

Tariffs and sample degression rates pursuant to the new Renewable Energy Sources Act (*Erneuerbare-Energien-Gesetz - EEG*) of 25 October 2008 with amendments of 11. August 2010

1. Introduction

The following tables indicate minimum feed-in tariffs and degression rates for electricity produced from renewable energy sources and mine gas for the period 2009 to 2018 pursuant to the Renewable Energy Sources Act (EEG) in its version of October 2008 (including the amended EEG of 11 August 2010), different tariffs and rates applying depending on the year an installation is commissioned. In most cases, installations first commissioned prior to 2009 are subject to the older legislation so that different rules apply. Installations initially operating on conventional energies and switching to renewable energies after 31 December 2008 are also subject to the older legislation.

Calculating the output of an installation:

Where tariffs vary depending on output levels, they are determined separately for each share of an installation's output which falls between the relevant threshold values. In this case the output of an installation will not be deemed to be its effective output, but rather the ratio of the total kilowatt-hours fed into the grid in the calendar year in question to the total number of full hours for that calendar year (cf. section 18 subsection (2) of the EEG). This provision only applies to sections 23 - 28, not to wind and solar radiation energy.

Duration of tariff payment:

The minimum tariffs are paid from the time of commissioning for a period of 20 years, as well as for the year in which the installation was commissioned; for hydroelectric power installations with a capacity of over 5 megawatts a 15-year period applies (cf. section 21 and section 23 subsection (3) EEG).

Degression rate:

The tariffs described below refer to installations commissioned on or after 1 January 2009. As a rule, tariffs for installations commissioned after 2009 are lowered on 1 January of each following year by a fixed percentage (degression rate). Numbers are to be rounded to the second digit after the decimal point. The degression rate is calculated on the basis of the previous year's unrounded value. Examples of degression rates applying to different renewable energy installation types are given below.

NB:

These tables and examples are not exhaustive. All information is for orientation purposes only. Each individual case is governed by the laws and regulations in force (EEG: Federal Law Gazette Part I, No. 49, p. 2074, 2008) as well as relevant court rulings.¹

BMU KI III 1, as at November 2010. Errors and omissions excepted.

¹ Further explanations on the tariff provisions can be found in the Federal Government's statement of grounds for its draft for the Renewable Energy Sources Act (EEG) of 5 December 2007 (*Bundestags-Drucksache* 16/8148) and in the Environment, Nature Conservation and Nuclear Safety Commission's Recommendation for a decision of 4 June 2008 adopted by the 16th German *Bundestag* at its 167th session of 6 June 2008 (*Bundestags-Drucksache* 16/9477). Further information is also available on the Internet at www.bmu.de and www.erneuerbare-energien.de.

2. Re section 23 EEG: tariffs for electricity from hydropower

2.1. New installations of up to 5MW

No degression, duration of tariff payment: 20 years

Year of commissioning	up to 500kW in ct/kWh	500kW - 2MW in ct/kWh	2MW - 5MW in ct/kWh
2009	12.67	8.65	7.65
2010	12.67	8.65	7.65
2011	12.67	8.65	7.65
2012	12.67	8.65	7.65
2013	12.67	8.65	7.65
2014	12.67	8.65	7.65
2015	12.67	8.65	7.65
2016	12.67	8.65	7.65
2017	12.67	8.65	7.65
2018	12.67	8.65	7.65

Sample calculation A

Run-of-river power plant with an output pursuant to section 18 subsections (1) and (2) of 2MW; year of commissioning: 2009.

Share of output up to 500kW = 25%

Share of output between 500kW and 2MW = 75%

Tariffs	EEG 2009
Basic tariff	
Share of output up to 500kW	0.25 x 12.67
Share of output above 500kW	+ 0.75 x 8.65
Remuneration	= 9.66 ct/ kWh *

(* rounded value)

2.2. Modernised/revitalised installations of up to 5MW

No degression, duration of tariff payment: 20 years

Year of modernisation/revitalisation	up to 500kW in ct/kWh	500kW – 5MW
2009	11.67	8.65
2010	11.67	8.65
2011	11.67	8.65
2012	11.67	8.65
2013	11.67	8.65
2014	11.67	8.65
2015	11.67	8.65
2016	11.67	8.65
2017	11.67	8.65
2018	11.67	8.65

New or modernised installations are only eligible if a good ecological status or a substantial improvement of the previous ecological status has demonstrably been brought about within the meaning of section 23 subsection (5) No. 2.

Sample calculation B

Modernisation of a run-of-river power plant with an output pursuant to section 18 subsections (1) and (2) of 2MW; year of commissioning: 2009.

Share of output up to 500kW = 25%

Share of output between 500kW and 2MW = 75%

Tariffs	EEG 2009
Basic tariff	
Share of output up to 500kW	0.25 x 11.67
Share of output above 500kW	+ 0.75 x 8.65
Remuneration	= 9.41 ct/ kWh *

(* rounded value)

2.3. New and modernised installations above 5MW

Degression rate: 1.0%; duration of tariff payment: 15 years pursuant to section 21 and section 23 subsection (2) EEG

Year of commissioning	up to 500kW in ct/kWh	up to 10MW in ct/kWh	up to 20MW in ct/kWh	up to 50MW in ct/kWh	above 50MW in ct/kWh
2009	7.29	6.32	5.80	4.34	3.50
2010	7.22	6.26	5.74	4.30	3.47
2011	7.14	6.19	5.68	4.25	3.43
2012	7.07	6.13	5.63	4.21	3.40
2013	7.00	6.07	5.57	4.17	3.36
2014	6.93	6.01	5.52	4.13	3.33
2015	6.86	5.95	5.46	4.09	3.30
2016	6.79	5.89	5.41	4.05	3.26
2017	6.73	5.83	5.35	4.00	3.23
2018	6.66	5.77	5.30	3.96	3.20

Pursuant to section 23 subsection (4), second sentence, tariffs in the case of modernised installations are paid only for the additional electricity imputable to the modernisation.

Sample calculation C

Extension of a run-of-river power plant by 16MW (output pursuant to section 18 subsections (1) and (2)); year of commissioning: 2009.

Share of output up to 500kW = 3.125%

Share of output between 500kW and 10MW = 59.375%

Share of output between 10MW and 20MW = 37.5%

Tariffs	EEG 2009
Basic tariff	
Share of output up to 500kW	0.3125 x 7.29
Share of output above 500kW	+ 0.59375 x 6.32
Share of output above 10MW	+ 0.375 x 5.80
Remuneration	= 6.16 ct/ kWh *

(* rounded value)

3. Re sections 24 -26 EEG: tariffs for electricity from landfill, sewage and mine gas

3.1. Landfill gas (Section 24)

Degression rate: 1.5%, duration of tariff payment: 20 years

Year of commissioning	up to 500kW _{el} in ct/kWh	500kW - 5MW _{el} in ct/kWh
2009	9.00	6.16
2010	8.87	6.07
2011	8.73	5.98
2012	8.60	5.89
2013	8.47	5.80
2014	8.34	5.71
2015	8.22	5.63
2016	8.10	5.54
2017	7.98	5.46
2018	7.86	5.38

The installation is eligible even if gas is withdrawn from the gas grid, if the thermal equivalent of the withdrawn quantity of gas equals that of the quantity of landfill or sewage gas injected into the gas grid elsewhere (section 24 subsection (2), section 25 subsection (2)).

3.2. Sewage gas (section 25)

Degression rate: 1.5%, duration of tariff payment: 20 years

Year of commissioning	up to 500kW _{el} in ct/kWh	500kW _{el} - 5MW _{el} in ct/kWh
2009	7.11	6.16
2010	7.00	6.07
2011	6.90	5.98
2012	6.79	5.89
2013	6.69	5.80
2014	6.59	5.71
2015	6.49	5.63
2016	6.40	5.54
2017	6.30	5.46
2018	6.21	5.38

The installation is eligible even if gas is withdrawn from the gas grid, if the thermal equivalent of the withdrawn quantity of gas equals that of the quantity of landfill or sewage gas injected into the gas grid elsewhere (section 24 subsection (2), section 25 subsection (2)).

3.3. Mine gas (section 26)

Degression rate: 1.5%, duration of tariff payment: 20 years

Year of commissioning	up to 500kW _{el} in ct/kWh	500kW _{el} - 1MW _{el} in ct/kWh	1MW _{el} - 5MW _{el} in ct/kWh	above 5MW _{el} in ct/kWh
2009	7.16	7.16	5.16	4.16
2010	7.05	7.05	5.08	4.10
2011	6.95	6.95	5.01	4.04
2012	6.84	6.84	4.93	3.98
2013	6.74	6.74	4.86	3.92
2014	6.64	6.64	4.78	3.86
2015	6.54	6.54	4.71	3.80
2016	6.44	6.44	4.64	3.74
2017	6.34	6.34	4.57	3.69
2018	6.25	6.25	4.50	3.63

Technology bonus pursuant to EEG (annex 1):

Tariffs for landfill, sewage and mine gas may be increased by a technology bonus of 1.00 or 2.00ct/kWh if innovative procedures are applied that benefit the environment. The bonus is applicable to installations with a capacity of up to 5MW_{el} and is subject to a degression rate of 1.5%:

Processing of landfill and sewage gas (annex 1, part I)

a) up to a maximum of 350Nm³/hour: 2.00ct/kWh

b) up to a maximum of 700Nm³/hour: 1.00ct/kWh

Innovative installation technology: 2.00ct/kWh (annex 1, part II)

This includes the use of fuel cells, gas turbines, steam engines, organic Rankine cycles, multi-fuel facilities, Stirling engines (cf. annex 1, part II EEG).

Sample calculation D

Landfill gas plant with an output pursuant to section 18 subsections (1) and (2) of 2MW; year of commissioning: 2009.

Share of output up to 500kW = 25%

Share of output between 500kW and 10MW = 75%

Tariffs	EEG 2009
Basic tariff	
Share of output up to 500kW	0.25 x 9.00
Share of output 500kW or more	+ 0.75 x 6.16
Technology bonus for innovative installation technology (e.g. for the use of a Stirling engine)	+ 2.00
Remuneration	= 8.87ct/ kWh *

(* rounded value)

3.4. Degression applicable to tariffs used in sample calculation D (landfill gas, section 24 subsection (3))

Degression rate: 1.5%, duration of tariff payment: 20 years

Year of commissioning	Share of output up to 500kW (~ 25 % of total output)	Share of output above 500kW (~ 75 % of total output)	Innovative installation technology	∑ payments
2009	2,25	4,62	2,00	8,87
2010	2,22	4,55	1,97	8,74
2011	2,18	4,48	1,94	8,61
2012	2,15	4,42	1,91	8,48
2013	2,12	4,35	1,88	8,35
2014	2,09	4,28	1,85	8,22
2015	2,05	4,22	1,83	8,10
2016	2,02	4,16	1,80	7,98
2017	1,99	4,09	1,77	7,86
2018	1,96	4,03	1,75	7,75

4. Re section 27 EEG: tariffs for electricity from biomass

4.1. Payments for installations generating electricity from biomass*

Degression rate: 1.0%, duration of tariff payment: 20 years

Year of commissioning	up to 150kW _{el} in ct/kWh	150 - 500kW _{el} in ct/kWh	500kW _{el} - 5MW _{el} in ct/kWh	5MW _{el} - 20MW _{el} in ct/kWh
2009	11.67	9.18	8.25	7.79
2010	11.55	9.09	8.17	7.71
2011	11.44	9.00	8.09	7.63
2012	11.32	8.91	8.00	7.56
2013	11.21	8.82	7.92	7.48
2014	11.10	8.73	7.85	7.41
2015	10.99	8.64	7.77	7.33
2016	10.88	8.56	7.69	7.26
2017	10.77	8.47	7.61	7.19
2018	10.66	8.39	7.54	7.12

* within the meaning of the Biomass Electricity Sustainability Regulation (*BioSt-NachV*) of 29 July 2009

Installations with a capacity of more than 5MW are only eligible when operating in CHP mode with reasonable utilisation of heat as stipulated in annex 3 of the EEG and only with respect to the share of electricity generated by CHP.

Installations with an installed capacity of more than 20MW are also eligible for pro rata payment of the above-mentioned tariffs with respect to a share of output of 20MW.

*Pursuant to section 27 subsection (5) and section 66 subsection (1), first sentence, No. 4a, the tariff paid may be increased by 1.0 cent per kWh with respect to a share of output of up to 500kW_{el} if installations subject to licensing under the Federal Immission Control Act (*Bundes-Immissionsschutzgesetz*) utilise gas produced by anaerobic digestion of the biomass, comply with the obligation to lower emissions under the Technical Instructions on Air Quality Control (*TA Luft*) and respect corresponding formaldehyde limits.*

Possible increases in total payments through different bonuses (e.g. for the use of energy crops, innovative technologies) are also subject to the 1.0% degression rate.

Sample calculation E

Biomass installation with an output of 2.5MW_{el}²⁾ eligible for CHP bonus and technology bonus (innovative installation technology); year of commissioning: 2009.

Share of output up to 150kW_{el} = 6%

Share of output between 150kW_{el} and 500kW_{el} = 14%

Share of output between 500kW_{el} and 2.5MW_{el} = 80%

Recovery and use of cogenerated heat (CHP) at 100% of electricity production

Tariffs	EEG 2009
Basic tariff	
Share of output up to 150 kW _{el}	0.06 x 11.67
Share of output up to 500 kW _{el}	+ 0.14 x 9.18
Share of output up to 2.5 MW _{el}	+ 0.80 x 8.25
Technology bonus:	+ 2.00
CHP bonus	+ 3.00
Remuneration	= 13.59 ct/ kWh *

²⁾ One example would be an installation with 3MW_{el} of installed capacity, with a number of operating hours at full load of 7300 per year.

(* rounded value)

Sample calculation F

Biogas installation with an output of 500 kW_{el}³⁾ eligible for the bonus for electricity from energy crops and the CHP bonus; compliance with the formaldehyde limits which are part of the obligation to minimise emissions under the TA Luft; year of commissioning: 2009.

Share of output up to 150kW_{el} = 30%

Share of output up to 500kW_{el} = 70%

Recovery and use of cogenerated heat (CHP) at 70% of electricity production

Tariffs	EEG 2009
Basic tariff	
Share of output up to 150kW _{el}	0.3 x (11.67 + 1.00) ⁴⁾
Share of output up to 500kW _{el}	+ 0.7 x (9.18 + 1.00) ⁴⁾
Bonus for electricity from energy crops	
Share of output up to 150kW _{el}	+ 0.3 x 7.00
Share of output up to 500kW _{el}	+ 0.7 x 7.00
CHP bonus	+ 0.7 x 3.00
Remuneration	= 20.03 ct/ kWh *

³⁾ One example would be an installation with 750kW_{el} of installed capacity, with a number of operating hours at full load of 5840 per year.

⁴⁾ Increase by 1.00ct/ kWh for respecting the formaldehyde limits + 1.00ct/kWh.

(* rounded value)

4.2. Bonuses for biomass

Degression rate: 1.0%

Bonus for electricity from energy crops	EEG tariff ct/kWh	EEG tariff ct/kWh
Share of output up to 150 kW_{el}		Share of output up to 500 kW_{el}
<i>Biomass with the exception of biogas</i>	6.00	<i>Biomass with the exception of biogas</i>
		- solid biomass
		6.00
		- liquid biomass
		0.00
		- gaseous biomass (with the exception of biogas)
		6.00
<i>Biogas</i>	7.00	<i>Biogas</i>
- using at least a 30% share of slurry	+ 4.0	- using at least a 30% share of slurry
		+ 1.0
- using mostly residues from landscape management activities	+ 2.0	- using mostly residues from landscape management activities
		+ 2.0
Share of output up to 5 MW_{el}		
<i>Biomass including biogas</i>		
- solid biomass	4.00	
- liquid biomass	0.00	
- gaseous biomass	4.00	
- burning of wood	2.50	
- burning of wood from short-rotation plantations and landscape management activities	4.00	

Technology bonus (for installations of up to 5MW_{el}) pursuant to annex 1	EEG tariff ct/kWh
Innovative installation technology	2.00
For processing of gas:	
a) up to a maximum of 350Nm ³ /hour	2.00
b) up to a maximum of 700Nm ³ /hour	1.00

CHP bonus (for a share of output of up to 20MW_{el}, only for that share of electricity fed into the grid that is classified as CHP electricity)	EEG tariff ct/kWh
	3.00 ⁵⁾

⁵⁾ This also applies to existing installations if these are first used as CHP installations within the meaning of annex 3 after 31 December 2008 and, on a pro-rata basis, to other existing installations for a share of output of up to 500 kW if the conditions set out in annex 3 are complied with.

Sample calculation G

Biomass installation (wood from short-rotation plantations) with an output of 1 MW_{el}⁶⁾ eligible for the bonus for electricity from energy crops and the CHP bonus ; year of commissioning: 2009.

Share of output up to 150kW_{el} = 15%

Share of output between 150kW_{el} and 500kW_{el} = 35%

Share of output between 500kW_{el} and 1MW_{el} = 50%

Recovery and use of cogenerated heat (CHP) at 80% of electricity production

Tariffs	EEG 2009
Basic tariff	
Share of output up to 150kW _{el}	0.15 x 11.67
Share of output up to 500kW _{el}	+ 0.35 x 9.18
Share of output up to 1MW _{el}	+ 0.50 x 8.25
Bonus for electricity from energy crops	
Share of output up to 150kW _{el}	+ 0.15 x 6.00
Share of output up to 500kW _{el}	+ 0.35 x 6.00
Share of output up to 1MW _{el}	+ 0.50 x 4.00
CHP bonus	+ 0.8 x 3.00
Remuneration	= 16.49 ct/ kWh *

⁶⁾ One example would be an installation with 1.2MW_{el} of installed capacity, with a number of operating hours at full load of 7300 per year.

(* rounded value)

4.3. Degression applicable to the tariffs used in sample calculations E, F and G

Degression rate: 1.0%

Year of commissioning	Sample calculation E Biomass installation with an output of 2.5 MW _{el} eligible for CHP bonus and technology bonus	Sample calculation F Biogas installation with an output of 500kW _{el} eligible for bonus for electricity from energy crops and CHP bonus	Sample calculation G Biomass installation with an output of 1 MW _{el} eligible for bonus for electricity from energy crops and CHP bonus
2009	13.59	20.03	16.49
2010	13.45	19.83	16.33
2011	13.32	19.63	16.16
2012	13.19	19.44	16.00
2013	13.05	19.24	15.84
2014	12.92	19.05	15.68
2015	12.79	18.86	15.53
2016	12.67	18.67	15.37
2017	12.54	18.48	15.22
2018	12.41	18.30	15.06

5. Re section 28 EEG: tariffs for electricity from geothermal energy

In the field of geothermal power, the higher tariffs of the new EEG apply to new installations commissioned on or after 1 January 2009. The bonuses also apply with retroactive effect to existing installations.

5.1. Geothermal energy

Degression rate: 1.0%, duration of tariff payment: 20 years

Year of commissioning	up to 10MW _{el} in ct/kWh	above 10MW in ct/kWh
2009	16.00	10.50
2010	15.84	10.40
2011	15.68	10.29
2012	15.52	10.19
2013	15.37	10.09
2014	15.22	9.99
2015	15.06	9.89
2016	14.91	9.79
2017	14.76	9.69
2018	14.62	9.59

5.2. Bonuses for geothermal energy

Degression rate: 1.0%, duration of tariff payment: 20 years

Heat use bonus	EEG tariff ct/kWh
for installations of up to 10MW _{el} <i>with heat use pursuant to annex 4</i>	3.00
Technology bonus	
for installations of up to 10MW _{el} using petrothermal technology	4.00
Early bird bonus	
bonus in accordance with section 28 subsection (1a) EEG for installations commissioned before 1 January 2016	4.00

Sample calculation H

Geothermal plant with an output of 5MW; year of commissioning: 2009.

Tariffs	2009	2010
Basic tariff up to 10MW	16.00	15.84
Heat use bonus	+3.00	+2.97
Early bird bonus	+ 4.00	+3.96
Remuneration	= 23.00 ct/ kWh	= 22.77 ct/kWh

6. Re sections 29 - 31 EEG: tariffs for electricity from wind energy

6.1. Onshore wind energy

Degression rate: 1.0%, duration of tariff payment: 20 years

Year of commissioning	Initial tariff ⁷⁾ in ct/kW	Basic tariff in ct/kWh	System services bonus ⁸⁾	Repowering bonus ⁹⁾
2009	9.20	5.02	0.50	0.50
2010	9.11	4.97	0.50	0.50
2011	9.02	4.92	0.49	0.49
2012	8.93	4.87	0.49	0.49
2013	8.84	4.82	0.48	0.48
2014	8.75	4.77	0.0	0.48
2015	8.66	4.73	0.0	0.47
2016	8.58	4.68	0.0	0.47
2017	8.49	4.63	0.0	0.46
2018	8.40	4.59	0.0	0.46

⁷⁾ The higher initial tariff is paid for five years. This period is extended pursuant to section 29 subsection (2) by two months for each 0.75 per cent of the reference yield by which the yield of the installation falls short of 150 per cent of the reference yield. See also 6.2 below.

⁸⁾ Pursuant to section 29 subsection (2), the system services bonus for new installations is paid for the same period as the higher initial tariff. Existing installations commissioned after 31 December 2001 and prior to 1 January 2009 are eligible for a system services bonus pursuant to section 66 subsection (6) of 0.7ct for a period of five years. This payment is contingent on the technical retrofitting of the existing installations by 1 January 2011.

⁹⁾ The repowering bonus pursuant to section 30 for the replacement of existing wind energy installations on the same or on an adjacent site is paid for the same period as the higher initial tariff.

6.2. Extension of the higher initial tariff

Reference yield in (%)	Initial tariff pursuant to section 29 subsection (2), first sentence	Extension of the initial tariff pursuant to section 29 subsection (2), first sentence	Total duration of payment of the initial tariff
>= 150	5 years	-	5 years
142,5	5 years	20 months	6 years, 8 months
135	5 years	40 months	8 years, 4 months
127,5	5 years	60 months	10 years
120	5 years	80 months	11 years, 8 months

Sample calculation I for onshore wind energy

Wind energy installation near the coast which pursuant to section 29 subsection (2) produces 150% of the reference yield in a period of five years starting with commissioning (in accordance with annex 5 subsection (2) EEG 2009). The installation meets the requirements set out in the System Services Regulation (*Systemdienstleistungsverordnung*) pursuant to section 64 subsection (1), first sentence; year of commissioning: 2010.

Duration of payment of the higher initial tariff: **Five years**

Tariffs	2010	2011
Higher initial tariff	9.11	9.02
System services bonus	+ 0.50	+ 0.49
Remuneration	= 9.66 ct/ kWh	= 9.5 ct/ kWh

Average remuneration $5/20 * 9.11 + 5/20 * 0.50 + 15/20 * 4.97 = 6.13$ cent/kWh (rounded and without degression)

Sample calculation J for onshore wind energy

Wind energy installation near the coast which pursuant to section 29 subsection (2) produces 120% of the reference yield in a period of five years starting with commissioning (in accordance with annex 5 subsection (2) EEG 2009). The installation meets the requirements set out in the System Services Regulation (*Systemdienstleistungsverordnung*) pursuant to section 64 subsection (1), first sentence; year of commissioning: 2010.

Duration of payment of the higher initial tariff: **11 years, 8 months**

Calculation: $(30 / 0.75) * 2 = 80$ (months)

80 months = 6 years and 8 months + five years payment of initial tariff = **11 years, 8 months**

Tariffs	2010	2011
Higher initial tariff	9.11	9.02
System services bonus	+ 0.50	+ 0.49
Remuneration	= 9.66ct/ kWh	= 9.51ct/ kWh

Average remuneration: $11.8 / 20 * 9.11 + 5/20 * 0.50 + 8.2 / 20 * 4.97 = 7.54 \text{ cent/kWh}$ (rounded and without degression)

6.3. Offshore Wind Energy

Degression rate until 2014: 0.0%; from 2015: 5%; duration of tariff payment: 20 years

	Initial tariff in ct/kWh ¹⁰⁾	Early bird bonus ¹¹⁾	Basic tariff in ct/kWh
2009	13	2	3.5
2010	13	2	3.5
2011	13	2	3.5
2012	13	2	3.5
2013	13	2	3.5
2014	13	2	3.5
2015	12.35	1.90	3.33
2016	11.73	0.0	3.16
2017	11.15	0.0	3.00
2018	10.59	0.0	2.85

¹⁰⁾ The higher initial tariff for offshore wind energy is paid in the first 12 years after the installation is commissioned. The period is extended in accordance with section 31 subsection (2), third sentence, for electricity from installations located at least twelve nautical miles seawards and in a water depth of at least 20 metres: by 0.5 months for each full nautical mile beyond 12 nautical miles and by 1.7 months for each additional full metre of water depth.

¹¹⁾ Pursuant to section 31 subsection (2), second sentence, the early bird bonus is paid for the same period as the higher initial tariff.

Sample calculation K for offshore wind energy

Offshore installation located in the 12-nautical-mile zone. Year of commissioning: 2010

Duration of payment of the higher initial tariff: **12 years**

Tariffs	2010	2011
Higher initial tariff	13	13
System services bonus	+ 2.00	+ 2.00
Remuneration	= 15ct/ kWh	= 15ct/ kWh

Average remuneration: $12/20 * 13 + 8/20 * 3.5 + 12/20 * 2.00 = 10.4 \text{ cent/kWh}$ (rounded and without degression)

7. Re sections 32 and 33 of the Renewable Energy Sources Act (EEG): tariffs for electricity from solar radiation

The amended Renewable Energy Sources Act (EEG) of 11 August prescribes a two-stage reduction in feed-in tariffs for electricity from solar energy. Firstly, on 1 July 2010 a reduction in tariffs for installations attached to or on top of buildings of 13 percent, for free-standing installations of 12 percent and for free-standing installations on converted land (previously used for military or industrial purposes, for example) of 8 percent. Secondly, a further 3 percent reduction on 1 October 2010.

Dynamic degression

Degression for electricity from solar installations is dependent on the annual installed capacity increase (market volume) in Germany. As a rule there is a 9 percent degression rate. However, degression may be higher or lower depending on the installed capacity in the previous year. Operators of photovoltaic installations have therefore been obliged since 2009 to register their installed capacity increase with the Federal Network Agency.

If the installed capacity registered between 1 June and 30 September 2010 multiplied by a factor of 3 is between 2,500 and 3,500 megawatts, the degression rate of 9 percent does not change at the end of the year. If the installed capacity registered exceeds 3,500 MW, 4,500 MW, 5,500 MW or 6,500 MW, degression increases accordingly by 1, 2, 3 or 4 percentage points. As the 6.500 MW threshold was exceeded, the Federal Network Agency announced that the total regression rate in 2011 will be 13 %.

From 2012 degression increases by 3, 6, 9 or 12 percentage points if the installed capacity registered in the 12 months before 30 September of the previous year exceeds the **above-mentioned limits**. It decreases by 2.5, 5 or 7.5 percentage points if the installed capacity registered falls below the above-mentioned limits. The Federal Network Agency publishes the installed capacity registered, the resulting degression percentage for the following year and the tariff rates in the Federal Gazette by 31 October each year in agreement with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry of Economics and Technology.

Own consumption

Own consumption only applies to the share of electricity from solar energy that is actually consumed immediately on-site. The deciding factor is that the electricity is generated and at the same time used or stored on-site or in the immediate vicinity. This must be proven through measurements. A meter is required for this that measures both electricity consumption and volumes fed into the grid. Own consumption is calculated on the basis of the difference with the solar electricity meter. The technical details are set out in the guidelines of the grid technology/grid operation forum (FNN). Where electricity is fed into the public grid, it is no longer a case of own consumption.

To be eligible to apply the new provisions for own consumption, the installation must satisfy the following conditions:

1. It must be built between 1 July 2010 and 31 December 2011 and be attached to or on top of a building.
2. Its installed capacity must not exceed 500 kilowatt-hours.
3. It must have a grid connection.

The tariff is determined by the installation's size and the share of own consumption. If the share of own consumption by the installation operator is less than 30% of the solar electricity generated, 16.38 ct/kWh will be deducted from the feed-in tariff. If the share of own consumption is more than 30%, only 12 ct/kWh is deducted for this share of the electricity. The deductions are specified from the point of commissioning, i.e. they remain fixed. A period of one year is taken as the basis for calculating the share of own consumption.

7.1. Free-standing installations (section 32) ¹²⁾

basic degression from 2010: 9%.

degression can vary between 6% and 13% from 1 January 2011

degression can vary between 1.5% and 21% per year from 1 January 2012

Year of commissioning	Installations on sealed land and converted land in ct/kWh		Other free-standing installations in ct/kWh	
2010 (old provision)	28.43		28.43	
2010 (new provision)	from 1 July 2010	from 1 Oct 2010	from 1 July 2010	from 1 Oct 2010
	26.15	25.37	25.02	24.26
2011	22.07		21.11	

¹²⁾ These tariff rates apply not only to free-standing installations, but also to installations on physical structures that cannot be classified as buildings. For free-standing installations, eligibility for tariff payment is conditional on compliance with the land categories laid down in section 32 (3) of the Renewable Energy Sources Act and, as a rule, a local development plan. Free-standing installations on agricultural land no longer qualify for tariff payment.

7.2. Installations attached to or on top of buildings (section 33) ¹³⁾

basic degression from 2010: 9%.

degression can vary between 6% and 13% from 1 January 2011

degression can vary between 1.5% and 21% per year from 1 January 2012

	Tariffs in ct/kWh			
	January 2010	July 2010	October 2010	2011
<i>up to 30 kW</i>	39.14	34.05	33.03	28.74
<i>30 – 100 kW</i>	37.23	32.39	31.42	27.33
<i>100 – 1,000 kW</i>	35.23	30.65	29.73	25.86
<i>from 1,000 kW</i>	29.37	25.55	24.79	21.56
<i>own consumption¹⁴⁾</i>				
<i>up to 30 kW</i>	22.76	17.67	16.65	12.36
<i>from 30% own consumption</i>	22.76	22.05	21.03	16.74
<i>30 - 100 kW</i>	0.00	16.01	15.04	10.95
<i>from 30% own consumption</i>	0.00	20.39	19.42	15.33
<i>100 - 500 kW</i>	0.00	14.27	13.35	9.48
<i>from 30% own consumption</i>	0.00	18.65	17.73	13.86

¹²⁾ Also applies to installations attached to noise barriers

¹³⁾ Tariff rates for own consumption are possible values only. An average household electricity price (net) of 20 ct/kWh is assumed for calculations. The difference between the tariff rate for direct consumption plus avoided costs for household electricity and the tariff rate for the respective installation attached to or on top of buildings leads to an incentive of 3.6 ct/kWh for own consumption up to 30%. Above 30% there is an incentive of 8 ct/kWh. As it is very difficult to predict household electricity prices for the coming years, these values merely serve as guidance and from 2011 are given in brackets.

Sample calculation L

PV installation mounted on the roof of a commercial building with an output of 40kW; year/month of commissioning: August 2010

Share of output up to 30kW: 75%

Share of output between 30kW and 100kW: 25%

Tariffs	EEG 2009
Basic tariff	
Share of output up to 30kW	0.75 x 34.05
Share of output 30kW - 100kW	+ 0.25 x 32.39
Remuneration	= 33.64 ct/ kWh

Sample calculation M

Free-standing installation with 10 modules.

An installation operator installed and commissioned nine modules in 2009. In October 2010 he installs and commissions another module. All the modules have the same (peak) output and the same orientation. In 2010 the operator has a total electricity yield of 1000kWh.

When calculating the total remuneration, the following procedure has to be applied:

The electricity generated by the 9 modules is remunerated pursuant to section 32 EEG 2009, using the degression rates stipulated in EEG 2009, whereas the yield of the more recent module is remunerated pursuant to amended EEG of 11 August 2010.

90% of 1000kWh = 900kWh; 900kWh x 31.94Ct. = 28.746 Ct. or 287.46 Euro

10% of 1000kWh = 100kWh; 100kWh x 24.26 Ct. = 2.426 Ct. or 24.26 Euro

The total remuneration for the year 2010 therefore amounts to 311.72 Euro.