

Research RES LEGAL – Support system

Country: Denmark

1. Overview of support system

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| Overview of support system | In Denmark, electricity from renewable sources is promoted through a price regulation system based on net-metering and a variable bonus paid on top of the market price. In addition, local initiatives for the construction of wind energy plants are supported through loan guarantees. |
| Support schemes | <ul style="list-style-type: none"> • Price regulation. In Denmark, the generation of electricity from renewable sources is promoted through a price regulation system based on bonus payments. The operators of renewable energy systems usually receive a variable bonus, which is paid on top of the market price. The sum of the market price and the bonus shall not exceed a statutory maximum per kWh, which depends on the source of energy used and the date of connection of a given system. • Net-Metering. Electricity producers using all or part of the electricity produced for their own needs are exempt from paying Public Service Obligation on this electricity. The Public Service Obligation is a charge levied to support renewable energy. • Loan guarantees. Associations of wind energy plant owners and other local initiatives may apply for guarantees for loans for feasibility studies that are conducted in the run-up to the construction of a wind-energy system. |
| Promoted technologies | VE-Lov prescribes the promotion of technologies for the generation of electricity from wind energy, biogas, biomass, solar energy, wave and tidal energy as well as hydro-electric power stations whose capacity does not exceed 10 MW. |
| Statutory provisions | <ul style="list-style-type: none"> • VE-Lov (Lov om fremme af vedvarende energi No. 1392/2008 – Law on the Promotion of Renewable Energy) • Act on Electricity Supply (Bekendtgørelse af lov om elforsyning No. 1115/2006 – general provisions on the supply of electricity) • BEK 804/2010 (Bekendtgørelse om nettoafregning for egenproducenter af elektricitet – Regulation on Net-Metering) |

2. Basic information on legal sources

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| Name of legal source (original language) | Lov om fremme af vedvarende energi | Bekendtgørelse af lov om elforsyning | Bekendtgørelse om nettoafregning for egenproducenter af elektricitet |
| Name of legal source (full name) | | | |
| Name of legal source (English) | Law on the Promotion of Renewable Energy | Act on Electricity Supply | Regulation on Net-metering for the Producers of Electricity for Own Needs |
| Abbreviated form | VE-Lov | Act on Electricity Supply | BEK 804/2010 |
| Entry into force | 01/01/2009 | 21/11/2006 | 01/07/2010 |
| Last amended on | 16/06/2010 | 25/06/2010 | 15/12/2010 |
| Future amendments | | | |
| Purpose | Promoting the generation of electricity from renewable sources. | Managing and organising the national electricity market. | This law authorises the exemption of certain producers from the surcharge on electricity. |
| Relevance for renewable energy | See purpose. | This Act stipulates binding guidelines for the promotion of electricity from renewable sources. | Operators of renewable energy systems are exempt from the surcharge on electricity. |
| Link to full text of legal source (original language) | https://www.retsinformation.dk/Forms/R0710.aspx?id=122961 | https://www.retsinformation.dk/Forms/R0710.aspx?id=132074 | https://www.retsinformation.dk/Forms/R0710.aspx?id=132740 |
| Link to full text of legal source (English) | http://www.ens.dk/en-US/Info/Legislation/Energy_Supply/Documents/Promotion%20of%20Renewable%20Energy%20Act%20-%20extract.pdf Please note: The English translation does not provide information on the latest amendment of the Act. | http://www.ens.dk/da-DK/Info/Lovstof/Hoeringer/2009/Documents/Lovbekg_286.pdf The English translation does not provide information on the latest amendment of the Act. | |

3. Further information

| Institution (name) | Website | Name of contact person (optional) | Telephone number (head office) | E-mail (optional) |
|--|---|-----------------------------------|--------------------------------|-------------------|
| Energistyrelsen (ENS) – Danish Energy Agency | http://www.ens.dk/en-us/Sider/forside.aspx | | +45 339 267 00 | ens@ens.dk |
| Energitilsynet (DERA) – Danish Energy Regulatory Authority | http://energitilsynet.dk/tool-menu/english/ | | +45 722 680 70 | |
| Klima- og Energiministeriet (KEMIN)- Danish Ministry for Climate and Energy | http://www.kemin.dk/en-US/Sider/frontpage.aspx | | +45 339 228 00 | |
| Energinet.dk – transmission grid operator | http://www.energinet.dk/EN/Sider/default.aspx | | +45 701 022 44 | info@energinet.dk |
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4. Support schemes

4.1. Subsidy

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| Abbreviated form of legal source(s) | • | |
| Country-specific support system | | |
| Promoted technologies | General information | |
| | Wind energy | |
| | Solar energy | |
| | Geothermal energy | |
| | Biogas | |
| | Biomass | |
| | Hydro-electricity | |
| Amount | | |
| Beneficiaries | | |
| Procedure | Procedure | |
| | Competent authority | |
| Flexibility Mechanism | | |
| Funding | State | |
| | Consumers | |
| | System operator | |
| | Grid operator | |
| | Distribution mechanism | |

4.2. Loan (Loan guarantees for local initiatives for the construction of wind-energy systems)

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| Abbreviated form of legal source(s) | <ul style="list-style-type: none"> • VE-Lov • Act on Electricity Supply | |
| Country-specific support system | <p>VE-Lov subsidises local initiatives and provides incentives for local groups to construct further wind-energy systems. Energinet.dk provides guarantees for loans taken out by local associations of wind plant owners and other local initiative groups to finance feasibility studies prior to the construction of wind-energy systems (§ 21 VE-Lov). If a given wind energy project is not completed, the guarantee paid out need not be repaid unless the project was fully or partly transferred to a third party (§ 21 par. 4 VE-Lov).</p> | |
| Promoted technologies | General information | Loan guarantees as stipulated by VE-Lov are provided for wind energy systems only (§ 21 VE-Lov). |
| | Wind energy | Eligible. |
| | Solar energy | |
| | Geothermal energy | |
| | Biogas | |
| | Biomass | |
| | Hydro-electricity | |
| Amount | Energinet.dk has provided a budget of 10 m DKK (approx. 1.3 m €) for guarantees. Each guarantee will cover most of the loan in question. The maximum guarantee is 500,000 DKK per project (§ 21 par. 5 VE-Lov). | |
| Beneficiaries | Guarantees are provided for local associations of plant owners and other local initiatives that intend to construct one or more wind energy systems. Such organisations and groups must have 10 members at least. The majority of the members shall be residents in the municipality in which the systems will be constructed or shall live within 4.5 kilometres of the building site (§ 21 par. 2 no. 1 and 2 VE-Lov). | |
| Procedure | Procedure | <ul style="list-style-type: none"> • Application. Local organisations or initiative groups apply to Energinet.dk (§ 21 par. 5 VE-Lov). • Selection procedure. Energinet.dk decides whether a guarantee will be provided (§ 21 par. 5 VE-Lov). Applicants shall meet the preconditions specified by law (§ 21 par. 2 VE-Lov). • Loan borrowing. The organisation or initiative takes out a loan from a bank. • Guarantee. Energinet.dk declares to provide a guarantee to the bank. • According to Energinet.dk, the contract between Energinet.dk and the group is an application form signed by both parties. • Period of guarantee. The guarantee is provided until the system in question is connected to the grid and ends three months after the installation of the wings at the latest (§ 21 par. 3 VE-Lov). |
| | Competent authority | The transmission grid operator Energinet.dk is in charge of the guarantee system (§ 21 par. 5 VE-Lov). |

| Flexibility Mechanism | | |
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| Funding | State | |
| | Consumers | The costs of the support system are borne by the consumers (§ 8 par. 2 Electricity Supply Act). |
| | Grid operator | |
| | System operator | |
| | Distribution mechanism | <ul style="list-style-type: none"> • Consumers – grid operators. Every consumer is obliged to pay a surcharge, the so-called Public Service Obligation. It depends on each consumer's individual level of consumption. The surcharges are determined by Energinet.dk four times a year. According to Energinet.dk, the surcharges are collected by the grid operators. • Grid operators – Energinet.dk. According to Energinet.dk, the grid operators submit the surcharges collected to Energinet.dk. A certain part of this money is designated for the guarantees. |

4.3. Feed-in tariff (name of means of promotion)

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| Abbreviated form of legal source(s) | | |
| Country-specific support system | | |
| Promoted technologies | General information | |
| | Wind energy | |
| | Solar energy | |
| | Geothermal energy | |
| | Biogas | |
| | Biomass | |
| | Hydro-electricity | |
| Amount | General information | |
| | Wind energy | |
| | Solar energy | |
| | Geothermal energy | |
| | Biogas | |
| | Biomass | |
| | Hydro-electricity | |
| Degression | General information | |
| | Wind energy | |
| | Solar energy | |
| | Geothermal energy | |
| | Biogas | |
| | Biomass | |
| | Hydro-electricity | |
| Cap | | |
| Eligibility period | | |
| Beneficiaries | | |
| Procedure | Procedure | |
| | Competent authority | |

| Flexibility Mechanism | | |
|-----------------------|------------------------|--|
| Funding | State | |
| | Consumers | |
| | Grid operator | |
| | System operator | |
| | Distribution mechanism | |

4.4. Premium Tariff (Law on the Promotion of Renewable Energy)

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| Abbreviated form of legal source(s) | VE-Lov Act on Electricity Supply | |
| Country-specific support system | Denmark promotes renewable electricity generation through a premium tariff. System operators receive a variable bonus on top of the market price. The sum of the bonus and the market price shall not exceed a certain statutory maximum, which depends on the date of connection of a given system and the source of energy used (§§ 36-48 VE-Lov). In certain cases, system operators are granted a guaranteed bonus on top of the market price. In such cases the the statutory maximum is not defined. | |
| Promoted technologies | General information | The Law on the Promotion of Renewable Energy promotes all technologies except for geothermal power generation (§ 2 VE-Lov). |
| | Wind energy | Both on-shore and off-shore plants are eligible (§§ 36-43 VE-Lov). |
| | Solar energy | Eligible (§§ 47, 48 VE-Lov). According to the energy agency, only systems with a capacity of at least 6 kW are eligible for the premium tariff. |
| | Geothermal energy | |
| | Biogas | Eligible (§ 44 VE-Lov). |
| | Biomass | Eligible (§§ 45-46 VE-Lov). |
| | Hydro-electricity | Eligible under the following conditions (§§ 47, 48 VE-Lov): <ul style="list-style-type: none"> • Conventional hydro-electric power plants. Eligible up to a capacity of 10 MW (§ 50 par. 6 VE-Lov). • Wave power plants. Eligible without restriction (§§ 47 par. 1 no. 1 VE-Lov). |
| Amount | General information | There are two types of bonuses: <ul style="list-style-type: none"> - Maximum bonus: The bonus varies according to the market price and the statutory maximum set for the sum of both the market price and the bonus. - Guaranteed bonus: In certain cases, system operators are granted a guaranteed bonus on top of the market price. In such cases the the statutory maximum is not defined (§§ 36-48 VE-Lov). The following bonuses apply to new systems coming on line: |
| | Wind energy | <ul style="list-style-type: none"> • On-shore plants: <ul style="list-style-type: none"> ▪ Guaranteed bonus of 0.25 DKK/kWh for 22,000 full load hours (§ 36 VE-Lov) ▪ Systems financed by utility companies: maximum subsidy (bonus plus market price) of 0.33 DKK/kWh, applicable for 10 years from the date of connection of the system, plus guaranteed bonus (unlimited term) of 0.10 DKK/kWh (§ 40 VE-Lov) • Off-shore plants: <ul style="list-style-type: none"> ○ Wind farms: maximum subsidy (bonus plus market price) depends on the location of the farm: 0.518 or 0.629 |

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| | | <p>DKK/kWh for a total of 10 TWh, limited to 20 years from the date of connection of the wind farm (§ 37 VE-Lov).</p> <ul style="list-style-type: none"> ○ Systems financed by utility companies: maximum subsidy (bonus plus market price) of 0.353 DKK/kWh, applicable to 42,000 full load hours, plus guaranteed bonus (unlimited term) of 0.10 DKK/kWh (§ 40 VE-Lov) • Systems with an installed capacity of up to 25 kW that generate electricity for the operator's own use: maximum subsidy (bonus plus market price) of 0.60 DKK/kWh (§ 41 VE-Lov) • Re-powering: guaranteed bonus of 0.08 DKK/kWh or maximum subsidy (bonus plus market price) of up to 0.38 DKK/kWh. System operators will receive this payment only for as much electricity as would be generated by a system with twice the capacity of the original system in 12,000 full load hours (§ 42 par. 5 and 6 VE-Lov). |
| | Solar energy | <ul style="list-style-type: none"> • Maximum subsidy (bonus plus market price) for systems deemed to be of strategic importance by the competent Ministry: 0.60 DKK/kWh, applicable in the first 10 years of operation, and 0.40 DKK/kWh for a further 10 years (§ 47 par. 3 no. 1 VE-Lov). • Hybrid systems: for the proportion of electricity generated by a strategically important technology: guaranteed bonus of 0.26 DKK/kWh, applicable for the first 10 years of operation, and 0.06 DKK/kWh, applicable for a further 10 years (§ 48 par. 3 no. 1 VE-Lov). |
| | Geothermal energy | |
| | Biogas | <ul style="list-style-type: none"> • Maximum subsidy (bonus plus market price): 0.745 DKK/kWh (§ 44 par. 2 VE-Lov). • Co-firing: for the proportion of electricity generated from the combustion of biogas: guaranteed bonus of 0.405 DKK/kWh (§ 44 par. 3 VE-Lov). • The tariff is net-price indexed. It is calculated every year on 1 January and based on 60% of the increase in the net price index of the previous year as compared to 2007 (§ 44 par. 4 VE-Lov). |
| | Biomass | <ul style="list-style-type: none"> • Guaranteed bonus of 0.15 DKK/kWh (§ 45 VE-Lov). • Systems financed by utility companies: Maximum subsidy (bonus & market price) of 0.30 DKK/kWh plus guaranteed bonus of 0.10 DKK/kWh, applicable for 10 years from the date of connection of the system, will end on 1 August 2011 at the earliest (§ 46 VE-Lov). |
| | Hydro-electricity | <ul style="list-style-type: none"> • Guaranteed bonus of 0.10 DKK/kWh, applicable for 20 years from the date of connection of the plant (§ 47 par. 3 no. 2 VE-Lov). • Systems deemed to be of strategic importance by the Ministry in charge (currently, only wave energy comes under this definition): maximum subsidy (bonus plus market price) of 0.60 DKK/kWh, applicable for the first 10 years |

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| | | <p>of operation and 0.40 DKK/kWh for a further 10 years (§ 47 par. 3 no. 1 VE-Lov).</p> <ul style="list-style-type: none"> Hybrid plants: <ul style="list-style-type: none"> for the proportion of electricity generated from hydro-energy, guaranteed bonus of 0.10 DKK/kWh kWh, applicable for 20 years from the date of connection of the system (§ 48 par. 3 no. 2 VE-Lov). for the proportion of electricity generated by a strategically important technology: guaranteed bonus of 0.26 DKK/kWh, applicable for the first 10 years of operation, and 0.06 DKK/kWh for a further 10 years (§ 48 par. 3 no. 1 VE-Lov). |
| Degression | General information | |
| | Wind energy | |
| | Solar energy | |
| | Geothermal energy | |
| | Biogas | |
| | Biomass | |
| | Hydro-electricity | |
| Cap | | |
| Eligibility period | The Law on the Promotion of Renewable Energy stipulates several terms and deadlines, which depend on the technology used and the date of commissioning of the system in question. For more detailed information see "Amount" (§§ 36-48 VE-Lov). | |
| Beneficiaries | The persons entitled to the payment of a bonus are the owners of systems for the generation of electricity from renewable sources (§ 56 par. 2 VE-Lov). | |
| Procedure | Procedure | Entitlement to bonus payments arises from statutory law (§ 36-48 VE-Lov). |
| | Competent authority | The authority obligated to pay the bonus is transmission grid operator Energinet.dk (§ 56 par. 1 VE-Lov). |
| Flexibility Mechanism | | |
| Funding | State | |
| | Consumers | The costs of the support system are borne by the consumers (§ 8 par. 2 Electricity Supply Act). |
| | Grid operator | |

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| | System operator | |
| | Distribution mechanism | <ul style="list-style-type: none"> • Consumers – grid operators. System operators sell their electricity to the consumers via a supply company. Every consumer is obliged to pay a surcharge, the so-called Public Service Obligation. The surcharge depends on each consumer's individual level of consumption. The surcharges are determined by Energinet.dk four times a year. According to Energinet.dk, the surcharges are collected by the grid operators. • Grid operators – Energinet.dk. According to Energinet.dk, the grid operators submit the surcharges collected to Energinet.dk. • Energinet.dk – system operators. Energinet.dk pays the bonus to the system operators (Energinet.dk website). |

4.4. Net-Metering.

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| Abbreviated form of legal source(s) | BEK 804/2010 | |
| Country-specific support system | The Regulation on Net-metering for the Producers of Electricity for Own Needs is based on the Act on Electricity Supply and authorises the exemption of certain system operators from Public Service Obligation (PSO). Electricity producers using all or part of the electricity produced for their own needs are exempt from paying Public Service Obligation on this electricity. The Public Service Obligation is a charge levied to support renewable energy (§ 1 BEK 804/2010). | |
| Promoted technologies | General information | All technologies except for geothermal energy are eligible for net-metering (§ 2 no. 6 BEK 804/2010). Systems must be connected to a collective grid system, installed at the place of consumption and fully owned by the consumer (§ 3 par. 3 BEK 804/2010). Moreover, systems must be listed in a key data register (Stamdataregistret) (§ 6 BEK 804/2010). |
| | Wind energy | Eligible only if the system is connected to a private supply system (§ 3 par. 2, 4 and § 4 par. 2, 3 BEK 804/2010). |
| | Solar energy | Eligible (§ 3 par. 2 and § 4 par. 2 BEK 804/2010). Systems with a capacity of up to 50 kW must be connected to a supply system (§ 4 par. 3 BEK 804/2010). |
| | Geothermal energy | |
| | Biogas | Eligible. The system capacity must not exceed 6 kW per household or per 100 m ² . Only systems in non-commercial buildings are eligible (§ 5 BEK 804/2010). Systems must be connected to a private supply system (§ 5 par. 2 no. 2 BEK 804/2010). |
| | Biomass | Eligible. The system capacity must not exceed 6 kW per household or per 100 m ² . Only systems in non-commercial buildings are eligible (§ 5 BEK 804/2010). Systems must be connected to a private supply system (§ 5 par. 2 no. 2 BEK 804/2010). |
| | Hydro-electricity | Eligible. The system capacity must not exceed 6 kW per household or per 100 m ² . Only systems in non-commercial buildings are eligible (§ 5 BEK 804/2010). Systems must be connected to a private supply system (§ 5 par. 2 no. 2 BEK 804/2010). |
| Amount | <p>Every consumer is obliged to pay a surcharge, the so-called Public Service Obligation. It depends on each consumer's individual level of consumption. The PSO for the support of renewable energy is part of the PSO tariff. The surcharges are determined by Energinet.dk four times a year.</p> <p>Which surcharge a system owner is exempt from depends on the installed capacity of his system.</p> <p>The following systems are exempt from the PSO tariff:</p> <ul style="list-style-type: none"> • Solar energy systems ≤ 50 kW • Wind energy plants ≤ 25 kW • Other technologies ≤ 11 kW (§ 4 par. 2 BEK 804/2010). <p>The following systems are exempt from the PSO for the support of renewable energy:</p> <ul style="list-style-type: none"> • Solar energy systems > 50 kW • Wind energy plants > 25 kW | |

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| | <ul style="list-style-type: none"> • Other technologies > 11 kW (§ 3 par. 2 BEK 804/2010). | |
| Beneficiaries | The persons entitled to exemption from PSO (tariff) are the operators of eligible systems (§ 3 par. 3 no. 2 BEK 804/2010). | |
| Procedure | Procedure | <ul style="list-style-type: none"> • Operators of the following systems: <ul style="list-style-type: none"> ○ Solar energy systems > 50 kW ○ Wind energy plants > 25 kW ○ Other technologies > 11 kW must apply to Energinet.dk for net-metering, which is calculated on an hourly basis (§ 3 par. 1 BEK 804/2010). • Operators of the following systems: <ul style="list-style-type: none"> ○ Solar energy systems ≤ 50 kW ○ Wind energy plants ≤ 25 kW ○ Other technologies ≤ 11 kW are automatically registered for net-metering. The operators of these systems may apply for net-metering to be calculated on an hourly basis (§ 4 BEK 804/2010). • Energinet.dk determines whether the conditions for net-metering are met and which type of net-metering will apply (§ 7 par. 1 BEK 804/2010). |
| | Competent authority | Energinet.dk (§ 7 par. 1 BEK 804/2010). |
| Flexibility Mechanism | | |
| Funding | State | The costs of the net-metering system are covered by the budget managed by Energinet.dk. |
| | Consumers | |
| | Grid operator | |
| | System operator | |
| | Distribution mechanism | |

4.5. Quota system (name of support scheme)

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| Abbreviated form of legal source(s) | | |
| Country-specific support system | | |
| Promoted technologies | General information | |
| | Wind energy | |
| | Solar energy | |
| | Geothermal energy | |
| | Biogas | |
| | Biomass | |
| | Hydro-electricity | |
| Amount | Amount of quota and period of application | |
| | Adjustment of quotas | |
| | Number of certificates according to technology | |
| | Minimum price per certificate | |
| | Fees and penalty charges | |
| International applicability | International certificate trade | |
| | Flexibility Mechanism | |
| Beneficiaries | | |
| Procedure | Procedure | |
| | Competent authority | |
| Funding | State | |

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| | Consumers | |
| | Grid operator | |
| | System operator | |
| | Distribution mechanism | |

4.6. Tax regulation mechanisms (name of means of promotion)

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| Abbreviated form of legal source(s) | | |
| Country-specific support system | | |
| Promoted technologies | General information | |
| | Wind energy | |
| | Solar energy | |
| | Geothermal energy | |
| | Biogas | |
| | Biomass | |
| | Hydro-electricity | |
| Amount | | |
| Beneficiaries | | |
| Procedure | Procedure | |
| | Competent authority | |
| Flexibility Mechanism | | |
| Funding | State | |
| | Consumers | |
| | Grid operator | |
| | System operator | |
| | Distribution mechanism | |