Government of the Netherlands

SDE ++ 2024
Stimulation of Sustainable Energy Production and Climate Transition

Opening 2024

Commissioned by the Ministry of Climate and Green Growth

Sustainable, Agricultural, Innovative and International Business

Inhoud

The SDE++ scheme

Stimulation of Sustainable Energy Production and Climate Transition (SDE++) scheme

The Stimulation of Sustainable Energy Production and Climate Transition (SDE++) scheme focuses on the large-scale roll-out of technologies for renewable energy production and other technologies that reduce carbon dioxide (CO_2) emissions.

What is the SDE++ scheme?

The SDE++ is an operating subsidy. In other words, the subsidy is payable during the operational period of your project. An SDE++ subsidy compensates the difference between the cost price of the renewable energy (or the reduction in CO_2 emissions) and the revenue (if any). This is referred to as the unprofitable component.

Subsidies are allocated for periods of 12 or 15 years. The duration of your subsidy will depend on which technology you use. The amount of the subsidy will depend on the technology used and the level of CO_2 reduction you ultimately achieve with it. This brochure contains details of the eligible technologies and applicable conditions.

For whom is the SDE++ scheme intended?

If you are planning to produce renewable energy or use carbon-reducing technologies, you may be entitled to an SDE++ subsidy. You may receive a subsidy as a business or organisation, whether non-profit or otherwise. You must operate in a sector such as industry, mobility, electricity, agriculture or the built environment. National government entities cannot apply for a subsidy.

Only the operator of a power generation facility can receive an SDE++ subsidy. If you do not plan to set up and operate the power generation facility yourself, you are not considered to be an operator and cannot apply for a subsidy.
If you plan to build and operate a single power generation facility together with other parties, you can establish a project entity for this purpose.

If you are the intended operator of the facility, you may submit not more than one application per category and per power generation facility this round of applications.

When will the SDE++ scheme open and what is the budget?

The round of applications for SDE++ 2024 will open in the autumn.
The opening dates will appear on the website.
A budget of €11.5 billion is available for all phases and categories combined.

Methodology of the SDE++ scheme

Base amount and application amount

A different base amount has been set for each technology. The base amount is the cost price for the production of renewable energy or the reduction of CO_2 emissions. This base amount is the maximum amount of subsidy you can apply for. The amount of the subsidy application may be lower than the base amount, but never higher. The application amount is fixed for the entire duration of the subsidy.

For almost all technologies, you must apply for an amount rounded off to 1 decimal place and expressed in euros per MWh. Only for Carbon Capture and Storage (CCS) or Carbon Capture and Utilisation (CCU), you can apply for an amount rounded off to 4 decimal places expressed in euros per tonne of CO_2 avoided.

Correction amount and base energy price/base greenhouse gas price

If you plan to generate and supply energy with one of these technologies, or use a CO_2-reducing technology as part of the SDE++ scheme, then you will also be generating revenue. You may also avoid the costs of purchasing energy or emissions allowances as a result of this energy generation. Your revenue and the avoided costs are compensated for with a correction amount.

The correction amount is determined annually, among others based on the market value of energy.
In the SDE++ scheme, the value of Guarantees of Origin (GOs) for the 'Wind' and 'Solar PV' categories forms part of the correction amount. As of the 2023 round of applications, a correction can also be applied for renewable gas GOs.
This is necessary because additional market revenues may be generated if a green gas blending requirement is introduced. This requirement is currently being developed.

If the technology concerned helps prevent the purchase, or generates revenue from the sale of CO_2 emissions allowances under the European Emissions Trading System (EU-ETS), this too is taken into account in the correction amount.

A lower limit has been set for the correction amount: the base energy price or the base greenhouse gas price.
The correction amount may not be lower than the base energy price or the base greenhouse gas price.
These amounts are based on two-thirds of the long-term price, which is the average expected revenue over the entire duration of the SDE++ subsidy.

Subsidy intensity

SDE++ applications are assessed based on the subsidy amount requested per tonne of CO_2 reduction. This is called the subsidy intensity. The subsidy intensity is rounded off to 3 decimal places.

The subsidy intensity depends on the application amount, the long-term price and the emissions factor. Starting with the SDE++ scheme for 2024, depending on the category of power generation facilities, in addition to the long-term energy or product price, the long-term price may also include other long-term prices for the value of the GO, the HBE price or the ETS price. You can calculate the subsidy intensity using the calculation tool on the SDE++ website under step 1, 'Bepaal in welke fase u aanvraagt' (Determining the application phase).

The subsidy intensity is calculated using one of the following formulae:

Subsidy intensity, all categories except for Carbon Capture and Storage (CCS) and Carbon Capture and Utilisation (CCU).

Subsidy intensity [euro/tonne CO_2] =
(application amount [euro/kWh] - long-term price [euro/kWh]) /
(emissions factor [kg CO_2/kWh] / 1,000)

Subsidy intensity for Carbon Capture and Storage (CCS) and Carbon Capture and Utilisation (CCU).

Subsidy intensity [euro/tonne CO_2] =
(application amount [euro/tonne CO_2] - long-term price [euro/tonne CO_2]) / (emissions factor [kg CO_2/tonne CO_2] / 1,000)

Phased opening and ranking

The 2024 SDE++ scheme has five phases. During each phase, you may apply for a subsidy only up to a predetermined subsidy intensity per tonne of CO_2 emission reduction. This is the phase limit. This amount will gradually be increased during subsequent phases. You may also submit applications for a lower subsidy amount than the maximum set for the relevant technology. You can do this by applying for a lower amount than the maximum base amount and phase amount. By applying for a lower subsidy intensity, you will increase the chances of your application being approved.

Phase	Phase Subsidy intensity phase limit (€/tonne CO_2)
Phase 1	75
Phase 2	150
Phase 3	225
Phase 4	300
Phase 5[1]	400

[1] *For phase 5, for categories outside the domains, a phase limit of 400 €/tonne CO_2 applies*

First come, first served processing

We will process subsidy applications in the order in which we receive them. Applications received after 17:00 or on non-business days are considered to have been received on the next business day. In other words, each business day begins at 17:00 and runs until 17:00 the following business day. This also applies at the start of a new phase. The time of receipt of the subsidy application during a business day is not taken into account.

Domain fencing

Domain fencing was introduced in the round for 2023. Domain fencing affects how the budget is distributed, not the subsidy application itself.

A domain fence ensures that certain technologies with a higher subsidy intensity are more likely to be approved. A domain fence is used to reserve a budget for such a technology. This will facilitate technologies that are less cost-effective in the short term but are necessary to achieve the energy transition in the longer term, the costs of which may fall as they are more widely deployed.

Three domain fences will be established in this round of applications, with a budget of €1 million reserved for each domain. These domains are: 'Low-temperature heat', 'High-temperature heat' and 'Molecules'. The table below displays which technologies fall under these domains.

Domain High-temperature heat	Domain Low-temperature heat	Domain Molecules
• Biomass incineration technologies	• Biomass fermentation technologies (renewable heat)	• Biomass fermentation technologies (renewable gas)
• Ultra-deep geothermal energy	• Composting	• Biomass gasification
• Industrial heat pump (open)	• Solar thermal energy	• Electrolytic hydrogen production
• Electric boiler	• Deep geothermal energy	• Advanced renewable fuels
• Process-integrated heat pump	• Geothermal energy with heat pump	
	• • Aquathermal energy	
	• • Air-water heat pump	
	• • Solar PVT with heat pump	
	• • Daylight greenhouses	
	• • Industrial heat pump (closed circuit)	
	• • Waste heat recovery	

Technologies that do not fall under any of the above domains, such as renewable electricity production technologies, CCS and CCU, may still be applicable for an SDE++ subsidy (the three domain fences add up to €3 billion, while €11.5 billion in total is available this round of applications).

We will process the subsidy applications within the domain fences in the order in which they are received. Once the budget for a fenced domain has been distributed, any remaining applications for this domain will be processed outside the domain fences budget. These will also be processed in the order in which they are received and compete with other projects such as electricity, CCS and CCU. Any budget that is not distributed within a domain fence will be added to the budget outside the domain fences, so that other technologies can still claim it.

In 2024, the maximum subsidy intensity limit within the domain fences is €400 per tonne CO_2 reduction. This limit was set to ensure the cost effectiveness of the SDE++ scheme. For all technologies outside the domain fences, the maximum subsidy intensity is €300 per tonne CO_2 reduction. This base amount is always the maximum amount of the subsidy application. In most cases, this will be lower than the maximum subsidy intensities described above.

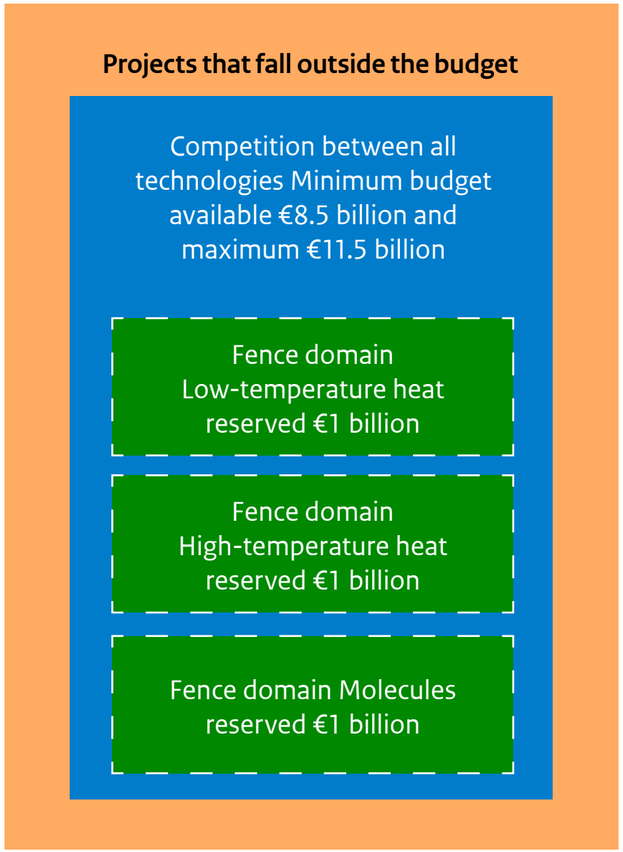
The figure below provides a visual representation of how domain fencing works.

Reaching the budget limit

If the budget limit is exceeded on a given day, we will rank the projects on that day based on subsidy intensity (the lower the subsidy intensity, the higher the ranking). If the budget limit is exceeded by projects with the same subsidy intensity, lots will be drawn for these projects.

Assessment of applications

We will only process completed applications. This means that the application form must be fully completed and all attachments required for the category must be included. We will then review your application for feasibility and technical, financial and economic viability. We will also check whether the application meets the category requirements. Only fully completed applications for feasible and viable projects are eligible for a subsidy.



Green blocks: the domain-specific fences

- For 'Low-temperature heat', 'High-temperature heat' and 'Molecules', a budget of €1 billion has been reserved for each domain.
- For technologies within the domains 'Low-temperature heat', 'High-temperature heat' and 'Molecules', the maximum subsidy intensity is 400 €/tonne CO_2 as opposed to 300 €/tonne CO_2.

Blue block: competition between all technologies

- The following projects are eligible for this part of the budget:
  - projects in the domains not placed within a fence;
  - projects within a fence that have not been approved because the fence was 'full'.

If a fence is not fully utilised because within the domain there are insufficient projects that are eligible for subsidy, the remainder of the budget for the fence will be transferred to the block 'Competition between all technologies'.

Orange block: projects for which budgets may not be available

- The maximum subsidy awarded will not exceed the total available budget of €11.5 billion. In other words, as in previous rounds of applications, it is possible that no further budget is available for projects.

During the assessment period, we may ask you to provide further information or supplementary documents to support your application. Subsidy applications are assessed within 13 weeks, starting from the date the application was submitted. We may extend the assessment period by a maximum of 13 weeks if required. After the deadline for applications closes, we will publish an outline application progress report on our website.

Resubmitting an application

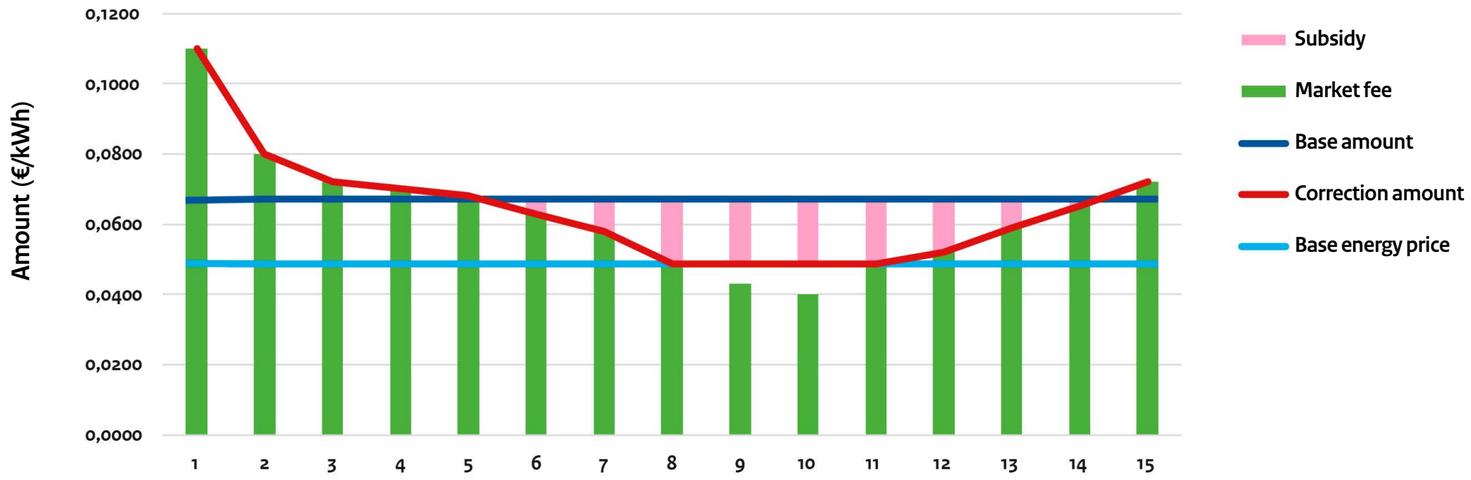
If your project has suffered delays which mean that you are no longer able to meet the target date by which you intended to commission the facility, or if there are other reasons why you are unable to continue with your current decision, you may resubmit an application for your project. This is only possible if you have not made any irreversible investments. As a rule, it is not possible to resubmit an application from 2023. Not even if the rates are more favourable.
Your new subsidy application must satisfy the requirements applicable for the round of applications for 2024.

Before reapplying for a subsidy, you must submit a reasoned request to us to withdraw your current subsidy decision, stating why the project cannot be developed based on this decision. This request can be sent to sde@rvo.nl, stating your SDE project number. We will assess whether the current subsidy decision can be withdrawn. If you submit a new application before your current subsidy decision has been withdrawn, the new application will have to be rejected. This is because the scheme allows for no more than one positive decision to be issued for each power generation facility. You can submit your request for withdrawal simultaneously with your new application.
This option is offered on the application form for your new application. However, we recommend that you submit your request for withdrawal to us, as early as possible. In this way we can clarify your situation more quickly.

SDE++ subsidy amount

The SDE++ subsidy is equal to the application amount less the correction amount. If the correction amount is equal to the base energy price or base greenhouse gas price, you will be granted the maximum subsidy. If the correction amount is higher than the application amount, you will not receive a subsidy.
The graph below (‘Mechanism for reimbursement of the unprofitable component in the SDE++ scheme’) illustrates how this system works. For the round of applications for 2024, the SDE++ amount for all Solar PV and Wind categories will be determined differently. For more details, read the chapter ‘Renewable electricity’.

Example mechanism for reimbursement of the unprofitable component SDE++
Solar PV ≥ 1 MWp roof-bound (non-grid supply)



High energy or CO_2 prices

In case of high energy or CO_2 prices, the correction amount may be higher than the application amount. If this is the case you will not receive a subsidy. We advise you to take this mechanism into account in the contracts with your customers.

Subsidy decision

The subsidy granted to you by the Netherlands Enterprise Agency (RVO) in the decision is the maximum amount you can receive over the entire duration of the subsidy (12 or 15 years, depending on the technology). We determine this maximum amount based on the power output of the facilities and the production volume. The actual production is capped based on a maximum number of full-load hours for each technology. In practice, the actual subsidy amount you receive will almost always be lower than the maximum amount of the subsidy decision.

Maximum SDE++ contribution =
(application amount – base energy price or base greenhouse gas amount) * production or CO_2 reduction

Payment of the SDE++ subsidy

We will pay the SDE++ subsidy in the form of monthly advances. After the end of each calendar year, the subsidy is adjusted based on the actual production or CO_2 reduction and the final correction amount.

Negative electricity prices

If you have received a subsidy for renewable electricity production but the price of electricity is negative, you will not receive an SDE++ subsidy for the feed-in of renewable electricity. The electricity prices (day-ahead) are fixed on an hourly basis. Should these prices be fixed every 15 minutes in the future, we will correct the subsidies accordingly. If you receive a positive decision for 2023 or a positive decision in the 2024 round of applications, this subsidy will apply to power generation facilities with a rated power output for feed-in supply of 200 kW or more. If you were granted a subsidy in any round of applications between 2015 and 2022, the old conditions of 500 kW or more for solar PV, hydropower and osmosis and 3 MW or more for wind energy will continue to apply. For these decisions, the correction will be applied during periods with a negative electricity price of 6 continuous hours or longer.

SDE++ scheme technologies

Main category Technology	Technology
Renewable electricity	Osmosis
	Hydropower
	Wind
	Solar PV
Renewable gas	Biomass fermentation
	Biomass gasification
Renewable heat (CHP)	Biomass fermentation
	Biomass incineration
	Composting
	Solar thermal energy
	Geothermal energy

Main category	Technology
Low carbon heat	Aquathermal energy
	Air-water heat pump
	Daylight greenhouses
	Solar PVT panels with heat pump
	Electric boilers
	Geothermal energy with heat pump
	Waste heat recovery
	Industrial heat pumps
Low carbon production	Electrolytic hydrogen production
	Carbon Capture and Storage (CCS)
	Carbon Capture and Utilisation (CCU)
	Advanced renewable fuels

Renewable electricity

Renewable electricity

The 'Renewable electricity' SDE++ category includes the technologies 'Osmosis', 'Wind', 'Hydropower' and 'Solar PV'. This section explains the general conditions for electricity production in SDE++ 2024 and the technology-specific application conditions. The table 'Phases and tariffs for renewable electricity in SDE++ 2024' at the end of this section provides an overview of the categories, associated phase amounts, full-load hours and other key figures.

Required attachments

If you are applying for one of the renewable electricity categories, you must include a number of attachments with your application. These are explained in 'Documents to attach to renewable electricity applications'.

Osmosis

If you produce renewable electricity by harnessing the difference in salt concentration between two bodies of water (osmosis), you can apply for a subsidy for this power generation facility.

Hydropower

- Only energy derived from water that is not specially pumped upwards for the purpose of generating energy is applicable for the SDE++ subsidy. Subsidies are available for 2 categories:
- New hydroelectric power plants with a hydraulic drop < 50 cm. Various types of power generation facilities fall under this category, such as facilities based on free-flowing water, water turbines based on tidal energy with a hydraulic drop < 50 cm, and facilities for converting wave energy into renewable electricity.
- New hydroelectric power stations with a hydraulic drop of ≥ 50 cm;

New in SDE++ 2024 for Wind and Solar PV

- From 2024 onwards, it is only possible to apply for a subsidy for grid supply; energy generated for own use will no longer be subsidised
- Banking overproduction (backward banking) is due to lapse. Banking can be applied for most SDE++ applications. Banking involves either carrying forward any eligible annual production that you have not used to later years (forward banking), or transferring any eligible annual production above the maximum amount to later years (backward banking). For new decisions granted in 2024, backward banking is no longer possible in any Solar PV and Wind categories
- Setting off excess profit
  In the SDE++ scheme, from 2024 onwards, for all categories of Solar PV and Wind, excess profit will be set off against the subsidy you receive for grid supply. In other words, this does not apply to the electricity you use yourself. A limit will be imposed above the submission amount; this is known as the generation limit amount. This has been set at 1.8 cent per kilowatt hour above the base amount applicable for the category. Any profit generated above this generation limit amount is known as excess profit, and you will be required to pay back this amount or it will be set off against your subsidy. For more information about the generation limit amount and the setting off of excess profits, read the 'SDE category designation scheme' and our website.

Wind

You can apply for a subsidy for wind turbines for the categories 'Onshore wind', 'Onshore wind with a height restriction' and 'Wind on flood defences'.

Wind speeds

All municipalities in the Netherlands have been classified into one of 6 wind speed categories.
A different base amount has been calculated for each wind speed category. The wind speed categories are:

- ≥ 8.5 m/s
- ≥ 8 en < 8.5 m/s
- ≥ 7.5 en < 8.0 m/s
- ≥ 7.0 en < 7.5 m/s
- ≥ 6.75 en < 7.0 m/s
- < 6.75 m/s

Wind map

We use the wind map for all wind categories. This map: 'Windsnelheid per gemeente in Nederland' (Wind speed per municipality in the Netherlands), shows the average wind speed for each Dutch municipality and is based on a wind map produced by the Royal Dutch Meteorological Institute (KNMI). The SDE++ 2024 scheme applies the municipal wind speed categories established on 1 January 2024. You will find a list of municipalities in Annex 2 of the 'Designation Scheme for SDE categories'. A different base amount has been calculated for each wind speed category.

The wind map shows which wind speed category applies to your project location. You can select the appropriate municipality when you submit your subsidy application through the online portal (eLoket). The name of the municipality may be different from the place name of the location where you will implement the project. Owing to significant differences in wind speeds, the municipality of Rotterdam has been further divided into districts and neighbourhoods, so keep this in mind when selecting a municipality in eLoket.

Large-scale grid connection

The 'Wind' category is open only for wind turbines that are connected to the electricity grid with a large-scale grid connection (This is a connection to the electricity grid with a total maximum power rating of more than 3 * 80 A).
If you are a producer with a small grid connection, you might be entitled to these subsidies:

- a grant under the Subsidy Scheme for Cooperative Energy Generation (SCE)
- Sustainable Energy Investment Grant (ISDE)

Combined applications

You can also combine applications for wind categories. This may be useful if you want to implement a project in collaboration with other applicants, but only if all of the applications have been separately approved. If the subsidy applications received on any one day exceed the available budget, we will rank the applications by subsidy intensity in euros per tonne of CO_2 reduction. In the case of combined applications, the highest amount of the applications in the combination will apply. If it becomes necessary to draw lots, the combined applications will be treated as a single application.

Onshore wind with a height restriction

The 'Onshore wind with a height restriction' category is a new addition to the SDE++ scheme. This is due to national laws and regulations that apply if an airport is located in the surrounding area. The tip height of wind turbines in that area is limited to 150 metres. If you are applying for a subsidy for wind turbines in an area subject to height restrictions, you must indicate this when you submit your application.
You can find more information about these height restrictions in Section 2.5.4 'Civilian airports and military airfields (CNS and aviation safety)' of PBL's 'Height-restricted Onshore Wind' memorandum.
The 'Aviation Height Restrictions' viewer can be found on the 'Building height restrictions' page of RVO's website. The map layers of the Ministry of Defence and the Human Environment and Transport Inspectorate (ILT) in the viewer apply to height restrictions near airports. From 2024 onwards, projects for this category will also be eligible if they are unable to realise higher wind turbines in connection with possible disruption of military radar imaging. These are power generation facilities realised in a local air traffic control area around the airports Schiphol, De Kooy, Deelen, Eindhoven, GilzeRijen, Leeuwarden, De Peel, Volkel, Woensdrecht or the section of the Kleine-Brogel located above Dutch territory.

Wind on flood defences

In the 'Wind on flood defences' category, you can apply for a subsidy for wind turbines on a structure belonging to the Directorate-General for Public Works and Water Management. The wind turbines may also be erected in the restricted area of the flood defences. This relates to primary flood defences that offer protection against flooding by water from a body of surface water the water level of which is affected directly by high storm surges, high water level in one of the major rivers, high water in the IJsselmeer or Markermeer, or a combination of the above, and of the Volkerak-Zoommeer, the Grevelingenmeer, the tidal section of the Hollandsche IJssel and the Veluwerandmeren. You may also apply for a subsidy for wind turbines erected in the restricted area of coastal flood defences. This relates to wind turbines on the waterside of flood defences bordering the North Sea, the Western Scheldt, the Eastern Scheldt, the Wadden Sea, the Dollard, the Ems and the hard and soft Maasvlakte 2 seawalls.

Wind turbines placed on flood defences that do not fall into the 'Wind on flood defences' category fall into the 'Onshore wind' category. The 'SDE++ Wind on flood defences' map provides an overview of inland and coastal flood defences. .

Replacement of wind turbines

When replacing wind turbines, you can apply for a subsidy only if:

- both the rated output and the target output for each wind turbine are at least 1 MW greater than for the turbine to be replaced;
- The old wind turbine has been in use at the location for at least 15 years (up until the date of replacement) and started operation at least 13 years before the subsidy application was submitted.

Solar PV

You can apply for a subsidy for photovoltaic solar panels (Solar PV). These must be solar panels with a peak output of ≥ 15 kWp and a connection to the grid with a total maximum power output of more than 3 x 80 A (a large-scale grid connection).

New categories Solar PV 2024

Solar PV building-mounted with minor roof alterations or lightweight panels

This category is intended for:

- Facilities for which (minor) alterations are necessary to an existing roof. These are alterations in the structure of the roof or the installation of a roof structure that relieves the load on the roof. For this category, together with your application, you must submit the 'declaration regarding the load-bearing capacity of the roof structure'. In the declaration, the structural engineer indicates which alterations need to be made to the structure to make it suitable.
- Facilities with lightweight panels. These weigh a maximum of 10 kilogram per m2 of roof surface covered with solar panels.

Nature-inclusive Solar PV

These categories include conditions for taking further account of nature. These conditions must also appear in the environmental and planning permit:

- Viewed from above, there must be at least 25% open space between the tables with solar panels.
- You must provide a layout plan and management plan which describe your efforts to prevent deterioration in soil quality, water quality and ecological quality during the subsidy period.
- You monitor the effects of the power generation facility on soil quality, water quality and biodiversity. As necessary, you take additional measures to prevent deterioration in soil quality, water quality and ecological quality during the subsidy period.
- You perform a baseline measurement to determine the current value of soil quality, water quality and ecological quality.

For the assessment of your application, it is important that the competent authority includes the criteria as described above in the environmental and planning permit.

The following 17 Solar PV categories are included in this round of applications:

Base amounts Solar PV			15 KWp - 1 MWp	1 MWp - 20 MWp	≥ 20 MWp
Roof			0.0791	0.0734	
	minor roof alteration		0.0828	0.0772	
Field	fixed direction		0.0818	0.0663	0.0624
		nature-inclusive	0.0896	0.0706	0.0660
	solar tracking			0.0663	0.0624
		nature-inclusive		0.0706	0.0660
Water	fixed direction		0.0948	0.0770	
	solar tracking			0.0770	

Large-scale grid connection

The 'Solar PV' category applies solely to facilities connected to a large-scale grid connection. This is a connection to the electricity grid with a total maximum power output of more than 3 x 80 A. It is also possible to connect your facility to the grid using multiple large-scale grid connections.
You can also connect your power generation facility to the electricity grid using the large-scale grid connection of an adjacent site, although your facility must of course be installed at the location to which the subsidy applies. If you intend to construct a power generation facility at two adjacent sites, or if your site has multiple street numbers, describe the situation clearly in your subsidy application.

Restriction of additionally contracted feed-in capacity

For the 2024 round of applications, with the exception of solar tracking projects, all solar PV projects are subject to the restriction that
any additional contracted feed-in capacity of the power generation facility may be up to a maximum of 50% of the peak power output of the solar panels. Projects are compensated for the limited loss of revenue due to less full-load hours and a higher base amount. The application form includes additional questions about the grid connection and the contracted feed-in capacity.

Several scenarios are conceivable for the feed-in capacity. For example, the subsidy application may involve a new contract or the extension of an existing one. In the case of new connections, there is no existing feed-in capacity and so the feed-in capacity in the contract may be up to a maximum of 50% of the peak power output of the solar panels. For existing contracts, the feed-in capacity allocated to other facilities (such as a wind farm or an existing solar PV system) does not have to be included in the calculation.

Any feed-in capacity that is additionally included in the contract for the new power generation facility may be maximum 50% of the peak power output of the solar panels. If your current feed-in capacity exceeds the peak power output of the existing facility, you must deduct this excess capacity from the amount of the contract for the new power generation facility (maximum 50% of the peak power output).
This change allows for more renewable energy projects to be developed using the same grid capacity.

Grid supply and non-grid supply

From 2024 onwards, it is only possible to apply for a subsidy for generated energy that is supplied to the grid. The applicable base energy prices and correction amounts are listed here.

Solar tracking systems

With solar tracking systems, the panels automatically turn to follow the sun, enabling you to achieve higher energy production. Solar tracking systems have higher investment costs than standard systems, but they also have a higher number of full-load hours that qualify for the subsidy. For this reason, the base amounts and correction amounts are the same as for standard systems. A feasibility study is required

for solar tracking systems, which must include an energy yield calculation. We will use this calculation to determine the maximum number of full-load hours.

Solar farm with fixed solar panels and solar tracking panels combined
If you wish to submit a subsidy application for a solar farm where not all of the panels are solar tracking, you will have to submit 2 separate applications: 1 application for the panels that do track the sun and 1 for those that do not. You only have to carry out the energy yield calculation for the solar tracking panels. It is not possible to change categories once you have submitted the subsidy application.

Bifacial solar panels
If you wish to use bifacial solar panels for your project, you may apply for a subsidy for a higher production capacity (in kWp). In the Netherlands, the yield from these panels is not more than 15% higher (per year) compared with a system with monofacial PV panels. Please enclose an explanation showing how you calculated the production capacity of your bifacial panels with your subsidy application, substantiated with a datasheet of the model of solar panel concerned if possible.

Calculation example for Solar PV

This example is based on a building-mounted Solar PV system with 40% grid supply and 60% non-grid supply, with 2 kWp output.	
Category: Solar PV ≥ 1 MWp, building-mounted	
Maximum application amount in phase 1	0.0734 €/kWh
GO value solar PV grid supply	0.0040 €/kWh
Provisional correction amount in 2024 grid supply[1]	0.1243 + 0.0040 = 0.1283 €/kWh
Fictitious provisional correction amount 2030 grid supply[1]	0.0634 + 0.0040 = 0.0674 €/kWh
Provisional 2024 SDE++ subsidy for the maximum application amount in phase 1:	
Grid supply[2]	7.34 - 12.83 = 0.00 €ct/kWh = € 0.00/MWh
Fictitious provisional 2030 SDE++ subsidy for the maximum application amount in phase 1:	
Grid supply	7.34 - 6.74 = 0.60 €ct/kWh = € 6.00/MWh
Maximum number of eligible full-load hours	840 full-load hours
Total rated output	2 MWp
Expected annual production grid supply eligible for subsidy for a facility with an output of 2 MWp	2 * 840 * 40% = 672 MWh
Provisional 2023 SDE++ subsidy for the maximum application amount in phase 1:	
Grid supply: 672 * € 0,00	€ 0
Total	**€ 0**
Provisional 2030 SDE++ subsidy for the maximum application amount in phase 1	
Grid supply: 672 * € 6,00	€ 4.032
Total	**€ 4.032**

[1] *The GO value will also be taken into account when calculating the provisional correction amount for this category.*
[2] *The provisional correction amount is higher than the base amount for this category. If this is also the case for the definitive correction amount, you will receive no subsidy for this part of the electricity production for this year. The SDE++ subsidy cannot become negative. This means that no payment will be due from you should this situation arise.*

Phasing and tariffs for renewable electricity SDE++ 2024	Maximum phase amount/base amount					Basic energy price	Provisional correction amount 2024	Generation limit amount	Maximum full load hours	Contract period	Commis-sioning period	Subsidy term	Fenced domain
Category	Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	(For Solar PV grid supply) €/kWh	for Solar PV grid supply and wind including the value of GOs) €/kWh	€/kWh	*Hours/year*	*years*	*years*	*years*	
Water													
Hydropower, drop height < 50 cm; (including wave energy and free current energy)	0.1037	0.1134	0.1232	0.1329	0.1329	0.0626	0.1488	-	3700	1.5	4	15	-
Hydropower, drop height ≥ 50 cm	0.1037	0.1134	0.1232	0.1329	0.1329	0.0626	0.1488	-	5700	1.5	4	15	-
Osmosis	0.1037	0.1134	0.1232	0.1329	0.1329	0.0626	0.1488	-	8000	1.5	4	15	-
Wind													
Onshore wind, ≥ 8.5 m/s	0.0480	0.0480	0.0480	0.0480	0.0480	0.0410	0.1149	0.0660	P50	1.5	4	15	-
Onshore wind, ≥ 8.0 and < 8.5 m/s	0.0504	0.0504	0.0504	0.0504	0.0504	0.0410	0.1149	0.0684	P50	1.5	4	15	-
Onshore wind, ≥ 7.5 and < 8.0 m/s	0.0561	0.0561	0.0561	0.0561	0.0561	0.0410	0.1149	0.0741	P50	1.5	4	15	-
Onshore wind, ≥ 7.0 and < 7.5 m/s	0.0618	0.0618	0.0618	0.0618	0.0618	0.0410	0.1149	0.0798	P50	1.5	4	15	-
Onshore wind, ≥ 6.75 and < 7.0 m/s	0.0662	0.0662	0.0662	0.0662	0.0662	0.0410	0.1149	0.0842	P50	1.5	4	15	-
Onshore wind, < 6.75 m/s	0.0715	0.0715	0.0715	0.0715	0.0715	0.0410	0.1149	0.0895	P50	1.5	4	15	-
Onshore wind, height-restricted, ≥ 8.5 m/s	0.0553	0.0553	0.0553	0.0553	0.0553	0.0410	0.1149	0.0733	P50	1.5	4	15	-
Onshore wind, height-restricted, ≥ 8.0 and < 8.5 m/s	0.0591	0.0591	0.0591	0.0591	0.0591	0.0410	0.1149	0.0771	P50	1.5	4	15	-
Onshore wind, height-restricted, ≥ 7.5 and < 8.0 m/s	0.0666	0.0666	0.0666	0.0666	0.0666	0.0410	0.1149	0.0846	P50	1.5	4	15	-
Onshore wind, height-restricted, ≥ 7.0 and < 7.5 m/s	0.0736	0.0748	0.0748	0.0748	0.0748	0.0410	0.1149	0.0928	P50	1.5	4	15	-
Onshore wind, height-restricted, ≥ 6.75 and < 7.0 m/s	0.0736	0.0808	0.0808	0.0808	0.0808	0.0410	0.1149	0.0988	P50	1.5	4	15	-
Onshore wind, height-restricted, < 6.75 m/s	0.0736	0.0818	0.0880	0.0880	0.0880	0.0410	0.1149	0.1060	P50	1.5	4	15	-
Wind on flood defences, ≥ 8.5 m/s	0.0545	0.0545	0.0545	0.0545	0.0545	0.0410	0.1149	0.0725	P50	1.5	4	15	-

Phasing and tariffs for renewable electricity SDE++ 2024	Maximum phase amount/base amount					Basic energy price	Provisional correction amount 2024	Generation limit amount	Maximum full load hours	Contract period	Commis-sioning period	Subsidy term	Fenced domain
Category	Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	(For Solar PV grid supply) €/kWh	for Solar PV grid supply and wind including the value of GOs) €/kWh	€/kWh	*Hours/year*	*years*	*years*	*years*	
Wind on flood defences, ≥ 8.0 and < 8.5 m/s	0.0570	0.0570	0.0570	0.0570	0.0570	0.0410	0.1149	0.0750	P50	1.5	4	15	-
Wind on flood defences, ≥ 7.5 and < 8.0 m/s	0.0635	0.0635	0.0635	0.0635	0.0635	0.0410	0.1149	0.0815	P50	1.5	4	15	-
Wind on flood defences, ≥ 7.0 and < 7.5 m/s	0.0700	0.0700	0.0700	0.0700	0.0700	0.0410	0.1149	0.0880	P50	1.5	4	15	-
Wind on flood defences, ≥ 6.75 and < 7.0 m/s	0.0736	0.0750	0.0750	0.0750	0.0750	0.0410	0.1149	0.0930	P50	1.5	4	15	-
Wind on flood defences, < 6.75 m/s	0.0736	0.0809	0.0809	0.0809	0.0809	0.0410	0.1149	0.0989	P50	1.5	4	15	-
Solar													-
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, building-mounted (grid = 50%)	0.0791	0.0791	0.0791	0.0791	0.0791	0.0492	0.1283	0.0971	840	-	2	15	-
Solar PV ≥ 1 MWp, building-mounted (grid = 50%)	0.0734	0.0734	0.0734	0.0734	0.0734	0.0492	0.1283	0.0914	840	1.5	3	15	-
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, building-mounted with minor roof alteration or lightweight panels (grid = 50%)	0.0828	0.0828	0.0828	0.0828	0.0828	0.0492	0.1283	0.1008	840	-	2	15	-
Solar PV ≥ 1 MWp, building-mounted with minor roof alteration or lightweight panels (grid = 50%)	0.0772	0.0772	0.0772	0.0772	0.0772	0.0492	0.1283	0.0952	840	1.5	3	15	-
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, floating on water (grid = 50%)	0.0884	0.0948	0.0948	0.0948	0.0948	0.0492	0.1283	0.1128	855	-	2	15	-
Solar PV ≥ 1 MWp, floating on water (grid = 50%)	0.0770	0.0770	0.0770	0.0770	0.0770	0.0492	0.1283	0.0950	855	1.5	4	15	-

Phasing and tariffs for renewable electricity SDE++ 2024	Maximum phase amount/base amount					Basic energy price	Provisional correction amount 2024	Generation limit amount	Maximum full load hours	Contract period	Commis-sioning period	Subsidy term	Fenced domain
Category	Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	(For Solar PV grid supply) €/kWh	for Solar PV grid supply and wind including the value of GOs) €/kWh	€/kWh	*Hours/year*	*years*	*years*	*years*	
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, on land (grid = 50%)	0.0818	0.0818	0.0818	0.0818	0.0818	0.0492	0.1283	0.0998	855	-	2	15	-
Solar PV ≥ 1 MWp and < 20 MWp, on land (grid = 50%)	0.0663	0.0663	0.0663	0.0663	0.0663	0.0492	0.1283	0.0843	855	1.5	4	15	-
Solar PV ≥ 20 MWp, on land (grid = 50%)	0.0624	0.0624	0.0624	0.0624	0.0624	0.0492	0.1283	0.0804	855	1.5	4	15	-
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, on land nature-inclusive (grid = 50%)	0.0884	0.0896	0.0896	0.0896	0.0896	0.0492	0.1283	0.1076	855	-	2	15	-
Solar PV ≥ 1 MWp and < 20 MWp, on land nature-inclusive (grid = 50%)	0.0706	0.0706	0.0706	0.0706	0.0706	0.0492	0.1283	0.0886	855	1.5	4	15	-
Solar PV ≥ 20 MWp, on land nature-inclusive (grid = 50%)	0.0660	0.0660	0.0660	0.0660	0.0660	0.0492	0.1283	0.0840	855	1.5	4	15	-
Solar PV ≥ 1 MWp and < 20 MWp, on land solar tracking systems	0.0663	0.0663	0.0663	0.0663	0.0663	0.0492	0.1283	0.0843	1045	1.5	4	15	-
Solar PV ≥ 1 MWp and < 20 MWp, on land solar tracking systems nature-inclusive	0.0706	0.0706	0.0706	0.0706	0.0706	0.0492	0.1283	0.0886	1045	1.5	4	15	-
Solar PV ≥ 20 MWp, on land solar tracking	0.0624	0.0624	0.0624	0.0624	0.0624	0.0492	0.1283	0.0804	1045	1.5	4	15	-
Solar PV ≥ 20 MWp, on land solar tracking nature-inclusive	0.0660	0.0660	0.0660	0.0660	0.0660	0.0492	0.1283	0.0840	1045	1.5	4	15	-
Solar PV ≥ 1 MWp, solar tracking on water	0.0770	0.0770	0.0770	0.0770	0.0770	0.0492	0.1283	0.0950	1190	1.5	4	15	-

Documents to attach to renewable electricity applications

You must include a number of attachments with your subsidy application. In the table below you can see which attachments may be required for your technology. These attachments are explained in more detail below the table and you can also download the required formats.

Table compulsory attachments categories of renewable electricity	Attachments compulsory components of the feasibility study[1]											Attachments permits				Other attachments	
Production plant categories	Description of the production installation	Financing plan	Supporting documentation own funds	Declaration of intent from a financial backer of ≤20% if the total investment is covered by own funds	Operational calculation	Wind report (from > 100 kW)	Supporting documentation height restriction	Registration (to scale) of power generation facility	Declaration load-carrying capacity of roof structure	Solar energy yield calculation	Energy yield calculation	Environmental permit[2] for the power generation facility (all phases or parts)	Environmental permit[2] for the new construction (all phases or parts)	Environmental permit for a Rijkswaterstaat work or a Wnr permit[2]	Environmental permit for a water activity or a Water permit[2]	Site owner permission[2]	Transmission capacity statement from the grid operator
Water (all categories)																	
Hydropower	x	x	x		x	x					x	x		x	x	x	x
Osmosis	x	x	x		x	x				x		x	x	x	x	x	x
Wind (all categories)																	
Onshore wind and Wind on flood defences	x	x	x		x	x	x				x[2]	x		x	x	x	x
Onshore wind, height restricted	x	x	x		x	x	x	x			x[2]	x		x	x	x	x
Solar																	
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, building-mounted	x[3]	x[3]						x	x			x	x			x	x
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, land-based	x[3]	x[3]						x				x		x	x	x	x
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, floating on water	x[3]	x[3]						x				x		x	x	x	x
Solar PV ≥ 15 kWp and < 1 MWp, on land nature inclusive	x[3]	x[3]						x				x		x	x	x	x

Table of mandatory attachments for categories of renewable electricity	Attachments compulsory elements of the feasibility study[1]											Attachments permits				Other attachments	
Production plant categories	Description of the production installation	Financing plan	Supporting documentation own funds	Declaration of intent from a financial backer of ≤20% if the total investment is covered by own funds	Operational calculation	Wind report (from > 100 kW)	Supporting documentation height restriction	Registration (to scale) of power generation facility	Declaration load-carrying capacity of roof structure	Solar energy yield calculation	Energy yield calculation	Environmental permit[2] for the power generation facility (all phases or parts)	Environmental permit[2] for the new construction (all phases or parts)	Environmental permit for a Rijkswaterstaat work or a Wnr permit[2]	Environmental permit for a water activity or a Water permit[2]	Site owner permission[2]	Transmission capacity statement from the grid operator
Solar PV ≥ 15 kWp and < 1 MWp, building-mounted with minor roof alteration or lightweight panels	x[3]	x[3]						x	x			x				x	x
Solar PV ≥ 1 MWp, building-mounted	x	x	x	x	x			x	x			x	x			x	x
Solar PV ≥ 1 MWp, floating on water	x	x	x	x	x			x				x		x	x	x	x
Solar PV ≥ 1 MWp land-based < 20 MWp; and Solar PV, land-based	x	x	x	x	x			x				x		x	x	x	x
Solar PV ≥ 1 MWp on land solar tracking < 20 MWp; and Solar PV on land solar tracking	x	x	x	x	x		x		x			x		x	x	x	x
Solar PV ≥ 1 MWp, solar tracking on water	x	x	x	x	x		x		x			x		x	x	x	x
Solar PV ≥ 1MWp, building-mounted with minor roof alteration or lightweight panels	x	x	x	x	x		x					x				x	x
Solar PV ≥ 1 MWp and < 20 MWp, on land solar tracking nature-inclusive	x	x	x	x	x		x		x			x		x	x	x	x
Solar PV ≥ 1 MWp and < 20 MWp, on land nature-inclusive	x	x	x	x	x		x					x		x	x	x	x
Solar PV ≥ 20 MWp, on land nature-inclusive	x	x	x	x	x		x					x		x	x	x	x
Solar PV ≥ 20 MWp, on land solar tracking nature-inclusive	x	x	x	x	x		x		x			x		x	x	x	x

[1] *For more information, consult the 2024 SDE++ scheme Feasibility study guide.*
[2] *If applicable*
[3] *For this category, it is sufficient to answer the questions in the digital application form in eLoket.*

Please note: If a facility is placed on or in a building, and that building is new or has been renovated, an Environmental and planning permit must be submitted with your subsidy application. A carport is also considered a building. Also when installed on a listed building or on a visible facade, the Environmental and planning permit must be submitted with your application.
Please note: If a right of superficies has been obtained through a public tender for government-owned land and roofs, a draft environmental and planning permit will suffice.
Please note: Permits or partial permits for the laying of cabling, underground or otherwise, fencing and pipework, underground or otherwise, need not be sent with your subsidy application.

General attachments

The general attachments apply to all renewable electricity technologies.

Feasibility study

An application for an SDE++ subsidy for renewable electricity must be supported by a feasibility study. For the 'Solar PV' categories with a capacity of less than 1 MWp, you can suffice with answering a number of supplementary questions about the feasibility of your project in eLoket

The general part of the feasibility study must comprise of the following information:

- A description of the power generation facility.
- A comprehensive financing plan.
- Supporting document for own funds to be invested by the applicant, third parties or shareholders. Own funds must be substantiated by the applicant with documents (annual accounts/balance statements) demonstrating that the required resources (financial and otherwise) will be available when needed. If the applicant submits several projects, they must provide proof of funding to cover the total value of these SDE++ 2024 projects.
- A declaration of intent from a financial backer if less than 20% of the total investment is covered by own funds.
- A calculation of the operational costs.

During our assessment, we may ask you additional questions about the feasibility of your project.

You can find more information about the above requirements in the 'SDE++ feasibility study guide' and the 'SDE++ feasibility study template'.

Licences and permits

One or more permits are usually required to develop a power generation facility. These must have been issued by a competent authority before you submit your subsidy application. If you require a permit for your power generation facility, this permit must be attached to your subsidy application. This requirement was included in the Renewable Energy Production and Climate Transition Incentive Decree ('Besluit SDEK') to provide more certainty (and to speed up the process) when applying for subsidies under the scheme. As a general rule, the main components of a power generation facility will require permits to be in place. Permits for other components such as underground cables or pipelines, fencing, etc. are not required as part of your subsidy application.

- Environmental and planning permit: If you are planning to site your power generation facility in or on a building yet to be built, you will require a permit under the Environment and Planning Act. You may also require a permit based on the environmental impact of your project. If you would like more information about environmental and planning permits, please visit the Omgevingsloket (service desk for environmental and planning permits).
  - A carport is also considered a building.
  - If a right of superficies has been obtained through a public tender for government-owned land and roofs, a draft environmental and planning permit will suffice.
- Environmental and planning permit for a structure belonging to the Directorate General for Public works and Water Management or a Wbr permit: If the power generation facility is to be built on or around public works of the Directorate-General for Public Works and Water Management, such as roads, motorways, viaducts, tunnels, bridges or dykes, you will probably need a Wbr permit for your facility. For more information about the Wbr permit, please visit the Omgevingsloket (service desk for environmental and planning permits).
- Environmental and planning permit for a water activity: You may also require an environmental and planning permit for a water activity for your power generation facility. For more information about this permit, please visit the Omgevingsloket (service desk for environmental and planning permits). For example, you may need an environmental and planning permit for a water activity for Solar PV if you are applying for a subsidy for a field-based or floating system.

Transmission capacity statement from the grid operator

If you wish to apply for a subsidy to produce renewable electricity, you must include a transmission capacity statement from the grid operator. This must demonstrate that sufficient transmission capacity is available for the relevant location. The

feed-in capacity in the transmission capacity estimate must be greater than 0, because from the 2024 round of applications onwards, no further own use is subsidised in all categories of Solar PV and wind. Ask your grid operator to prepare the transmission capacity statement for you. Because the transmission capacity of the electricity grid is subject to change, the transmission capacity statement must be issued specifically for the SDE++ 2024 round of applications. A transmission capacity statement requested for a previous round of application for the SDE+ or SDE++ scheme will not be sufficient. If you do not know who your grid operator is, consult the overview of EAN codes ('Eancodeboek'). The transmission capacity statement is not a guarantee of transport capacity.
If you are developing a project at a location with little or no feed-in supply, please also include an explanation with your application describing the technical consequences this will have for your project.

If you wish to connect your power generation facility to a private grid (closed-distribution system grid), you and the private grid operator must request a transmission capacity estimate from your national or regional grid operator. This is the grid operator who is responsible for the transfer point to which the private grid is connected.

Site owner's permission
If the applicant is not the owner of the intended site of the power generation facility, then the owner's permission must be obtained. The site owner will need to complete and sign a form ('Model toestemming locatie-eigenaar'), which gives you permission to install and operate the power generation facility.

If there are multiple owners, each owner must complete a separate form. This applies to all categories. Please note that either the subsidy applicant or the owner who completes the form must be officially registered in the land registry as the owner or leaseholder of the site.

If a right of superficies has been obtained through a public tender for government-owned land and roofs, you do not need to include the form signed by the owner with your application. Instead, you must attach the preliminary agreement ('Voorovereenkomst') or land purchase agreement ('Grondovereenkomst') you have entered into with the Central Government Real Estate Agency to your subsidy application.

Additional attachments for wind applications

Wind report and Windviewer
When applying for an SDE++ subsidy for wind energy over 100 kW, you must include a wind report with the feasibility study. The wind report must include a wind energy yield calculation. This is prepared by an organisation with expertise in the field of wind energy yield calculations. The average wind speed used in the wind report should be calculated based on local wind data over a period of at least 10 consecutive years. That average wind speed may not exceed the average wind speed for the location concerned as derived from the Windviewer.
The Windviewer provides the average wind speed for every location in the Netherlands at every height from 20 to 260 metres.
For small wind turbines with an output of less than 100 kW, you do not have to have an expert draw up a wind report. A simple energy yield calculation from your supplier will suffice. Include the result of that calculation in your application.

Demonstrating a height restriction
If you are applying for a subsidy for wind turbines in an area subject to height restrictions, you must indicate this when you submit your application. You can demonstrate that a height restriction applies to your subsidy application by attaching a letter from a competent authority or quoting the relevant sections in the applicable laws and regulations.

Additional attachments for Solar PV applications

Detailed map
Always include with your subsidy application a detailed drawing to scale clearly showing where the Solar PV facility for which you are submitting the application will be sited. Unclear maps or photographs will not be accepted. If other facilities exist or are to be installed at the site in question, please clearly indicate this too. The map must also display the solar orientation of the system. For building-mounted Solar PV installations, calculate the available roof surface area, taking into account any skylights and climate control systems on the roof.

Load-bearing capacity roof structure

If you intend to install your power generation facility on a building, you must submit a declaration of load-bearing capacity ('Verklaring draagkracht dakconstructie') with your application. This declaration must be signed by a structural engineer who has calculated the load-bearing capacity of the roof in accordance with the Living Environment (Buildings) Decree. This declaration must match the project for which you are applying for a subsidy. For an application for the category 'building-based with minor roof alteration or lightweight panels', in the 'declaration of load-bearing capacity of the roof structure', the structural engineer must indicate what adjustments need to be made to the structure in order to make it suitable.

You must commission a structural engineer to carry out and sign the investigation. The term structural engineer refers to a person capable of carrying out the necessary calculations. In the investigation, at least the structure must be calculated by the structural engineer who signs the declaration. During the assessment of your subsidy application, RVO may ask you to send the structural design calculations and/or contact the structural engineer to request an explanation of the declaration of load-bearing capacity. The structural engineer who carries out these calculations and signs the declaration may also be an employee of the subsidy applicant who is certified to this end. You can read more about the declaration of load-bearing capacity in the relevant fact sheet ('Informatieblad toelichting draagkracht dakconstructie').

This requirement has been introduced because less power generation facilities have been installed on buildings than expected, and an important reason for this is that previous applications ran into problems when the roof turned out to be unsuitable and it was costly to modify the roof to meet the requirements.

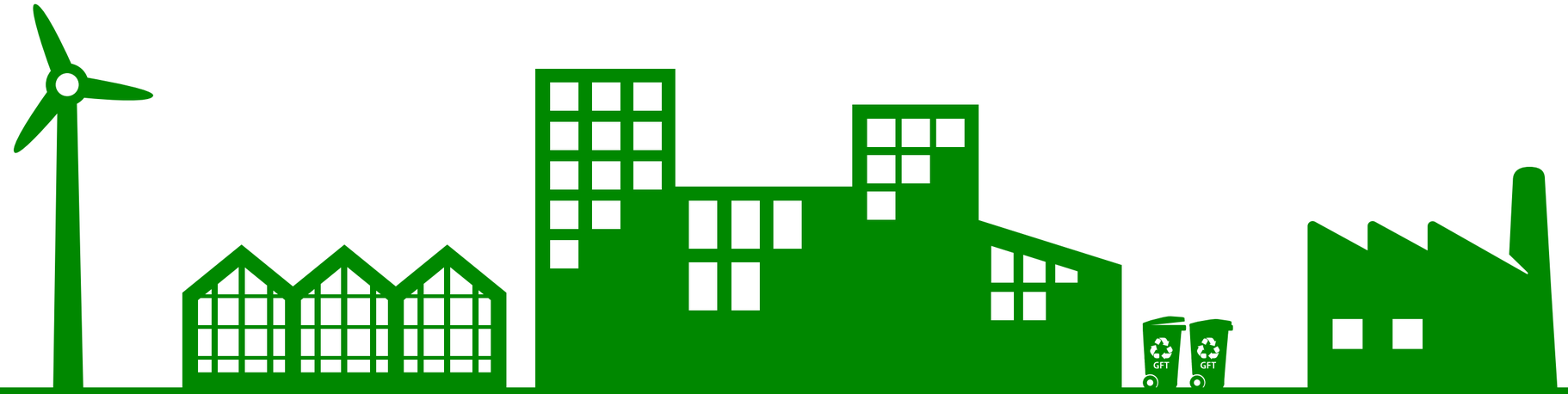
Wind energy yield calculation

If you want to apply for a solar tracking system, you will need to include an energy yield calculation with the feasibility study. We use this calculation to determine the maximum number of full-load hours. You can read more about this requirement in the feasibility study guide.

Installing bifacial solar panels

If you will be installing bifacial solar panels, you must explain why this system will have a higher power output than a regular solar panel system. You could substantiate this with a datasheet of the model of solar panel you intend to use.

Renewable gas



Renewable gas

The 'Renewable gas' SDE++ category includes the technologies 'biomass fermentation' and 'biomass gasification'. This section explains the general conditions for the production of renewable gas in the SDE++ 2024 scheme and the technology-specific application conditions. The table 'Phases and tariffs for renewable gas in SDE++ 2024' at the end of this section provides an overview of the categories, associated phase amounts, full-load hours and other key figures.

Feed-in requirement

One of the SDE++ conditions is that the gas produced must meet the quality requirements of the gas network operator. In addition, you must actually feed the gas into a gas network.

Required attachments

If you are applying for one of the renewable gas categories, you must include a number of attachments with your application. These are explained in. 'Documents to attach to renewable gas subsidy applications'.

Biomass fermentation

All-purpose fermentation

You may submit a subsidy application in the 'All-purpose fermentation' category for nearly all types of biomass, including the co-fermentation of manure. This is subject to the condition that the biogas yield from the incoming biomass stream must be at least 25 Nm3 natural gas equivalents per tonne.

Manure mono-fermentation

Manure mono-fermentation is used to produce renewable gas. The input must consist exclusively of livestock manure, with no co-products. There are three output categories for manure mono-fermentation:
'≤110 kW', '>110 kW and ≤ 450 kW' and '> 450 kW'.

Continuation of All-purpose fermentation and Manure mono-fermentation (formerly 'lifetime extension')

The 'Continuation of All-purpose fermentation lifetime extension' and 'Continuation Manure mono-fermentation' categories are for SDE projects nearing the end of the subsidy period or for converting existing CHP plants to renewable gas plants.

Accelerated conversion has been made possible to boost the production of green gas.

As of 2023, if you want to convert a CHP plant to a renewable gas production facility, you may apply for a continuation at any time after the CHP plant has been installed.

Sewage treatment plant (STP)

The SDE++ scheme provides incentives for improved sludge fermentation for the production of renewable heat, heat and power (CHP), or renewable gas in sewage treatment plants. This subcategory does not relate to a specific technology, which means there are more opportunities to apply innovative technologies. Moreover, sewage treatment plants vary widely in terms of size and type of facility. For an SDE++ application, you need to demonstrate that you can increase the existing biogas production capacity by at least 25%. The facility components responsible for the increased biogas production must all be new.

Biomass gasification

There are two categories for the production of renewable gas from biomass gasification.

- Biomass gasification excluding B-grade wood;
- Biomass gasification including gasification of B-grade wood.

Biosyngas plants are not eligible for a subsidy. This is because biosyngas must first be converted to methane before it can be fed into the gas network.

Fuel requirements

When calculating the base amount for 'Gasification, excluding B-grade wood', we take account of the higher price you have to pay for clean wood.

For 'Gasification of B-grade wood', the calculation of the base amount is based on the lower price paid for B-grade wood. This means the base amount for this category is lower. You can also use other types of biomass under the 'Gasification of B-grade wood' category.

Sustainability criteria for biomass

The RED II sustainability criteria will apply to your renewable gas power generation facility if it generates ≥ 2 MW. These criteria can be found on our web page a 'Duurzaamheidseisen biomassa REDII SDE++' (RED II sustainability criteria for biomass under the SDE++ scheme).

Combined applications

You can submit a combined application for power generation facilities that together form part of a renewable gas hub. This may be useful if you want to implement a project in collaboration with other applicants, but only if all of the applications have been separately approved. If the subsidy applications received on any one day exceed the available budget, we will rank the applications by subsidy intensity in euros per tonne of CO_2 reduction. In the case of combined applications, the highest amount of the applications in the combination will apply. If it becomes necessary to draw lots, the combined applications will be treated as a single application.

Phasing and tariffs for renewable gas SDE++ 2024

Category	Maximum phase amount/base amount					Basic energy price	Provisional correction amount 2024	Maximum full load hours	Order term	Commissioning period	Grant term	Fence Domain
	Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	€/kWh	€/kWh	*Hours/year*	*years*	*years*	*years*	
Renewable gas (fed into gas network)												
All-purpose fermentation, gas	0.0591	0.0719	0.0848	0.0877	0.0877	0.0308	0.0719	8000	1.5	4	12	Molecules
Manure mono-fermentation > 450 kW, gas	0.0700	0.0938	0.1001	0.1001	0.1001	0.0308	0.0719	8000	1.5	4	12	Molecules
Manure mono-fermentation > 110 kW and ≤ 450 kW, gas	0.0841	0.1219	0.1588	0.1588	0.1588	0.0308	0.0719	8000	1.5	4	12	Molecules
Manure mono-fermentation ≤ 110 kW, gas	0.0846	0.1230	0.1614	0.1998	0.2187	0.0308	0.0719	8000	1.5	4	12	Molecules
All-purpose fermentation additional facility, gas	0.0591	0.0719	0.0746	0.0746	0.0746	0.0308	0.0719	8000	1.5	4	12	Moleculesn
All-purpose fermentation continuation, gas	0.0591	0.0684	0.0684	0.0684	0.0684	0.0308	0.0719	8000	1.5	4	12	Molecules
Manure mono-fermentation additional facility ≤ 450 kW, gas	0.0841	0.1083	0.1083	0.1083	0.1083	0.0308	0.0719	8000	1.5	4	12	Molecules
Manure mono-fermentation continuation ≤ 450 kW, gas	0.0841	0.0928	0.0928	0.0928	0.0928	0.0308	0.0719	8000	1.5	4	12	Molecules
Sewage treatment plant, improved sludge fermentation, gas	0.0599	0.0735	0.0872	0.1008	0.1190	0.0308	0.0719	8000	1.5	4	12	Molecules
Biomass gasification (including B-grade wood)	0.0586	0.0710	0.0833	0.0915	0.0915	0.0308	0.0719	7500	1.5	4	12	Molecules
Gasification of biomass (excluding B-grade wood)	0.0586	0.0710	0.0833	0.0957	0.1122	0.0308	0.0719	7500	1.5	4	12	Molecules

Documents to attach to renewable gas subsidy applications

You must include a number of attachments with your subsidy application for renewable gas. In the table below you can see which attachments may be required for your technology. These attachments are explained in more detail below the table and you can also download the required formats.

Table of mandatory attachments for categories of renewable gas	Attachments compulsory elements of the feasibility study[1]						Attachments permits			Other attachments
Production plant categories	**Financing plan**	**Substantiation of equity**	**Letter of intent from a financier if the intended shared of equity in the investment ≤ 20%**	**Operating calculation**	**Feed-in statement with price indication form network operator (for connection > 40 Nm3/hour)**	**Energy yield calculation**	**Environmental permit2 for the power generation facility (all phases or parts)**	**Environmental permit2 for the new construction (all phases or parts)**	**Environmental permit for flora and fauna activities or a Wbr permit**	**Site owner permission[2]**
Renewable gas for feeding into the gas network (all categories)										
All-purpose fermentation, manure mono-fermentation, sewage treatment plant improved sludge fermentation, biomass gasification and continuation	X	X	X	X	X	X	X	X	X	X

[1] *For more information, consult the 2024 SDE++ scheme Feasibility study guide.*
[2] *If applicable.*

Please note: If a facility is placed on or in a building, and that building is new or has been renovated, an Environmental and planning permit must be submitted with your subsidy application.
Note: Permits or partial permits for the laying of cabling, underground or otherwise, fencing and pipework, underground or otherwise, need not be sent with your subsidy application.

General attachments

The general attachments apply to all renewable gas technologies.

Feasibility study

An application for an SDE++ subsidy for renewable gas must be supported by a feasibility study.

The general part of the feasibility study must comprise the following information:

- A description of the power generation facility, including the technical specifications.
- A comprehensive financing plan.
- Supporting documents for own funds to be invested by the applicant, third parties or shareholders. Own funds must be substantiated by the applicant with documents (annual accounts/balance statements) demonstrating that the required resources (financial and otherwise) will be available when needed. If the applicant submits several projects, they must provide proof of own funds to cover the total value of these SDE++ 2024 projects.
- A declaration of intent from a financial backer if less than 20% of the total investment is covered by own funds.
- A calculation of the operational costs.
- A declaration of feed-in rights with price estimate provided by the grid operator (for connections > 40 Nm^3/h).
- An energy yield calculation.
- For more complex facilities, you must also include a process diagram.

During our assessment, we may ask you additional questions about the feasibility of your project.

You can find more information about the above requirements in the 'SDE++ feasibility study guide' and the 'SDE++ feasibility study template'.

Licences and permits

One or more permits are usually required to develop a power generation facility. These must have been issued by a competent authority before you submit your subsidy application. If you require a permit for your power generation facility, this permit must be attached to your subsidy application. This requirement was included in the Renewable Energy Production and Climate Transition Incentive Decree ('Besluit SDEK') to provide more certainty (and to speed up the process) when applying for subsidies under the scheme. As a general rule, the main components of a power generation facility will require permits to be in place. Permits or partial permits for other components such as underground cables or pipelines, fencing, etc. are not required as part of your subsidy application.

Environmental and planning permit: If you are planning to place your power generation facility in or on a building yet to be built, you will require a permit under the Environment and Planning Act. You may also require a permit for the environmental aspect of your project. If you would like more information about environmental and planning permits, please visit the Omgevingsloket (service desk for environmental and planning permits).

Environmental and planning permit flora and fauna activity: if your power generation facility will generate substantial nitrogen emissions during its operation (e.g. biomass plants), you must submit an environmental and planning permit for flora and fauna activities with your subsidy application. If you would like more information about this permit, please visit the Omgevingsloket (service desk for environmental and planning permits).

Site owner's permission

If the applicant is not the owner of the intended site of the power generation facility, then the owner's permission must be obtained. The site owner will need to complete and sign a form ('Model toestemming locatie-eigenaar'), which gives you permission to install and operate the power generation facility.

If there are multiple owners, each owner must complete a separate form. This applies to all categories. Please note that either the subsidy applicant or the owner who completes the form must be officially registered in the land registry as the owner or leaseholder of the site.

Partnerships

If your project is being implemented in a partnership, please include the following information in addition to the general attachments:

- A list of all the partners in the project (required).
- A partnership agreement signed by all the partners in the project. A partnership agreement template can be found on the page ‘Downloads en hulpmiddelen bij uw aanvraag SDE++’. For more information about applications for a project undertaken by a partnership, consult the page 'SDE++ applications'.

Renewable heat

Renewable heat

The SDE++ 'Renewable heat' main category is divided into the following technologies: 'Biomass (fermentation and combustion)', 'Composting', 'Geothermal energy (deep and ultra-deep)' and 'Solar thermal energy'. This section explains the general conditions for the production of renewable heat in SDE++ 2024 and the technology-specific application conditions. The table 'Phases and tariffs for renewable heat in SDE++ 2024' at the end of this section provides an overview of the categories, associated phase amounts, full-load hours and other key figures.

Emissions Trading System (ETS)

A provision relating to the ETS has been included in the SDE++ scheme. If your facility benefits from the ETS, we will factor that ETS benefit into the correction amount. This situation may change during the production period. Under the SDE++ scheme, it is possible to adjust this correction during the production period.

ETS benefits may apply to renewable heat production if the power generation facility forms part of an ETS system. The Netherlands Environmental Assessment Agency (PBL) has calculated an ETS correction for each category of power generation facility based on the most representative use of the heat produced. If the power generation facility does not form part of an ETS system (based on the assessment of the subsidy application), this part of the correction amount will not be applicable and will be set at zero.

The subsidy for biomass fermentation with cogeneration of renewable electricity and renewable heat is corrected with a generic ETS correction based on the heat share (calculated using the CHP factor of PBL's reference plant). Here too, the ETS correction is only applied if the power generation facility forms part of an ETS system.

Required attachments

If you intend to apply for a subsidy for one of the renewable heat categories, you must include a number of attachments with your application. These are explained in 'Documents to attach to renewable heat subsidy applications', which follows this section.

Biomass fermentation

All-purpose fermentation

In the 'All-purpose fermentation' subcategory, you can submit a subsidy application for almost any type of biomass. This includes manure co-fermentation for the production of heat and combined heat and power (CHP). This is subject to the condition that the biogas yield from the incoming biomass stream must be at least 25 Nm3 natural gas equivalents per tonne. For combined heat and power (CHP), the rated power output is determined by adding together the electrical and thermal outputs.

Manure mono-fermentation

Manure mono-fermentation is used for the production of combined heat and power (CHP). The input must consist exclusively of livestock manure, with no co-products. There are three output categories for manure mono-fermentation, '≤110 kW', '>110 kW and ≤ 450 kW' and '> 450 kW'. For combined heat and power (CHP), the rated power output is determined by adding together the electrical and thermal outputs.

Continuation All-purpose fermentation and Continuation Manure mono-fermentation

The 'Continuation All-purpose fermentation' and 'Continuation Manure mono-fermentation' categories are for SDE projects nearing the end of the subsidy period. The involved operating expenses and renovation expenses mean that these projects will usually have an unprofitable component.
This provides applicants with more certainty about the future of their power generation facility.

Combined applications

You can also combine applications for power generation facilities based on manure mono-fermentation and all-purpose fermentation. This may be useful if you want to implement a project in collaboration with other applicants, but only if all of the applications have been separately approved. If the subsidy applications received on any one day exceed the available budget, we will rank the applications by subsidy intensity in euros per tonne of CO_2 reduction. In the case of combined applications, the highest amount of the applications in the combination will apply. If it becomes necessary to draw lots, the combined applications will be treated as a single application.

Sewage treatment plant, improved sludge fermentation

The SDE++ scheme supports improved sludge fermentation for the production of renewable heat or electricity in sewage treatment plants. This subcategory does not relate to a specific technology, which means there are more opportunities to apply innovative technologies. Moreover, sewage treatment plants vary widely in terms of size and type of facility. For an SDE++ application, you need to demonstrate that you can increase the existing biogas production by at least 25%. The facility components responsible for the increased biogas production must be new.

Biomass combustion

Renewable heat and renewable electricity from biomass combustion may be eligible for a subsidy. There are nine such 'Biomass combustion' categories eligible for SDE++ subsidy.

Wood biomass for high-grade heat only

As of 2021, subsidies are no longer available for facilities where wood biomass (e.g. thinnings and wood chips) is used to produce low-grade heat. Subsidies are available for facilities that use wood biomass to produce high-grade heat (> 100°C) if the heat generated is used in an industrial application. Horticultural applications are not eligible. The 100°C requirement applies to the user of the heat. The user is the first user of the heat.

For the production of heat or combined heat and power from biomass, the following categories are open for applications:

- Solid or liquid biomass boilers with a thermal output of between 0.5 and 5 MWth;
- Liquid biomass boilers with an output of ≥ 0.5 MWth and ≤ 100 MWe for district heating.
- Liquid biomass boilers with an output of ≥ 0.5 MWth and ≤ 100 MWe for all other applications.
- Large solid or liquid biomass boilers with a thermal capacity of ≥ 5 MWth.
- B-grade wood boilers with an output of ≥ 5 MWth
- Continuation for solid or liquid biomass boilers with a minimum output of 5 MWth that have previously received an SDE subsidy.
- Steam boilers fired with sustainable wood pellets with a minimum output of ≥ 5 MWth and < 50 MWth
- Steam boilers fired with sustainable wood pellets with a minimum output of ≥ 50 MWth;
- Burners using sustainable wood pellets for industrial applications, with an output of ≥ 5 MWth (existing components may be used for this category). An upper limit of 100 MW power output applies here.

Heat

For all 9 categories, only the production of heat is eligible for subsidy. For the SDE++ 2024 scheme, the use of produced heat for electricity generation is no longer permitted.

Liquid biomass boilers ≥ 0.5 MWth

Due to the variety of applications of the generated heat and the possible ETS benefits associated with it, the category for liquid biomass boilers is divided into subcategories for district heating and for all other applications.
You must demonstrate the sustainability of the liquid biomass system every year in a report.

Continuation (formerly 'lifetime extension')

For facilities in the categories for the combustion of biomass (waste streams) for the generation of heat, a 'Continuation category' has been opened. The continuation category is intended for SDE projects for which the subsidy period is nearing its end.

The involved operating expenses mean that these projects will usually have an unprofitable component. For that reason, a continuation category has been opened for these facilities. A continuation category has been opened for power generation facilities with an output of ≥ 5 MWth. Any continuation is also subject to the requirement that woody biomass may only be used for producing high-grade heat (> 100°C) for an industrial application. Horticultural applications are not eligible. The 100°C requirement applies to the user of the heat.

Fuel requirements

B-grade wood is excluded for most boilers. When calculating the base amount for these facilities, we therefore take account of the higher price you have to pay for clean wood. Conversely, for 'B-grade wood boilers', the calculation of the base amount is based on the lower price paid for B-grade wood. This means the base amount for these boilers is lower. You can also burn other types of biomass in a 'B-grade wood boiler'. If you have submitted an application in a category specifically intended for boilers using sustainable wood pellets as fuel, you may generate up to 15% of the energy using A-grade wood pellets and up to 25% using waste streams from biomass refining. In the SDE++ scheme, 'biorefining' is considered to be a process in which the primary product replaces a fossil raw material. Lignin produced by the paper industry, for example, does not meet the criteria, but lignin released in the production of sugar from wood does. If the sugar is used to make bioplastics, the lignin is considered to be a biorefinery waste stream.

If your application is for a 'Solid or liquid biomass boiler', 'Wood pellet steam boiler', 'B-grade wood boiler', or a 'Continuation for solid or liquid biomass boilers', at least 97% of the energy value of the fuel used must be biogenic. This excludes boilers being used for the incineration of waste or selected streams of waste, or the co-firing of natural gas.

Liquid biomass may also be used in all biomass combustion facilities, but the sustainability of the liquid biomass must be demonstrated.

Sustainability criteria for biomass

The biomass you use must meet the sustainability criteria.

For technologies that use solid, liquid and gaseous biomass, the sustainability requirements in RED II must be met if the power output of the facility exceeds the 7.5 MWth limit. The current criteria and limits are explained in more detail on our web pages Duurzaamheidseisen biomassa in pelletinstallaties SDE++ (Sustainability criteria for biomass in pellet facilities under the SDE++ scheme) and Duurzaamheidseisen biomassa REDII SDE++ (RED II sustainability criteria for biomass under the SDE++ scheme).

You may provide certificates of sustainability schemes approved by the European Commission under RED to demonstrate the sustainability of biomass facilities. These certificates are published by the European Commission for RED.

Composting

The composting process produces a large amount of low-grade heat. This low-grade heat can be used to heat buildings or greenhouses. In this category, you may only use biomass with NTA 8003 code 2017 (composting). An exception is manure (numbers 300 to 329 under NTA code 8003: 2017). Which may not be used under this category. There are currently no sustainability criteria for composting.

Solar thermal energy

You can submit an application for an SDE++ subsidy for the 'Solar thermal energy' category. This category applies to facilities that exclusively deploy 'covered collectors' or 'solar tracking concentrating collectors' with a total thermal output of ≥ 140 kW. State the aperture area or the exposed surface area of the mirrors or lenses for concentrating sunlight in the subsidy application.
There are two output classes for solar thermal energy. Since larger systems are more cost efficient, a lower base amount is calculated for this category. The base energy price and correction amount also differ for small and large facilities.

The lower limit for solar thermal energy in the SDE++ scheme is 140 kWth. Smaller systems may be eligible/entitled for the Sustainable Energy Investment Grant (ISDE).

The thermal output of the facility in kW is equal to the total aperture area of the covered collectors or the exposed surface area of the mirrors or lenses for concentrating sunlight (both in square metres) multiplied by a factor of 0.7. For a facility to be eligible for a subsidy, the light-absorbing surface must form an integrated whole with the translucent layer. The translucent layer (e.g. a pane of glass or a glass tube) provides insulation.

The glazing of a greenhouse is a translucent layer, and PVT panels also have a translucent layer, but neither of these form an integrated whole with the light-absorbing surface. For this reason, neither is eligible for the category 'Solar thermal energy'. You can, however, apply for a subsidy for PVT systems or daylight greenhouses under the 'Solar PVT panels with a heat pump' or 'Daylight greenhouses' category. These categories are explained in the section on low-carbon heat technologies.

Geothermal energy

Geothermal energy is eligible for an SDE++ subsidy. We make a distinction between geothermal energy used for the production of renewable heat and geothermal energy used for the production of low carbon heat.

Shallow and deep geothermal energy combined with a heat pump as a component of a power generation facility falls under the category of low-carbon heat. Renewable heat and low carbon heat include a number of subcategories:

Geothermal renewable heat

- Geothermal energy system with a minimum depth of 1,500 metres and a power output of:
  - ≤ 12 MWth
  - > 12 MWth and ≤ 20 MWth or
  - > 20 MWth
- Geothermal energy system with a minimum depth of 4,000 metres;
- Geothermal energy system with a minimum depth of 1,500 metres, in which existing oil or gas wells are used for one or both wells in the doublet and with a power output of:
  - ≤ 12 MWth
  - > 12 MWth and ≤ 20 MWth or
  - > 20 MWth
- Geothermal energy system involving expansion of a power generation facility with at least one additional well with a minimum depth of 1,500 metres.
- Geothermal energy system with a minimum depth of 1,500 metres of which the heat is used in the built environment based on 5,000 full-load hours.
- Geothermal energy system with a minimum depth of 1,500 metres of which the heat is used in the built environment based on 3,500 full-load hours.

Geothermal low-carbon heat

- Geothermal energy system with a depth between 500 and 1,500 metres, of which the heat is upgraded using a heat pump with a COP of at least 3.0 and based on 3,500 full-load hours.
- Geothermal energy system with a depth between 500 and 1,500 metres, of which the heat is upgraded using a heat pump with a COP of at least 3.0, used in the built environment, and based on 6,000 full-load hours.
- Geothermal energy system with a minimum depth of 1,500 metres, of which the heat is upgraded using a heat pump with a COP of at least 3.0, with all the produced heat used in a heat network or heating system for the built environment with a user supply temperature of at least 90°C in the heating season. This temperature refers to the required input liquid temperature for a heat network or heating system, according to the heating curve at an outdoor temperature of -10 °C or lower. The heat must be used in the built environment, with 6,000 full-load hours. The term user refers to the first user of the heat.

For these three categories, the compression heat pump must have a rated thermal output of at least 500 kWth. Only heat pumps with halogen-free refrigerants may be used.

Phasing and tariffs for renewable heat and CHP SDE++ 2024	Maximum phase amount/base amount					Basic energy prices	Provisional energy price correction for 2024	Provisional ETS correction 2024	Maximum full load hours	Order term		Grant term	Fence Domain
Category	**Phase 1 €/kWh**	**Phase 2 €/kWh**	**Phase 3 €/kWh**	**Phase 4 €/kWh**	**Phase 5 €/kWh**	**€/kWh**	**€/kWh**	**€/kWh**	***hours/year***	***years***	***years***	***years***	
Biomass cogeneration of heat and electricity													
All-purpose fermentation, cogeneration	0.0913	0.0981	0.0981	0.0981	0.0981	0.0530	0.1204	0.0098	7535	1.5	4	12	-
All-purpose fermentation continuation, cogeneration	0.0786	0.0786	0.0786	0.0786	0.0786	0.0531	0.1208	0.0097	7540	1.5	4	12	-
Manure mono-fermentation, cogeneration ≤ 110 kW	0.1685	0.2334	0.2903	0.2903	0.2903	0.0769	0.1495	0.0071	4960	1.5	4	12	-
Manure mono-fermentation, cogeneration > 110 kW and ≤ 450 kW	0.1691	0.2340	0.2473	0.2473	0.2473	0.0779	0.1496	0.0076	5078	1.5	4	12	-
Manure mono-fermentation, cogeneration > 450 kW	0.1139	0.1355	0.1355	0.1355	0.1355	0.0557	0.1283	0.0071	5647	1.5	4	12	-
Manure mono-fermentation, cogeneration ≤ 450 kW	0.1328	0.1328	0.1328	0.1328	0.1328	0.0779	0.1496	0.0076	5078	1.5	4	12	-
Sewage treatment plant, improved sludge fermentation, cogeneration	0.0967	0.1093	0.1218	0.1344	0.1344	0.0577	0.1298	0.0007	5728	1.5	4	12	-
Biomass heat													
All-purpose fermentation, heat	0.0799	0.0951	0.0951	0.0951	0.0951	0.0445	0.0953	0.0185	7000	1.5	4	12	LT heat
All-purpose fermentation continuation, heat	0.0767	0.0767	0.0767	0.0767	0.0767	0.0445	0.0953	0.0185	7000	1.5	4	12	LT heat
Manure mono-fermentation, heat ≤ 110 kW	0.1074	0.1514	0.1953	0.2249	0.2249	0.0445	0.0953	0.0185	8000	1.5	4	12	LT heat
Manure mono-fermentation, heat, > 110 kW and ≤ 450 kW	0.1075	0.1516	0.1765	0.1765	0.1765	0.0445	0.0953	0.0185	8000	1.5	4	12	LT heat
Manure mono-fermentation, heat > 450 kW	0.0920	0.1206	0.1274	0.1274	0.1274	0.0445	0.0953	0.0185	6000	1.5	4	12	LT heat
Manure mono-fermentation continuation, heat ≤ 450 kW	0.1074	0.1074	0.1074	0.1074	0.1074	0.0445	0.0953	0.0185	8000	1.5	4	12	LT heat
Sewage treatment plant, existing sludge fermentation, heat	0.0804	0.0973	0.1018	0.1018	0.1018	0.0445	0.0953	0.0019	7000	1.5	4	12	LT heat
Composting facility	0.0574	0.0574	0.0574	0.0574	0.0574	0.0445	0.0953	0.0019	5200	1.5	4	12	LT heat

Phasing and tariffs for renewable heat and CHP SDE++ 2024	Maximum phase amount/base amount					Basic energy prices	Provisional energy price correction for 2024	Provisional ETS correction 2024	Maximum full load hours	Order term		Grant term	Fence Domain
Category	Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	€/kWh	€/kWh	€/kWh	*hours/year*	*years*	*years*	*years*	
Biomass heat (or cogeneration of heat and electricity)													
Liquid biomass boilers, district heating	0.0835	0.0876	0.0876	0.0876	0.0876	0.0445	0.0953	0.0019	7000	1.5	4	12	HT heat
Liquid biomass boilers, other applications	0.0876	0.0876	0.0876	0.0876	0.0876	0.0445	0.0953	0.0185	7000	1.5	4	12	HT heat
Small solid or liquid biomass boiler	0.0742	0.0742	0.0742	0.0742	0.0742	0.0445	0.0953	0.0185	3000	1.5	4	12	HT heat
Large solid or liquid biomass boiler (4,500 full-load hours)	0.0528	0.0652	0.0652	0.0652	0.0652	0.0240	0.0560	0.0185	4500	1.5	4	12	HT heat
Large solid or liquid biomass boiler (5,000 full-load hours)	0.0528	0.0641	0.0641	0.0641	0.0641	0.0240	0.0560	0.0185	5000	1.5	4	12	HT heat
Large solid or liquid biomass boiler (5,500 full-load hours)	0.0528	0.0629	0.0629	0.0629	0.0629	0.0240	0.0560	0.0185	5500	1.5	4	12	HT heat
Large solid or liquid biomass boiler (6,000 full-load hours)	0.0528	0.0621	0.0621	0.0621	0.0621	0.0240	0.0560	0.0185	6000	1.5	4	12	HT heat
Large solid or liquid biomass boiler (6,500 full-load hours)	0.0528	0.0612	0.0612	0.0612	0.0612	0.0240	0.0560	0.0185	6500	1.5	4	12	HT heat
Large solid or liquid biomass boiler (7,000 full-load hours)	0.0528	0.0606	0.0606	0.0606	0.0606	0.0240	0.0560	0.0185	7000	1.5	4	12	HT heat
Large solid or liquid biomass boiler (7,500 full-load hours)	0.0528	0.0603	0.0603	0.0603	0.0603	0.0240	0.0560	0.0185	7500	1.5	4	12	HT heat
Large solid or liquid biomass boiler (8,000 full-load hours)	0.0528	0.0597	0.0597	0.0597	0.0597	0.0240	0.0560	0.0185	8000	1.5	4	12	HT heat
Large solid or liquid biomass boiler (8,500 full-load hours)	0.0528	0.0592	0.0592	0.0592	0.0592	0.0240	0.0560	0.0185	8500	1.5	4	12	HT heat
Large solid or liquid biomass boiler continuation	0.0452	0.0452	0.0452	0.0452	0.0452	0.0240	0.0560	0.0185	8000	1.5	4	12	HT heat
Large B-grade wood boiler	0.0378	0.0378	0.0378	0.0378	0.0378	0.0240	0.0560	0.0185	7500	1.5	4	12	HT heat
Large wood pellet steam boilers ≥ 5 MWth and < 50 MWth	0.0837	0.0895	0.0895	0.0895	0.0895	0.0240	0.0560	0.0185	8500	1.5	4	12	HT heat
Large wood pellet steam boiler ≥ 50 MWth	0.0837	0.1006	0.1050	0.1050	0.1050	0.0240	0.0560	0.0185	8500	1.5	4	12	HT heat

Phasing and tariffs for renewable heat and CHP SDE++ 2024	Maximum phase amount/base amount					Basic energy prices	Provisional energy price correction for 2024	Provisional ETS correction 2024	Maximum full load hours	Order term		Grant term	Fence Domain
Category	**Phase 1 €/kWh**	**Phase 2 €/kWh**	**Phase 3 €/kWh**	**Phase 4 €/kWh**	**Phase 5 €/kWh**	**€/kWh**	**€/kWh**	**€/kWh**	***hours/year***	***years***	***years***	***years***	
Direct use (burner) of wood pellets for industrial applications	0.0684	0.0684	0.0684	0.0684	0.0684	0.0400	0.0858	0.0185	3000	1.5	4	12	HT heat
Geothermal heat													
Deep geothermal energy system < 12 MWth (6000 full-load hours)	0.0589	0.0589	0.0589	0.0589	0.0589	0.0240	0.0560	0.0019	6000	3.0	5	15	LT heat
Deep geothermal energy system ≥ 12 and < 20 MWth (6000 full-load hours)	0.0525	0.0525	0.0525	0.0525	0.0525	0.0240	0.0560	0.0019	6000	3.0	5	15	LT heat
Deep geothermal energy system ≥ 20 MWth (6000 full-load hours)	0.0466	0.0466	0.0466	0.0466	0.0466	0.0240	0.0560	0.0019	6000	3.0	5	15	LT heat
Deep geothermal energy system, conversion of existing oil and/or gas wells < 12 MWth, (6000 full-load hours)	0.0589	0.0589	0.0589	0.0589	0.0589	0.0240	0.0560	0.0019	6000	3.0	5	15	LT heat
Deep geothermal energy system, conversion of existing oil and/or gas wells ≥ 12 and < 20 MWth, (6000 full-load hours)	0.0525	0.0525	0.0525	0.0525	0.0525	0.0240	0.0560	0.0019	6000	3.0	5	15	LT heat
Deep geothermal energy system, conversion of existing oil and/or gas wells ≥ 20 MWth, (6000 full-load hours)	0.0466	0.0466	0.0466	0.0466	0.0466	0.0240	0.0560	0.0019	6000	3.0	5	15	LT heat
Deep geothermal energy system, heating for the built environment (3500 full-load hours)	0.0713	0.1036	0.1319	0.1319	0.1319	0.0240	0.0560	0.0019	3500	3.0	6	15	LT heat
Deep geothermal energy system, heating for built environment (5000 full-load hours)	0.0719	0.1029	0.1029	0.1029	0.1029	0.0240	0.0560	0.0019	5000	3.0	6	15	LT heat
Deep geothermal energy system, expansion of power generation facility by at least one extra well (6000 full-load hours)	0.0341	0.0341	0.0341	0.0341	0.0341	0.0240	0.0560	0.0019	6000	3.0	5	15	LT heat
Ultra-deep geothermal energy system (7000 full-load hours	0.0806	0.0806	0.0806	0.0806	0.0806	0.0240	0.0560	0.0185	7000	3.0	5	15	HT heat

Phasing and tariffs for renewable heat and CHP SDE++ 2024	Maximum phase amount/base amount					Basic energy prices	Provisional energy price correction for 2024	Provisional ETS correction 2024	Maximum full load hours	Order term		Grant term	Fence Domain
Category	Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	€/kWh	€/kWh	€/kWh	*hours/year*	*years*	*years*	*years*	
Solar heat													
Solar thermal energy ≥ 140 kW and < 1 MWth	0.0861	0.1030	0.1158	0.1158	0.1158	0.0502	0.1010	0.0019	600	1.5	3	15	HT heat
Solar thermal energy ≥ 1 MWth	0.0804	0.0973	0.0976	0.0976	0.0976	0.0445	0.0953	0.0019	600	1.5	3	15	HT heat

Documents to attach to renewable heat subsidy applications

You must include a number of attachments with your subsidy application for renewable heat. In the table below you can see which attachments may be required for your technology. These attachments are explained in more detail below the table and you can also download the required formats.

Table of mandatory attachments for categories of renewable heat and combined heat and power (CHP)	Attachments compulsory elements of the feasibility study[1]									Attachments permits						Other attachments	
Production plant categories	Financing plan	Substantiation of equity	Letter of intent from a financier if the intended share of equity in the investment is ≤ 20%	Operating calculation	Detailed scale drawing of production plant	Declaration of load-bearing capacity of the roof construction	Substantiation of heat transfer	Geological report	Energy yield calculation	Environmental permit[2] for the power generation facility (all phases or parts)	Environmental permit[2] for the new construction (all phases or parts)	Environmental permit for a Rijkswaterstaat work or a Wnr permit[2]	Environmental permit for flora and fauna activities or a Wbr permit	Environmental permit[2] for a water activity or a Water permit	Mining permit	Site owner permission[2]	Transport indication network operator
Biomass fermentation for cogeneration of heat and electricity (all categories)																	
All-purpose fermentation, manure mono-fermentation, sewage treatment plant improved sludge fermentation and continuation scheme	x	x		x	x			x		x	x	x			x	x	x
Biomass fermentation for heat (all categories)																	
All-purpose fermentation, manure mono-fermentation, sewage treatment plant improved sludge fermentation, composting and continuation	x	x		x	x			x		x	x	x			x	x	
Biomass combustion in boilers for heat (or cogeneration of heat and electricity) (all categories)																	
Biomass combustion in boilers	x	x		x	x			x		x	x	x				x	
Geothermal energy (all categories)																	
(Ultra)deep geothermal energy	x	x		x	x			x	x						x	x	
Solar thermal energy																	
Solar thermal energy ≥140 kW and <1 MW and solar thermal energy ≥ 1 MW	x	x		x	x		x[2]	x			x[2]	x		x		x	

[1] *For more information, consult the 2024 SDE++ scheme Feasibility study guide.*

[2] *if applicable*

Please note: If a facility is placed on or in a building, and that building is new or has been renovated, an Environmental and planning permit must be submitted with your subsidy application.
Note: Permits or partial permits for the laying of cabling, underground or otherwise, fencing and pipework, underground or otherwise, need not be sent with your subsidy application.

General attachments

The general attachments apply to all renewable heat technologies.

Feasibility study

An application for an SDE++ subsidy for renewable heat must be supported by a feasibility study.

The general part of the feasibility study must comprise the following information:

- A description of the power generation facility.
- A comprehensive financing plan.
- Supporting documents for own funds to be invested by the applicant, third parties or shareholders. Own funds must be substantiated by the applicant with documents (annual accounts/balance statements) demonstrating that the required resources (financial and otherwise) will be available when needed. If the applicant submits several projects, they must provide proof of own funds to cover the total value of these SDE++ 2024 projects.
- A declaration of intent from a financial backer if less than 20% of the total investment is covered by own funds.
- A calculation of the operational costs.
- A substantiation of the heat output.

During our assessment, we may ask you additional questions about the feasibility of your project.

You can find more information about the above requirements in the 'SDE++ feasibility study guide' and the 'SDE++ feasibility study template'.

Licences and permits

One or more permits are usually required to develop a power generation facility. These must have been issued by a competent authority before you submit your subsidy application. If you require a permit for your power generation facility, this permit must be attached to your subsidy application. This requirement was included in the Renewable Energy Production and Climate Transition Incentive Decree ('Besluit SDEK') to provide more certainty (and to speed up the process) when applying for subsidies under the scheme. As a general rule, the main components of a power generation facility will require permits to be in place. Permits or partial permits for other components such as underground cables or pipelines, fencing, etc. are not required as part of your subsidy application.

- Environmental and planning permit: If you are planning to place your power generation facility in or on a building yet to be built, you will require a permit under the Environment and Planning Act. You may also require a permit for the environmental aspect of your project. If you would like more information about environmental and planning permits, please visit the Omgevingsloket (service desk for environmental and planning permits).
- Environmental and planning permit flora and fauna activity: If your project will generate substantial nitrogen emissions during its operation (e.g. biomass plants), you must submit an environmental and planning permit for flora and fauna activities with your subsidy application. If you would like more information about this permit, please visit the Omgevingsloket (service desk for environmental and planning permits).
- Environmental and planning permit for a structure belonging to the Directorate General for Public works and Water Management or a Wbr permit: If the power generation facility is to be built on or around public works of the Directorate-General for Public Works and Water Management, such as roads, motorways, viaducts, tunnels, bridges or dykes, you will probably need a Wbr permit for your facility. For more information about the Wbr permit, please visit the Omgevingsloket (service desk for environmental and planning permits).
- Mining Act permits: If your application concerns a geothermal energy project, please submit the permit awarded for construction of the geothermal heat source with your application. This may be an exploration or extraction permit (issued before 01-07-2023) or a 'search area allocation' or 'start-up licence' under the new Mining Act.
- Environmental and planning permit for a water activity: You may also require an environmental and planning permit for a water activity for your power generation facility. For more

information about this permit, please visit the Omgevingsloket (service desk for environmental and planning permits).

Transmission capacity statement for combined heat and power (CHP) at a sewage treatment plant and CHP from biomass fermentation.
If you are submitting an application in a 'CHP from biomass fermentation' category or for CHP at a sewage treatment plant category, and your facility requires a large-scale grid connection (> 3 x 80 A), you must include the grid operator's transmission capacity statement for the feed-in of electricity. This statement must demonstrate that sufficient transmission capacity is available at the relevant location and must apply to the current round of applications.

If you wish to connect your power generation facility to a private grid (closed-distribution system grid), you and the private grid operator must request a transmission capacity estimate from your national or regional grid operator. This is the grid operator who is responsible for the transfer point to which the private grid is connected.

Site owner's permission
If the applicant is not the owner of the intended site of the power generation facility, then the owner's permission must be obtained. The site owner will need to complete and sign a form ('Model toestemming locatie-eigenaar'), which gives you permission to install and operate the power generation facility.

If there are multiple owners, each owner must complete a separate form. This applies to all categories. Please note that either the subsidy applicant or the owner who completes the form must be officially registered in the land registry as the owner or leaseholder of the site.

Additional attachments for Biomass energy applications

Energy yield calculation
If you want to apply for a biomass combustion or fermentation facility, you will need to include an energy yield calculation with the feasibility study. You can read more about this requirement in the feasibility study guide.

Additional attachments for Solar thermal energy applications

Detailed drawing
Always include with your subsidy application a detailed drawing to scale clearly showing where the power generation facility for which you are submitting the application will be sited. Unclear maps or photographs will not be accepted. If other facilities exist or are to be installed at the site in question, please clearly indicate this too. The map must also display the solar orientation of the system. For systems erected on buildings, calculate the available roof surface area, taking into account any skylights and climate control systems on the roof.

Load-bearing capacity of roof structure
If you intend to install your power generation facility on a building, you must submit a declaration of load-bearing capacity ('Model draagkracht dakconstructie'). This declaration must be signed by a structural engineer who has calculated the load-bearing capacity of the roof or wall in accordance with the Living Environment (Buildings) Decree. This declaration must match the project for which you are applying for a subsidy.

You must commission a structural engineer to carry out and sign the investigation. The term structural engineer refers to a person capable of carrying out the necessary calculations. In the investigation, at least the structure must be calculated by the structural engineer who signs the declaration. During the assessment of your subsidy application, RVO may ask you to send the structural design calculations and/or contact the structural engineer to request an explanation of the declaration of load-bearing capacity. The structural engineer who carries out these calculations and signs the declaration may also be an employee of the subsidy applicant who is certified to this end. You can read more about the declaration of load-bearing capacity in the relevant fact sheet ('Informatieblad toelichting draagkracht dakconstructie').

This requirement has been introduced because fewer power generation facilities have been installed on buildings than expected, and an important reason for this is that previous

applications ran into problems when the roof turned out to be unsuitable and it was costly to modify the roof to meet the requirements.

Additional attachments for Geothermal energy applications

Geological survey report

A geological survey is required for geothermal energy projects. Please attach the geological survey report to your subsidy application. The TNO report 'Specifications for geological surveys for geothermal energy projects – SDE+ and RNES reporting requirements' sets out the minimum requirements of the geological survey for your SDE++ subsidy application.

DoubletCalc calculation

TNO can facilitate the geological survey. TNO has made the software package and DoubletCalc user guide available on NLOG, the Netherlands oil and gas portal. You can use DoubletCalc to calculate the P50 output. The user guide explains the method used to calculate the P50 output.

For the SDE++ scheme, the rated power output of the geothermal system must be determined with a probability of at least 50%.

Low carbon heat

Low carbon heat

The 2024 SDE++ 'Low-carbon heat' category includes the technologies 'Aquathermal energy', 'Daylight greenhouses', 'Solar PVT panels with heat pump', 'Electric boilers', 'Geothermal energy with heat pump', 'Waste heat utilisation', 'Industrial heat pumps', 'Air-water heat pump' and 'Air-water process-integrated heat pumps'. This section explains the general conditions for the production of low-carbon heat in SDE++ 2024 and the technology-specific application conditions. The table 'Phases and tariffs for low-carbon heat in SDE++ 2024' at the end of this section provides an overview of the categories, associated phase amounts, full-load hours and other key figures.

Low carbon heat is heat that does not come from a renewable source, or only partially comes from a renewable source, but does have lower carbon emissions compared with a gas-fired facility. The SDE++ scheme includes a number of specific options to reduce CO_2 emissions.

The heat eligible for subsidy is not or only partially obtained from a renewable source. Consequently, when determining the heat produced, we cannot use the system of measurement and certification as described in the Regulation on guarantees of origin and certificates of origin. To this end, extra provisions have been included in the General Implementing Regulation. These provisions govern how we establish what is 'usefully employed heat'. They also contain requirements for establishing the suitability of the power generation facility, the installation and classification of meters and how the measurement report should be drawn up.

Emissions Trading System (ETS)

If your facility benefits from the ETS, we will factor that ETS benefit into the correction amount. This situation may change during the production period. Under the SDE++ scheme, it is possible to adjust this correction during the production period.

ETS benefits may apply to low-carbon heat production if the power generation facility forms part of an ETS system. The Netherlands Environmental Assessment Agency (PBL) has calculated an ETS correction for each category of power generation facility based on the most representative use of the heat produced. If the power generation facility does not form part of an ETS system (based on the assessment of the subsidy application), this part of the correction amount will not be applicable and will be set at zero.

Required attachments

If you are applying for a subsidy for one of the low-carbon heat categories, you must include a number of attachments with your application. These are explained in 'Documents to attach to low-carbon heat subsidy application'.

Halogen-free refrigerants in heat pumps

Halogen-free refrigerants are required for all categories of heat pumps that form part of the SDE++ subsidised power generation facility as of the SDE++ 2023 round of applications.

Aquathermal energy

- The SDE++ scheme includes technologies for extracting heat from water for heating the built environment or for direct commercial supply. A heat pump is used to upgrade the temperature. The scheme no longer distinguishes between the source of heat, but does still consider the operating hours.
- These systems extract heat from surface water, sea water, waste or drinking water. To be eligible for a subsidy, the heat pump must deliver a thermal output of at least 500 kWth and have a COP value of at least 3.0.
- This type of system stores the heat in a seasonal storage system and uses it during the heating season. Three categories have been opened for this technology, exclusively

for heating the built environment with a base load of 6,000 hours:

- With seasonal heat storage.
- Delivering heat via a new heat transfer station, without cold delivery.
- Delivering heat via a new heat transfer station, without cold delivery.

Two categories have been opened in the category no base load (3,500 hours):

- Exclusively heating the built environment
- Other applications, with seasonal storage

Calculation example for TEO

This example is based on a power generation facility for the production of heat extracted from surface water and upgraded using a heat pump with a rated thermal output of 2 MWth operating for 3,500 hours on an annual basis and using seasonal storage. This example assumes a power generation facility that is not an ETS system. Therefore, no ETS value has been included in the provision correction amount in this example.

Category: Thermal energy from surface water with seasonal storage, direct application	
Maximum application amount in phase 4	0.0904 €/kWh
Maximum application amount in phase 5	0.0928 €/kWh
Provisional correction amount for 2024	0.0560 €/kWh
Provisional 2024 SDE++ subsidy for the maximum application amount in phase 4	9.04 - 5.60 = 3.44 €ct/kWh = € 34.40/MWh
Provisional 2024 SDE++ subsidy for the maximum application amount in phase 5	9.28 - 5.60 = 3.68 €ct/kWh = € 36.80/MWh
Maximum number of full-load hours eligible for subsidy 3,500 full-load hours	3.500 full load hours
Total rated output 2 MWth	2 MWth
Maximum annual production eligible for subsidy for a facility with an output of 2 MWth	2 * 3.500 = 7.000 MWh
Provisional 2024 SDE++ subsidy for the maximum application amount in phase 4	7.000 * € 34.40 = € 240.800,-
Provisional 2024 SDE++ subsidy for the maximum application amount in phase 5	7.000 * € 36.80 = € 257.600,-

Air-water heat pump

For the first time, the round of applications for 2024 includes air water heat pumps for existing greenhouse horticulture:

- The heat pump must have a thermal output of minimum 500 kWth. There are 2 categories that are eligible for subsidy.
- The heat is used in the existing built environment, the heat pump has a COP value of at least 3.0 and the supply temperature of the heat pump is at least 70°C during the heating season.
- The heat is used in the existing built environment or in existing greenhouse horticulture, the heat pump has a COP value of at least 4.0 and the supply temperature of the heat pump is at least 40°C during the heating season.

Daylight greenhouses

Some greenhouse crops do not like direct sunlight. In greenhouses with these crops, a proportion of the incoming sunlight can be trapped using a solar tracking thermal system. You can then store the heat in a seasonal storage system. The systems use almost the entire greenhouse roof to capture heat and reuse it during the heating season. A heat pump is used to upgrade the temperature to heat the greenhouse. The system is subject to certain technical preconditions.

You must meet the following conditions to be eligible for a subsidy:

- The solar tracking collector system must form an integral part of a new horticultural greenhouse.
- The power output of the solar collector must be at least 4 times the power output of the heat pump to be installed. This will ensure the solar collector generates enough heat to replenish the seasonal storage system.
- You cannot use the seasonal storage system for cooling. Systems that also cool do not usually have an unprofitable component.
- The heat pump must have a thermal output of at least 0.5 MWth and a COP value of at least 5.0

Solar PVT panels with heat pump

You can apply for a SDE++ subsidy for the production of low-carbon heat using a solar thermal system with solar heating collectors that simultaneously produce heat and electricity, whereby a heat pump is used to upgrade the temperature. The heat must be used for heating the built environment.

The power generation facility should have a surface area of photovoltaic thermal collectors of at least 1.2 m2 per kWth produced by the heat pump. The heat pump to which the collectors are connected must have a minimum output of 500 kWth and a COP of at least 3.0. This category is applicable only to photovoltaic thermal panels; standard uncovered solar heat collectors are excluded from the scheme.

Electric boilers

You can use an SDE++ subsidy to generate commercial heat with an electric boiler instead of a gas boiler. You can also employ hybrid boilers that use both gas and electricity to supply heat. The power generation facility must be new. You cannot convert a gas boiler already present at the site. For hybrid boilers, both the heat and the electricity used must be metered. You will receive a subsidy only for the heat generated from electricity. The heat may be stored in an intermediate medium before being transferred to a fluid.

Due to the variety of applications of the generated heat and the possible ETS benefits associated with it, as of 2024, the category for electric boilers is divided into three subcategories:

- Electric boilers for use in district heating.
- Electric boilers for industrial applications, not for greenhouse horticulture
- Electric boilers with high-temperature storage for industrial applications, not for greenhouse horticulture

The categories are subject to certain technical preconditions. You must meet the following conditions to be eligible for a subsidy:

- The electric boiler must have a thermal output of minimum 2 MWth (this was formerly 5 MWth).
- The system the heat will be fed into must have a feed-in temperature of at least 100°C in the heating season, or must be a steam system. No heat requirements apply outside the heating season. This condition allows wider deployment of

this technology than only industrial applications, and also prevents the use of electric boilers in situations where a heat pump would be preferable due to its higher COP value.

- The capacity of the connection to the electricity grid must be at least as high as the output of the electric boiler.
- The buffer used for high-temperature storage has a minimum capacity of 3 MWh per MWth that can be supplied and a maximum output of 50 MWth.

Production hours and full-load hours

To prevent higher emission levels as a result of switching to an electric boiler, a maximum applies to the years in the table below. This maximum may also not be exceeded when applying forward banking.

If less than the maximum number of full-load hours is produced, the shortfall can be made up through banking if the number of permitted production hours exceeds the maximum number of full-load hours. Banking of overproduction is no longer possible.

Year	Year Production hours Electric boiler without storage	Production hours Electric boiler with high temperature storage
2024	2.949	4.423
2025	3.457	5.185
2026	3.774	5.661
2027	4.775	7.162
2028	6.229	8.784
2029	8.760	8.760

Geothermal energy with heat pump

You can find information about the 'Geothermal energy with heat pump' category under the 'Geothermal' category in the chapter on 'Renewable heat'.

Waste heat utilisation

Industrial processes, data centres and other businesses may produce waste heat. The temperature of that heat is too low for the business itself to use it. The SDE++ scheme makes it possible to use this heat elsewhere, such as supplying it to a district heating network. The supply of steam is excluded from this category, as it does not involve an unprofitable component. To qualify for an SDE++ subsidy, the waste heat must be transported to a location other than the site where the heat was decoupled.

There are two possible scenarios:

Without a heat pump
The temperature of the waste heat is sufficient for other users. The subsidy rate is differentiated depending on the length of the transport pipeline per unit of output. The system is subject to certain technical preconditions. You must meet the following conditions to be eligible for a subsidy:

- The decoupling point must have a thermal capacity of at least 2 MWth.
- The transport pipeline must be at least 0.2 km/MWth in length.

With a heat pump
The temperature of the waste heat is too low to be directly usable by other users. A heat pump can be used to upgrade the temperature. The system is subject to certain technical preconditions. You must meet the following conditions to be eligible for a subsidy:

- The decoupling point must have a thermal capacity of at least 2 MWth.
- The heat pump must be new, deliver a thermal output of at least 500 kWth and have a COP of at least 3.0.

The party that supplies and decouples the waste heat and operates the heat transport network applies for the subsidy. If several parties are involved, they must form a project entity or partnership to jointly submit the subsidy application. The SDE++ subsidy is intended for the decoupling of waste heat from a heat source, including the facilities needed to deliver the waste heat to the customer (business or district heating network). The distribution network itself is not covered by the subsidy.

Industrial heat pumps

Industries can utilise their own low-temperature waste heat by using a heat pump to upgrade the temperature. Through the SDE++ scheme, this unusable heat can be upgraded to a higher level, making it usable for industrial applications. Greenhouse horticulture is not considered an industry in this sense. This category also allows for the reuse of steam in an industrial process. The heat must be used at the same location where it was produced and the facility may not be used to supply cold energy.

The SDE++ scheme distinguishes between various categories based on full-load hours (3,000 or 8,000 full-load hours).

We also distinguish various types of heat pump, to which a number of technical preconditions are attached:

- With a closed-loop heat pump: The heat pump must have a thermal output of at least 500 kWth and a COP of at least 2.3.
- With an open-loop heat pump The heat pump must have a thermal output of at least 500 kWth and a COP of at least 2.3 and not more than 12. This upper limit has been included because it is not clear whether projects with a higher COP will need to be subsidised.

Process-integrated heat pumps

In the 2024 round of applications includes process-integrated heat pumps for the first time. A distinction has been made between the categories on the basis of full-load hours (3,000 hours or 8,000 hours). For this category, the determining factor is not the COP of the heat pump(s). Instead a system COP has been defined, based on a black-box approach. By adapting a process in combination with the use of heat pumps, a saving is achieved on the heat input. In that situation, the system COP is the quotient of the saved heat input and the additional electricity demand.

You must meet the following conditions to be eligible for a subsidy:

- In addition to the use of one or more new heat pumps, the process alterations to be made must consist of at least:
  - the switch from a batch process to a fully continuous process, or;
  - the installation of a new condensation reactor/vessel, or;
  - the installation of a new condensation cover or
  - new heat exchanger for the recovery of latent heat
- Heat pump(s) have a thermal output of at least 500 kWth.
- The system COP is at least 3.0.

The production eligible for subsidy and the amount of the subsidy are calculated by multiplying the measured electricity for the heat pumps by a factor of 3.5.

Phasing and rates for low-carbon heat SDE++ 2024

Category	Maximum fasebedrag/basisbedrag Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	Bottom price or base price €/kWh	Provisional correction energy price 2024 €/kWh	Provisional ETS correction 2024 €/kWh	Maximum full load hours *hours/year*	Order term *years*	*years*	Grant term *years*	Fence Domain
Geothermie													
Shallow geothermal energy with heat pump, heating for built environment (3500 full-load hours)	0.0644	0.0929	0.1213	0.1498	0.1646	0.0240	0.0560	0.0004	3500	3.0	6	15	LT heat
Shallow geothermal energy with heat pump (6000 full-load hours)	0.0644	0.0862	0.0862	0.0862	0.0862	0.0240	0.0560	0.0004	6000	3.0	5	15	LT heat
Shallow geothermal energy with a heat pump, heating for built environment (6000 full-load hours)	0.0638	0.0909	0.1181	0.1255	0.1255	0.0240	0.0560	0.0004	6000	3.0	6	15	LT heat
Water													
Aquathermal energy, base load, heating for built environment new heat transfer station	0.0502	0.0645	0.0787	0.0917	0.0917	0.0240	0.0560	0.0004	6000	1.5	4	15	LT heat
Aquathermal energy with seasonal storage, base load, heating for built environment	0.0494	0.0628	0.0763	0.0898	0.1077	0.0240	0.0560	0.0004	6000	1.5	4	15	LT heat
Aquathermal energy, base load, heating for built environment	0.0500	0.0641	0.0769	0.0769	0.0769	0.0240	0.0560	0.0004	6000	1.5	4	15	LT heat
Aquathermal energy, no base load, heating for built environment	0.0494	0.0629	0.0765	0.0900	0.1080	0.0240	0.0560	0.0004	3500	1.5	4	15	LT heat
Aquathermal energy, with seasonal storage, direct application	0.0495	0.0632	0.0768	0.0904	0.0928	0.0240	0.0560	0.0004	3500	1.5	4	15	LT heat
Air													
Air-water heat pump for heating existing buildings or existing greenhouses, no base load, medium temperature (> 70 °C)	0.0769	0.0902	0.1036	0.1169	0.1347	0.0445	0.0953	0.0004	3500	1.5	4	15	LT heat
Air-water heat pump for heating existing buildings or existing greenhouses, no base load, low temperature (> 40 °C)	0.0501	0.0644	0.0694	0.0694	0.0694	0.0240	0.0560	0.0140	3500	1.5	4	15	LT heat

Phasing and rates for low-carbon heat SDE++ 2024

Category	Maximum fasebedrag/basisbedrag Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	Bottom price or base price €/kWh	Provisional correction energy price 2024 €/kWh	Provisional ETS correction 2024 €/kWh	Maximum full load hours *hours/year*	Order term *years*	*years*	Grant term *years*	Fence Domain
Solar													
Solar PVT system with heat pump	0.0650	0.0650	0.0650	0.0650	0.0650	0.0502	0.1010	0.0004	3500	1.5	4	15	LT heat
Daylight greenhouses	0.05060	0.0654	0.0801	0.0948	0.1012	0.024	0.0560	0.0004	3850	1.5	4	15	LT heat
Electrification													
Industrial closed-loop heat pump (3000 hours)	0.0720	0.0861	0.1002	0.1065	0.1065	0.0240	0.0560	0.0132	3000	1.5	4	12	LT heat
Industrial closed-loop heat pump (8000 hours)	0.0610	0.0610	0.0610	0.0610	0.0610	0.0240	0.0560	0.0132	8000	1.5	4	12	LT heat
Industrial open-loop heat pump (3000 hours)	0.0710	0.0710	0.0710	0.0710	0.0710	0.0240	0.0560	0.0172	3000	1.5	4	12	HT heat
Industrial open-loop heat pump (8000 hours)	0.0319	0.0319	0.0319	0.0319	0.0319	0.0240	0.0560	0.0172	8000	1.5	4	12	HT heat
Process-integrated heat pump in a condensation process (3000 hours)	0.0720	0.0861	0.1002	0.1095	0.1095	0.0240	0.0560	0.0132	3000	1.5	4	12	HT heat
Process-integrated heat pump in a condensation process (8000 hours)	0.0623	0.0623	0.0623	0.0623	0.0623	0.0240	0.0560	0.0132	8000	1.5	4	12	HT heat
Electric boiler, district heating	0.0739	0.0908	0.1076	0.1113	0.1113	0.0308	0.0719	0.0065	3300	1.5	4	15	HT heat
Electric boiler, industrial application not greenhouse horticulture	0.0631	0.0800	0.0968	0.1113	0.1113	0.0308	0.0719	0.0000	3300	1.5	4	15	HT heat
Electric boiler, industrial application not greenhouse horticulture, with thermal storage	0.0631	0.0800	0.0968	0.1137	0.1359	0.0308	0.0719	0.0000	5000	1.5	4	15	HT heat
Waste heat utilisation													
Use of residual heat with heat pump, length-output ratio < 0.10 km/MWth	0.0566	0.0670	0.0670	0.0670	0.0670	0.0240	0.0560	0.0040	5500	1.5	4	12	HT heat
Use of residual heat with heat pump, length-output ratio ≥ 0.10 and < 0.20 km/MWth	0.0566	0.0707	0.0741	0.0741	0.0741	0.0240	0.0560	0.0040	5500	1.5	4	15	LT heat

Phasing and rates for low-carbon heat SDE++ 2024

Category	Maximum fasebedrag/basisbedrag Phase 1 €/kWh	Phase 2 €/kWh	Phase 3 €/kWh	Phase 4 €/kWh	Phase 5 €/kWh	Bottom price or base price €/kWh	Provisional correction energy price 2024 €/kWh	Provisional ETS correction 2024 €/kWh	Maximum full load hours *hours/year*	Order term *years*		Grant term *years*	Fence Domain
Use of residual heat with heat pump, length-output ratio ≥ 0.20 and < 0.30 km/MWth	0.0566	0.0706	0.0813	0.0813	0.0813	0.0240	0.0560	0.0040	5500	1.5	4	15	LT heat
Use of residual heat with heat pump, length-output ratio ≥ 0.30 and < 0.40 km/MWth	0.0566	0.0706	0.0847	0.0884	0.0884	0.0240	0.0560	0.0040	5500	1.5	4	15	LT heat
Use of residual heat with heat pump, length-output ratio ≥ 0.40 km/MWth	0.0565	0.0706	0.0846	0.0956	0.0956	0.0240	0.0560	0.0040	5500	1.5	4	15	LT heat
Use of waste heat (without heat pump), length-output ratio ≥ 0.20 and < 0.30 km/MWth	0.0262	0.0262	0.0262	0.0262	0.0262	0.0240	0.0560	0.0056	5500	1.5	4	15	LT heat
Use of waste heat (without heat pump), length-output ratio ≥ 0.30 and < 0.40 km/MWth	0.0334	0.0334	0.0334	0.0334	0.0334	0.0240	0.0560	0.0056	5500	1.5	4	15	LT heat
Use of waste heat (without heat pump), length-output ratio ≥ 0.40 km/MWth	0.0405	0.0405	0.0405	0.0405	0.0405	0.0240	0.0560	0.0056	5500	1.5	4	15	LT heat

Documents to attach to renewable low carbon heat subsidy application

You must include a number of attachments with your subsidy application for low carbon heat. In the table below you can see which attachments may be required for the technology referred to in the application. These attachments are explained in more detail below the table and you can also download the required formats.

Table of mandatory attachments for categories of low carbon heat	Attachments compulsory components of the feasibility study[1]											Attachments permits				Other attachment	
Categories power generation facilities	Financing plan	Supporting documentation own funds	Declaration of intent from a financial backer if less than ≤20% of the total investment is covered by own funds	Operational calculation	Registration (to scale) of power generation facility	Declaration load-carrying capacity of roof structure	Substantiation of heat output	Geological survey report	Energy yield calculation	Map of the transport pipeline route	Partnership members[2]	Environmental and planning permit[2] for the power generation facility (all phases or parts)	Environmental and planning permit new building [2] for the power generation facility (all phases or parts)	Environmental and planning permit for a structure belonging to the Directorate General for Public works and Water Management or a Wbr permit[2]	Environmental and planning permit for a water activity or a Water permit[2]	Mining Act permit	Site owner's permission[2]
Geothermal energy with heat pump (all categories)																	
Shallow or deep geothermal energy	x	x	x	x			x	x	x							x	x
Aquathermal energy (all categories)																	
Thermal energy from surface water (TEO, TEA or TED)	x	x	x	x			x		x			x	x		x		x
Solar																	
Solar PVT system with heat pump	x	x	x	x	x	x	x		x			x	x	x	x		x
Daylight greenhouses	x	x	x	x			x		x			x	x		x		x
Electrification (all categories)																	
Large-scale electric boilers	x	x	x	x			x		x			x	x				x
Industrial heat pumps or process-integrated heat pump	x	x	x	x			x		x			x	x				x
Air-water heat pump	x	x	x	x			x		x			x	x				x
Waste heat utilisation (all categories)																	
Waste heat utilisation	x	x	x	x			x		x	x	x	x	x				x

[1] *For more information, consult the 2024 SDE++ scheme Feasibility study guide.*
[2] *If applicable*

Please note: If a facility is placed on or in a building, and that building is new or has been renovated, an Environmental and planning permit must be submitted with your subsidy application.
Note: Permits or partial permits for the laying of cabling, underground or otherwise, fencing and pipework, underground or otherwise, need not be sent with your subsidy application.

General attachments

The general attachments apply to all low carbon heat technologies.

Feasibility study

An application for an SDE++ subsidy for low-carbon heat must be supported by a feasibility study

The general part of the feasibility study must comprise the following information:

- A description of the power generation facility, including the technical specifications.
- A comprehensive financing plan.
- Supporting documents for own funds to be invested by the applicant, third parties or shareholders. Own funds must be substantiated by the applicant with documents (annual accounts/balance statements) demonstrating that the required resources (financial and otherwise) will be available when needed. If the applicant submits several projects, they must provide proof of own funds to cover the total value of these SDE++ 2024 projects.
- A declaration of intent from a financial backer if less than 20% of the total investment is covered by own funds.
- A calculation of the operational costs.
- For more complex facilities, you must also include a process diagram.
- A substantiation of the heat output.
- An energy yield calculation. During our assessment, we may ask you additional questions about the feasibility of your project.

You can find more information about the above requirements in the 'SDE++ feasibility study guide' and the 'SDE++ feasibility study template'.

Licences and permits

One or more permits are usually required to develop a power generation facility. These must have been issued by a competent authority before you submit your subsidy application. If you require a permit for your power generation facility, this permit must be attached to your subsidy application. This requirement was included in the Renewable Energy Production and Climate Transition Incentive Decree ('Besluit SDEK') to provide more certainty (and to speed up the process) when applying for subsidies under the scheme. As a general rule, the main components of a power generation facility will require permits to be in place. Permits or partial permits for other components such as underground cables or pipelines, fencing, etc. are not required as part of your subsidy application.

- Environmental and planning permit: If you are planning to place your power generation facility in or on a building yet to be built, you will require a permit under the Environment and Planning Act. You may also require a permit for the environmental aspect of your project.
- Environmental and planning permission for environmental aspects: If you need a permit for the volume of refrigerant used in a heat pump, you must also include this permit with your subsidy application.

If you would like more information about environmental and planning permits, please visit the Omgevingsloket (service desk for environmental and planning permits).

In addition, you may require an environmental and planning permit for certain components of your power generation facility. These components are listed below.

- Aquathermal energy: for a system used to extract heat from surface water (TEO), or decouple heat from drinking or wastewater (TEA, TED), and for a centrally located heat pump.
- Daylight greenhouses: for a collector system that is an integral part of a new greenhouse.
- Solar PVT system: for the PVT system and heat pump.
- Waste heat utilisation: for a heat transfer station, the extraction of waste heat from the source and possibly the heat pump.
- Industrial heat pumps or process-integrated heat pumps: if you need a permit for the volume of refrigerant used in a heat pump.

- Air-water heat pump: if you need a permit for the volume of refrigerant used in a heat pump.
- Environmental and planning permit for a water activity: You may also require an environmental and planning permit for a water activity for your aquathermal energy, Solar PVT or daylight greenhouse power generation facility. For more information about this permit, please visit the Omgevingsloket (service desk for environmental and planning permits). For example, you may need an environmental and planning permit for a water activity for Solar PV if you are applying for a subsidy for a field-based or floating system.
- Environmental and planning permit for a structure belonging to the Directorate General for Public works and Water Management or a Wbr permit: If the power generation facility is to be built on or around public works of the Directorate-General for Public Works and Water Management, such as roads, motorways, viaducts, tunnels, bridges or dykes, you will probably need a Wbr permit for your facility. For more information about the Wbr permit, please visit the Omgevingsloket (service desk for environmental and planning permits).
- Mining Act permits: If your application concerns a geothermal energy project, please submit the permit awarded for construction of the geothermal heat source with your application. This may be an exploration or extraction permit (issued before 01-07-2023) or a 'search area allocation' or 'start-up licence' under the new Mining Act.

Site owner's permission

If the applicant is not the owner of the intended site of the power generation facility, then the owner's permission must be obtained. The site owner will need to complete and sign a form ('Model toestemming locatie-eigenaar'), which gives you permission to install and operate the power generation facility.

If there are multiple owners, each owner must complete and sign a separate form. This applies to all categories. Please note that either the subsidy applicant or the owner who completes the form must be officially registered in the land registry as the owner or leaseholder of the site.

Partnership members

If your project is being implemented in a partnership, please include the following information in addition to the general attachments

- A list of all the partners in the project (required).
- A partnership agreement signed by all the partners in the project.

A partnership agreement template can be found on the page 'Downloads en hulpmiddelen bij uw aanvraag SDE++'. For more information about applications for a project undertaken by a partnership, consult the page 'SDE++ applications'.

Additional attachments for solar PVT applications with heat pump

Detailed drawing

If you are applying for an SDE++ subsidy for 'Solar PVT panels with heat pump', you must perform a feasibility study. Always include a detailed map to scale clearly showing where the solar PVT system will be sited. If other facilities exist or are to be installed at the site in question, please clearly also indicate this. The map must also display the solar orientation of the system. If you will be installing your power generation facility on a roof, calculate the available roof surface area, taking into account skylights and climate control systems on the roof.

Load-bearing capacity of roof structure

If you intend to install your power generation facility on a building, you must submit a declaration of load-bearing capacity ('Model draagkracht dakconstructie'). This declaration must be signed by a structural engineer who has calculated the load-bearing capacity of the roof or wall in accordance with the Living Environment (Buildings) Decree. This declaration must match the project for which you are applying for a subsidy. You must commission a structural engineer to carry out and sign the investigation. The term structural engineer refers to a person capable of carrying out the necessary calculations. In the investigation, at least the structure must be calculated by the structural engineer who signs the declaration. During the assessment of your subsidy application, RVO may ask you to send the structural design calculations and/or contact the structural engineer to request an explanation of the declaration of load-bearing capacity. The structural engineer

who carries out these calculations and signs the declaration may also be an employee of the subsidy applicant who is certified to this end. You can read more about the declaration of load-bearing capacity in the relevant fact sheet ('Informatieblad toelichting draagkracht dakconstructie').

Additional attachments for Geothermal energy applications

Geological survey report

A geological survey is required for geothermal energy projects. Please attach the geological survey report to your subsidy application. The TNO report 'Specifications for geological surveys for geothermal energy projects – SDE+ and RNES reporting requirements' sets out the minimum requirements of the geological survey for your SDE++ subsidy application.

DoubletCalc calculation

TNO can facilitate the geological survey. TNO has made the software package and DoubletCalc user guide available on NLOG, the Netherlands Oil and Gas Portal. You can use DoubletCalc to calculate the P50 output. The user guide explains the method used to calculate the P50 output.

For the SDE++ scheme, the rated power output of the geothermal system must be determined with a probability of at least 50%.

Additional attachments for waste heat utilisation

Map of the transport pipeline route

Your application must include a map depicting the intended pipeline route. Also state the pipe diameters and length of the pipeline from the decoupling point to the waste heat customer.

Low carbon production

Low carbon production

The SDE++ scheme divides the main category 'Low carbon production' into the following technologies: 'Electrolytic hydrogen production', ' Carbon capture and storage', 'Carbon capture and use in greenhouse horticulture' and 'Advanced renewable fuels'. This section explains the general conditions for low-carbon production in SDE++ 2024 and the technology-specific application conditions. The table 'Phases and tariffs for low-carbon production in SDE++ 2024' at the end of this section provides an overview of the categories, associated phase amounts, full-load hours and other key figures.

Required attachments

If you are applying for a subsidy for one of the low-carbon production categories, you must include a number of attachments with your application. These are explained in 'Documents to attach to low-carbon production subsidy applications'.

Electrolytic hydrogen production, grid-connected

At present, most hydrogen is produced from natural gas in a furnace, because this method is cost efficient. However, hydrogen from electrolysis powered by renewable electricity produces less CO_2 emissions. Systems will be eligible for a subsidy if the hydrogen production capacity is at least 500 kW.

Just as in previous years, a category has been opened for grid-connected electrolytic hydrogen production. This has been adapted in line with the Commission Delegated Regulation (EU) 2023/1184 of 10 February 2023 supplementing Directive (EU) 2018/2001.

The SDE subsidy is only available for the production of fully renewable hydrogen. If the power generation facility for hydrogen produces both fully renewable and non-fully renewable hydrogen, subsidy will only be granted if the GHG emission reduction for all hydrogen produced is at least 70%.

The subsidy recipient must also be able to demonstrate that he has guarantees of origin for renewable electricity for the wind or solar powered renewable electricity used and that these guarantees of origin are deducted. To be able to demonstrate the fully renewable nature of the hydrogen, the project must also comply with the other additionality conditions from the delegated regulations.
This must be demonstrated each year by means of an annual report.

Electrolytic hydrogen production, direct connection

In addition to the grid-connected systems described above, an SDE++ subsidy can also be granted to produce hydrogen from electrolysis if the electricity is supplied through a direct connection to a wind or solar farm. Systems will be eligible for a subsidy if the hydrogen production capacity is at least 500 kW. Because only renewable electricity is produced, more full-load hours apply than in grid-connected systems (5.845). You may be granted a subsidy if your power generation facility is directly powered by sufficient renewable electricity supplied through a direct connection whenever it is operating. If you want to produce hydrogen year round, the wind or solar farm will therefore have to have sufficient excess capacity. No subsidy will be provided for the renewable electricity that is used to this end.

Electricity consumption

Hydrogen power generation facilities are expected to be deployed only when there is a surplus of renewable electricity. At other times, the power consumption should be as low as possible to avoid greenhouse gas emissions. To this end, you are required to demonstrate in your application that the operational power generation facility can be limited to consume only 1% electricity in relation to the maximum power output of the facility.

Carbon Capture and Storage (CCS)

CCS is a CO_2-reducing solution for businesses that have no other way to make their processes carbon neutral in the short term, be it for technical or financial reasons. The captured CO_2 is stored in empty gas fields under the sea. If you would like to apply for an SDE++ subsidy for CCS, as producer, you will have to capture and purify the CO_2 yourself. The scheme is open only for storage in gas fields in the Netherlands and the Dutch part of the Continental Shelf.t.

Possible application of CCS in the SDE++ scheme

Only carbon capture from an industrial process stream or from gas-fired CHP plants is eligible. A new addition to the 2024 SDE++ scheme is the option for large-scale biomass power stations to submit a subsidy application (BECCS). This is the first step in enabling negative emissions. In the future, negative emissions will be needed to compensate for residual emissions that are difficult to avoid. To make negative emissions possible, the biomass used in BECCS must be shown to be sustainable. The biomass must comply with the European RED II sustainability criteria.

ETS or Non-ETS business

If the establishment (your business location) where the capture facility is installed will benefit from the Emissions Trading System (ETS), that ETS benefit will be factored into the correction amount. For non-ETS businesses that intend to start CCS, the correction amount is 0. This is why separate categories have been opened for ETS and Non-ETS businesses.

Combined with CCU

Producers who plan to implement CCS combined with CCU using a single capture facility may submit applications for combined CCS and CCU. This is due to PBL's method of calculating the base amount, which would result in some situations being over-subsidised. Not every combination of CCS and CCU is eligible for a subsidy. The combinations eligible for subsidies are listed in the CCS tables for ETS businesses and non-ETS businesses. Combinations of CCS and CCU are only possible if you apply for both in the same round of applications, or if you already have a CCU subsidy that was approved in a previous round of applications.

Combining CCS extensions with one capture facility

CCS facilities subsidised during various rounds of applications can be combined into a single carbon capture facility. This is due to PBL's method of calculating the base amount, which would result in some situations being over-subsidised. Not every combination of CCS and CCU is eligible for a subsidy. Only CCS categories involving a new capture facility based on 8,000 full-load hours may be combined. The various subsidies are paid out annually in the order in which they were approved.

Carbon capture and storage (CCS) for ETS businesses

Process		Carbon capture or CO_2 purification installation		Transport of CO_2 in gaseous form by pipeline, compressor must be new				Transport in liquid form (by ship/lorry)				
		Existing/ new	Full load hours	MRAC article	Base amount	PBL variant	Combination of CCU and MRAC article	Liquefaction facility	MRAC article	Base amount	PBL variant	Combination of CCU and MRAC article
	process	undetermined	4000	81.1.a.1	249.6473	1A	CCU liquid and gaseous 89.1.a. c-g	undetermined	81.1.a.3	293.6963	1C	CCU liquid 85.1.a. c-g
	process	undetermined	8000	81.1.b.1	144.5032	2A	not possible	new	81.1.a.2	340.8704	1B	CCU gaseous 85.1.a. c-g
	process	new CO_2 purification	8000	81.1.c.1	170.9900	3A	not possible	new	81.1.b.2	192.0387	2B	not possible
new	process	new CO_2 purification	8000	81.1.g.1	147.6072	7A	not possible	new	81.1.c.2	214.9569	3B	not possible
existing	**Combustion**process	new carbon capture and new CO_2 purification	8000	81.1.e.1	216.4108	5A	not possible	new	81.1.f.2	195.7078	7B	not possible
new	**Combustion**process	new carbon capture and new CO_2 purification	8000	81.1.h.1	197.0111	8A	not possible	new	81.1.e.2	259.6245	5B	not possible
new	conversion of residual gases in to hydrogen	new carbon capture and new CO_2 purification	8000	81.1.d.1	211.8525	4A	not possible	new	81.1.g.2	238.3560	8B	not possible
									81.1.d.2	258.1535	4B	not possible
existing	**Waste incineration-** plant			81.1.f.1	223,7850	6A	not possible	new	81.1.f.2	222,3420	6B	not possible

Combustion process = These categories are available only for post-combustion carbon capture (carbon capture in processes such as SMR, ATR and POX cannot be submitted in this category)
MRAC = Ministerial Regulation designating the 2024 SDE++ categories
PBL = variant as specified by the PBL in the calculation of the base amounts for SDE++ 2024

Carbon capture and storage (CCS) for non-ETS companies

Process		Carbon capture or CO_2 purification installation		Transport of CO_2 in gaseous form by pipeline, compressor must be new				Transport in liquid form (by ship/lorry)				
		Existing/ new	Full load hours	MRAC article	Base amount	PBL variant	Combination of CCU and MRAC article	Liquefaction facility	MRAC article	Base amount	PBL variant	Combination of CCU and MRAC article
	process	undetermined	4000	83.1.a.1	249.6473	1A	CCU liquid and gaseous 85.1.a. c-g	Undetermined	83.1.a.3	270.6045	1C	Combination CCU MRAC article
								new	83.1.a.2	270.6045	1B	CCU liquid 85.1.a. c-g
		new CO_2 purification	8000	83.1.b.1	144.5032	2A	not possible		83.1.b.2	192.0387	2B	CCU gaseous 85.1.a. c-g
				83.1.c.1	170.9900	3A			83.1.c.2	214.9569	3B	
new				83.1.f.1	147.6072	7A			83.1.f.2	195.7078	7B	
existing	**Combustionprocess**	new carbon capture and new CO_2 purification		83.1.e.1	216.4108	5A			83.1.e.2	246.5070	5B	
new				83.1.g.1	197.0111	8A			83.1.g.2	238.3560	8B	not possible
new	conversion of residual gases in to hydrogen			83.1.d.1	211.8525	4A			83.1.d.2	258.1535	4B	
new	**biomass** incineration plant (≤ 100 MWe)			83.1.h.1	223.7850	6A			83.1.h.2	222.3420	6B	

Combustion process = These categories are available only for post-combustion carbon capture (carbon capture in processes such as SMR, ATR and POX cannot be submitted in this category)
MRAC = Ministerial Regulation designating the 2024 SDE++ categories
PBL = variant as specified by the PBL in the calculation of the base amounts for SDE++ 2024

Calculation example for CCS

In this example, a new post-combustion carbon capture facility has been developed in an existing facility using gaseous transport, with a capacity of 81.25 tonnes of CO_2/hour and with stored CO_2.	
Category: CCS – new post-combustion carbon capture, existing facility, gaseous transport (variant 5A)	
Maximum application amount in phase 1	199.0097 €/ton CO_2
Provisional correction amount for 2024	91.3481 €/ton CO_2
Provisional 2024 SDE++ subsidy for the maximum application amount in phase 1	€ 199.0097 - € 91,3481 = € 107.6616/ton CO_2
Maximum number of full-load hours eligible for subsidy 8,000 full-load hours	8.000 full load hours
Total capacity	81.25 ton CO_2/uur
Maximum eligible annual production for a facility with a capacity of 81.25 tonnes CO_2/hour	8.000 * 81,25 = 650.000 ton CO2/year
Provisional 2024 SDE++ subsidy for the maximum application amount in phase 1	650.000 * € 107,6616 = € 69.980.040

Implementation agreement and bank guarantee

If you are applying for a CCS subsidy and parts of the power generation facility are required to be new according to the allocation regulations, but you have not yet obtained environmental and planning permits,

or if you are applying for a subsidy for more than €400 million, the following conditions apply:

- You must conclude an implementation agreement with the government within 2 weeks of the issue of the subsidy approval decision
- You must supply a bank guarantee within 4 weeks of the issue of the subsidy approval decision.

Progress requirements

Owing to the size of the project, the CCS category is subject to a contract period of 3 years and an implementation period of 6 years. To enable progress to be monitored, the complete environmental and planning permit for the parts of the facility that are required to be new according to the allocation regulations (capture, purification and, if applicable, liquefaction plant) must be submitted to us within 3 years of approval of the subsidy application. If you already have these permits, please include them with your subsidy application.

If these milestones cannot be achieved, this may result in the withdrawal of the subsidy and the collection of the bank guarantee.

Determining the production level

The production levels must be submitted to the Netherlands Enterprise Agency (RVO) every month. An annual declaration will be used to demonstrate at the end of every calendar year that the carbon captured has actually been stored.

Carbon Capture and Utilisation in greenhouse horticulture (CCU)

Subsidies may also be approved for the use of the captured CO_2 in greenhouse horticulture in the Netherlands. As the emissions factor is calculated to prevent the application of 'summer heating' (burning natural gas in the summer only to produce CO_2), only applications in greenhouse horticulture are eligible for a subsidy. You should provide supporting information in your feasibility study showing how you intend to sell the carbon to the greenhouse horticulture sector. The various situations we distinguish are listed in the 'CCU table'. Also new is the possibility of applying for a subsidy for CCU for large-scale biomass incineration facilities, ≥ 50 MWth with an electrical output ≤ 100 MW. For biomass incineration facilities with a thermal input capacity ≥ 7.5 MW, the biomass used must satisfy the European RED II sustainability requirements.

Combined with CCS

Producers who plan to implement CCS combined with CCU using a single capture facility may submit applications for combined CCS and CCU. Due to the method employed by PBL for calculating the base amount, not every combination of CCS and CCU is eligible for a subsidy, since this would result in some situations being oversubsidised. The applications of CCS and CCU that can be combined in the same round of applications are listed in the table below.

Carbon capture and use in greenhouse horticulture (CCU) for facilities with an electrical output ≤ 100 MWe

Process		Carbon capture or CO_2 purification installation		Gaseous transport by pipeline									Transport in liquid form (by ship/lorry			
				(Existing) transport line					Transport of CO_2 in gaseous form by pipeline, compressor must be new				Liquefaction installation must be new			
		Existing/ new	Full-load hours		MRAC article	Base amount	PBL variant	Combi nation of CCU and MRAC article	MRAC article	Base amount	PBL variant		MRAC article	Base amount	PBL variant	
existing	process	Undetermined	4.000	new	niet open-gesteld		2A		not opened		2B		85.1.b	123.2570	2C	
		new CO_2 purification			85.1.a.1	90.6325	1A	81.1.a.1. 2 of 83.1.a.1. 2	85.1.a.2	105.0264	1B	81.1.a.1. 2 of 83.1.a.1. 2	85.1.a.3	130.4494	1C	81.1.a.1. 3 of 83.1.a.1. 3
new					85.1.c.1	89.2968	3A	81.1.a.1. 2 of 83.1.a.1. 2	85.1.c.2	103.6907	3B	81.1.a.1. 2 of 83.1.a.1. 2	85.1.c.3	129.1138	3C	81.1.a.1. 3 of 83.1.a.1. 3
existing	**Combustion** process	new carbon capture and new CO_2 purification			85.1.d.1	172.2054	4A	81.1.a.1. 2 of 83.1.a.1. 2	85.1.d.2	186.5993	4B	81.1.a.1. 2 of 83.1.a.1. 2	85.1.d.3	230.7191	4C	81.1.a.1. 3 of 83.1.a.1. 3
new					85.1.e.1	146.3869	5A	81.1.a.1. 2 of 83.1.a.1. 2	85.1.e.2	160.7808	5B	81.1.a.1. 2 of 83.1.a.1. 2	85.1.e.3	200.4535	5C	81.1.a.1. 3 of 83.1.a.1. 3
existing	**biomass incineration** (> 50 MWth) of **waste incineration** plant				85.1.f.1	202.8852	6A	81.1.a.1. 2 of 83.1.a.1. 2	85.1.f.2	217.2791	6B	81.1.a.1. 2 of 83.1.a.1. 2	85.1.f.3	267.4250	6C	81.1.a.1. 3 of 83.1.a.1. 3
	biomass incineration plant (≤ 50 MWth)				85.1.g.1	135.6886	7A	81.1.a.1. 2 of 83.1.a.1. 2					85.1.g.2	179.8150	7B	81.1.a.1. 3 of 83.1.a.1. 3

Combustion process = These categories are available only for post-combustion carbon capture (carbon capture in processes such as SMR, ATR and POX cannot be submitted in this category)
MRAC = Ministerial Regulation designating the 2024 SDE++ categories
PBL = variant as specified by the PBL in the calculation of the base amounts for SDE++ 2024

Implementation agreement and bank guarantee

If you are applying for a CCU subsidy and parts of the power generation facility are required to be new according to the allocation regulations, but you have not yet obtained environmental and planning permit, or if you are applying for a subsidy for more than €400 million, the following conditions apply:

- You must conclude an implementation agreement with the government within 2 weeks of the issue of the subsidy approval decision
- You must supply a bank guarantee within 4 weeks of the issue of the subsidy approval decision.

Progress requirements

Owing to the size of the project, the CCU category is subject to a contract period of 3 years and an implementation period of 6 years. In addition, you must submit the complete environmental and planning permit for the parts of the facility that are required to be new according to the allocation regulations (capture, purification and, if applicable, liquefaction plant) to RVO within 3 years of approval of the subsidy. If you already have these permits, please include them with your subsidy application.

If these milestones cannot be achieved, this may result in the withdrawal of the subsidy and the collection of the bank guarantee.

Determining the production level

The production levels must be submitted to the Netherlands Enterprise Agency (RVO) every month. An annual declaration will be used to demonstrate at the end of every calendar year that the carbon captured has actually been supplied to the greenhouse horticulture sector.

Advanced renewable fuels

The Climate Agreement includes incentives for the production of advanced renewable transport fuels. A production ceiling of 10.6 kWh has been introduced for advanced renewable biofuels. The correction amount for these categories consists of the average market price of the fuel plus the average payment for the renewable fuel units. Both are established annually by PBL. The fuel produced will be eligible for a subsidy only if renewable fuel units that count double have been issued and it can be proved that the fuel will be used in the Netherlands for road transport and inland shipping.

There are 5 categories in the SDE++ scheme:

- Bioethanol produced from solid lignocellulosic biomass
- Biomethanol produced from solid lignocellulosic biomass
- Diesel and petrol substitutes produced from solid lignocellulosic biomass
- Bio-LNG produced by manure mono-fermentation
- Bio-LNG produced by all-purpose fermentation

Permitted biomass

Only biomass that satisfies the requirements set out in Annex IX, part A of the Renewable Energy Directive may be used. The existing definitions and demarcation for all-purpose fermentation and manure mono-fermentation in the SDE++ scheme apply. For lignocellulosic biomass, the biomass used here may consist only of solid lignocellulosic biomass that comprises no more than 50% B-grade wood.

Determining the production level

The production levels must be submitted to the Netherlands Enterprise Agency (RVO) every month. The annual declaration must demonstrate that the fuel produced was released for consumption on the Dutch market and used for road transport or inland shipping. Information from the Dutch Emissions Authority (NEa) register is used to this end.

Phasing and rates for low-carbon production SDE++2024

Category	Maximum phase amount/base amount					Base greenhouse gas amount	Provisional energy price correction amount for 2024 (including HBE-Gs)	Provisional ETS value 2024	Maximum full load hours	Order term		Grant term	Domain
	Phase 1 €/unit product	Phase 2 €/unit product	Phase 3 €/ unit	Phase 4 €/ unit	Phase 5 €/unit product	€/unit product*	€/unit product*	€/unit product*	*hours/year*	*year*	*year*	*year*	
Electrification													
Hydrogen from electrolysis, grid-connected with renewable power purchase agreements Electrolytic hydrogen production, direct line with wind farm or solar farm	0.1136	0.1308	0.1479	0.1651	0.1880	0.0458	0.0970	0.0000	3740	1.5	4	15	Moleculen
Hydrogen from electrolysis, direct line with wind farm or solar farm	0.1136	0.1308	0.1479	0.1651	0.1880	0.0458	0.0970	0.0000	5845	1.5	4	15	Moleculen
Advanced renewable transport fuels (gas, petrol and diesel substitutes)													
Advanced renewable transport fuels, Bioethanol produced from solid lignocellulosic biomass	0.1750	0.1750	0.1750	0.1750	0.1750	0.0713	0.1815	0.0000	8000	1.5	4	15	Moleculen
Advanced renewable transport fuels, Bioethanol produced from solid lignocellulosic biomass	0.1427	0.1427	0.1427	0.1427	0.1427	0.0713	0.1815	0.0000	8000	1.5	4	15	Moleculen
Advanced renewable transport fuels, bio-LNG produced by manure mono-fermentation	0.1669	0.1799	0.1799	0.1799	0.1799	0.0374	0.1670	0.0000	8000	1.5	4	12	Moleculen
Advanced renewable transport fuels, bio-LNG produced by all-purpose fermentation	0.1174	0.1174	0.1174	0.1174	0.1174	0.0374	0.1670	0.0000	8000	1.5	4	12	Moleculen
Advanced renewable transport fuels, diesel and petrol substitutes produced solid lignocellulosic biomass	0.1390	0.1390	0.1390	0.1390	0.1390	0.0698	0.1833	0.0000	8000	1.5	4	15	Moleculen
Carbon capture and storage (CCS) with gaseous transport ETS business													
CCS – Partial CO_2 storage in existing or new facilities, gaseous transport	205.0341	249.6473	249.6473	249.6473	249.6473	91.3481	0.0000	91.3481	4000	3	6	15	-
CCS – Full CO_2 storage in existing facilities, gaseous transport	144.5032	144.5032	144.5032	144.5032	144.5032	91.3481	0.0000	91.3481	8000	3	6	15	-
CCS – New pre-combustion CO_2 purification, existing facility, gaseous transport	170.9900	170.9900	170.9900	170.9900	170.9900	91.3481	0.0000	91.3481	8000	3	6	15	-
CCS - New pre-combustion carbon capture with hydrogen production from residual gases for underfiring, gaseous transport	204.0591	211.8525	211.8525	211.8525	211.8525	91.3481	0.0000	91.3481	8000	3	6	15	-

Phasing and rates for low-carbon production SDE++2024

Category	Maximum phase amount/base amount					Base greenhouse gas amount	Provisional energy price correction amount for 2024 (including HBE-Gs)	Provisional ETS value 2024	Maximum full load hours	Order term		Grant term	Domain
	Phase 1 €/unit product	Phase 2 €/unit product	Phase 3 €/ unit	Phase 4 €/ unit	Phase 5 €/unit product	€/unit product*	€/unit product*	€/unit product*	*hours/year*	*year*	*year*	*year*	
CCS – New post-combustion carbon capture, existing facility, gaseous transport	199.0097	216.4108	216.4108	216.4108	216.4108	91.3481	0.0000	91.3481	8000	3	6	15	-
CCS – New post-combustion carbon capture, existing waste incineration plant, gaseous transport	55.9463	111.8925	167.8388	223.7850	223.7850	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS – New pre-combustion CO_2 purification, new facility, gaseous transport	147.6072	147.6072	147.6072	147.6072	147.6072	91.3481	0.0000	91.3481	8000	3	6	15	-
CCS – New post-combustion carbon capture, new facility, gaseous transport	197.0111	197.0111	197.0111	197.0111	197.0111	91.3481	0.0000	91.3481	8000	3	6	15	-
Carbon capture and storage (CCS), liquid transport, ETS business													
CCS – Partial CO_2 storage in existing or new facilities, liquid transport, new liquefaction plant	204.6733	272.3245	339.9756	340.8704	340.8704	91.3481	0.0000	91.3481	4000	3	6	15	-
CCS – Partial CO_2 storage in existing or new facilities, liquid transport	204.6733	272.3245	293.6963	293.6963	293.6963	91.3481	0.0000	91.3481	4000	3	6	15	-
CCS – Full CO_2 storage in existing facilities, liquid transport, new liquefaction plant	192.0387	192.0387	192.0387	192.0387	192.0387	91.3481	0.0000	91.3481	8000	3	6	15	-
CCS – New pre-combustion CO_2 purification, existing facility, liquid transport, new liquefaction plant	204.6733	214.9569	214.9569	214.9569	214.9569	91.3481	0.0000	91.3481	8000	3	6	15	-
CCS - New pre-combustion carbon capture with hydrogen production from residual gases for	203.6983	258.1535	258.1535	258.1535	258.1535	91.3481	0.0000	91.3481	8000	3	6	15	-
underfiring, liquid transport, new liquefaction plant	198.6490	259.6245	259.6245	259.6245	259.6245	91.3481	0.0000	91.3481	8000	3	6	15	-
CCS - New post-combustion carbon capture, existing facility, liquid transport, new liquefaction plant	55.5855	111.1710	166.7565	222.3420	222.3420	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New pre-combustion CO_2 purification, new facility, liquid transport, new liquefaction plant	195.7078	195.7078	195.7078	195.7078	195.7078	91.3481	0.0000	91.3481	8000	3	6	15	-

Phasing and rates for low-carbon production SDE++2024

Category	Maximum phase amount/base amount: Phase 1 €/unit product	Phase 2 €/unit product	Phase 3 €/ unit	Phase 4 €/ unit	Phase 5 €/unit product	Base greenhouse gas amount €/unit product*	Provisional energy price correction amount for 2024 (including HBE-Gs) €/unit product*	Provisional ETS value 2024 €/unit product*	Maximum full load hours *hours/year*	Order term *year*	*year*	Grant term *year*	Domain
CCS - New post-combustion carbon capture, new facility, liquid transport, new liquefaction plant	199.8302	238.3560	238.3560	238.3560	238.3560	91.3481	0.0000	91.3481	8000	3	6	15	-
Carbon capture and storage (CCS with gaseous transport non-ETS business													
CCS - Partial CO_2 storage in existing or new facilities non-ETS business, gaseous transport	68.0119	136.0238	204.0356	249.6473	249.6473	0.0000	0.0000	0.0000	4000	3	6	15	-
CCS – Full CO_2 storage in existing facilities non-ETS business, gaseous transport	68.0119	136.0238	144.5032	144.5032	144.5032	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS – New pre-combustion CO_2 purification, existing facility non-ETS business, gaseous transport	68.0119	136.0238	170.9900	170.9900	170.9900	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New pre-combustion carbon capture with hydrogen production from residual gases for underfiring non-ETS business, gaseous transport	67.0369	134.0738	201.1106	211.8525	211.8525	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New post-combustion carbon capture, existing facility non-ETS business, gaseous transport	61.9875	123.9750	185.9625	216.4108	216.4108	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS – New pre-combustion CO_2 purification, new facility, non-ETS business, gaseous transport	68.4675	136.9350	147.6072	147.6072	147.6072	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS – New post-combustion carbon capture, new facility non-ETS business, gaseous transport	63.1688	126.3375	189.5063	197.0111	197.0111	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New post-combustion carbon capture, existing biomass incineration facility (≤ 100 MWe) non-ETS business, transport in gaseous form	55.9463	111.8925	167.8388	223.7850	223.7850	0.0000	0.0000	0.0000	8000	3	6	15	-
Carbon capture and storage (CCS), liquid transport non-ETS business													
CCS - Partial CO_2 storage in existing or new facility non-ETS business, liquid transport, new liquefaction plant	67.6511	135.3023	202.9534	270.6045	270.6045	0.0000	0.0000	0.0000	4000	3	6	15	-

Phasing and rates for low-carbon production SDE++2024

Category	Maximum phase amount/base amount					Base greenhouse gas amount	Provisional energy price correction amount for 2024 (including HBE-Gs)	Provisional ETS value 2024	Maximum full load hours	Order term		Grant term	Domain
	Phase 1 €/unit product	Phase 2 €/unit product	Phase 3 €/ unit	Phase 4 €/ unit	Phase 5 €/unit product	€/unit product*	€/unit product*	€/unit product*	*hours/year*	*year*	*year*	*year*	
CCS - Partial CO_2 storage in existing or new facility non-ETS business, liquid transport	67.6511	135.3023	202.9534	270.6045	270.6045	0.0000	0.0000	0.0000	4000	3	6	15	-
CCS – Full CO_2 storage in existing facilities non-ETS business, liquid transport, new liquefaction plant	67.6511	135.3023	192.0387	192.0387	192.0387	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New pre-combustion, CO_2 purification, existing facility non-ETS business, liquid transport, new liquefaction plant	67.6511	135.3023	202.9534	214.9569	214.9569	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New pre-combustion carbon capture with hydrogen production from residual gases for underfiring non-ETS business, liquid transport, new liquefaction plant	66.6761	133.3523	200.0284	258.1535	258.1535	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New post-combustion carbon capture, existing facility non-ETS business, liquid transport, new liquefaction plant	61.6268	123.2535	184.8803	246.5070	246.5070	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New pre-combustion CO_2 purification, new facility non-ETS business, liquid transport, new liquefaction plant	68.1068	136.2135	195.7078	195.7078	195.7078	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - New post-combustion carbon capture, new facility non-ETS business, liquid transport, new liquefaction plant	62.8080	125.6160	188.4240	238.3560	238.3560	0.0000	0.0000	0.0000	8000	3	6	15	-
CCS - new post-combustion carbon capture, existing biomass incineration plant (≤ 100 MWe) non-ETS business, liquid transport, new liquefaction plant	55.5855	111.1710	166.7565	222.3420	222.3420	0.0000	0.0000	0.0000	8000	3	6	15	-
Carbon capture and reuse (CCU), gaseous/gaseous transport													
CCU - New pre-combustion CO_2 purification, existing facility, gaseous transport	90.6325	90.6325	90.6325	90.6325	90.6325	70.1193	148.3672	0.0000	4000	3	6	15	-

Phasing and rates for low-carbon production SDE++2024

Category	Maximum phase amount/base amount					Base greenhouse gas amount	Provisional energy price correction amount for 2024 (including HBE-Gs)	Provisional ETS value 2024	Maximum full load hours	Order term		Grant term	Domain
	Phase 1 €/unit product	Phase 2 €/unit product	Phase 3 €/ unit	Phase 4 €/ unit	Phase 5 €/unit product	€/unit product*	€/unit product*	€/unit product*	*hours/year*	*year*	*year*	*year*	
CCU - New pre-combustion CO_2 purification, existing facility, gaseous transport, new transport pipeline	105.0264	105.0264	105.0264	105.0264	105.0264	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU – New pre-combustion CO_2 purification, new facility, gaseous transport	89.2968	89.2968	89.2968	89.2968	89.2968	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU – New pre-combustion CO_2 purification, new facility, gaseous transport, new transport pipeline	103.6907	103.6907	103.6907	103.6907	103.6907	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU – New post-combustion carbon capture, existing facility, gaseous transport	162.3309	172.2054	172.2054	172.2054	172.2054	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU – New post-combustion carbon capture, existing facility, gaseous transport, new transport pipeline	162.3309	186.5993	186.5993	186.5993	186.5993	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU – New post-combustion carbon capture, new facility, gaseous transport	146.3869	146.3869	146.3869	146.3869	146.3869	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU – New post-combustion carbon capture, new facility, gaseous transport, new transport pipeline	160.7808	160.7808	160.7808	160.7808	160.7808	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU - New post-combustion carbon capture at existing waste incineration plant or existing biomass incineration plant > 50 MWth, gaseous transport	156.2896	202.8852	202.8852	202.8852	202.8852	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU - New post-combustion carbon capture at existing waste incineration plant or existing biomass incineration plant 50 MWth, gaseous transport, new transport pipeline	156.2896	207.4003	217.2791	217.2791	217.2791	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU - New post-combustion carbon capture at biomass incineration plant ≤ 50 MWth, gaseous	135.6886	135.6886	135.6886	135.6886	135.6886	70.1193	148.3672	0.0000	4000	3	6	15	-
Carbon capture and reuse (CCU), liquid/liquid transport													

Phasing and rates for low-carbon production SDE++2024

Category	Maximum phase amount/base amount					Base greenhouse gas amount	Provisional energy price correction amount for 2024 (including HBE-Gs)	Provisional ETS value 2024	Maximum full load hours	Order term		Grant term	Domain
	Phase 1 €/unit product	Phase 2 €/unit product	Phase 3 €/ unit	Phase 4 €/ unit	Phase 5 €/unit product	€/unit product*	€/unit product*	€/unit product*	*hours/year*	*year*	*year*	*year*	
CCS – New pre-combustion CO_2 purification, existing facility, liquid transport, new liquefaction plant	130.4494	130.4494	130.4494	130.4494	130.4494	70.1193	148.3672	0.0000	4000	3	6	15	-
Extra CCU - Existing carbon capture, existing facility, liquid transport, new liquefaction plant	123.2570	123.2570	123.2570	123.2570	123.2570	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU - New pre-combustion CO_2 purification, new facility, liquid transport, new liquefaction plant	129.1138	129.1138	129.1138	129.1138	129.1138	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU - New post-combustion carbon capture, existing facility, liquid transport, new liquefaction plant	161.5558	217.9325	230.7191	230.7191	230.7191	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU – new post-combustion carbon capture, new facility, liquid transport new liquefaction plant	162.7370	200.4535	200.4535	200.4535	200.4535	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU - New post-combustion carbon capture at existing waste incineration plant or existing biomass incineration plant > 50 MWth, liquid transport, new liquefaction plant	155.5145	205.8500	256.1855	267.4250	267.4250	70.1193	148.3672	0.0000	4000	3	6	15	-
CCU - New post-combustion carbon capture at biomass incineration plant ≤ 50 MWth, liquid, new liquefaction plant	161.7215	179.8150	179.8150	179.8150	179.8150	70.1193	148.3672	0.0000	4000	3	6	15	-

Documents to attach to low-carbon production subsidy applications

You must include a number of attachments with your low carbon production subsidy application. In the table below you can see which attachments may be required for technology. These attachments are explained in more detail below the table and you can also download the required formats.

Table with compulsory attachments categories of low carbon production	Attachments compulsory components of the feasibility study[1]									Attachments permits				Other attachments	
Production plant categories	Financing plan	Supporting documentation own funds	Declaration of intent from a financial backer if less than ≤20% of the total investment is covered by own funds	Operational calculation	Substantiation of 1% electricity consumption of maximum outputr	Report on transport and storage capacity	Substantiation of carbon sales	Product yield calculation	Partnership members[2]	Environmental and planning permit				Site owner's permission[2]	Declaration of transport and storage capacity
										Environmental and planning permit flora and fauna activities or Wnb permit	Application for environ-mental and planning permit for activities with an environmental impact	Environmental and planning permit [2] for the power generation facility (all phases or parts)	Environmental and planning permit new building [2] for the power generation facility (all phases or parts)		
Electrification (all categories)															
Hydrogen production from grid-connected electrolysis and hydrogen production from direct line electrolysis	x	x	x	x	x[4]			x	x			x	x	x	
Advanced renewable transport fuels (all categories)															
Bioethanol, biomethanol, bioLNG and diesel and petrol substitutes	x	x	x	x				x	x			x	x	x	
Carbon capture and storage (CCS) (all categories)															
Carbon capture and storage (CCS)	x	x	x	x		x		x	x	x	x[3]			x	x
Carbon capture and reuse (CCU) (all categories)															
Carbon capture and reuse (CCU)	x	x	x	x			x	x	x	x	x[3]			x	

For more information, consult the 2024 SDE++ scheme Feasibility study guide.

[2] *If applicable*

[3] *If equippedg*

[4] *Not for a grid-connected facility*

Please note: If a facility is placed on or in a building, and that building is new or has been renovated, an Environmental and planning permit must be submitted with your subsidy application.
Note: Permits or partial permits for the laying of cabling, underground or otherwise, fencing and pipework, underground or otherwise, need not be sent with your subsidy application.

General attachments

The general attachments apply to all low-carbon production technologies.

Feasibility study

An application for an SDE++ subsidy for low-carbon production must be supported by a feasibility study.

The general part of the feasibility study must comprise the following information:

- A description of the power generation facility, including the technical specifications.
- A comprehensive financing plan.
- Supporting documents for own funds to be invested by the applicant, third parties or shareholders. Own funds must be substantiated by the applicant with documents (annual accounts/balance statements) demonstrating that the required resources (financial and otherwise) will be available when needed. If the applicant submits several projects, they must provide proof of own funds to cover the total value of these SDE++ 2024 projects.
- A declaration of intent from a financial backer if less than 20% of the total investment is covered by own funds.
- A calculation of the operational costs.
- For more complex facilities, you must also include a process diagram.
- Product yield calculation

During our assessment, we may ask you additional questions about the feasibility of your project.
You can find more information about the above requirements in the 'SDE++ feasibility study guide' and the 'SDE++ feasibility study template'.

Licences and permits

One or more permits are usually required to develop a power generation facility. These must have been issued by a competent authority before you submit your subsidy application. If you require a permit for your power generation facility, this permit must be attached to your subsidy application. This requirement was included in the Renewable Energy Production and Climate Transition Incentive Decree ('Besluit SDEK') to provide more certainty (and speed up the process of the project) when applying for subsidies under the scheme. As a general rule, the main components of a power generation facility will require permits to be in place. Permits or partial permits for other components such as underground cables or pipelines, fencing, etc. are not required as part of your subsidy application. Alternative permit conditions apply to CCS and CCU.

- Environmental and planning permit: If you are planning to place your power generation facility in or on a building yet to be built, you will require a permit under the Environment and Planning Act. You may also require a permit for the environmental aspects of your project.
- If you would like more information about environmental and planning permits, please visit the Omgevingsloket.(service desk for environmental and planning permits). In addition, you may require an environmental and planning permit for certain components of your power generation facility. These components are listed below.
- Alternative permit conditions apply to CCS. If you already have the permits for your power generation facility, please include the complete permit with your subsidy application. If you do not have the permits yet, at least include the complete permit application submitted for the environmental part of the environmental and planning permit. This applies for the parts of the facility that are required to be new according to the allocation regulations (capture, purification and, if applicable, liquefaction plant). For liquid transport, you must include the complete application for at least the environmental part of the new liquefaction plant. To enable progress to be monitored, the complete permit application for the storage sites must be submitted to the Ministry of Economic Affairs and Climate Policy within one year of approval of the subsidy application. Also include the full environmental and planning permit for the capture, purification or liquefaction plant within three years of approval of the subsidy application.
- For CCU, include the complete permit application submitted for the environmental part of the environmental and planning permit. This applies for the parts of the facility that are required to be new according to the allocation

regulations (capture, purification and, if applicable, liquefaction plant). For liquid transport, you must include the complete application for at least the environmental part of the new liquefaction plant.

- Environmental and planning permit flora and fauna activity: If your project will generate substantial nitrogen emissions during its operation (e.g. biomass projects), you must submit an environmental permit for flora and fauna activities with your subsidy application. If you would like more information about this permit, please visit the Omgevingsloket (service desk for environmental and planning permits).
  - A environmental permit for flora and fauna activities is required for advanced renewable fuels.

Site owner's permission

If the applicant is not the owner of the intended site of the power generation facility, then the owner's permission must be obtained. The site owner will need to complete and sign a form ('Model toestemming locatie-eigenaar'), which gives you permission to install and operate the power generation facility. If there is more than one owner, each owner must complete a separate form. This applies to all categories. Please note that either the subsidy applicant or the owner who completes the form must be officially registered in the land registry as the owner or leaseholder of the site.

Partnership members

If your project is being implemented in a partnership, please include the following information in addition to the general attachments:

- A list of all the partners in the project (required).
- A partnership agreement signed by all the members of the partnership. A partnership agreement template can be found on the page 'Downloads en hulpmiddelen bij uw aanvraag SDE++'. For more information about applications for a project undertaken by a partnership, consult the page 'SDE++ applications'.

Additional attachments for Electrolytic hydrogen production, direct connection

Substantiation of 1% electricity consumption

Hydrogen power generation facilities with a direct line to a wind or solar park are expected to be deployed only when there is a surplus of renewable electricity. At other times, the power consumption should be as low as possible to avoid greenhouse gas emissions. To this end, you are required to demonstrate in your application that the operational power generation facility can be limited to consume only 1% electricity in relation to the maximum power output of the facility.

Additional attachments for CCS

Declaration of transport and storage capacity

If you do not transport and store the CO_2 yourself, you must also include one or more declarations about the availability of capacity with your subsidy application for CCS. The declaration must be issued by the party or parties that will be responsible for the transport and permanent storage of the captured CO_2. This declaration enables us to be certain that the capacity you are applying for can actually be stored. You should use the 'Transport and Storage Capacity Model Declarationt' template to provide supporting information for your project.

Model report

The party who submits the report must include a declaration that verifies the storage capacity and has been assessed by TNO's advisory group on economic affairs. The 'CCS report with required information for the transport and storage declaration' CCS has a compulsory document structure. The report may be no more than 80 pages long.

Additional attachments for CCU

Substantiation of carbon sales

You should provide supporting information in your feasibility study showing how you intend to sell the carbon to the greenhouse horticulture sector. To this end, you could include the specification sheets of the carbon capture facility. Also include a description of the process by which the carbon is released and captured. You must also include a map showing the intended pipeline route or transport route from the carbon capture point to the carbon customer, indicating whether you, the applicant, will transport the CO_2 yourself or have it transported by a third party.

SDE++ scheme subsidy applications

If you would like to take advantage of the 2024 SDE++ scheme, RVO's online portal eLoket is a quick and easy option for subsidy applications. Applications will be accepted in five phases. The phase amount will increase for each phase.

Application procedure

Make sure to carefully prepare your application before you submit it. You must include all the required attachments for the relevant category. These differ for all categories. You cannot submit an application if you do not have all the required attachments. If one of the required attachments is missing from your application, it will be regarded as incomplete. This will have an impact on your date of submission and therefore the ranking of your project. This is why it is important that you send all the required attachments immediately with your application. Read more about required attachments in the chapter on 'Documents to attach your subsidy application' of the relevant category.

Applications via eLoket

You can log in to the online application environment with eHerkenning (electronic identity verification). To submit an application, you will need at least Level 3 eRecognition with RVO services authorisation at Level eH3. If you do not yet have eHerkenning, make sure you submit your application on time. Private individuals can log in using the DigiD service for citizens. The page "Apply for SDE++" on the SDE++ website explains how to submit a subsidy application.

Partnerships

If you are applying for an SDE++ subsidy for a project in which you intend to realise and operate a single power generation facility with several parties, but you are not establishing a project entity, you can establish a partnership and apply for a subsidy for a project to be carried out by this partnership.

This option is intended for projects in which different parties realise and operate separate parts of the power generation facility. If your partnership applies only to the financing of your project, this means you are not a joint producer. You are therefore not required to establish a partnership for the project.

Applying for a subsidy for a project that is implemented in a partnership will have consequences for the attachments you must include with your subsidy application. It will also have consequences during the period of your project that is eligible for subsidy.

A partnership is valid for the entire term of your subsidy. All participants in the partnership must remain involved.

The producer submits the application

If an application is submitted by a party that does not manage the entire power generation facility, no subsidy will be awarded. In this case, the application has not been submitted by the (intended) producer of the power generation facility.

Realisation

You must always first apply for an SDE++ subsidy before entering into any obligations relating to your project.

Resubmitting an application

If a subsidy was awarded to your project in an earlier round of applications, but you are unable to realise your project on time, it is possible to submit a new subsidy application for your project. This is only possible if you have not yet made any irreversible investments and if you submit a request to withdraw your current decision.

Attachments to your application

If your project is being implemented in a partnership, please include the following information in addition to the general attachments:

- A list of all the partners in the partnership;
- A partnership agreement A signed by all the members of the partnership.

For a project to be implemented in a partnership, you will also be required to include additional documentation with your feasibility study. See the 'Handleiding Haalbaarheidsstudie SDE++'.

Example of a partnership

In the case of residual heat utilisation, if one party uncouples the residual heat while a different partner operates the heat transport network, you must apply for a subsidy for the project that is being carried out by the partnership. Both the components required for the uncoupling and for the transport are part of the power generation facility as described in the Allocation regulations for categories. If the transporting party also operates the heat exchanger, the project is not considered as being carried out by a partnership.

Ranking table

Ranking and phasing according to maximum base amount for categories SDE++ scheme 2024	Subsidy intensity	Base amount	Long-term price	Emission factor
Category	€/unit of product	€/unit of product	€/unit of product	€/unit of product
	A=(B-C)/D	B	C	D
Phase 1 - From 10 September 9 am to 16 September 5 pm				
Solar PV ≥ 20 MWp, on land (grid = 50%)	-217.514	0.0624	0.0778	0.0708
Solar PV ≥ 20 MWp, on land solar tracking	-217.514	0.0624	0.0778	0.0708
Advanced renewable transport fuels, Bioethanol produced from solid lignocellulosic biomass	-192.800	0.1427	0.1909	0.2500
Advanced renewable transport fuels, diesel and petrol substitutes produced from solid lignocellulosic biomass	-189.602	0.1390	0.1886	0.2616
Solar PV ≥ 20 MWp, on land nature-inclusive (grid = 50%)	-166.667	0.0660	0.0778	0.0708
Solar PV ≥ 20 MWp, on land solar tracking nature-inclusive	-166.667	0.0660	0.0778	0.0708
Onshore wind, ≥ 8.5 m/s	-159.195	0.0480	0.0654	0.1093
Industrial open-loop heat pump (8000 hours)	-151.599	0.0319	0.0646	0.2157
Solar PV ≥ 1 MWp and < 20 MWp, on land (grid = 50%)	-146.125	0.0663	0.0778	0.0787
Solar PV ≥ 1 MWp and < 20 MWp, on land solar tracking systems	-146.125	0.0663	0.0778	0.0787
Onshore wind, ≥ 8 and < 8.5 m/s	-137.237	0.0504	0.0654	0.1093
Wind on flood defences, ≥ 8.5 m/s	-99.726	0.0545	0.0654	0.1093
Onshore wind, height-restricted, ≥ 8.5 m/s	-92.406	0.0553	0.0654	0.1093
Solar PV ≥ 1 MWp and < 20 MWp, on land nature-inclusive (grid = 50%)	-91.487	0.0706	0.0778	0.0787
Solar PV ≥ 1 MWp and < 20 MWp, on land solar tracking systems nature-inclusive	-91.487	0.0706	0.0778	0.0787
Advanced renewable transport fuels, bio-LNG produced by all-purpose fermentation	-88.570	0.1174	0.1384	0.2371
Direct use (burner) of wood pellets for industrial applications	-87.556	0.0684	0.0881	0.2250
Onshore wind, ≥ 7.5 and < 8.0 m/s	-85.087	0.0561	0.0654	0.1093
Use of residual heat (without heat pump), length-output ratio ≥ 0.20 and < 0.30 km/MWth	-84.557	0.0262	0.0452	0.2247
Wind on flood defences, ≥ 8 and < 8.5 m/s	-76.853	0.0570	0.0654	0.1093
Onshore wind, height-restricted, ≥ 8 and < 8.5 m/s	-57.640	0.0591	0.0654	0.1093
Advanced renewable transport fuels, Bioethanol produced from solid lignocellulosic biomass	-55.594	0.1750	0.1909	0.2860
Use of residual heat (without heat pump), length-output ratio ≥ 0.30 and < 0.40 km/MWth	-52.561	0.0334	0.0452	0.2245

Ranking and phasing according to maximum base amount for categories SDE++ scheme 2024

Category	Subsidy intensity	Base amount	Long-term price	Emission factor
	€/unit of product	€/unit of product	€/unit of product	€/unit of product
	A=(B-C)/D	B	C	D
Onshore wind, ≥ 7.0 and < 7.5 m/s	-32.937	0.0618	0.0654	0.1093
Liquid biomass boilers, other applications	-30.222	0.0876	0.0944	0.2250
Composting facility, heat	-27.111	0.0574	0.0635	0.2250
Solar PV ≥ 1 MWp, building-mounted (grid = 50%)	-24.845	0.0734	0.0778	0.1771
Use of residual heat (without heat pump), length-output ratio ≥ 0.40 km/MWth	-20.945	0.0405	0.0452	0.2244
Solar PVT system with heat pump	-20.598	0.0650	0.0692	0.2039
CCU – New pre-combustion CO_2 purification, new facility, gaseous transport	-18.722	89.2968	105.1790	848.3350
Wind on flood defences, ≥ 7.5 and < 8.0 m/s	-17.383	0.0635	0.0654	0.1093
CCU - New pre-combustion CO_2 purification, existing facility, gaseous transport	-17.267	90.6325	105.1790	842.4625
Solar PV ≥ 1 MWp, floating on water (grid = 50%)	-10.165	0.0770	0.0778	0.0787
Solar PV ≥ 1 MWp, solar tracking on water	-10.165	0.0770	0.0778	0.0787
Deep geothermal energy system, expansion of power generation facility by at least one extra well (6000 full-load hours)	-4.110	0.0341	0.0359	0.4380
Solar PV ≥ 1 MWp, building-mounted with minor roof alteration or lightweight panels (grid = 50%)	-3.388	0.0772	0.0778	0.1771
CCU – New pre-combustion CO_2 purification, new facility, gaseous transport, new transport pipeline	-1.754	103.6907	105.1790	848.3350
CCU - New pre-combustion CO_2 purification, existing facility, gaseous transport, new transport pipeline	-0.181	105.0264	105.1790	842.4625
All-purpose fermentation continuation, cogeneration	3.337	0.0786	0.0780	0.1798
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, building-mounted (grid = 50%)	6.426	0.0791	0.0778	0.2023
Onshore wind, ≥ 6.75 and < 7.0 m/s	7.319	0.0662	0.0654	0.1093
CCS – Full CO_2 storage in existing facilities, gaseous transport	8.250	144.5032	137.0222	906.8250
Large B-grade wood boiler	8.444	0.0378	0.0359	0.2250
Onshore wind, height-restricted, ≥ 7.5 and < 8.0 m/s	10.979	0.0666	0.0654	0.1093
CCS – New pre-combustion CO_2 purification, new facility, gaseous transport	11.595	147.6072	137.0222	912.9000
Industrial closed-loop heat pump (8000 hours)	16.498	0.0610	0.0579	0.1879
Extra CCU - Existing carbon capture, existing facility, liquid transport, new liquefaction plant	21.725	123.2570	105.1790	832.1275
Process-integrated heat pump in a condensation process (8000 hours)	23.417	0.0623	0.0579	0.1879
Deep geothermal energy system ≥ 20 MWth (6000 full-load hours)	24.485	0.0466	0.0359	0.4370

Ranking and phasing according to maximum base amount for categories SDE++ scheme 2024

Category	Subsidy intensity	Base amount	Long-term price	Emission factor
	€/unit of product	€/unit of product	€/unit of product	€/unit of product
	A=(B-C)/D	B	C	D
Deep geothermal energy system, conversion of existing oil and/or gas wells ≥ 20 MWth, (6000 full-load hours)	24.485	0.0466	0.0359	0.4370
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, building-mounted with minor roof alteration or lightweight panels (grid = 50%)	24.716	0.0828	0.0778	0.2023
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, on land (grid = 50%)	28.229	0.0818	0.0778	0.1417
CCU - New pre-combustion CO_2 purification, new facility, liquid transport, new liquefaction plant	28.686	129.1138	105.1790	834.3600
Industrial open-loop heat pump (3000 hours)	29.671	0.0710	0.0646	0.2157
CCS – New pre-combustion CO_2 purification, existing facility, liquid transport, new liquefaction plant	30.502	130.4494	105.1790	828.4875
Ultra-deep geothermal energy system (7000 full-load hours)	31.507	0.0806	0.0668	0.4380
Manure mono-fermentation, cogeneration ≤ 450 kW	33.056	0.1328	0.1042	0.8652
CCS – New pre-combustion CO_2 purification, existing facility, gaseous transport	37.458	170.9900	137.0222	906.8250
Deep geothermal energy system ≥ 12 and < 20 MWth (6000 full-load hours)	37.900	0.0525	0.0359	0.4380
Deep geothermal energy system, conversion of existing oil and/or gas wells ≥ 12 and < 20 MWth, (6000 full-load hours)	37.900	0.0525	0.0359	0.4380
CCU - New post-combustion carbon capture at biomass incineration plant ≤ 50 MWth, gaseous	39.416	135.6886	105.1790	774.0500
Large solid or liquid biomass boiler continuation	41.333	0.0452	0.0359	0.2250
Wind on flood defences, ≥ 7.0 and < 7.5 m/s	42.086	0.0700	0.0654	0.1093
Small solid or liquid biomass boiler	47.556	0.0742	0.0635	0.2250
Deep geothermal energy system < 12 MWth (6000 full-load hours)	52.801	0.0589	0.0359	0.4356
Deep geothermal energy system, conversion of existing oil and/or gas wells < 12 MWth, (6000 full-load hours)	52.801	0.0589	0.0359	0.4356
CCU – New post-combustion carbon capture, new facility, gaseous transport	52.982	146.3869	105.1790	777.7750
Onshore wind, < 6.75 m/s;	55.810	0.0715	0.0654	0.1093
All-purpose fermentation continuation, heat	60.412	0.0767	0.0635	0.2185
CCS – Full CO_2 storage in existing facilities, liquid transport, new liquefaction plant	60.993	192.0387	137.0222	902.0150
CCS - New pre-combustion CO_2 purification, new facility, liquid transport, new liquefaction plant	64.625	195.7078	137.0222	908.0900
CCS – New post-combustion carbon capture, new facility, gaseous transport	71.225	197.0111	137.0222	842.2500
CCU – New post-combustion carbon capture, new facility, gaseous transport, new transport pipeline	71.488	160.7808	105.1790	777.7750
Manure mono-fermentation continuation, heat ≤ 450 kW	74.787	0.1074	0.0635	0.5870

Ranking and phasing according to maximum base amount for categories SDE++ scheme 2024

Category	Subsidy intensity	Base amount	Long-term price	Emission factor
	€/unit of product	€/unit of product	€/unit of product	€/unit of product
	A=(B-C)/D	B	C	D
Phase 2 - From 16 September 5 pm to 23 September 5 pm				
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, on land nature-inclusive (grid = 50%)	83.275	0.0896	0.0778	0.1417
CCS - New pre-combustion carbon capture with hydrogen production from residual gases for underfiring, gaseous transport	83.719	211.8525	137.0222	893.8250
Onshore wind, height-restricted, ≥ 7.0 and < 7.5 m/s	86.002	0.0748	0.0654	0.1093
CCS – New pre-combustion CO_2 purification, existing facility, liquid transport, new liquefaction plant	86.401	214.9569	137.0222	902.0150
Wind on flood defences, ≥ 6.75 and < 7.0 m/s	87.832	0.0750	0.0654	0.1093
CCU – New post-combustion carbon capture, existing facility, gaseous transport	87.958	172.2054	105.1790	762.0250
Manure mono-fermentation continuation ≤ 450 kW, gas	92.314	0.0928	0.0462	0.5048
Liquid biomass boilers, district heating	93.333	0.0876	0.0666	0.2250
CCS – New post-combustion carbon capture, existing facility, gaseous transport	96.054	216.4108	137.0222	826.5000
CCU - New post-combustion carbon capture at biomass incineration plant ≤ 50 MWth, gaseous, new liquefaction plant	99.000	179.8150	105.1790	753.9000
Large wood pellet steam boilers ≥ 5 MWth and < 50 MWth	100.889	0.0895	0.0668	0.2250
Large solid or liquid biomass boiler (8,500 full-load hours)	103.556	0.0592	0.0359	0.2250
Large solid or liquid biomass boiler (8,000 full-load hours)	105.778	0.0597	0.0359	0.2250
CCU – New post-combustion carbon capture, existing facility, gaseous transport, new transport pipeline	106.847	186.5993	105.1790	762.0250
Large solid or liquid biomass boiler (7,500 full-load hours)	108.444	0.0603	0.0359	0.2250
Advanced renewable transport fuels, bio-LNG produced by manure mono-fermentation	109.096	0.1799	0.1384	0.3804
Large solid or liquid biomass boiler (7,000 full-load hours)	109.778	0.0606	0.0359	0.2250
Large solid or liquid biomass boiler (6,500 full-load hours)	112.444	0.0612	0.0359	0.2250
All-purpose fermentation, cogeneration	112.528	0.0981	0.0778	0.1804
Large solid or liquid biomass boiler (6,000 full-load hours)	116.444	0.0621	0.0359	0.2250
Solar PV ≥ 15 kWp and < 1 MWp connection > 3 * 80 A, floating on water (grid = 50%)	119.972	0.0948	0.0778	0.1417
Large solid or liquid biomass boiler (5,500 full-load hours)	120.000	0.0629	0.0359	0.2250
CCS - New post-combustion carbon capture, new facility, liquid transport, new liquefaction plant	121.004	238.3560	137.0222	837.4400
Manure mono-fermentation additional facility ≤ 450 kW, gas	123.019	0.1083	0.0462	0.5048
CCS - New post-combustion carbon capture, new facility, liquid transport, new liquefaction plant	124.146	200.4535	105.1790	767.4400

Ranking and phasing according to maximum base amount for categories SDE++ scheme 2024	Subsidy intensity	Base amount	Long-term price	Emission factor
Category	€/unit of product	€/unit of product	€/unit of product	€/unit of product
	A=(B-C)/D	B	C	D
CCS – Partial CO_2 storage in existing or new facilities, gaseous transport	124.197	249.6473	137.0222	906.8250
Large solid or liquid biomass boiler (5,000 full-load hours)	125.333	0.0641	0.0359	0.2250
Manure mono-fermentation, cogeneration > 450 kW	126.336	0.1355	0.0823	0.4211
All-purpose fermentation, continuation, gas	129.371	0.0684	0.0462	0.1716
Large solid or liquid biomass boiler (4,500 full-load hours)	130.222	0.0652	0.0359	0.2250
Use of residual heat with heat pump, length-output ratio < 0.10 km/MWth	130.458	0.0670	0.0425	0.1878
Shallow geothermal energy system with heat pump (6000 full-load hours)	132.473	0.0862	0.0359	0.3797
CCS - New pre-combustion carbon capture with hydrogen production from residual gases for underfiring, liquid transport, new liquefaction plant	136.253	258.1535	137.0222	889.0150
Onshore wind, height-restricted, ≥ 6.75 and < 7.0 m/s	140.897	0.0808	0.0654	0.1093
Wind on flood defences, < 6.75 m/s	141.812	0.0809	0.0654	0.1093
CCU - New post-combustion carbon capture at existing waste incineration plant or existing biomass incineration plant > 50 MWth, gaseous transport	143.375	202.8852	105.1790	681.4750
All-purpose fermentation, heat	144.622	0.0951	0.0635	0.2185
Deep geothermal energy system, heating for built environment (5000 full-load hours)	145.890	0.1029	0.0390	0.4380
CCS - New post-combustion carbon capture, existing facility, liquid transport, new liquefaction plant	149.207	259.6245	137.0222	821.6900
Phase 3 - From 23 September 5 pm to 30 September 5 pm				
Solar thermal energy ≥ 1 MWth	151.556	0.0976	0.0635	0.2250
CCS – Full CO_2 storage in existing facilities non-ETS business, gaseous transport	159.351	144.5032	0.0000	906.8250
CCS – New pre-combustion CO_2 purification, new facility, non-ETS business, gaseous transport	161.690	147.6072	0.0000	912.9000
CCU - New post-combustion carbon capture at existing waste incineration plant or existing biomass incineration plant > 50 MWth, gaseous transport, new transport pipeline	164.496	217.2791	105.1790	681.4750
Manure mono-fermentation, cogeneration > 110 kW and ≤ 450 kW	165.395	0.2473	0.1042	0.8652
All-purpose fermentation additional facility, gas	165.501	0.0746	0.0462	0.1716
CCU - New post-combustion carbon capture, existing facility, liquid transport, new liquefaction plant	167.010	230.7191	105.1790	751.6900
Manure mono-fermentation, heat > 450 kW	167.937	0.1274	0.0635	0.3805
Use of residual heat with heat pump, length-output ratio ≥ 0.10 and < 0.20 km/MWth	168.354	0.0741	0.0425	0.1877
Large wood pellet steam boiler ≥ 50 MWth	169.778	0.1050	0.0668	0.2250

Ranking and phasing according to maximum base amount for categories SDE++ scheme 2024

Category	Subsidy intensity	Base amount	Long-term price	Emission factor
	€/unit of product	€/unit of product	€/unit of product	€/unit of product
	A=(B-C)/D	B	C	D
Manure mono-fermentation > 450 kW, gas	169.817	0.1001	0.0462	0.3174
Sewage treatment plant, improved sludge fermentation, heat	170.222	0.1018	0.0635	0.2250
CCS – Partial CO_2 storage in existing or new facilities, liquid transport	173.693	293.6963	137.0222	902.0150
Air-water heat pump for heating existing buildings or existing greenhouses, no base load, low temperature (≥ 40 °C)	176.595	0.0694	0.0359	0.1897
CCS – New pre-combustion CO_2 purification, existing facility non-ETS business, gaseous transport	188.559	170.9900	0.0000	906.8250
Manure mono-fermentation, heat, > 110 kW and ≤ 450 kW	192.504	0.1765	0.0635	0.5870
Onshore wind, height-restricted, < 6.75 m/s	206.770	0.0880	0.0654	0.1093
Use of residual heat with heat pump, length-output ratio ≥ 0.20 and < 0.30 km/MWth	206.933	0.0813	0.0425	0.1875
Solar thermal energy ≥ 140 kW and < 1 MWth	207.111	0.1158	0.0692	0.2250
CCS – Full CO_2 storage in existing facilities non-ETS business, liquid transport, new liquefaction plant	212.900	192.0387	0.0000	902.0150
CCS - New pre-combustion CO_2 purification, new facility non-ETS business, liquid transport, new liquefaction plant	215.516	195.7078	0.0000	908.0900
Deep geothermal energy system, heating for the built environment (3500 full-load hours)	215.595	0.1319	0.0390	0.4309
Manure mono-fermentation, cogeneration ≤ 110 kW	215.630	0.2903	0.1035	0.8663
Aquathermal energy, base load, heating for built environment	218.317	0.0769	0.0359	0.1878
Manure mono-fermentation > 110 kW and ≤ 450 kW, gas	223.059	0.1588	0.0462	0.5048
Phase 4 - From 30 September 5 pm to 7 October 5 pm				
CCS – Partial CO_2 storage in existing or new facilities, liquid transport, new liquefaction plant	225.992	340.8704	137.0222	902.0150
CCS – New post-combustion carbon capture, new facility non-ETS business, gaseous transport	233.910	197.0111	0.0000	842.2500
CCS - New pre-combustion carbon capture with hydrogen production from residual gases for underfiring non-ETS business, gaseous transport	237.018	211.8525	0.0000	893.8250
CCS – New pre-combustion CO_2 purification, existing facility non-ETS business, liquid transport, new liquefaction plant	238.307	214.9569	0.0000	902.0150
Electric boiler, district heating	241.333	0.1113	0.0570	0.2250
CCU - New post-combustion carbon capture at existing waste incineration plant or existing biomass incineration plant > 50 MWth, liquid transport, new liquefaction plant	241.747	267.4250	105.1790	671.1400
All-purpose fermentation, gas	241.841	0.0877	0.0462	0.1716

Ranking and phasing according to maximum base amount for categories SDE++ scheme 2024

Category	Subsidy intensity	Base amount	Long-term price	Emission factor
	€/unit of product	€/unit of product	€/unit of product	€/unit of product
	A=(B-C)/D	B	C	D
Use of residual heat with heat pump, length-output ratio ≥ 0.30 and < 0.40 km/MWth	244.931	0.0884	0.0425	0.1874
Deep geothermal energy system with a heat pump, heating for built environment (6000 full-load hours)	245.512	0.1255	0.0366	0.3621
Industrial closed-loop heat pump (3000 hours)	258.648	0.1065	0.0579	0.1879
CCS - New post-combustion carbon capture, existing facility non-ETS business, gaseous transport	261.840	216.4108	0.0000	826.5000
Biomass gasification (including B-grade wood)	274.379	0.0915	0.0462	0.1651
Process-integrated heat pump in a condensation process (3000 hours)	274.614	0.1095	0.0579	0.1879
CCS - Partial CO_2 storage in existing or new facilities non-ETS business, gaseous transport	275.298	249.6473	0.0000	906.8250
Manure mono-fermentation, heat ≤ 110 kW 275,474 0,2249	275.474	0.2249	0.0635	0.5859
Use of residual heat with heat pump, length-output ratio ≥ 0.40 km/MWth	283.654	0.0956	0.0425	0.1872
CCS - New post-combustion carbon capture, new facility non-ETS business, liquid transport, new liquefaction plant	284.625	238.3560	0.0000	837.4400
Electric boiler, industrial application not greenhouse horticulture	289.333	0.1113	0.0462	0.2250
CCS - New pre-combustion carbon capture with hydrogen production from residual gases for underfiring non-ETS business, liquid transport, new liquefaction plant	290.381	258.1535	0.0000	889.0150
Aquathermal energy, base load, heating for built environment new heat transfer station	293.067	0.0917	0.0359	0.1904
Sewage treatment plant, improved sludge fermentation, cogeneration	299.940	0.1344	0.0841	0.1677
Hydropower, drop height < 50 cm (including wave energy and free flow energy)	300.000	0.1329	0.0939	0.1300
Hydropower, drop height ≥ 50 cm	300.000	0.1329	0.0939	0.1300
Osmosis	300.000	0.1329	0.0939	0.1300
CCS – New post-combustion carbon capture, existing waste incineration plant, gaseous transport	300.000	223.7850	0.0000	745.9500
CCS - New post-combustion carbon capture, existing waste incineration plant, liquid transport, new liquefaction plant	300.000	222.3420	0.0000	741.1400
CCS – Partial CO_2 storage in existing or new facilities non-ETS business, liquid transport, new liquefaction plant	300.000	270.6045	0.0000	902.0150
CCS – Partial CO_2 storage in existing or new facilities non-ETS business, liquid transport	300.000	270.6045	0.0000	902.0150
CCS - New post-combustion carbon capture, existing facility non-ETS business, liquid transport, new liquefaction plant	300.000	246.5070	0.0000	821.6900
CCS - New post-combustion carbon capture, existing biomass incineration facility (≤ 100 MWe) non-ETS business, transport in gaseous form	300.000	223.7850	0.0000	745.9500

Ranking and phasing according to maximum base amount for categories SDE++ scheme 2024

Category	Subsidy intensity	Base amount	Long-term price	Emission factor
	€/unit of product	€/unit of product	€/unit of product	€/unit of product
	A=(B-C)/D	B	C	D
CCS - new post-combustion carbon capture, existing biomass incineration plant (≤ 100 MWe) non-ETS business, liquid transport, new liquefaction plant	300.000	222.3420	0.0000	741.1400
Phase 5 - From 7 October 5 pm to 10 October 5 pm				
Aquathermal energy, with seasonal storage, no base load (direct application)	313.154	0.0928	0.0359	0.1817
Daylight greenhouses	332.485	0.1012	0.0359	0.1964
Manure mono-fermentation ≤ 110 kW, gas	336.914	0.2187	0.0462	0.5120
Shallow geothermal energy system with heat pump, heating for built environment (3500 full-load hours)	338.952	0.1646	0.0359	0.3797
Electric boiler, industrial application not greenhouse horticulture, with thermal storage	398.667	0.1359	0.0462	0.2250
Gasification of biomass (excluding B-grade wood)	399.758	0.1122	0.0462	0.1651
Air-water heat pump for heating existing buildings or existing greenhouses, no base load, medium temperature (≥ 70 °C)	399.775	0.1347	0.0635	0.1781
Aquathermal energy with seasonal storage, base load, heating for built environment	399.777	0.1077	0.0359	0.1796
Aquathermal energy, no base load, heating for built environment	399.889	0.1080	0.0359	0.1803
Electrolytic hydrogen production, grid-connected with renewable power purchase agreements	400.000	0.1880	0.0964	0.2290
Electrolytic hydrogen production, direct connection with windfarm or solar farm	400.000	0.1880	0.0964	0.2290
Sewage treatment plant, improved sludge fermentation, gas	400.000	0.1190	0.0462	0.1820

[1] *If the application amount is less than the maximum base amount, the subsidy intensity will be lower and you may be able to submit an application in an earlier phase.*
[2] *The unit product for CCS and CSU is expressed in tonnes of CO_2 (in kWh for all other categories).*
[3] *For this category, the base amount has been calculated at €400/tonne of CO_2 and rounded up to 4 decimal places; working backwards to the subsidy intensity, this works out at more than €400/tonne of CO_2.*

SDE++ subsidy decision

Implementation agreement and bank guarantee

If you are applying for a CCS or CCU subsidy and parts of the power generation facility are required to be new according to the allocation regulations, but you have not obtained environmental and planning permits yet, or your application involves a subsidy of €400 million or more, note that the approval of your subsidy is subject to the following conditions:

- After your subsidy decision has been issued, you must submit a signed implementation agreement to the Netherlands Enterprise Agency, within 2 weeks. An example of the implementation agreement is available on the website under the heading 'Na uw aanvraag' (following your application), on the page 'SDE++: Applications'.
  The implementation agreement is also included in Annex 1 of the 'Allocation regulations for 2024 SDE++ categories'
- The bank guarantee associated with the implementation agreement must be sent to the Netherlands Enterprise Agency within 4 weeks after the subsidy grant decision is issued. You will also find the bank guarantee template in Annex 1 of the 'Allocation regulations for the 2024 SDE++ categories' and on the website under the heading 'Na uw aanvraag'.

For carbon capture at biomass facilities used in greenhouse horticulture, you do not have to provide an implementation agreement and bank guarantee for a subsidy below €400 million.

For more information, see the 'Frequently asked questions Implementing agreement' under the heading 'Bank guarantee and implementation agreement'.

Receiving your SDE++ subsidy

After your SDE++ subsidy application has been approved, you must complete a number of steps to be eligible to receive payment.

- After receiving your subsidy grant decision, you must send the Netherlands Enterprise Agency copies of your agreements with contractors within 18 months. The documents you provide must describe the components of the power generation facility and the contracts issued for the construction of the facility. A period of 36 months applies for geothermal energy, CCS and CCU projects. You do not need to send these contractor agreements for the 'Solar PV' categories ≥ 15 kWp and < 1 MWp (in connection with the 2-year implementation period).
- You must carry out the project in accordance with your application, and the power generation facility must be put into operation within the implementation period.
- You are required to measure the production level of each subsidised technology. CO_2 reduction in the case of carbon capture and storage or carbon capture and use. This can be measured with 'gross production meters'. Talk to your metering company about how to measure energy production.
- You must register with a certified authority such as VertiCer (for renewable electricity, renewable gas and renewable heat) or a metering company for low-carbon heat and low-carbon production. For low-carbon heat and low-carbon production, you must register using the form 'Request for an opinion on the suitability of a power generation facility'.
- You must register as a producer with the grid operator (or, in the case of low-carbon heat or low-carbon production, with the metering company). Your monthly advance payments will start after you have completed these steps. Every year, we carry out a retrospective correction based on the actual energy or carbon price and the certified meter readings submitted to RVO. You can find more information on the SDE++-website.

Environmental Aid Guidelines (EAG)

The European Environmental Aid Guidelines (EAG) stipulate how much financial support may be given to projects concerned with environmental protection. If you are receiving or are due to receive other forms of government aid for your project on top of the SDE++ subsidy, it is possible that you will receive more aid than permitted by the EAG. The EAG assessment can be used to determine how the aid received by

your project will be affected. An EAG assessment is always carried out for the following categories: ‘Continuation liquid or solid biomass boiler ≥ 5 MWth for the production of renewable heat’, ‘Industrial heat pump with 3,000 full-load hours’, ‘Residual heat’, ‘Electric boilers’, ‘Electrolytic hydrogen production’, ‘CCS’ and ‘CCU’. This also applies if you have received no incentives other than the SDE++ subsidy. If the purchase price for energy is 15% lower than assumed in determining the SDE++ subsidy for a power generation facility for the production of heat, electricity or green gas from biomass or the production of advanced biofuels or the production of hydrogen or an eBoiler, an additional EAG assessment may be carried out. More information about the EAG assessment.

Glossary of terms

Banking
Banking can be applied to most SDE++ applications. Banking involves either carrying forward any eligible annual production that you have not used to later years (forward banking), or transferring any eligible annual production above the maximum amount to later years (backward banking). This can be used if production is lower than expected in a later year. This latter form of banking is capped at 25% of the annual production eligible for a subsidy. You can read more about banking on the SDE++-website.

Correction amount
The average market payment for generated energy or the value of the carbon emissions allowances. The correction amounts are recalculated each year. The provisional and definitive correction amounts are published annually in the Government Gazette.

COP value
Coefficient of Performance, expressed as the ratio between the heat produced on the condenser side and the electricity consumed under average operating conditions.

Emissions factor
Emissions avoided by implementing the relevant technology. The ranking table displays the emissions factor for each category.

Energy value
The amount of energy that can be extracted from a specific quantity of matter through combustion.

Guarantees of Origin
Guarantees of Origin are issued by VertiCer. You must register with and be certified by VertiCer to be eligible for renewable electricity and renewable gas subsidies.

Commissioning period
The period (after application has been approved) within which the facility must start production.

Boiler
Facility in which fuel is combusted and the combustion heat is transferred to a fluid through a heat exchanger.

Long-term price
The unweighted average of the actual energy, product or ETS price over the subsidy period, based on estimated price movements.

Nominal power rating
The maximum output of the power generation facility when used under rated (design) conditions, guaranteed by the supplier under conditions of continuous use.

Usefully employed heat
RVO grants subsidies for heat only if it meets the definition of 'usefully employed heat' as defined in the regulation on guarantees of origin and certificates of origin or the General Implementing Regulation for the SDE++ scheme.
You can find information about the regulation on guarantees of origin and certificates of origin on the VertiCer website.

Generation limit amount
A price level above which income is viewed as excess profit (see also Excess profit).

Excess profit
Profit as laid down in the excess profit scheme if the correction amount exceeds the generation limit amount. The excess

profit is set off against the subsidy you receive for the electricity you deliver to the grid, and applies to all categories of Solar PV and Wind energy.

PBL
Netherlands Environmental Assessment Agency.

Producer
Any party who operates a power generation facility.

Power generation facility
A combination of facilities for the production of renewable electricity, renewable gas or renewable heat, or for reducing greenhouse gases. The combination of facilities includes all components on a site that are connected to each other for the purposes of producing renewable energy or reducing greenhouse gases.

Production hours
Sum of all time periods during which a power generation facility produces power under partial or full-load operation.

Residual heat
The unavoidable thermal energy generated by a business as a by-product, that, if not usefully employed, would be released unused into the air or water, and which at the time of the application is not being usefully employed.

District heating
Supply of heat to a heat network by a producer as referred to in Article 1(1) of the Heating Supply Act, whereby the producer supplies heat for space heating and the hot water supply of buildings by transport of water.

Subsidy intensity
The subsidy amount in euros per tonne of CO_2 emissions avoided. The subsidy intensity determines the phase in which you can submit your subsidy application. It is also used to determine how your application will be ranked.

You can calculate the subsidy intensity as follows:
(Application amount - Long-term price) / Emissions factor.

Subsidy term
The maximum period (in years) during which you can receive the subsidy.

Heating the built environment
District heating or space heating and hot water supply in a building that is not a greenhouse, whereby the producer supplies the heat directly to the building.

Full-load hours
The maximum number of production hours at the rated power output for each year during which you receive a subsidy.

CHP
Combined heat and power.

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