

Environment & Climate Regulation

Contributing editors

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Per Hemmer, Bech-Bruun



2017

GETTING THE
DEAL THROUGH

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Jochen Terpitz

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Main climate regulations, policies and authorities

1 International agreements

Do any international agreements or regulations on climate matters apply in your country?

The United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992 and came into force in March 1994. Germany ratified the UNFCCC in 1993. The Kyoto Protocol was negotiated by parties to the UNFCCC in 1995 and Germany signed it on 29 April 1998 and ratified it on 31 May 2002. (The Paris Agreement of December 2015 that is due to enter into force in 2020 and will oblige countries around the globe to achieving climate neutrality by the end of the century, was signed by Germany, but not yet ratified.)

As an EU member state, Germany is subject to EU climate change legislation. The EU Emissions Trading System (EU ETS) was introduced by the ETS Directive (Directive 2003/87/EC) with the aim of reducing greenhouse gas (GHG) emissions. The EU ETS first came into operation in 2005 and covers those industry sectors in the EU that consume large quantities of energy.

The EU ETS framework and its implementing directives were translated into domestic German law through the Emissions Trading Act (TEHG) and its implementing ordinances, namely the Allocation Ordinance 2020 (ZuV).

The recognition of CDM and JI as provided for in the Kyoto Protocol was implemented through the Project Mechanisms Act.

2 International regulations and national regulatory policies

How are the regulatory policies of your country affected by international regulations on climate matters?

For the third trading period (2013–2020) of the EU ETS, a revised EU ETS directive is in force implementing a number of changes compared to the previous trading periods. Consequently the German implementation by the TEHG was also amended. The main aspects are the following:

- a centralised EU-wide cap on emissions is being applied that will reduce annually by 1.74 per cent starting from the European-wide cap for 2013 of 2039 million tonnes;
- at least 50 per cent of the allowances will be auctioned from 2013 onwards, compared with around 3 per cent in Phase II;
- most power producers shall not be allocated any allowances while energy-intensive industries may apply for an allocation at no cost based on previous years' CO₂ emissions and a benchmark derived from data of CO₂ efficiency for the relevant product across the industry;
- sectors deemed at significant risk of relocating production outside the EU due to the carbon price (ie, carbon leakage) will receive 100 per cent of the benchmarked allocation for free;
- sectors not deemed at significant risk of carbon leakage will receive 80 per cent of their benchmarked allocation for free in 2013, decreasing to 30 per cent in 2020 and zero per cent in 2027;
- certified emission reductions (CERs) and emission reduction units (ERUs) (the credits arising from projects under the Kyoto Protocol from outside the EU) may be changed into EU allowances up to a limit of no more than 4.5 per cent of the allowances due for surrender during the third trading period; and

- Germany has implemented the opt-out provision for small emitters with an annual CO₂ emission of less than 25,000 tonnes.

3 Main national regulatory policies

Outline recent government policy on climate matters.

The German government promotes energy saving and the use of low carbon techniques through regulatory provisions and requirements in several areas. The main contributions to emission reduction are expected to arise from the following government policies:

- an incentive system is in place for the promotion of electricity production from renewable sources based on difference payments and further supported by subsidised loan programmes offered by the state-owned German development bank, the KfW; according to a recent amendment (EEG 2017), the amount of difference payments shall in future be determined by way of public tenders.
- the energetic rehabilitation of buildings is supported by a subsidised loan programme of the KfW;
- in line with the European directive, Germany has established quota requirements for the use of non-fossil fuels or blended fuels in land transportation;
- a tax exemption for CHP is only available to installations meeting the highest efficiency levels;
- the Energy Efficiency Ordinance requires certain minimum standards in relation to the energy efficiency of new buildings;
- the Energy Efficiency Ordinance obliges bigger (non-SME) companies to perform mandatory energy audits or to introduce an energy management system or environmental management system;
- certain subsidy programmes are available as an incentive for the use of renewable energies in the heating in buildings;
- in accordance with the respective EU directive, a reduction of the fleet consumption of street cars shall in future become mandatory; and
- the Act regarding renewable energy sources in heat generation requires that new buildings in Germany with a surface of more than 50m²:
 - operate up to a certain percentage using renewable energy sources;
 - connect to a district heating system; or
 - demonstrate a very high degree of energy efficiency.

4 Main national legislation

Identify the main national laws and regulations on climate matters.

The main national laws and regulations on climate matters are as follows:

- the TEHG – this is the main act implementing the EU ETS;
- ZuV 2020 – as from the third trading period, a single EU-wide cap applies and allowances are allocated on the basis of harmonised rules;
- the Emission Trading Cost Ordinance (EHKostV) – dealing with the administrative cost of the German Emissions Trading Authority (DEHSt);
- the Project Mechanisms Act (ProMechG) – implementing the recognition of CDM and JI;

- the Federal Immission Protection Act (BImSchG) – the main act dealing with permitting procedures for installations generating emissions; and
- Commission Regulation No. 601/2012 of 21 June 2012 – applying directly to each EU member state in relation to emission monitoring.

5 National regulatory authorities

Identify the national regulatory authorities responsible for climate regulation and its implementation and administration. Outline their areas of competence.

Relevant authority

The German government has mandated the Environmental Agency, acting through the DEHSt, with principal responsibility for all administrative issues relating to the EU ETS in Germany. The DEHSt in its capacity as regulatory body is required to take any action under the relevant emission trading laws as may be required for the purpose of ensuring that the monitoring and reporting conditions are being complied with.

The primary functions of the DEHSt include: permitting, monitoring and reporting, registry administration (until the end of the second trading period), and verification, enforcement and data management.

Registry administrator

Until the end of the second trading period the Federal Environmental Agency the DEHSt acted as the appointed registry administrator in Germany pursuant to section 14 of the TEHG.

Allowances issued from 1 January 2013 onwards are being held in the Union Registry of the EU.

Other relevant authorities in Germany

In cases of installations pursuant to section 4 of the Federal Emission Protection Act (BImSchG), the respective regional authorities are responsible for the permitting and monitoring of such installations under the TEHG.

General national climate matters

6 National emissions and limits

What are the main sources of emissions of greenhouse gases (GHG) (or other regulated emissions) in your country and the quantities of emissions from those sources? Describe any limitation or reduction obligations. Do they apply to private parties in your country?

The Federal Statistical Office of Germany has published final figures in relation to sources of carbon dioxide emissions for the period 1995-2013.

	Energy related	Residential	Products manufactured	All production areas	Total
1995	365,861	242,418	197,175	730,414	972,831
2000	357,852	244,331	187,631	704,128	948,459
2005	381,758	231,931	181,331	728,715	960,646
2009	359,054	221,297	163,739	689,457	910,754
2010	408,069	231,524	177,479	775,388	948,925
2011	409,528	212,852	176,731	769,812	929,040
2012	408,297	214,451	169,660	765,784	920,795
2013	409,860	225,896	172,419	777,695	944,146

The obligation on private parties to limit or reduce emissions mainly arises from the EU ETS. In relation to buildings, the Energy Efficiency Ordinance or the Act regarding the use of renewable energy sources in heat generation require owners to apply specific energy-saving technologies.

7 National GHG emission projects

Describe any major GHG emission reduction projects implemented or to be implemented in your country. Describe any similar projects in other countries involving the participation of government authorities or private parties from your country.

Germany has implemented the necessary provisions to host JI projects. There are no major emission reduction projects in Germany. A few JI projects are in place relating to avoiding the leakage of landfill gas, methane or nitrous oxide. A number of utilities and regional governments have set up incentive programmes for smaller-scale industrial installations or power plants benefiting from a link into the JI scheme. Registered projects can be found in a public data base accessible under <https://www.jicdm.dehst.de/promechg/pages/project1.aspx>.

Domestic climate sector

8 Domestic climate sector

Describe the main commercial aspects of the climate sector in your country, including any related government policies.

The main sectors affected by climate regulation in Germany are power generation and the energy-intensive industries. Probably the most visible change in the German economy has occurred through more than two decades of incentivising the production of power from renewable sources: the installed capacity of wind energy converters and photovoltaic modules is not only visible everywhere in the country but has also created numerous new jobs, and German industry is exporting a huge variety of machinery and electro-technology related to new energy sources. Efficient heating and climatisation technology – emission-reducing building materials, such as insulation material – is another area of importance for German industry. Other sectors, such as Germany’s car manufacturers, are investing heavily to prepare for a CO2-reduced future. The national climate protection initiative (www.klimaschutz.de) is increasingly providing support to municipalities, enterprises and consumers in identifying climate-related projects.

General GHG emissions regulation

9 Regulation of emissions

Do any obligations for GHG emission limitation, reduction or removal apply to your country and private parties in your country? If so, describe the main obligations.

Within the EU ‘burden sharing’ for complying with the emission reduction requirements under the Kyoto Protocol, Germany has committed to cutting its emissions of climate-relevant gases by a total of 21 per cent in the period between 2008 and 2012 compared to the base year 1990. Within the EU’s 20 per cent reduction scheme to be achieved by 2020, Germany is committed to reaching a 40 per cent reduction compared with the level of 1990, and an 80 per cent reduction by 2050.

Private individuals and enterprises are not directly bound by these emission reduction commitments; however, they have to comply with limitations or reduction obligations under German national legislation implementing the international and EU commitments. For example, many types of inefficient electrical heating must not be used in residential houses in Germany beyond 2019, and new buildings must comply with minimum standards of energy efficiency and minimum usage of energy from renewable sources.

In addition, a negotiated agreement has been in place since 1995 (with several amendments over the years) between the German federal government and several industry associations according to which relevant sectors of the German industry committed themselves to reducing emissions by 35 per cent compared with 1990 levels.

10 GHG emission permits or approvals

Are there any requirements for obtaining GHG emission permits or approvals? If so, describe the main requirements.

In accordance with the Emissions Trading Directive, each installation covered by such Directive is obliged to apply to the DEHSt for a GHG emission permit (section 4 TEHG) before emitting any GHG. The GHG permit provides each installation with the statutory right to emit GHGs, specifies the monitoring and reporting requirements of that installation and creates an obligation to surrender a number of allowances equal to the total verified emissions of the installation in the previous calendar year.

According to section 3 of the TEHG, in relation to an installation, the operator is the person who has control over its operation and who bears the economic risks. Any changes in the operation of the installation, closure or changes of operator or its legal form have to be notified to the DEHSt.

A number of charges (set out in the EHKostV) are levied in accordance with a GHG permit and depend on the amount of European Union allowances (EUAs) allocated to an installation.

In cases of installations generating emissions, the respective regional authorities are responsible for the permitting and monitoring of such installations under the TEHG pursuant to section 4 of the BImSchG. In the context of the permitting procedure for major installations an environmental impact assessment has to be performed. The environmental impact assessment is a procedure that ensures that the environmental implications of decisions are taken into account before the decisions are made.

11 Oversight of GHG emissions

How are GHG emissions monitored, reported and verified?

Monitoring and verification of GHG emissions and annual emissions reports are important components of the ETS. The actual emissions for the previous calendar year for an installation participating in the emissions trading are the basis for the surrender of allowances in relation to that year.

Operators have to monitor GHG emissions, based on a monitoring plan approved by the competent authority, taking into account the nature and functioning of the installation or aviation activity to which it applies. In Germany, the DEHSt is the competent authority.

From 1 January 2013, operators of installations subject to emissions trading are required by the TEHG to determine and report their GHG emissions in accordance with the directly applicable Commission Regulation No. 601/2012 of 21 June 2012 and Annex 2 of the TEHG. The method for monitoring the GHG emissions has to be described in a plant-specific monitoring plan. The monitoring plan specifies how the requirements of the monitoring regulation will be implemented for each facility. It had to be completed before the start of the monitoring period and presented to the DEHSt as the competent authority for approval by 31 July 2012 (for existing installations). For facilities commissioned after 28 February 2012 the monitoring plan must be submitted to DEHSt for approval before starting operations. The monitoring plan shall be produced in the forms management system. The plant operators must determine the emissions of their installation based on the monitoring plan and draw up an annual emissions report.

GHG emission allowances (or similar emission instruments)

12 Regime

Is there a GHG emission allowance regime (or similar regime) in your country? How does it operate?

The allocation of any emission allowances in Germany is exclusively governed by the rules and provisions of the EU ETS (as described above).

13 Registration

Are there any GHG emission allowance registries in your country? How are they administered?

Until the end of the second trading period the DEHSt was appointed registry administrator in Germany by the Environmental Agency. Allowances issued from 1 January 2013 onwards are held in the Union

Registry of the EU instead of in national registries, and a national registry is no longer required.

14 Obtaining, possessing and using GHG emission allowances

What are the requirements for obtaining GHG emission allowances? How are allowances held, cancelled, surrendered and transferred? Can rights in favour of third parties (eg, a pledge) be created on allowances?

The EU ETS allocates specific maximum allowances for defined periods. This cap on GHG is gradually reduced over time. Operators of defined installations (such as power plants or industrial installations emitting GHG) and aircraft mandatorily participate in the trading scheme. Other parties with a purely financial interest may participate on a voluntary basis. All parties are free to transfer allowances between themselves; transfers will be reflected in the Union Registry upon notification (or in the national registries for the second trading period). The use of allowances as collateral or financial security, however, is somewhat restricted; a pledge according to German law would require a respective entry in the European register that is currently not provided for. A transfer of title by way of security would be possible; however, it requires the actual transfer of the allowances to a trustee's account.

Operators that are subject to emissions trading are obligated by the TEHG to report their emissions annually and to submit the corresponding number of certificates to the registry. Until 30 April of each year operators must surrender one allowance per tonne of CO₂ emitted in the previous calendar year (section 7 TEHG). If they do not surrender the necessary quantity, a penalty payment of €100 (indexed from base year 2012) per tonne of CO₂ emitted is due.

If an operator applies energy efficiency or carbon reduction measures and therefore at a relevant time is holding more allowances than it has to surrender, it is free to sell such unused allowances to any third party. On the other hand, operators needing more allowances may buy them from the market.

Trading of GHG emission allowances (or similar emission instruments)

15 Emission allowances trading

What GHG emission trading systems or schemes are applied in your country?

The EU ETS applies in Germany. Germany's implementing legislation does not impose any restrictions in relation to transfers of EUAs or CERs beyond those provided for in the EU ETS Directive and the registries regulation. The obligations to deliver and transfer may be agreed in simple contracts in accordance with the legal system implemented by the German Civil Code. Upon delivery, the transfer of EUAs has to be notified to the Union Registry (or the respective national registry during the second trading period); it is a prerequisite to trading EUAs for any direct participant to hold such an account. Accounts may be held by the operators of installations and aircraft as well as any other legal entity or private individual wanting to participate in trading.

Other than through direct agreement, EUAs, CERs and ERUs are also traded on the spot and on derivatives markets of the European Energy Exchange (EEX).

16 Trading agreements

Are any standard agreements on GHG emissions trading used in your country? If so, describe their main features and provisions.

A number of international market organisations are publishing standard form emissions trading documentation for trades on the secondary market, including the International Emissions Trading Association, the European Federation of Energy Traders and International Swaps and the Derivatives Association. All those standard agreements are used in the German market. In addition, the German Bankers' Association has published the German Master Agreement with an addendum relating to emission rights. The primary market for the acquisition of certificates from CDM and JI projects, although in principle subject to private agreement of the parties involved, has seen only a limited

degree of standardisation through forms of emission reduction purchase agreements.

Sectoral regulation

17 Energy sector

Give details of (non-renewable) energy production and consumption in your country. Describe any regulations on GHG emissions. Describe any obligations on the state and private persons for minimising energy consumption and improving energy efficiency. Describe the main features of any scheme for registration of energy savings and for trade of related accounting units or credits.

According to figures published by the Agency for Renewable Energy (Strommix 2015), Germany's total domestic electricity production in 2015 was 651.8 billion kWh, which is broken down as follows:

- lignite – 155.0 billion kWh;
- nuclear power – 91.8 billion kWh;
- coal – 118.0 billion kWh;
- natural gas – 59.6 billion kWh;
- other – 31.5 billion kWh; and
- renewables – 195.9 billion kWh.

According to published figures by the German Federal Ministry for Economic Affairs and Energy, the German primary energy consumption in 2014 was 13,335 PJ broken down as follows:

- mineral oils – 33.8 per cent;
- natural gas – 21.0 per cent;
- hard coal – 12.7 per cent;
- lignite – 11.9 per cent;
- nuclear – 7.5 per cent;
- renewable – 12.6 per cent; and
- other – 0.5 per cent.

18 Other sectors

Describe, in general terms, any regulation on GHG emissions in connection with other sectors.

The construction and operation of industrial installations, including those for exploration of natural resources, is comprehensively regulated by the relevant provisions for obtaining permits according to the BImSchG or by planning approval according to the Administrative Proceedings Act, Mining Laws, Water Law, etc, on a federal as well as regional level.

Aeroplanes are subject to the EU ETS and train transportation is indirectly involved as a major consumer of electricity. In relation to street cars, in future the relevant EU regulation shall limit the fuel consumption (and CO₂ emission) of fleets on a producer level.

In relation to forests, the German government has established and funded a 'Forest Climate Fund' to secure the adaptation of existing forests to climate change, to secure the CO₂ storage function of the forests, to promote the use of wood as substitute for materials that emit more CO₂, as well as further research and monitoring from 2013 onwards.

Many industrial mass products are subject to a regulatory regime limiting specific energy consumption; namely the law on electricity powered products (EBPG, implementing the eco-design directive 2009/125/EC) sets out detailed specifications on consumption limits and labelling. In cases of non-compliance, the competent authority (Bundesanstalt für Materialforschung und-prüfung) may impose administrative fines.

Renewable energy and carbon capture

19 Renewable energy consumption, policy and general regulation

Give details of the production and consumption of renewable energy in your country. What is the policy on renewable energy? Describe any obligations on the state and private parties for renewable energy production or use. Describe the main provisions of any scheme for registration of renewable energy production and use and for trade of related accounting units or credits.

According to figures published by the German Federal Environmental Agency, renewable energy sources contributed a total of 12.4 per cent to the overall energy consumption in Germany for 2014.

Broken down, the contribution was:

- 27.8 per cent of the electricity production;
- 9.9 per cent of the heat supply; and
- 5.4 per cent of land transportation fuels.

The main driver for the generation of power from renewable sources for more than a decade has been the Renewable Energy Act (EEG). Following a number of changes in the last couple of years, the EEG was again amended in summer 2016, with the new version being proposed to enter into force on 1 January 2017 (EEG 2017). Its revised provisions were notified to the European Commission (as of September 2016 pending confirmation) under the new state aid guidelines for assessing public support in the field of energy and environment, which have been in force since July 2014. The EEG 2017 stipulates targets for the portion of energy generated from renewable sources that should be made up in the future. Until 2025, this portion should total 40 to 45 per cent and, until 2035, a portion of 55 to 60 per cent is planned.

Pursuant to the previous legal situation (EEG 2012) each operator that qualified as operating a renewable energy installation receives a guaranteed price per kWh of electricity fed into the grid – the feed-in tariff (FIT) – over a specified period of up to 20 years from the relevant electricity network operator. FITs actually paid vary depending on the technology used, the size or site of the installation and the year of commissioning. The transmission system operators (TSOs) are obliged to collect the power fed in by renewable energy installations and sell it via the Energy Exchange. The TSOs are empowered to collect the difference between the (higher) feed-in tariff and the consideration received for the sale of the electricity from the energy consumers (the renewable energy levy). From 2012 operators of renewable energy plants and electricity traders were alternatively allowed to opt for direct marketing of their generated electricity (without receiving the FIT) and to in turn obtain a 'market premium' (constituting a difference payment). The idea was to develop 'closer to market' models for the future operation of renewable energy power plants without any FIT.

Since the EEG 2014, direct marketing is mandatory (except for offshore wind farms, which continue to receive a FIT). Operators have to sell the electricity generated, normally through a specialised direct marketing enterprise, and will receive from the TSO only a monthly difference payment (covering the difference between the statutory price level per kWh and the average price level at the Energy Exchange). The direct marketing enterprise shall take responsibility for the forecasting of the energy production, and appropriate balancing. The difference payment shall not compensate for negative energy prices. A FIT will be available only in exceptional cases if direct marketing is temporarily and exceptionally impossible, or in the case of small plants with a nominal output not exceeding 100kW.

The technology-specific statutory price levels under the new regime were reduced substantially and certain additional premiums have been modified or totally abolished. The price levels shall further decrease for installations commissioned in the coming years, always in accordance with a base digression rate and a multiplier depending on the effective annual increase of available capacity compared to a planned overall extension of the respective capacity extension corridor. The extension corridors apply separately to the several renewable energy technologies, and the final multipliers will be published by the national regulatory authority, the Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway (BNetzA). Further, a renewable energy power plant register was established with

Update and trends

The current prices for EU allowances are widely regarded as too low to incentivise any private investment for further GHG emission saving. To this extent it needs to be seen whether the market stability reserve as a 'structural change' to the EU ETS (effective from 2019) will have the desired effect. More immediate impulses should be awaited from the Paris conference in December 2015.

the BNetzA and operators will not receive difference payments unless their installations were duly filed and registered.

The main change in the system to be introduced by the EEG 2017 is that from January 2017 onwards, the price level for renewable energy shall no longer be fixed by law, but instead shall be determined on the basis of public tenders. In order to develop some experience in this respect, initial tender auctions were carried out for ground-mounted solar PV plants by way of pilot projects, with the result that generally the tariff levels were reduced. Details of the proposed tendering concept remain to be specified in subsequent secondary legislation.

Pursuant to certain transitional provisions, and in order to protect legitimate investors' expectations, essential provisions of the EEG 2012, and EEG 2014 respectively (especially those regarding the previous FIT), continue to apply to plants commissioned before the respective publication of the amended law.

In 2009, a new law was introduced with the aim of promoting the use of renewable energy sources in heat generation: the target is that by 2020 at least 14 per cent of the energy consumption in buildings should be contributed by renewable sources. All new buildings in Germany with a surface area of more than 50m² must be operated up to a certain percentage using renewable energy sources or must connect to a district heating system or alternatively demonstrate a very high degree of energy efficiency.

20 Wind energy

Describe, in general terms, any regulation of wind energy.

Under German law, a permit according to the BImSchG is required for the construction and operation of onshore wind turbines with a height of more than 50m and offshore wind turbines within the 12-sea-miles zone. According to section 6 BImSchG, the authority is obliged to issue the permit if no other (public) interests prevail over the applicant's interest in building the installation. However, this assessment will only be made following an environmental impact assessment.

In order to clarify to which extent public interests are affected, the authority competent to issue the permit must request and compile the input of all relevant authorities (including those supervising construction, health and safety, environmental protection, waste management, air traffic security, etc).

For wind farms of up to 19 turbines the permits are issued in a 'simplified procedure' without a full public hearing. As a consequence, the applicant and beneficiary is the only addressee of the permit, and the permit becomes formally binding upon its issuance if the beneficiary does not object. However, the risk remains that a third party whose interests were disregarded during the permit procedure may object to the authority's decision at a later stage – approximately up to one year after the start of construction.

The construction and operation of wind farms within the exclusive economic zone requires a permit pursuant to the Marine Facilities Ordinance, which is granted by the German Maritime and Hydrographic Agency (BSH).

As a general principle, an applicant has a right to be granted the permit for an offshore wind project, unless:

- the safety and efficiency of maritime navigation is impaired; or
- the marine environment is endangered and such impairment or danger cannot be avoided or compensated by any suitable measures, either in the form of a time limitation or by imposing additional requirements.

In order to make full use of such permit, the holder of such project must achieve certain milestones to the satisfaction of the BSH. New offshore wind exploration permits will rarely be issued in the coming years as in

the future (from 2026 onwards) it is intended to offer projects for tender that are pre-developed by BSH and fully permitted.

Pursuant to the new EEG 2017, wind farms in Germany continue to enjoy the benefit of a right to preferred grid connection as well as a difference payment between the monthly average energy exchange price and the tariff either fixed by law or to be determined through public tender auctions. The EEG 2017 intends to manage the annual extension of the overall onshore wind farm capacity with a target gross annual increase of 2,800MW whereas offshore wind power has a total capacity target of 500MW annually and 15,000MW by 2030.

21 Solar energy

Describe, in general terms, any regulation of solar energy.

Greenfield installations will need a full construction permit according to the relevant laws of the regions for their construction and operation. If installations are built within a planned industrial area, the procedure may be much simpler than in outside areas such as former landfills or airfields.

Permits for the installation of a rooftop solar project are not necessarily required. As a general rule, rooftop solar installations must comply with all relevant provisions of federal and regional building and construction law. However, in order to facilitate and promote the use of solar energy, the German federal and regional legislators have substantially reduced the permitting requirements. In many cases developers of smaller projects, such as private households, will not need to apply for a separate permit in relation to their solar installations as long as the installation fully integrates with the roof or the facade. Larger solar installations on commercial buildings would typically be regarded as changing the structure of an existing building in which case developers have to comply with a notification or exemption procedure.

In all cases, new photovoltaic generation facilities need to be registered with the BNetzA.

The financial support mechanism for photovoltaic installations is currently in a transition phase. While a general tariff is currently still available at substantially reduced levels for installations on buildings (up to 12.70ct/kWh for installations smaller than 10kWp), the tariff for ground-mounted solar energy plants has to be determined through participation in public tenders. The results of the initial rounds of tenders in one occasion achieved values below 7ct/kWh. Further bidding rounds are planned on an ongoing basis.

22 Hydropower, geothermal, wave and tidal energy

Describe, in general terms, any regulation of hydropower, geothermal, wave or tidal energy.

Hydropower installations will usually need a permit in the form of planning approval (requiring comprehensive environmental impact assessments and a public review of the project). All aspects of the protection of the landscape and the environment have to be weighed against the commercial interest of the applicant and potentially the public interest in climate protection, which often makes obtaining a permit a lengthy process.

Geothermal energy, according to German law, is defined as a 'natural resource', therefore the mining laws apply to the exploration of any type of underground heat. The permitting procedure is split between the prospecting (drilling, cracking, etc) and the exploitation (permanent operation); for bigger installations a planning approval will be required that includes comprehensive geological studies and impact studies as well as a detailed operation plan and ongoing compliance with health and safety rules.

Similar to wind and photovoltaic, for installations generating electricity from hydropower or geothermal power the price levels pursuant to EEG 2014 have predominantly been reduced depending on the respective nominal power of each plant, and only partially increased.

23 Waste-to-energy

Describe, in general terms, any regulation of production of energy based on waste.

Waste-to-energy plants, like any major industrial installation in Germany, will need a full permit according to the BImSchG for their construction and operation (see question 20). In addition to the plant

itself, the permit has to cover the logistics concept for the supply of waste and disposal of ashes. New construction of any such installation is typically quite controversial and permitting procedures may take an extended time of preparation and negotiation with the different interested parties. Apart from the requirement to provide comprehensive environmental assessments and compensation measures, waste-to-energy plants are also subject to strict rules for their operation. Typically, they may only be built in designated industrial areas or otherwise in areas covered by a specific land-use plan. In addition, the transportation of waste and use of waste in 'thermal recycling' is regulated.

Pursuant to the EEG 2014 the statutory price level has been reduced and the flexibility bonus for biogas plants has been modified. Plants with a nominal output of at least 100kW receive a bonus of €40 per kW of the installed nominal power for the supply of flexible installed output. Further flexibility premiums shall apply for existing plants.

24 Biofuels and biomass

Describe, in general terms, any regulation of biofuel for transport uses and any regulation of biomass for generation of heat and power.

The German regulation for biofuel is essentially an implementation of the EU directives affecting the EU biofuel market, such as the Biofuels Directive (2003/30 - now replaced), the Renewable Energy Directive (2009/28) and the Fuel Quality Directive (2009/30).

EU regulation provides for a 10 per cent minimum target for renewable energy consumed in the transportation sector, and biofuels must meet certain criteria to count against the 10 per cent goal. In order to implement the European directives, new sections 37a to 37d of the BImSchG oblige the sellers of diesel and gasoline to reach a minimum overall quota of 6.25 per cent of biofuel in the energetic value of all fuels sold (where the minimum for diesel fuels is 4.4 per cent, and the minimum for gasoline 1.2 per cent).

From 2015 onwards the system will be changed in accordance with the Renewable Energy Directive in a way that means fuel distributors will be obliged to carry out a specific overall reduction of CO₂ emissions by way of blending conventional fuels with biofuels. The reduction must reach the following values pursuant to section 37a BImSchG:

- from 2015 onwards: 3 per cent;
- from 2017 onwards: 4 per cent; and
- from 2020 onwards: 6 per cent.

The quota requirement remains the central instrument for the promotion of biofuels in Germany. In addition, a very limited number of tax reliefs apply, such as a full exemption from the energy tax for biomethane and bioethanol in unblended use until 2015. A previous tax exemption for biodiesel was not prolonged.

Biofuel plants, like any major industrial installation in Germany, will need a full permit according to the BImSchG for their construction and operation (see question 20). Typically, they can only be built in designated industrial areas (including ports).

Biomass to power installations may qualify for the renewables incentive scheme (above, section 19) subject, however, to flexibility requirements in order to incentivise a stronger contribution to balancing the power networks. The support level shall from 2017 onwards be determined by public tender auctions. Biomass-to-power installations using biogas will receive the premium by way of difference payments for up to a maximum of 50 per cent of the annual hours.

Like any other technology, biomass or biofuel installations require a full environmental permit.

25 Carbon capture and storage

Describe, in general terms, any policy on and regulation of carbon capture and storage.

After several years of discussions, in August 2012 a new law entered into force in Germany according to which the construction and operation of pilot installations for the permanent (underground) storage of CO₂ may be possible. Such pilot installations for carbon capturing may be installed for the purpose of 'demonstrating' that CCS would technically be feasible. However, at this stage it remains unclear whether any project of relevant size will be initiated in Germany. An applicant would need to obtain a permit in the form of planning approval (requiring a comprehensive environmental assessment and a public review of the project), but the regions may separately decide that certain parts or even all of their territory must not be used for CCS.

Climate matters in transactions

26 Climate matters in M&A transactions

What are the main climate matters and regulations to consider in M&A transactions and other transactions?

Any regulation described in this chapter may directly or indirectly affect the value of a target company or its operations to be assessed during an M&A transaction.

While relevant public permits pursuant to German law are typically related to a specific installation and will therefore automatically be transferred with the transfer of the land or the installation itself, the risk connected to previous non-compliance with the requirements of emission-related regulation would equally be passed over with such a transfer. Non-compliance with certain mandatory rules may lead to costly administrative fines, or even an administrative order stopping the operation of a relevant installation. Full records of the monitoring plan, the annual monitoring reports, past allowance surrender, and EUA trading activities should therefore be reviewed during due diligence, inter alia. In many cases it will be advisable to agree on specific warranties or similar provisions to allocate the risk relating to previous periods to the seller.

No specific issues are arising immediately in respect of emissions trading; the price level for EUAs is low and the biggest part of the industry (by volume) receives freely allocated certificates, based on the 'carbon leakage' rules applying to globalised industries. There remains, however, a general regulatory risk that the EU may, over time, seek

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to improve (or 'revitalise') the EU ETS, including in a way that would imply higher costs for European plants.

A formal proceeding between the European Commission and Germany remains pending before the European General Court regarding the Commission's decision that exemptions from the renewable energy levy granted to industry were illicit. The total volume payable by German industry, however, amounts to only around €40 million.

In future, the EU Market Abuse Regulation 596/2014 will have to be taken into account where information in the context of a transaction, if publicly known, could have an impact on the price of the EUAs (article 7).