



# Get to know the SDE+ 2012

## **About the SDE+**

The SDE+ stimulates the production of renewable energy in the Netherlands. Renewable energy is generated from clean, inexhaustible sources. This is why it is called 'renewable energy'.

The objective of the SDE+ is to achieve the objective for the Netherlands that has been agreed in the European context. In the Netherlands 16% of gross final energy consumption must originate from renewable sources by 2020. Here 1 GJ electricity counts as equal to 1 GJ heat. Renewable biogas fed into the Dutch natural gas network accounts for 78.5 % of the calorific value. The SDE+ is an important tool to achieve the Dutch objective. There are also national programmes such as "Duurzame Energie Nederland" (sustainable energy for the Netherlands) ([www.agentschapnl.nl/den](http://www.agentschapnl.nl/den)) and the Energy Investment Allowance ([www.agentschapnl.nl/eia](http://www.agentschapnl.nl/eia); the English EIA brochure: <http://www.agentschapnl.nl/content/brochure-energy-businesses-energy-list-2012>

For new projects from 2011 the SDE+ is financed by a surcharge on energy bills. Before then the SDE was financed by the government.

In 2012 the SDE+ is open from 13 March at 09:00 hours until 27 December 2012 at 17:00 hours.

Website: [www.agentschapnl.nl/sde](http://www.agentschapnl.nl/sde)

### **What is the SDE+?**

The SDE+ is an operating subsidy. In other words: producers receive a subsidy for renewable energy generated, and not for the purchase of production installations such as with an investment subsidy. The SDE+ concentrates on companies and (non-profit) organisations wishing to produce renewable energy in the Netherlands. The cost price of renewable energy is higher than that of grey energy from fossil sources. The production of renewable energy is accordingly not always profitable.

The SDE+ compensates the difference between the cost price of grey energy and renewable energy for 5, 12 or 15 years depending on the technology. The SDE is a subsidy on top of the returns the producer receives from production and any sale of the renewable energy produced. The SDE+ is accordingly a feed-in premium regulation.

The amount of the subsidy depends on the quantity of renewable energy produced.

The SDE+ has a limited budget, so: "first come first served". Producers with the lowest production cost per GJ of renewable energy can apply first and accordingly have the best chance of a subsidy.

### **To what does the SDE+ apply?**

In 2012 the SDE+ was opened up for the production of:

- renewable electricity
- renewable (bio)gas fed into the Dutch natural gas network
- renewable heat or a combination of renewable heat and electricity (CHP)

### **To whom does the SDE+ apply?**

Primary target groups for the SDE+ are companies, bodies and non-profit organisations producing renewable energy in the Netherlands.

The national government is excluded from participation.

Solar-PV, solar-thermal systems and biomass incineration installations have such a high lower capacity limit (15 kWp with a large-scale energy connection, 100 m<sup>2</sup> and 500 kW<sub>th</sub> respectively) that private producers of renewable energy do not come into consideration for an SDE+ subsidy. Other local or national incentive regulations are sometimes applicable here.

Pillars of the SDE+:

1. One integral budget ceiling;
2. Phased opening up;
3. A maximum base amount;
4. A free category.

#### *1 One integral budget ceiling*

One budget ceiling is established for all categories together. In 2012 1.7 billion euros is available to support projects. The budget is distributed according to the "first come first served" principle. Subsidy applications involving the lowest production costs (base amount) can apply earlier. If a number of applications arrive on one day for more than the still available budget, the applications are classified by order of the base amount. The application with the lowest base amount will be classified first.

If the budget limit falls between applications with an equal base amount, lots are drawn for these applications. For all categories the base amount is expressed in €/GJ to one decimal place.

## *2 Phased opening*

The SDE+ opens in phases. In 2012 five phases are being opened in the period 13 March at 09.00 hours to 27 December 2012 at 17.00 hours. Each phase has a maximum base amount that runs up from 7 €ct/kWh (converted to 48.27 €ct/Nm<sup>3</sup> or 19.444 €/GJ) in phase 1 to 15 €ct/kWh (converted to 103.5 €ct/Nm<sup>3</sup> or 41.67 €/GJ) in phase 5. For each technology there is a maximum base amount and a maximum number of full load hours <sup>1)</sup> per year above which no subsidy is paid. In phase 1 cost-effective technologies with a base amount lower than or equal to 7 €ct/kWh can submit an application. Compared to technologies with a higher maximum base amount, applicants in phase 1 have a greater chance that a sufficient budget will be available.

This maximum base amount and the number of full load hours are established per technology per SDE round by the Ministry of Economic Affairs, and then apply for the whole subsidy period. ECN and KEMA issue advice to this end, that is made publicly available for comment in the summer of the previous year.

## *3 A maximum base amount*

The SDE 2012 assumes a maximum base amount of 15 €ct/kWh (converted to 103.5 €ct/Nm<sup>3</sup> or 41.67 €/GJ). Technologies which can produce renewable energy for this amount or lower can be eligible for a subsidy.

## *4 A free category*

Each phase includes a free category. Accordingly, innovative entrepreneurs who can produce cheaper than the calculated (maximum) base amount for the technology concerned can gain access to the SDE+ sooner. For projects in the free category a base amount applies that is equal to the upper limit of the phase in which one has requested a subsidy. A condition is that this amount is lower than the (maximum) base amount for the technology concerned.

In this way the free category also offers room for a number of technologies of which the costs are on average higher than 15 €ct/kWh (converted to 103.5 €ct /Nm<sup>3</sup> or 41.67 €/GJ).

Technologies which only come into consideration in the free category in 2012 are: offshore wind energy, free flowing energy (hydro power), osmosis and solar-PV.

## **The SDE contribution**

The cost price for the production of renewable energy is established in the *base amount* for the technology. The cost price for the production of grey (fossil) energy is established in the *correction amount*.

The SDE+ compensates the difference between the cost price of grey energy and that of green energy: SDE contribution = base amount – correction amount.

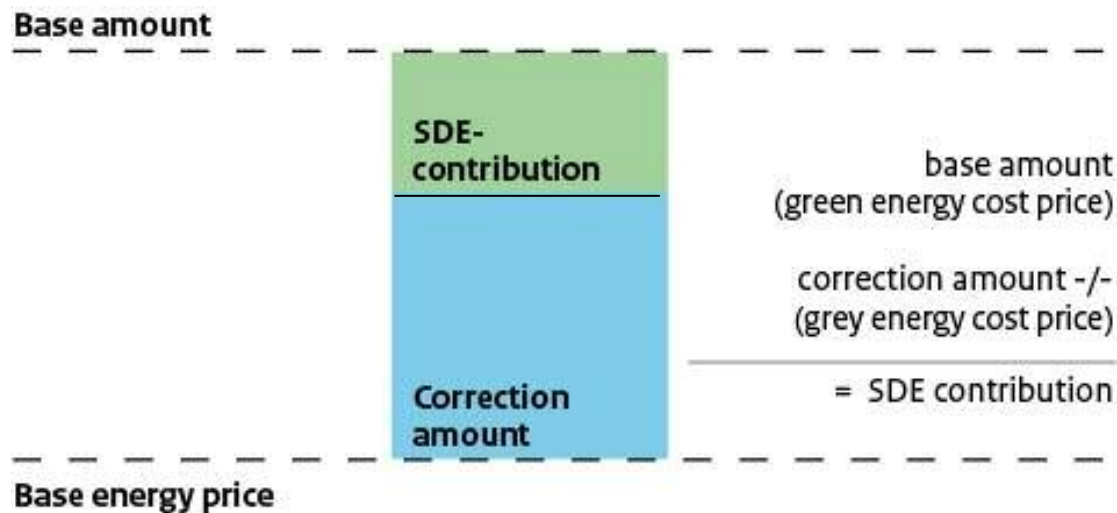
The correction amount has a minimum of 2/3 of the long term energy price expectation: the *base energy price*.

The budget claim is determined based on: (base amount – base energy price) \* subsidy period \* nominal capacity \* (maximum) full load hours per year. If the expectation is that the production installation will produce less than the nominal capacity \* maximum number of full load hours, the decision and the budget claim is adapted in line with actual production over the subsidy period.

The amount of the SDE contribution is accordingly dependent on the evolution of the energy price. With a higher energy price you obtain less SDE but you receive more from your energy buyer, for example an energy company. With a lower energy price you obtain more SDE and less from your energy buyer. When determining the

<sup>1</sup> Full load hour: the production of the installation over 1 hour at nominal capacity.

correction amount the basis is the average energy price per category as actually occurring during the year of production. These are calculated by ECN each year based on the average prices at, for example, the APX energy exchange. The advance payments are determined with a provisional correction amount calculated by ECN as an expectation of the energy price in the coming year.



The subsidy that NL Agency allocates to you in your decision is a maximum amount over the whole duration of the subsidy (5, 12 or 15 years depending on the category). This maximum is determined on the basis of the indicated nominal capacity and the maximum number of full load hours for the technology. The base energy price is used for determining the decision and budget claim. The base energy price is the lower limit for the correction amount. The correction amount cannot be below this. If the correction amount is equal to the base energy price, the maximum subsidy is reached. The final subsidy payments are calculated per year based on the quantity of energy that you produce and the level of the energy price. The subsidy applies to a maximum number

full load hours and has a maximum duration depending on the technology. A subsidy is therefore ultimately only paid out for the actually produced quantity of renewable energy.

With the SDE monthly advance payments are made for the expected energy production in the coming year. These advance payments correspond to 80% of the expected energy production eligible for the subsidy.

### **New installation**

With the SDE+ a subsidy is only provided for new installations, unless explicitly indicated otherwise in the subsidy scheme. For some categories of biomass installations an extended life or an expansion with the exploitation of heat in existing installations can also be eligible for a subsidy.

### **Sustainability of liquid biomass**

If liquid biomass is used at an installation for the thermal conversion of biomass, the producer must be able to demonstrate the sustainability of this liquid biomass in conformity with the rules of the European Commission.

### **Terms**

*Full load hour:* the production of the installation over 1 hour at nominal capacity.

There is a maximum number of production hours in full load (= nominal capacity) per year for which the subsidy is paid.

*Latest period of bringing into use:* the period (after the decision), within which the installation must produce energy.

*Subsidy duration:* the maximum period (in years) in which you can receive the subsidy.

*Table 1: Calculation example SDE contribution – 3 MWe Hydroelectric power station and a drop height  $\geq 50$  cm and  $< 5$  m*

Maximum number of full load hours	7,000
Base amount from phase 4	11.8 €ct/kWh
Provisional correction amount 2012	5.2 €ct/kWh
Maximum subsidy duration	15 years
Provisional SDE in 2012 contribution from phase 4	$11.8 - 5.2 = 6.6$ €ct/kWh
Maximum annual production eligible for a subsidy for 3 MWe hydroelectric power plant: $3 * 7,000 = 21,000$ MWh	
Provisional SDE in 2012 contribution phase 4	$66 * 21,000 = € 1,386,000$

The SDE contribution shown is a provisional contribution based on the provisional correction amount for 2012. The provisional correction amount is finally established in the calendar year following the year of production, with an adjustment based on already paid out advance sums. The correction amount is again established each year (provisional and final) on the basis of the evolution of the energy price. The base amount, the base energy price and the maximum number of full load hours per year for the 2012 SDE round apply for the whole duration of the SDE subsidy.

## ***Preparation of the SDE+ application, what appendices must be sent?***

A number of appendices are requested in the application form for the SDE+ 2012. This concerns among others:

### **Required permits**

In most cases one or more permits are required for the production installation. When you submit your application these permits must have been issued by the competent authority. As an applicant you are considered to be aware of the permit requirements for the production installation for which you want to submit a subsidy application. On the basis of the SDE Order the application form asks if the production installation requires one or more permits on the basis of the Environmental Protection (General Provisions) Act (environmental licence) and/or a permit on the basis of section 6, paragraph 6 of the Water Order (water permit) or on the basis of the Mining Act. You mention if these permits are required on the form. If you answer a question 'yes' you must also send the permit.

### **Permission of the owner**

Are you not the owner of the location intended for the production installation? According to the SDE regulation, before or when making the application you must have the permission of the owner of the intended location. On the application form you mention if you are the owner of the intended location, and if not whether you have the permission of the owner of the intended location. There is an extra requirement for applicants for solar-PV and solar thermal. If you are submitting an application for solar thermal or a Solar-PV installation and you are not the owner of the intended location for the production installation, you must submit a declaration from the owner with your application. In this declaration he/she must declare to give permission to build and operate the production installation at the intended location.

### **Points for consideration**

- In the period 13 March 2012 at 09:00 hours to 27 December 2012 at 17:00 hours, only one application can be submitted for each category of production installation and for each address where a production installation is to be built.
- The base amount that applies with the allocation of the subsidy can vary depending on the time when you apply because for an application in the free category other base amounts apply.
- NL Agency processes the applications in the order of arrival so: first come first served. If a number of applications arrive on one day for more than the still available budget the applications are classified by the order of the base amount. The applications with the lowest base amount will be classified first. If the budget limit falls between applications with an equal base amount, lots are drawn for these applications. For all categories the base amount is expressed in €/GJ to one decimal place.
- Applications received after 17:00 hours are marked as received on the next working day for the allocation of the subsidy budget.
- Applications for production installations forming part of a green gas hub can be submitted together.
- The order for the construction of the installation must have been given within 1 year of the provision of the SDE+ decision by NL Agency.
- The installation must be brought into use within a certain period stipulated in the regulation per category after the SDE+ decision. This varies from 18 months with an extended life or expansion of heat exploitation at existing biomass installations, to 5 years for offshore wind energy.

## ***Renewable electricity***

The SDE+ 2012 includes the following technologies for the production of renewable electricity (excluding combined heat and power: CHP) that are eligible for an SDE subsidy:

- wind energy
- hydro power (including free flowing energy)
- osmosis
- solar-PV
- Waste water and sewage treatment plants with thermal pressure hydrolysis

### **Explanation**

- The solar-PV  $\geq 15$  kWp category is only open in 2012 for installations connected to a large-scale energy connection (a connection to the electricity supply network of over 3 \* 80A).
- Wind energy has the characteristic that the yield in a calendar year can vary up to 20 per cent from the expected average. The 'wind factor' applies to these categories to obviate this.
- Offshore wind energy, free flowing energy (hydro power), osmosis and solar-PV can only be applied for in the free category.

### *Wind factor*

In an extreme year the wind yield can vary 20% from the expected average wind yield. An SDE subsidy is paid over a maximum number of full load hours per year. In a poor wind year a wind turbine operator will receive a lower subsidy. He cannot compensate for this in a good wind year because the subsidy is maximized. To prevent the operator from receiving a lower subsidy over the total duration than is required to carry out the project profitably, the subsidy is paid over a maximum of 80% of the full load hours. To ensure that operators do not receive lower subsidies with the adjusted maximum of 80% of the full load hours, for the establishment of the base amount the calculated base amount is multiplied by a correction factor of 1.25 (= 1/80%), the so-called 'wind factor'. This also applies for the free category. This correction is also applied when determining the base electricity price and with the annually established correction amount. There is no banking for these wind categories because the wind factor applies for the wind categories<sup>2</sup>.

Table 2: A summary is presented here of the technologies and associated characteristics for the production of renewable electricity that are eligible in 2012 for the SDE subsidy with a number of calculation examples.

		Phase 1 - 13 March 09:00 hours to 1 May 2012 17:00 hours	Phase 2 - 1 May 17:00 hours to 18 June 2012 17:00 hours	Phase 3 - 18 June 17:00 hours to 3 September 2012 17:00 hours	Phase 4 - 3 September 17:00 hours to 5 November 2012 17:00 hours	Phase 5 - 5 November 17:00 hours to 27 December 2012 17:00 hours	provisional correction amount over 2012	Maximum subsidy duration (years)	Maximum number of full load hours (hours/year)	Latest period of bringing into use (year)
<b>Renewable electricity</b>		<b>base amount per phase (€/kWh)</b>					<b>€/kWh</b>			
wind energy	onshore wind energy < 6 MW (1,760 full load hours)	0.088	0.113	0.120	0.120	0.120	0.058	15	1,760	4
	onshore wind energy < 6 MW (2,120 full load hours)	0.088	0.106	0.106	0.106	0.106	0.059	15	2,120	4
	onshore wind energy ≥ 6 MW	0.088	0.113	0.120	0.120	0.120	0.060	15	2,400	4
	wind in a lake	0.088	0.113	0.138	0.154	0.154	0.060	15	2,480	4
	offshore wind energy	0.088	0.113	0.138	0.163	0.188	0.060964	15	3,200	5
hydro power	hydro power ≥ 0.5 m and < 5 m	0.070	0.090	0.110	0.118	0.118	0.052	15	7,000	4
	hydro power ≥ 5 m	0.070	0.071	0.071	0.071	0.071	0.052	15	4,800	4
	free flowing energy < 0.5 m	0.070	0.090	0.110	0.130	0.150	0.052	15	2,800	4
osmosis	osmosis	0.070	0.090	0.110	0.130	0.150	0.052	15	8,000	4
solar-PV	solar-PV ≥ 15 kWp	0.070	0.090	0.110	0.130	0.150	0.057	15	1,000	3
water treatment installation	water treatment installation with thermal pressure hydrolysis	0.070	0.090	0.096	0.096	0.096	0.052	12	8,000	4



*Table 3: Calculation example SDE contribution – Onshore wind energy < 6 MWe (1,760 full load hours)*

Base amount phase 1 (free category)	8.8 €ct/kWh
Base amount from phase 3	12.0 €ct/kWh
Provisional correction amount 2012	5.8 €ct/kWh
Provisional SDE contribution in 2012 phase 1	$8.8 - 5.8 = 3.0$ €ct/kWh
Provisional SDE contribution 2012 from phase 3	$12.0 - 5.8 = 6.2$ €ct/kWh
Maximum annual production eligible for a subsidy at an installation with power of 3 MW: $3 * 1,760 = 5,280$ MWh	
Provisional SDE contribution in 2012 with start phase 1	$30.0 * 5,280 = €158,400$
Provisional SDE contribution in 2012 phase 3	$62.0 * 5,280 = €327,360$
The sums mentioned are including the wind factor (1.25)	

*Table 4: Calculation example SDE contribution – Solar-PV  $\geq 15$  kWp*

Base amount phase 1 (free category)	7.0 €ct/kWh
Base amount phase 5 (free category)	15.0 €ct/kWh
Provisional correction amount 2012	5.7 €ct/kWh
Provisional SDE contribution in 2012 phase 1	$7.0 - 5.7 = 1.3$ €ct/kWh
Provisional SDE contribution in 2012 phase 5	$15.0 - 5.7 = 9.3$ €ct/kWh
Maximum annual production eligible for a subsidy at an installation with power of 100 kWp: $100 * 1,000 = 100,000$ kWh [is equal to] 100 MWh	
Provisional SDE contribution in 2012 phase 1	$13.0 * 100 = €1,300$
Provisional SDE contribution in 2012 phase 5	$93.0 * 100 = €9,300$

## **Renewable (bio)gas**

In the SDE+ 2012 the following technologies for the production of renewable gas are eligible for an SDE subsidy:

- Biomass: various types of production installations
- Extended life biomass installations
- Biomass gasification

### **Explanation**

- From 2012 some categories are open for existing biomass installations at least 8.5 years old that have come to the end of their subsidy period and can still continue operating, but where as a result of the costs of the biomass an extra subsidy is required (extended life).
- From 2012 a new category is opened for the production of green gas from the gasification of biomass. The syngases hence originating must be processed into green gas so the gas can be fed into the natural gas network.
- In 2011 the SDE+ was opened for green gas hubs where various producers of crude biogas jointly upgrade and feed green gas into the natural gas network. In 2012 the SDE+ was also opened for green gas hubs which together can produce heat or electricity and heat from crude biogas.
- For an installation connected to a hub only one decision can be issued for the

production of one form of energy. The production of heat and electricity by a CHP is seen as one form of energy. A combination of various forms of energy is not possible: fermenters with a heat decision obtain no subsidy for the production of green gas allocated to them, and fermenters with a green gas decision obtain no subsidy for the heat production allocated to them.

- Applications for production installations forming part of a green gas hub can be submitted together.
- In Netherlands the quantity of gas is expressed in normal cubic metres (Nm<sup>3</sup>) as standard in the Netherlands. This gas has a calorific value of 31.65 GJ/Nm<sup>3</sup>.
- In the Netherlands biogas upgraded to standard natural gas quality and fed into the natural gas network for 78.5% counts towards the European objective for the Netherlands of 16% renewable gross final consumption by 2020 .
- Feasibility study with price indication:  
Applicants for renewable gas must also submit a feasibility study with price indication from the network manager. This feasibility study is free of charge and in normal circumstances is provided within 10 workdays by the network operators.

*Table 5: Description of the technologies for the production of renewable gas that are eligible in 2012 for the SDE subsidy.*

		Phase 1 - 13 March 09:00 hours to 1 May 2012 17:00 hours	Phase 2 - 1 May 17:00 hours to 18 June 2012 17:00 hours	Phase 3 - 18 June 17:00 hours to 3 September 2012 17:00 hours	Phase 4 - 3 September 17:00 hours to 5 November 2012 17:00 hours	Phase 5 - 5 November 17:00 hours to 27 December 2012 17:00 hours	provisional correction amount over 2012	Maximum subsidy duration (years)	Maximum number of full load hours (hours/year)	Latest period of bringing into use (year)
<b>Renewable gas</b>		<b>base amount per phase (€/Nm<sup>3</sup>)</b>					<b>€/Nm<sup>3</sup></b>			
biomass	universal fermentation solo (green gas)	0.4827	0.592	0.592	0.592	0.592	0.247	12	8,000	4
	universal fermentation hub (green gas)	0.4827	0.592	0.592	0.592	0.592	0.247	12	8,000	4
	extended life universal fermentation (green gas)	0.482	0.482	0.482	0.482	0.482	0.247	12	8,000	1.5
	manure (co-)fermentation solo (green gas)	0.4827	0.6207	0.729	0.729	0.729	0.247	12	8,000	4
	manure (co-)fermentation hub (green gas)	0.4827	0.6207	0.708	0.708	0.708	0.247	12	8,000	4
	extended life manure (co-) fermentation (green gas)	0.4827	0.551	0.551	0.551	0.551	0.247	12	8,000	1.5
	biomass gasification	0.4827	0.6207	0.7586	0.8965	0.975	0.247	12	7,500	4

*Table 6 : Calculation example SDE contribution – Universal fermentation (solo application)*

Base amount phase 1 (free category)	48.27 €ct/Nm <sup>3</sup>
Base amount from phase 2	59.2 €ct/Nm <sup>3</sup>
Provisional correction amount 2012	24.7 €ct/Nm <sup>3</sup>
Provisional SDE contribution in 2012 phase 1	48.27 – 24.7 = 23.57 €ct/Nm <sup>3</sup>
Provisional SDE contribution in 2012 from phase 2	59.2 – 24.7 = 34.5 €ct/Nm <sup>3</sup>
Maximum annual production eligible for a subsidy at an installation with power of 500 Nm <sup>3</sup> /hour: 500 * 8,000 = 4,000,000 Nm <sup>3</sup>	
Provisional SDE contribution in 2012 with start phase 1	0.2357 * 4,000,000 = €942,800
Provisional SDE contribution in 2012 with start phase 2	0.345 * 4,000,000 = €1,380,000

### **Renewable heat and renewable heat and electricity (CHP)**

In the SDE+ 2012 the following technologies for the production of renewable heat and CHP are eligible for an SDE subsidy:

- Biomass (various types of production installations)
- Thermal conversion of biomass
- Boilers liquid and solid biomass
- Extended life or heat expansion for existing biomass installations
- Geothermal
- Solar thermal
- Heat expansion existing waste incineration

#### **Explanation**

- In 2012 the SDE+ is also open for heat projects. Only the heat usefully exploited comes into consideration for support. Heat used in the production installation itself does not count; drying of for example the digestate does count.
- Most heat categories make use of biomass. Then a distinction is made between the production of both heat and electricity with a combined electricity/heat production installation (CHP) and the production of only heat in a boiler.
- For the combined generation of electricity and heat there is a minimum percentage for the electricity production capacity. This is a minimum percentage easily attainable by installations for combined generation such as a CHP. In categories with a CHP one base amount and correction amount is established that applies to both the renewable electricity and the renewable heat. 1 GJ of produced renewable heat therefore receives a subsidy amount equal to 1 GJ of produced renewable electricity. This is in conformity with the calculation rules of the EC. The sliding scale for heat for CHP installations used in previous years (a bonus for usefully exploited heat at the base amount for electricity) has lapsed for new applications.
- In 2012 no category for new waste incineration plants (waste incineration installations) was opened. Waste incineration has in the meantime become cost efficient. A category was opened for heat exploitation at existing waste incineration installations to exploit the heat potential at waste incineration installations.
- Existing biomass installations for the fermentation or incineration of biomass that are not yet at the end of their subsidy period can apply in 2012 for a subsidy for the new useful exploitation of heat.
- From 2012 some categories are open for existing biomass installations at least 8.5 years old that have come to the end of their subsidy period and can still continue

operating, but where as a result of the costs of the biomass an extra subsidy is required (extended life).

- In 2011 the SDE+ was opened for green gas hubs where various producers of crude biogas jointly upgrade and feed green gas into the natural gas network.

In 2012 the SDE+ was also opened for green gas hubs which together can produce heat or electricity and heat from crude biogas.

- For an installation connected to a hub only one decision can be issued for the production of one form of energy. The production of heat and electricity by a CHP is seen as one form of energy.

A combination of various forms of energy is not possible: fermenters with a heat decision obtain no subsidy for the production of green gas allocated to them, and fermenters with a green gas decision obtain no subsidy for the heat production allocated to them. Applications for production installations forming part of a green gas hub can be submitted together.

- Different types of fermenters with various base amounts can be a part of the same green gas hub. To be able to determine the contribution of each underlying installation to the collectively produced energy, the energy content of the crude biogas that is supplied by the production installation to the hubs must be measured. In addition, for the total hub it is measured how much green gas is fed into the host network or how much heat and electricity is produced.
- Solar thermal is a new category with an aperture surface area  $\geq 100 \text{ m}^2$ , where use is only made of covered collectors.

Table 7: Description of the technologies for the production of renewable heat and renewable heat and electricity (CHP) that are eligible in 2012 for the SDE subsidy.

		Phase 1 - 13 March 09:00 hours to 1 May 2012 17:00 hours	Phase 2 - 1 May 17:00 hours to 18 June 2012 17:00	Phase 3 - 18 June 17:00 hours to 3 September 2012	Phase 4 - 3 September 17:00 hours to 5 November	Phase 5 - 5 November 17:00 hours to 27 December 2012	provisional correction amount over 2012	Maximum subsidy duration (years)	Maximum number of full load hours (hours/year)	Latest period of bringing into use bringing into use (year)
<b>Renewable heat and renewable heat and electricity</b>		<b>base amount per phase (€/GJ)</b>					<b>€/GJ</b>			
waste incineration	waste incineration heat extension	11.9	11.9	11.9	11.9	11.9	10.4	15	3,710	1.5
biomass	universal fermentation solo (heat)	14.8	14.8	14.8	14.8	14.8	9.1	12	7,000	4
	universal fermentation hub (heat)	14.8	14.8	14.8	14.8	14.8	5.5	12	7,000	4
	universal fermentation solo (CHP)	19.444	25.000	27.3	27.3	27.3	11.0	12	5,739	4
	universal fermentation hub (CHP)	19.2	19.2	19.2	19.2	19.2	11.4	12	5,935	4
	universal fermentation heat extension	6.3	6.3	6.3	6.3	6.3	5.5	5	7,000	1.5
	extended life universal fermentation (CHP)	19.444	22.5	22.5	22.5	22.5	11.0	12	5,749	1.5
	manure (co-) fermentation solo (heat)	17.7	17.7	17.7	17.7	17.7	9.1	12	7,000	4
	manure (co-) fermentation hub (heat)	17.7	17.7	17.7	17.7	17.7	5.5	12	7,000	4
	manure (co-) fermentation solo (CHP)	19.444	25.000	30.556	30.8	30.8	11.0	12	5,732	4
	manure (co-) fermentation hub (CHP)	19.444	22.5	22.5	22.5	22.5	11.4	12	5,935	4
	manure (co-) fermentation heat extension	8.2	8.2	8.2	8.2	8.2	0	5	4,000	1.5
	extended life manure (co-) fermentation (CHP)	19.444	25.000	25.9	25.9	25.9	11.0	12	5,749	1.5
	boiler liquid biomass ≥ 0.5 MWth (heat)	19.444	20.8	20.8	20.8	20.8	9.1	12	7,000	4
	boiler solid biomass ≥ 0.5 MWth (heat)	10.9	10.9	10.9	10.9	10.9	9.1	12	7,000	4
	thermal conversion > 10 MWe and ≤ 100 MWe (CHP)	19.444	22.2	22.2	22.2	22.2	7.1	12	6,351	4
	thermal conversion ≤ 10 MWe (CHP)	19.444	25.000	30.556	36.111	38.2	8.1	12	4,241	4
	thermal conversion heat extension	6.3	6.3	6.3	6.3	6.3	5.5	5	7,000	1.5
	extended life thermal conversion (CHP)	18.7	18.7	18.7	18.7	18.7	8.7	12	4,429	1.5
geothermal	geothermal (heat)	10.9	10.9	10.9	10.9	10.9	5.5	15	7,000	4
	geothermal (CHP)	18.9	18.9	18.9	18.9	18.9	8.1	15	4,667	4
solar thermal	solar thermal ≥ aperture surface area 100 m2 (heat)	19.444	25.000	30.556	36.1	36.1	13.7	15	700	3

*Table 8: Calculation example SDE contribution – Solar thermal aperture surface area > 100 m<sup>2</sup> (heat)*

Base amount phase 1 (free category)	19.444 €/GJ
Base amount from phase 4	36.1 €/GJ
Provisional correction amount 2012	13.7 €/GJ
Provisional SDE contribution in 2012 phase 1	$19.444 - 13.7 = 5.744$ €/GJ
Provisional SDE contribution in 2012 from phase 4	$36.1 - 13.7 = 22.4$ €/GJ
Maximum power of an installation with an aperture surface area of 100 m <sup>2</sup> : $0.7 * 70$ kW	
Maximum annual production eligible for a subsidy with an aperture surface area of 100 m <sup>2</sup> : $70 * 700 = 49,000$ kWh [is equal to] 176.4 MWh	
Provisional SDE contribution in 2012 phase 1	$5.744 * 176.4 = €1,013.24$
Provisional SDE contribution in 2012 phase 4	$22.4 * 176.4 = €3,951.36$

With an application for solar thermal you fill in the aperture surface area and the nameplate capacity. The nameplate capacity of the installation in kW is equal to the aperture surface area in m<sup>2</sup> multiplied by factor 0.7. You do not have to give a production estimate (= capacity \* full load hours). With your decision NL Agency assumes the maximum number of full load hours (700).

**From kWh or MWh to GJ**

1 kWh = 0.0036 €/GJ

1 MWh = 3.6 GJ

*Table 9 : Calculation example SDE contribution – Universal fermentation (solo application)*

Base amount phase 2 (free category)	25.000 €/GJ
Base amount phase 5	38.2 €/GJ
Provisional correction amount 2012	8.1 €/GJ
Provisional SDE contribution in 2012 phase 2	$25.000 - 8.1 = 16.9$ €/GJ
Provisional SDE contribution in 2012 phase 5	$38.2 - 8.1 = 30.1$ €/GJ
Maximum annual production eligible for a subsidy at an installation with power of 3 MWe: $3 * 4,241 = 12,723$ MWh [is equal to] 45,802.8 MWh	
Provisional SDE contribution in 2012 with start phase 2	$16.9 * 45,802.8 = €774,067$
Provisional SDE contribution in 2012 phase 5	$30.1 * 45,802.8 = € 1,378,664$

## ***New in the SDE+ 2012***

### *Opening in five phases (instead of four)*

In 2011 the majority of the applications were submitted in phase 1. In combination with the introduction of the new heat categories, this is the occasion to start phase 1 in 2012 with a base amount of maximally 7 €ct/kWh (converted to: 48.27 €ct/Nm<sup>3</sup> and 19.444 €/GJ).

### *Stimulating renewable heat and CHP*

With effect from 2012 the SDE+ is also open for heat projects. Only the heat usefully exploited comes into consideration for support. For renewable combined heat and power installations (CHPs), biomass or geothermal both the produced renewable electricity and the usefully exploited heat are supported.

### *Extended life and heat expansion*

For existing biomass installations there is the possibility of extended life or heat extension. Heat extension is also possible for existing waste incineration installations.

### *Banking missed production eligible for a subsidy*

From 2012 it is possible for categories (with the exception of wind energy) to transfer production space eligible for a subsidy to a next year if it is not utilised to use it later. After the normal subsidy period the producer obtains one further year to take up any unused production eligible for a subsidy. This also applies for installations already with a SDE decision. For wind energy the so-called wind factor remains maintained in 2012, which covers the risk of the operator's subsidy falling through.

### *Large-scale energy connection required for solar-PV*

In 2012 the solar-PV  $\geq 15$  kWp category is only open for installations connected to a large-scale energy connection (a connection to the electricity supply network of over 3 \* 80A).

### *(Extension) green gas hubs*

In 2011 the SDE+ is already open for the production of green gas through hubs. With effect from 2012 producers of crude biogas can also connect to a CHP or heat hub.

### *Own use of electricity eligible for a subsidy*

As distinct from previous years, for new applications under the 2012 regulation the energy consumption at one's own company is also eligible for a subsidy, with the exception of energy consumption in the production installation itself. With green gas there is no case of one's own use.

### *Implementing agreement*

For projects with a budget higher than €400 million, a subsidy decision is only provided under the suspensive condition that an implementing agreement is signed. In the implementing agreement the producer binds himself to realise the project within the maximum period for the technology for bringing into use under penalty of a penalty of a maximum of two per cent of the available amount.

### *New categories*

In 2012 the SDE is extended with the categories solar thermal with an aperture surface area of 100 m<sup>2</sup> or more, biomass gasification and a category onshore wind energy < 6 MW with extra full load hours.

For onshore wind energy < 6 MW in 2012 an extra category is introduced for installations that can run more full load hours (2,120) than the base category

(1,760 full load hours).

This extra category has a lower base amount than the base category and falls in the 2nd phase. Cheaper onshore wind energy projects then come into consideration earlier for SDE+.

In the SDE+ 2012 a category is opened for thermal pressure hydrolysis with water purification installations/sewer water cleaning installations. In this category only electricity is subsidised.

Landfill gas projects no longer come into consideration for a subsidy.

*Order for construction as reference date*

Within a year of the date of the decision the order for the construction of the installation must be given



## Results of the SDE

Table 10. Full summary of subsidy allocations and the realisation of renewable gas. As of 1 March 2012 – Biomass gas

Incentive scheme and category	Subcategory	Number of applications with positive allocation	Allocated budget (€ millions)	Allocated subsidy for production (Nm <sup>3</sup> million)	Allocated capacity (Nm <sup>3</sup> /h)	Realised capacity (Nm <sup>3</sup> /h)
<b>Biomass - gas</b>						
SDE 2008	Landfill gas/biogas from water treatment installations	1	0.3	3	40	40
	Green gas	-	-	-	-	-
SDE 2009	Landfill gas/biogas from water treatment installations	-	-	-	-	-
	Green gas	11	236.7	576	6,783	1,590
SDE 2010	Landfill gas/biogas from water treatment installations	1	1.5	22	350	-
	Green gas	8	191.3	425	4,428	502
SDE 2011	Landfill gas/biogas from water treatment installations	1	0.4	3	30	-
	Landfill gas/biogas from water treatment installations hub	1	0.8	25	261	-
	Green gas	25	931.8	1,941	20,730	-
	Green gas hub	3	67.1	153	1,591	-
<b>Total Biomass - gas</b>		<b>51</b>	<b>1,429.9</b>	<b>3,147</b>	<b>34,212</b>	<b>2,132</b>

Table 11: Full summary of subsidy allocations and the realisation renewable electricity.  
As of 1 March 2012 – Wind energy

Incentive scheme and category	Subcategory	Number of applications with positive allocation	Allocated budget (€ million)	Allocated subsidy for production (GWh)	Allocated capacity (MW)	Realised capacity (MW)
<b>Wind energy</b>						
SDE 2008	Onshore wind	21	72.5	1,223	46	37
SDE 2009	Onshore wind	58	1,352.6	16,952	466	36
	Offshore wind	3	5,384.8	33,166	719	-
SDE 2010	Onshore wind	71	931.5	13,110	488	79
SDE 2011	Onshore wind	12	216.4	3,209	119	-
	Offshore wind	-	-	-	-	-
<b>SDE total</b>		<b>165</b>	<b>7,957.8</b>	<b>67,660</b>	<b>1,839</b>	<b>152</b>
MEP	Onshore wind	756		2,183.9	1,615	1,615
	Offshore wind	2		800.8	228	228
<b>MEP total</b>		<b>758</b>	<b>2,984.7</b>		<b>1,843</b>	<b>1,843</b>
<b>Total Wind energy</b>		<b>923</b>	<b>10,942.5</b>		<b>3,683</b>	<b>1,995</b>

**MEP:** The subsidy scheme Environmental quality of electricity production: Feed-in regulation renewable electricity production in the period 2003 – 2006.

Table 12: Full summary of subsidy allocations and the realisation renewable electricity.  
As of 1 March 2012 – Solar power

Incentive scheme and category	Sub category	Number of applications with positive allocation	Allocated budget (€ million)	Allocated subsidy for production (GWh)	Allocated capacity (MW)	Realised capacity (MW)
<b>Solar power</b>						
<b>SDE 2008</b>	0.6 - 3.5 kWp	6,865	67.5	189	15	8
<b>SDE 2009</b>	0.6 - 15 kWp	2,361	54.6	169	13	10
	15 - 100 kWp	124	49.5	122	10	8
<b>SDE 2010</b>	1 - 15 kWp	3,724	62.4	229	18	9
	15 - 100 kWp	131	24.0	64	5	2
<b>SDE 2011</b>	≥ 15 kWp	678	35.5	757	50	< 1
<b>SDE total</b>		13,883	293.5	1,531	111	38
<b>MEP total</b>		554	6.5		11	11
<b>Total Solar power</b>		14,437	300.0		122	49

Table 13: Full summary of subsidy allocations and the realisation renewable electricity.  
As of 1 March 2012 – Hydro power

Incentive scheme and category	Subcategory	Number of applications with positive allocation	Allocated Budget (€ million)	Allocated subsidy for production (GWh)	Allocated capacity (MW)	Realised capacity (MW)
<b>Hydro power</b>						
<b>SDE 2009</b>	Drop < 5m	2	0.1	1	< 1	< 1
	Drop ≥ 5m	-	-	-	-	-
<b>SDE 2010</b>	Drop < 5m	1	54.3	687	12	-
	Drop ≥ 5m	-	-	-	-	-
<b>SDE 2011</b>	Drop < 5m	-	-	-	-	-
	Drop ≥ 5m	-	-	-	-	-
	Free flow	-	-	-	-	-
	Osmosis	-	-	-	-	-
<b>SDE total</b>		3	54.3	688	12	-
<b>MEP total</b>		7	103.5		24	24
<b>Total Hydro power</b>		10	157.9		36	24

Table 14: Full summary of subsidy allocations and the realisation renewable electricity.  
As of 1 March 2012 – Geothermal

Incentive scheme and category	Subcategory	Number of applications with positive allocation	Allocated budget (€ million)	Allocated subsidy for production (GWh)	Allocated power (MW)	Realised capacity (MW)
<b>Geothermal</b>						
<b>SDE 2011</b>	Geothermal	-	-	-	-	-
<b>Total Geothermal</b>		-	-	-	-	-

Table 15: Full summary of subsidy allocations and the realisation renewable electricity.  
As of 1 March 2012 – Biomass electricity

Incentive scheme and category	Subcategory	Number of applications with positive allocation	Allocated budget (€ million)	Allocated subsidy for production (GWh)	Allocated power (MW)	Realised capacity (MW)
<b>Biomass - electricity</b>						
<b>SDE 2008</b>	Waste incineration	2	178.3	4250	78	78
	Landfill gas/biogas from water treatment installations	-	-	-	-	-
	Biomass	6	33.4	485	5	4
<b>SDE 2009</b>	Waste incineration	2	133.8	2,805	49	49
	Landfill gas/biogas from water treatment installations	-	-	-	-	-
	Biomass	30	545.5	4,308	47	26
<b>SDE 2010</b>	Waste incineration	5	175.6	3,736	79	74
	Landfill gas/biogas from water treatment installations	1	0.6	40	1	1
	Biomass	29	431.2	3,127	33	11
<b>SDE 2011</b>	Waste incineration	-	-	-	-	-

	Landfill gas/biogas from water treatment installations	1	0.2	12	0	0
	Biomass	19	247.9	2,431	26	-
<b>SDE total</b>		95	1,746.5	21,191	318	241
<b>(OV-)MEP</b>	Waste incineration	1	59.7		74	74
	Landfill gas	23	13.0		14	14
	Biomass < 10 MW	132	981.0		149	147
	Biomass 10 - 50 MW	6	1,275.8		205	155
	Biomass < 50 MW	10	1,789.0		-	-
<b>(OV-)MEP total</b>		172	4,118.5		442	390
<b>Total Biomass - electricity</b>		267	5,865.0		760	631
<b>Total SDE and MEP electricity</b>		15,637	17,265.4		4,601	2,699

**Notes with table 10 - 15**

The information excludes projects of which the subsidy ended before 1 March 2012 as well as any withdrawn applications.

For waste incineration plants the total allocated power is used. Of the production from this power 51 – 53 % is designated as sustainably produced electricity. In the category biomass < 10 MW the OV-MEP (co-fermentation) applications are also included. The allocated production capacity of the category biomass > 50 MW is not included. With these so-called additional and co-firing projects in power stations it is not possible to determine the sustainable power because the use of sustainable fuel is variable.

The allocated maximum production of the MEP eligible for a subsidy is left out. For the MEP there is no clear maximising of the production eligible for a subsidy.

Table 16: Full summary of sustainable production and spending renewable gas in 2011

Incentive scheme and category	Production in 2011 (Nm <sup>3</sup> million)	Spending 2011 (€ million)
Total gas	7.0	4.3

On 1 March 2012 not all production in 2011 had yet been notified to NL Agency. In the SDE+ and SDE advance payments are made based on expected production and provisional correction amounts. Each year an adjustment takes place based on actual production and the final correction amounts.

Table 17: Full summary sustainable production and spending renewable electricity in 2011 - Wind energy

Incentive scheme and category	Subcategory	Production in 2011 (MWh)	Spending 2011 (€ million)
<b>Wind energy</b>			
<b>SDE 2008</b>	Onshore wind	75,348	3.2
<b>SDE 2009</b>	Onshore wind	92,050	3.6
	Offshore wind	-	-
<b>SDE 2010</b>	Onshore wind	49,058	2.2
<b>SDE 2011</b>	Onshore wind	-	-
	Offshore wind	-	-
<b>SDE total</b>		216,456	8.9
<b>MEP</b>	Onshore wind	3,740,208	244.6
	Offshore wind	801,741	72.3
<b>MEP total</b>		4,541,949	316.9
<b>Total Wind energy</b>		4,758,405	325.8

*Table 18: Full summary sustainable production and spending renewable electricity in 2011 – Solar power*

<b>Solar power</b>			
<b>SDE 2008</b>	0.6 - 3.5 kWp	3,626	2.0
<b>SDE 2009</b>	0.6 - 15 kWp	4,003	1.9
	15 - 100 kWp	3,279	1.4
<b>SDE 2010</b>	1 - 15 kWp	2,564	1.1
	15 - 100 kWp	528	0.2
<b>SDE 2011</b>	≥ 15 kWp	1	-
<b>SDE total</b>		14,001	6.6
<b>MEP total</b>		4,917	0.7
<b>Total Solar power</b>		18,918	7.3



Table 19: Full summary sustainable production and spending renewable electricity in 2011 – Hydro power

Incentive scheme and category	Subcategory	Production in 2011 (MWh)	Spending 2011 (€ million)
<b>Hydro power</b>			
<b>SDE 2009</b>	Drop < 5m	4	0.0
	Drop ≥ 5m	-	-
<b>SDE 2010</b>	Drop < 5m	-	-
	Drop ≥ 5m	-	-
<b>SDE 2011</b>	Drop < 5m	-	-
	Drop ≥ 5m	-	-
	Free flow	-	-
	Osmosis	-	-
<b>SDE total</b>		4	0.0
<b>MEP total</b>		42,332	4.4
<b>Total Hydro power</b>		42,336	4.4

Table 20: Full summary sustainable production and spending renewable electricity in 2011 – Geothermal

<b>Geothermal</b>			
<b>SDE 2011</b>	Geothermal	-	-
<b>Total Geothermal</b>		-	-

Table 21: Full summary sustainable production and spending renewable electricity in 2011 – Biomass electricity

Incentive scheme and category	Subcategory	Production in 2011 (MWh)	Spending 2011 (€ million)
<b>Biomass - electricity</b>			
<b>SDE 2008</b>	Waste incineration	120,023	8.5
	Landfill gas/biogas from water treatment installations	-	-
	Biomass	15,838	1.5
<b>SDE 2009</b>	Waste incineration	19,402	1.6
	Landfill gas/biogas from water treatment installations	-	-
	Biomass	102,060	16.6
<b>SDE 2010</b>	Waste incineration	-	3.9
	Landfill gas/biogas from water treatment installations	3,015	0.1
	Biomass	15,138	2.0
<b>SDE 2011</b>	Waste incineration	-	-
	Landfill gas/biogas from water treatment installations	-	-
	Biomass	-	-
<b>SDE total</b>		275,477	34.2
<b>(OV-)MEP</b>	Waste incineration	193,736	6.9
	Landfill gas	43,022	0.9
	Biomass < 10 MW	692,730	68.1
	Biomass 10 - 50 MW	697,322	68.3

	Biomass > 50 MW	3,184,602	192.8
<b>(OV-)MEP total</b>		4,811,413	337.0
<b>Total Biomass - electricity</b>		5,086,889	371.2
<b>Total SDE and MEP electricity</b>		9,906,548	708.6

The production for 2011 concerns registered production that has been notified to NL Agency before 1 March 2012. Not all production over 2011 was known on 1 March 2012. In the SDE+ and SDE advance payments are made based on expected production and provisional correction amounts. Each year an adjustment takes place based on actual production and the final correction amounts.

For waste incineration plants we use the total allocated capacity. Of the production from this power 51% is designated as sustainably produced electricity.

In the category biomass < 10 MW the OV - MEP (co-fermentation ) applications are also included.

Table 22: Budget ceiling per year

Year	Category	Published budget (€ million)
<b>2008</b>	<b>Renewable electricit</b>	
	Onshore wind energy	796
	Solar-PV	83
	Waste incineration	187
	Landfill gas or biogas from water treatment installations	10
	Biomass	325
	<b>Renewable gas</b>	
	Landfill gas or biogas from water treatment installations	16
	Biomass	42
	<b>Total SDE 2008</b>	<b>1,459</b>
<b>2009</b>	<b>Renewable electricity</b>	
	Wind energy ≥ 6 MW onshore	741
	Wind energy ≥ 3 MW offshore	546
	Offshore wind energy	5,384.8
	Onshore wind energy	1,258.1
	Solar-PV small (1.0 - 15 kWp)	86.5
	Solar-PV large (15 - 100 kWp)	56.5
	Waste incineration	158
	Landfill gas or biogas from water treatment installations	7
	Biomass	625

	Hydro power < 5 m	60
	Hydro power ≥ 5 m	15
	<b>Renewable gas</b>	
	Landfill gas or biogas from water treatment installations	15
	Biomass	243
	<b>Total SDE 2009</b>	<b>9,195.9</b>
<b>2010</b>	<b>Renewable electricity</b>	
	Onshore wind energy	937
	Solar-PV small (1.0 - 15 kWp)	69
	Solar-PV large (15 - 100 kWp)	24
	Waste incineration	238
	Landfill gas or biogas from water treatment installations	13
	Biomass	400
	Hydro power	63
	Combined heat and power system	168
	<b>Renewable gas</b>	
	Landfill gas or biogas from water treatment installations	24
	Biomass	190
	<b>Total SDE 2010</b>	<b>2,126</b>
<b>2011</b>	Renewable electricity	500
	Renewable gas	1,000
	<b>Total SDE 2011</b>	<b>1,500</b>

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