollars have been pledged.

Senegal (2023): The partnership is promoting the expansion of renewables, the establishment of a low-emission energy system and enhanced access to affordable electricity. The financing volume totals 2.5 billion US dollars.

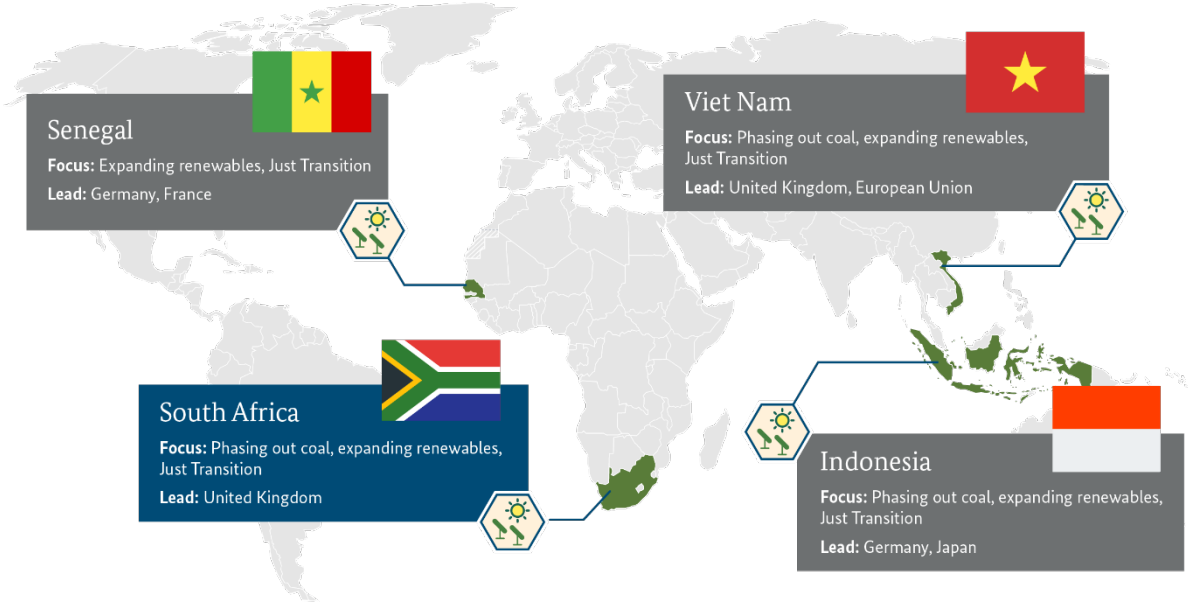
Germany's contributions to JETPs provide long-term financing packages, technical support and measures to ensure the transition is socially equitable (just transition). The partnerships combine investment in renewables, networks and grids, and storage systems with programmes to foster economic diversification in coal-mining regions and to upgrade and retrain the workforce.

The JETPs in South Africa and Indonesia are receiving targeted support through the Climate Investment Funds (CIF).

Furthermore, German development cooperation provides bilateral support to partner countries on their path towards a socially just and economically balanced energy transition. It promotes programmes aimed at expanding modern energy systems with a growing share of renewable energy,

improving the capacity of electricity grids, developing new value chains, and strengthening small and medium-sized enterprises. This promotes job creation and economic growth and increases the resilience of the economy and society to external shocks.

Figure 13: Germany's Just Energy Transition Partnerships



Source: BMZ (2025)

9.3. Energy partnerships and dialogue

Our bilateral energy partnerships enable dialogue with a current total of 33 countries, with a view to driving forward the global energy transition, contributing to the security of Germany's energy supply and supporting German exports and investments on foreign markets. Partnerships address issues such as expanding and integrating renewables, energy efficiency, security of energy supply, critical raw materials, cybersecurity, grid development and electricity market design. A total of some 30 million euros a year are earmarked for our energy partnerships.

Success stories include the following:

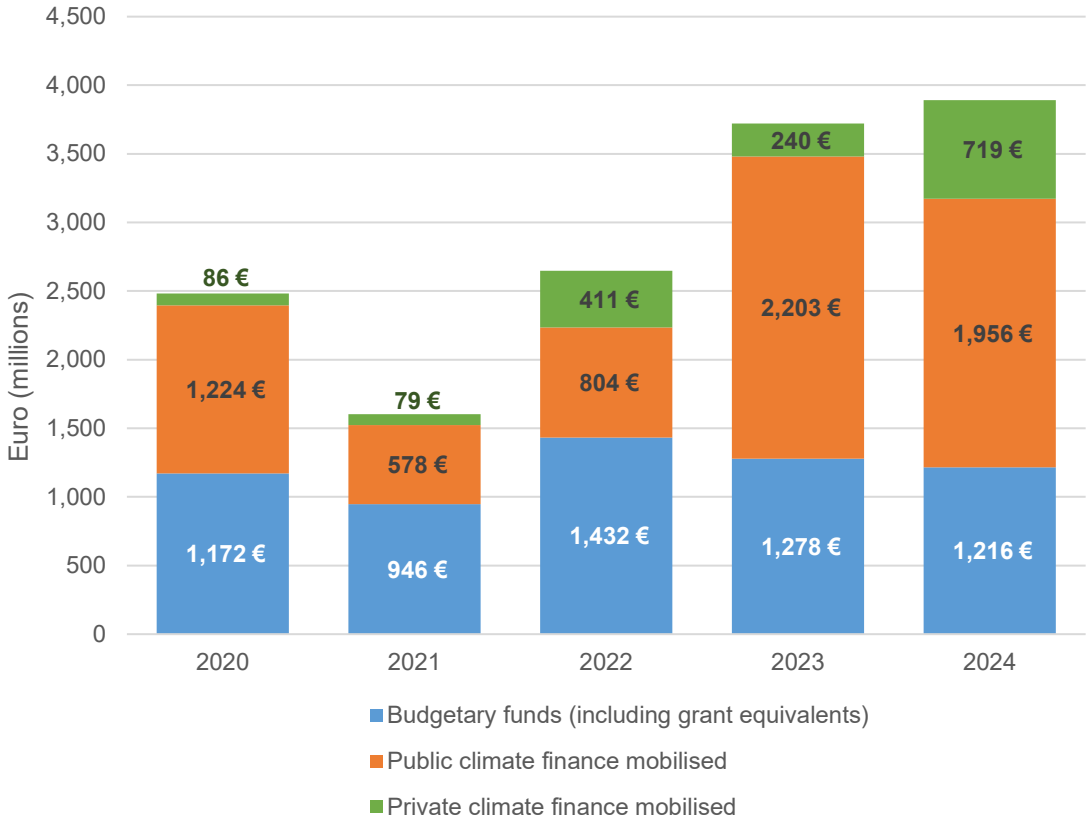
- India: Development of the Indo-German Green Hydrogen Roadmap to promote private-sector investment and trade in and export of green hydrogen.
- United Arab Emirates: First trial shipment of (blue) ammonia by ship to Hamburg as part of the Emirati-German Energy Partnership. With advice from the partnership, the region's first emissions trading scheme is also being established.
- Canada and Australia: Development of supply chains for hydrogen/ammonia including a special H2Global funding window.
- China: Dialogue on electricity market design and domestic electricity trading within the framework of the transformation dialogue agreed in 2024.

9.4. Germany's climate finance to support the transition away from fossil fuels

Germany is supporting partner countries on their road to a climate-friendly future with the transition away from fossil fuels. To this end, Germany collaborates actively with countries from the Global South. Germany has significantly increased its contribution to international climate finance in recent years. In

2024 the country's total contribution to climate finance was 11.8 billion euros, consisting of both official budget funds and leveraged funding. A large part of this total (some 3.9 billion euros) is supporting the energy transition in partner countries.

Figure 14: German climate finance for projects in the energy sector



Source: BMZ (2026)

The main share of German climate finance is provided by development cooperation (with an average of 80% coming from the budget of the Federal Ministry for Economic Cooperation and Development (BMZ). Most of this funding is used within the framework of bilateral projects with partner countries. German support is aligned with the priorities and initiatives of partners. It strengthens their ability to take steps to pursue their own climate targets. However, contributions to multilateral climate funds and development banks also play a major part.

With its contributions to multilateral climate funds including the Green Climate Fund (GCF), the Global Environment Fund (GEF) and the Climate Investment Funds (CIF), Germany supports programmes that help partners develop and implement their own national plans and roadmaps to transition away from fossil fuels. These funds also finance large-volume programmes to transition energy systems, decarbonise energy-intensive industries and enhance resilience to climate-related risks. The German International Climate Initiative (IKI) is another key federal programme to implement the United Nations Framework Convention on Climate Change (UNFCCC), and in particular the Paris Agreement. Since 2008 the International Climate Initiative has been supporting innovative project ideas that aim to achieve a climate-friendly transition of energy systems in partner countries (with a total volume of some 8 billion euros since 2008). The use of technologies is supplemented by political support, capacity building and financing mechanisms, to establish framework conditions for a large-scale transition. In

2025, 201 projects were ongoing to support a transition away from fossil fuels in the fields of electricity, heating, cooling, transport and industry. Disbursements in 2026 will total around 365 million euros. The IKI-promoted project Innovation Regions for a Just Energy Transition, for instance, is working with key stakeholders in coal-mining regions in Chile, Colombia, Indonesia, Kazakhstan, Mongolia, South Africa, Thailand and Viet Nam, in order to plan and implement regional pathways for a just energy transition away from coal to a low-carbon energy system. It focuses on regional economic transformation and fosters cross-regional dialogue among like-minded partners as well as supporting information sharing through a knowledge hub. In Indonesia the project is supporting the development of specific transition plans in two coal-mining regions while in Colombia it is promoting the development and establishment of energy communities. Since 2008, the International Climate Initiative has facilitated direct and indirect savings of some 6.3 million tonnes CO_2 in relevant sectors.

Germany is also active on the administrative and other bodies of multilateral development banks including the World Bank Group and regional development banks, where it pushes to ensure that their portfolios are aligned with the Paris Agreement targets. In 2021 the Kreditanstalt für Wiederaufbau (KfW) committed to the 1.5°C target, and it regularly reviews its sector guidelines and exclusion list with a view to bringing about a climate transition both in Germany and worldwide. KfW aims to have a climate-neutral portfolio by 2050. Its development department does not support projects in the fossil fuel sector in partner countries.

9.5. Export promotion and investment protection agreements

In 2021 Germany and other countries and national development banks signed the COP26 Statement on International Public Support for the Clean Energy Transition. On the basis of this commitment and the national resolution to achieve greenhouse gas neutrality by 2045, Germany has taken several steps to align its export promotion with climate targets. Above all, Germany has developed a climate strategy for foreign trade promotion instruments (export credit and investment guarantees) aligned with the 1.5 degree target. This strategy also offers more attractive conditions for transformative projects. To improve transparency in export credit guarantees, Germany and 10 other countries publish annual reports as part of the Export Finance for Future (E3F) coalition.

In 2023 Germany left the Energy Charter Treaty, which it considers to be incompatible with national and European climate targets. The multilateral investment protection treaty contains provisions to protect foreign investors in the energy sector. It has been cited as the basis for lawsuits against Germany's decision to phase out coal-fired power generation. Alongside Germany, the European Union, the United Kingdom, France, Spain, Portugal, Poland, Ireland, the Netherlands and other EU member states have left the Treaty.

In conclusion it should be noted that Germany uses major strategic leverage, including cooperation within global alliances, Just Energy Transition Partnerships, German climate finance and cooperation with other partner countries to publicly support renewable energy. Conversely, it uses its ability to leave treaties seen as unhelpful, in order to work at international level for a transition away from fossil fuels.