Useful Tips for Small Power Plant Construction

For the production of electricity from renewable energy sources and the cogeneration of heat and power

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1 Introduction

This is an informative document titled "Useful tips for small power plant construction for the production of electricity from renewable energy sources and the cogeneration of heat and power" and intended mainly for future investors without experience in the field of electricity production from renewable energy sources (hereinafter: RES) or electricity production from the high-efficiency cogeneration of heat and power (hereinafter: CHP). This document includes all the information needed by a potential investor for the realisation of their business idea, from the initial activities to the final project implementation. There are different reasons why individuals or companies decide to construct RES and CHP production units. Some investors see this as a good business opportunity, some wish to contribute to the reduction of greenhouse gas emissions, and others are convinced of the advantages of energy independence. In addition to the formal requirements, the actual approach and the construction procedures depend to a great extent on the type of RES or CHP production unit.

A production unit is a combination of equipment and required installations that convert primary sources of energy into electricity for supply to the public network or to cover consumption at the relevant delivery point. Various sources, such as hydroelectric energy, wind power and solar energy, can be used for the production of electricity from RES. For CHP fossil fuels, biomass or biogas can be used. The purpose of this guide is to provide basic information, mainly for micro production units with a nominal capacity of up to 50 kW and for small production units not exceeding 1 MW. Local availability of the energy source and a suitable electricity infrastructure that enables the energy produced to be supplied to the electricity network, or the existence of a local electricity consumption facility play an important role in selecting the type of production unit.

This guide describes, step-by-step, the procedures for the construction of an RES or CHP production unit. Different types of production units and location suitability criteria are presented first. Then, the first steps in construction decision-making are described, including the required and recommended procedures an investor should follow before the decision to construct is made. After the decision to construct has been made, it is necessary to obtain all the required permits and approvals. This is followed by the construction of the production unit, its connection to the electricity network, and the commencement of its operation. In the final part of this guide, the procedure for including the production unit in the support scheme and financing possibilities are presented.

2 Types of production units

2.1 Solar energy (photovoltaics)

Solar energy is a natural resource which represents a big long-term potential for electricity production. Photovoltaics is the process of converting solar energy directly into electricity. The conversion process is clean and reliable since light is the only required source of energy. Photovoltaic modules are used to convert solar energy into electricity.

A special arrangement exists in the support scheme for the field of solar energy exploitation, since the reference costs for newly built units are changed often due to changes in the technology market. The details – including current support levels – are available on Borzen's web page. Reference costs are calculated from the year when the production unit is built, connected to the network and starts operating; they remain the same for 15 years. The investor is entitled to support for the next 15 years from the date of entry into the support system, which is specified in the Agreement on the provision of support and is usually the first of the month that follows the month when the Decison on the provision od support, a precondition for the contract, is issued The restriction for the entry of new units in the support scheme (annual quotas) is an additional particularity regarding solar power stations; however, this currently only applies to power stations that are not installed on buildings. More information regarding quota availability can be found on the Energy Agency of the Republic of Slovenia's web page (AGEN-RS).

2.1.1 Types of photovoltaic module

Most commonly used photovoltaic modules are composed of solar cells made of crystalline silicon. Solar cells made of monocrystalline silicon (mono c-Si) layers are black. Photovoltaic modules can achieve 14 to 18% efficiency. Photovoltaic modules with solar cells made of polycrystalline silicon (poly c-Si) are blue and can achieve 13 to 15% efficiency in the conversion of solar energy into electricity. Today, these two types make up almost 90% of the built-in modules' market share. Thin-film solar cells and photovoltaic modules represent the other types. Amorphous silicon (a-Si), copper indium selenide (CIS) and cadmium telluride (CdTe) are the most commonly used photovoltaic materials. Development in this field is intensive, manufacturers use various kinds of technologies and 6 to 11% efficiency can be achieved.

Types of production units 2

Location suitability 2.1.2

When installing solar-powered production units, the two most important factors are the orientation and pitch of the photovoltaic modules. For Slovenia, south-facing installations with a 30° pitch are the most suitable, although minor pitch deviations do not have a significant effect.

By using single-axle tracking of photovoltaic modules production can be increased from 20 to 25%, and from 30 to 35% using two-axle tracking. Data on solar radiation on horizontal surfaces for Slovenia is available on the ENGIS website. For areas within Slovenia the solar radiation on horizontal surfaces varies by less than 15%. There is greater solar radiation particularly in the Primorska region, in wine-growing regions and high-altitude regions. In addition to the location of the unit, mutual shading and shading from closer and more distant facilities is also very important and can be estimated using a shading measurement device. Production can also be negatively affected by overheating.

2 Types of production units

2.2 Hydropower

Hydropower is the most widely utilised source of RES in Slovenia. By using various water turbines the energy potential of watercourses is converted into mechanical energy, which is then converted into electricity using generators. In Slovenia this technology is well developed and well known.

Basic information for hydropower production units

Hydropower	Up to 50 kW	Up to 1 MW	Up to 10 MW
Specific investments (€/kW)	2.300	1.700	1.500
Typical annual production (kWh/kW)	4.000	3.500	3.500
Reference costs (€/MWh)	105,47	92,61	82,34

Source: Methodology for determining reference costs of electricity generated from renewable resources. Specific investments represent an approximate investment cost for the construction of the production unit per kW of installed power. Typical annual production is the typical amount of electricity produced by the production unit in one year per kW of installed power. Reference costs are used to determine the level of support in the support scheme, expressed in €/MWh (amount per kWh is obtained by dividing the table value by 1000).
The actual levels of support for the current year are published on Borzen's web page.

2.2.1 Location suitability

Production units are usually installed in locations with sufficient watercourse flow and slope. The available water power is calculated as the product of the water slope [m] and its flow rate [m3/s]. The ratio between the available watercourse slope and flow rate is the basis for choosing the most suitable turbine type. The essential precondition for utilising waterways in a particular location is the obtainment of a concession from the government.

Types of production units 2

Wind power 2.3

Utilising wind energy by converting it into mechanical energy to propel windmills and various other devices has been known about for centuries. Today, modern wind turbines with electric generators that generate electricity are used to harness wind energy.

Basic information for wind power production units

Wind power	Up to 50 kW	Up to 1 MW	Up to 10 MW
Specific investments (€/kW)	1.200	1.200	1.200
Typical annual production (kWh/kW)	2.100	2.100	2.100
Reference costs (€/MWh)	95,38	95,38	95,38

Source: Methodology for determining reference costs of electricity generated from renewable resources. Specific investments represent an approximate investment cost for the construction of the production unit per kW of installed power. Typical annual production is the typical amount of electricity produced by the production unit in one year per kW of installed power. Reference costs are used to determine the level of support in the support scheme, expressed in €/MWh (amount per kWh is obtained by dividing the table value by 1000).
The actual levels of support for the current year are published on Borzen's web page.

Location suitability 2.3.1

As regards wind-powered production units, the most important factors are the location and configuration of the surrounding terrain where it is planned to install the turbines. For larger investments it is necessary to measure the average wind speed and analyse its characteristics in the preceding stage. For a rough estimate of a location's suitability it is recommended that measurements are carried out over at least one year. The average annual wind speed, available location area and the possibility of transporting equipment and connecting to the electricity network make up the basis for the dimensioning of power and the production of wind turbines. The initial data for average wind speeds in Slovenia is available online in the Environmental atlas.

2 Types of production units

2.4 High-efficiency cogeneration of heat and electricity (CHP)

The cogeneration of heat and electricity is becoming an ever more important method of energy production, due to the fact that it achieves significantly greater efficiency than separate production. Its most widespread type is the use of CHP units using fossil energy sources, such as natural gas. Natural gas is used directly in an internal combustion engine (or gas turbine) that propels an electric generator, and the waste heat (e.g. from exhaust gasses) is used for the production of useful heat, for example for heating. Electricity can also be produced in several different ways by using wood biomass. Larger units have been in use for some time, whereas micro CHP units using wood biomass have only just started to appear in commercial use. It is important to know that only production units with high-efficiency cogeneration, i.e. where the total efficiency amounts to more than 75 % or 80 %, can be awarded (full) support.CHP units with a RES fuel source other than wood biomass are addressed according to the Regulation that concerns RES units, not CHP units.

Basic information for CHP units using fossil fuels up to 4000 hours*

CHP units using fossil fuel	Up to 50 kW	Up to 1 MW	Up to 10 MW
Specific investments (€/kW)	2.900	1.400	1.100
Typical annual production (kWh/kW)	3.500	3.500	3.500
Fixed part of reference costs (€/MW)	174,07	92,94	73,10
Baseline variable part of reference costs 2009 (€/MWh) **	59,64	59,39	44,69

Source: Methodology for determining reference costs of high-efficiency cogeneration. Specific investments represent an approximate investment cost for the construction of the production unit per kW of installed power. Typical annual production is the typical amount of electricity produced by the production unit in one year per kW of installed power. Reference costs are used to determine the level of support in the support scheme, expressed in €/MWh (amount per kWh is obtained by dividing the table value by 1000).

* CHP production units with less than 4000 full operating hours (quotient between the annual electricity produced in kWh and power in kW). This mainly includes units with seasonal operation where useful heat is used exclusively or predominately for heating.
The actual levels of support for the current year are published on Borzen's web page.

** The variable part of the reference cost is adjusted annually in accordance with the Regulation on supports for the electricity generated in cogeneration with high-efficiency and the forecast made by the Energy Agency of the Republic of Slovenia about reference market prices of energy products.
The actual levels of support for the current year are published on Borzen's web page.

Basic information for CHP using wood biomass up to 4000 hours

CHP using wood biomass	Up to 50 kW	Up to 1 MW	Up to 10 MW
Specific investments (€/kW)	-	4.500	3.500
Typical annual production	-	3.500	3.500
Fixed part of reference costs (€/MWh)	Individual consideration	293,27	221,27
Baseline variable part of reference costs 2009 (€/MWh) **	Individual consideration	33,43	31,46

Source: Methodology for determining reference costs of high-efficiency cogeneration. Specific investments represent an approximate investment cost for the construction of the production unit per kW of installed power. Typical annual production is the typical amount of electricity produced by the production unit in one year per kW of installed power. Reference costs are used to determine the level of support in the support scheme, expressed in €/MWh (amount per kWh is obtained by dividing the table value by 1000).

** The variable part of the reference cost is adjusted annually in accordance with the Regulation on supports for the electricity generated in cogeneration with high-efficiency and the forecast made by the Energy Agency of the Republic of Slovenia about reference market prices of energy products.
The actual levels of support for the current year are published on Borzen's web page.

Location suitability 2.4.1

Because heat generation is the predominant process in CHP, the amount of heat that can be used directly next to the unit should serve as the basis for dimensioning the size of the production units. The amount of required heat thus indirectly determines the total installed power of the production unit and the production of electricity. In principle, the same conditions apply in dimensioning the size of CHP units using fossil fuels (natural gas or other); however the investment costs are usually lower and the variable fuel costs are usually higher.

2 Types of production units

2.5 Biogas

The production and sale of energy from production units using biogas provides an economic foundation for the processing and recycling of numerous agricultural residues and by-products, various types of biological waste, organic industrial waste water and sewage discharge in a sustainable and environmentally-friendly manner. Biogas is mainly used for the production of electricity and heat; however, it can also be included in the gas supply network or used as a fuel for fuel cell vehicles.

Basic information for biogas plants using biomass

Biogas plants using biomass	Up to 50 kW	Up to 1 MW	Up to 10 MW
Specific investments (€/kW)	4.000	3.800	3.300
Typical annual production (kWh/kW)	6.800	6.800	6.800
Fixed part of reference costs (€/MWh)	118,72	111,75	96,18
Baseline variable part of reference costs 2009 (€/MWh)*	41,33	44,00	44,59

Source: Methodology for determining reference costs of electricity generated from renewable resources. Specific investments represent an approximate investment cost for the construction of the production unit per kW of installed power. Typical annual production is the typical amount of electricity produced by the production unit in one year per kW of installed power. Reference costs are used to determine the level of support in the support scheme, expressed in €/MWh (amount per kWh is obtained by dividing the table value by 1000).

* The variable part of the reference cost is adjusted annually in accordance with the Regulation on supports for the electricity generated from RES and the forecast made by the Energy Agency of the Republic of Slovenia about reference market prices of energy products.
The actual levels of support for the current year are published on Borzen's web page.

Basic information for biogas plants using biodegradable waste

Biogas plants using waste	Up to 1 MW	Up to 10 MW
Specific investments (€/kW)	4.800	4.500
Typical annual production (kWh/kW)	6.800	6.800
Reference costs (€/MWh)	139,23	129,15

Source: Methodology for determining reference costs of electricity generated from renewable resources. Specific investments represent an approximate investment cost for the construction of the production unit per kW of installed power. Typical annual production is the typical amount of electricity produced by the production unit in one year per kW of installed power. Reference costs are used to determine the level of support in the support scheme, expressed in €/MWh (amount per kWh is obtained by dividing the table value by 1000).
The actual levels of support for the current year are published on Borzen's web page.

Types of production units 2

Location suitability 2.5.1

Different substrates can be used for the production of biogas. Traditionally biogas production units were constructed near livestock farms, where liquid manure was used as the substrate. In addition to liquid manure, other substrates are increasingly common today, particularly green biomass from fields (e.g. corn and grass silage) and so-called co-fermentates (various organic residues, e.g. organic municipal waste and agro-industry residues). Therefore other locations, such as in the vicinity of agro-industrial facilities, organic waste landfills and farms that do not deal with livestock farming, are also suitable for the construction of biogas production units. When choosing the substrate it is necessary to observe the restrictions of any applicable regulations, including the regulations governing the receipt of support for RES electricity.

3 First steps in construction decision-making

Before deciding on the construction of a production unit it is recommended that the investor first obtains all the required information. The required steps are described below in a meaningful order.

3.1 Planning information

The acquisition of planning information is not mandatory for a potential investor; it is, however, recommended since it provides important information that can facilitate making an investment decision. Planning information is issued by the municipality where the land or building, on which the investor is planning to construct a production unit, is located. It is issued by the municipality in accordance with regulations governing administrative procedures and an administrative fee is charged. Planning information lays down the criteria and conditions for planning the investment as defined by applicable spatial planning acts, the information on safeguards, restrictions and prohibitions from the adopted spatial measures and information regarding changes and supplements or the preparation of new spatial planning acts.

3.2 Requesting an opinion on the possibility of inclusion in the network

Before preparing the technical documentation or making the final decision on the construction of a production unit it is recommended that an opinion is obtained from the competent electricity distribution company[1] as to whether it is possible to include the planned production unit in the public electricity distribution network in order to facilitate the planning of the investment input. The electricity distribution company will establish whether a connection is possible with regard to the production unit's type and power and the type of connection (single-phase, two-phase and three-phase), in view of the conditions in the electricity distribution network and the allowed interference that a production unit can cause in the electricity distribution network. This means it will state the basic conditions for the production unit to be connected in accordance with the calculated network parameters and the desired connection method at the investment site.

[1] A list of electricity distribution companies authorised to perform duties for the Distribution System Operator (SODO) is included in the chapter "Appendices".

3 First steps in construction decision-making

3.3 Location suitability analysis

Not every location is suitable for every type of production unit; it is therefore recommended that a location analysis is performed before making a final decision. Suitable locations for particular production units are described in the chapter on Types of production unit. The measurements necessary to assess a location's suitability should be taken at the location, either by the investors or by hired professionals. Such measurements are usually urgent and recommended since a project's profitability mainly depends on the available conditions at the selected location. Taking these measurements presents an additional cost.

3.4 Concept, preliminary design and feasibility study

A concept, preliminary design and feasibility study, which can be made up of differently detailed documents and prepared depending on a unit's size, can justify the construction of a production unit from a technical, economic and environmental aspect. Such analyses define a production unit and its equipment's optimal technical solution (or several variations of this), the unit's capacity, connection method and the project's economics. In the economic part the internal rate of return, return on investment period and net present value are presented, and the investor can, on the basis of this, decide on the suitability of the project. The preparation of these documents is not mandatory, but it is recommended since they inform potential investors of various options and of the economic justification for the construction of the production unit. The investor may hire qualified consultants or design companies and although this can lead to additional costs it is particularly recommended for non-standard and more demanding projects. Such documents are also necessary for the financing of an investment, such as when obtaining a loan from the banks.

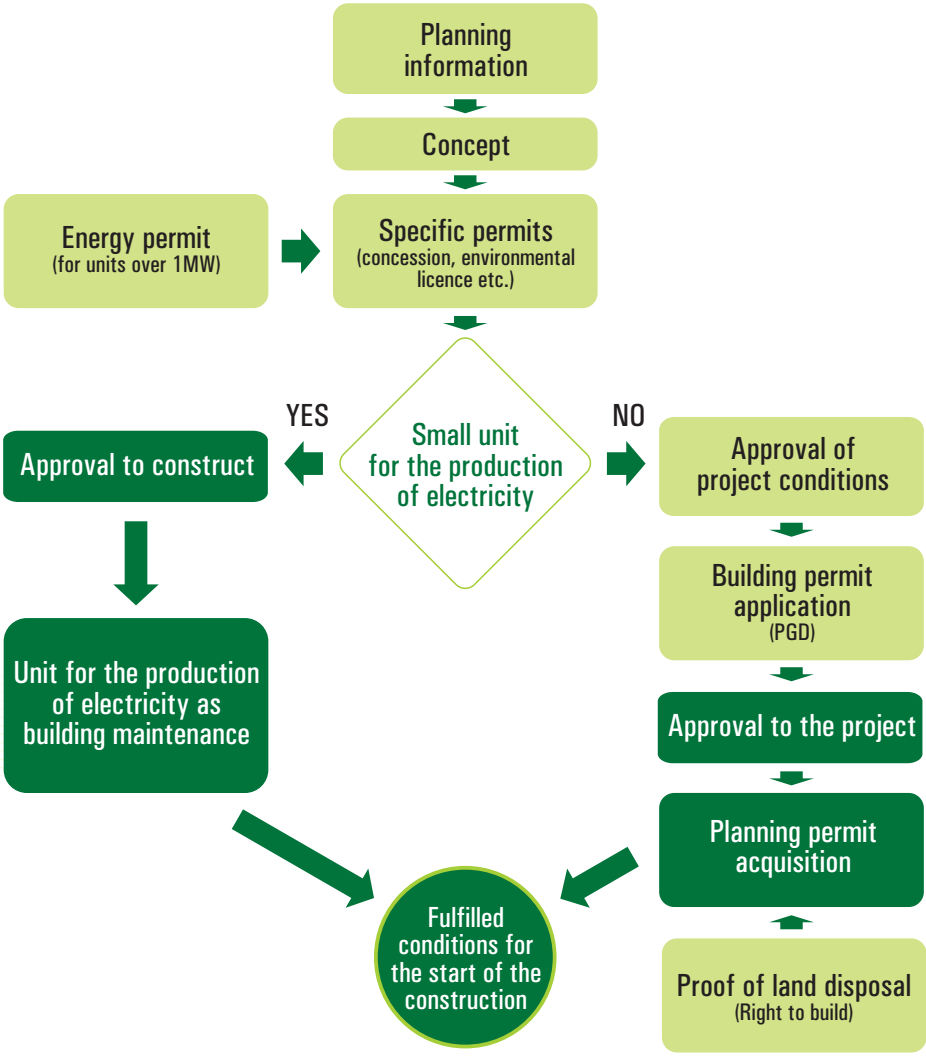
3.5 Decision to construct

On the basis of the preceding information and analyses a potential investor can decide whether to continue with or reject the investment. Financing, which is described in detail in Chapter 7, also plays a key role.

4 Licensing procedure

The diagram below provides a general representation of the procedure; individual steps are described in detail afterwards. After an investor has made the decision to construct a production unit, all approvals, planning permits and permits for connection to the public electricity distribution network must be obtained.

A diagram of the acquisition of the required permits and approvals for the construction of prosuction units.



Licensing procedure 4

Energy permit 4.1

According to the Energy Act[2] production units with a nominal capacity up to 1 MW do not require an energy permit. For production units with a higher nominal capacity an energy permit must be obtained before the acquisition of other permits. The energy permit is issued by the ministry responsible for the energy sector and prescribes the conditions and the content of the application for issuing energy permits for individual types of building, installation and network as well as energy sector activities. The investor must obtain the energy permit before the building permit. The energy permit includes the location and area, building type, fuel type, method and the conditions for performing energy sector activities and the obligations of the energy permit holder.

[2]Any amendments to the legislation regarding this field will be published on SODO d. o. o. and Borzen, d. o. o.'s web pages.

Specific permits 4.2

The Water Act provides for a concession for the energy use of waterways in the production of electricity in the case of hydropower plants that will be connected to the public electricity distribution network. For hydropower plants that will not be directly connected to the public electricity network a water permit must be obtained. After obtaining a concession – the Government's decision on the selection of the concessionaire – or a water permit from the Slovenian Environment Agency, the investor can begin the procedure of obtaining the project conditions (information on construction conditions that affect the water regime), a water consent and a building permit. Before the holder of the water right can start using the water, they must first also conclude a concession agreement. All the required forms and information are available on the Slovenian Environment Agency's web page.

If an environmental impact assessment is mandatory for the investment, environmental protection consent must be obtained. An environmental impact assessment is mandatory for:

- wind-powered production units with a capacity greater than 20 MW or the tower wind-powered production units is greater than 50 meters
- wind-powered production units with capacity larger than 5 MW or the tower wind-powered production units greater than 35 meters in the protected areas (except Natura 2000)
- wind-powered production units with capacity larger than 500 kW in the protected areas Natura 2000

Documentation for the environmental impact assessment is prepared by institutions that specialise in these fields. Environmental protection consent is issued by the Slovenian Environmental Agency on the basis of the documentation submitted for the environmental impact assessment.

4 Licensing procedure

4.3 Application and obtainment of project conditions for the obtainment of building permit

On the basis of the application submitted by the investor or a person authorised by the investor, the competent electricity distribution company issues the project conditions on behalf of the Distribution System Operator (hereinafter: SODO) for buildings that are near the protection zone of existing electricity networks. The application for project conditions must include a concept for the envisaged building, which must be prepared in accordance with the contents stipulated in the Rules on design documentation. This means that it must include a graphical presentation of the planned positioning of the production unit in space, which is prepared by the investor, in addition to all the other contents. The project conditions list all the conditions for positioning the planned building in space and provided point connection to the network, which means that all the required deviations of or the need to remove or move any existing electricity buildings and devices and the point where facilities will be connected to the network.

4.4 Application and approval to construct

On the basis of the application submitted by the investor or a person authorised by the investor, the competent electricity distribution company issues the approval to provide investment maintenance on behalf of the Distribution System Operator (hereinafter: SODO) for buildings that are near the protected zone of existing electricity networks. The application, which must contain information about the investitor or the operator must be accompanied by a description of the planned construction of specifying dimensions or activities indicating the location (graphical presentation) and data on land parcels intended for construction or implementation activities.

The approval list all the conditions for positioning the planned building in space, which means that all the required deviations of or the need to remove or move any existing electricity buildings and facilities are determined.

4.5 Building permit

The field of building construction is governed by the Construction Act, which includes the construction of new buildings, reconstructions, building removal and change of intended use. According to the Regulation on classification of construction with regard to their complexity, individual buildings are devided into complx, less comlexx, non-complex and simple. A building permit is required for all production inits that cannot be defined as simple units for the production of electricity according to Article 23.b of the Decree amending the Decree on energy

infrastructure, and that do not meet the requirements from Article 23.a of the same Decree. If the production unit, which produces electricity from renewable sources and from cogeneration of heat and electricity with regard to the mentioned Decree, and if it meeta the demands from Article 23.a, the construction of such a unit is deemed a maintenance according to the relevant regulations, and therefore does not require a building permit.

- That the simple unit is installed onto or into an existing building or civil engineering works built in accordance with regulations governing construction (hereinafter: building), and that the simple unit is installed right next to the building or on the building land on which the building is located, and the clearance from such a building and the height of the simple unit do not exceed the height of the building, and its layout surface on the land does not exceed 20% of the built-up surface of the land, and the installation of such a unit is not contrary to spatial planning acts. The tower of the wind-powered production units at the facility shall not exceed 15 m and the tower of the wind-powered production units at a facility may not be higher than half the height of the building. Examination as to whether the installation of the simple unit is contrary to the spatial planning acts is done by the investor with the help of planning information or by an individual who meets the requirements for a spatial planning act maker or a responsible designer in accordance with the regulations governing construction;

Their cinstruction is deemed a maintenance and does not require a building permit, providen that the following requiorements are also fulfilled:

- That the simple unit is installed onto or into an existing building or civil engineering works built in accordance with regulations governing construction (hereinafter: building), and that the simple unit is installed right next to the building or on the building land on which the building is located, and the clearance from such a building and the height of the simple unit do not exceed the height of the building, and its layout surface on the land does not exceed 20% of the built-up surface of the land, and the installation of such a unit is not contrary to spatial planning acts. Examination as to whether the installation of the simple unit is contrary to the spatial planning acts is done by the investor with the help of planning information or by an individual who meets the requirements for a spatial planning act maker or a responsible designer in accordance with the regulations governing construction;

- That, if a simple unit is to be installed on or inside a building, a static assessment is performed before the work begins, in order to prove that the mechanical resistance and stability of the building has not been affected due to the additional load. The static assessment can be performed by an individual who meets the requirements for a responsible designer in accordance with the regulations governing construction;

4 Licensing procedure

- That, if a simple unit is to be installed on an existing building that is deemed a fire less-demanding building or a fire-demanding building or a building for which a fire safety study is mandatory in accordance with regulations governing fire safety, an assessment is performed before the work begins to prove that the fire safety of the building will not be reduced due to this installation. An assessment for a fire less-demanding building can be performed by a responsible designer who is listed in the directory of responsible designers in accordance with the Construction Act; in the case of a fire demanding building or a building for which a fire safety study is mandatory this can be performed by a responsible designer who is authorised to carry out a fire safety study;

- That, if a simple unit is to be installed on or inside a building, an assessment is performed before the work begins from which it is clear that the lightning protection and the security of the low-voltage electrical installations and devices are in accordance with the regulations governing lightning protection and low-voltage electrical installations in buildings (hereinafter: lightning protection assessment). The lightning protection assessment can be performed by an individual who meets the requirements for a responsible designer in accordance with the regulations governing construction;

- That, if the land on which the building is located is situated in an area that is classified as an area of the 2nd or 3rd level of protection against noise in accordance with the environmental protection regulations, an assessment of the guaranteed technical and construction measures for the reduction of noise transmission is made for simple units with rotating parts before the work begins, in order to prove that the operation of the simple unit will meet the requirements that apply for a new noise source in the environmental protection regulations (hereinafter: noise protection assessment). The noise protection assessment can be performed by an individual who meets the requirements for a noise assessor in accordance with the regulations;

- That, if the land on which the building on or inside which a simple unit is to be installed is located in an area that is classified as a protection or a protected zone according to special regulations, a consent from the competent authority or service (hereinafter: examination of possible protection existence) must be obtained. The examination of possible protection existence can be performed by an individual who meets the requirements for a spatial planning act maker or a responsible designer in accordance with the regulations governing construction;

- That the right to build has been obtained by the investor for the building or the land on which the simple unit is to be installed as well as consent from neighbouring land owners if it is to be installed on land next to a building less than 1.5 m away from the border of neighbouring lands.

Building permit application 4.6

If a building permit is required for the construction of a production unit, a building permit application must be prepared by an authorised company. The investor submits the application with all the relevant approvals to the competent administrative unit.

Approval to the project 4.7

On the basis of the application submitted by the investor or a person authorised by the investor, the competent electricity distribution company issues the approval to the project. The application for the approval to the project must include a building permit application for the envisaged building, which must be prepared in accordance with the contents stipulated in the Rules on design documentation.

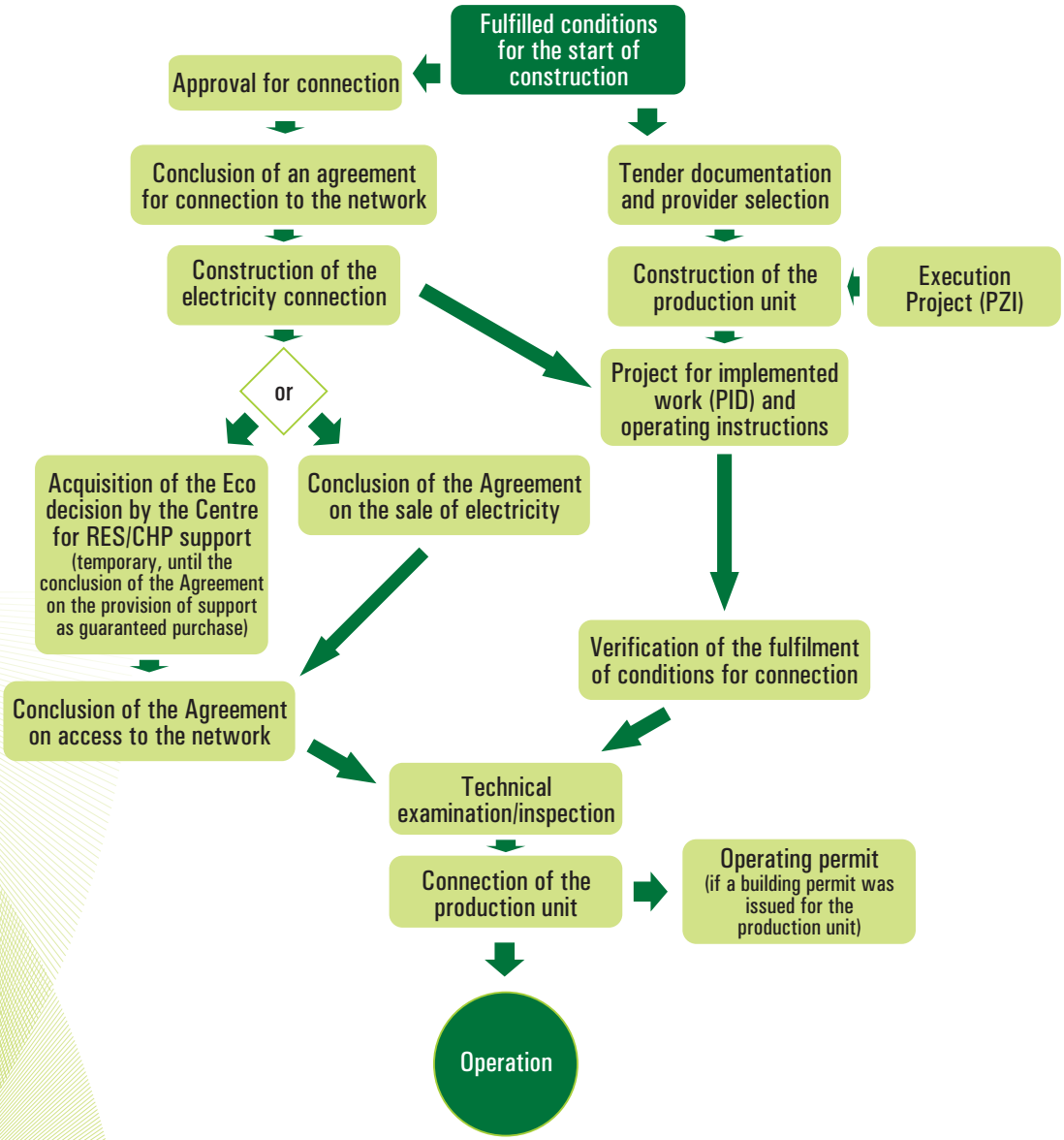
Proof of land disposal 4.8

The investor has to submit a proof of land disposal or a proof of the right to build (e.g. ownership, easement).

5 Production unit construction process

The diagram below provides a general representation of the procedure; individual steps are described in detail following this.

5.1 Production unit construction and connection to the network scheme



Production unit construction process 5

Tender documentation and provider selection 5.2

When the required permission for the placing of a production unit in space has been obtained, the equipment and the service provider can be selected. It is recommended that tender documentation is compiled which includes all the information that is needed by the provider to make an offer and is important to subsequently compare offers and conclude the contract for the execution. It is possible to hire a qualified company to prepare the tender on the basis of the building permit application and offer advice on the selection of the most suitable provider. However, this means an additional cost for the investor.

Professional training for the operation of energy installations 5.3

Operators of energy installations have to participate in professional training and pass a professional examination as stipulated in the Rules on expert training and the examination of knowledge in managing energetic devices (Official Gazette of the RS No. 41/2009). According to these Rules all operators of CHP installations whose nominal capacity exceeds 500 kW and water turbines whose nominal capacity exceeds 500 kW are obliged to participate in the training and pass the professional examination in order to be considered qualified for the operation of such installations. As regards the operation and maintenance of other energy installations, for which professional training is not prescribed by the Rules, the operators have to be familiar with the instructions for technically correct and safe operation, the technical regulations for such installations and measures for the rational use of energy.

Application and obtaining approval for connection to the network 5.4

On the basis of an application submitted by the investor or a person authorised by the investor, the competent electricity distribution company issues a connection approval on behalf of SODO, according to the administrative procedure. When issuing a connection approval, SODO also takes into account the in addition to other relevant legislation. The application must include the technical documentation for the installation or construction of a production unit, which contains all the necessary information (including the obtained opinion on the possibility of connection to the public electricity distribution network, if any) on the basis of which SODO can set the technical conditions and methods for the inclusion of the production unit in the connection approval.

According to the provisions of the Administrative Procedure Act, a connection approval may be issued by way of a summary procedure (deadline for the issuing is 30 days) or by way of an assessment procedure (deadline for the issue is 60 days), depending on the complexity of the type of connection.

5 Production unit construction process

The connection approval is issued by way of a summary procedure for production units that are manufactured according to the SIST EN 50438 standard and are connected to the network as ordinary appliances.

5.5 Concluding an agreement for connection to the network

Parallel to the selection of the most suitable provider, the procedure for the conclusion of the agreement for connection to the network should be started. After the final connection approval has been issued and on the basis of the role of the investor or the person authorised by the investor, the competent electricity distribution company concludes a Connection Agreement with the investor before the connection is constructed. In the Connection Agreement the ownership of the connection, the payment method of the average and direct costs of the connection, maintenance and other aspects related to the connection, and the possible reimbursement of the cost of an amplification of the distribution network, specified in the agreement concluded between SODO and the investor, are defined.

5.6 Execution project

Before the start of work the designer or the service provider has to first draw up an execution project that will serve as the basis for the construction of the production unit. The execution project contains the plans of more detailed technical solutions and details.

5.7 Construction of the production unit

After the contract has been concluded the chosen provider can start constructing the production unit. The construction time is set in the contract and mainly depends on the type and size of production unit. The provider must also construct a metering point and draw up the project documentation and operating instructions on the basis of the project conditions and the connection approval.

Production unit construction process 5

Construction of the connection 5.8

Parallel with the construction of the production unit a connection to the electricity network is also constructed. The electricity distribution company that is overseeing the construction of the connection must be informed of this by the investor at least eight days before the start of the work. The supervision includes the monitoring of the connection construction according to the regulations for the construction of these kinds of buildings, meeting the technical conditions stipulated in the connection approval, performing the necessary switching manipulations, informing users of any disruptions to the electricity supply, performing connection tasks and other work connected with the construction of the connection and the connection itself.

Project for implemented work and operating instructions 5.9

After the construction is complete the provider has to draw up a project for implemented work and operating instructions. The content of this acts as a reference for use and maintenance during the production unit's operation. The purpose of the project of the implemented work is to obtain an operating permit.

Contract on the purchase and sale of electricity or Decision by the Centre for RES/CHP support on accession to the Eco group 5.10

The investor has to undertake certain activities for the sale of electricity even before connection to the electricity network. Normally, the investor has to decide between one of the possible methods of sale – either a guaranteed purchase by Borzen's Centre for RES/CHP Support or the sale of electricity on the market.

If a decision is made to sell the produced electricity on the market, the investor then concludes an agreement on the purchase/sale of electricity with the selected electricity supplier who will purchase the electricity produced by the production unit.

If the investor decides on a guaranteed purchase they are issued a decision on accession to the Balance Group of Borzen's Centre for RES/CHP Support on the basis of the application that was submitted to the Centre for RES/CHP Support at least one month before the planned connection (more information on Borzen, d. o. o.'s web page). The producer can sell the electricity produced on the basis of the decision at the reference market price to Borzen's Centre for RES/CHP Support from the start of operation until obtaining the right for the provision of support. When concluding market agreements for the sale of electricity, investors who opt for support in the

form of guaranteed purchase should take into consideration the fact that Borzen's Centre for RES/CHP Support cannot start providing guaranteed purchase while a market agreement with a supplier remains in force. Investors who obtained a decision on accession to the Balance Group cannot conclude other market agreements for the sale of electricity, since the decision is regarded as an agreement.

5.11 Application and verification of the fulfilment of conditions for connection

The investor submits a complete connection application, attaches all the requested annexes and the concluded agreement on the purchase and sale of electricity with the selected supplier of electricity, or the decision on accession to the Balance Group of the Centre for RES/CHP Support to the electricity distribution company. If the construction of a simple unit for the production of electricity is deemed major maintenance work and does not require a building permit, the application for the connection of this kind of unit has to include the form stipulated in Annex 2 of the Decree amending the Decree on energy infrastructure, whereby the investor declares that their unit is a simple unit and that the requirements from Article 23.a of this Decree were taken into consideration in its installation.

5.12 Conclusion of a Network Access Agreement

The investor agrees a time with the competent electricity distribution company for the inspection of the metering point and the fulfilment of the conditions from the connection approval. During the inspection the electricity distribution company must check and harmonise the binding and the settings of the metering devices and the direction of the spin box in three-phase connections. When all the conditions have been met and the inspection has confirmed that all the conditions from the connection approval have been met, the electricity distribution company and the connection approval holder conclude an agreement on access to the electricity distribution network.

Production unit construction process 5

Technical examination/inspection 5.13

A technical examination/inspection is performed by the competent inspector following an application by the investor; the service providers and the representative of the competent electricity distribution company are also present. The inspector inspects the installation of the production unit. After the inspection has been completed, a report is drawn up including all the required documentation.

Operating permit 5.14

An operating permit is issued by an administrative body on the basis of the technical examination of the production unit, provided that it was established that the production unit was constructed in accordance with the applicable regulations and the issued building permit.

* Applicable only for those production units for which a building permit must be obtained in accordance with the regulations.

Connection to the electricity distribution network 5.15

An electricity distribution company issues an oral warning to the investor or their authorised person that the unit will be carrying current after connection and connects the production unit to the electricity distribution network.

6 Procedure for obtaining support

6.1 Who is eligible for support?

Support is paid to the entity that was issued a Decision on the provision of support. This can be the **owner or another person who has been authorised by the owner. If there are several owners** one owner can be authorised or a joint application is lodged and the Energy Agency of the RS (hereinafter: AGEN-RS) issues a joint decision to all co-owners. If so, a multi-party agreement on the provision of support for the unit as a whole is concluded. If there is a **change of ownership** AGEN-RS issues a new decision (except in universal succession cases) on the basis of an application by the new owner, which is made out to the new owner, and the Centre for RES/CHP Support prepares a new agreement. In such an event **the moment of ownership transfer and the eligibility to issue invoices must be observed**. Unless required otherwise in the decision issued by AGEN-RS, the new beneficiary starts receiving support on the 1st day of the month following the month when the new decision was issued, provided that the latter is final. Every entity that receives support or wishes to conclude a market agreement for the sale of energy or an Eco decision, **has to register their activities – the production of electricity** (see item 6.7).

6.2 How to obtain support?

The owner of the production unit or its operator (on the basis of the owner's authorisation) has to fulfil the following requirements in order to be eligible for support. However, before this, one of the methods for the sale of electricity has to be selected as described in Chapter 6.3.

1. A declaration for the production unit has to be obtained from the Energy Agency of the RS (hereinafter: AGEN-RS) which confirms that the unit meets all the conditions prescribed for CHP or the production of electricity from RES, and that it can receive guarantees of origin. After obtaining the declaration the producer who wishes to enter the support system must also submit an authorisation for the issuing of guarantees of origin and their automatic transfer to Borzen's Centre for RES/CHP Support. This is done by submitting an "Application form for opening a producer's account – simple filing". The application form can be submitted together with the application form for a declaration. The acquisition of the declaration is a precondition for support. It is also required for production units that are not eligible for support but require guarantees of origin.

All the required forms are available at AGEN-RS.

2. On the basis of the declaration the owner or the operator also obtains a Decision on the provision of support when an application is submitted, provided that the unit meets some additional conditions (for example, the unit's age must not

exceed 15 (RES) or 10 years (CHP)). At this stage the type of support must also be selected (help in choosing the type of support is described in Chapter 6.6).

All the required forms are available at **AGEN-RS**.

3. On the basis of the final Decision on the provision of support (not the Decision on the declaration, which is only a precondition for the Decision on the provision of support) a standardised agreement is concluded with Borzen's Centre for RES/CHP Support, which is an integral part of the Rules on the operation of the Centre for RES/CHP Support. **AGEN-RS directly informs the Centre for RES/CHP Support about the issuing of this decision. The Centre sends the beneficiary a form by mail requesting information needed for the preparation of the agreement. If the beneficiary was issued an Eco decision, the application for this decision is used in the preparation of the agreement on guaranteed purchase and a new application is not required. The Centre for RES/CHP Support has to wait for AGEN-RS to report the date of the finality of the Decision on the provision of support before an agreement can be prepared. The beneficiary can reduce the time needed for this by renouncing their right to appeal the Decision on the provision of support (and before that the Decision on the declaration) to AGEN-RS.** They should only do this **if they agree with the content of the decision**.

4. The beneficiary issues an invoice to the Centre for RES/CHP Support with regard to the production and the approved type of support once a month pursuant to the agreement. **Support is usually first provided on the first day of the month (the settlement is done on a monthly basis) that follows the month of issuing the Decision on the provision of support or later if the Centre for RES/CHP Support has to change the supplier for the production unit in question.** The beneficiaries can agree with the Centre for RES/CHP Support on a three month settlement for production within the same calendar year (e.g. to issue an invoice for production from January to March in April etc.).

If an application is submitted by another person on behalf of the beneficiary, an appropriate authorisation must be included.

How to obtain an ECO decision or conclude a market agreement on the sale of electricity? 6.3

The investor has to send a **request** in the following form to cp@borzen.si in order to receive an Eco decision: E-mail title: Request for a decision on accession to the Eco Group according to EZ-D; E-mail text: unit owner's/operator's name and address, unit name and capacity in kW, planned indicative date of connection. The

6 Procedure for obtaining support

Centre for RES/CHP Support sends an application on the basis of the received request which is then used to conclude the Agreement on the provision of support. If the investor wishes to obtain an electronic application this has to be stated in the request sent by e-mail. The condition for the decision is an issued connection approval or a concluded Connection Agreement; however, the unit must not yet be connected.

A list of traders or purchase providers composed by the Centre for RES/CHP Support and published on Borzen's web page can assist investors when acquiring offers for the market agreement. The investor can obtain **either a decision or a market agreement – they cannot have both!**

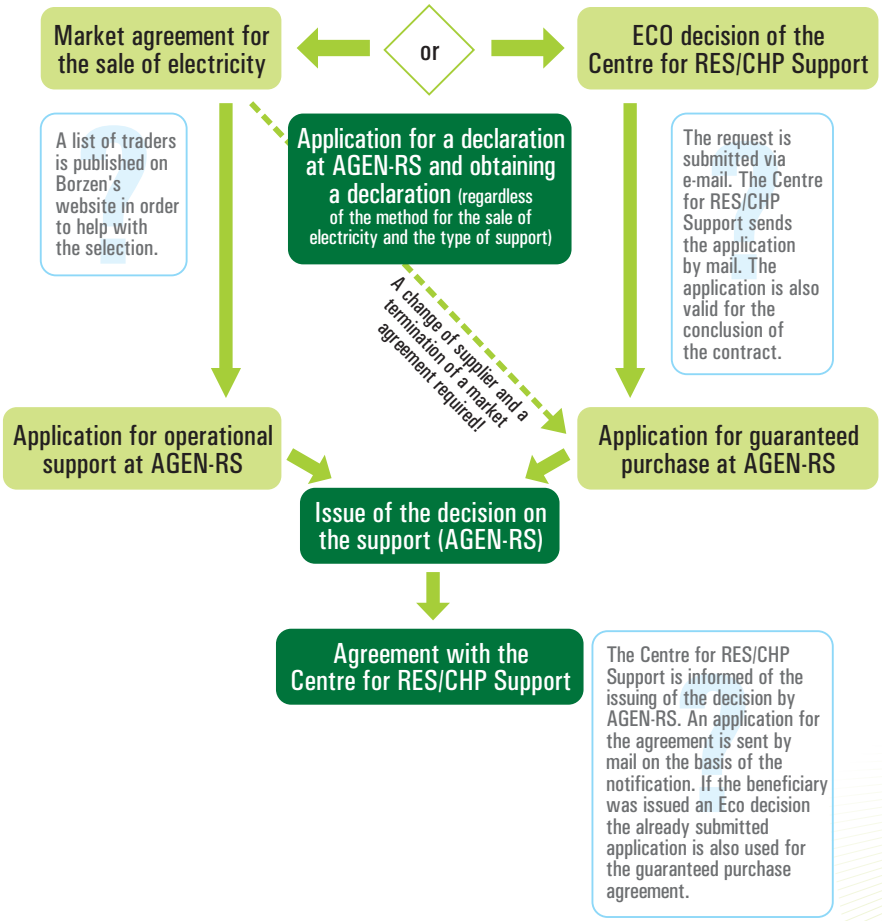
6.4 Scheme obligations

The investor **issues invoices** to the Centre for RES/CHP Support on a monthly or a three-monthly basis (within the same calendar year)[1] pursuant to the signed agreement. The investor has to send the information on the **planned production quantities** for the next year by e-mail **once a year** (by the end of September). The Centre for RES/CHP Support prepares an Annex to the agreement once a year or as required. The investor informs the **Centre for RES/CHP Support of all major events** (failures, planned shutdowns etc.). **More detailed rules for informing and forecasting apply for larger units** (mainly for units with an installed capacity exceeding 500 kW). At the request of the Centre for RES/CHP Support and in accordance with the Energy Act, the beneficiaries of operational support must submit their information on the market price achieved for the electricity sold once a year.

[1]The request for a settlement on a three-monthly basis is sent by e-mail to cp@borzen.si

Procedure for obtaining support 6

A scheme of the procedure for obtaining support 6.5



6 Procedure for obtaining support

6.6 Choosing the type of support

In its application for the Decision on the provision of support, sent to the AGEN-RS, the beneficiary decides what type of support they would like to receive from the Centre for RES/CHP support.

- If the beneficiary decides to choose **operational support**, this means that they have concluded an open contract with a supplier ("market agreement for the sale of electricity"). The beneficiary issues separate invoices: for electricity to their supplier and for support to Borzen's Centre for RES/CHP Support.

- **Guaranteed purchase** means that the producer enters the Centre for RES/CHP Support's Balance Group. In such a case the beneficiary sells electricity to Borzen's Centre for RES/CHP Support and issues it a uniform invoice at the price for guaranteed purchase. In this case the producer **does not and is not permitted to conclude a separate market agreement for the sale of electricity.**

- A beneficiary who obtained a **Decision on accession to the Balance Group of the Centre for RES/CHP Support (Eco decision)** before obtaining the Decision on the provision of support, must select guaranteed purchase in the application for the Decision on the provision of support.

The producer is eligible for **one or the other type of support** for the electricity produced in the production unit, and **cannot receive more than one at the same time.** The right to choose the type of support (guaranteed purchase / operational support) is given to RES units up to 5 MW and CHP units up to 1 MW, except for all types of wood biomass co-firing where guaranteed purchase is not possible. Larger units can only receive operational support.

In the case of an Eco decision and guaranteed purchase the Centre for RES/CHP Support can only pay for the amount of electricity that was approved by the competent System Operator. **In the case of the so-called internal connections it is recommended that enquiries are first made with the competent system operator as to which amounts would be approved and to then modify the connection method and/or the selected type of support accordingly.** As regards operational support the net produced electricity is always relevant, whether or not it was supplied to the network or used for personal consumption (i.e. internally for purposes not related to the operation of the power plant). The type of support is also important when there is **a change in the connection type (particularly when switching to so-called internal connections).** Due to procedural reasons it is advisable in some cases to request a change in the type of support beforehand, to avoid loss of support due to the delay in issuing AGEN-RS's decision. One should also be careful about **potential changes in metering points** as they are also included in AGEN-RS's decision and may thus impact the payment of support.

Procedure for obtaining support 6

A change in the method of the provision of support is possible on the basis of a request by AGEN-RS two years after the start of receiving support; any further changes are possible every three years in accordance with the Rules on the operation of the Centre for RES/CHP Support. If the decision by AGEN-RS was issued and a final and complete application is received by the Centre for RES/CHP by the end of September, the transition is possible at the latest with the start of the next calendar year or sooner, if so agreed between the beneficiary and the Centre for RES/CHP Support.

The beneficiary should start thinking about the desired type of support during the construction, since a market agreement for the sale of electricity must be concluded or a Decision by the Centre for RES/CHP Support on accession to the Balance Group (Eco decision) must be obtained before the unit is connected to the network. If the beneficiary is certain that they wish to select guaranteed purchase, it is easiest if an application for a decision is submitted to the Centre for RES/CHP Support. If the beneficiary selects operational support or is not certain what type of support they want, it is recommended that a market agreement for the sale of electricity is obtained. Should a beneficiary select guaranteed purchase after concluding a market agreement, such an agreement must be terminated upon transition to the Centre for RES/CHP's Balance Group. If a termination option is not provided in the agreement, it can lead to additional costs, e.g. a contractual penalty.

The amount and calculation of support are discussed in the following chapters.

Fiscal and financial aspects 6.7

According to regulations in force every person performing the activity of electricity production is obliged to register his/her activity. Support can be provided to several types of organisational forms – from natural persons, natural persons – private entrepreneurs, secondary farming activity providers, to all types of legal persons.

Beneficiaries also have the option to claim of normalised expenses subject to agreement with the Tax Authority »DURS«. A suitably regulated status is required for the conclusion of the agreement or the issuing of the decision by the Centre for RES/CHP Support. (More information on Borzen, d. o. o.'s web page).

The beneficiary should also evaluate the option of entering into the value added tax (VAT) system, if it is not included by law.

6 Procedure for obtaining support

6.8 Determination of the level of support and »case by case« determination

The level of support is determined on the basis of the reference costs of individual production units stipulated by the Methodology for determining reference costs of electricity generated from renewable sources and the Methodology of determining reference costs of high-efficiency co-generation.
They are determined according to the following formula:

Reference costs = Fixed reference costs + Variable reference costs

- Fixed reference costs are determined on the basis of investment, maintenance and operation costs excluding the cost of fuel. By entering the support system the fixed costs no longer change and remain the same for the entire duration of receiving support.

- Variable reference costs are determined at least once a year for production units where the input fuel represents a financial cost. They are determined on the basis of the forecast of the reference market prices of input fuels, prepared and published by AGEN-RS.

Reference costs for solar powered production units are reduced every year with regard to the baseline level in 2009. The reference costs for a particular production unit become fixed with the issuing of the Decision on the provision of support and no longer change (fixed part).

Any supplements to the level of support (which increase the level of support) and subsidies and other deductions (which reduce the level of support) are also stipulated in the Decision on the provision of support issued by AGEN-RS. More information about supplements and deductions can be found in the regulations on supports for the electricity generated from RES and CHP.

Determining the level of support for a particular type of support:

Guaranteed purchase level = Reference costs (year I)

Operational support level = Reference costs (year i) – (Reference price of electricity (year i)*factor B)

- The reference price of electricity is determined by AGEN-RS every year and is published on AGEN-RS's web page.

- Factor B reflects the constancy of production, size of facility and its market price. It is published in the Annexes to the regulations on supports for the electricity generated from RES and CHP.

New production units receive support for 15 (RES) or 10 (CHP) years.

More detailed information including the level of support for the current year, is available on Borzen's web page.

In certain cases (e.g. RES sources that are not specifically listed in the Regulation) there is a **possibility of a so called »case by case« judgment regarding the support level**. In such instances the maximum level is however set and there is an annual quota. The cases are **evaluated by AGEN-RS**.

How does the level of support change? 6.9

As regards **guaranteed purchase**, the level of support only changes if the variable part of the reference costs changes. **For power stations whose complete costs are defined as "fixed" (e.g. solar, hydro and wind) this means that the level of support does not change for the entire duration of receiving support.**

In addition to changes in the variable part of the reference costs, as regards operational support, the level of support also changes if the reference price of electricity determined by AGEN-RS changes. This is determined once a year for the next calendar year, similar to the parameters of the variable part of the costs, excluding natural gas (relevant for CHP using fossil fuels), where the change can occur twice a year.

How does the level of support change, if the type of support is changed? 6.10

It is vital to understand that the fixed part of the reference costs becomes fixed with entry into the support system (the issuing of the Decision on the provision of support) and no longer changes after that, since the time of the investment is also taken into account. In the event of a possible change in the type of support only the variable part of the costs and the reference market price of the AGEN-RS are taken into account. For example, a micro solar power plant was connected in 2009; the reference costs (all fixed) amounted to 415.46 EUR/MWh; the operational support was selected when entering the system – if the type of support is changed to guaranteed purchase at any time during the period of receiving support, the price will remain the same at 415.46 EUR/MWh. If the type of support is changed from guaranteed purchase to operational support, this value of costs would be taken into account in the calculation of the current operational support. In the event of a power station where a part of its costs is defined as "variable", this part would be regarded according to the current values.

7 Possible financing methods

The following financing methods are available for the installation of an RES or CHP production unit:

Grants

The Ministry of Agriculture, Forestry and Food regularly publishes calls for proposals for obtaining grants for the diversification of non-agricultural activities and the allocation of funds provided under the heading Support for the establishment and development of micro companies. **Grants can lead to a deduction in support – see item 7.1.** More information at **www.mkgp.gov.si**.

Eco Fund loans

The **Eco Fund** allocates funds once a year to citizens and companies for investments in RES and CHP. More information on loan conditions and obtainment procedures is available on Eco Fund's web page. In addition to the Eco Fund, favourable loans are also provided by other companies and institutions, for example by enterprise support programmes. **It is recommended that applicants enquire whether these loans are deemed state support / subsidy and regarded as deductions mentioned in item 7.1.**

Commercial earmarked loans

Commercial banks offer customised loans to finance the construction of an RES or CHP production unit. The interest rate can be fixed or variable, whereby the investment is also financed with a large share by the banks. The repayment is usually adapted to the revenues created by the investment. Some banks offer an initial moratorium from the start of the construction to the start of the production and the provision of support. The investment and the expected revenues make up the main loan insurance. Banks can also demand insurance for the power station, mortgage, accession of claims and other insurance instruments. Some banks offer special, earmarked loan packages for the financing of RES or CHP power plants. More information is available on the web pages of commercial banks.

Own funds

Private funding is usually required for at least 10 to 50% of the investment value, depending on the demands of the banks and other financial institutions.

Possible financing methods 7

Reduction in support due to awarded subsidies 7.1

If the RES or CHP production unit receives or will receive any kind of support that could be deemed a subsidy (also, for example, grants or subsidised loans), the **applicant has to report this in their application for the Decision on the provision of support, or later if the application was submitted before receiving the subsidy.** Copies of the relevant documents on the receipt of the subsidy, in which the subsidy amount and other conditions are shown, must be included in the application. **It is recommended that the applicant enquires before the receipt of the funds whether the funds in question are regarded as a subsidy and can lead to a reduction** (the reduction is valid for the entire duration of receiving support) **of the fixed part of the reference costs** by the following amount:

[EUR/MWh] (Reduction of the fixed part of the reference costs) = (Amount of the received support [EUR] x A)/(Nominal power capacity [MW] xH[h]), where:

A stands for the annuity factor in the 15-year (10-year for CHP) economic span of the investment and a discount rate, whereby the following is taken into account:

- A general discount rate, stipulated in the Decree on the uniform methodology for the preparation and treatment of investment documentation in the field of public finance, is used for all production units except for PV solar power plants, where the discount rate is five percentage points lower than the general discount rate;
- If the discount rate from the previous indent is higher than the discount rate from the calculation of the reference costs, the discount rate from the calculation of the reference costs is used to determine the annuity factor A;
- If the discount rate from the first or second indent is lower than the reference discount rate for the calculation of the state support in loans or other financial instruments paid in instalments, the reference discount rate published in the EU Official Journal for the Republic of Slovenia is used to determine the annuity factor A.

H stands for the annual operating hours from the published Methodology for determining reference costs of electricity generated from renewable resources or the Methodology for determining reference costs of high-efficiency co-generation.

The deduction is calculated by AGEN-RS in the procedure for the issuing of the Decision on the provision of support.

8 Appendices

8.1 List of regulations

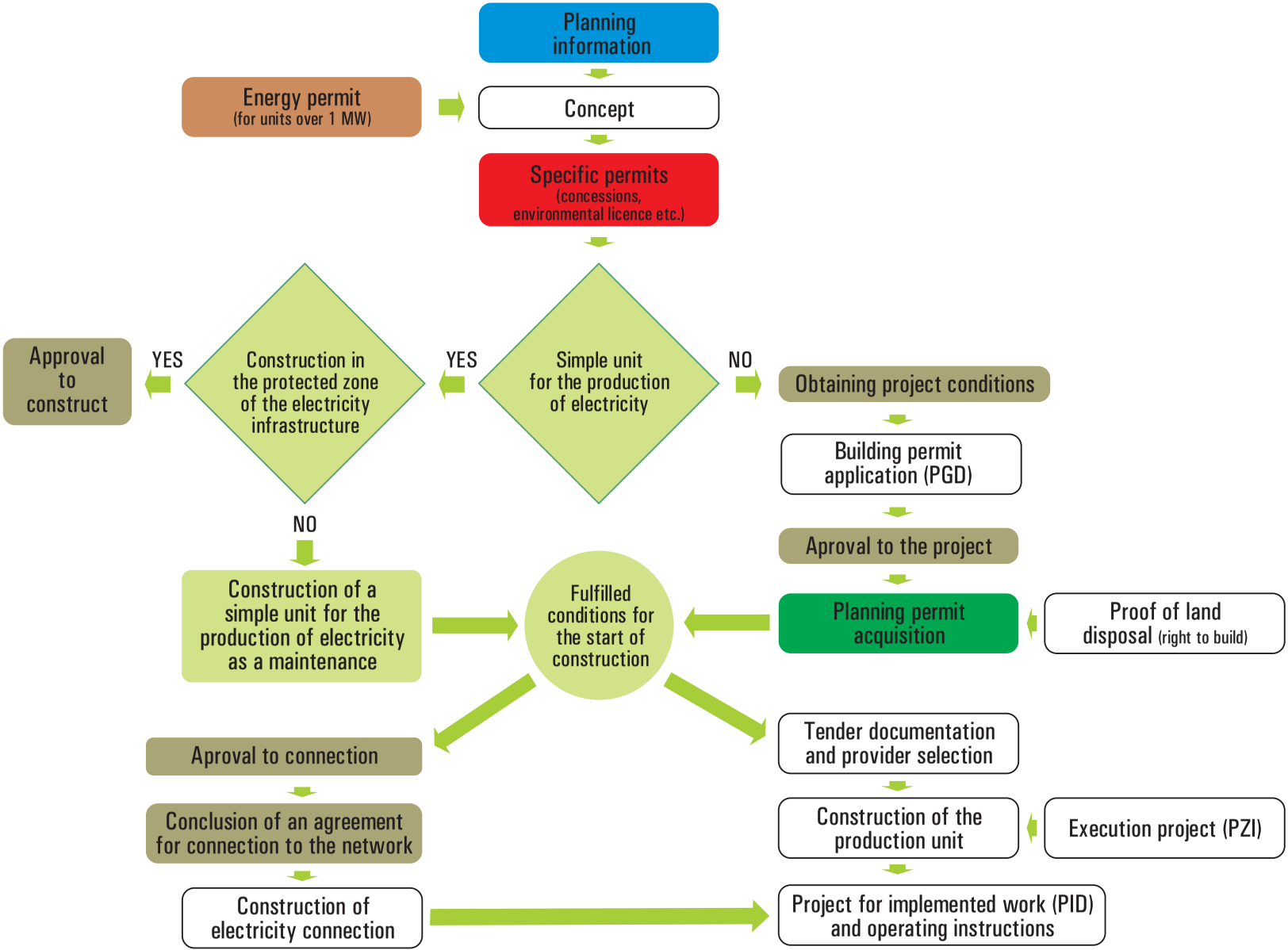
- Energy Act, Official Gazette of the RS, No. 27/07, 70/08, 22/10, 37/11, 10/12, 94/12-ZDoh-2L
- Construction Act, Official Gazette of the RS, No. 110/02, 102/04, 14/05, 57/12
- Regulation on supports for the electricity generated from renewable energy sources, Official Gazette of the RS, No. 37/09, 53/09, 68/09, 76/09, 17/10, 94/10, 43/11, 105/11, 43/12, 90/12
- Regulation on supports for the electricity generated in cogeneration with high efficiency Official Gazette of the RS, No. 37/09, 53/09, 68/09, 76/09, 17/10, 81/10
- Regulation on determination of the amount of electricity from the cogeneration of heat and electricity which is generated with high efficiency and determination of efficiency of transformation of energy from biomass, Official Gazette of the RS, No. 37/09
- Regulation on the method of defining and accounting of fee to assure support for the production of electricity from cogeneration with high efficiency and from renewable sources, Official Gazette of the RS, No. 2/09, 49/10
- Regulation on the issuing of Declarations for the production units and of the Guarantees of Origin, Official Gazette of the RS, No. 8/09, 22/10, 45/12
- Regulation on the rules for the preparation of forecasts on the situation of production plants generating electricity from renewable energy sources and high-efficiency cogeneration, Official Gazette of the RS, No. 83/09, 94/11
- Regulation on measurements to be performed in production units which are receiving guarantees of origin and support for electricity produced, Official Gazette of the RS, No. 21/09, 33/10, 45/12
- Regulation on classification of construction with regard to their complexity, Official Gazette of the RS, No. 18/13
- Regulation amending the Regulation on classification of construction with regard to their complexity, Official Gazette of the RS, No. 18/13
- Decree on energy infrastructure, Official Gazette of the RS, No. 62/03, 88/03
- Decree amending the Decree on energy infrastructure, Official Gazette of the RS, No. 75/10, 53/11
- Decree on the categories of activities for which an environmental impact assessment is mandatory, Official Gazette of the RS, No. 78/06, 72/07, 32/09
- Decree amending the Decree on the categories of activities for which an environmental impact assessment is mandatory, Official Gazette of the RS, No. 95/11
- Rules on the system operation of the electricity distribution network, Official Gazette of the RS, No. 41/2011
- Rules on the operation of Centre for RES/CHP support, Official Gazette of the RS, No. 86/09
- Regulation on the promotion of efficient energy use and the use of renewable energy sources, Official Gazette of the RS, No. 89/08, 25/09
- Rules on design documentation, Official Gazette of the RS, No. 55/08
- Rules governing the conditions and restrictions for the building, use and performance of activities in the protection zones of electricity networks, Official Gazette of the RS, No. 101/10
- Act on using guarantees of origin registry and the method of forwarding data on electricity production, Official Gazette of the RS, No. 33/09
- Methodology for determining reference costs of electricity generated from renewable resources (Decision – No. 360-81/2009-1)
- Methodology for determining the reference costs for high-efficiency cogeneration (Decision MG – No. 360-82/2009-1)

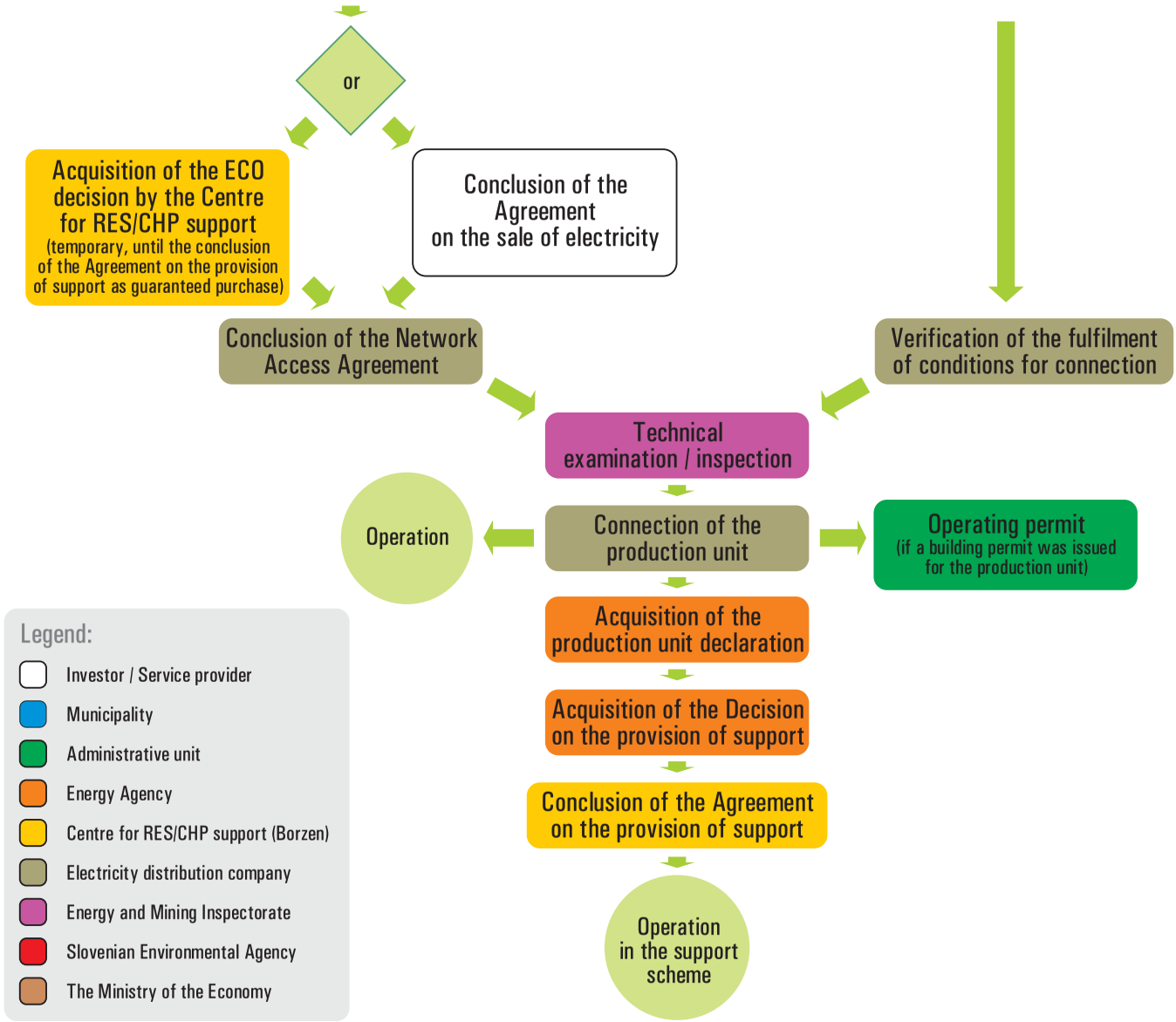
The regulations are available on the Ministry of Infrastructure and Spatial Planning's web page.

Appendices 8

List of authorities participating in the procedure 8.2

- **The Slovenian Environmental Agency** is responsible for the issuing of concessions for the use of water and water permits. More detailed information and forms can be found on its web page www.arso.gov.si.
- **The Centre for RES/CHP Support**, which operates under Borzen, organizator trga z električno energijo, d. o. o., is responsible for the management of assets, conclusion of Support Agreements, support payments, purchase of electricity from electricity producers, settlement of differences between the announced and realised production for the purchased electricity and the sale of purchased energy on the organised electricity market. Web page: www.borzen.si.
- **Eko sklad, j. s.** offers more favourable financing for production units using renewable sources providing loans with a lower (and subsidised) interest rate. Web page: www.ekosklad.si.
- **Electricity distribution companies** are authorised by SODO to issue connection conditions and connection approvals. In the construction process of the production unit distribution companies perform an examination of the metering point, which is followed by a temporary test connection and then the conclusion of an agreement for connection to the electricity network. The list of Slovenian electricity distributers:
  ELEKTRO LJUBLJANA D.D., web page: www.elektro-ljubljana.si,
  ELEKTRO GORENJSKA D.D., web page: www.elektro-gorenjska.si,
  ELEKTRO MARIBOR D.D., web page: www.elektro-maribor.si,
  ELEKTRO PRIMORSKA D.D, web page: www.elektro-primorska.si,
  ELEKTRO CELJE D.D., web page: www.elektro-celje.si.
- **Engis** - Geographical information system for the field of renewable energy sources. Web page: www.engis.si.
- **The Energy and Mining Inspectorate of the Republic of Slovenia** acts under the responsibility of the Ministry of the Economy. It is the Energy Inspectorate's task to perform technical examinations of the production units to verify the compliance of the units and of the equipment with the applicable regulations. On the basis of a successful technical examination an operating permit is issued at the request of the investor. Web page: www.ier.gov.si.
- **The Energy Agency of the Republic of Slovenia** is responsible for the issuing of production unit declarations, decisions on the provision of support for electricity produced from RES or CHP and guarantees on the origin of electricity. All the required applications and additional information can be found on www.agen-rs.si.
- **Municipalities** are responsible for the issuing of planning information. Interested parties can get all the required forms for the application on the web pages of the municipality in which they wish to construct a production unit.
- **SODO d. o. o.,** sistemski operater distribucijskega omrežja z električno energijo,regulates the procedures for connection to the electricity network for the users. Web page: www.sodo.si.
- **Administrative units** operate within the Ministry of Public Administration and are responsible for the issuing of building permits. A list of all administrative units including their headquarters and the required forms is available on www.upravneenote.gov.si.


Planning information
Energy permit (for units over 1 MW)
Concept
Specific permits (concessions, environmental licence etc.)
Simple unit for the production of electricity
YES
NO
Construction in the protected zone of the electricity infrastructure
YES
Approval to construct
NO
Obtaining project conditions
Building permit application (PGD)
Aproval to the project
Planning permit acquisition
Proof of land disposal (right to build)
Construction of a simple unit for the production of electricity as a maintenance
Fulfilled conditions for the start of construction
Aproval to connection
Conclusion of an agreement for connection to the network
Construction of electricity connection
Tender documentation and provider selection
Construction of the production unit
Execution project (PZI)
Project for implemented work (PID) and operating instructions


or
Acquisition of the ECO decision by the Centre for RES/CHP support
(temporary, until the conclusion of the Agreement on the provision of support as guaranteed purchase)
Conclusion of the Agreement on the sale of electricity
Conclusion of the Network Access Agreement
Verification of the fulfilment of conditions for connection
Technical examination / inspection
Operation
Connection of the production unit
Operating permit
(if a building permit was issued for the production unit)
Acquisition of the production unit declaration
Acquisition of the Decision on the provision of support
Conclusion of the Agreement on the provision of support
Operation in the support scheme
Legend:
Investor / Service provider
Municipality
Administrative unit
Energy Agency
Centre for RES/CHP support (Borzen)
Electricity distribution company
Energy and Mining Inspectorate
Slovenian Environmental Agency
The Ministry of the Economy

Notes

Notes

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