



Netherlands Enterprise Agency

Energy Investment Allowance (EIA)

Energy List 2020

Commissioned by the Ministry of Economic Affairs and Climate Policy



>> Netherlands Enterprise Agency encourages entrepreneurs in sustainable, agricultural, innovative and international business.

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This brochure contains an abridged and unofficial interpretation of the statutory provisions. No rights may be derived from the contents. In the event of any doubts, you should always refer to the text of the 2001 Income Tax Act (Wet op de inkomstenbelasting 2001), 1969 Corporation Tax Act (Wet op de vennootschapsbelasting 1969) and the 2001 Regulation implementing the Energy Investment Allowance (Uitvoeringsregeling Energie-investeringsaftrek 2001).

Introduction

Financial benefits for investments in energy saving and sustainable energy

The Energy Investment Allowance (Energie-investeringsaftrek, EIA) is a government tax scheme which provides support for your investments in energy saving equipment and sustainable energy. Entrepreneurs making use of the EIA gain a double benefit: their energy costs are lower and they pay less tax. This brochure indicates which assets are eligible for the EIA and how the EIA scheme works.

Why invest in energy saving and sustainable energy?

Currently, fossil fuels are often used to generate energy. The combustion of these fossil fuels emits CO₂ and other emissions that contribute to the climate problem. Moreover, resources of fossil fuels are finite. The government provides incentives for sustainable energy housekeeping with clean energy that will be available and affordable in the long term. The tax advantages obtained via the EIA make it easier for you to invest in energy saving equipment and sustainable energy.

Benefit offered by the EIA

In addition to the deduction of the customary depreciation, you may also deduct 45% of the investment cost of energy saving equipment from your taxable profit. Consequently, you pay less income tax or corporation tax.

Which assets are eligible for the EIA?

Equipment that promotes the efficient use of energy and complies with specific energy performance requirements is eligible for the EIA. The energy performance requirements are listed in Part 3 of this brochure.

Availability of the Energy List 2020 on the Internet

The Energy List 2020 indicates which assets are eligible for the EIA. The Energy List 2020 is based on the statutory provisions of the 2001 Regulation implementing the Energy Investment Allowance (Uitvoeringsregeling Energie-investeringsaftrek 2001), which is published in the Netherlands Government Gazette (Staatscourant) and on www.wetten.nl. In addition to providing a list of energy-efficient technologies, the brochure explains how the scheme functions. The Energy List 2020 can be consulted on www.rvo.nl/eia. This website also contains the official publication, a link to the digital application form, a search function for the Energy List, examples of projects, news and the annual report.

1. How does the EIA function?

1.1 Energy Investment Allowance (EIA)

The EIA is a fiscal scheme which falls under the responsibility of the Minister of Finance and the Minister of Economic Affairs and Climate Policy. The EIA is administered by the Netherlands Tax and Customs Administration (Belastingdienst) and Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland, RVO.nl), part of the Ministry of Economic Affairs and Climate Policy.

Who is eligible for the EIA?

You can benefit from the EIA when you meet the following conditions:

- You are liable for income tax or corporation tax and you conduct a business for your own account in the Netherlands.
- You invest in equipment that complies with the Energy List requirements and costs at least € 2,500.

How does the EIA function?

For each type of equipment, you must submit a digital application form for your investment via RVO.nl's eLoket. More information about this procedure is enclosed in Part 2. Make sure that your application is submitted on time. RVO assesses your application and issues a declaration to you when your investment is eligible for the EIA. The exact amount that is eligible for the EIA is specified in the declaration. Each business can qualify for the EIA for energy investments of a minimum of € 2,500 and a maximum of € 124 million in a calendar year. 45% of the amount of the investment cost for which you received an EIA declaration may be deducted from the taxable profit.

Example of a calculation

The taxable profit for 2020 is € 500,000. Corporation tax is 16,5% for the first tax bracket up to € 200,000 and 25% above € 200,000.

You make new energy investments amounting to € 300,000. The EIA is 45% of € 300,000, i.e. € 135,000.

Your taxable profit is now € 365,000 (€ 500,000 - € 135,000).

Without the EIA you would be liable for corporation tax of € 108,000. By making use of the EIA you pay corporation tax of only € 74,250. Your tax benefit is € 33,750.

The net EIA benefit is about 11% of the investment cost.

1.2 Which costs are eligible?

The EIA is applicable to the cost of equipment or equipment parts that comply with the energy performance requirements, including the ancillary equipment (such as pipes, appendages, and measurement and control instruments) which are required for the operation of the equipment and which are used solely for that purpose.

When your equipment complies with the requirements then the following costs are eligible for the EIA:

- **Purchase costs**
 - The purchase price plus the costs charged by third parties for commissioning the equipment (such as the installation costs).
 - The turnover tax paid to the supplier when you are exempt from charging turnover tax.
- **Production costs**
 - The labour costs of your staff, temporary employees and contractors who produce or install the equipment.
 - The cost of materials from your stock or parts of the equipment that have been purchased and installed under your management.
 - The turnover tax paid to the supplier when you are exempt from charging turnover tax.
- **Modification of existing equipment**
 - The purchase and installation cost of new materials. However, these costs must be recognised in the balance sheet.
- **Costs relating to energy recommendations or customised EPA recommendations**
 - These conditions are stated in Part 3, Section G.
- **Which costs are not eligible?**
 - The cost of equipment already in use or used at the time of purchase or production .
 - The cost of land, homes*, private cars and vessels that are not intended for professional transport, animals, shares, claims, goodwill, licences, exemptions, concessions and other public dispensations.
 - Maintenance costs.

1.3 Combinations of schemes

EIA and subsidies

Are you receiving investment subsidies for the equipment pursuant to another scheme? If so, you must deduct this subsidy from the purchase costs and production costs. You do not need to deduct an operating subsidy.

EIA and the 'standard' investment allowance

Do your total investments in equipment amount to between € 2,400 and €323,544 in one year? If so, you may also be entitled to the small-scale investment allowance. More information is available via the Tax Information Line for Entrepreneurs, your auditor or accountant.

EIA and MIA (Environmental Investment Allowance)

Are you investing in equipment or equipment parts that are eligible for the EIA and in other equipment that is eligible for the Environmental Investment Allowance (Milieu-investeringsaftrek, MIA)? If so, you can make use of both schemes by dividing the investment costs into an EIA component and an MIA component. This could be interesting, as the benefit offered by the EIA is greater than the benefit offered by the MIA.

* Investments in solar boilers, collectors or panels that are installed on residential buildings may be eligible for the EIA. To be eligible, however, it is necessary that these devices can be considered separate equipment which is not part of the building.

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Apply for the correct scheme in time. You cannot convert an application from one scheme to the other retrospectively.

EIA and Sustainable Energy Investment Subsidy (ISDE)

The Sustainable Energy Investment Subsidy scheme includes equipment that is also found on the Energy List 2020. An asset cannot be eligible for both schemes. If you receive a sustainable energy investment subsidy for an asset, you cannot submit an EIA application for this asset as well.

EIA and Favourable Treatment for Locally Generated Sustainable Energy (postcode cluster scheme)

The Environmental Tax Act stipulates that the reduced energy tax rate of the Energy Tax, only applies to the electricity supplied via the connection to the grid, if neither to the point of the generation of the electricity by the cooperative, nor in respect of the production installation used for this purpose, a financial compensation or subsidy has been or will be provided by the government. So, you will no longer qualify for the lower energy tax rate if you use the EIA for an installation that serves to generate sustainable energy.

EIA and the 2010 Regulation implementing the Investment Allowance for Aruba, Curaçao, Sint Maarten and the BES islands

Article 3 of the “Regulation implementing the Investment Allowance for Aruba, Curaçao, Sint Maarten and the BES islands 2010” (Uitvoeringsregeling investeringsaftrek Aruba, Curaçao, Sint Maarten en de BES eilanden 2010) offers the option to obtain an EIA declaration for equipment associated with a permanent establishment on these islands, provided that your worldwide income is taxed in the Netherlands and provided that you fulfil the requirements stipulated in this scheme.

1.4 Permits and decisions

Some investments require permits and decisions. RVO.nl may ask you to furnish proof of the issue of the required permits and decisions when you apply for EIA for an investment. These permits do not need to be irrevocable, so you do not need to wait for the ruling from any objection or appeal procedure, where relevant. The following permits and decisions must have been issued when you submit your application for your investment:

- **Building section of the physical environment permit (omgevingsvergunning)**

You must have a physical environment permit for the building section of an investment in a wind turbine built on land at the time you apply for the EIA.

- **Environmental section of the physical environment permit (omgevingsvergunning)**

You must have a physical environment permit for the environmental section for investments in the following equipment:

- cogeneration plant powered other than by a piston engine (231002);
- biofuel production plant (251205).

- **SDE permit**

For an investment in the following equipment, an SDE decision greater than € 0 based on the 2016 SDE scheme or later must have been issued at the time of reporting:

- grid connection for solar panels with SDE 2016 or later (251117).

1.5 Under which code do you submit the application?

The EIA is of a generic design. This means that the equipment specified in this brochure complies with a specific energy saving or efficiency requirement, except for some equipment that does not comply with the stipulated requirements but which is, nevertheless, the best alternative available in the market. This equipment is specified explicitly in the Act and indicated with a [W] in this brochure. The equipment or parts of equipment that are eligible are specified in the Energy List in Part 3.

Equipment specified in specific terms

Some equipment is specified in specific terms in categories A to F inclusive. This equipment is subdivided into equipment with a [W] and equipment without a [W]. The description is followed by the code you need for the application.

Equipment specified in generic terms

This equipment is specified in general terms in the Regulation implementing the Energy Investment Allowance (Uitvoeringsregeling Energie-investeringsaftrek). This equipment is listed at the start of categories A, B, C, D and E, under the codes 310000, 410000, 320000, 420000, 340000, 440000, 450000 and 460000.

You are not permitted to submit an application for an investment using a code for equipment specified in generic terms when the nature, use and application are equivalent to those of equipment specified in specific terms in the Act. Equipment specified in specific terms without the suffix [W], however, does offer this option as this equipment is an example of equipment specified in generic terms.

Package of measures to improve the energy performance of existing commercial buildings

You can submit an application for a package of measures intended to improve the energy index of existing commercial buildings based on a customised recommendation under code 210000. The resulting benefit will be that all necessary investment costs for the improvement in the energy performance qualify for the EIA. Another benefit is that you can submit a single application for the entire package of energy-saving measures.

Energy recommendations

Costs incurred in obtaining energy recommendations or customised recommendations as laid down in ISSO 75.2 may be submitted in an application for the EIA. These costs can be included in the first application for the EIA for purchase and production costs. However, a number of conditions are applicable: more information about these conditions is included in the Energy List under category G.

The website of the EIA offers practical examples of how to submit applications under specific and generic codes.

2. How do you apply for the EIA?

2.1 Application procedure

2.1.1 Applying for EIA online

Applications for the EIA must be submitted by completing a digital form, available at RVO's eLoket (digital counter) website. Hard copy application forms will not be accepted. More information about applying digitally for the EIA is available at www.rvo.nl/eia.

eHerkenning

You will need an e-identification (eHerkenning) account to access RVO.nl's eLoket and complete the digital EIA form. The procedure is explained in RVO.nl's eLoket. You can apply for eHerkenning via www.rvo.nl/eLoket or directly via www.eHerkenning.nl. Security Level 1 is sufficient for the completion of EIA forms. You will receive your login information several days after you have submitted your eHerkenning application. Consequently, make sure that you submit your eHerkenning application in time so that your EIA applications can be submitted before the deadline.

Authorisation

You may authorise a third party, e.g. someone from an accountancy firm or consultancy firm, to complete the digital form on your behalf. You no longer need to complete an authorisation form for this purpose. The third party you have authorised will need to use the third party's eHerkenning account, not the account of the company for whom the application is submitted.

Private partnerships and general partnerships

The partners in a partnership such as a private partnership or a general partnership can submit a single joint application form.

2.1.2 Submit the application on time

Submissions of digital application forms are governed by the following deadlines:

- **Purchase costs**

RVO.nl must receive your application **within three months of the time at which you entered into the investment obligation**. The "entry into an obligation" is the time at which you can determine what you bought at what price. It is often the moment the purchase agreement is signed, but it can also be the moment a verbal order is given. The date an obligation is entered into is therefore not the date of e.g. the offer, invoice or payment.

If the investment in the equipment (e.g. LED lighting) is part of a main building contract (e.g. for the construction of a commercial building), you should bear in mind that the investment obligation for the equipment is basically entered into at the time when this main building contract is concluded. As long as the performance requirements are laid down in the contract, the exact specifications (quantities and prices) of the equipment do not yet have to be known when the application is submitted. RVO.nl can request this information from you at a later time.

- **Production costs**

RVO.nl must have received your application **within three months from the end of the calendar quarter in which you incurred the production costs**. Did you incur the production costs in the same calendar quarter in which you commissioned the equipment? If so, you must submit the application for the costs **within three months from the date of commissioning**.

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• **Inoperability of the EIA**

The Minister of Finance may restrict the scheme or render the scheme inoperative when the EIA budget is exceeded. An announcement of any such decision is published in the Netherlands Government Gazette (Staatscourant) and on the EIA website. Did you make your investment before the time at which the scheme was rendered inoperative? Then you may still be entitled to the EIA. In addition to the aforementioned deadlines for applications, an extra condition is then attached to applications for production costs: RVO.nl must have received your application for the production costs **within three months after the date on which the scheme is rendered inoperative**.

2.1.3 Acknowledgement of receipt by email

You receive an acknowledgement of receipt with a registration number from RVO.nl via email. This acknowledgement of receipt indicates solely that your application has been entered in the records. It does not automatically entitle you to the EIA.

2.1.4 Processing and declaration

RVO.nl may request you to submit supplementary information, such as a confirmation of the order and a cost specification, to enable RVO.nl to assess whether your investment complies with the requirements. When your application complies with all requirements, RVO.nl will issue a declaration stating that your investment qualifies as an energy investment either in whole or in part. This declaration is usually issued within eight weeks of the submission of your application. The amount stated on RVO.nl declarations is never in excess of the amount you specified in the application form. You may submit a separate application form for any additional costs you incur after submitting your original application, if these additional costs exceed € 2,500.

This declaration serves as proof for your tax return. RVO.nl notifies the Netherlands Tax and Customs Administration of the results from RVO.nl verification. The Netherlands Tax and Customs Administration decides whether you receive the EIA.

Lodging an objection

It may be that you do not agree with the decision on your application for an EIA declaration. In that case, you can lodge an objection to RVO.nl no later than six weeks after the date of dispatch of the written decision.

2.2 Tax return and the EIA

2.2.1 In which year do you state the investment?

When you complete your income tax or corporation tax return, you opt for the receipt of the EIA relating to the applications submitted in that year. If the RVO.nl declaration deviates from your application, you must take this into account in your return. If you have already filed your return, you can submit a corrected return. You must state the investments in the return for the year in which you make the investment even when you have yet to pay the cost of the investments and have yet to commission the equipment.

2.2.2 Assessment of your tax return

The tax inspector will assess whether you can make use of the EIA on the basis of your tax return and your company's annual accounts. The tax inspector may inspect your accounts to assess the following:

- Has RVO.nl issued a declaration on behalf of the Ministry of Economic Affairs and Climate Policy?
- Is the time of purchase or production correct and was the application on time?
- When was the equipment commissioned and when was the cost of the equipment paid?
- Is the amount of the investment correct?
- Has a subsidy been granted?
- Is the equipment new?
- Are disinvestments an issue?

The Netherlands Tax and Customs Administration then determines the tax assessment. The Netherlands Tax and Customs Administration may accept or reject the EIA (in part). If you do not agree with the decision

then you may make use of the tax objection and appeal procedure. More information is available in the Objection and Appeal (Bezwaar en Beroep) brochure that is available from the Netherlands Tax and Customs Administration. In this procedure, you cannot lodge an objection or appeal against the decision you received from RVO.nl.

2.2.3 How much may you deduct?

The amount that you may deduct from the taxable profit depends on the costs you have incurred in a calendar year.

- When you pay the total cost of an energy investment **in one calendar year**, you can benefit from the full EIA in your return for that year.
- You may have made the **payments over several years** but commissioned the equipment in the year in which you made the investment. You then fully include the EIA in the return for the calendar year in which you made the investment.
If you have not commissioned the equipment by the end of the calendar year then you may deduct the amount paid for the investment in that year as EIA from your profit. The remainder of the investment is carried to the returns for the following years in which you make investments, but not to a return for a later calendar year than the year in which the equipment is commissioned. Once the return has become irrevocable, you can no longer opt for the EIA at a later time.
- Are you **liable for corporation tax or income tax** and did you close the year with a loss? If so, if you are **liable for income tax**, you can set off the EIA in the three preceding years and the nine following years. And if you are **liable for corporation tax**, you can set off the EIA in the preceding year and the six following years. You will need to consult with your tax inspector about any such set off.
- Has the Netherlands Tax and Customs Administration issued a **provisional assessment for the year of the investment without the EIA**? If so, you can use the acknowledgement of the receipt of the application to request the tax inspector to review your assessment.

2.3 Supplementary provisions

Turnkey contracts and major investments

Are you planning to conclude a turnkey contract or make another major investment? If so, please contact RVO.nl well in advance. In consultation with you and the Netherlands Tax and Customs Administration, we will review the options for the application deadlines and EIA requirements. (See also the explanatory notes under 2.1.2.)

Non-profit organisations or private individuals

Non-profit organisations and private individuals are not entitled to the EIA. It is however possible to make use of the EIA indirectly via a lease structure, in which the owner (lessor, who must be an entrepreneur) of the equipment can apply for the EIA.

Disinvestment allowance

Are you divesting equipment for which you were granted the EIA? When you divest more than € 2,500 worth of equipment per year, you may need to include a disinvestment allowance in your income tax or corporation tax return.

This disinvestment allowance is calculated on the basis of the transfer price. The percentage of the disinvestment allowance is the same percentage you received for the divested equipment.

Two conditions are attached to the disinvestment allowance:

- the divestment must take place within five years of the beginning of the calendar year in which you made the investment;
- the allowance is calculated on the highest amount of the investment for which you received an investment allowance.

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Re-investment reserve

A special regulation governs re-investment reserves. More information is available from your tax inspector.

Safety requirements

In the Netherlands, safety requirements apply in many areas. It can happen that the equipment purchased by you also has to meet certain safety or other requirements, which are not specified in the EIA. This situation applies, for example, when purchasing LED lighting, which is subject to a European standard (IEC 62471).

3. Summary of energy investments 2020

The summary of energy investments is divided into seven categories:

- A. Commercial buildings
- B. Processes
- C. Means of transport
- D. Sustainable energy
- E. Energy balancing
- F. Energy transition
- G. Energy recommendations

The following is a summary of the costs of equipment or recommendations that qualify as energy investments under categories A to G inclusive.

Investments in equipment used for horticultural glasshouses, data centres and server rooms fall under category B “processes”.

A. Commercial buildings

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310000 [W]

Technical facilities for energy saving in or near to existing commercial buildings

The energy saving must be at least 0.15 Nm³ and no more than 1.2 Nm³ natural gas equivalent (NGE) per invested euro per year. The benchmark for existing commercial buildings is the historical energy consumption⁸.

The energy saving must be the demonstrable direct result of the use of the equipment to which the investment relates.

The facilities must achieve the energy saving by

- a. improving the energy efficiency by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures;
- b. reducing the heating or cooling load by:
 - the reduction of losses due to ventilation or draughts;
- c. reusing heat by:
 - heat recovery;
- d. using efficient lighting by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures.

Note: see Part 5 for the conversion factors for calculations of energy saving

Explanation:

Commercial buildings that are replaced (in part) while at least the structural frame of the building remains are regarded as existing commercial buildings (code 310000).

Commercial buildings that are demolished to the foundations (in part) and replaced by the construction of a new building (replacement of a commercial building) are regarded as new commercial buildings (code 410000).

410000 [W]

Technical facilities for energy saving in or near to new commercial buildings.

The energy saving must be at least 0.15 Nm³ and no more than 1.2 Nm³ natural gas equivalent (NGE) per invested euro per year. The benchmark for new commercial buildings is the average customary energy consumption of similar technical equipment for comparable new commercial buildings.

The energy saving must be the demonstrable direct result of the use of the equipment to which the investment relates.

The facilities must achieve the energy saving by

- a. improving the energy efficiency by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures;
- b. reducing the heating or cooling load by:
 - the reduction of losses due to ventilation or draughts;
- c. reusing heat by:
 - heat recovery;
- d. using efficient lighting by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures.

Note: see Part 5 for the conversion factors for calculations of energy saving

Explanation:

Commercial buildings that are demolished to the foundations (in part) and replaced by the construction of a new building (replacement of a commercial building) are regarded as new commercial buildings (code 410000). Commercial buildings that are replaced (in part) while at least the structural frame of the building remains are regarded as existing commercial buildings (code 310000).

Improvement in energy performance

210000 [W]

Improvement in the energy performance of existing commercial buildings

Intended for: the improvement of the energy performance of existing commercial buildings as determined by means of an energy index calculation as laid down in ISSO 75.1 (Energy Performance Advice for Utility Buildings Manual, Energy Label + General Part (Handleiding Energieprestatie Advies Utiliteitsgebouwen, Energielabel + Algemeen deel),

and consisting of: a package of energy investments based on customised recommendations as laid down in ISSO 75.2 (Energy Performance Advice for Utility Buildings, customised recommendations (Energieprestatie Advies Utiliteitsgebouwen, maatwerkadvies). The recommendation should be drawn up before investing in the measures stated in the customised recommendation and before submitting an EIA application. Due to the package of energy investments, the energy performance of the commercial building must at least comply with label B and must have improved by at least three labels.

Investments that are part of the package of energy investments described in Part D. Sustainable energy are also subject to all the requirements imposed on this equipment.

The contribution of a measure to the label improvement is not included in the improvement of the commercial building's energy performance if this measure is not included in the EIA application as part of the package of energy investments.

If a building's function changes, the customised recommendation must be drawn up based on the new function of the building in both the old and the new situation.

An investment in a measure that is submitted under code 210000 cannot also be submitted under a different specific code on the Energy List.

The maximum investment amount that is eligible for EIA is **€ 75 per m² of gross floor area when moving up one label**. The label improvement must be determined in accordance with the basic method laid down in ISSO 75.2.

Explanation:

The investments submitted for the EIA must be included in the EPA-U report. The EPA-U report must be drawn up before entering into the first investment obligation. As a result, investments for which the investment date precedes the date on which the EPA-U report was drawn up are not eligible for the EIA under code 210000. You may submit an application for the investment costs that you have incurred within the application period of three months. You must place the orders for the investments within the application period (three months) if you wish all the investments costs to qualify.

You must submit the package of energy-saving measures as a whole under this code in order to be eligible for the Energy Investment Allowance. An investment in a measure cannot be reported under code 210000 as well as under a specific code. In other words, you will have to choose. Please bear in mind that a measure does not count towards a label change if a measure is submitted under a specific code other than code 210000.

Heating

210102 [W]

High-efficiency air heater

Intended for: the heating of rooms in commercial buildings,

and consisting of: a direct gas-fired air heater, with or without a intermediate equipment, assembled into a single unit, with a partial load efficiency that is greater than or equal to 101% as measured in accordance with NEN-EN 1020:2009/1196:2011, combustion gas exhaust systems (when installed), air supply system (when installed), for rooms with an average height of more than 4 metres, an inducing air outlet system with nozzles or adjustable inducing vanes fitted on the air heater, or an individual thermostatically controlled booster fan with nozzles or adjustable inducing vanes in a housing mounted to the ceiling that blasts air vertically downwards (when installed).

Explanation:

A device with the Gaskeur HR label LV-HR-1:1996 seal of approval complies with the efficiency requirement

210103

Booster fan

Intended for: the even distribution of the air temperature in the heated rooms of commercial buildings (other than animal sheds) with an average height of more than 4 metres,

and consisting of:

- a. thermostatically controlled booster fan that blasts air vertically downwards, is mounted on the ceiling in a housing, and is equipped with nozzles or adjustable induction vanes;
- b. fan with a minimum rotor diameter of 350 cm.

210106 [W]

Direct gas-fired radiation panel

Intended for: the heating of closed inner rooms with an average height of more than 4 metres in commercial buildings other than horticultural glasshouses,

and consisting of:

- a. a direct gas-fired infrared radiator with a combustion efficiency equal to or greater than 86% measured in accordance with NEN-EN 416-2:2006 or NEN-EN 777:2009, a combustion gas exhaust system, a heat exchanger in the flue gas exhaust (when installed), an air supply system (when installed);
- b. a direct gas-fired high temperature radiator, a combustion gas exhaust system, a heat exchanger in the flue gas exhaust (when installed), an air supply system (when installed).

210107 [W]

Direct gas-fired condensing boiler

Intended for: the production of hot tap water,

and consisting of: a condensing hot tap water boiler, measured in accordance with NEN-EN 89:2015 with an efficiency of at least 100% on the basis of the lowest calorific value.

210108 [W]

Direct gas-fired condensing hot water flow device

Intended for: the production of hot tap water,

and consisting of: a condensing hot water flow device, measured in accordance with NEN-EN 26:2015 with an efficiency of at least 100% on the basis of the lowest calorific value.

210109 [CHANGED]

Heat recovery system from air scrubbers

Intended for: the heating of livestock sheds by using the heat from the air scrubber,

and consisting of: an horizontal heat exchanger underneath the air scrubber or heat exchanger in the wash water circuit, heat exchanger in the suction duct, circulation pump, heat pump in accordance with 211103 (when installed).

Explanation:

The actual air scrubber is not eligible.

210110 [W]

Heating system for existing poultry houses

Intended for: heating existing poultry houses, with hot air being recirculated from the top of the barn,

and consisting of:

- a. a low hanging heat exchanger with integral (speed-controlled) fan and air distributing box, vertical air suction duct (when installed), integral heater (when installed), connection to external heater (when installed). The actual heater is not eligible;
- b. a direct gas-powered air heater with a closed flue gas extraction system, a circulation fan.

The combined air capacity of the circulation fan(s) must be at least 20 m³/h per m² of barn surface area.

211102 [W] [CHANGED]

Heat pump boiler

Intended for: the useful utilisation of heat to heat tap water in commercial buildings,

and consisting of: an electrically driven heat pump boiler with a COP $\geq 3,0$ as measured in accordance with NEN-EN 16147:2017, a geothermal heat exchanger or groundwater well (when installed), a residual heat storage tank (when installed).

Explanation:

Heat pump systems that combine space heating and tap water must comply with the specifications for code 211103 or 211104.

Heat pump boilers installed in homes are not eligible. However, heat pumps installed at a central location that are used to heat tap water for homes or other buildings are eligible.

211103 [W] [CHANGED]

Heat pump

Intended for: the heating of commercial buildings or the collective heating of homes,

and consisting of:

- a. an electrically driven brine/water heat pump with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 310\%$ (SCOP $\geq 4,5$) (for heating season "A" = average) as measured in accordance with NEN-EN 14825:2018, a geothermal heat exchanger or groundwater well (when installed), a buffer or an ice buffer (when installed), a residual heat storage tank (when installed), a connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary);
- b. an electrically driven heat pump with a direct expansion (DX) geothermal heat exchanger with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 344\%$ (SCOP $\geq 5,0$) (for heating season "A" = average) as measured in accordance with NEN-EN 14825:2018, a geothermal heat exchanger or groundwater well (when installed), a buffer or an ice buffer (when installed), a residual heat storage tank (when installed), a connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary);

- c. an electrically driven water/water heat pump with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 344\%$ ($SCOP \geq 5,0$) (for heating season "A" = average) as measured in accordance with NEN-EN 14825:2018, a groundwater well (when installed), a buffer or an ice buffer (when installed), a residual heat storage tank (when installed), a connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary);
- d. an electrically driven brine/air heat pump with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 207\%$ ($SCOP \geq 3,0$) (for heating season "A" = average) as measured in accordance with NEN-EN 14825:2018, a geothermal heat exchanger or groundwater well (when installed), a buffer or an ice buffer (when installed), a residual heat storage tank (when installed), a connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary);
- e. an electrically driven water/air heat pump with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 310\%$ ($SCOP \geq 4,5$) (for heating season "A" = average) as measured in accordance with NEN-EN 14825: or an electrically driven heat pump with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 344\%$ ($SCOP \geq 5,0$) (for heating season "A" = average) as measured in accordance with NEN-EN 14825: (flow of water), a geothermal heat exchanger or groundwater well (when installed), a buffer or an ice buffer (when installed), a residual heat storage tank (when installed), a connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary);
- f. an absorption or adsorption water/water or water/air heat pump in which the regenerator is heated by waste heat¹² or sustainable heat¹², a geothermal heat exchanger or groundwater well (when installed), a residual heat storage tank (when installed), a connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary).

The investment amount for the heat pump itself may be submitted in full. The maximum amount of the investment for the connection to the heating network and the actual heating network as referred to under a, b, c, d, e and f that is eligible for the Energy Investment Allowance is **€ 400 per installed kWth of the heat pump's thermal power output.**

Explanation:

- PEF of 1.45 is used to determine the $\eta_{s,h}$.
- An installation that is always controlled on the basis of the cooling demand or serves as a dehumidifier is not assessed as heat pump. However, the installation can be a cooling installation with heat recovery (when installed). See codes 220212, 220813 and 220715.
- Heat pump systems that combine space heating and tap water must comply with the specifications for code 211103 or 211104.
- Air ducts are not eligible.
- Heat pump boilers installed in homes are not eligible.
- However, heat pumps installed at a central location (not in the home) that are used to heat more than one home or other buildings are eligible, but the heating network in homes is not eligible.
- Systems should preferably be installed by certified installers. Certified installers can be found in the quality register for the construction industry and for the installation and fitting industry, QBISnl (refer to <http://www.qbisnl.nl>).

211104 [W] [CHANGED]

Air-related heat pump

Intended for: the heating of commercial buildings or the collective heating of homes,

and consisting of:

- a. an electrically driven air/water heat pump with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 297\%$ ($SCOP \geq 4,3$) for the outdoor unit (for heating season "A" = average) as measured in accordance with NEN-EN 14825:2018, a residual heat storage tank (when installed), a connection to the heating network (when installed)¹¹, a heating network (when installed), a modification to the existing power connection (if necessary);
- b. an electrically driven air/water and air (combined) heat pump with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 297\%$ ($SCOP \geq 4,3$) for the outdoor unit (for heating season "A" = average) as measured in accordance with NEN-EN 14825:2018, a residual heat storage tank (when installed), a

- connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary);
- c. an electrically driven air/air heat pump (air-conditioning systems) with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 30\%$ ($SCOP \geq 4,4$) for the outdoor unit (for heating season "A" = average) as measured in accordance with NEN-EN 14825:2018, a modification to the existing power connection (if necessary);
- d. an electrically driven air/water heat pump with direct expansion (DX) in the air heat exchanger with a Seasonal efficiency of performance of space heating ($\eta_{s,h} \geq 22\%$ ($SCOP \geq 3,3$) for the system, a residual heat storage tank (when installed), a connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary);
- e. an absorption or adsorption air/air or air/water heat pump in which the regenerator is heated by waste heat¹ or sustainable heat², a geothermal heat exchanger or groundwater well (when installed), a residual heat storage tank (when installed), a connection to the heating network (when installed), a heating network (when installed), a modification to the existing power connection (if necessary).

When determining the SCOP, the cooling capacity of the outdoor unit serves as the maximum lower limit. This is not applicable for category d.

The maximum amount that is eligible for the heat pump, including the heating network as referred to under a, b and c, is **€ 1,200 per installed kWth of the outdoor unit's rated thermal power output**. The maximum amount that is eligible for the heat pump, including the heating network as referred to under d, is **€ 1,200 per installed kWth of the system rated thermal power output**. The rated power output is defined as the thermal power output on which the SCOP is based.

Explanation:

- PEF of 1.45 is used to determine the $\eta_{s,h}$.
- An installation that is always controlled on the basis of the cooling demand or serves as a dehumidifier is not assessed as heat pump. However, the installation can be a cooling installation with heat recovery (when installed). See codes 220212, 220813 and 220715.
- Heat pump systems that combine space heating and tap water must comply with the specifications for code 211103 or 211104.
- Air ducts are not eligible.
- Heat pump boilers installed in homes are not eligible.
- However, heat pumps installed at a central location (not in the home) that are used to heat more than one home or other buildings are eligible, but the heating network in homes is not eligible.
- Systems should preferably be installed by certified installers. Certified installers can be found in the quality register for the construction industry and for the installation and fitting industry, QBISnl (refer to <http://www.qbisnl.nl>).

211105 [W] [CHANGED]

Heat pump with a halogen-free coolant

Intended for: the heating of commercial buildings or the collective heating of homes,
and consisting of:

- a. an electrically driven heat pump based on a halogen-free coolant, to which the following COP requirement are applicable at a temperature lift (dT) between the source temperature (evaporator inlet temperature) and the outlet temperature (condenser outlet temperature):
- COP ≥ 4.0 for a dT up to $+40^\circ\text{C}$;
 - COP ≥ 3.5 for a dT from $+40^\circ\text{C}$ to $+50^\circ\text{C}$;
 - COP ≥ 3.0 for a dT $\geq +50^\circ\text{C}$;
- a system for extracting heat (when installed), a connection to the heating network (when installed)¹, heating network (when installed) a modification to the existing power connection (if necessary), a residual heat storage tank (when installed);
- b. an absorption or adsorption heat pump based on a halogen-free coolant, in which the regenerator is heated by waste heat¹ or sustainable heat², a connection to the heating network (when installed)¹, heating network (when installed), a modification to the existing power connection (if necessary), a residual heat storage tank (when installed).

The investment amount for the heat pump itself may be submitted in full. The maximum amount of the investment for the connection to the heating network and the actual heating network as referred to under a and b, that is eligible for the Energy Investment Allowance is **€ 400 per installed kWth of the heat pump's thermal power output**.

Explanation:

- *An installation that is always controlled on the basis of the cooling demand is not assessed as a heat pump. However, the installation can be a cooling installation with heat recovery (when installed). See codes 220212, 220813 and 220715.*
- *Air ducts are not eligible.*
- *Heat pump boilers installed in homes are not eligible.*
- *However, heat pumps installed at a central location (not in the home) that are used to heat more than one home or other buildings are eligible, but the heating network in homes is not eligible.*

211106 [W] [NEW]

Heat pump boiler with a halogen free coolant

Intended for: the useful utilisation of heat to heat tap water in commercial buildings,

and consisting of: an electrically driven heat pump boiler with a COP $\geq 2,8$ as measured in accordance with NEN-EN 16147:2017, an underground heat exchanger or groundwater well (when installed), a residual heat storage tank (when installed).

Explanation:

- *Heat pump systems that combine space heating and tap water must comply with the specifications for code 211103 or 211104.*
- *Heat pump boilers installed in homes are not eligible.*
- *However, heat pumps installed at a central location that are used to heat tap water for homes or other buildings are eligible.*

Refrigerating/freezing

210206

Heat exchanger for free cooling

Intended for: the reduction of the energy consumption of a cooling installation by:

- a. cooling buildings with cold outdoor air at low ambient temperatures;
- b. cooling buildings with surface water,

and consisting of: a heat exchanger that takes over the task of the cooling machine.

Explanation:

This is a heat exchanger installed in parallel with the cooling machine mounted between the cooled water network and the cooling tower or dry cooler on the roof. The actual cooling installation and the cooling tower or dry cooler are not eligible.

210207 [W]

Adiabatic air cooling

a. adiabatic indirect dew point air cooler

Intended for: the cooling of commercial buildings in which some of the aspirated outdoor air is passed across the wet heat exchanger in the cooler and discharged,

and consisting of: a fan, a heat exchanger, humidifier appliances, a water treatment installation (when installed), a filter (when installed), a closed adsorption cooling circuit in which the required heat comes from waste heat¹ or sustainable heat² (when installed). Air ducts and air hoses are not eligible;

b. adiabatic direct air cooler

Intended for: the cooling of commercial buildings in which the incoming air is cooled by humidification and directly forced into the room,

and consisting of: a fan, humidifier appliances for adiabatic cooling, control, water treatment installation (when installed) and filter (when installed). Air ducts and air hoses are not eligible;

c. humidifier appliances

Intended for: indirect adiabatic cooling,

and consisting of: humidifier appliances, water treatment installation (when installed).

The maximum amount of the investment for **measuring and control technology** eligible for the Energy Investment Allowance is **€ 5,000 per air cooler**.

Explanatory notes for b:

This concerns an autonomous air cooler in which heat is extracted for the air through evaporation and that is used in structures with high ceilings such as industrial buildings, exhibition centres and workshops.

Explanatory notes for c:

An application for the entire system can be submitted under code 210801 if humidifier appliances are used in combination with a heat recovery system.

210208 [NEW]

Adiabatic air cooling in stables

Intended for: under high pressure nebulizing of water with a maximum drop size of 10 micrometre for the adiabatic cooling of stables.

and consisting of: high pressure pump unit, outgoing high pressure pipes including nozzles

Ventilation

210302 [W]

Airtight air distribution system

Intended for: the transport and supply of intake or exhaust air in commercial buildings,

and consisting of: air ducts in combination with an air valve or sound absorber or air duct reheater or after-cooler or air volume controller or junction box of a ventilation grille mounted in the air duct of a ventilation system that complies with air leakage class (LUKA) C as measured in accordance with NEN-EN 1751:2014. The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 10/m² of usable area**.

A fan convector or fan coil unit is not regarded as one of the above airtight components.

210304

Low-flow extraction hood in industrial kitchens

Intended for: the minimisation of the energy consumption of extraction systems in large kitchens,

and consisting of: an extraction hood in which air intake compartments have been installed to force air in at the bottom of the hood's edges. The supply of air at the bottom of the hood's edges may not exceed 12% of the extraction hood's flow rate.

210306 [W] [NEW]

Energy efficient fan

Intended for: mechanical ventilation or air circulation systems,

and consisting of: direct driven fan, of which the efficiency grade (N) is at least 5 points higher than the amount, which is demanded as of 1 January 2015 pursuant to Commission Regulation (EU) nr. 327/2011, sensors, control unit.

In the table below the minimum demanded efficiency grade is listed.

Required Efficiency grade (N)				
Fan types		P (kW)	formula	N2015+5
Axial fan	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 2,74 \times \ln(P) - 6,33 + N$	45
		$10 < P \leq 500$	$\eta_{\text{target}} = 0,78 \times \ln(P) - 1,88 + N$	45
	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 2,74 \times \ln(P) - 6,33 + N$	63
		$10 < P \leq 500$	$\eta_{\text{target}} = 0,78 \times \ln(P) - 1,88 + N$	63
Centrifugal forward curved fan and centrifugal radial bladed fan	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 2,74 \times \ln(P) - 6,33 + N$	49
		$10 < P \leq 500$	$\eta_{\text{target}} = 0,78 \times \ln(P) - 1,88 + N$	49
	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 2,74 \times \ln(P) - 6,33 + N$	54
		$10 < P \leq 500$	$\eta_{\text{target}} = 0,78 \times \ln(P) - 1,88 + N$	54
Centrifugal backward curved fan without housing	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	67
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	67
Centrifugal backward curved fan with housing	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	66
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	66
	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	69
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	69
Mixed flow fan	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	55
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	55
	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	67
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	67
Cross flow fan	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 1,14 \times \ln(P) - 2,6 + N$	26
		$10 < P \leq 500$	$\eta_{\text{target}} = N$	26

210801 [W] [CHANGED]

System for cold or heat recovery from ventilation air (> 1.000 m³ per hour)

Intended for: the cooling or heating of commercial buildings by the utilisation of the cold or heat contained in extracted air,

and consisting of: an air handling unit, with an airflow of more than 1.000 m³ per hour, with a heat exchanger with an efficiency of at least 78% and a maximum pressure drop over the heat exchanger of 230 Pa and a maximum air speed of 1.6 m/s in the unit, an additional heat exchanger for air dehumidification (when installed) in which the air to be dried is first cooled in a heat exchanger and then after-cooled in an evaporator, a closed adsorption cooling circuit (when installed) in which the required heat comes from waste heat¹ or sustainable heat².

The cooling machine, boiler, air ducts including air grilles, air control valves or air fire dampers and heat pumps are not eligible. The technical requirements referred to must be determined in accordance with NEN-EN 13053:2018.

The maximum amount of the investment for **measuring and control technology** eligible for the Energy Investment Allowance is **€ 5,000 per cold or heat recovery system.**

Explanation:

- Air treatment units with a cold or heat recovery system with the current Eurovent label A or above are eligible for the Energy Investment Allowance.
- Heat pumps can be submitted under codes 211103 or 211104.

210802 [W] [NEW]

System for cold or heat recovery from ventilation air (≤ 1.000 m³ per hour)

Intended for: the cooling or heating of commercial buildings by the utilisation of the cold or heat contained in extracted air,

and consisting of: an air handling unit, with an airflow up to and including 1.000 m³ per hour, with a heat exchanger with an efficiency of at least 80%.

The air ducts including air grilles, air control valves or air fire dampers and heat pumps are not eligible. The mentioned technical requirements has to be determined in accordance with NEN 5138:2004.

210805 [W] [CHANGED]

System for cold or heat recovery from ventilation air in industrial kitchens

Intended for: the cooling or heating of industrial kitchens by the utilisation of the cold or heat contained in extracted air,

and consisting of: an air treatment unit with a heat exchanger with an efficiency of at least 78% and a maximum pressure drop over the heat exchanger of 230 Pa and a maximum air speed of 1.6 m/s in the unit, a heat exchanger for reheating or after-cooling (when installed), humidifier appliances for adiabatic cooling (when installed), a water treatment installation (when installed), a closed adsorption cooling circuit (when installed) in which the required heat comes from waste heat¹ or sustainable heat², a system to degrease/clean the extracted air (when installed). The cooling machine or boiler and the air ducts, including air grilles, air control valves or air fire dampers and heat pumps, are not eligible.

The technical requirements referred to must be determined in accordance with NEN-EN 13053:2018.

The maximum amount of the investment for **measuring and control technology** eligible for the Energy Investment Allowance is **€ 5,000 per cold or heat recovery system.**

Explanation:

- Air treatment units with a cold or heat recovery system with the current Eurovent label A or above are eligible for EIA.
- Heat pumps can be submitted under codes 211103 or 211104.

210806 [W]

System for cold or heat recovery from ventilation air in livestock sheds

Intended for: the cooling or heating of livestock sheds by the utilisation of the cold or heat contained in extracted air,

and consisting of: an air treatment unit with a heat exchanger with an efficiency of at least 78% as measured in accordance with NEN-EN 13053:2018.

Insulation

210401 [W]

High-efficiency glass for existing commercial buildings

Intended for: the glazing in the exterior facade or roof structures of existing commercial buildings,

and consisting of: multiple glazing with a heat-resistant coating and/or gas-filled cavity with a heat transfer coefficient of a maximum of 1.1 W/m²K as measured in accordance with NEN-EN 673:2011, a frame (when installed). The maximum amount that is eligible for the Energy Investment Allowance is **€ 150/m² glass**.

210402 [W]

High-efficiency glass for new commercial buildings

Intended for: the glazing in the exterior facade or roof structures of commercial buildings,

and consisting of: multiple glazing with a heat-resistant coating and/or gas-filled cavity with a heat transfer coefficient of a maximum of 0.7 W/m²K as measured in accordance with NEN-EN 673:2011, a frame (when installed). The maximum amount that is eligible for the Energy Investment Allowance is **€ 150/m² glass**.

210403 [W]

Insulation for existing structures

a. *Intended for:* the improvement of the insulation of existing floors, roofs, ceilings or walls of rooms of commercial buildings, other than chilling rooms or freezer rooms,

and consisting of: insulation material in which the total heat resistance of the layers, $R = \Sigma(R_m) = \Sigma(d/\lambda)$, is increased by at least 2.00 m²K/W as compared to the original situation.

The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 20/m² of the area to be insulated**.

b. *Intended for:* the improvement of the insulation of existing flat roofs of commercial buildings, other than chilling rooms or freezer rooms,

and consisting of: roof insulation material combined with white roof coating, in which the total heat resistance of the layers, $R = \Sigma(R_m) = \Sigma(d/\lambda)$, is increased by at least 2.00 m²K/W compared to the original situation.

The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 30/m² of the area to be insulated**.

Explanation:

The specification relates solely to the improvement of the insulation of existing commercial buildings. The existing floor, wall, roof or ceiling structures must be retained. The insulation in new commercial buildings is not eligible.

The specification relates to the improvement of R for all layers of materials and cavities. Cold bridges and transitional resistances do not influence the aforementioned values of R. An insulated or poorly ventilated cavity of >10 mm has a heat resistance of 0.17 m²K/W (which must be taken into account). The heat resistance must be calculated to an accuracy of two decimal places.

210405 [W]

Phase change material

Intended for: the reduction of the energy consumed in cooling or heating commercial buildings,
and consisting of: phase change material with a defined change range and a capacity in the phase change range of a minimum of 100 kJ/kg. The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 10 per kg of phase change material**.

Explanation:

The material absorbs latent heat on changing from solid to liquid and releases the heat again on solidifying.

210406

High-speed door for cold stores or freezer rooms

Intended for: the rapid opening and closing of a passage in a cold store or freezer room,
and consisting of: a high-speed door with standard thermally separated insulating strips with a heat transfer coefficient of a maximum of 0.3 W/m²K. The opening speed of the door is at least 1.50 m/s

210407 [W] [CHANGED]

Air curtain with sensor-driven automatic control

Intended for: the reduction of heat loss through open doors by replacing an existing air curtain,
and consisting of: an air curtain with an integrated sensor that provides the automatic control system with measurement data on the outside and inside temperatures as well as the position of the door.

210408 [W] [CHANGED]

Heat-resistant coating

Intended for: the improvement of the energy performance of cold stores and freezer rooms by applying a heat-resistant coating on the outer layer of cold stores and freezer rooms,
and consisting of: a coating with a minimum heat reflection of 85%, measured in accordance with NEN-ISO 22969:2019, a primer (when present).

Lighting

210502 [W]

Energy saving system for lighting

Intended for: the reduction of the energy consumption of lighting in or near to existing commercial buildings by installing a control unit that switches depending on the intensity of daylight or an automatic presence or absence detection system,
and consisting of: light sensors or motion sensors, switching unit or control unit, dimmer control (when installed). The maximum amount of the investment eligible for the EIA is **€ 150 per sensor**.

210506 [W] [CHANGED]

LED lighting system

Intended for: lighting in or near to existing commercial buildings,
and consisting of:

- a. LED spots or downlighters with a luminous efficiency of at least 110 lm/W.
- b. LED fixtures for lights other than LED tubes and LED spots or LED downlighters, with a luminous efficiency of at least 125 lm/W.

The luminous efficiency must be measured in accordance with LM-79-08, NEN-EN-IEC 62722-2-1:2016 or equivalent protocols. Within this context, luminous efficiency is understood as the ratio of the light output of the lighting system (in lumen) to the power consumed by the system (in Watt). Measurements pursuant to LM-79-08 and NEN-EN-IEC 62722-2-1:2016 or equivalent protocols must be carried out by accredited organisations with accreditation that specifically includes electrical and photometric measurements. The power factor of the lighting system must be at least 0.90. The maximum amount of the investment eligible for the EIA is **€ 25 per 1,000 lumen of light output generated by the fixture**.

Explanation:

An application for spot- and/or floodlight illumination, may be eligible under code 210508.

A daylight and/or motion sensor may be eligible under code 210502, if the costs of these sensors can be specified apiece.

210508 [W]

LED illumination system

Intended for: the illumination of stages or theatres,

and consisting of: spotlight and/or floodlight fixtures, (DMX) driver.

The power factor of the lighting system must be at least 0.90.

Explanation:

Solely the spotlight and/or floodlight fittings and driver are eligible. LED screens or LED displays are not eligible.

210509 [W] [CHANGED]

LED tube system

Intended for: lighting in or near to existing commercial buildings,

and consisting of: a system with a LED tube in combination with an external LED driver. The luminous efficiency of the LED tube must be at least 130 lm/W.

The luminous efficiency must be measured in accordance with LM-79-08, NEN-EN-IEC 62722-2-1:2016 or equivalent protocols. Within this context, luminous efficiency is understood as the ratio of the light output of the lighting system (in lumen) to the power consumed by the system (in Watt). Measurements pursuant to LM-79-08 and NEN-EN-IEC 62722-2-1:2016 or equivalent protocols must be carried out by accredited organisations with accreditation that specifically includes electrical and photometric measurements. The power factor of the lighting system must be at least 0.90.

The maximum amount of the investment eligible for the EIA is **€ 20 per LED tube**.

Explanation:

A daylight and/or motion sensor may be eligible under code 210502, if the costs of these sensors can be specified apiece.

Drives

210601 [W]

High-efficiency electric motor

a. an electric motor designed for a direct connection to the electricity grid,

and consisting of: an electric motor that complies with the IE4 efficiency class as measured in accordance with NEN-EN-IEC 60034-30-1:2014.

b. an electric motor designed for a variable rpm that is not directly connected to the power grid,

and consisting of: an electric motor that complies with the IE4 efficiency class in accordance with NEN-EN-IEC 60034-30-2:2016, an electronic speed controller, an integrated reducer that is not a worm gearbox (when installed).

Explanation:

Synchronous motors (e.g. direct current motors) can be submitted under category b

210602 [W]

Improvement in the energy performance of existing lifts

Intended for: the improvement of the energy performance of existing lifts,

and consisting of: a package of energy saving measures to ensure that an existing lift will comply with the energy performance requirements specified for energy label A as laid down in the VDI 4707 Part 1:2009 standard.

Drying/humidifying

210707

Drying and heating system for ventilation air in storage warehouses

Intended for: the drying of arable products other than flower bulbs in the storage warehouse,

and consisting of: a heat pump, a heat exchanger in the air supplied to and exhausted from the building (when installed), a fan (when installed), a control system (when installed).

Explanation:

The air flow supplied to the building is dehumidified by the heat pump's evaporator, after which the extracted heat is released back into the air by the heat pump's condenser. An installation that is always controlled on the basis of the cooling demand is not a heat pump. However, the installation can be a cooling installation with heat recovery. See code 220813.

210708 [NEW]

Adiabatic humidifying equipment

Intended for: direct adiabatic humidifying equipment as replacement of steam humidifiers in ventilation systems.

and consisting of: humidifying equipment, water treatment equipment (when installed)

Explanation:

If the humidifying equipment is being applied in combination with a heat recovery system, an application for the whole installation can be submitted under code 210801.

Energy reuse

210803 [W]

System for the utilisation of waste heat¹

Intended for: the recovery of waste heat at the source and transport of the waste heat to heat buildings,

and consisting of: a waste heat transport duct⁹, a heat exchanger at the waste heat source (when installed), a heat distribution network¹⁰ (when installed), a heat exchanger between the heat distribution network and the heating network¹¹ (when installed). Heating networks¹¹ are not eligible.

The system for the utilisation of waste heat shall supply at least 70% of the energy content in the form of waste heat or at least 70% of the energy content in the form of waste heat¹ in combination with sustainable heat¹².

Explanation:

See also code 220814 for processes.

Management/control

210905

Energy-efficient extraction system

a. Welding fumes detector

Intended for: the minimisation of the ventilation capacity in welding areas by the measurement of the air contamination,

and consisting of: dust concentration measurement instrument, measurement and control instruments for the welding fumes extractor unit and measurement and control instruments for the area's air supply unit (when installed);

b. Fumes or vapour detector in extraction hoods

Intended for: the minimisation of the energy consumption of extraction systems in large kitchens,

and consisting of: fumes or vapour detection instruments, measurement and control instruments for the extractor unit and measurement and control instruments for the area's air supply unit (when installed).

Explanation:

For item b, the actual extraction hood may be eligible under code 210304.

210906 [W]

Energy saving system for climate control systems

Intended for: the reduction of the energy consumption of climate control systems in or near to existing commercial buildings by installing an individually adjustable room controller for switching that depends on the automatic presence or absence detection system,

and consisting of: an individual room controller with motion sensors or other sensors, a control unit (when installed), an individual room control valve (when installed).

The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 1,000 per room controller**.

Utilities

231002[W]

Cogeneration plant⁵ powered other than by a piston engine⁶

Intended for: the simultaneous generation of heat and power with a nominal electrical power output of up to 300 MWe subject to the condition that the average total annual energetic efficiency⁴ is at least 67%. The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 600 per kW**

electrical output. The electrical power output is determined by the nominal motor power,

and consisting of: cogeneration plant, connection to the electric grid (when installed).

A cogeneration plant with a newly installed nominal electrical power output of greater than or equal to 300 MWe is not eligible for the Energy Investment Allowance.

The newly installed nominal electrical power output of a cogeneration plant is determined on the basis of the combination of the new facilities, where 'the combination of the new facilities' means all the available new equipment connected together for the production of electricity generated by a cogeneration plant.

Conversion

231101 [W]

Fuel cell system

Intended for: the simultaneous generation of heat and electrical energy in which a fuel is converted directly into electrical energy,

and consisting of: fuel cell and fuel reformer (when installed).

Energy saving in the production chain

210803[W]

System for the utilisation of waste heat¹

Intended for: the recovery of waste heat at the source and transport of the waste heat to heat buildings,

and consisting of: a waste heat transport duct⁹, a heat exchanger at the waste heat source (when installed), a heat distribution network¹⁰ (when installed), a heat exchanger between the heat distribution network and the heating network¹¹ (when installed). Heating networks¹¹ are not eligible.

The system for the utilisation of waste heat shall supply at least 70% of the energy content in the form of waste heat or at least 70% of the energy content in the form of waste heat in combination with sustainable heat¹².

Explanation:

See also code 220814 for processes.

Other

211001 [W]

HR-pump

Intended for: climate installations in commercial buildings,

and consisting of:

- a. a stand-alone wet running centrifugal pump of up to 2,500 Watt with an EEI of <0.23 as referred to in Schedule II of European Regulation (EC) No 641/2009 of the Commission, integrated speed control;
- b. a stand-alone in-line dry-running circulation pump fitted with a high-efficiency electric motor in accordance with code 210601.

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320000 [W]

Technical facilities for energy saving in existing processes

The energy saving must be at least 0.4 Nm³ and no more than 2.0 Nm³ natural gas equivalent (NGE) per invested euro per year. The benchmark for existing processes¹ is the historical energy consumption².

The energy saving must be the demonstrable direct result of the use of the equipment to which the investment relates.

The calculation of the energy saving does not take account of the savings from the reduction of primary energy consumption per product unit by the use of growth-promotion substances and growth-promotion facilities for living organisms as well as the savings achieved by a modification of the product or raw material specifications.

When the energy saving achieved by modifying an existing process is the direct consequence of a significant modification of the product or raw materials specifications then the applicable benchmark is not the historical energy consumption: the reference is the average customary energy consumed by similar new investments for comparable applications in the relevant sector. The process is then a new process and code 420000 is applicable.

The facilities must achieve the energy saving by

- a. improving the energy efficiency by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures;
- b. reducing the heating or cooling load by:
 - thermal insulation;
- c. reusing heat by:
 - heat recovery;
- d. using efficient lighting by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures.

Note: see Part 5 for the conversion factors for calculations of energy saving

Explanation:

When an existing process is being replaced, code 320000 is applicable to the part being replaced. When a process is being expanded (expansion of capacity), code 420000 is applicable to the part being replaced

420000 [W]

Technical facilities for energy saving in new processes

The energy saving must be at least 0.4 Nm³ and no more than 2.0 Nm³ natural gas equivalent (NGE) per invested euro per year. The benchmark for new processes is the average customary energy consumption of similar technical equipment for comparable new processes in the relevant sector.

The energy saving must be the demonstrable direct result of the use of the equipment to which the investment relates.

The calculation of the energy saving does not take account of the savings from the reduction of primary energy consumption per product unit by the use of growth-promotion substances and growth-promotion facilities for living organisms as well as the savings achieved by a modification of the product or raw material specifications.

The facilities must achieve the energy saving by

- a. improving the energy efficiency by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures;
- b. reducing the heating or cooling load by:
 - thermal insulation;
- c. reusing heat by:
 - heat recovery;
- d. using efficient lighting by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures.

Note: see Part 5 for the conversion factors for calculations of energy saving

Explanation:

When a process is being expanded (expansion of capacity), code 420000 is applicable to the part being replaced.

When an existing process is being replaced, code 320000 is applicable to the part being replaced.

Heating

220114 [W]

Direct gas-fired condensing boiler

Intended for: the production of hot tap water,

and consisting of: a condensing hot tap water boiler, measured in accordance with NEN-EN 89:2015 with an efficiency of at least 100% at the lowest caloric value of the fuel used.

220115

Direct gas-fired high-pressure tap water boiler

Intended for: the production of hot tap water,

and consisting of: a hot tap water boiler fitted with a heater that has a minimum efficiency of 75% for tap water at the lowest caloric value of the fuel used, with part of the hot tap water being heated up further to at least 80°C.

Explanation:

An appliance with the Gaskeur HR label HRww: 2010 complies with the efficiency requirement.

220116

Induction baking tray or hot plate

Intended for: the preparation of meals in catering or industrial kitchens,

en bestaand uit: an induction baking tray or hot plate.

220117

Infrared salamander with pan detection

Intended for: the preparation of meals in catering or industrial kitchens,

and consisting of: an infrared salamander grill with an adjustable top, integrated pan detection.

220118

Flue gas rotation in tunnel ovens for building ceramics

Intended for: the improvement of the heat transfer from a flue gas stream to products being heated through the use of flue gas recirculation in the heating zone of a tunnel oven for building ceramics,

and consisting of: fans, flue gas ducts, compensators (flexible connection between fans and flue gas ducts), a control system (when installed).

220119

Induction deep fryer

Intended for: the preparation of meals in catering and industrial kitchens,

and consisting of: deep fryer with integrated induction coils installed in a frying range.

Explanation:

Stand-alone deep fryers or fryers supplied as a tabletop model are not eligible. The entire frying range unit and accessories as well as other frying, cooking and warming equipment are not eligible.

220120 [NEW]

Heat bridge for hotel and catering industry and professional kitchens

Intended for: maintaining the elevated temperature of prepared meals in hotel and catering industry or professional kitchens

and consisting of: heat bridge by means of halotherm lamps, integrated detection and control on heat demand.

221103 [W] [CHANGED]

Heat pump

Intended for: the utilisation of heat for processes,
and consisting of:

a. an electrically driven heat pump, to which the following COP requirements are applicable at a temperature lift (dT) between the source temperature (evaporator inlet temperature) and the outlet temperature (condenser outlet temperature):

- COP ≥ 4.0 for a dT up to $+40^{\circ}\text{C}$;
- COP ≥ 3.5 for a dT from $+40^{\circ}\text{C}$ to $+50^{\circ}\text{C}$;
- COP ≥ 3.0 for a dT from $+50^{\circ}\text{C}$ to $+60^{\circ}\text{C}$;
- COP ≥ 2.5 for a dT from $+60^{\circ}\text{C}$ to $+70^{\circ}\text{C}$;
- COP ≥ 2.3 for a dT $\geq +70^{\circ}\text{C}$

a system for extracting heat (when installed), a system for supplying heat to a process (when installed), a residual heat storage tank (when installed), a modification to the existing power connection (if necessary);

b. an absorption or adsorption heat pump, in which the regenerator is heated by waste heat² or sustainable heat², a system for extracting heat (when installed), a system for supplying heat to a process (when installed), a residual heat storage tank (when installed), a modification to the existing power connection (if necessary).

Explanation:

An installation that is always controlled on the basis of the cooling demand or serves as a dehumidifier is not assessed as heat pump. However, the installation can be a cooling installation with heat recovery (when installed). See codes 220212, 220813 and 220715. A low-temperature heating network in a horticultural glasshouse that is mainly fed by the heat pump may also be eligible.

Refrigerating/freezing

220212 [W] [CHANGED]

Energy-efficient refrigerator and/or freezer installation

Intended for: the refrigeration and/or freezing of spaces or processes to a maximum of $+16^{\circ}\text{C}$,
and consisting of: a subcritical refrigerator and/or freezer installation based on a halogen-free coolant, with:

- at least one frequency-controlled or electronic variable-speed compressor;
- an air-cooled, water-cooled or evaporation condenser, designed for a maximum 10 K temperature difference between the condensation and ambient temperature, with a specific power consumption of the condenser of a maximum 21 W per kW condenser power output;
- weather-dependent control of the condenser pressure to an outdoor temperature of $+13^{\circ}\text{C}$;
- electronic expansion control (for a direct expansion system);
- an evaporator, excluding a cooling tunnel;
- adiabatic precooler blocks (pads) for an air-cooled condenser (when installed);
- the cold network with CO_2 as a refrigerating medium (when installed).

The specific power consumption of the condenser is the sum of the total power consumption of the fans and/or pumps, divided by the condenser power output at a 10 K temperature difference between the condensation and ambient temperature.

The ambient temperature is a dry-bulb temperature of $+30^{\circ}\text{C}$ with a relative humidity of 50% for the air-cooled condenser and a wet-bulb temperature of $+22^{\circ}\text{C}$ for the evaporation condenser. When not cooling with outside air, the ambient temperature is the temperature of the water supply.

The maximum 10 K temperature difference between the condensation and ambient temperature applies to an outdoor temperature of 13°C or higher.

A refrigerator and/or freezer installation in which a coolant containing a halogen is used in the combination of the facilities is not eligible for the Energy Investment Allowance, where 'the combination of

the facilities' means all the available equipment connected together for the refrigeration and/or freezing of spaces or processes

Explanation:

In case of a subcritical refrigerator and/or freezer installation, the coolant leaves the cooling compressor at a pressure that lies below the critical point. Transcritical CO₂ refrigerator and/or freezer installations are frequently used in supermarkets and must comply with the description of code 220223.

A plug-in cooling and/or freezing cabinet is not regarded as a refrigerator and/or freezer installation.

220213

Hot gas defrosting system

Intended for: the direct or indirect defrosting of evaporators of refrigerator or freezer installations using heat from the compressed gas of the refrigerator or freezer installation,

and consisting of: inlet and outlet pipes for the defrosting system, excluding the evaporator(s), hot gas coil in the drip tray (when installed) and heat exchanger that transfers heat from the compressed gas to the indirect defrosting system (when installed).

220215 [W]

Energy-efficient professional refrigerator or freezer

a. Intended for: the cooling of products in temperature class M1 (+5°C/-1°C) with an Energy Efficiency Index (EEI) of less than 35 as measured in accordance with Regulation (EU) 2015/1095 in climate class 4 (30°C, 55% RH),
and consisting of: refrigerator or cooled workbench with a maximum net content of 1,500 litres that uses a halogen-free coolant and equipped with forced ventilation in the cabinet and an evaporator installed at a separate location and not built into the walls;

b. Intended for: the freezing of products in temperature class L1 (-15°C/-18°C) with an Energy Efficiency Index (EEI) of less than 50 as measured in accordance with Regulation (EU) 2015/1095 in climate class 4 (30°C, 55% RH),
and consisting of: a freezer cabinet with a maximum net content of 1,500 litres that uses a halogen-free coolant and is equipped with an evaporator installed at a separate location and not built into the walls.

Explanation:

Solely the costs of the basic model may be calculated for the workbench; accessories are not eligible.

Refrigerators or cooled workbenches with EcoDesign Label A or B and freezers with EcoDesign Label A, B or C, as laid down in Regulation (EU) 2015/1094, comply with the aforementioned Energy Efficiency Indices.

220216 [W]

Energy-efficient milk cooling

Intended for: the cooling of milk and the recovery of heat from milk and utilising the recovered heat,

and consisting of: a heat exchanger installed in the pipe between the milking machine and the milk cooling tank (milk pre-cooler), a heat exchanger between the compressor and condenser of the cooling machine, frequency control on the milk pump, frequency controller on the milk pump (when installed), a buffer tank (when installed), a heat pump (when installed), an electric boiler fed by the pre-heated water (when installed).

Explanation:

The actual cooling machine and milk pump are not eligible.

Any parts of the installation present in the home are not eligible.

220218

High-pressure nebuliser in horticultural glasshouses

Intended for: the nebulisation of water under high pressure and with a maximum droplet size of 15 micrometres for the purposes of the adiabatic cooling of the glasshouse,
and consisting of: high-pressure pump, downstream high-pressure pipes including nozzles.

220219

Ambient temperature cooling of server rooms¹³ or existing data centres

Intended for: the cooling of new or existing server rooms or existing data centres by using 100% ambient temperature cooling as well as separate hot and cold air flows up to a minimum outside temperature of 22°C,
and consisting of: a variable-speed fan, separate ducts for hot and cold air flows, a heat exchanger (when installed), air ducts (when installed), an air filter (when installed), an aquifer (when present), cold extraction from natural cold sources (when present), adiabatic cooling (when installed).

220221 [W]

Energy-efficient rack cooling

Intended for: the cooling of IT equipment installed in racks,
and consisting of: rack cooling by means of an integrated direct expansion system (DX system).
The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 15,000 per architectural space**. Applications in data centres are not eligible for the Energy Investment Allowance.

220222 [W]

Energy-efficient cooling of server rooms¹³ of up to 100 m²

Intended for: rack or aisle cooling with separate hot and cold air flows,
and consisting of:
a. a water-cooled air-conditioning system with ambient temperature cooling, adiabatic cooling (when installed);
b. a central cold water machine (chiller) with an external dry cooler for ambient temperature cooling, a heat exchanger for the server room, adiabatic cooling (when installed).
The maximum amount for the cooling of a server room as referred to under a or b which is eligible for the Energy Investment Allowance is **€ 750 per m² of floor surface area of the server room**.

Explanation:

The water-cooled air-conditioning system stated under a is often called computer room air-conditioning (CRAC) and includes a cooling machine. The CRAC transfers the heat to a water system. The heated water is cooled down using a dry, wet or hybrid air cooler on the roof. The hot air can also be cooled directly at the water (ambient temperature cooling). The heat exchanger for the server room stated under b is often called a computer room air handler (CRAH) and does not include a cooling machine. The CRAH is connected to a cold water circuit. Apart from the central chiller, the cold water system also has ambient temperature cooling

220223 [W] [CHANGED]

Transcritical CO₂ refrigerator and/or freezer installation

Intended for: the refrigeration and/or freezing of spaces or processes to a maximum of +16°C,
and consisting of: a refrigerator and/or freezer installation that only uses CO₂ as a coolant, with:
- at least one frequency-controlled compressor;
- an air-cooled or water-cooled gas cooler, designed for a maximum 2 K temperature difference between the gas cooler outlet temperature and the ambient temperature at a pressure of 90 bar(a), with the gas cooler having a maximum specific absorbed power of 14 W per kW of gas cooler power;
- weather-dependent control of the condenser pressure to an outdoor temperature of + 13°C;
- electronic expansion control;
- an evaporator, excluding a cooling and/or freezing tunnel and cold stores and/or freezer rooms;
- adiabatic precooler blocks (pads) for an air-cooled condenser (when installed);
- the connected cooling and/or freezing cabinet (when installed);
The ambient temperature is a dry-bulb temperature of +34°C for the air-cooled gas cooler and the water supply temperature for the water-cooled gas cooler.

The specific absorbed power of the gas cooler is the sum of the total power absorption of the fans and/or pumps, divided by the gas cooler capacity at a 2 K temperature difference between the gas cooler outlet temperature and the ambient temperature.

The maximum amount of the investment for the connected cooling and/or freezing cabinets eligible for the Energy Investment Allowance is **€ 1.000 per installed kW of the cooling compressors' cooling capacity** under design conditions. Installation components that do not contain the CO₂ coolant are not eligible for the Energy Investment Allowance.

Explanation:

A subcritical refrigerator and/or freezer installation must comply with the description of code 220212.

Adiabatic precooler blocks (pads) are not spraying installations with waterloss or waterdroplet loss in the form of aerosols to the surroundings.

220224

Immersion cooling for data servers

Intended for: the cooling of servers through immersion in a dielectric liquid.

and consisting of: a liquid tank filled with a dielectric liquid, a variable speed pump unit for the dielectric liquid (when installed), cases and/or chassis for servers, power distribution units for the servers, a heat exchanger for the cooling of the dielectric liquid, a connection to the cooling water network in the room.

Explanation:

The servers in the cases or in the chassis and the facilities for lifting parts of the system are not eligible for the EIA. For possible heat recovery from the cooling installation, see code 220813.

220225 [W]

Energy-efficient refrigerator and/or freezer condenser unit

Intended for: the refrigeration and/or freezing of spaces or processes to a maximum of +16°C,

and consisting of:

a. condenser unit for refrigeration applications with:

- a cooling capacity that is more than 5 kW and less than or equal to 50 kW;
- an SEPR of at least 2.90;
- a natural coolant;
- an evaporator, excluding cold stores and/or freezer rooms;
- the connected cooling cabinets (when installed); or

b. a condenser unit for freezing applications with:

- a cooling capacity that is more than 2 kW and less than or equal to 20 kW;
- an SEPR of at least 1.80;
- a natural coolant;
- an evaporator, excluding cold stores and/or freezer rooms;
- the connected freezing cabinets (when installed).

The maximum amount of the investment for the connected cooling and/or freezing cabinets eligible for the Energy Investment Allowance is **€ 1,000 per installed kW of the condenser unit's cooling capacity**.

Condenser units intended for refrigeration and freezing applications must comply with the requirements stated for refrigeration applications.

The determination of the cooling capacity and the seasonal energy performance ratio (SEPR) for condenser units are laid down in Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009, as well as in Regulation (EU) 2015/1095 implementing the Directive.

220226

Energy-efficient blowing air cooler with EC fans

Intended for: the cooling and long-term storage of fruit and agricultural produce in cold stores, with the fan energy and moisture extraction being reduced,

and consisting of: a blowing version of an air cooler with optimised air distribution through the use of:

- EC fans with an oversized diameter,
- an additionally installed air suction duct fitted with air guide baffles,
- an air distribution unit between the finned block and fan plate.

For an EC fan with an oversized diameter, the ratio between the diameter of the fan and the finned height of the cooling block is at least 0.75.

Explanation:

The actual cooling installation is not eligible.

Ventilation

220304

System for the dehumidification of horticultural glasshouses

a. Intended for: the dehumidification of the horticultural glasshouse with a controlled mixture of outdoor air and air from the upper part of the glasshouse,

and consisting of: an air mixing unit with flap sections, a (speed-controlled) fan with an air distribution hose, control software, an outdoor air suction flow meter (when installed), an air/air heat exchanger (when installed), an integrated heat exchanger for extra heating (when installed);

b. Intended for: the dehumidification of the glasshouse by means of the suction of dry (outdoor) air,

and consisting of: a (speed-controlled) fan, control software, an air distribution hose (when installed), an integrated heat exchanger for extra heating (when installed);

c. Intended for: the dehumidification of the glasshouse by cooling, drying and reheating the air in the glasshouse by means of a heat pump,

and consisting of: a heat pump, a heat exchanger in the air supplied to and exhausted from the building (when installed), a fan, an air distribution hose (when installed), a heating network heated exclusively by recovered heat (when installed).

Explanation:

The air flow supplied to the building is dehumidified by the heat pump's evaporator, after which the heat is released back into the air by the heat pump's condenser. An installation that is always controlled on the basis of the cooling demand is not a heat pump. However, the installation can be a cooling installation with heat recovery. See code 220813. See code 220705 for absorption dryers.

220305

Air circulation system in horticultural glasshouses

Intended for: the optimum distribution of temperature and relative humidity in the glasshouse in which an air flow is passed through the crop,

and consisting of:

a. a (speed-controlled) fan with a hose for air distribution, control software;

b. a (speed-controlled) fan for vertical air distribution above and in the crop, control software.

220306 [W] [NEW]

Energy-efficient fan

Intended for: mechanical ventilation or air circulation systems,

and consisting of: direct driven fan, of which the efficiency grade (N) is at least 5 points higher than the amount, which is demanded as of 1 January 2015 pursuant to Commission Regulation (EU) nr. 327/2011, sensors, control unit.

In the table below the minimum demanded efficiency grade is listed.

Required Efficiency grade (N)				
Fan types		P (kW)	formula	N2015+5
Axial fan	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 2,74 \times \ln(P) - 6,33 + N$	45
		$10 < P \leq 500$	$\eta_{\text{target}} = 0,78 \times \ln(P) - 1,88 + N$	45
	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 2,74 \times \ln(P) - 6,33 + N$	63
		$10 < P \leq 500$	$\eta_{\text{target}} = 0,78 \times \ln(P) - 1,88 + N$	63
Centrifugal forward curved fan and centrifugal radial bladed fan	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 2,74 \times \ln(P) - 6,33 + N$	49
		$10 < P \leq 500$	$\eta_{\text{target}} = 0,78 \times \ln(P) - 1,88 + N$	49
	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 2,74 \times \ln(P) - 6,33 + N$	54
		$10 < P \leq 500$	$\eta_{\text{target}} = 0,78 \times \ln(P) - 1,88 + N$	54
Centrifugal backward curved fan without housing	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	67
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	67
Centrifugal backward curved fan with housing	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	66
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	66
	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	69
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	69
Mixed flow fan	A,C (static)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	55
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	55
	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 4,56 \times \ln(P) - 10,5 + N$	67
		$10 < P \leq 500$	$\eta_{\text{target}} = 1,1 \times \ln(P) - 2,6 + N$	67
Cross flow fan	B,D (total)	$0,125 \leq P \leq 10$	$\eta_{\text{target}} = 1,14 \times \ln(P) - 2,6 + N$	26
		$10 < P \leq 500$	$\eta_{\text{target}} = N$	26

Insulation

220402

Glasshouse cover or facade

Intended for: the protection of crops with a horticultural glasshouse, which has a cover or facade fitted with translucent material with a better insulation value than single panes of glass,

and consisting of: plastic channel plates or multiple glazing or a double layer consisting of glass with ETFE or PVDF film underneath. The frame containing or supporting the plates or glazing are not eligible.

220403 [W]

Horizontal energy screens

Intended for: the reduction of heat loss in horticultural glasshouses by fitting horizontal movable energy screens on the inside of the structure's translucent shell,

and consisting of: screen cloth that is at least 90% dense and in which the mesh size of the woven, knitted or plaited fabric is less than 2 mm² and where the translucence for diffuse incident light is greater than 10%, mechanical operating mechanism, gap-sealing facilities (when installed), screen gap control (when installed), measurement box above the energy screen (when installed), roof ridge compartmentalisation (intermediate apex seals) (when installed). The second energy screen of the horizontal movable screens positioned above one another and separated by an air cavity is eligible for the Energy Investment Allowance.

Explanation:

The relevant glasshouse or glasshouse section must at least be fitted with two horizontal energy screen cloths, both of which meet the aforementioned code description. The screens are located below each other and can be drawn in one operation.

220404 [W]

Facade screens

Intended for: the reduction of the heat loss in horticultural glasshouses by the installation of moveable facade screens on the inside of the structure's translucent shell,

and consisting of: screen cloth that is at least 90% dense and in which the mesh size of the woven, knitted or plaited fabric is less than 2 mm² and where the translucence for diffuse incident light is greater than 10%, mechanical operating mechanism, gap-sealing facilities (when installed).

Explanation:

These are translucent (not blackout) screens in glasshouses mounted on the inside of the facades.

220405 [W]

Outside screens

Intended for: the exclusion of excess sunlight and the reduction of heat loss from horticultural glasshouses by installing moveable outside screens above the structure's translucent shell,

and consisting of: screen cloth that is at least 50% dense and in which the mesh size of the woven, knitted or plaited fabric is less than 10 mm² and where the translucence for diffuse incident light is greater than 15%, mechanical operating mechanism, sealing facilities (when installed).

220407 [W] [CHANGED]

Insulation of facades of existing horticultural glasshouses

Intended for: the improvement of the insulation of facades of existing horticultural glasshouses

and consisting of: insulation material in which the total heat resistance of the layers, $R = \Sigma(R_m) = \Sigma(d/\lambda)$, is increased by at least 2.00 m² K/W as compared to the original situation.

The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 20/m² of the area to be insulated.**

Explanation:

The specification relates solely to the improvement of the insulation of existing horticultural glasshouses. The existing facade structure must be retained. The insulation in new horticultural glasshouses is not eligible.

The specification relates to the improvement of R for all layers of materials and cavities. Cold bridges and transitional resistances do not influence the aforementioned values of R. An insulated or poorly ventilated cavity of >10 mm has a heat resistance of 0.17 m²K/W (which must be taken into account). The heat resistance must be calculated to an accuracy of two decimal places.

220408 [W]

Phase change material for processes

Intended for: the reduction of the energy consumed in cooling or heating spaces or processes

and consisting of: phase change material with a defined change range and a capacity in the phase change range of at least 100 kJ/kg. The maximum amount of the investment eligible for the EIA is **€ 10 per kg phase change material.**

Explanation:

The material absorbs latent heat on changing from solid to liquid and releases the heat again on solidifying.

220409

Insulation for existing process installations

Intended for: the installation or replacement of insulation on existing process installations for thermal insulation, excluding refrigerator or freezer rooms,

and consisting of: insulation material.

The insulation material must comply with a minimum "simplified R value" for the relevant (design) process temperature. This minimum R value is calculated in a simplified manner.

The following formula applies to pipes that are smaller than or equal to DN500:

$$R_i = \frac{\ln \frac{d_a}{d_i}}{2 \cdot \pi \cdot \lambda} \quad \left[\frac{\text{m} \cdot \text{K}}{\text{W}} \right]$$

The following applies to pipes larger than DN500 and flat plates:

$$R = \frac{s}{\lambda} \quad \left[\frac{\text{m}^2 \cdot \text{K}}{\text{W}} \right]$$

d_a = exterior diameter of the insulated pipe [m]

d_i = exterior diameter of the pipe [m]

s = insulation thickness [m] → $d_a = d_i + 2 \cdot s$

λ = thermal conduction coefficient of insulation material [W/m·K] determined in accordance with EN 12667:2001 or NEN-EN-ISO 8497:1997

The following table states the minimum "simplified R values" that must be met.

Process temperature between:	50°C ≤ 150°C	150°C ≤ 250°C	250°C ≤ 350°C	350°C ≤ 450°C	450°C ≤ 550°C
λ-value bij T _m [°C]:*	50°C	100°C	200°C	300°C	400°C
DN40 – DN80	3,4	3,7	3,4	3,6	2,7
DN100 – DN150	2,5	2,8	2,6	2,6	2,0
DN200 – DN350	1,8	1,9	1,8	1,9	1,4
DN400 – DN500	1,3	1,5	1,3	1,4	1,1
Pipes >DN500 and flat plates	2,4	2,6	2,7	2,8	3,0

* The thermal conduction coefficient (λ) is measured in accordance with EN 12667:2001 or NEN-EN-ISO 8497:1997 at various T_m (mean temperatures) in the insulation material. The table states which T_m of the insulation material should be used for each process temperature range. The λ value associated with the relevant T_m should be used in the calculation of the simplified R value.

Explanation:

The insulation of new process installations is not eligible under this code.

Lighting

220503 [W] [CHANGED]

illuminating system for horticultural crops

Intended for: the provision of assimilation lighting for horticultural crops in glasshouses or areas without daylight,

and consisting of:

- a. illuminating system with a luminous efficiency of at least 2.20 micromol photons per second per watt;
- b. LED light sources with an E27 fitting as an alternative to light bulbs, with a luminous efficiency of at least 1.80 micromol photons per second per watt.

The luminous efficiency must be measured in accordance with LM-79-08 or equivalent protocols. Within this context, luminous efficiency is understood as the ratio of the light output of the lighting system (in micromol photons per second) and the power absorbed by the system (in Watt). Measurements pursuant to LM-79-08 or equivalent protocols must be carried out by accredited organisations with accreditation that specifically includes electrical and photometric measurements.

Drives

220602 [W]

High-efficiency electric motor

- a. an electric motor designed for a direct connection to the power grid,

Consisting of: an electric motor that complies with the IE4 efficiency class measured in accordance with NEN-EN-IEC 60034-30-1:2014.

- b. an electric motor designed for a variable rpm that is not directly connected to the power grid

Consisting of: an electric motor that complies with the IE4 efficiency class in accordance with NEN-EN-IEC 60034-30-2:2016, an electronic speed controller, an integrated step-down gear that is not a worm gearbox (when installed).

Explanation:

Synchronous motors (e.g. DC motors) can be submitted under category b.

Drying/humidifying

220701 [CHANGED]

Energy-efficient clothes dryer

Intended for: the drying of the surface of objects,
and consisting of: gas-fired infrared panels.

220703

Gas-fired infrared panels for drying surfaces

Intended for: the drying of the surface of objects,
and consisting of: gas-fired infrared panels.

Explanation:

Solely the panels are eligible: the entire drying tunnel is not eligible.

220705

Absorption dryer

Intended for: the regenerative drying of drying air by means of absorbent fluid for processes
and consisting of: a conditioner, regenerator, hot and cold pump cisterns, level control and temperature control, liquid/liquid heat exchanger (when installed) for the separation of the hot and cold hygroscopic fluid circuits

220713

Steam dryer

Intended for: the drying of products containing moisture in direct contact with overheated steam in an enclosed system sealed completely from the outside air, as a result of which steam is generated that is utilised by the dryer,
and consisting of: an enclosed steam-drying installation, steam circulation pipe, compressor or recirculation fan, superheater, steam exhaust pipe, condenser, condensate discharge (when installed).

220715

Heat exchanger for air dehumidification

Intended for: the cooling, drying and reheating of the air flow in the dehumidification process, as a result of which the power requirement is significantly decreased by the inclusion of the heat exchanger,
and consisting of: a heat exchanger.

Explanation:

The air to be dried is first cooled in a heat exchanger and then after-cooled in an evaporator. The cooled and dried air is then reheated in the cooling installation's heat exchanger and condenser.

220719 [W]

UV-A LED drying unit

Intended for: the drying of UV-drying paints, coatings and fillers,
and consisting of: a frame with a UV-A LED light source, LED driver.

220720 [W] [CHANGED]

Energy-efficient crate dryer

Intended for: the drying of washed plastic crates for food,
and consisting of: a crate drying machine that removes moisture using centrifugal force and compressed air. The residual moisture content after drying must be less than 5 grams per crate.

Energy reuse

220801 [W]

System for cooling and heating closed or semi-closed horticultural glasshouses

Intended for: the alternate extraction and supply of heat, in which the surplus heat is stored temporarily for supply when there is a demand for heat,

and consisting of: heat exchanger(s) with an integrated fan, pump, day buffer tank (when installed), distributor (when installed), heat pump in accordance with code 221103 (when installed), aquifer in accordance with code 251201 (when installed).

220802

Condensing heat exchanger for steam boilers or production or drying processes

a. Intended for: the recovery of heat from the flue gases of steam boilers with a condensing heat exchanger used for production processes (that do not generate electricity),

and consisting of: a condensing heat exchanger, condensate treatment unit (when installed), residual heat storage tank (when installed);

b. Intended for: the recovery of heat with a condensing heat exchanger from the exhaust gases from production processes or drying processes (that do not generate electricity), other than use in horticultural greenhouses,

and consisting of: a condensing heat exchanger, condensate treatment unit (when installed), residual heat storage tank (when installed).

Explanation:

This does not relate to a condensing heat exchanger used to recover heat from the flue gases of Heating boilers intended for heating commercial buildings or horticultural greenhouses.

220809 [W]

Energy-efficient dish rinsing or dish washing machine

Intended for: rinsing or washing,

and consisting of: a dish rinsing machine, dishwasher or washing machine with integrated heat recovery. The maximum amount of the investment eligible for the Energy Investment Allowance is € 5,000 per wash tank.

220813

Heat recovery system from cooling or compressed air installations

a. Intended for: the recovery of heat released from cooling installations used to cool products or processes,

and consisting of: a heat exchanger, heat transport pipe⁹, heat pump (when installed), and residual heat storage tank (when installed). The heating network¹¹ is not eligible;

b. Intended for: the recovery of heat released from compressed-air installations,

and consisting of: heat exchanger, heat transport pipe⁹ and residual heat storage tank (when installed). The heating network¹¹ is not eligible.

Explanation:

The cooling or compressed-air installation is not eligible in its entirety.

220814 [W]

System for the utilisation of waste heat'

Intended for: the recovery of waste' heat at the source and transport of the waste heat to heat processes
and consisting of: a waste heat transport duct⁹, heat exchanger at the waste heat source (when installed), heat distribution network¹⁰ (when installed), heat exchanger between the heat distribution network and the heating network¹¹ (when installed).

Heating networks¹¹ are not eligible.

The system for the utilisation of waste heat shall supply at least 70% of the energy content in the form of waste heat or at least 70% of the energy content in the form of waste heat in combination with sustainable heat¹².

Explanation:

See code 210803 for buildings.

220816

Flue gas heat exchanger

Intended for: heat recovery from flue gases,

and consisting of: a corrosion-resistant flue gas/air heat exchanger, air ducts (when installed), a control system (when installed).

The heat distribution network¹⁰ is not eligible.

220817 [W] [NEW]

Energy saving in repeating batch processes

Intended for: temporarily storing of heat or cold recovered by respectively cooling or heating of repeating batch processes, in which not more than 7,000 batches each year are produced.

and consisting of: a buffer tank for storage of heat or cold with piping and pumps, heat exchanger (when installed), control system (when installed).

221102

Organic Rankine Cycle of Kalinacyclus

Intended for: the conversion of heat into mechanical or electrical energy, in which use is made of waste heat',

and consisting of: condenser, evaporator, pump, turbine, separator (when installed), heat exchanger (when installed), generator (when installed), connection to the electric grid (when installed).

220603

Braking energy recovery from production facilities

Intended for: the recovery of electrical energy generated on braking rotating machine parts,

and consisting of: brake energy recovery system, power electronics (when installed).

Management/control

220909

Energy-efficient climate control in horticultural glasshouses

a. plant temperature camera

Intended for: the configuration of screens and ventilation in horticultural glasshouses on the basis of measurements of the temperature of the crop,

and consisting of: infrared plant temperature camera, control software;

b. fruit temperature sensors

Intended for: the control of moisture levels on the basis of measured fruit temperature,

and consisting of: fruit sensors, control software;

c. pyrheliometer

Intended for: the control of screens on the basis of measured heat emissions from the horticultural glasshouse,

and consisting of: pyrheliometer, control software;

d. gas analysis apparatus

Intended for: the automatic configuration of screens and ventilation in horticultural glasshouses on the basis of measured air quality,

and consisting of: a combined ethylene/NO_x/CO_x gas analysis apparatus, control software, a connection to the climate-control computer.

For the category a, b, c and d, the climate-control computer and any network components are not eligible.

220911 [W]

Capacitors

Intended for: the reduction of power losses by the improvement of the power factor ($\cos \varphi$) by at least 0.10 in existing processes,

and consisting of: capacitors.

220912 [W] [CHANGED]

Energy-efficient UPS

Intended for: the supply of electricity for a limited period in the event of a power failure,

and consisting of:

a three-phase static UPS. The emergency power engine and batteries are not eligible.

The efficiency of the UPS must be at least:

- at power outputs lower than or equal to 40 kVA: 95.0%,
- at power outputs greater than 40 kVA and lower than or equal to 200 kVA: 95.5%,
- at power outputs greater than 200 kVA: 96.0%.

The efficiency must be determined in accordance with NEN-EN-IEC 62040-3:2011, in operating mode and with a UPS load of 50%. If a UPS has more than one mode, all modes must fulfil the above efficiency requirement.

220913 [W]

Intelligent local heat network

Intended for: facilitating an intelligent local heat distribution system that is used to balance the supply and demand of the various users and producers,

and consisting of: a measurement and control system in combination with software to provide a real-time link between producers and users within the energy network.

Explanation:

Several users and several producers must be connected to the energy network. The actual energy network is not eligible.

220914 [NEW]

Appendages for compressed air installations

a. Valve in compressed air system

Intended for: shutting down a compressed air line for a production line that is temporarily inactive

and consisting of: valve in compressed air line, monostable air nozzle damper, speed control valve, flowmeter (when installed);

b. pulse valve in compressed air system

intended for: delivering blow air in a pulsated manner to production machines

and consisting of: pulse blow valve, blow nozzles (when installed), valve (when installed);

c. standby valve in compressed air system

intended for: reduction of compressed air pressure in the production machine in standby mode

and consisting of: standby valve

d. pressure controlled vacuum ejector

intended for: reduction of compressed air use by shutting down compressed air intake when reaching the designated level of vacuum

and consisting of: pressure controlled vacuum ejector, vacuum pad (when installed)

Utilities

231002 [W]

Cogeneration plant⁵ powered other than by a piston engine⁶

Intended for: the simultaneous generation of heat and power with a nominal electrical power output of up to 300 MWe subject to the condition that the average total annual energetic efficiency⁴ is at least 67%. The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 600 per kW electrical output**. The electrical power output is determined by the nominal motor power, and consisting of: cogeneration plant, connection to the electric grid (when installed).

A cogeneration plant with a newly installed nominal electrical power output of greater than or equal to 300 MWe is not eligible for the Energy Investment Allowance.

The newly installed nominal electrical power output of a cogeneration plant is determined on the basis of the combination of the new facilities, where "the combination of the new facilities" means all the available new equipment connected together for the production of electricity generated by a cogeneration plant.

Conversie

231101 [W]

Fuel cell system

Intended for: the simultaneous generation of heat and electrical energy in which a fuel is converted directly into electrical energy,

and consisting of: fuel cell and fuel reformer (when installed).

Energy saving in the production chain

220814 [W]

System for the utilisation of waste heat

Intended for: the recovery of waste heat at the source and the transport of the waste heat⁹ for heating in processes,

and consisting of: a waste heat transport duct⁹, a heat exchanger at the waste heat source (when installed), a heat distribution network¹⁰ (when installed), a heat exchanger between the heat distribution network and the heating network¹¹ (when installed).

Heating networks¹¹ are not eligible.

The system for the utilisation of waste heat shall supply at least 70% of the energy content in the form of waste heat or at least 70% of the energy content in the form of waste heat in combination with sustainable heat¹².

Explanation:

See code 210803 for buildings.

221005 [W]

Transport duct for the supply of CO₂ gas to horticultural businesses

Intended for: the fertilisation of crops in horticultural glasshouses,

and consisting of: a pipe between the external source and the horticultural glasshouse, CO₂ cleaning equipment (when installed), CO₂ compressor/fan for CO₂ transport to the horticultural glasshouse (when installed).

The distribution system for CO₂ in the glasshouse, CO₂ capture, CO₂ storage in the ground and a CO₂ compressor for storage in the ground are not eligible.

Other

221213

Flue gas cleaning for CO₂ fertilisation

Intended for: the cleaning of flue gases from the power plant of a cogeneration plant subject to the condition that the cleaned gases are used for the purposes of CO₂ fertilisation in horticultural glasshouses,

and consisting of: flue gas cleaner (reactor), flue gas condenser.

Explanation:

This relates to flue gas cleaning installations for cogeneration plants, not to CO₂ dosing installations.

221215 [W]

Gas-fired high-pressure cleaner

Intended for: the cleaning of surfaces with high-pressure hot water, where relevant with the simultaneous dosing of cleaning agents. The appliance is measured in accordance with NEN-EN 1196, in which the indirect efficiency is at least 100% at low power, the annual emissions of NO_x are not more than 60 ppm and the annual emissions of CO are not more than 160 ppm. The annual emissions of NO_x and CO are based on dry combustion gases and stoichiometric combustion,

and consisting of: gas-fired high-pressure cleaner, standard cleaning lance (when installed), standard high-pressure hose (when installed).

Explanation:

A high-pressure cleaner with a Gastec QA Low-NO_x and a High-Efficiency label in accordance with the approval requirements governing gas-fired high-pressure cleaners complies with the aforementioned specification.

221220 [W]

Speed-regulated vacuum pump for milk extraction installations

Intended for: the vacuum facility of milk extraction installations,
and consisting of: vacuum pump with speed control.

221221

High-frequency high-efficiency charger for traction batteries

Intended for: the charging of lead-acid traction batteries,
and consisting of: high-frequency high-efficiency charging unit that charges the traction batteries with an overall efficiency score higher than 24 as measured in accordance with the measurement protocol KEMA 74100151-CES/NET 12-3187.
The traction batteries are not eligible.

Explanation:

A high-frequency high-efficiency charger with a BMWT efficiency label 1 complies with the aforementioned specification.

221222 [W]

Hydro-wing system for shrimp fisheries

Intended for: the shrimp fishery industry
and consisting of: hydrodynamically shaped wing, wheels, operating equipment, bobbin wire (when installed). The fishing nets are not eligible

221223

Membrane electrolysis with zero-gap technology

Intended for: the limitation of excess potential in membrane electrolysis processes, with the cathodes being positioned against the membranes using mattresses, filling up the space between the anodes and cathodes (zero-gap technology),
and consisting of: cathodes, mattresses, membranes.

221224 [W]

Pulsed electric field installation

Intended for:

- a. the preservation (pasteurisation) of liquid foodstuffs through the use of pulsed electric field (PEF) technology;
 - b. making tuber and root crops suitable for further processing by perforating the cell wall by means of PEF technology,
- and consisting of:* a PEF generator, a PEF treatment room, a modification to the existing power connection (if necessary).

C. Means of transport

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340000 [W]

Technical facilities for energy saving in or on existing means of transport²

The energy saving must be at least 0.15 Nm³ and no more than 1.0 Nm³ natural gas equivalent (NGE) per invested euro per year. The benchmark for existing processes is the historical energy consumption⁸.

The energy saving must be the demonstrably direct result of the use of the equipment to which the investment relates.

Technical facilities that do not make the means of transport itself more energy-efficient but rather conserve energy indirectly are not eligible for the Energy Investment Allowance. This applies e.g. to the use of intermodal transport or route optimisation.

The energy saving must be based on the same driving or shipping route, using the same goods and a maximum load.

Technical facilities in or on means of transport must achieve energy saving by:

- a. improving the energy efficiency by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures;
- b. reducing the heating or cooling load by:
 - thermal insulation;
 - the reduction of losses due to ventilation or draughts;
- c. reusing heat by:
 - heat recovery;
- d. using efficient lighting by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures.

Note: see Part 5 for the conversion factors for calculations of energy saving

Explanation:

When parts of an existing means of transport are being replaced, code 340000 is applicable.

When a fleet of transport vehicles is being expanded (expansion of capacity), code 440000 is applicable to the expansion.

440000 [W]

Technical facilities for energy saving in or on new means of transport²

The energy saving must be at least 0.15 Nm³ and no more than 1.0 Nm³ natural gas equivalent (NGE) per invested euro per year. The benchmark for new means of transport is the average customary energy consumption of similar technical equipment for comparable new means of transport in the relevant sector.

The energy saving must be the demonstrable direct result of the use of the equipment to which the investment relates.

Technical facilities that do not make the means of transport itself more energy-efficient but rather conserve energy indirectly are not eligible for the Energy Investment Allowance. This applies e.g. to the use of intermodal transport or route optimisation.

The energy saving must be based on the same driving or shipping route, using the same goods and a maximum load.

Technical facilities in or on means of transport must achieve energy saving by:

- a. improving the energy efficiency by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures;
- b. reducing the heating or cooling load by:
 - thermal insulation;
 - the reduction of losses due to ventilation or draughts;
- c. reusing heat by:
 - heat recovery;
- d. using efficient lighting by:
 - the use of automated measurement and control instruments;
 - the use of more efficient equipment;
 - additional efficiency improvement measures.

Note: see Part 5 for the conversion factors for calculations of energy saving

Explanation:

When a fleet of transport vehicles is being expanded (expansion of capacity), code 440000 is applicable to the expansion.

When parts of an existing means of transport are being replaced, code 340000 is applicable.

Heating

241101

Heat pump for ships or existing trains

Intended for: the heating of ships or existing trains,

and consisting of: heat pump or conversion kit for the modification of existing air-conditioning systems for heating purposes.

Refrigerating/freezing

240201 [W]

Indirect drive refrigeration units

Intended for: the use of an indirect drive refrigeration unit that is powered by a lorry's engine, with a refrigerating output of at least 5 kW and used for the transport of goods on road vehicles,

and consisting of: hydraulic or mechanical transmission connected to the lorry engine, generator (when installed).

Explanation:

Solely the transmission is eligible: the entire refrigerating unit is not eligible.

240202 [W]

Cryogenic transport refrigeration

Intended for: the refrigeration of goods during transport,

and consisting of:

- a. cryogenic cooling installation with CO₂ as a coolant, storage tank for liquid CO₂;
- b. a cooling system that uses chill generated by the expansion of LNG.

Explanation:

Other cryogenic transport cooling is not eligible for the Energy Investment Allowance.

240204

Air curtain in conditioned transport

Intended for: the limiting of energy loss with an air flow during loading and unloading of means of transport for conditioned transport,

and consisting of: an air curtain.

240205

Movable bulkheads in conditioned transport

Intended for: the limitation of cooling losses at refrigerated transport by reducing the size of the refrigerated space,

and consisting of: movable bulkheads that can reduce the size of the refrigerated space.

240206

Eutectic transport cooling

Intended for: the refrigeration of goods during transport,

and consisting of: eutectic pack, extraction circuit (when installed).

Explanation:

The cooling machine on the vehicle, when installed, is not eligible. A land-side cooling machine must comply with code 220212.

240207

Stationary air conditioner

Intended for: the cooling of a lorry's cab when the engine is not running, and consisting of: stand-alone air-conditioning, battery protection (when installed).

Explanation:

Stationary air conditioners are only intended for lorries. Climate control systems for buildings must comply with code 211104.

Drives

240601 [W]

High-efficiency electric motor

a. an electric motor designed for a direct connection to the power grid,

Consisting of: an electric motor that complies with the IE4 efficiency class measured in accordance with NEN-EN-IEC 60034-30-1:2014.

b. an electric motor designed for a variable rpm that is not directly connected to the power grid

Consisting of: an electric motor that complies with the IE4 efficiency class in accordance with NEN-EN-IEC 60034-30-2:2016, an electronic speed controller, an integrated step-down gear that is not a worm gearbox (when installed).

Explanation:

Synchronous motors (e.g. direct current motors) can be submitted under category b.

240609

Propeller shaft-driven generator for ships

a. **Intended for:** the generation of electricity in ships by installing a coupling with a hydraulic pump on the propeller shaft, in which a hydraulic motor drives the generator,

and consisting of: coupling, hydraulic pump, hydraulic motor, generator;

b. **Intended for:** the generation of electricity in ships by the installation of a coupling on the propeller shaft, where the generator is driven directly,

and consisting of: coupling, generator, frequency converter.

240612 [W]] [CHANGED]

Energy-efficient marine engine

a. **Intended for:** the main propulsion of an existing inland navigation vessel, with a nominal engine power of at least 250 kW,

and consisting of: a marine diesel engine with a fuel consumption of less than 195 g/kWh as measured in accordance with NEN-ISO 3046-1:2002 using the maximum permitted tolerance of 5% described in this standard.

The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 125/kW rated power output**;

b. **Intended for:** the propulsion of an existing inland navigation vessel, with a nominal engine power of at least 250 KW, where multiple marine diesel engines are coupled to a single propeller shaft and where one or more marine diesel engines can be switched off,

and consisting of: marine diesel engines with a fuel consumption of each marine diesel engine of less than 195 g/kWh as measured in accordance with NEN-ISO 3046-1:2002 using the maximum permitted tolerance of 5% described in this standard, a coupling in which the power of multiple marine diesel engines is transmitted to one propeller shaft.

The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 175/kW rated power output**.

c. **Intended for:** the propulsion of an inland navigation vessel, with the engines in a diesel-electric set-up being used as the drive system,
and consisting of: marine diesel engines with a fuel consumption of each marine diesel engine of less than 195 g/kWh as measured in accordance with NEN-ISO 3046-1:2002 using the maximum permitted tolerance of 5% described in this standard, an electric motor on the main shaft.

Explanation:

The energy-efficient marine engine under a and b is eligible solely when it replaces a marine engine in an existing vessel for inland navigation. Marine engines in new vessels for inland navigation are not eligible under a and b.

Solely the main engine for the propulsion of the vessel for inland navigation is eligible. The engines powering the bow thrusters and other applications are not eligible.

240614

Hybrid power take-off (PTO) drive

Intended for: powering equipment on vehicles for transport by road,
and consisting of: batteries, an electric motor, a control system, a facility for brake energy regeneration (when installed), power electronics (when installed).

240617 [W]

Co-steering and retractable rear axle for towing vehicles

Intended for: a co-steering and retractable rear axle for towing vehicles in a tractor-trailer combination,
and consisting of: an assembly of rear axles, at least one of which actively steers and one of which can be retracted.

Co-steering rear axles and retractable rear axles or separately installed axles underneath lorries, trailers and semi-trailers are not eligible.

Explanation:

A tractor-trailer combination is a combination in which the semi-trailer is connected by means of a kingpin on the fifth wheel coupling of the towing vehicle (the tractor). A tractor has no transport capacity of its own. Not the entire tractor is eligible. In this case, a lorry is defined as a carrier vehicle or sided lorry in which the load is attached directly to the chassis of the towing vehicle in a loading body, cover, container or tank.

240618 [W] [NEW]

Fuel cell system on means of transport

Intended for: the generation of electrical energy whereas a fuel is converted directly into electrical energy,
and consisting of: fuel cell and fuel reformer (when installed).

Energy reuse

240606

Braking energy recovery from electric motors

Intended for: the recovery of electrical energy generated on braking electric motors and potentially limiting start-up currents by means of power electronics,

and consisting of: brake energy recovery system, fly wheel (when installed), super-capacitor (when installed), chopper installation (when installed), frequency control (when installed), power electronics/power control motor (when installed).

Systems in electric forklift lorries are not eligible.

240801

Heat recovery on an inland navigation vessel

Intended for: the recovery of heat from the engine of an inland navigation vessel,

and consisting of: a heat exchanger, a heat transport pipe⁹ (when installed), a buffer tank (when installed).

The heating network¹¹ is not eligible.

Management/control

240906

Tyre pressure control system

a. *Intended for:* adjustment from the cab of the most ideal tyre pressure for agricultural vehicles depending where the vehicle is located at that moment: in the field or on the paved road,

and consisting of: an air compressor or a connection to compressed air, a control unit, a compressed air storage tank (when installed), rotating compressed air connections and air nozzles (when installed), a display (when installed);

b. *Intended for:* the automatic monitoring and correction of the programmed tyre pressure of vehicles for road transport,

and consisting of: an automatic control unit, rotating compressed air connections, integrated valves, a compressed air storage tank (when installed).

240908

Start-stop system for lorry engine

Intended for: remote starting and stopping of lorry engines,

and consisting of: start-stop system, remote control.

Other

241201 [W]

Lightweight composite dumper

Intended for: the transport of bulk goods by road,

and consisting of: composite dumper, tipping cylinder (when installed), tipping frame (when installed).

241202

Side skirts

Intended for: the reduction of the aerodynamic resistance of vehicles for the transport of goods by road,

and consisting of: closed panels that seal off the open spaces between the wheels of motor cars, trailers, tractors and semi-trailers.

241211 [W]

Hydrodynamic anchor hawse holes and anchors

Intended for: the reduction of Aerodynamic resistance of an inland navigation vessel.

and consisting of: anchor, anchor hawse hole

The maximum amount of the investment eligible for the Energy Investment Allowance is **€ 20.000 per combination of anchor and hawse pipe.**

Explanation:

This concerns an anchor that fully covers the hawse hole when retracted and that constitutes a single whole with the ship's skin.

241212

Extension of an existing inland navigation vessel

Intended for: the more efficient transport of cargo by an existing vessel for inland navigation,

and consisting of: a structure inserted between hull sections, to increase the inland navigation vessel's cargo capacity.

241213 [W]

Road train (LHV)

Intended for: the transport of goods by road,

and consisting of:

a. a dolly;

b. an intermediate semi-trailer with a fifth wheel coupling.

Explanation:

Solely the dolly or the intermediate semi-trailer is eligible. Semi-trailers, centre-axle trailers and tractors are not eligible.

241214

Double loading floor system

Intended for: the flexible creation of an additional loading floor in closed lorries or trailers,

and consisting of: vertical rails, crossbeams, a fastening system.

241215 [CHANGED]

Energy storage on means of transport

Intended for: the storage of electricity from a generator

and consisting of:

a. a lithium battery, a current/voltage converter, a control system;

b. redox flow battery, a current/voltage converter, a control system.

241216

Lightweight loading body for commercial vehicles

- a. **Intended for:** road transport using commercial vehicles with a permitted maximum mass of 3,500 kg, and consisting of: a closed loading body with a maximum weight (excluding tailboard) of 500 kg;
- b. **Intended for:** refrigerated road transport using commercial vehicles with a permitted maximum mass of 3,500 kg, and consisting of: an insulated loading body with a maximum weight (excluding tailboard) of 600 kg.

Explanation:

Solely the loading body is eligible, not the entire vehicle.

221221 [W]

High-frequency high-efficiency charger for traction batteries

Intended for: the charging of lead-acid traction batteries,
and consisting of: high-frequency high-efficiency charging unit that charges the traction batteries with an overall efficiency score higher than 24 as measured in accordance with the measurement protocol KEMA 74100151-CES/NET 12-3187.
The traction batteries are not eligible.

Explanation:

A high-frequency high-efficiency charger with a BMWT efficiency label 1 complies with the aforementioned specification.

241222

Collapsible shipping container

Consisting of: a collapsible shipping container, the volume of which can be reduced to no more than one fourth of its volume.

241223 [W] [NEW]

Spud pole for existing work vessel

Intended for: maintaining stability in an existing work vessel during the execution of work,
and consisting of: spud pole,
The maximum amount of investment eligible for energy investment allowance is **€ 20.000 for each spud pole**.
Spud poles for inland transport ships, tugboats and push boats are excluded from Energy Investment Allowance.

Explanation:

A spud pole only qualifies if it is constructed in an existing work vessel. Work vessels do not transport cargo, but are used for building and reconstruction works in or near waterways. Examples are a crane ship and/or dredging ship.

251115 [W]

Solar panels or film for electricity generation on means of transport

Intended for: the generation of electrical energy from sunlight on means of transport,
and consisting of: panels or film with photovoltaic solar cells, current/voltage converter (when installed), battery (when installed).

D. Sustainable energy

Generic	Code	Page
- Technical facilities for the use of sustainable energy.....	450000	63
Equipment specified in specific terms by function		
• Sustainable heat		
- Solar thermal collector system	250101	63
- Roof or facade panels with integrated solar collector	250103	63
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The equipment subject to investments in this Part must have the effect of reducing the use of fossil fuels by using sustainable energy for at least 70% of the energy content. Sustainable energy includes solar energy, wind energy, hydroelectric energy, the use or storage of ambient heat and biomass³.

450000 [W]

Technical facilities for the use or application of sustainable energy

The facility must reduce the use of primary energy (petroleum, coal, natural gas) by using solar energy or hydroelectric power for at least 70% of the energy content.

The facilities must achieve the energy saving by:

- a. converting solar energy into electricity or heat (except for the use of passive solar energy);
- b. converting hydro-power into electrical energy or mechanical energy.

Sustainable heat

250101 [W]

Solar thermal collector system

Intended for: the heating of water or air,

and consisting of:

- a. a solar collector with a total aperture area of less than 200 m², residual heat storage tank (when installed), heat exchanger (when installed), reheater integrated into the tank (when installed), photovoltaic solar cells integrated into the air heater (when installed), adsorption or absorption cooling machine actuated mainly by solar energy (when installed);
- b. an uncovered solar collector with a total aperture area of at least 100 m², residual heat storage tank (when installed), heat exchanger (when installed), reheater integrated into the tank (when installed), adsorption or absorption cooling machine actuated mainly by solar energy (when installed).

The total aperture area of a solar collector is determined on the basis of the combination of the new facilities, where 'the combination of the new facilities' means all the available new equipment connected together for the production of heat generated by a solar collector.

Explanation:

Systems should preferably be installed by certified installers. Certified installers can be found in the quality register for the construction industry and for the installation and fitting industry, QBISnl (refer to <http://www.qbisnl.nl>).

250103 [W]

Roof or facade panels with integrated solar collector

Intended for:

- a. a cooling or heating of water;
- b. the use as a heat source for a heat pump;
- c. the charging, regenerating or balancing of cold or heat storage in the ground,

and consisting of: insulated prefabricated roof or facade panels with integrated solar collector, heat storage tank (when installed). For the roof or facade panels with integrated solar collector, the heat resistance of the insulating layers, $R = \Sigma(R_m) = \Sigma(d/\lambda)$ must be at least 4.50 m²K/W.

Roof or facade panels with an integrated uncovered solar collector installed on homes are not eligible.

Explanation:

An application for covered solar collectors and uncovered swimming-pool solar collectors can be submitted under code 250101 [w]. Systems should preferably be installed by certified installers. Certified installers can be found in the quality register for the construction industry and for the installation and fitting industry, QBISnl (refer to <http://www.qbisnl.nl>).

251105 [W]

Boiler or stove fired with biomass³

Intended for: the heating of buildings or processes by combustion of biomass or of gaseous or liquid energy carriers obtained from biomass, under the precondition that the heat efficiency is at least 80%,
and consisting of:

- a. boiler with a power output of less than 500 kW, biogas dehumidification system (when installed), separate system for the desulphurisation of biogas (when installed), biogas compressor (when installed), flue gas condenser (when installed), residual heat storage tank (when installed), flue gas cleaner (when installed), heat transport pipe⁹ (when installed). Heat distribution networks¹⁰ and heating networks¹¹ are not eligible;
- b. stove, flue gas cleaner (when installed).

The power output of a boiler fired with biomass or with gaseous or liquid energy carriers obtained from biomass is determined on the basis of the combination of the new facilities, where 'the combination of the new facilities' means all the available new equipment connected together for the production of heat generated by a boiler fired with biomass or liquid energy carriers obtained from biomass.

Explanation:

Boilers and stoves fired with biomass and installed in homes are not eligible.

Systems should preferably be installed by certified installers. Certified installers can be found in the quality register for the construction industry and for the installation and fitting industry, QBISnl (refer to <http://www.qbisnl.nl>).

251201 [W]

Heat or cold storage in the ground (aquifer)

Intended for: the storage of heat or cold in the ground, using groundwater as the storage medium, for the cooling or heating of commercial buildings or processes or the collective cooling or heating of homes,

and consisting of: closed system with groundwater sources/wells used for extraction and injection, groundwater pumps, heat exchanger directly connected to the groundwater source (when installed), heat exchanger that regenerates the groundwater source with cold or heat from outside air or surface water (when installed), heat transport pipe (when installed)⁹.

Explanation:

If an aquifer is used to cool or heat a single home, it is not a collective system, nor is it eligible.

If an aquifer is purchased in combination with a heat pump system to heat buildings, an application can be submitted for the whole combination under code 211103 [w] Heat pump.

251202 [W]

Ground heat exchanger

- a. Intended for:** the cooling or heating of water for use in commercial buildings, processes or collective systems for homes by means of an heat exchanger situated in the groundwater,
and consisting of: underground heat exchanger, pump, water-air heat exchanger in stables that directly emits the heat or cold from the soil (when installed), residual heat storage tank (when installed);
- b. Intended for:** the heating of water for use in commercial buildings, processes or collective systems for homes by means of an heat exchanger situated in the road paving,
and consisting of: pump(s), underground heat exchanger or heat conducting tubes in the road paving, excluding the road paving itself, residual heat storage tank (when installed);
- c. Intended for:** the pre-cooling or preheating outside air for the use in commercial buildings using underground tubes as the heat exchanger,
and consisting of: air-ground tubes with a diameter of up to 40 cm, plenum for air (when installed), automatically controlled central bypass (when installed);
- d. Intended for:** the cooling of electronic facilities,
and consisting of: underground heat exchanger, pump (when installed), water-air heat exchanger that directly emits the cold from the soil, fan (when installed).
- If a ground heat exchanger is used to cool or heat a single home, it is not a collective system and therefore it is not eligible.

Explanation:

If a ground heat exchanger is purchased in combination with a heat pump system to heat buildings, an application can be submitted for the whole combination under code 211103 [w] Heat pump.

Sustainable electricity generation

251102 [W] [CHANGED]

Solar panels for electricity generation

- Intended for:** the generation of electrical energy from sunlight by solar cells,
and consisting of: panels with photovoltaic solar cells with a combined peak power of more than 15 kW and connected to the electricity grid by means of a connection with a total maximum capacity of 3*80 A or less, connection to the electricity grid, active solar tracker (when installed), current/voltage converter (when installed), battery (when installed).

The combined peak power of the panels with photovoltaic solar cells is determined on the basis of the combination of the facilities, where 'the combination of the facilities' means all the available equipment connected together for the production of electricity generated by photovoltaic solar cells.

Photovoltaic solar cells on agricultural land or in nature reserves are not eligible.

Agricultural land is defined here as land according to article 4.1.e of regulation 1307/2013.

Nature reserve according to this regulation is defined as:

- Area as designated in the Bird and Habitat directive, article 1.1 of the nature preservation law.
- Areas designated under the Directive National Parks.
- Areas designated in nature Network Netherlands.

251115 [W]

Solar panels or film for electricity generation on means of transport

- Intended for:** the generation of electrical energy from sunlight on means of transport,
and consisting of: panels or film with photovoltaic solar cells, current/voltage converter (when installed), battery (when installed).

251116 [W]

Solar panels for electricity generation, not connected to the power grid

Intended for: the generation of electrical energy from sunlight by solar cells,
and consisting of: panels with photovoltaic solar cells which are not connected to the electricity grid, battery, active solar tracker (when installed), current/voltage converter (when installed).

Explanation:

Solar panels that are connected to the power grid must comply with the description of code 251102.

251117 [W] [CHANGED]

Grid connection for solar panels with SDE2016 or later

Intended for: the supply of electricity by panels with photovoltaic solar cells, panels which are not attached to buildings.

and consisting of: a connection to the medium- or high-voltage grid.

The one-off connection fee charged by the network operator is not eligible for the EIA.

Explanation:

This only relates to the investment costs for the grid connection for solar panels with SDE2016 or later, with the holder of the SDE decision also becoming the owner of the connection to the medium- or high-voltage grid. This connection includes the AC cables from the converters to the transformer station, the low-voltage rack, the transformer and the transformer building.

The grid connection for solar panels mounted on or to buildings is not eligible.

At the time of the submission of the application, this equipment must have received an SDE grant >€ 0 pursuant to the SDE scheme of 2016 or later.

251118 [W] [CHANGED]

Battery for the storage of sustainably generated electricity

Intended for: the storage of electrical energy,

and consisting of: battery, current/voltage converter (when installed).

Batteries of (internal) means of transportation are not eligible.

251110 [W]

Organic Rankine Cycle or Kalina cycle

Intended for: the conversion of heat into mechanical or electrical energy, in which use is made of sustainable heat¹²,

and consisting of: condenser, evaporator, pump, turbine, separator (when installed), heat exchanger (when installed), generator (when installed), and connection to the electric grid (when installed).

Conversion

251205 [W] [CHANGED]

Biofuel production installation

Intended for: the production of solid or liquid or gaseous fuels from woody or cellulose-like compounds in biomass, in which the energy carrier is used to generate heat and/or power and/or serve as transport fuel by: pyrolysis or gasification or torrefaction or thermal decomposition or chemical decomposition or enzymatic decomposition,

and consisting of: reactor in which one of the aforementioned processes takes place, digestion reactor for the digestion of C5 and C6 sugars (when installed), equipment for the separation and liquidation of biogas to bio LNG (when installed), equipment for storage and transshipment storage (when installed). Post-treatment equipment for the further processing of the reactor products other than bioLNG and the equipment for storage and transshipment storage related to this post treatment are not eligible.

251206 [W]

Wind-water mill

Intended for: the direct pumping of water using wind power,

and consisting of: rotor blades, tower, water pump.

251207 [W]

Swill digester

Intended for: the processing of kitchen and food waste ("swill") by means of fermentation,

and consisting of: fermentation facility, post-treatment of biogas (when installed).

E. Energy balancing

Generic	Code	Page
- Technical facilities for balancing energy in the energy infrastructure	460000	69
Specific equipment		
- Storage of electrical energy.....	260101	69
- Mobile generation of electricity	260102	69
- Conversion of electrical energy to hydrogen (Power to gas).....	260201	69
- Conversion of electrical energy to heat (Power to heat)	260301	70
- Storage of sustainably produced heat	260302	70
- Intelligent local energy network (Smart Grid)	260401	70
- Grid balancing through active control of production.....	260402]	70

460000 [W]

Technical facilities for balancing energy in the energy infrastructure

The energy saving must be at least 0.15 Nm³ and no more than 0.8 Nm³ natural gas equivalent (NGE) per invested euro per year.

The energy saving must be achieved by storing surplus sustainable energy and utilising it at a later time, or by utilising surplus energy by means of conversion. The energy saving must be the demonstrable direct result of the use of the equipment to which the investment relates (no energy monitoring).

The facilities must achieve the energy saving by:

- making use of electrical energy storage;
- making use of power to gas;
- making use of power to heat.

NB: see Part 5 for the conversion factors for calculations of energy saving.

Explanation:

The indirect energy saving are achieved by utilising surplus energy, which reduces the required use of fossil fuels (primary energy). You must provide a demonstration for these savings.

260101 [W]

Storage of electrical energy

Intended for: the stationary storage of surplus electrical energy through automatic activation or deactivation, depending on an electrical sub-market,

and consisting of:

- a. lithium battery, inverter, control electronics, optimisation software¹⁴;
- b. NaS battery, inverter, control electronics, optimisation software;
- c. redox flow battery, inverter, control electronics, optimisation software.

Explanation:

A battery that is not connected to an electrical sub-market through software is not eligible. See code 220912 for back-up systems (UPS); see code 241215 for storage in transport systems.

260102 [W] [NEW]

Mobile generation of electricity

Intended for: buffering and delivering electrical energy

and consisting of: transportable container containing lithium batteries with a capacity of at least 50 kVA, inverter, control electronics, built-in climate system (when installed), solar panels or solar foil (when installed), active solar tracker (when installed).

Generators with built-in combustion engine (hybrid systems) are not eligible.

260201 [W]

Conversion of electrical energy to hydrogen (Power to gas)

Intended for: the conversion of surplus electricity into hydrogen, not intended for production facilities for raw materials,

and consisting of: electrolyser, optimisation software¹⁴, compressor (when installed), buffer for hydrogen storage (when installed), connection to the natural gas network (when installed).

260301 [W]

Conversion of electrical energy to heat (Power to heat)

Intended for: the conversion of surplus electricity into heat with an electrical capacity greater than or equal to 100 kWe,

and consisting of: electric boiler, optimisation software¹⁴, heat storage tank (when installed).

Explanation:

An electric boiler that is not connected to the market, e.g. an electric tap water boiler, is not eligible.

260302 [W]

Storage of sustainably produced heat

Intended for: the long-term storage of heat with a temperature of at least 40°C, which is produced from renewable or sustainable sources,

and consisting of: insulated buffer tank with a minimum storage capacity of 1,000 m³, optimisation software¹⁴, heat exchanger (when installed), control system (when installed).

260401 [W]

Intelligent local energy network (Smart Grid)

Intended for: the facilitation of an intelligent local energy network that can be used to balance the supply and demand of various users and energy sources,

and consisting of: measuring and control system in combination with software to provide a real-time link between producers and users of the energy network.

Explanation:

The actual energy network is not eligible. This only involves applications to facilitate the production and use of sustainable energy.

260402 [W]

Grid balancing through active control of production

Intended for: the automatic control of production installations based on the electricity market,

and consisting of: optimisation software¹⁴, control unit (when installed).

Explanation:

The actual production installation is not eligible.

F. Energy transition

Specific equipment	Code	Page
- Electric ovens	270101	72
- Steam recompression	270102	72
- Infrared panels.....	270103	72
- Electrical equipment for production of steam and thermal oil	270104	72
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- Heat network ¹⁵	270202	72
- Cold network ¹⁵	270203	73
- CO ₂ capture for permanent storage (CCS).....	270301	73
- Technical facilities for CO ₂ -emission reduction in existing processes	270302	73

270101 [W]

Electric ovens

Intended for: the replacement of indirect gas-fired ovens,

and consisting of: electric oven, modification to the existing power connection (if necessary).

270102 [W]

Steam recompression

Intended for: the upgrading of steam to high temperature and pressure,

and consisting of: mechanical vapour compressor or thermal vapour compressor, connection to the steam network, modification to the existing power connection (if necessary), control system (when installed).

270103 [W]

Infrared panels

Intended for: the heating of work areas in spaces with an average height of more than 4 metres,

and consisting of: infrared panels, presence detector (when installed).

270104 [W] [NEW]

Electrical equipment for production of steam and thermal oil

Intended for: replacing gas-fired equipment that produces steam and thermal oil.

and consisting of:

a. Electrical equipment that produces steam or thermal oil, necessary adaptations in the grid connection (when installed).

b. hybrid equipment that produces steam using electricity as well as gas, necessary adaptations in the grid connection (when installed).

270201 [W]

Hydrogen blending

Intended for: the modification of existing installations for blending hydrogen with natural gas,

and consisting of: the necessary modifications to allow blending of hydrogen, local hydrogen production by means of electrolysis (when installed), measuring and control equipment (when installed).

270202 [W] [NEW]

Heat network⁵

Intended for: the recovery of heat at the source and transportation of the recovered heat to be applied in buildings and/or processes,

and consisting of: heat transport pipe⁹, heat exchanger at the heat source (when installed), heat distribution network¹⁰ (when installed), heat exchanger between heat distribution network and heating network¹¹ (when installed). Heating networks are not eligible.

At least 70% of the energy content used in the system should come from one of the following sources: cogeneration of heat and power (CHP) fed by biomass³ or green gas, waste incinerators, renewable energy sources¹⁶, residual heat¹⁷ from processes, power to heat¹⁸.

270203 [W] [NEW]

Cold network¹⁵

Intended for: the recovery of cold at the source and transportation of the recovered cold to be applied in buildings and/or processes,

and consisting of: cold transport pipe¹⁹, heat/cold exchanger at the cold source (when installed), cold distribution network²⁰ (when installed), heat/cold exchanger between cold distribution network and cold network (when installed). Cold networks²¹ are not eligible.

At least 70% of the energy content used in the system should come from one of the following sources: renewable energy sources¹⁶, residual heat¹⁷ from processes, surface water, heat or cold storage.

Explanation:

An application for Energy Investment Allowance for adiabatic air cooling can be submitted under code 210207.

270301 [W]

CO₂ capture for permanent storage (CCS)

Intended for: the separation, recovery, transport and storage of CO₂ from flue gases or other gas streams for permanent storage in aquifers,

and consisting of: CO₂ cleaning equipment, CO₂ compressor, transport pipe to the aquifer, scrubber (when installed), dryer (when installed), cooler (when installed), CO₂ buffer for temporary storage (when installed).

270302 [W] [NEW]

Technical facilities for CO₂-emission reduction in existing processes

Intended for: reduction of CO₂-emission in existing processes,

and consisting of: technical facility that is part of an emission reduction plan.

The following must be taken into account:

- the technical facility in itself is mentioned in the emission reduction plan;
- the sum of the emission reductions by all the technical facilities mentioned in the emission reduction plan must at least amount to 20% of the current emission;
- the emission reduction of each technical facility must at least be 1% of the current emission;
- the emission reduction plan qualifies to the conditions in chapter G under c;
- only investments that lead to scope 1 CO₂-emission reduction are eligible;
- the maximum amount of investment eligible for Energy Investment Allowance is **€ 150/ton reduced CO₂-emission per year**.

Explanation:

It is not required that all investments in the various technical facilities are contracted at the same time or executed at the same time. Contracts and production costs must be submitted before the deadline mentioned in this brochure.

Scope 1 CO₂-emission are all direct emissions by the company itself resulting from the use of fuels and the use of its own company vehicles. Indirect emissions resulting from the use of electricity generated outside the company facility is not considered scope 1.

G. Energy recommendations and customised recommendations

If you want to know what options you have to improve the energy efficiency, you need an energy recommendation or a customised recommendation. Under certain conditions, the related costs are eligible for the EIA. When you invest in equipment that is eligible for the EIA, you can include those costs in your application for the EIA. The other conditions are listed below.

a. Energy recommendations

The energy recommendation consists of an exploration of your options for improving the energy efficiency of your existing commercial building or business process. Therefore, this expressly does not concern new commercial buildings or business processes. The energy recommendations are recorded in a report.

The report must include at least the following:

1. A description of the object;
2. A summary of the overall energy management of the existing complete object;
3. An energy balance of the relevant parts of the existing complete object;
4. A summary of the options for and quantification of the energy saving;
5. A summary of the necessary organisational and administrative modifications;
6. An estimate of the forecast investment costs and forecast benefits.

The following additional requirements govern consumers with an energy consumption of more than 25,000 m³ natural gas (or natural gas equivalent) or more than 50,000 kWh electricity per year:

7. An insight into all measures with a payback time of up to five years;
8. A specification of 90% of the total energy consumption included in the energy balance unless a divergence from this requirement can be substantiated;
9. An explicit, simple plan for the implementation of the energy saving measures.

Additional conditions for energy recommendations

Furthermore, the energy recommendation (hereinafter: the recommendation) must fulfil the following conditions:

- The contract for the energy investment is awarded within 24 months of the time at which the contract for the recommendations was awarded.
- The energy investment for which the application is submitted is proposed in the recommendations and is specified in the prevailing Energy List at the time of the investment.
- The recommendation has been prepared by an independent third party.
- An application for the costs incurred for the recommendations may be submitted only once and, consequently, cannot be allocated to other energy investments.
- The recommendations must relate to existing complete commercial buildings or an existing complete process which are metered separately with respect to energy carriers.
- 50% of the total cost of combined energy and environment recommendations are attributed to the energy recommendations.

b. Customised recommendation

The costs of having customised recommendations prepared can be included in your application for the EIA.

The customised recommendations must comply with ISSO 75.2 and with BRL 9500, Part 4, EPA customised recommendations for existing utility buildings. The EPA customised recommendations are recorded in a report, which must include at least the following information:

1. The project details;
2. The current situation;
3. The underlying principles and considerations;
4. A list of individual measures with their standard payback time;
5. A list of the packages of measures with their payback times, together with an indication of the consequences for the quality of the indoor climate, thermal comfort and the probability of condensation in and on the structure;
6. The energy consumption at present;
7. The forecast energy consumption;
8. The payback time of the proposed packages of measures.

Furthermore, the following conditions must be fulfilled:

- If you submit an application for the cost of EPA recommendations, you must also invest in the package of measures in those recommendations.
- The contract for the energy investment is awarded within 24 months of the time at which the contract for the recommendations was awarded.
- The energy investment for which the application is submitted is proposed in the recommendations and is specified in the prevailing Energy List at the time of the investment.
- The recommendations must be prepared by a certified provider of customised recommendations (for certified advisers, refer to www.kbi.nl);
- An application for the costs incurred for the recommendations may be submitted only once and, consequently, cannot be allocated to other energy investments.
- The recommendations must relate to existing complete commercial buildings.

c. CO₂-emission reduction plan

The CO₂-emission reduction plan (hereinafter: plan) consists of an exploration of the possibilities to reduce CO₂-emissions from your existing process. New processes are explicitly excluded. The plan consists of a package of technical facilities with which a reduction of the total Scope 1 CO₂-emission will be achieved of at least 20% at last in 2030 compared to the Scope 1 CO₂-emission at the time of the creation of the plan.

The plan contains at least:

1. Description of the process;
2. An overview of the current total Scope 1 CO₂-emission from the process;
3. A CO₂-emission subdivision in the relevant parts of the existing process. The subdivision should cover at least 90 %;
4. Explanation of the method(s) of calculation used to determine the CO₂-emission;
5. An overview of the possibilities to CO₂-reduction and the quantification of those reductions;
6. An estimate of the expected investment costs per technical facility;
7. Action plan for planning and execution of the technical facilities mentioned in the plan.

Additional conditions for the CO₂-emission reduction plan

The plan must meet the following additional conditions:

- The contract for the first facility mentioned in the plan must be commissioned within 24 months starting from the establishment of the plan;
- The plan must be drawn up by an independent third party;
- The costs of the plan can only be submitted once in an application.

4. Changes compared to 2019

Built environment

The minimal required COP is raised to 3.0, because of the former requirement of 2.5 was met by the products of almost all suppliers.

A heat pump boiler with a halogen free coolant is added as a new description.

Following EU-regulations from now on the seasonal performance is taken into account to easily compare different equipment in a standard fashion. For this reason the description for heat pumps are adapted to this.

A new specification for cold or heat recovery systems from ventilation air with an air flow up to 1,000 m³ per hour is added to the Energy list. The energy use for these 'small' cold or heat recovery systems from ventilation air is determined according to NEN 5138, not according to NEN EN 13053, as required in code 210801. In this new specification NEN 5138 is referred to.

In the description of heat pump boiler with a halogen-free coolant is added as a component 'when installed', comparable to the other heat pump descriptions.

A differentiation is made between LED-spots and LED-downlighters on the one hand and LED-fixtures on the other hand to account for the differences in efficiency for the various types of LED-lighting.

In the description of air curtain with sensor directed automated control the word 'infrared' is removed. All types of sensors measuring outside and inside temperature are eligible.

The description flow regulation fan is replaced by the description energy efficient fan.

Animal sheds are equipped with cooling systems in recent years for reasons of animal welfare. Adiabatic cooling is the energy efficient version and is therefore added as a description to the list.

Processes

The description for energy-efficient crate dryer is changed. The capacity requirement of 1600 crates per hour is dropped. Reason for this is the fact that spin dryers are significantly more energy efficient than blow dryers.

The description for energy efficient UPS is changed. The rotary UPS is removed and therefore only the more energy efficient 3 phase static UPS is eligible.

The gas-fired heat pump or gas-fired absorption or adsorption heat pump is removed from the description heat pump. The electrical alternatives in the market are equal or better concerning efficiency.

The description is extended with COP-values at higher temperature lifts. The COP of a heat pump system is greatly dependent from temperature lift and at a higher temperature lift the advantage compared to gas-fired kettles will decline. The electrical heat pump is preferred over a gas-fired kettle even though the advantage in energy savings is smaller at a higher temperature lift.

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A great energy saving in industry in repeating batch processes may be achieved by recovering heat or cold in the production of one batch and applying that in the production of the following batch. The description is added to the Energy list.

Adiabatic precooler blocks at an air-cooled gas cooler are added as an option to the description for transcritical CO₂ refrigerator and/or freezer installation as well as to the description of energy efficient refrigerator and/or freezer installation. These components improve the energy efficiency of these refrigerator and/or freezer installations.

The required increase in heat resistance of the insulation of facades of existing green houses is raised to 2.0 m²K/W. This change causes equalization of the requirement with that for insulation in the built environment.

The description of LED illumination systems for horticultural greenhouses has been changed, so all types of illumination lighting are covered under this description.

With a heat bridge in which the lamps are driven by heat demand, meals in a catering industry kitchens and professional kitchens, are kept warm in an energy efficient way.

Compressed air is applied frequently in the industry. The energy saving potential in the field of compressed air installations is extensive. Therefore a new description is adopted in the Energy list in which four energy saving compressed air appendages are included.

The description of the fan with a high efficiency motor has been replaced by a description of an energy efficient fan.

In the description for the energy efficient tumble dryer, the tumble dryer directly heated with gas is removed. Only the electrical types are eligible.

The description low temperature air heater in horticultural greenhouses is removed, because this asset is never submitted.

Within the framework of the energy transition, the replacement of indirect gasfired oven by an electrical oven is stimulated. Due to this modification the description for gasfired (steam)convection oven has been removed.

Means of transport

The description of marine diesel engines has been changed due to the availability of modern energy efficient marine diesel engines, with a fuel consumption less than 195 g/kWh.

Spud poles more often are being applied in inland vessels. Recent research shows that spud poles generate energy savings if applied in inland working vessels. Due to this application the spud pole is incorporated in a new description.

Sustainable energy

The description for biofuel production installations is enlarged with post treatment equipment specifically for the production of BioLNG. Doing so the replacement of fossil fuels by means of green fuels for transport is stimulated.

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The House of representatives (Tweede Kamer) has requested not to stimulate solar panels if placed on agricultural land or nature reserves. In the new description solar panels sited on these locations are excluded.

By batteries for storage of sustainable electricity, batteries for intern means of transport are not eligible. The reason for this exclusion is to prevent applications for batteries for instance in a forklift truck. Means of transport have a separate description in the Energy list.

Energy Balancing

The usual diesel generators are inefficient and polluting. In recent years systems have been developed that are fully electric and a description for this is added to the Energy list.

Energy transition

A new description has been added to promote the replacement of gas-fired installations; This concerns electrical equipment for the generation of steam and heating thermal oil.

The construction of heat networks and cold networks is stimulated by including the piping between source and end user in the Energy Investment Allowance.

Companies must reduce their CO₂-emission significantly before 2030. To stimulate to achieve this goal, a description has been added to award investments leading to CO₂-emission reduction. These investments must be described in a CO₂-emission reduction plan.

5. Definitions and conversion factors

Definitions

¹ **Waste heat**

Waste heat is heat that is not utilised in the existing situation

² **Means of transport**

Vehicles for transport by road, vessels or railbound vehicles.

³ **Biomass**

Material that contains combustible constituents comprised solely or almost solely of carbonaceous compounds originating from a short CO₂ cycle, although the potential presence of carbonaceous compounds originating from a long CO₂ cycle in the material is inevitable. The co-firing or addition of plastics is not permitted.

The following materials are examples of biomass:

- timber waste, demolition wood, pruning wood, thinning wood and other ligneous material;
- straw, verge cuttings, thatch, manure and other agricultural residues;
- residues from the paper industry, provided that they are free of plastics;
- used paper and cardboard;
- dewatered paper slurry or dewatered sewage treatment sludge;
- crops cultivated specifically for use in the generation of sustainable energy, or parts of those crops;
- organic residues from the food and beverages industry.

⁴ **Total energetic efficiency**

The sum of the energetic efficiency of the generation of power and of two-thirds of the energetic efficiency of the generation of heat that can be used calculated on the basis of the lowest calorific value of the fuel that is used.

Explanation:

When calculating the total energetic efficiency, it is not necessary to deduct the power consumed by the cogeneration plant or the generator's conversion loss.

⁵ **Cogeneration plant**

A cogeneration plant is understood as an installation that generates heat and electricity or mechanical energy by the combustion of fuel and whereby the resultant heat is utilised for purposes other than the generation of electricity.

⁶ **Piston engine**

A piston engine is understood as an internal combustion engine with electric ignition or compression ignition.

⁷ **Waste**

Waste is understood as material to be disposed of definitively, non-selectively collected fractions of waste (residual waste, refuse and municipal refuse including street litter, swept litter, market refuse, the material from the clearance of illicit dumps and other litter) and selectively collected fractions of waste (from homes and from container parks).

⁸ **Historical energy consumption**

The historical energy consumption is understood as the total energy consumption measured over a representative period, prior to the time of the investment, in which the equipment is used under design circumstances, and based on the original descriptions of the equipment.

⁹ Heat transport pipe

A heat transport pipe is understood as the pipe between the heat source and the point where the heat is distributed to the local end users.

¹⁰ Heat distribution network

A heat distribution network is understood as a system of pipes diverging from the heat transport pipe for the purpose of the distribution of the heat to the local end users.

¹¹ Heating network

A heating network is understood as the system of pipes and appliances for the release of the heat in the end user's building.

¹² Sustainable heat

Sustainable heat is understood as the heat from investments specified in Part 3, Category D. Sustainable energy.

¹³ Server room

A server room is defined as a room with the primary function of accommodating IT equipment and allowing it to function in a building or on a floor with a different primary function.

¹⁴ Optimisation software

Optimisation software is defined as the software required to create a connection to one or more electrical sub-markets. This software controls the use of surplus sustainable energy, which reduces the required use of fossil fuels (primary energy) by automatically turning the equipment on or off.

¹⁵ Heat network or cold network

Aggregation of piping belonging together, connected and intertwined, accompanying installation and miscellaneous auxiliary equipment favouring the transport of heat. Excluded are pipes, installations and auxiliary means that are located inside the building or works of a consumer or producer and are intended to deliver heat or take away heat to or from that building or works.

¹⁶ Renewable Energy Sources

Energy from renewable non-fossil sources, namely wind energy, solar energy (thermal solar energy and photovoltaic solar energy) and geothermal energy, ambient energy, tidal energy, wave energy and other energy forms such as energy from the oceans, hydro-power, energy from biomass, gas from landfills, gas from waste water treatment installations and biogas.

¹⁷ Rest heat

Heat or cold that is generated inevitably as one of the products in industrial installations or electricity generation, that would otherwise end up unused in air or water with no connection to a district heating system or a district cooling system.

¹⁸ Power to heat

Conversion of excess electricity to heat using electrical power.

¹⁹ Cold transport pipeline

A cold transport pipeline is a pipeline between the cold source and the point of transition to a local distribution to end users.

²⁰ Cold distribution network

A cold distribution network is a network for use of cold from the transport pipeline to the local distribution to end users.

²¹ **Cold delivery network**

A cold delivery network is a network including installation parts intended for delivery of cold within the building of the end user.

Conversion factors

For the purposes of the EIA, the energy saving achieved by equipment are expressed in terms of Nm³ natural gas equivalent (NGE). Nm³ refers to the number of cubic metres of natural gas that the energy company uses to charge you for your gas consumption. The following conversion factors are applicable to the calculation of the various forms of energy saving in Nm³ NGE:

1 kWh of electricity	= 0.22	Nm ³ NGE;
1 litre of household fuel	= 1.2	Nm ³ NGE;
1 tonne of fuel oil	= 1,300	Nm ³ NGE;
1 tonne of coal	= 925	Nm ³ NGE;
1 litre of liquid propane	= 0.73	Nm ³ NGE;
1 litre of LPG	= 0.95	Nm ³ NGE;
1 litre of diesel	= 1.13	Nm ³ NGE;
1 litre of petrol for road transport	= 1.04	Nm ³ NGE;
1 m ³ of natural gas not from Groningen	= X	Nm ³ NGE; *
1 kg of gaseous H ₂	= 4.0	Nm ³ NGE;
1 tonne of gaseous O ₂	= 104	Nm ³ NGE;
1 tonne of liquid O ₂	= 260	Nm ³ NGE;
1 tonne of gaseous N ₂	= 65	Nm ³ NGE;
1 tonne of liquid N ₂	= 208	Nm ³ NGE;
1 tonne of liquid CO ₂	= 49	Nm ³ NGE.

**) The factor X is determined by dividing the lowest calorific value in MJ/Nm³ of the natural gas that is consumed by 31.65 MJ/Nm³.*

If a fuel is used that is not included in the above list, the conversion factor is calculated by dividing the lowest calorific value in MJ per unit of the relevant fuel by 31.65 MJ/Nm³.

6. Proposal for the Energy List 2021

You may submit proposals for additions to or amendments of the Energy List. You can download a submission form for your proposal from the website www.rvo.nl/eia. If you wish to submit such a proposal, you will need to state at least the information listed below. We cannot process proposals that do not include this information:

1. Name, address and telephone number(s), and email address(es) or website(s) where applicable;
2. Name of the equipment;
3. A comprehensive description of the equipment. This description must contain a technical substantiation for the functioning of the equipment. Furthermore, a clear explanation must be provided of the manner in which the energy saving are achieved.
If available, also provide technical or test reports that substantiate the functioning of the equipment;
4. A calculation of the energy saving per year. This is to be calculated on the basis of the difference between the energy consumption of the equipment and the energy consumption of the most comparable alternative (the benchmark). You must provide a substantiation for the calculation. Part 5 provides conversion factors for the calculation of energy saving in Nm³ natural gas equivalents;
5. The total investment costs required to purchase and commission the equipment (excluding VAT);
6. The forecast annual sales;
7. The business sector(s) in which the equipment can be used.
8. The equipment included in the Energy List is accompanied by a brief description. Your proposal needs to be accompanied by a proposal for the description of the equipment. The description should be prepared using the following format.

Title:

Intended for:

And consisting of:

Review of your proposal

Your proposal will be reviewed against a number of criteria to assess whether the equipment can be included in the summary of energy investments in the Energy List 2021. These criteria include:

- the standards for energy saving; see codes 310000, 410000, 320000, 420000, 340000, 440000 and 460000. This means that the energy saving achieved by the equipment are evaluated in relation to the required investment in this equipment;
- the potential applicability of the equipment;
- the acceptance and availability of the equipment in the Netherlands.
- The description of the equipment must not be limited to a single brand or manufacturer. In principle, all market parties must be able to supply the relevant energy economic equipment.

Proposals must be submitted by **no later than 1 September 2020** to:

energielijst@rvo.nl

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- For more information about applying for eHerkenning (e-Identity Token)
Internet www.eHerkenning.nl
(For specific questions about an e-Identity Token that you have already purchased, please contact the supplier of your e-Identity Token.)
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Internet www.belastingdienst.nl
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