

**Act on the Promotion of Renewable Energies in the Heat Sector
(Erneuerbare-Energien-Wärmegesetz – EEWärmeG)¹)**

**Consolidated, non-binding version of the Act with amendments
arising from the “Act Implementing European Renewable Energies Legislation”**

**(Based on: The Decision of the German Bundestag of 24 February 2011,
Bundestag printed papers 17/3629, 17/4233 and 17/4895)**

Amendments to the version currently in force are marked in bold and italics

¹ Official Note: This Act transposes into national law Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140 of 05.06.2009, p. 16).

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Part 1
General provisions

Article 1
Purpose and aim of the Act

(1) The purpose of this Act is to facilitate sustainable development of the energy supply and promote the further development of technologies for the production of heat *and cold* from renewable energies, especially with a view to climate protection, saving fossil resources and the reduction of dependence on energy imports.

(2) In order to fulfil the purpose under (1) while maintaining economic acceptability, the aim of this Act is to contribute to increasing renewable energies' share in final energy consumption for heat *and cold* to 14 percent by 2020.

Article 1a
Exemplary role of public buildings

Public buildings fulfil an exemplary role in the context of the purpose and aim pursuant to Article 1. This exemplary role is also fulfilled by public buildings abroad which are public property.

Article 2
Definitions

(1) For the purposes of this Act renewable energies shall mean

1. heat extracted from the ground (geothermal energy),
2. heat extracted from the air or water *and harnessed technologically* excluding waste heat (ambient heat), heat harnessed technologically to cover thermal energy demand through the use of solar radiation (solar radiation),
3. heat generated from solid, liquid or gaseous biomass. The biomass type shall be determined according to its physical state on entering the heat generating facility. Only

the following energy sources shall be recognised as biomass within the meaning of this Act:

- a) biomass within the meaning of the Biomass Ordinance of 21 June 2001 (Federal Law Gazette I p. 1234), as amended by the Ordinance of 9 August 2005 (Federal Law Gazette I p. 2419), in the version applicable at the time,
- b)** biodegradable fractions of household and industrial wastes,
- c) landfill gas,
- d) sewage treatment plant gas,
- e) sewage sludge within the meaning of the Sewage Sludge Ordinance of 15 April 1992 (Federal Law Gazette I p. 912), last amended by Article 4 of the Ordinance of 20 October 2006 (Federal Law Gazette I p. 2298, 2007 I p. 2316), in the version applicable at the time and
- f) vegetable oil methyl ester, **and**

5. cold extracted from the ground or water and harnessed technologically, or harnessed technologically from heat pursuant to Nos. 1 to 4 (cold from renewable sources).

(2) For the purposes of this Act

.1 waste heat shall mean heat extracted from exhaust air and waste water flows from technical processes and building structures,

2. district heat or district cold shall mean heat or cold distributed through a network in the form of steam, hot water or chilled liquids,

3. major renovation shall mean any measure by which a building has, over a period not exceeding two years:

a) its boiler replaced or the heating system switched to another fossil fuel and

b) over 20 percent of its envelope renovated,

4. effective area shall mean:

- a) in the case of residential buildings, the effective area of the building pursuant to Article 2 No. 14 of the Energy Saving Ordinance of 24 July 2007 (Federal Law Gazette I p. 1519) in the version applicable at the time,
- b) in the case of non-residential buildings the net floor area of the building pursuant to Article 2 No. 15 of the Energy Saving Ordinance,

5. public building shall mean any non-residential building which

- a) *is either the property or in the possession of the public sector, and*
- b) *is used*
 - aa) *for legislative purposes,*
 - bb) *for executive purposes,*
 - cc) *for the purposes of the administration of justice or*
 - aa) *as a public facility.*

Buildings of public enterprises shall be exempt where these provide services in free competition with private companies, especially public enterprises for the distribution of food and drink, for the production, storage and distribution of goods, for agriculture, forestry or horticulture, and for energy or water supply. Also exempt from the first sentence are Bundeswehr buildings for the storage of military or civilian goods. Buildings in mixed use shall be deemed to be public buildings where they are mainly used for purposes or facilities as defined in sentences 1 to 3,

6. public sector shall mean

- a) *any public-law domestic corporation, association or estate except for religious communities and*
- b) *any private-law corporation, association or estate in which one entity listed under (a) acting on their own or several entities listed under (a) acting together either directly or indirectly*
 - aa) *possess the majority of the subscribed capital,*

- bb) hold the majority of the voting rights associated with shares, or*
- cc) may appoint more than half of the members of the administrative, management or supervisory bodies,*

7. competent person shall mean a person who is

a) empowered under Article 21 of the Energy Saving Ordinance to issue energy performance certificates in accordance with the powers granted for residential and non-residential buildings respectively, or

b) is certified

aa) under the training exam regulations issued by the chambers of commerce as set out in Article 16a or

bb) under a certification or equivalent qualification scheme in another Member State of the European Union or another country in the European Economic Area as set out in Article 14 (3) of Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (OJ L 140 of 05.06.2009, p. 16),

8. *an obligated party shall mean any person with an obligation to use renewable energy pursuant to Article 3 (1) or (2),*

9. *heat and cold demand shall mean the sum of*

a) the annual amount of heat required to cover the demand for space heating and domestic hot water production, and

b) the annual amount of cold required to cover the demand for indoor air cooling,

including the expenditure of thermal energy for transmission, distribution and storage. The heat and cold demand shall be calculated pursuant to the technical methods which form the basis for Annexes 1 and 2 to the Energy Saving Ordinance. Where these Annexes contain no technical methods for calculating specific proportions of the heat and cold demand, this demand shall be calculated according

to recognised technical methods; the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety may, in agreement with the Federal Ministry of Transport, Building and Urban Development, indicate these recognised technical methods by publishing references to expert sources in the Federal Gazette,

10.

- a) residential building shall mean any building primarily intended to serve as a dwelling, including residential, retirement and care homes and similar establishments,
- b) non-residential building shall mean any other building.

Part 2

Use of renewable energies

Article 3

Obligation to use renewable energies

(1) Owners of newly constructed buildings pursuant to Article 4 (obligated parties) must cover a share of the *heat and cold demand* with renewable energies as stipulated in the provisions of Articles 5 and 6. *The first sentence also applies where the public sector constructs new buildings abroad within the scope of Article 4.*

(2) *The public sector must meet the heat and cold demand of existing public buildings within the scope of Article 4 which it owns and which are subject to major renovation, using the share of renewable energies as defined in Articles 5a and 6 (2). The first sentence shall also apply where the public sector undertakes major renovation of public buildings abroad within the scope of Article 4.*

(3) *The public sector must ensure that existing public buildings within the scope of Article 4 which they possess but do not own, also fulfil an exemplary role, meeting the requirements set out in paragraph 2. Where buildings are rented or leased, this exemplary role shall be ensured:*

1. *firstly, by renting or leasing buildings meeting the requirements in paragraph 2,*
2. *secondly, by renting or leasing buildings whose owners accept the obligation to meet the requirements in paragraph 2 in the case of a major renovation.*

The second sentence shall not apply where buildings are only rented for a transitional period by the public sector.

(4) The Länder may

- .1 in the case of existing public buildings, with the exception of Federal public buildings, formulate their own rules on the fulfilment of the exemplary role in accordance with Article 1a and derogate from the provisions of this Act for that purpose, and*
- 2.lay down an obligation for existing buildings which are not public buildings to use renewable energies.*

Article 4

Scope of obligation to use renewable energies

The obligation under *Article 3 (1) or (2)* shall apply to all buildings with an effective area of more than 50 square metres in which energy is used for heat or cooling, with the exception of

1. operational buildings primarily used for rearing or keeping animals,
2. operational buildings, if their purpose requires them to be kept extensively and constantly open,
3. underground constructions,
4. glazed facilities and cultivation spaces for the breeding, propagation and sale of plants,
5. air halls and tents,
6. buildings intended to be repeatedly erected and dismantled, and temporary buildings with a planned operating life of up to two years,

7. buildings used for church services or other religious purposes,
8. residential buildings intended to have an operating life of less than four months per year,
9. other operational buildings, if their purpose requires them to be heated to an indoor temperature of less than 12 degrees Celsius or to be heated for less than four months per year and cooled for less than two months per year,
10. buildings which are part of a secondary installation or a facility covered by the area of application of the Greenhouse Gas Emissions Trading Act of 8 July 2004 (Federal Law Gazette I p. 1578), last amended by Article 19a No. 3 of the Act of 21 December 2007 (Federal Law Gazette I p. 3089), in the version applicable at the time, *and*
- 11. Bundeswehr buildings, where fulfilment of the obligation under Article 3 (1) or (2) runs counter to the nature and primary purpose of the Bundeswehr.***

Article 5

Share of renewable energies in new buildings

- (1) The use of solar radiation as defined in No. I of the Annex to this Act shall meet the obligation under Article 3 (1) if at least 15 percent of the heat *and cold* demand is covered by this source.
- (2) The use of gaseous biomass as defined in No. II.1 of the Annex to this Act shall meet the obligation under Article 3 (1) if at least 30 percent of the heat *and cold* demand is covered by this source.
- (3) The use of
 1. liquid biomass as defined in No. II.2 of the Annex to this Act, and
 2. solid biomass as defined in No. II.3 of the Annex to this Actshall meet the obligation under Article 3 (1) if at least 50 percent of the heat *and cold* demand is covered by these sources.

(4) The use of geothermal energy and ambient heat as defined in No. III of the Annex to this Act shall meet the obligation under Article 3 (1) if at least 50 percent of the heat *and cold* demand is covered by these sources.

(5) The use of cold from renewable energy sources as defined in No. IV of the Annex to this Act shall meet the obligation under Article 3 (1) by means of the heat and cold demand being met from renewable sources to at least the extent set out in the second sentence. The relevant extent shall be that share which, according to paragraphs 1 to 4, applies to the renewable energy source from which cold is produced. Where cold is produced using a thermally-driven installation employing the direct input of heat, the relevant share shall be that which would apply if heat alone were generated from the same energy source (without cold production). If cold is produced directly from geothermal energy or ambient heat, the relevant share shall be 50 percent of the heat and cold demand, which would also apply to the generation of heat from these sources.

Article 5a

Share of renewable energies in public buildings after major renovation

(1) The use of gaseous biomass as defined in No. II.1 of the Annex to this Act shall meet the obligation under Article 3 (2) if at least 25 percent of the heat and cold demand is covered by this source.

(2) The use of other renewable energies as defined in Nos. I to IV of the Annex to this Act shall meet the obligation under Article 3 (2) if at least 15 percent of the heat and cold demand is covered by these sources.

Article 6

Supplying several buildings

(1) The obligation under Article 3 (1) can also be met if obligated parties with buildings in the vicinity of each other cover their total heat *and cold* demand to an extent corresponding to the sum of the individual obligations pursuant to Article 5. If, to this end, obligated parties operate one or more installations for the generation of heat *or cold* from renewable energies, they can require that their neighbours allow their premises to be used to a necessary and

reasonable degree for the operation of such installations, and in particular allow access to their premises and, against appropriate compensation, the installation of pipes and other connections through their premises.

(2) The obligation under Article 3 (1) or (2) can also be met by public buildings if the obligated parties with buildings on the same premises cover their total heat and cold demand to an extent corresponding to the individual obligations pursuant to Article 5 or 5a.

Article 7

Alternative measures

(1) The minimum share pursuant to *Article 3 (1) or (2)* shall be deemed to be met if the obligated parties

1. cover at least 50 percent of the heat *and cold* demand

a) from installations for the use of waste heat as defined in *No. V* of the Annex to this Act or

b) ~~directly~~ from combined heat and power (CHP) installations as defined in *No. VI* of the Annex to this Act,

Article 5 (5) (3), Article 6 (1) (1) and Article 6 (2) shall apply accordingly,

2. take energy saving measures as defined in *No. VII* of the Annex to this Act or

3. procure district heat or cold as defined in No. VIII of the Annex to this Act and therewith cover at least that share of the heat and cold demand stipulated in sentences 2 and 3. The relevant extent shall be the share applicable, according to Articles 5, 5a or No. 1, to energies from which district heat or cold is produced in whole or in part. For the purpose of the first sentence, only that amount of district heat or cold procured shall be counted which is calculated as being produced from renewable energies, from installations for the use of waste heat or from CHP installations.

(2) The obligation under Article 3 (2) shall be deemed to have been met where solar thermal installations as defined in No. I of the Annex to this Act, situated on the roof of the public building, are operated by either the owner or a third party, provided the heat or cold

generated by these installations is made available to third parties to cover the heat and cold demand for buildings and is not employed by these third parties to meet an obligation under Article 3 (1) to (4).

Article 8

Combining measures

(1) To meet the obligation under *Article 3 (1) or (2)*, renewable energies and alternative measures pursuant to Article 7 can be used in any form of combination with each other.

(2) The percentage shares of actual use of the different renewable energies and alternative measures within the meaning of (1) must amount to 100 in relation to the respective use as prescribed by this Act for each energy type and measure.

Article 9

Exemptions

(1) The obligation under Article 3 (1) shall not apply if

1. meeting the obligation and implementing alternative measures pursuant to Article 7

a) contravenes other obligations under public law or

b) is technically not possible in a specific case, or

2.the competent authority grants an exemption upon application by the obligated party. Parties shall be granted exemption from the obligation under Article 3 (1) in cases where meeting the obligation and implementing alternative measures pursuant to Article 7 lead to unreasonable hardship resulting from special circumstances arising from disproportionate costs or other causes.

(2) The obligation under Article 3 (2) shall not apply where

1.compliance and the implementation of alternative measures pursuant to Article 7

- a) *contravenes legislation on the protection of historic buildings and monuments or other obligations under public law, or*
- b) *is not technically feasible in a specific case,*

2.compliance and the implementation of alternative measures in accordance with Article 7 leads to undue hardship in individual cases due to particular circumstances, through a disproportionate burden or in any other way. This applies in particular where every measure with which the obligation under Article 3 (2) may be met is associated with additional costs as defined in sentences 3 and 4 and these additional costs are significant. These additional costs are calculated as the difference between the cost of the major renovation considering the exemplary role and the cost of major renovation without considering the exemplary role. All costs and savings should be included in this calculation, including those that are to be expected within the usual operating life of the installations or parts of buildings.

(2a) Furthermore, the obligation under Article 3 (2) shall not apply where public buildings are owned or possessed by a municipality or local authority association, where

1. that municipality or local authority association is heavily indebted at the start of the major renovation or would become heavily indebted by meeting the obligation pursuant to Article 3 (2) and implementing alternative measures in accordance with Article 7,

2. any measure which can meet the obligation under Article 3 (2) is associated with additional costs; in other cases paragraph 2 No. 2 sentences 3 and 4 shall apply accordingly; and

3. the municipality or local authority association establishes in a resolution that the conditions under No. 2 have been met; the relevant rules on passing a resolution remain unaffected.

(3) Moreover, the obligation under Article 3 (1) or (2) shall not apply to public buildings abroad where there are overwhelming reasons at the place of location (lex situs) in the individual case to prevent compliance and the implementation of alternative measures in accordance with Article 7.

Article 10

Proofs

(1) Obligated parties must

1. prove that they have met the minimum share set out in Article 5 (2) and (3) for the use of biomass **and the requirements for supplied biomass** in accordance with paragraph (2),
2. prove compliance with the **other** requirements set out in Nos. I to **VIII** of the Annex to this Act in accordance with paragraph (3),
3. prove the existence of an exemption pursuant to **Article 9 (1) No. 1** in accordance with paragraph (4).

The obligations in the first sentence need not be met in the case of public buildings. With regard to Article 6, where there are several obligated parties the obligations under the first sentence Nos. 1 and 2 shall be deemed to be met if they are fulfilled by just one of the obligated parties. With regard to Article 8, the obligations under the first sentence Nos. 1 and 2 must be fulfilled in each case for the renewable energies used and alternative measures implemented.

(2) Regarding the use of

1. supplied gaseous and liquid biomass, obligated parties must *as defined in No. II.4 of the Annex to this Act*

- a) for the first five calendar years starting from the year the heating system goes into operation, submit the invoices of the fuel supplier to the competent authority by 30 June of the following year,
- b) for the following ten calendar years
 - aa) keep these invoices for at least five years from the date of delivery and
 - bb) submit the invoices to the competent authority upon request,

2. solid biomass, obligated parties must, for the first 15 years starting from the year the heating system goes into operation,

- a) keep these invoices for at least five years from the date of delivery and

b) submit the invoices to the competent authority upon request.

(3) To prove compliance with the requirements set out in Nos. I to VIII of the Annex to this Act, the respective *proofs cited in the second sentence* must be

1. submitted by the obligated party to the competent authorities within three months starting from the year the heating system of the building goes into operation, and subsequently upon request, and

2. kept by the obligated party for at least five years starting from the year the heating system goes into operation if these proofs are not held by the authority.

Proofs within the meaning of the first sentence shall mean the proofs cited in Nos. I.2, II.5, III.3, IV.2, V.5, VI.3, VII.5 and VIII.2 of the Annex to this Act, provided the statutory instrument under paragraph 6 third sentence No. 3 does not establish any proofs derogating from these; guarantees of origin for heat and cold from renewable energy sources pursuant to Article 15 of Directive 2009/28/EC shall not be considered proofs within the meaning of the first sentence. The first sentence shall not apply if the facts which the proofs are intended to verify are already known to the competent authority.

(4) If an exemption pursuant to *Article 9 (1) No. 1* exists, the obligated party must notify the competent authority within three months after the heating system commences operation that meeting the obligation under Article 3 (1) and the implementation of alternative measures pursuant to Article 7 contravene provisions of public law or are technically not possible. In the case of a contravention of obligations under public law, this shall not apply if the competent authority already knows of the facts establishing the contravention. In the case of technical impossibility, certification from a competent person must be submitted to the authority with the notification.

(5) It is prohibited to supply incorrect or incomplete information in any proof, notification or certification pursuant to paragraphs (2) to (4).

(6) For the simplification and harmonisation of the process of supplying proof, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is entitled to introduce forms for proof, notification or certification pursuant to paragraphs (2) to (4) in a statutory instrument agreement with the Federal Ministry of Transport, Building and Urban Development and with the assent of the Bundesrat. This does not apply to proof

pursuant to No. VII.5 of the Annex to this Act. The statutory instrument in accordance with the first sentence may contain provisions requiring

- 1. that, besides the proof, notification or certification pursuant to paragraphs (2) to (4), proof of additional data must be supplied to the authorities where necessary for monitoring compliance with Article 3 (1) or its non-applicability pursuant to Article 9 (1) No. 1; this includes rules to protect personal data,*
- 2. proof of the renewable energies' share in the heat and cold demand of the building; where heat pumps are used, this share shall be calculated as defined in Annex VII to Directive 2009/28/EC,*
- 3. that, in derogation from the proofs stated under Nos. I.2, II.5, III.3, IV.2, V.5, VI.3 and VIII.2 of the Annex to this Act, other proof in accordance with paragraph (3) must be submitted to the competent authority and kept on record.*

Article 10a

Information on the exemplary role

The public sector must provide information via the internet or another suitable medium on the fulfilment of the exemplary role; this may also occur in the context of active and systematic public information in accordance with the provisions made by the Federal and Länder governments on access to environmental information. In particular, the public sector must supply the following:

- 1. where biomass is used, information on meeting the minimum share set out in Article 5 (2) or (3) or Article 5a in the first 15 calendar years from the year the heating system goes into operation or the year of completion of the major renovation,*
- 2. where the exemption under Article 9 (2) No. 2 applies, information on the calculation and the assumptions on which the calculation is based.*

Article 11

Monitoring

(1) The competent authority must monitor compliance with the obligation under Article 3 (1) and the correctness of the proofs pursuant to Article 10, by at least conducting appropriate spot checks.

(2) In the exercise of their office, the persons authorised to enforce this Act shall have the right to enter premises and building structures, including dwellings. Insofar, the basic right of inviolability of the home (Article 13, Basic Law) shall be restricted.

Article 12

Competence

The competence of the authorities shall be based on Land law.

Part 3

Financial support

Article 13

Funding

The Federation shall provide need-based funding for the utilisation of renewable energies for the generation of heat *and cold* of up to 500 million euro per year between 2009 and 2012. Details will be laid down in administrative provisions of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety in agreement with the Federal Ministry for Finance.

Article 14

Supported measures

(1) Support can be given to measures for the generation of heat *or cold*, in particular the construction or expansion of

1. solar thermal installations,

2. installations for the use of biomass,

3.installations for the use of geothermal energy and ambient heat and

4.*heating networks*, storage facilities and transfer stations for heat users, if they have also been fed by installations pursuant to Nos. 1 to 3.

(2) Notwithstanding any broader requirements on support under the administrative provisions pursuant to Article 13 second sentence,

1.solar thermal installations using liquid to convey heat are only eligible for support if they are certified with the European quality label "Solar Keymark". Certification must be in accordance with DIN EN 12975-1 (2006-06), 12975-2 (2006-06), 12976-1 (2006-04) and 12976-2 (2006-04)².

2.installations for the use of solid biomass are only eligible for support where the conversion efficiency reaches at least:

a)89 percent for space heating or domestic hot water installations which serve the purpose of meeting obligations under Article 3 (1) or (2),

b)85 percent for space heating or domestic hot water installations which do not serve the purpose of meeting obligations under Article 3 (1) or (2), and

c)70 percent for installations not employed for purposes of space heating or domestic hot water .

The relevant conversion efficiency for biomass boilers is the boiler efficiency as specified in DIN EN 303-5 (1999-06), for biomass furnaces the combustion efficiency specified in DIN EN 14785 (2006-09), and in other cases the conversion efficiency calculated according to recognised good engineering practice. The administrative provisions under Article 13, second sentence may, by way of derogation from the first sentence (b), stipulate a lower minimum conversion efficiency for the installations named therein, provided these installations fulfil particular environmental requirements.

3.Heat pumps for the use of geothermal energy, ambient heat or waste heat are only eligible for support where they have been awarded one of the following labels:

² Official Note: All the DIN standards cited are published by Beuth Verlag GmbH, Berlin and Cologne, and archived at the German Patent and Trade Mark Office (DPMA) in Munich.

a)the European “flower” eco-label³

b)the “Blue Angel” eco-label⁴, or

c)the “European Quality Label for Heat Pumps” (Version 1.3)⁵

The administrative provisions in accordance with Article 13, second sentence may stipulate, by way of derogation from the first sentence, that where there are changes to the criteria for awarding the eco-labels listed therein, the labels must have been awarded under the new criteria. The administrative provisions may also state, by way of derogation from the first sentence, that heat pumps are eligible for support if they fulfil the requirements of other European or Community standards, where these are equivalent to the requirements for awarding the labels in accordance with the first sentence.

Article 15

Relation between support and obligations to use

(1) Measures cannot be supported if they serve to fulfil the obligation under Article 3 (1), *the obligation under Article 3 (2)* or an obligation under Land law pursuant to *Article 3 (4) No. 2*.

(2) Paragraph (1) shall not apply to the following measures:

1. measures that meet technical or other requirements which

³ Official note: The European “flower” eco-label is awarded in accordance with Commission Decision 2007/742/EC of 9 November 2007 establishing the ecological criteria for the award of the Community eco-label to electrically driven, gas driven or gas absorption heat pumps (OJ L 301 of 20.11.2007, p. 14).

⁴ Official note: The “Blue Angel” eco-label is awarded in accordance with the criteria in RAL-UZ 118 “Energy-Efficient Heat Pumps using Absorption and Adsorption Technology or operating by use of Combustion Engine-Driven Compressors” (2008-03) and RAL-UZ 121 “Energy-Efficient Heat Pumps using an Electrically Powered Compressor” (2008-05). The award criteria may be acquired from the RAL Deutsches Institut für Gütesicherung und Kennzeichnung e.V., Sankt Augustin.

⁵ Official Note: The “European Quality Label for Heat Pumps” label is awarded in accordance with the criteria of the European Heat Pump Association (EHPA) for heat pumps with direct evaporation of coolant (Version 1.3, 2009-02), for water-to-water and brine-to-water heat pumps (Version 1.3, 2010-02) and for air-to-water heat pumps (Version 1.3, 2010-02). These criteria can be acquired from the EHPA, Rue d’Arlon 63-67, B-1040 Brussels or via the website www.ehpa.org.

a)in the case of Article 3 (1) *or* (2) are more stringent than the requirements set out in Nos. I to *VI* of the Annex to this Act or

b)in the case of *Article 3 (4) No. 2* are more stringent than the requirements pursuant to Land law,

2. measures which cover a share of the heat *and cold* demand which is

a)in the case of Article 3 (1) *or* (2) 50 percent higher than the minimum share pursuant to *Article 5 or 5a* or

b)in the case of *Article 3 (4) No. 2* higher than the minimum share prescribed under Land law,

3. measures which are combined with further measures to increase energy efficiency,

4. measures for using solar thermal installations also for space heating of a building and

5. measures for the use of deep geothermal energy.

(3) In the cases cited in paragraph (2), support can also relate to the overall measure.

(4) Details shall be regulated in the administrative provisions pursuant to Article 13 second sentence.

(5) Support measures undertaken by the Land or by a credit institute in which the Federation or Land participates shall remain unaffected.

Part 4

Final provisions

Article 16

Compulsory connection and use

The municipalities and local authority associations can make use of a provision under Land law authorising them to establish compulsory connection and use regarding a public *district*

heat or cold supply network, including for the purpose of climate protection and resource conservation.

Article 16a

Renewable energy installers

In order to train installers to fit heat pumps or installations for the generation of power, heat and cold from biomass, solar radiation or geothermal energy, the chambers of commerce may issue training exam regulations in accordance with Article 42a of the Crafts and Trades Regulation Code and as defined in Annex IV to Directive 2009/28/EC.

Article 17

Provisions on regulatory offences

(1) It is a regulatory offence to intentionally or negligently

1. contravene Article 3 (1) by failing to cover, or by not properly covering, the heat **and cold** demand with renewable energies,
2. contravene Article 10 (1) first sentence by failing to provide proof, or by not providing it completely or in good time,
3. contravene Article 10 (2) No. 1(b)(aa), or No. 2(a), or (3) first sentence No. 2, by failing to keep a proof, or by failing to keep it for at least five years or
4. contravene Article 10 (5) by supplying incorrect or incomplete information.

(2) In the cases cited in (1) Nos. 1, 2 and 4, the regulatory offence can be punished with a fine of up to fifty thousand euro, and in the case cited in (1) No. 3 with a fine of up to twenty thousand euro.

Article 18

Progress report

The Federal government must submit a progress report on this Act to the German Bundestag by 31 December 2011 and subsequently every four years. In particular, the Government must report on

1. the status of the market introduction of installations for the generation of heat and cold from renewable energies with regard to achieving the purpose and aim pursuant to Article 1,
2. technological developments, cost trends and the economic viability of these installations,
3. the quantities of mineral oil and natural gas saved and the resulting reduction of greenhouse gas emissions and
4. the enforcement of this Act.

The progress report shall put forward proposals for the further development of the Act.

Article 18a *Reports from the Länder*

To enable the Federal government to generate the reports in accordance with Article 22 of Directive 2009/28/EC and the progress report in accordance with Article 18 of this Act, the Länder shall submit their first report by 30 June 2011, their next report by 30 April 2013 and subsequent reports every two years from that date, covering:

1. *experience gained on the exemplary role in accordance with Article 1a,*
2. *rules in force or planned to support the production of heat and cold from renewable energies, especially rules under Article 3 (4), and*
3. *the enforcement of this Act.*

The first sentence No. 1 shall not apply to the report for submission by 30 June 2011. Reports in accordance with the first sentence may not contain any personal data.

Article 19

Transitional provisions

(1) Article 3 *first sentence* shall not apply to the construction of buildings if the building application *or application for approval* was submitted or start of construction was notified before 1 January 2009.

(2) Article 3 *first sentence* shall not apply to building construction not requiring planning permission which must be notified to the competent authorities in accordance with the building regulations, if the required notification was sent to the authority before 1 January 2009. Article 3 *first sentence* shall not apply to any other building construction not requiring planning permission, in particular to the construction of buildings which is not subject to authorisation, notification or other procedures, if construction began before 1 January 2009.

(3) Article 3 (1) second sentence, Article 3 (2) and No. VII.2 of the Annex to this Act shall not apply to the construction or major renovation of public buildings if the building application or application for approval has been made or the start of construction notified before 1 July 2011. Article 3 (1) second sentence, Article 3 (2) and No. VII.2 of the Annex to this Act shall not apply to the construction or major renovation of public buildings not requiring authorisation but requiring notification of the competent authorities as defined by the building regulations, provided the authorities have been notified as required before 1 July 2011. Article 3 (1) second sentence, Article 3 (2) and No. VII.2 of the Annex to this Act shall not apply to the construction or major renovation of other public buildings not requiring authorisation, especially those exempt from authorisation, notification or other procedures, provided construction has begun before 1 January 2012.

(4) Article 3 (3) shall not apply to the major renovation of public buildings which are being used by the public sector on the basis of a rental or lease agreement that is in existence on [date of first day of the month following the promulgation of the “Act Implementing European Renewable Energies Legislation” (EAG EE)]⁶ until this rental or lease arrangement has expired.

(5) Moreover, this Act shall apply to the construction of buildings in the version applicable at the time when the building or approval application is made. For the construction of buildings not requiring authorisation, but requiring notification of the competent

⁶ Unofficial note: Provisionally 1 May 2011.

authorities as defined by the building regulations, this Act shall apply in the version applicable at the time the competent authorities were notified. This Act shall apply to the construction of all other buildings not requiring authorisation, especially those exempt from authorisation, notification or other procedures, in the version applicable at the time construction began.

Article 20

Entry into force

This Act shall enter into force on 1 January 2009.

Requirements for the use of energy from renewable sources and alternative measures

I. Solar radiation

1. If solar radiation is used with *solar thermal installations*, the following shall apply:
 - a) the minimum share pursuant to Article 5 (1) shall be deemed to be met if
 - aa) in residential buildings with a maximum of two dwellings, *solar thermal installations* with an aperture area of at least 0.04 square metres per square metre of effective area are installed, and
 - bb) in residential buildings with a maximum of two dwellings, *solar thermal installations* with an aperture area of at least 0.03 square metres per square metre of effective area are installed;

insofar the Länder can lay down higher minimum areas,
 - b) this use shall only be deemed an alternative measure pursuant to Article 7 (2) if solar thermal installations with an aperture area of at least 0.06 square metres per square metre of effective area are installed,*
 - c) the use of solar thermal installations using liquid to convey heat may only be deemed to meet the obligation under Article 3 (1) or (2) or to be an alternative measure in accordance with Article 7 (2) if they are certified with the European quality label “Solar Keymark”; Article 14 (2) No.1 second sentence shall apply accordingly.*
2. For Number 1(c), proof within the meaning of Article 10(3) shall be the “Solar Keymark” certificate.

II. Biomass

1. Gaseous biomass

a) The use of gaseous biomass shall only be deemed to fulfil the obligation under Article 3 (1) if the biomass is used in a CHP installation.

b) The use of gaseous biomass shall only be deemed to meet the obligation under Article 3 (2) if the biomass is used in a boiler which complies with the best available technology standard, or in a CHP installation.

c) Notwithstanding (a) and (b), the use of gaseous biomass which is processed to natural gas quality and fed into a network (biomethane) shall only be deemed to meet the obligation under Article 3 (1) or (2) if

aa) the processing and feed-in of the biomethane meets the requirements of No. I.1(a) to (c) of the Annex to the Renewable Energy Sources Act of 25 October 2008 (Federal Law Gazette I p. 2074), last amended by Article 1 of the ... [Act Implementing European Renewable Energies Legislation, EAG EE], in the version applicable at the time, and

bb) the volume of biomethane extracted, stated as a thermal equivalent at the end of a calendar year, matches the volume of gas from biomass fed into the gas network elsewhere, and if mass balance systems have been employed throughout the transportation and distribution of the biomethane, from its production, feeding into the natural gas network and transportation through the natural gas network, to its withdrawal from the natural gas network.

2. Liquid biomass

a) The use of liquid biomass shall only be deemed to meet the obligation under *Article 3 (1) or (2)* if the biomass is used in a boiler which complies with the best available technology.

b) Notwithstanding (a), the use of liquid biomass shall only be deemed to meet the obligation under Article 3 (1) or (2) if the biomass used to produce heat fulfils the following requirements:

aa)the requirements for sustainable cultivation and production in the Biomass Electricity Sustainability Ordinance (BioSt-NachV) of 23 July 2009 (Federal Law Gazette I p. 2174) as last amended by Article 5 of the ... [Act Implementing European Renewable Energies Legislation, EAG EE], in the version applicable at the time, and

bb)the minimum greenhouse gas reduction potential that must be achieved in heat production pursuant to the applicable provisions of Article 8 of the Biomass Electricity Sustainability Ordinance (BioSt-NachV). Article 10 of the Biomass Electricity Sustainability Ordinance (BioSt-NachV) shall not apply. When calculating the greenhouse gas reduction potential, the comparative value for fossil fuels (E_F) in accordance with No. 4 in Annex 1 to the Biomass Electricity Sustainability Ordinance (BioSt-NachV) shall be:

- for liquid biomass used to produce heat, 77g CO_{2eq}/MJ and*
- for liquid biomass used to produce heat in a combined heat and power installation, 85g CO_{2eq}/MJ.*

3. Solid biomass

a) The use of solid biomass shall only be deemed to meet the obligation under Article 3 (1) or (2) where the conversion efficiency calculated in accordance with Article 14 (2) No. 2 second sentence does not fall below the following values:

aa)86 percent for space heating or domestic hot water installations with a capacity of up to and including 50 kilowatts,

bb)88 percent for space heating or domestic hot water installations with a capacity of over 50 kilowatts, or

cc) 70 percent for installations not employed for purposes of space heating or domestic hot water.

b)Notwithstanding (a), the use of solid biomass in the operation of firing installations within the meaning of the Ordinance on Small and Medium-Sized Firing

Installations as published on 26 January 2010 (Federal Law Gazette I p. 38), in the version applicable at the time, shall only be deemed to meet the obligation under Article 3 (1) or (2) if

aa)usage occurs in

- a biomass boiler or*
- an automatically operated biomass furnace employing water to convey heat,*

bb)the requirements of the Ordinance on Small and Medium-Sized Firing Installations are met, and

cc)only biomass in accordance with Article 3 (1) Nos. 4, 5, 5a or 8 of that Ordinance is employed.

4. Proof of requirements for supplied biomass

The fuel supplier's invoices used under Article 5 (2) and (3) No. 1 as proof of compliance with the minimum shares in accordance with Article 10 (2) No.1 must contain the following certifications:

a)where gaseous biomass is used, certification that the requirements under No. 1(c) have been fulfilled,

b)where liquid biomass is used, recognised proof as defined in Article 14 of the Biomass Electricity Sustainability Ordinance (BioSt-NachV). If this proof does not include in its information on greenhouse gas reduction potential the comparative value for the particular use to which the liquid biomass is put, then the obligated parties must prove that the liquid biomass employed also has that greenhouse gas reduction potential when put to the particular use in this case. This may be certified by the body that has issued the proof, or by a certifying body recognised under Article 42 of the Biomass Electricity Sustainability Ordinance (BioSt-NachV). Where the Federal Office for Agriculture and Food announces in the electronic Federal Gazette a method for the conversion of greenhouse gas reduction potential for various uses, in accordance with Article 21 (1) second sentence of the Biomass Electricity Sustainability Ordinance (BioSt-NachV), this may also serve as proof in accordance with the first sentence.

5. Proof of other requirements

Proof within the meaning of Article 10 (3) that the requirements of No. 1(a) or (b), No. 2(a) or No. 3(a) and (b) have been met shall mean certification from a competent person, the installation manufacturer or the specialist firm which assembled the installation.

III. Geothermal energy and ambient heat

1.

a) If geothermal energy and ambient heat are used with electric heat pumps, their use shall only be deemed to comply with the obligation under *Article 3 (1) or (2)* if

- the useable heat supplied has at least the seasonal performance factor set out in (b),
- the heat pump is fitted with meters according to (c), *and*
- *the heat pump has been awarded the European “flower” eco-label, the “Blue Angel” eco-label or the “European Quality Label for Heat Pumps” (Version 1.3) or fulfils the requirements of European or Community standards, where these are equivalent to the requirements for awarding these labels and are cited in the administrative provisions under Article 13 second sentence.*

b) The seasonal performance factor shall be

- 3.5 for air-to-water and air-to-air heat pumps and
- 4.0 for all other heat pumps.

Notwithstanding the first sentence, if the building is supplied with hot water by the heat pump or if a substantial share is covered by other renewable energies, the seasonal performance factor shall be

- 3.3 for air-to-water and air-to-air heat pumps and
- 3.8 for all other heat pumps.

The seasonal performance factor *in accordance with the first or second sentences shall also be reduced by 0.2 for heat pumps in existing buildings which are intended to meet the obligation under Article 3 (2)*. The seasonal performance factor *in accordance with sentences 1 to 3* shall be calculated according to recognised technical methods. The calculation shall include the heat pump's coefficient of performance, the pump electricity demand for tapping the heat source, the design flow temperature, the design supply temperature for the respective heating system in the case of air-to-air heat pumps, the brine inlet temperature in the case of brine-to-water heat pumps, the primary side water inlet temperature in the case of water-to-water heat pumps, and in the case of air-to-water and air-to-air heat pumps also taking into consideration the climatic region.

c)The heat pumps must be equipped with meters to gauge the heat volume and electricity which provide measurements enabling the seasonal performance factor of the heat pumps to be calculated. The first sentence shall not apply to brine-to-water and water-to-water heat pumps if it can be proved that the heating system has a flow temperature of up to 35 degrees Celsius.

2.If geothermal energy and ambient heat are used with electric heat pumps driven by fossil fuels, their use shall only be deemed to comply with the obligation under *Article 3 (1) or (2)* if

- the useable heat supplied has a seasonal performance factor of at least 1.2; No.1 (b) sentences *4 and 5* shall apply accordingly,
- the heat pumps are equipped with a meter to gauge heat quantity and fuel which provides measurements enabling the seasonal performance factor to be calculated; No. 1 (c) second sentence shall apply accordingly, *and*
- *the heat pump has been awarded the European “flower” eco-label or the “Blue Angel” eco-label or fulfils the requirements for European or Community standards, where these are equivalent to the requirements for awarding these labels and are cited in the administrative provisions under Article 13 second sentence.*

3.Proof pursuant to Article 10(3) shall mean certification from a competent person *and the European “flower” eco-label, the “Blue Angel” eco-label, the “European Quality Label for Heat Pumps” or equivalent proof.*

IV. Cold from renewable sources

1.The use of cold from renewable energies shall only be deemed to comply with the obligation under Article 3 (1) or (2) if

a) the cold is harnessed technologically

**aa)by directly extracting cold from the ground, or groundwater or surface water,
or**

**bb)by thermally-driven cold production using heat from renewable energies
within the meaning of Article 2 (1) Nos. 1 to 4,**

**b) the cold is used to cover the cold demand for indoor air cooling in accordance with
Article 2 (2) No.9 (b), and**

**c) the final energy consumption for cold production, recooling and cold distribution
has been reduced using the relevant best available technology.**

The technical requirements under Nos. I to III shall apply accordingly. The amount of cold used to calculate fulfilment of the obligation in Article 3 (1) or (2) shall include the cold harnessed for the purposes of the first sentence (b), but not the heat used to power thermally-driven cooling plants.

2.Proof within the meaning of Article 10 (3) shall mean certification from a competent person.

V. Waste heat

1.If waste heat is used with heat pumps, Nos. III.1 and III.2 shall apply accordingly.

2.If waste heat is used in ventilation and air conditioning systems with heat recovery, this use shall only be deemed to be an alternative measure pursuant to *Article 7 (I) No. 1 (a)* if

a)the heat recovery factor of the system is at least 70 percent and

b)the coefficient of performance, derived from the relationship between the recovered and used heat with the electricity needed to operate the ventilation and air conditioning system, is at least 10.

3.If cold is used that has been harnessed technologically by other installations to which waste heat is fed directly, No. IV.1 shall apply accordingly, with the exception of the first sentence, subparagraph (a).

4.If waste heat is used in other systems, this use shall only be deemed to be an alternative measure pursuant to Article 7 (1) No. 1 (a) if it complies with the best available technology.

5.Proof pursuant to Article 10 (3) shall mean

)a for No. 1, certification from a competent person and the European “flower” eco-label, the “Blue Angel” eco-label, the “European Quality Label for Heat Pumps” or equivalent proof,

b)for No. 2, certification from a competent person, from the installation manufacturer or from the specialist firm which assembled the installation,

c)for Nos. 3 and 4, certification from a competent person.

VI. Combined heat and power

1.The use of heat from CHP installations shall only be deemed to meet the obligation under **Article 3 (1) or (2)** and to be an alternative measure pursuant to **Article 7 No. 1 (b)** if the installation is a high-efficiency cogeneration plant within the meaning of Directive 2004/8/EC of the European Parliament and of the Council of 11 February 2004 on the promotion of cogeneration based on a useful heat demand in the internal energy market and amending Directive 92/94/EEC (OJ EU L52 p.50). CHP installations with an electrical capacity below one Megawatt are deemed to be high-efficiency cogeneration

plants if they achieve primary energy savings within the meaning of Annex III of Directive 2004/8/EC.

2.The obligation under Article 3 (1) or (2) and alternative measures in accordance with Article 7 (1)(b) shall be deemed to have been met where cold is used that has been harnessed technologically by installations to which heat is fed directly from a CHP installation within the meaning of No.1. Number IV.1 shall apply accordingly, with the exception of the first sentence, subparagraph (a).

3.For the use of heat ***or cold*** from CHP installations, proof within the meaning of Article 10(3) shall be

a)for installations operated by the obligated party, certification from a competent person, the installation manufacturer or the specialist firm which assembled the installation,

b)for installations not operated by the obligated party, certification from the installation operator.

VII. Energy saving measures

1.Energy saving measures shall only be deemed to be alternative measures pursuant to ***Article 7 (1) No. 2***, if, through these measures, in the construction of buildings

a)the respective maximum level of annual primary energy demand is undercut and

b)the relevant requirements for the thermal insulation of the building shell

as stipulated in the Energy Saving Ordinance in the version applicable at the time, are surpassed by at least 15 percent.

2.In the case of public buildings, unless otherwise stipulated in Article 19 (3), energy saving measures shall only be deemed to be alternative measures pursuant to Article 7 (1) No. 2 if, through these measures,

a)by way of derogation from No.1, the construction of public buildings falls at least 30 percent below the transmission heat transfer coefficient, or

b) the major renovation of public buildings falls at least 20 percent below 1.4 times the transmission heat transfer coefficient.

The transmission heat transfer coefficient within the meaning of the first sentence shall mean the specific transmission heat transfer coefficient applicable to the thermal envelope of the reference building which is the same in terms of geometry, net floor area, orientation and use, including the arrangement of the useable units as defined in Annex 2, Table 1 of the Energy Saving Ordinance in the version applicable on ... [date of first day of the month following promulgation]. The transmission heat transfer coefficient shall be established in accordance with No. 6.2 of DIN V 18599-2 (2007-02), and the thermal envelope shall be established in accordance with DIN EN ISO 13789 (1999-10), under “external dimensions”, ensuring that all thermally conditioned rooms are enclosed within this area. For the major renovation of public buildings, the first sentence subparagraph (b) shall also be deemed to have been fulfilled if, following the major renovation, the relevant public building fulfils the requirements for buildings yet to be constructed within the scope of Article 4 of the Energy Saving Ordinance in the version applicable on ... [date on which the Act Implementing European Renewable Energies Legislation (EAG EE) enters into force].

3. Notwithstanding Nos. 1 or 2, energy saving measures where renewable energies, waste heat or heat from CHP installations are used to meet the demand for heat or cold in whole or in part shall only be deemed to be alternative measures pursuant to Article 7 (1) No. 2 if they meet the requirements under Nos. I to VI.

4. Insofar as other legal provisions stipulate higher requirements for thermal insulation in buildings than the Energy Saving Ordinance, these requirements shall replace the requirements pursuant to the Energy Saving Ordinance as cited in Number 1.

5. Proof within the meaning of Article 10 (3) shall be the energy performance certificate pursuant to Article 18 of the Energy Saving Ordinance.

VIII. District heat or cold

1.The use of *district heat or cold* shall only be deemed to be an alternative measure in accordance with Article 7 (1) No. 3 if, of *all the heat or cold distributed over the heating or cooling network*,

a)a substantial share comes from renewable energies,

b)at least 50 percent comes from installations for the use of waste heat,

c)at least 50 percent comes from CHP installations or

d)at least 50 percent comes from a combination of the measures named in (a) to (c).

Nos. I to **VI** shall apply accordingly.

2.Proof within the meaning of Article 10 (3) shall be certification from the heating *or cooling* network operator.