# Renewable Energy

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# Germany

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### **Market framework**

# 1 Who are the principal government participants in the electricity sector? What roles do they perform in relation to renewable energy?

The main regulator for the electricity sector is the Federal Network Agency (BNetzA), an independent higher federal authority based in Bonn. In addition, the federal states each have a local regulator that is competent for a number of tasks relating to smaller distribution networks that do not extend beyond the relevant federal state and to which only a limited number of customers are connected.

The main role of the BNetzA is to ensure non-discriminatory network access and to supervise the grid fees levied by the grid operators. The BNetzA supervises the grid operators with regard to unbundling (of grid and supply activities, as required by law) and with regard to their duties, especially relating to system stability. It also has responsibilities with regard to high-voltage grid planning both onshore and offshore.

In relation to renewable energy, the BNetzA is responsible for the implementation of tenders for remuneration under the Renewable Energy Sources Act (EEG) and the Combined Heat and Power Act (KWKG). It determines the annual rate of EEG surcharge, by which the costs arising from the EEG are rolled to electricity suppliers and end users, and monitors the rolling mechanism. Where the amount of EEG remuneration is subject to the overall growth of installed capacity in a certain period of time, the BNetzA determines and publishes the relevant figures. It has a number of further publication duties regarding renewable energy plants.

The BNetzA does not supervise retail prices; any issues in this regard will be dealt with by the civil law courts or the competition authorities.

A number of other authorities play a role with regard to permitting and planning of grids, as well as generation plants. Permits will be issued by the competent emissions control, construction or mining authorities, depending on the type of project, in the relevant federal state. For offshore wind projects in the German exclusive economic zone, the Federal Maritime and Hydrographic Agency (BSH) is the permitting authority.

# 2 Who are the principal private participants in the electricity sector? What roles do they serve in relation to renewable energy?

The principal players can be divided into grid operators on the one hand and electricity producers on the other.

The German transmission system operators are TenneT, 50Hertz, Amprion and TransnetBW. On the level of the distribution grid, there are approximately 900 operators active in Germany. With regard to renewable energy, the grid operators are responsible for connecting new generation plants to the grid and for transporting the electricity, taking into account that the law provides for priority rights of renewable energy over conventional energy. The grid operators also deal with paying out any remuneration under the EEG; they then pass on these costs under the statutory rolling mechanism. If required for system stability, the grid operators may temporarily limit the production of specific renewable energy plants (but will have to pay compensation under the EEG).

The market for electricity production in Germany is liberalised. A large number of producers are active in Germany, ranging from the 'big

four' (RWE, e.on, Vattenfall and EnBW) to small players. In renewable energy, the production landscape is very varied and operators range from large utilities to small players like local citizen's initiatives or individual owners. Remuneration under the EEG requires for most plants that the energy is sold, and there are numerous offtakers (known as direct marketing companies in line with the terminology used in the EEG) who purchase the energy under relatively standard agreements and then market it at the electricity exchange.

### 3 Is there any legal definition of what constitutes 'renewable energy' or 'clean power' (or their equivalents) in your jurisdiction?

According to the legal definition in section 3 No. 21 of the Renewable Energy Sources Act 2017 (EEG 2017), 'renewable energy' is generated by:

- hydropower, including wave, tidal, salinity gradient and marine current energy;
- wind energy;
- solar radiation energy;
- geothermal energy; and
- energy from biomass including biogas, biomethane, landfill gas and sewage treatment gas, and from the biologically degradable part of waste from households and industry.

### 4 What is the legal and regulatory framework applicable to developing, financing, operating and selling power and 'environmental attributes' from renewable energy projects?

Renewable energy in Germany is supported under the EEG. Initially, statutory feed-in tariffs were paid by the grid operators who took off the electricity. Meanwhile, only small plants still benefit from feed-in tariffs, whereas other installations have to sell the electricity and can receive additional support as a 'market premium', namely the difference between the market price and an 'applicable value' under the EEG.

Under the revised EEG 2017, an auction scheme for renewable energy remuneration was introduced, in line with state aid requirements by the EU Commission. For new onshore wind, offshore wind, PV and biomass plants exceeding a certain minimum capacity, remuneration under the EEG will only be granted if the operator wins an award in the tender proceedings (by offering a low level of remuneration). The successful bid determines the amount of the applicable value for calculation of the market premium. The auction proceedings are organised by the BNetzA. The dates and available amounts of capacity to be tendered for each type of renewable energy, as well as the requirements for participation, are prescribed by law. EEG remuneration is generally granted for a period of 20 years, starting from the entry of operation of the relevant plant. After the expiry of this period, no further EEG remuneration is available, with one exception: existing biomass plants may participate in the tenders under certain conditions and, if successful, can obtain an additional 10-year remuneration.

The EEG also mentions certain 'environmental attributes', but these play a limited role (see question 5).

Apart from the prerequisites for EEG remuneration, there are no specific restrictions on constructing and operating renewable energy plants. Permits must be obtained under general rules, and especially environmental law requirements must be respected. One notable exception is offshore wind: after the expiry of a transitional phase, permits will only be granted to operators that were successful in the tender proceedings.

### 5 Can environmental attributes be stripped and sold separately?

For energy remunerated under the EEG, no certificates are granted. Suppliers or end users who have to pay the EEG surcharge that is levied for the cost of renewable energy support obtain in return the right to label a certain amount of electricity as 'renewable energy, financed by the EEG'. However, such a label is not tradeable. In addition, such energy can in the future be labelled as 'produced regionally'; the register for relevant certificates is being set up and is expected to start as of January 2019.

For electricity from renewable sources but not remunerated under the EEG, renewable energy guarantees of origin (GoO) can be obtained. Such GoO are tradeable, the transfer having to be registered in the national register of GoO. Electricity utilities must obtain the relevant amount of GoO if they want to label the electricity they sell as 'renewable energy'. Given that the vast majority of renewable energy produced in Germany is remunerated under the EEG, the trading of GoO is of limited economic importance.

### 6 Does the government offer incentives to promote the development of renewable energy projects? In addition, has the government established policies that also promote renewable energy?

The main governmental incentive for the development of renewable energy projects is the remuneration of renewable energy plants under the EEG as outlined in question 4. As renewable plants beyond a certain size have to sell the electricity and can receive remuneration as a 'market premium', the grid operators are no longer obliged to purchase the electricity from such plants in the 'direct marketing' regime. However, they are still obliged to connect renewable energy plants to the grid without undue delay, to physically offtake electricity from renewable sources and to distribute it with priority over electricity from other sources.

Further legislation aims at promoting renewable energy from the customer side. For example, there is a renewable heat incentive programme that provides subsidies for exchanging old heating systems for heating systems using solar thermal energy, biomass or a heat pump. The Renewable Heat Act sets out rules on the use of these technologies in new buildings. There are also additional stipulations and funding instruments for the use of renewable heat at provincial and municipal levels. In the transport sector, renewable energy is promoted through minimum quotas for biofuels and through research programmes for alternative propulsion technologies and fuels. For the production of electricity for self-consumption, the EEG surcharge (which is generally levied on all electricity consumption) will be reduced by 60 per cent if the electricity is produced from renewable energy or in a highly efficient combined power and heat plant.

The German promotional bank KfW offers several financing programmes related to renewable energy. Details are available on the bank's website, www.kfw.de.

### 7 Are renewable energy policies and incentives generally established at the national level, or are they established by states or other political subdivisions?

Energy policies and incentives are generally a matter of federal law and established at the national level. This is especially the case for the remuneration of renewable energy generation in the EEG, which is a national law. European law plays an increasingly important role with regard to energy regulation, as well as with regard to state aid.

Federal states' policies may be relevant for certain aspects of renewable energy projects. For example, some federal states have more restrictive planning rules regarding the minimum distance between wind energy plants and inhabited space.

# 8 What mechanisms are available to facilitate the purchase of renewable power by private companies?

Customers are not limited to buying electricity from utility counterparties. Grid owners must not discriminate between customers, so that, in principle, there are no obstacles to direct power purchase agreements. However, direct power purchase contracts with renewable energy producers are not yet commonly seen in the market. In the current market, renewable energy producers usually prefer to sell to direct marketing companies with a view to obtaining the market premium under the EEG. For customers, it is cheaper to buy electricity on the market. However, we expect that direct power purchase contracts will become of more interest in the future, once market prices rise, remuneration under the EEG decreases and the 20-year remuneration period ends for older renewable plants.

With regard to direct power purchase contracts, it is to be noted that certain levies will arise. Grid fees will be payable if the public grid is used. And on any supply to final consumers, the EEG surcharge will become payable if no exemption or reduction applies (eg, for energyintensive companies as defined in the law). This is also the case for onsite production if the operator of the generation plant and the customer are different entities, even within the same group of companies.

In cases of production for self-consumption, the consumer of the energy must be the operator of the energy plant. This does not necessarily entail ownership, but the operator must bear the economic risks of the operation. In that case, the EEG surcharge is reduced by 60 per cent for energy from renewable sources and highly efficient combined heat and power plants. In certain cases, a full exemption applies, eg, if the consumer only uses energy from its own production and does not request EEG remuneration for any amounts of electricity that exceed his or her needs. The law has become more strict recently, with the aim of distributing the EEG surcharge, ie, the costs of renewable energy support, more evenly among electricity consumers. Some existing delivery relationships still benefit from grandfathering rules.

Buying renewable energy does not necessarily entail buying directly from producers. A number of utilities as well as energy traders offer green energy products.

# 9 Describe any notable pending or anticipated legislative proposals regarding renewable energy in your jurisdiction.

The latest major reform of renewable energy law, with the EEG 2017 and the Offshore Wind Act, only entered into force on 1 January 2017. The reforms introduced tender proceedings for renewable energy remuneration, which was a major system change. For the time being, we do not anticipate further major changes to renewable energy law. However, certain adjustments have already been made with regard to details of the tender proceedings, and further adjustments regarding the tender proceedings for onshore wind are currently being discussed. We expect that the developments under the new tender system will be monitored and any unwanted results may trigger further adjustments, eg, relating to the capacities available in the tender rounds.

The coalition parties expressly declared their support for the Paris climate change agreement in their coalition agreement. However, the 2020 goals are not expected to be met. The government is therefore considering a climate act, to be resolved in 2019, which shall set out guidelines for reaching the 2030 climate goals. In addition, it is intended that a commission shall work out a strategy on how to exit coal. However, these intentions are rather vague at this stage and no drafts are yet available for discussion.

# 10 What are the biggest drivers of change in the renewable energy markets in your jurisdiction?

The nuclear disaster in Japan in 2011 accelerated what is known as 'energy transformation' (*Energiewende*), especially the resolution to exit nuclear energy and also the intention to limit fossil energy production in favour of sustainable electricity, heat and mobility. In the following years, there was a boom in renewable energy projects: in the first half of 2018, renewable energy already accounted for approximately 36 per cent of German energy production. The EEG prescribes a further growth to 40–45 per cent by 2025, 55–60 per cent by 2035 and at least 80 per cent by 2050.

The increase in decentralised production, however, entails a need to ensure grid stability and grid capacity. One reply is the ongoing expansion of grid capacity both on the level of the transmission grids and the distribution grids. In addition, there are efforts to increase demand-side management and to make feed-in more flexible, including by using energy storage. Smart technological solutions may be expected to form an essential basis of the ongoing energy transformation. A further goal is sector connectivity; ie, using renewable energy to reduce the CO<sub>2</sub> footprint in the heat and mobility sectors.

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### 11 Describe the legal framework applicable to disputes between renewable power market participants, related to pricing or otherwise.

Disputes between renewable power market participants are civil law matters. There are no courts specialised in energy matters, so the general civil law district courts have jurisdiction. This includes disputes regarding remuneration under the EEG. As these are paid by the grid operators and not by any authority, such disputes are considered civil law matters.

The EEG provides for a private institution outside the court system known as the EEG clearing house (Clearingstelle), which offers alternative dispute resolution regarding the EEG, the Combined Heat and Power Act and the Metering Point Operation Act. The alternative dispute resolution options include moderated discussions (mediation), assessment of the matters of fact and the legal situation in individual cases ('votes'), and arbitration under the code of civil procedure. The Clearingstelle may further submit opinions to the courts in civil law proceedings, and it may prepare 'indications' or 'recommendations' for the general clarification of questions on the application or interpretation of the law, outside specific court proceedings. In more important proceedings, the Clearingstelle invites comments by industry associations. The alternative dispute resolution offering of the Clearingstelle is regularly used in practice due to its industry experience; in most cases, the outcome is accepted by the parties. The votes, indications or recommendations of the Clearingstelle are not binding on the courts, but provide helpful guidance for private parties as well as the courts.

For disputes regarding decisions of a regulator, the Higher Regional Court has jurisdiction. In the case of the BNetzA, the competent court is the Higher Regional Court of Düsseldorf. Even though the Higher Regional Courts are civil law courts, such disputes are matters of administrative law and in principle follow the rules of administrative court procedure, as specified in the EnWG.

### Utility-scale renewable projects

# 12 Describe the primary types and sizes of existing and planned utility-scale renewable energy projects in your jurisdiction.

Looking at existing projects in terms of energy output, onshore wind is the largest renewable energy source, followed by photovoltaics and biogas/biomethane. In 2017, wind energy onshore and offshore were the most important segments, attracting 67 per cent of total investments in the renewable sector.

Sizes of projects vary considerably. The largest projects are offshore wind farms with sizes of approximately 288 to 400MW. On the other hand, a number of small onshore wind farms only comprise up to five wind turbines, whereas larger sizes are also common, depending on the availability of suitable space.

Regarding future developments, several offshore wind farms are currently in the planning or construction stage. Also in onshore wind, a considerable number of projects are currently being constructed that may still benefit from EEG remuneration without having to participate in tender proceedings, due to grandfathering rules. In the future, the development of offshore and onshore wind, as well as photovoltaics and biomass at utility-scale, is subject to the development corridors prescribed in the EEG; ie, the installed capacity that is going to be made available in the upcoming tender rounds.

# 13 What types of issues restrain the development of utility-scale renewable energy projects?

The development of utility-scale renewable energy projects is restrained by the development corridors prescribed by law. Except for offshore wind, capacity could theoretically be built outside the EEG regime. However, in practice, onshore projects in most cases still depend on EEG remuneration and will therefore not be constructed if no award in the tender proceedings is achieved. The limitation of newbuild capacity in the EEG is partly due to the costs of the support, and partly to grid capacity restraints, especially in specific regions. The development corridors currently set out in the EEG are:

- onshore wind: additional capacity of 2,800MW annually in the years 2017 to 2019, and 2,900MW from 2020 onwards;
- offshore wind: reaching a total installed capacity of 6,500MW by 2020, and 15,000MW by 2030;
- · photovoltaics: additional capacity of 2,500 annually; and

biomass: additional capacity of 150MW annually in the years 2017 to 2019, and 200MW annually in the years 2020 to 2022.

Further restrictions result from planning laws in certain regions. The federal states are entitled to enact planning restraints by imposing certain minimum distances between onshore windfarms and inhabited areas. Notably the federal state of Bavaria has imposed a minimum distance of 10 times the height of the wind turbine, which makes the planning of new wind farms impossible in large parts of Bavaria. Other federal states have also increased the required distances or are considering such measures.

### Hydropower

# 14 Describe the primary types of hydropower projects that are prevalent.

Hydropower currently does not play a major role in Germany. Most hydropower plants are run-of-the-river plants. There are also a number of pumped storage plants. In 2017, only 9.1 per cent of renewable electricity production resulted from hydropower. From mid-2014 to the end of 2017, the installed hydropower capacity remunerated under the EEG increased by only 35MW (less than 1 per cent), mainly due to modernisation and capacity increases of existing plants. There may be a certain potential for increase of capacity, especially by modernisation or reactivation of plants. However, the potential is limited, owing to geographical reasons (conditions being favourable mostly in the south of Germany) and to ecological concerns.

# 15 What legal considerations are relevant for hydroelectric generation in your jurisdiction?

Electricity generated by hydropower plants is entitled to remuneration under the EEG without the need to participate in tender proceedings. Smaller plants receive a higher remuneration per MWh than larger plants. New plants will only be entitled to EEG remuneration if they are built in the spatial context of either a dam that already exists in whole or in part, or a new dam that is primarily to be constructed for purposes other than the generation of electricity from hydropower, or if they are built without a complete transversal structure.

Hydroelectric plants require a water law permit. In particular, ecological aspects will be considered in the permitting procedure and may prove to be the most difficult part of the proceedings. Depending on the circumstances, environmental planning may in individual cases exceed the effort needed for technical planning. Other areas of law that may need to be taken into account are spatial planning and construction law and noise protection, which are generally less problematic.

### **Distributed generation**

# **16** Describe the prevalence of on-site, distributed generation projects.

On-site, distributed generation projects have become increasingly prevalent. This was partly the case because certain ancillary charges could be avoided. However, the law has meanwhile become more restrictive in this regard: if the consumer of the electricity is the operator of the power plant, he or she may benefit from an exemption or at least a reduction of certain ancillary charges such as grid fees and the EEG surcharge, depending on the circumstances. In cases of direct selling where the consumer of the electricity is not the owner of the power plant, there are lesser benefits; in particular, the reduction of the EEG surcharge for genuine self-supply will not apply and the full amount of the EEG surcharge will arise. Self-supply cannot be combined with EEG remuneration if the remuneration requires an award in the new auction system; if a self-supplier has surplus electricity amounts, he or she can sell the electricity, but will not obtain EEG remuneration for feeding such amounts into the grid.

# 17 Describe the primary types of distributed generation projects that are common in your jurisdiction.

On-site distributed generation is used by industry and trade as well as by private individuals. The main types of on-site generation projects are combined heat and power plants, especially for industry sites (which may or may not use renewable sources), and photovoltaics. To a lesser degree, other types of renewable energy are also used for self-supply. For photovoltaic plants of up to 100kW, there is a landlord-tenant privilege: if a landlord operates such plants on residential buildings and sells the electricity to the tenants, he is entitled to extra payments under the EEG for these electricity amounts. In return, the price charged to the tenants must be below the market price. The landlordtenant privilege was only recently introduced, so it is too early to comment on its success.

### 18 Have any legislative or regulatory efforts been undertaken to promote the development of microgrids? What are the most significant legal obstacles to the development of microgrids?

In Germany, the public grid is available throughout the country, and access to the grid is regulated and generally not prohibitively expensive, so electricity microgrids without a connection to the main grid traditionally are not common in Germany. However, 'connected microgrids' are becoming more important owing to the ever-growing number of distributed generation plants. There have been grid design tests where parts of the electricity grid can be isolated from the general grid and operated stand-alone, such as in cases of grid issues or blackouts. Microgrids that are not owned by a grid operator exist at a number of industrial sites, for example.

Certain types of microgrids are not part of the regulated grid. Some types are regulated, but exempted from a number of obligations other wise applicable to grid operators. Other types of microgrids are part of the public grid and fully regulated. The Federal Network Authority and the regulators of the German federal states have published a joint position paper aimed at clarifying the regulatory position, although difficulties regarding classification and, hence, applicable rules remain in practice.

# 19 What additional legal considerations are relevant for distributed generation?

The main obstacle for on-site production is the fact that the definition of genuine self-supply has become more restrictive. The consumer must be the operator of the plant, which must be located in the immediate local vicinity of the place of consummation. In both regards, there may be questions of interpretation. The Federal Network Authority has published guidelines on self-supply, but a number of questions remain open. If there is a delivery of electricity other than genuine self-supply, additional charges will become due on the electricity, which makes such models less attractive.

# **Energy storage**

# 20 What storage technologies are used and what legal framework is generally applicable to them?

While large-scale storage technologies have not been widely used for a long time, this is changing owing to the increased use of intermittent renewable energies. Traditionally, pumped storage was the main technology. Meanwhile, the use of battery storage has increased considerably. Battery storage includes larger projects of several MW, and a growing number of smaller storage batteries are used in combination with photovoltaics, especially for home use. Power-to-gas seems to be promising; a number of pilot projects are already in operation. Germany also has a compressed air storage plant, which we understand to be one of only two in the world. Storage can be used for selfsupply and to optimise the value gained from feeding into the grid. New business models for larger storage projects include generating income from providing balancing energy to the grid operators. In the context of sector connectivity, there are considerations to use batteries of parked e-vehicles as storage.

Storage technologies are subject to the general permitting rules. From an energy law perspective, certain special provisions exist; for example, if renewable energy is stored and later fed into the grid, remuneration under the EEG is available under the same conditions that would have applied to the relevant energy source without storage (but storage losses are not reimbursed). The rules further aim at avoiding double burdens to storage plants, for example, by providing that EEG surcharge will not be payable twice (namely on the electricity stored in the storage device and again when the electricity is withdrawn and consumed elsewhere). For certain newly built storage plants, the law provides for exemptions from grid fees.

# Update and trends

In a major reform that entered into force in January 2017, tender proceedings were introduced for renewable energy support. After this system change, we currently do not anticipate further major changes to renewable energy law. We expect that the developments under the new tender system will be monitored and any unwanted results may trigger further adjustments, eg, relating to the capacities available in the tender rounds.

# 21 Are there any significant hurdles to the development of energy storage projects?

There are no significant hurdles to the development of storage projects. However, further legislative measures seem desirable in order to assist with making storage economically viable and to accelerate their development.

### Foreign investment

### 22 May foreign investors invest in renewable energy projects? Are there restrictions on foreign ownership relevant to renewable energy projects?

Foreign investors may invest in renewable energy projects, and in fact regularly do so. Only in the case of the acquisition of very large projects by non-EU nationals or companies, the Federal Ministry for Economic Affairs and Energy (BMWi) is entitled to review whether or not the acquisition of such 'critical infrastructure' should be refused for security reasons. For energy generation, the relevant threshold is 420MW, covering, for example, large offshore wind farms. To obtain legal certainty, an investor may apply to the Ministry for a declaration of no objection.

# 23 What restrictions are in place with respect to the import of foreign manufactured equipment?

There are no special restrictions with respect to the import of foreign manufactured equipment to be used for renewable energy projects.

For imports from within the EU, no import duties or tariffs apply. For imports from outside of the EU, the tariff system enacted by the EU will apply. EU anti-dumping measures regarding solar panels are set to expire in September 2018. Importers of electrical equipment such as solar panels have to comply with the obligations under the Electrical and Electronics Equipment Act (ElektroG), such as registration and take-back and recycling obligations.

### Projects

### 24 What government authorisations must investors or owners obtain prior to constructing or directly or indirectly transferring or acquiring a renewable energy project?

For the construction and operation of renewable energy projects, the required permits under applicable law must be obtained. These depend on the type of project; eg, construction permits, permits under immission control law, water law permits or mining permits may be required. If an applicant meets the legal requirements for a certain permit, such permit must be granted. As part of the permitting procedure, an environmental impact assessment may be required.

Transferring or acquiring renewable projects is generally possible without authorisation. However, foreign investment control may apply to large projects (see question 22), and transactions may be subject to the general merger control rules.

# 25 What type of offtake arrangements are available and typically used for utility-scale renewables projects?

Utility-scale renewables projects will have to participate in 'direct marketing' in order to receive EEG remuneration, as explained in question 4. The relevant agreements with offtakers are not regulated, but certain market standards have evolved over time. The sellers of the electricity will usually review the financial standing of the offtaker, and may request payment securities. In most cases, these are bank guarantees; parent company guarantees may also be acceptable. In cases where utility-scale renewables projects directly sell to an end user, such power purchase agreements are not subject to energy regulation. If the project receives a feed-in tariff – for example, in case of older projects not subject to the direct marketing obligation – the relevant grid operator is the offtaker. In such cases, no agreement is required. There is no payment security, but given that the grid operator can roll the EEG payments that are paid by end consumers by way of the EEG surcharge, the credit risk seems rather limited.

### 26 How are long-term power purchase agreements procured by the offtakers in your jurisdiction? Are they the subject of feed-in tariffs, the subject of multi-project competitive tenders, or are they typically developed through the submission of unsolicited tenders?

Renewable energy projects in most cases do not sell via long-term power purchase agreements. 'Direct marketing' agreements are often not concluded for longer terms. Like other types of power purchase agreements (which are not yet prevalent in Germany), these are negotiated agreements not subject to energy regulation. Regarding the market premium payable by the grid operator, see question 4.

27 What government authorisations are required to operate a renewable energy project and sell electricity from renewable energy projects?

The construction and operation of renewable energy projects is subject to the general rules (see question 24). Certain general rules for running a business must be observed, but no specific additional authorisation is required. Electricity suppliers to household customers must submit a notification to the Federal Network Authority.

28 Are there legal requirements for the decommissioning of renewable energy projects? Must these requirements be funded by a sinking fund or through other credit enhancements during the operational phase of a renewable energy project?

The permit of the project may request that a plant is decommissioned if it is no longer operational or if the permit has expired, and it may request security for the expected decommissioning costs. Such security is usually provided as a bank guarantee. Operators of plants for the generation or storage of electrical energy with an installed capacity of 10MW or more have to notify an intended closure to the transmission system operator and the BNetzA at least 12 months in advance. The transmission system operator can request that the operation continue if the plant is required for the stability of the electricity supply.

# Transaction structures

### 29 What are the primary structures for financing the construction of renewable energy projects in your jurisdiction?

Due to the EEG remuneration and the stable cash flows that may be expected, renewable energy plants are well suited to debt financing already in the construction stage. In addition, numerous equity investors are active in the market, ranging from large institutional investors and funds companies of different sizes to local citizens' cooperatives. Equity investors may prefer to acquire only after commissioning of the project, but more and more investors are also seen to take construction risks or even development risks. The most common model is a combination of equity investment and debt financing.

# **30** What are the primary structures for financing operating renewable energy projects in your jurisdiction?

In general, the financing structures during the operating phase are similar to those in the construction phase. A mix of long-term debt financing and equity investment is seen in the market. Some equity investors still prefer to invest only in the operating phase, rather than taking construction risks.

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