

Research RES LEGAL – Access to the grid

Country: Germany

1. Overview

Overview of access to the grid	In Germany, systems for the generation of electricity from renewable sources shall be given priority connection to the grid. Furthermore, grid operators are obliged to give priority to electricity from renewable sources when purchasing and transmitting electricity. Moreover, those interested in feeding in electricity may demand that the grid operator expands his grid. These special provisions are laid down in the Act on Granting Priority to Renewable Energy Sources (EEG). Further general provisions on energy are stipulated by the Energy Industry Act (EnWG).
Connection to the grid	System operators are statutorily entitled to the immediate and preferential connection of renewable energy systems by the grid operators.
Use of the grid	System operators are statutorily entitled against the grid operators to the purchase and transmission of all electricity from renewable energy sources supplied. Grid operators are not entitled to charge the system operators for the transmission of such electricity.
Grid expansion	Upon the request of those interested in feeding in electricity, the grid operator is obliged to immediately optimise, boost and expand his grid in accordance with the best available technology in order to guarantee the purchase, transmission and distribution of electricity from renewable sources (§ 9 par. 1 EEG). The grid operator is not obliged to optimise, boost or expand his grid if this is economically unreasonable.
Statutory provisions	EEG EnWG KraftNAV

2. Basic information on legal sources

Name of legal source (original language)	Gesetz für den Vorrang Erneuerbarer Energien (Erneuerbare-Energien-Gesetz)	Gesetz über die Elektrizitäts- und Gasversorgung (Energiewirtschaftsgesetz - EnWG)	Kraftwerks-Netzanschlussverordnung
Name of legal source (full name)			Verordnung zur Regelung des Netzanschlusses von Anlagen zur Erzeugung von elektrischer Energie
Name of legal source (English)	Act on Granting Priority to Renewable Energy Sources (Renewable Energy Sources Act)	Energy Industry Act (EnWG)	Ordinance on the Connection of Power Plants to the Grid
Abbreviated form	EEG	EnWG	KraftNAV
Entry into force	01/01/2009	13/07/2005	26/06/2007
Last amended on	11/08/2010	21/08/2009	
Future amendments			
Purpose	To protect the climate, the Act aims to increase the proportion of renewable energy sources in total energy supply to at least 30% by 2020 and to continuously increase this proportion thereafter (§ 1 EEG).	Ensuring the safe, cost-efficient and consumer-friendly supply of the population with electricity and gas (§ 1 EnWG).	Regulating the procedure for the connection of power plants with a capacity of at least 100 MW to high-voltage grids with a voltage of at least 110 kilovolts.
Relation to renewable energy	This Act promotes renewable energy only.	This Act stipulates supplementary provisions for the access of electricity from renewable sources to the grid.	This ordinance regulates the connection of renewable energy systems to the grid as laid down in the EEG.
Link to full text of legal source (original language)	http://bundesrecht.juris.de/eeg_2009/	http://www.bundesrecht.juris.de/enwg_2005/BJNR197010005.html	http://www.gesetze-im-internet.de/kraftnav/index.html
Link to full text of legal source (English)	http://www.bmu.de/files/pdfs/allgemein/application/pdf/eeg_2009_en.pdf Please note: The English translation does not provide information on the		Link to full text of legal source (German)

	latest amendment of the Act.		
--	------------------------------	--	--

3. Further information

Institution (name)	Website	Name of contact person (optional)	Telephone number (head office)	E-mail (optional)
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)	http://www.bmu.de/		+49 301 830 50	service@bmu.bund.de
Federal Network Agency	http://www.bundesnetzagentur.de/		+49 228 140	info@bnetza.de
Federal Antitrust Agency (Bundeskartellamt)	http://www.bundeskartellamt.de/		+49 228 949 90	info@bundeskartellamt.bund.de
Geiser & von Oppen – PartG	http://www.gvo-anwaelte.de/	Margarete von Oppen	+49 30 31 01 92 00	office@gvo-anwaelte.de

4. Grid connection

Abbreviated form of legal sources	EEG KraftNAV		
Overview	<p>System operators are statutorily entitled against the grid operator to the connection of renewable energy systems to the grid (§ 5 par. 1 EEG). The grid operator must not make the conclusion of a contract a condition for the fulfilment of his obligation to connect systems to the grid (§ 4 par. 1 EEG).</p> <p>A system operator is one who uses a system or installation for the purpose of power generation from renewable energy sources. Whether or not he owns the system is irrelevant (§ 3 no. 2 EEG). The person obligated is the grid operator who is most closely located to the system site and whose grid is technically suitable to receive electricity (§ 5 par. 1 EEG). Where connecting the system to a grid other than the most closely located one is technically and economically more favourable, another grid operator may be obliged to connect the system (§ 5 par. 1 EEG). The grid operator is entitled to assign the system a different grid connection point. Likewise, the system operator may choose another grid connection point. In cases where systems with a capacity of up to 30 kW are located on a plot of land which already has a connection to the grid, the grid connection point of this plot will be deemed to be the most suitable connection point (§ 5 par. 1 EEG). A grid is deemed to be technically suitable even if the grid operator has to expand his grid at an economically reasonable expense to import electricity (§ 5 par. 4 EEG).</p>		
Procedure	<table border="1"> <tr> <td data-bbox="616 751 1093 1431">Procedure</td><td data-bbox="1093 751 2072 1431"> <p>Low-voltage and medium-voltage grids: There is no formal procedure for the connection of systems to low-voltage and high-voltage grids. Each grid operator may determine an individual procedure. The procedure and the required application forms are usually published on the grid operator's website. For technical reasons, a grid connection procedure involves the following steps:</p> <ul style="list-style-type: none"> - The system operator applies for connection. - The grid operator assigns a connection point. - The grid operator makes a connection offer. - The grid operator and the system operator conclude a connection agreement (optional). - The system is connected and put into operation. <p>High-voltage grids: Systems with a capacity of at least 100 megawatts that are connected to an electricity supply grid with a voltage of at least 100 kilovolts are subject to the following procedure (§ 2 no. 1 KraftNAV) unless it violates the provisions of the EEG (§ 1 par. 2 KraftNAV):</p> <ul style="list-style-type: none"> - The operator to be connected applies for connection (§ 3 par. 2 KraftNAV). - The grid operator informs the system operator about the required audits and the expected costs after a period of two weeks and requests </td></tr> </table>	Procedure	<p>Low-voltage and medium-voltage grids: There is no formal procedure for the connection of systems to low-voltage and high-voltage grids. Each grid operator may determine an individual procedure. The procedure and the required application forms are usually published on the grid operator's website. For technical reasons, a grid connection procedure involves the following steps:</p> <ul style="list-style-type: none"> - The system operator applies for connection. - The grid operator assigns a connection point. - The grid operator makes a connection offer. - The grid operator and the system operator conclude a connection agreement (optional). - The system is connected and put into operation. <p>High-voltage grids: Systems with a capacity of at least 100 megawatts that are connected to an electricity supply grid with a voltage of at least 100 kilovolts are subject to the following procedure (§ 2 no. 1 KraftNAV) unless it violates the provisions of the EEG (§ 1 par. 2 KraftNAV):</p> <ul style="list-style-type: none"> - The operator to be connected applies for connection (§ 3 par. 2 KraftNAV). - The grid operator informs the system operator about the required audits and the expected costs after a period of two weeks and requests
Procedure	<p>Low-voltage and medium-voltage grids: There is no formal procedure for the connection of systems to low-voltage and high-voltage grids. Each grid operator may determine an individual procedure. The procedure and the required application forms are usually published on the grid operator's website. For technical reasons, a grid connection procedure involves the following steps:</p> <ul style="list-style-type: none"> - The system operator applies for connection. - The grid operator assigns a connection point. - The grid operator makes a connection offer. - The grid operator and the system operator conclude a connection agreement (optional). - The system is connected and put into operation. <p>High-voltage grids: Systems with a capacity of at least 100 megawatts that are connected to an electricity supply grid with a voltage of at least 100 kilovolts are subject to the following procedure (§ 2 no. 1 KraftNAV) unless it violates the provisions of the EEG (§ 1 par. 2 KraftNAV):</p> <ul style="list-style-type: none"> - The operator to be connected applies for connection (§ 3 par. 2 KraftNAV). - The grid operator informs the system operator about the required audits and the expected costs after a period of two weeks and requests 		

		<p>additional information within one week (§ 3 par. 2 KraftNAV).</p> <ul style="list-style-type: none"> - The operator to be connected pays 25 % of the expected costs (§ 3 par. 3 KraftNAV). - The grid operator announces the results of the grid stability test and grants connection within three months after the system operator has made the advance payment (§§ 3 par. 3; 4 par. 1 KraftNAV). - The grid operator and the system operator conclude a connection agreement (optional) (§ 4 par. 3 KraftNAV in connection with § 4 par. 1 EEG). - The grid operator and the system operator agree on an implementation roadmap (§ 4 par. 5 KraftNAV). - The system is connected and put into operation.
	Deadlines	<p>General information: Systems must be connected to the grid immediately, i.e. without undue delay (§ 5 par. 1 EEG in connection with § 121 par. 1 German Civil Code). The system operator to be connected and the grid operator are obliged to submit to each other the documentation necessary for the determination of the grid connection point and for the planning of the grid operator upon request and within eight weeks (§ 5 par. 5 EEG). The EEG does not specify any deadlines by which the grid operator must carry out the grid stability test. This test may take three weeks to three months, depending on the number of the grid operator's staff.</p> <p>High-voltage grids: Systems with a capacity of at least 100 megawatts are subject to the deadlines stipulated by KraftNAV (see procedure) unless they violate the provisions of the EEG (§§ 1 par. 2; 3; 4 KraftNAV).</p>
	Obligation to provide information	<p>General information: The system operator to be connected and the grid operator are obliged to submit to each other the documentation necessary for the determination of the grid connection point and for the planning of the grid operator upon request and within eight weeks (§ 5 par. 5 EEG).</p> <p>High-voltage grids:</p> <ul style="list-style-type: none"> - Prior to the connection procedure, the grid operator is obliged to publish the following information on his website (§ 3 par. 1 KraftNAV): <ul style="list-style-type: none"> o information required to assess the application for connection and to estimate the available grid capacity; o standardised requirements for the conclusion of a connection agreement; o a diagram of the grid network and a load diagram for the entire

		<p>network.</p> <ul style="list-style-type: none"> - After receiving the system operator's application for connection, the grid operator is obliged to inform the system operator about the required tests and the expected costs (§ 3 par. 2 KraftNAV). - During the tests, the grid operator is obliged to provide, upon request, the system operator with the grid system data necessary to independently assess the future grid load (§ 5 par. 1 KraftNAV). - After the tests have been carried out, the grid operator is obliged to inform the system operator about the test procedure and the test results (§ 3 par. 3 KraftNAV).
Priority to renewable energy (qualitative criteria)	<input checked="" type="checkbox"/> Priority to renewable energy <input type="checkbox"/> Non-discrimination	Systems for the generation of electricity from renewable sources shall be connected to the grid as a priority, i.e. prior to systems that generate electricity from traditional sources („principle of priority“, § 5 par. 1 EEG).
Capacity limits (quantitative criteria)	The grid operator is obliged to connect systems even where the purchase of electricity is only possible by optimising, boosting or expanding the grid (§ 5 par. 4 EEG). However, this obligation does not apply when optimising, boosting or expanding the grid is economically unreasonable (§ 9 par. 3 EEG). Whether the expansion of the grid is economically reasonable in a given case will be determined by weighing the system operator's interests against the grid operator's interests.	
Funding		
	State	
	Consumers	
	Grid operator	If the grid operator assigns to a system a grid connection point other than the most closely located or technically and economically most suitable one, he shall bear the resulting incremental costs (§ 13 par. 2 EEG).
	System operator	The system operator bears the costs of connecting the system to the most closely located or technically and economically most suitable grid connection point as well as the costs of the measuring devices necessary to record the electricity transmitted and received (§ 13 par. 1 EEG).
	Distribution mechanism	

5. Use of the grid

Abbreviated form of legal sources	EEG EnWG	
Overview	<p>System operators are statutorily entitled against the grid operator to the purchase and transmission of all electricity from renewable sources offered (§ 8 par. 1 EEG). The grid operator must not make the conclusion of a contract a condition for fulfilling his obligation to purchase and transmit electricity (§ 4 par. 1 EEG).</p> <p>The claim for purchase and transmission arises when the system is connected to the grid. Upon request, a court may decide whether a given system operator is entitled to connection to the grid before his system is completed. Such a decision may be necessary to secure bank funding for the construction of the renewable energy system. For this reason, the grid operators provide guarantees that they will purchase the electricity offered.</p>	
Procedure	Procedure	<ul style="list-style-type: none"> - Grid connection The claim for purchase and transmission arises when the system is connected to the grid. - The grid operator then purchases and transmits the electricity.
	Deadlines	In general, the priority purchase obligation is unconditional and has to be fulfilled without undue delay (§ 8 par. 1 EEG).
	Obligation to provide information	The grid operator is obliged to immediately inform the system operator as soon as there is the risk that technical control will be assumed over the system operator's installation. The grid operator has to communicate the expected time, extent and duration of the control. He must immediately publish this information on his website and describe the affected regions of the grid and the reasons for the risk (§ 9 par. 1 EEG).
Priority to renewable energy (qualitative criteria)	(x) Priority to renewable energy () Non-discrimination	When purchasing and transmitting electricity, the grid operator must give electricity generated from renewable sources priority over electricity from energy sources other than renewable ones („principle of priority“, § 8 par. 1 EEG).
Grid stability	<p>The grid operator may deny the purchase and transmission of electricity generated from renewable energy sources in the following cases:</p> <ul style="list-style-type: none"> • Feed-in management. Grid operators shall be entitled to take technical control over renewable energy systems with a capacity of over 100 KW, if the capacity in the respective grid area would otherwise be overloaded, the grid operator has ensured that the largest possible quantity of electricity from renewable sources and CHP is being purchased, and he has called up the data on the current feed-in situation in the relevant region of the grid (§ 11 par. 1 EEG). System operators that were not able to feed in electricity to the extent agreed upon are entitled to compensation from the grid operator (§ 12 par. 1 sentence 1 EEG). Where no agreement has been reached, the system operator shall receive the lost tariffs and revenues less the expenses saved (e.g. fuel costs) (§ 12 par. 1 sentence 2 EEG). In the event that the grid operator violates his obligations regarding feed-in management, the system operator may demand compensation for the damage incurred (§ 12 par. 3 EEG). • Agreement. The obligation to purchase and transmit renewable energy as a priority may be limited by a voluntary contractual agreement. Such a contract may only be concluded if the system can thus be better 	

	<p>integrated into the grid network (§ 8 par. 3 EEG). This would, for example, apply if the system operator and the grid operator agreed to reduce the system operator's electricity exports on a few days per year and could thus avoid a grid expansion.</p> <ul style="list-style-type: none"> • Grid safety. After all, the principle of priority shall not apply if the safety and functionality of the grid can no longer be guaranteed, e.g. if the grid is on the brink of collapse (§ 11 par. 2 EEG in connection with § 13 par. 1; 14 par. 1 EnWG). 	
Funding		
	State	
	Consumers	
	Grid operator	The costs arising from the purchase and transmission of electricity generated from renewable energy sources are borne by the grid operator.
	System operator	
	Distribution mechanism	The grid operator shall not charge the operators of systems that generate electricity from renewable sources a grid usage fee for the purchase and transmission of electricity. According to the EEG, the grid operator is the buyer of electricity, as he does not only import electricity from the operators of renewable energy systems but also pays for it. For this reason, the grid operator has sole responsibility for the effects of this electricity on his grid as soon as he agrees to import it.

6. Grid expansion

Abbreviated form of legal source	EEG	
Overview	<p>Upon request of those interested in feeding in electricity, the grid operator is obliged to immediately optimise, boost and expand his grid in accordance with the best available technology in order to guarantee the purchase, transmission and distribution of electricity from renewable sources (§ 9 par. 1 EEG). The grid operator is obliged to expand his grid in such a way as to enable the connection of the planned installations to the nearest, technically and economically most suitable grid connection point. The system operator is entitled to a grid expansion only if it is economically reasonable (§ 9 par. 3 EEG). Whether the expansion of the grid is economically reasonable in a given case will be determined by weighing the system operator's interests against the grid operator's interests. The grid operator must not make the conclusion of a contract a condition for fulfilling his obligation to expand the grid (§ 4 par. 1 EEG).</p>	
Procedure	Procedure	There is no formal procedure for expanding the grid in order to connect systems.
	Enforcement of claims	<p>Action for expansion: A given system operator may raise an action for the expansion of the grid against the grid operator if the connection of a system or the export of electricity would otherwise be at risk.</p> <p>Damages: If the grid operator does not boost and expand his grid even though he is obliged to do so, those interested in feeding in electricity may demand compensation for the damage incurred. The grid operator is not liable to pay compensation if he can prove that the violation of his obligation was neither deliberate nor negligent (§ 10 par. 1 EEG).</p>
	Deadlines	The grid operator has to fulfil his obligation to expand the grid immediately, i.e. without undue delay. He may require additional time for eventual licensing procedures. In certain cases time-consuming administrative procedures may be necessary (as is the case with ground-mounted systems). The late delivery of parts required to expand the grid may also cause considerable delay.
	Obligation to provide information	<p>Obligation to provide information: The grid operator is obliged to inform the system operator whether and to what extent he met his obligation to optimise, boost and expand the grid. However, he only has to do so if there is evidence to substantiate the assumption that he did not fulfil his obligation and if this information is necessary to establish whether the system operator is entitled to compensation against him (§ 10 par. 2 EEG).</p>
Incentives for grid expansion		

Funding		
	State	
	Consumers	The costs of optimising, boosting and expanding the grid are borne by the consumers.
	Grid operator	
	System operator	
	Distribution mechanism	<p>Grid operator – utility company. The costs of optimising, boosting and expanding the grid are first borne by the grid operator (§ 14 EEG). He may account for the cost of an expansion when calculating the grid usage fees. Thus, he may pass on this cost to the utility companies.</p> <p>Utility company – final consumer. Utility companies can pass on the cost of a grid expansion, which they pay for through the grid usage fees, to the consumers by adjusting the electricity price accordingly.</p>
Grid studies	<ol style="list-style-type: none"> dena Grid Study: German version: http://www.dena.de/fileadmin/user_upload/Download/Dokumente/Projekte/ESD/netzstudie1/dena-Netzstudie_I.pdf English Summary: http://www.dena.de/fileadmin/user_upload/Download/Dokumente/Projekte/ESD/netzstudie1/dena-grid_study_summary.pdf dena Grid Study II: German version: http://www.dena.de/fileadmin/user_upload/Download/Dokumente/Studien___Umfragen/Ergebniszusammenfassung_pdf-Format.pdf 	