



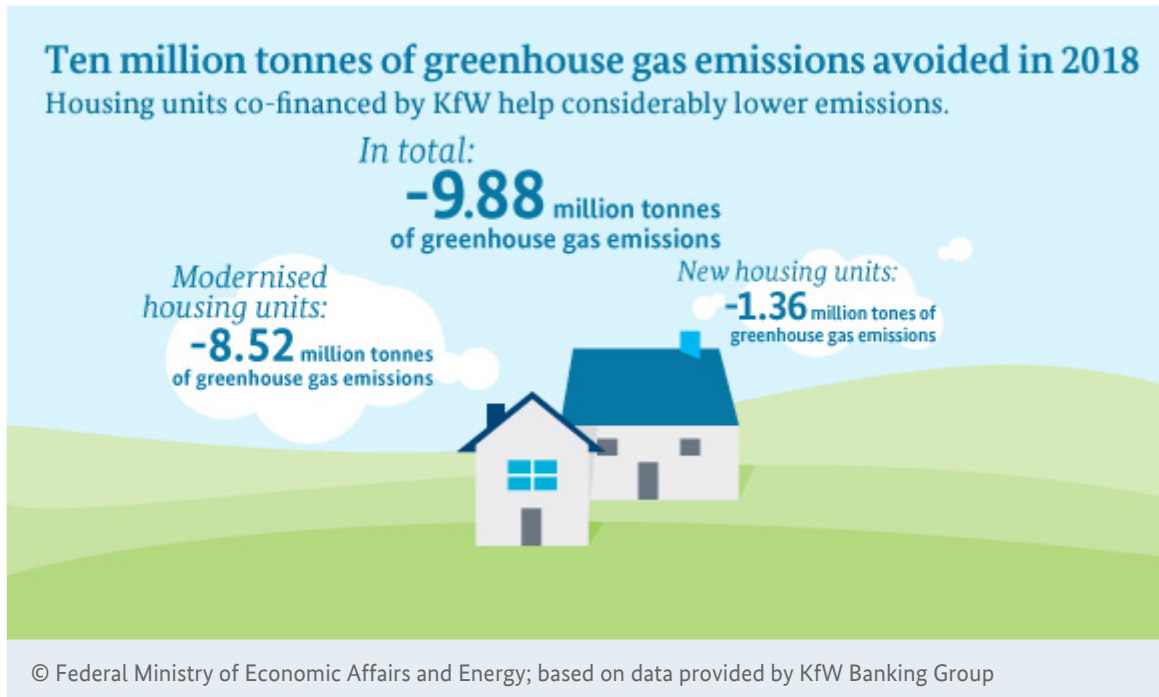
## Commission on Coal recommends completing the phase-out by 2038



The Commission on Growth, Structural Change and Employment has tabled its proposals for ending the use of coal-fired power in Germany, saying that all plants

# Energy-efficient homes: 10 million tonnes of greenhouse gases avoided in 2018

In 2018, some ten million tonnes of greenhouse gas emissions were successfully prevented thanks to energy-efficient housing constructed and/or modernised over the past 13 years, with co-funding from the Ministry. The funding provided via KfW also pays off financially.



Nearly ten million tonnes of greenhouse gases were avoided in 2018, thanks to funding for energy-efficient housing construction and modernisation provided by KfW. Just to put this figure into perspective: it is more than the entire emissions of Luxembourg.

For 13 years now, the Federal Ministry for Economic Affairs has been supporting citizens as they have had energy-efficient housing built or modernised. The funding, which was provided through the state-owned promotional bank KfW, was used to build or modernise a total of 5.4 million housing units between 2006 and 2018. In 2018, three quarters of these cases were for modernising housing units, the remainder for new construction.

In addition to this, between 2007 and 2018, financing for energy-efficiency retrofits was provided for more than 3,300 buildings used for social and municipal purposes, including schools and kindergartens. This helped prevent another 408,000 tonnes of greenhouse gas emissions in 2018. Since 2015, funding has also been available for making commercial buildings energy-efficient. So far, more than 4,700 buildings have been modernised or built in line with energy-efficiency standards. In 2018, this work led to the prevention of another 408,400 tonnes of greenhouse gas emissions.

## Electricity and heat energy consumption is falling

Funding is made available on condition that the building will be much more energy-efficient than is required by law (Energy Conservation Ordinance). House owners, municipalities and companies

subscribing to this can access the funding. The work pays off not only in terms of lower greenhouse gas emissions, but also financially, given that the buildings will consume less electricity and energy for heating.

Everyone who has a building constructed to be energy-efficient in this way or who decides to modernise a building can access KfW's low-interest loans and grants. The funding is provided from the budget for the CO2 Building Rehabilitation Programme and the Ministry's Energy Efficiency Incentive Programme. In 2018 alone, more than €2 billion in financing was approved for this purpose.

## **Greenhouse gas emissions avoided – this is how to calculate the amount**

The amount of emissions generated by the housing unit prior to the modernisation is compared to the emissions levels after completion of the work. In the case of new buildings, the actual emissions levels are compared to the amounts that would have been generated had the building been constructed in line with the weaker standards set out in the Energy Conservation Ordinance. The difference is equivalent to the amount of greenhouse gas emissions that have been avoided. This is true not only of CO<sub>2</sub>, but also of other greenhouse gases. With more and more housing units thus rendered more efficient every year, the positive impact of the funding in terms of greenhouse gases avoided is also growing.

But what is the effect in terms of a single housing unit? On average, a housing unit that was rendered more energy efficient in 2018 will emit 1.75 tonnes of greenhouse gases less than prior to the modernisation work. This is equivalent to the amount of greenhouse gas emissions generated by a new car over 13,700 km.

The buildings sector accounts for approximately one third of Germany's total greenhouse gas emissions. Around two thirds of the country's housing stock was built prior to 1979, the year in which the first Thermal Insulation Ordinance came into force. Having as many as possible of these houses undergo energy-efficient retrofitting is absolutely key to Germany's efforts to attain its energy and climate targets.

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### FURTHER INFORMATION

[\[→ Energy transition in the buildings sector\]](#)

[\[→ KfW website with information about the programmes\]](#)

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# The European electricity market is going green

Part two of the legislative package 'Clean Energy for all Europeans' is preparing the internal market in electricity for a growing share of renewables. This means more competition and flexible electricity rates for consumers.



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More competition, more flexibility, more choice for consumers. In a nutshell, that's the effect of the new EU rules on the internal market in electricity that are to be passed this spring. The revised rules are designed to prepare the internal market in electricity for growing shares of renewables and to ensure that all EU citizens have access to a secure and affordable supply of electricity.

The new rules take the form of eight Directives and Regulations that take up more than a thousand pages and were approved after two years of intense debate between European energy policy makers. Part one of the extensive legislative package 'Clean Energy for all Europeans' had been approved last summer. It mainly sets new pan-European energy and climate targets for 2030 (click [here](#) for more information). Following informal agreement in the trilogue negotiations last December, the Committee of Permanent Representatives (COREPER) of the Member States also agreed to the associated rules on the electricity market, in favour of the European energy transition. Final approval of the texts by the Council and the European Parliament is planned to be secured prior to the elections for the European Parliament this May.

Below, you will find an overview of the key effects of the Electricity Market Directive and Regulation and the Risk-Preparedness Regulation.

## Utilities must offer flexible rates

All utilities having more than 200,000 customers will soon have to offer flexible rates. These are particularly attractive to consumers using smart meters. They will be able to select a tariff that allows them pay less for electricity consumed during off-peak hours, meaning they can adapt their patterns of

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consumption accordingly. For instance, you could charge your electric vehicle whenever electricity prices are at their lowest level. By the same token, this will give utilities a possibility to steer demand, something that will be crucial in an electricity market dominated by volatile wind and solar energy.

### **It will become easier for unused capacity to be sold on**

Large-scale consumers can lower their electricity bills by adopting more flexible use patterns and by selling unused capacity on the market. Cold stores, for instance, could set their temperatures to minus 19 degrees Celsius instead of minus 20 at certain times. If it makes economic sense for a consumer to sell their unused capacity themselves, they can turn to 'aggregators'. These are businesses that pool small capacities from different customers and sell them on the market. The new Electricity Market Directive is the first to set out some rules underpinning the work of independent aggregators, i.e. aggregators that are not affiliated with utilities. This will give a fresh boost to the market and make it possible for small amounts of capacity to be used.

### **Electricity from renewables will be traded in units of 15 minutes everywhere in the EU**

The market will also receive fresh impetus by the fact that electricity will be traded in 15-minute units everywhere in Europe – something that will also help integrate renewables into the market. Whilst this has already been possible in Germany, the smallest electricity unit on sale in some other EU countries has been one hour. This has put electricity from renewables at a disadvantage, given that its availability is less predictable. Having smaller units will make it easier for electricity from renewables to be sold across Europe, including in cross-border trade.

### **Energy security will be more of a European project**

The EU Member States have acknowledged that it is easier to achieve a high level of energy security at a lower price if we look at supply and demand at a European level. This is why they have decided to jointly address any gaps. For instance, Member States are to take into account the power-plant capacity available in their neighbouring countries as they design action to ensure energy security. This will reduce the required amount of reserve capacity and lower costs. The necessary action will be underpinned by a European energy security report. The new Risk-preparedness Regulation also stipulates that Member States must draw up risk-prevention plans detailing national and cross-border action to be taken to prevent and address potential crises.

The Regional Cooperation Centres will take on new tasks and become involved in energy security and electricity trade. These centres bring together the Transmission System Operators from the respective regions for calculating the daily capacities up for trading.

### **Strong support for cross-border electricity exchange**

The new Electricity Market Regulation stipulates that interconnectors must be opened to a larger degree for cross-border trade (to learn more about how these interconnectors work, please click [here](#)). Under the new Regulation, the trade capacity levels are to be incrementally raised until they reach 70%. This is to help boost the pan-European trade in electricity. Due to its geographical position at the heart of the continent, Germany has a key role to play in this.

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There is also the question of how Member States are to deal with internal bottlenecks in their grids. After all, more cross-border trade in electricity translates into more pressure on the grids. Up until now, Member States have usually responded by shutting down interconnectors and giving priority to national trade in electricity. The new Electricity Market Regulation stipulates that Member States must attain a minimum rate of 70% made accessible for cross-border trade in electricity.

Member States experiencing internal gridlock will be able to decide if they want to split up their electricity market into several bidding zones (which, in the case of Germany, would mean having different prices in different parts of the country) or whether they prefer to table a plan of action on how they are planning to eliminate these gridlocks. Member States opting for the second possibility are granted an interim period up until 2025, by which time they must incrementally open up their interconnectors from the current use levels to the 70% mark.

These requirements are a major challenge for Germany. However, the energy transition requires us to engage in cross-border trade in electricity so that renewables can be successfully integrated into a system that also remains cost-efficient. The transition period buys Germany time for expanding its grid.

## **Waving goodbye to subsidies for carbon-intensive power plants**

The new rules also set out minimum requirements for capacity markets. In a capacity market system, power plant operators are paid for making capacity available in case it is needed. The Electricity Market Regulation sets out certain rules designed to limit market distortion caused by such capacity markets. Germany decided against establishing such capacity markets years ago. Instead, the country has worked to strengthen its electricity market, so that it provides sufficient incentives for sufficient capacity to be made available.

The new Regulation also introduces an Emissions Performance Standard (EPS). This is to prevent highly carbon-intensive coal-fired power plants from participating in capacity mechanisms. The new standard will apply as of 2020 for new plants and as of 2025 for existing ones. It sends a clear political signal for climate-friendly investments in Europe. Put differently: investments in power plants that fail to meet the EPS will soon no longer pay off.

Renewables installations of a certain minimum size must sell their electricity themselves

Everywhere in Europe, operators of renewables installations will soon have to take care of marketing their own electricity. This is already the case in Germany, where there is a market premium. Small installations with less than 400 kilowatts of capacity (200 kW as of 2026) are exempt from this rule and benefit from fixed feed-in tariffs. In Germany, this type of fixed feed-in tariff already applies for installations with less than 100 kilowatts of capacity. The new EU rules will only apply if a Member State fails to deliver its national contribution to the EU renewables target, or if the share of renewables in that Member State's electricity sector is less than 50%. Otherwise, it is up to the Member States to decide if they want to exempt small installations.

## **Priority feed in for renewables – all across Europe**

The principle of priority feed-in for renewables is being strengthened. There is now a clear rule stipulating that renewables will be given priority whenever there is a bottleneck in the grid anywhere

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in Europe. Renewables are also the last to have to reduce their output in cases where there is a redispatch (for more information about this, please click [here](#)). In the event that an installation has to reduce its output, its operators are entitled to compensation. This is already the law in Germany, but the situation elsewhere in Europe had not been clear.

### **When will the new rules take effect?**

The three Directives and Regulations are likely to enter into force this summer. As of then, the provisions of the Risk-Preparedness Regulation will be directly applicable in the Member States. Similarly, the provisions on trade capacities and bidding zones set out in the Electricity Market Regulation will apply as soon as the Regulation enters into force; all other provisions will apply as of 1 January 2020. In the case of the Electricity Market Directive, Member States will have until the end of 2020 to transpose the provisions into national law.

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#### FURTHER INFORMATION

- [\[> European energy policy](#)
- [\[> Electricity market of the future](#)

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## **What is a hybrid line?**

**Two birds with one stone, or rather two types of electricity delivered using the same pylons. Hybrid lines are making this possible. This is how these superlines work and where they will first be used in Germany.**



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Hybrid lines make it possible to use the same pylons for direct and alternate current, which helps speed up the process of grid expansion.

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Hybrid music players can play vinyl records and CDs. This eliminates the need for two separate devices and makes a DJ's job so much easier. Hybrid lines are based around the same idea: having one infrastructure that can be used for two separate purposes. More specifically, one pylon is used for two types of powerlines: those for direct current and those alternate current. This reduces the need for new pylons and powerlines to be built, thereby making the job of expanding the grid a lot easier.

It takes fairly little work to upgrade existing pylons that have so far only carried AC lines so they will soon be able to transport both types of electricity. DC powerlines are especially suited to transporting electricity over long distances, because little electricity gets lost with this technology. It is, however, more expensive than using AC powerlines, which is why these are the method of choice for shorter distances.

## **Germany's first hybrid powerline will be used for the 'Ultrahigh' electricity highway**

Whilst other countries are already using hybrid powerlines, Germany will first use it for its new 'Ultrahigh' electricity highway, which is to open in 2023 and take electricity from Osterath, North Rhine-Westphalia, to Philippsburg, Baden-Württemberg. This project is to be coordinated with the 'A Nord' powerline project from Emden/Borßum to Osterath. Together they will ensure that wind power from Germany's north is taken to the southwest, where there is a lot of industry requiring large amounts of electricity. In January this year, the federal sectoral planning procedure was successfully completed for the first leg of the project, connecting up Riedstadt and Mannheim-Wallstadt. The Bundesnetzagentur will soon decide about the exact placing of the routes for the next four sections of the project.

That said, many citizens living in the vicinity of the 'Ultrahigh' project have strong reservations about the project and want a lot of questions answered.

This is one of the reasons why Minister Altmaier decided to visit the municipalities of Idstein and Niedernhausen as part of his grid expansion trip to Hesse. He wanted to talk to the people affected by the 'Ultrahigh' project directly and see what the problems are.

## **Accelerating the process of grid expansion: Draft legislation debated by the Bundestag**

Meanwhile in the Bundestag, the debate on a revision of the Grid Expansion Acceleration Act has started. Peter Altmaier: "The revision aims to accelerate the procedures without lowering environmental standards – e.g. on the protection against electrical and magnetic fields. The public also continues to be involved comprehensively and at an early stage."

The public also has a stake in developing the 2019 national Network Development Plan up to 2030. The transmission network operators (TSOs) published an initial draft in February. A public consultation is now open until 4 March 2019. After that, the TSOs must submit their revised draft to the Bundesnetzagentur. Even after that, the public will still have a possibility to become involved, as the Bundesnetzagentur will hold another round of public consultations following its own appraisal of the draft. .

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## Quote of the week



"The large-scale electricity highways will be the lifeblood of the energy transition. To make this happen, we need everyone to support us – the federation, the Länder and the municipalities. And, crucially, our citizens living close by."

**Federal Minister for Economic Affairs Peter Altmaier, on his latest grid-expansion trip to Hesse.**

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