

naturemade

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naturemade Certification Guidelines



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naturemade, naturemade star and naturemade resources star quality standards

1. Preamble

The naturemade certification guidelines form the basis of the certification system for energy - electricity, heat and biogas/biomethane - from renewable and ecological sources. Certification and licensing are available for both the production and supply of energy from these types of plants to end consumers.

The naturemade quality seal is sponsored by the VUE Association for Environmentally Sound Energy (*Verein für umweltgerechte Energie*). The Association was established in 1999. Its members are "Hydroelectric power plant electricity producers and their associations", "Producers of new renewable energies and their associations", "Energy suppliers, energy traders and their associations", "Environmental organisations", "Small consumers' associations" and "Large commercial consumers and their associations".

VUE and its members aim:

1. to promote new renewable energies and environmentally friendly energy products by developing, disseminating and implementing certification procedures and quality seals for environmentally friendly and renewable energy products, and disseminating and promoting the Association's own collective marks
2. to develop scientific criteria for the evaluation of renewable and environmentally friendly energy products
3. to pursue additional tasks related to renewable and environmentally friendly forms of energy, in particular collaboration with other organisations in Switzerland and abroad

1.1. Vision

We want to see **100 per cent green energy in Switzerland by 2050**. This applies to both the energy production and the supply mix in Switzerland.

1.2. Strategy

Market instruments and alignment with customers

- VUE provides orientation through credible, evidence-based quality standards and relevant quality seals that are ahead of legal regulations. In so doing, it strives to support and change consumers' awareness and choices.
- VUE's Swiss quality seal naturemade stands for the certification of renewable and eco-energy at national and international level.
- VUE enjoys the broad support of energy producers and suppliers, environmental and consumer organisations, large consumers, science, administrations at federal, regional and municipal level, and politicians.

Gradual greening of the energy system

- naturemade-certified energy protects the climate and nature - eco-energy corresponds to naturemade star quality.
- The Association and its members make a substantial contribution to the increased development of new renewable energies and a more ecological production of energy of naturemade star quality.
- The naturemade supply mix follows a pathway towards achieving VUE's vision.
- Energy efficiency and the careful management of reusable materials in general form important components of the greening of the energy system. VUE offers suitable tools and standards for doing so.

2. General provisions regarding the naturemade certification guidelines

2.1. Sponsor of the naturemade quality seals

The sponsor of the naturemade, naturemade star and naturemade resources star quality seals is the VUE Association for Environmentally Sound Energy.

- naturemade is energy from renewable sources of energy.
- naturemade star is renewably and ecologically produced energy.
- naturemade resources star is awarded to energy and reusable materials produced in an environmentally compatible manner.

The correct use of the quality seals is defined in the [communications and design guidelines](#).

2.2. Adoption and amendments

The VUE Board is responsible for adopting and amending the certification, [communications and design guidelines](#). Amendments may in particular be proposed by the Board, VUE working groups, Association members or the VUE executive office itself.

2.3. Award guidelines and prerequisites

- Membership of the VUE Association for Environmentally Sound Energy is a prerequisite for certification. The application for membership may be submitted together with the audit documentation.
- Certification or recertification respectively is awarded by the VUE Board on the basis of the VUE certification guidelines and the audit bodies' audit reports.
- All criteria required for the licence applied for must be complied with. It is not possible to set off individual criteria against each other.

2.4. Validity

Energy producers, providers and suppliers and vendors of reusable materials may only use the respective quality seal once the naturemade licensing agreement has been signed. A licensing agreement is valid for 5 years.

Licensing agreements for initial certification are valid up to the end of the 5th year from the commencement of the agreement. Licensing agreements for recertification are dated 1 January of the first year and likewise expire at the end of the 5th year from the commencement of the agreement.

If structural or operational changes are made to a licensed plant during the agreement term, the lead auditor is encouraged to consider early recertification. Recertification should be brought forward in case of changes which affect environmental impacts in particular.

2.5. Changes to the criteria and transition periods

If VUE changes any criteria of the certification guidelines, the following rules apply to the certification and recertification of naturemade licences:

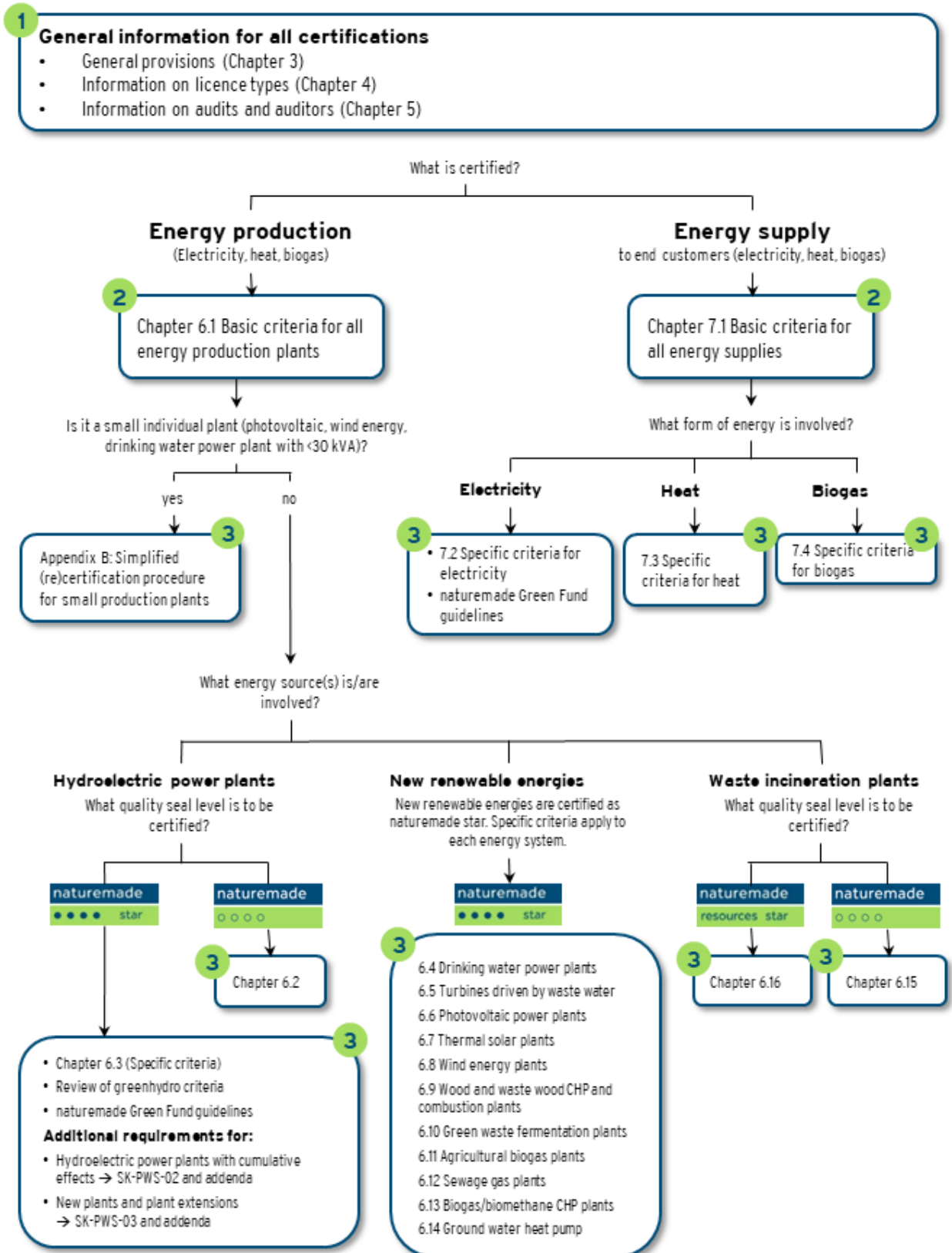
- The certification guidelines current at the time of the (re)certification audit apply.
- If criteria are changed substantially, the VUE executive office notifies the lead auditors and licensees by the end of the current year of any changes to the certification guidelines scheduled to take effect on 1 January of the following year.
- Licensees with current licensing agreements are additionally alerted to changes and possible measures that may become necessary for recertification by auditors during the annual review audit. This is noted on the review audit form.

Transition period for energy production plants

If it is found that the time to recertification is insufficient to ensure compliance with the changed criteria on recertification, VUE may, upon request, grant an extension of up to 3 years beyond the original recertification date to allow the new requirements to be met. Compliance with these requirements is included as mandatory in the recertification audit. However, no more than 4 years may elapse between an amendment to a criterion and compliance.

3. Overview diagram

This overview diagram shows which chapters and criteria are relevant for the various licences. Follow the diagram from top to bottom to identify all chapters and criteria relevant to you.



4. Types of licences

Different licences are granted for energy production and energy supply.

4.1. Single licence

Energy production

A single licence covers one certified energy production plant with one energy system (electricity, heat, biogas/biomethane).

Energy supply

Energy supply licences cover one certified energy supply product from one energy system (electricity, heat, biogas/biomethane). Energy supply licences are always single licences or form part of a combined licence.

4.2. Combined licence

A combined licence entails the joint certification of an energy production licence with an associated energy supply licence. Combined licences solely provide financial relief for licensees, as the (re)certification fee and fixed annual licence fee are charged per combined licence instead of per single licence.

A combined licence does not exempt the licensee from undergoing the (re)certification and review audits for both the energy production licence and energy supply licence.

The following conditions must be complied with for a combined licence:

- A combined licence can only be granted for products from a single form of energy (electricity, heat, biogas/biomethane).
- A combined licence can only be granted if the licensee's total energy sales are less than 5 GWh/a.
- For biogas/biomethane certifications, certification of individual production plants can be combined with the concomitant supply from an individual biogas filling station of up to 5 GWh as part of a combined licence.

4.3. Package licence for production plants

With package licences, several plants using the same energy system are certified jointly via a shared naturemade energy production licence. There is only a single licence and licensee, and package licences are treated as a single licence in licence invoices.

Requirements for package licences

- Package licences can be granted for the following energy systems:
 - photovoltaic plants
 - wind energy plants
 - drinking water power plants
 - hydroelectric power plants (excluding naturemade star)
 - naturemade star-certified micro-hydropower plants (<1 MW), if they are situated on the same section of a body of water
- Each plant must meet the certification criteria individually.
- The licensee is responsible for ensuring that all information and data required for the annual review audit and the (re)certification audit are available for all plants.
- The plants must share an energy accounting system.
- Only the licensee is entitled to the first sale of the added environmental value from all individual plants in a package.

Inclusion of new plants in an existing package licence

The process for including plants in an existing package depends on the respective energy system.

– **Photovoltaic plants**

Inclusion is available at any time by application to the executive office.

Earliest time certified energy can be credited:

Validity of the proof of origin.

– **Wind energy plants, drinking water power plants, hydroelectric power plants (excluding naturemade star)**

Inclusion is available as part of the review audit.

The lead auditor submits the required information on the new plant to the VUE executive office together with the review audit documentation.

Earliest time certified energy can be credited:

1 January of the current year

– **naturemade star-certified micro-hydropower plants**

New plants can only be included as part of the certification or recertification of the package.

4.4. Collective licence for energy production from biomass

A collective licence for energy production from biomass combines several single licences for energy production from biomass plants (production of electricity, heat or biogas/biomethane from green waste fermentation plants, agricultural biogas plants and sewage gas plants). Collective licences solely provide financial relief for licensees. Collective licences are treated as a single licence in licence invoices. No additional invoices are issued for the single licences forming part of a collective licence.

A collective licence does not, however, release the licensee from its obligation to undergo (re)certification and review audits for the single licences forming part of the collective licence. Under a collective licence, a joint audit report may be prepared for several plants per form of energy (electricity, heat/cooling, biogas/biomethane), provided that the respective criteria are met by each plant as confirmed by the report.

4.5. Multiple licences for energy production plants

If an energy production plant generates different forms of energy (electricity, heat/cooling and/or biogas/biomethane), only one production licence needs to be obtained. Depending on the energy products generated, the criteria relevant to the production of electricity, heat/cooling and biogas/biomethane must be complied with.

Multiple, combined and/or package licences cannot be combined.

5. Audits

5.1. Audit institutions and accredited auditors

VUE solely acts as the certification body. The required audits can be carried out by any independent auditing institution accredited by VUE.

Lead auditor

Lead auditors are employees of audit institutions accredited by VUE. They are responsible for the audit and review of all certification criteria and bear overall responsibility for the audit.

Specialist auditor for naturemade star hydroelectric power plants

During the certification or recertification of a hydroelectric power plant for the purposes of the naturemade star quality seal, a specialist auditor must be consulted for reviewing the specific criteria for naturemade star hydroelectric power generation.

Specialist auditors are employees of specialist consultancies with relevant experience. Specialist auditors must be accredited by VUE.

5.2. Choice of auditor

Lead auditor

The energy producer or supplier has a free choice of a **lead auditor accredited by VUE**. VUE provides a list of its accredited lead auditors.

All audits (certification, recertification, review audit) must be conducted by a lead auditor accredited by VUE.

Specialist auditor for naturemade star hydroelectric power plants

Specialist auditors are assigned by the VUE executive office.

Specialist audits conducted as part of the (re)certification of naturemade star-certified hydroelectric power plants must be conducted by a specialist auditor accredited by VUE.

A specialist auditor must be consulted by the lead auditor for review audits if a specialist auditor is the defined review body for the (re)certification audit.

5.3. Inspection of plants during audits

Inspection of plants during (re)certification audits

Plant inspection by the lead auditor is mandatory for (re)certification audits of:

- naturemade star-certified hydroelectric power plants (except where hydroelectric power generation constitutes ancillary use)
- naturemade star biomass plants
- naturemade resources star production plants. If (additional) external plants are involved in the recovery of reusable materials (i.e. plants at a different location from the plant to be certified), the auditor also verifies compliance with the relevant criteria at the site of the external plant.

For all other plants, inspections are conducted for random sampling purposes at the lead auditor's discretion.

Inspection of plants during review audits

- Inspections are mandatory for naturemade star hydroelectric power if plant-specific requirements apply.
- Otherwise inspections are conducted at the lead auditor's discretion.
- For agricultural biogas plants, auditors are additionally encouraged to conduct one or two intermediate, on-site inspections in between certification audits.

5.4. Scope and required documentation for (re)certification audits

(Re)certification audits must comply with the VUE certification criteria. Audits involve verification that all certification criteria are met. (Re)certification audits conclude with a (re)certification audit report explaining whether and how the certification criteria are complied with.

The lead auditor must submit the complete documentation and information required for (re)certification to the VUE executive office in a timely manner.

Required documentation for energy production (re)certification audits

- **application for (re)certification** as per the template
- **declaration** for energy generation plants as per the template
- **certification audit report:**
 - This document confirms compliance with all relevant naturemade certification criteria.
- if required according to the Guidelines: completed **parameter model** to confirm compliance with the global criteria

Additionally for **naturemade star-certified hydroelectric power plants:**

- **management program:**
 - This document sets out detailed clarifications regarding the naturemade star greenhydro® criteria and an action plan.
- **specialist audit report:**
 - During a specialist audit, a specialist auditor verifies whether the hydroelectric power plant to be (re)certified complies with the fundamental scientific and aquatic ecological requirements defined for naturemade star.

Required documentation for energy supply certification

No audit is required for the **certification** of new supplies of naturemade energy. It is sufficient to submit the relevant document “Application and declaration for the certification of supplies”.

Required documentation for energy supply (re)certification audits

- **application for recertification** as per the template
- **declaration** for energy supplies as per the template
- **recertification audit report:**
 - This document confirms compliance with all relevant naturemade certification criteria.

5.5. Review audits




Review audits are conducted by an accredited lead auditor in accordance with the VUE certification criteria. **Review audits must be conducted and submitted to the VUE executive office annually no later than by the end of the year following the audited assessment period.** In the first year of the licence term, the due date for the review audit may be extended to a maximum of 15 months or brought forward to less than 12 months.

If a licence is terminated or no recertification is sought, review audits must also be submitted for the last assessment period of the contractual term. The following aspects are primarily audited as part of the review audit:

- compliance with the relevant naturemade criteria in accordance with the review audit template
- energy accounts (net energy production and sales/supplies)
- progress report on the implementation of requirements

6. Certification criteria for energy production plants

The criteria for energy production plants comprise basic criteria and specific criteria. **For certification with the naturemade, naturemade star or naturemade resources star quality seals, both the basic criteria and the criteria specific to the respective energy system must be complied with.**

	Quality seal	Specific criteria for	Electricity	Heat	Biogas/biomethane
Basic criteria + Specific criteria for		Hydroelectric power plants	x		
		Waste incineration plants	x	x	
		Hydroelectric power plants	x		
		Drinking water power plants	x		
		Turbines driven by waste water	x		
		Photovoltaic plants	x		
		Thermal solar plants		x	
		Wind energy plants	x		
		Wood and waste wood CHP plants	x	x	
		Wood and waste wood combustion plants		x	
		Green waste fermentation plants	x	x	x
		Agricultural biogas plants	x	x	x
		Sewage gas plants	x	x	x
	Biogas/biomethane CHP plants	x	x		
	Waste incineration plants	x	x		

6.1. Basic criteria for all energy production plants

The basic criteria apply to all energy systems and energy products at the naturemade, naturemade star and naturemade resources star quality levels.

BK-P-01 Sources	Certification is always awarded to entire plants (independent unit). naturemade and naturemade star Energy certified under the naturemade/naturemade star quality seal (electricity, heat, biogas) is derived exclusively from plants and power plants using renewable energy sources. naturemade resources star Energy and reusable materials certified under the naturemade resources star quality seal are derived from plants which recover energy and reusable materials from waste.
BK-P-02 Evidence of net energy production	naturemade and naturemade star The certified quantity of energy and reusable material of a plant refers to the annual net production . To calculate the net energy production, the total energy input from external or other sources (e.g. non-renewable operating energy, ignition energy, peak load coverage, etc.) must be deducted unweighted from the gross quantity of energy production. Plants must have a meter for each energy input and output for verification.

Energy from own production (including energy with added environmental value from directly upstream or downstream processes) **as well as naturemade star and naturemade resources star**-certified energy does not need to be deducted as energy input.

The certified quantity of energy of an energy production plant refers to the annual net energy production (production minus internal consumption and losses). Plants must measure net energy per energy input and output (electricity, heat, biogas/biomethane) as evidence of their net energy quantities.

- For **heat certifications**, the quantity of heat measured at the consumer's heat meter applies, i.e. network losses must be deducted for district heat networks in particular.
- For **green waste fermentation plants and agricultural biogas plants**, all processes are taken into account that fall within the "system boundary of the plant's internal energy consumption" according to the "[Manual for naturemade parameter models: life cycle analyses for assessing the global criterion](#)", Fig. 4.5 "System boundaries of biomass fermentation plants for input into the parameter model".
- For **sewage gas from waste water treatment plants**, gasometers, gas processing, gas flares and the treatment plant or BTTP respectively are taken into account in accordance with the guideline on compensatory feed-in remuneration (KEV) Art. 7a EnG [Swiss Energy Law], Biomass Appendix 1.5 EnV [Swiss Energy Ordinance] Version 1.7 of 1 January 2016.
- For **waste incineration plants which receive compensatory feed-in remuneration (KEV) for their production of electricity from renewables**, the non-renewable portion of electricity production can be certified as **naturemade resources star**. Only the quantity of net energy which corresponds to the renewable portion of the plant's total energy input is eligible for certification.

The following energy inputs must be deducted:

- The entire external energy input (e.g. electricity, heat, biogas/biomethane, natural gas, diesel, fuel oil, ignition oil) is deducted from the gross energy production.
- All energy inputs are treated on a 1:1 basis for deduction (in kWh) and are not weighted.

The following energy inputs do not need to be deducted:

- internal production (including energy with added environmental value from directly upstream or downstream processes)
- all certified naturemade (resources) star energy

naturemade resources star

If a plant is certified, its net products, i.e. energy and reusable materials, are 100 per cent eligible for certification under the naturemade resources star quality seal.

For waste incineration plants which receive compensatory feed-in remuneration (KEV) for their production of electricity from renewables, only the portion of electricity production which is not covered by KEV can be certified.

Mandatory registration, prevention of multiple sales	<p>All naturemade-certified electricity production plants must be registered in the proof of origin system of the country where they are located. This also applies to plants smaller than 30 kVA.</p> <p>Heat</p> <p>There are currently no registers for recording proofs of origin for heat. To prevent multiple sales, the licensee/plant operator must disclose to the naturemade lead auditor the supply contracts via which the produced heat is marketed. The sum of the quantities of energy sold under supply contracts must not exceed the net energy produced by the certified plant.</p> <p>Biogas/biomethane</p> <p>To prevent multiple sales, the licensee/plant operator must disclose to the naturemade lead auditor the registers and supply contracts via which the produced biogas/biomethane is marketed. The sum of the quantities of energy sold under supply contracts and entered in relevant registers must not exceed the net energy produced by the certified plant.</p> <p>Proof of origin is to be provided via nationally recognised registers as far as possible. If the licensee uses a register that is not nationally recognised, it must disclose to the competent naturemade lead auditor the register's operation and all transactions regarding quantities of energy from the plant.</p>
BK-P-04 Energy management	To safeguard procedures, the producer uses an energy and materials management system that is in keeping with the company's circumstances, and it conducts appropriate measurement and monitoring activities.
BK-P-05a Characteristics of naturemade-certified energy	<p>Naturemade certification provides a guarantee to end customers that the full added environmental value of certified energy is sold together with this energy. Partial added value, in particular greenhouse gas savings, cannot be traded or supplied to end customers separately from the respective naturemade-certified energy.</p> <p>Sales to end customers concern the system boundary at the supply/consumer level and do not say anything about balances at the national level. However, end customers have an impact on the balance of Switzerland's national climate protection targets if they purchase naturemade-certified energy from domestic (Swiss) production.</p> <p>Approach to energy from subsidised plants</p> <p>Renewable energy from subsidised plants is eligible for naturemade certification if the subsidising body explicitly does not claim the full added environmental value at the supply/consumer level. VUE may request a relevant certificate.</p>

BK-P-05b

Characteristics of naturemade-certified energy

The following applies additionally to biogas/biomethane:

- Certification for biogas/biomethane is only available at the naturemade star quality level.
- Certified biogas/biomethane is fed into the **European gas grid**.
- Biogas production plants with **local use** must result in a reduction of natural gas consumption in the European gas grid, i.e. the biogas produced by these plants must be physically used at the local level. However, local usage must be connected to the European gas grid. As a result, the consumption of gas from fossil sources is reduced by the amount of biogas used.

Certification and compliance with the certification criteria always relate to the entirety of energy production (electricity, heat, biogas) and in particular the entire input of materials into the plant.

In exceptional cases and upon the licensee's request, separate balances may be prepared for individual types of substrates (input materials) within a plant, and partial quantities may be assigned to the overall energy production. In these cases, the quantity sold as naturemade star is assigned a specific substrate mix which is different from the overall substrate mix used by the plant. In these approved exceptional cases, the licensee/plant operator must disclose to the lead auditor all supply contracts and register entries for biogas/biomethane quantities produced by the plant and provide evidence of the following during the annual review audit:

- Biogas/biomethane from partial substrate quantities identified separately in the balance is not sold multiple times.
- All certification criteria, in particular the global criterion, are also complied with by the specific substrate mix assigned to the quantities sold as naturemade star.

Biogas/biomethane from substrates where the value chain is inconsistent with the VUE objective of protecting the climate and nature cannot be certified. This includes farmyard manure from mink farms, for example. Plants are excluded from certification if the total gas production from such substrates exceeds 5 per cent of the plant's total gas production. Smaller portions may be separated in the energy balance (see paragraph below).

BK-P-06

Corporate policy, principle

Maintaining and promoting the sustainable generation and efficient use of energy must be a core part of the licensees' corporate policy. Corporate policy contains sustainability statements for the entire company.

BK-P-07

Environmental management system

If the licensee of the energy production plant to be certified employs more than 30 staff, it must have a certified environmental management system (according to ISO 14001 or EMAS) or equivalent quality management system throughout its entire company. If there is no environmental management system yet, the licensee has a period of 5 years from the initial certification of the energy production plant to introduce such a system.

BK-P-08 Legal compliance	All technical, legal and other requirements for operating the plants that are necessary for providing the energy must be complied with. Plants outside Switzerland must comply with not only local/national requirements but also the relevant standard applicable in Switzerland (adapted to country-specific conditions).
BK-P-09 First sale of certified energy (naturemade/naturemade star/naturemade resources star)	Only the licensee of the production licence is entitled to the first sale of the energy of a naturemade certified energy production plant (naturemade, naturemade star or naturemade resources star).
BK-P-10 Supplies to end customers	If naturemade-certified energy (naturemade, naturemade star or naturemade resources star) is supplied to end customers physically or via a certificate, such supplies must be covered by a relevant supply licence .

6.2. Hydroelectric power plants: Specific criteria for naturemade electricity production

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

SK-PW-01 Addendum to legal compliance	Hydroelectric power plants must fulfil the residual flow requirements of Art. 80 to Art. 83 Water Protection Act within the time specified to be eligible for certification under the naturemade quality seal. These requirements are deemed fulfilled if: <ul style="list-style-type: none"> – the competent authority has not classified the plant as requiring remediation; or – any remediation prescribed by the competent authority in a legally binding manner has been fully implemented.
-------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

SK-PW-02	
Certifiable energy of pumped-storage power plants	For pumped-storage power plants only the quantity of energy generated from natural inflows can be certified. For Swiss plants this corresponds to the quantity of electricity covered by a proof of origin (HKN) for hydroelectric power. For plants outside Switzerland, the Swiss HKN regulation applies analogously.

**6.3. Hydroelectric power plants:
Specific criteria for naturemade star electricity production**

Certification of hydroelectric power plants under the naturemade star quality seal requires not only compliance with the naturemade basic criteria, but also an environmentally friendly operation and design of the respective plant. This ensures crucial environmental watercourse functions and protects the environment. These requirements are met if the basic greenhydro¹ requirements and the criteria listed below are met.

The following serve as assessment basis:

- the ecological circumstances within the catchment area
- the state of scientific knowledge and the art
- the impacts which can be attributed to the hydroelectric power plant, taking into account the cumulative effects of additional hydroelectric power plants

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion	Hydroelectric power plants achieve this threshold value categorically.
Environmental impact threshold value	

¹ Ch. Brätrich & B. Truffer (2001): *Ökostrom-Zertifizierung für Wasserkraftanlagen, Konzepte, Verfahren, Kriterien*, SBN 3-905484-05-6; also greenhydro tools provided by VUE

SK-PWS-01 Scientifically based criteria	<p>The 45 basic greenhydro requirements and the criteria listed below must be met.</p> <p>The process for verifying these criteria is set out in Appendix A.1. It includes the preliminary study, the management program and the specialist audit.</p>
SK-PWS-02 Requirements for hydroelectric power plants with cumulative effects	<p>Hydroelectric power plants to be certified may be impacted by the effects of other hydroelectric power plants (= cumulative effects). The following cases are differentiated:</p> <ul style="list-style-type: none"> – cascading power plants with run-of-river operation – cascading power plants with hydropower peaking operation – plants sharing parts of their facilities with other plants <p>Hydroelectric power plants which fall within one of the three categories described above must comply with both the greenhydro criteria and the provisions set out in Appendix A.3, and furnish additional information in the management program.</p>
SK-PWS-03 Requirements for power plant extensions and new plants	<p>New power plants and power plant extensions can be awarded naturemade star certification if the impact of construction works and operation does not impair additional natural or near-natural habitats, populations or landscapes (prohibition of deterioration) or brings about an improvement.</p> <p>New power plants and power plant extensions are:</p> <ul style="list-style-type: none"> – all power plants built or extended after 1 January 2001 which currently use watercourses, natural gradients or stored capacities that were not used or used to a lesser extent before the power plant was built or extended respectively – all power plants originally decommissioned and subsequently refurbished and recommissioned after 1 January 2001 <p>The more stringent requirements for new plants do not apply where existing water utilisation is renewed at the previous or a smaller scale after 1 January 2001. These more stringent requirements are set out in Appendix A.4.</p>

SK-PWS-05

naturemade green funds
for naturemade star-
certified hydroelectric
power plants

Hydroelectric power plants must establish and manage an "environmental improvement fund" to be awarded the naturemade star quality label.

Contributions to the fund are made at a rate of 0.7 cents per kilowatt hour sold to end customers.

The criteria and rules regarding the green fund are described in detail in the "naturemade Green Funds" guidelines, version 1.1. The guidelines set out the following topics:

- accumulation of funds
 - products subject to the fund levy
 - amount of the fund levy
 - management of fund monies/organisation of the steering committees
 - management of fund monies
 - organisation of the steering committees
 - use of fund monies
 - purposes
 - allocation of fund monies to specific purposes
 - responsibility/reporting/monitoring
 - termination of licence
 - fund dissolution
-

**6.4. Drinking water power plants:
Specific criteria for naturemade star electricity production**

A simplified recertification process is available upon request for plants <30 kVA. The relevant requirements are set out in [Appendix B](#).

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion

Environmental impact threshold value

Drinking water power plants achieve this threshold value categorically.

SK-PTW-01

Turbines driven by drinking water

Electricity production constitutes merely an ancillary use of the drinking water supply system.

It must be shown conclusively that only drinking water provided for the local drinking water supply is used to drive the turbines.

SK-PTW-02

Sources used

As an annual average, a maximum of 80 l/s is drawn from each source used. If more than 80 l/s is drawn from any source, residual flow requirements must be complied with.

SK-PTW03

Groundwater protection zones

Protection zones safeguard the long-term quality of drinking water. The sources used lie within an approved or provisional groundwater protection zone. All protection measures in Protection Zone I are implemented.

SK-PTW-04

Surplus water

Surplus water from reservoirs and well chambers causes no hydraulic shock or erosion in the receiving watercourse throughout the year. The ratio of input quantity to outflow does not exceed 1:5.

SK-PTW-05

Flushing from reservoirs and well chambers

Flushing from reservoirs and well chambers into receiving watercourses only takes place at high outflow rates. The water quality requirements are met (Water Conservancy Ordinance, Annex 2 GSchV).

SK-PTW-06 Point of input to receiving watercourses	Input points are integrated into the bank area to minimise environmental impact.
SK-PTW-07 Machinery maintenance	Based on the array of the turbine and associated control and terminating elements, the operator demonstrates that water contamination caused by hydraulic and lubricant fluids can be excluded both during operation and maintenance works.
SK-PTW-08 Integration into the landscape	All parts of the plant are either housed in existing buildings or carefully integrated into the landscape by a suitable choice of materials and/or design.
SK-PTW-09 Protection of sensitive biotopes	All parts of the plant are located outside listed or sensitive biotopes or are optimally integrated into them by a choice of materials and planting that is sensitive to the location.
SK-PTW-10 Noise protection	The positioning of outlet apertures and acoustic insulation measures reduces noise emissions to a minimum. The Noise Abatement Ordinance is complied with.

6.5. Turbines driven by waste water: Specific criteria for naturemade star electricity production

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01: Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion Environmental impact threshold value	Waste water power plants achieve this threshold value categorically.
SK-PAW-01 Ancillary use of water-driven turbines	Electricity production constitutes merely an ancillary use of the waste water treatment plant.

SK-PAW-02 Machinery maintenance	Based on the array of the turbine and associated control and terminating elements, the operator demonstrates that water contamination caused by hydraulic and lubricant fluids can be excluded both during operation and maintenance works.
SK-PAW-03 Integration into the landscape	All parts of the plant are either housed in existing buildings or carefully integrated into the landscape by a suitable choice of materials and/or design.
SK-PAW-04 Protection of sensitive biotopes	All parts of the plant are located outside listed or sensitive biotopes or are optimally integrated into them by a choice of materials and planting that is sensitive to the location.
SK-PAW-05 Noise protection	The positioning of outlet apertures and acoustic insulation measures reduces noise emissions to a minimum. The Noise Abatement Ordinance is complied with.

**6.6. Photovoltaic plants:
Specific criteria for naturemade star electricity production**

A simplified (re)certification process is available upon request for plants <30 kVA. The relevant requirements are set out in [Appendix B](#).

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion
Environmental impact threshold value

The environmental impact caused by audited plants must not exceed the [naturemade star threshold](#).

Photovoltaic plants with poly- or mono-crystalline cells which were constructed after 2000 and/or have an annual energy output of at least 500 kWh per kWp achieve this threshold value categorically.

Plants which do not meet the above requirements are audited on the basis of a [parameter model](#) standardised for photovoltaic plants.

SK-PPS-01 Protection of surroundings	Photovoltaic plants can be certified if they are located in areas approved for building development . Plants outside of areas approved for building development can be certified if: <ul style="list-style-type: none"> – they are constructed on or attached to buildings, protective structures (e.g. avalanche and noise barriers) or on building or plant sections firmly attached to the ground – the main use of the plant or structure is guaranteed in the long term – ancillary use by the photovoltaic plant does not dominate – there is no lasting impairment of landscapes or habitats meriting protection or, if there is, landscapes and habitats can be rehabilitated. This also applies to the erection and operation of the ancillary plants necessary for generating the energy produced.
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SK-PPS-02 Photovoltaic plants on Minergie and MuKEn 2014 buildings	Where plants are counted towards Minergie compliance or were constructed to meet the requirements of the 2014 Model Regional Provisions in the Energy Sector (internal MuKEn electricity generation), only excess energy can be traded and sold to end customers via a supply licence under the naturemade star quality seal. Excess energy is calculated as net energy minus own consumption according to own consumption regulations.
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**6.7. Thermal solar plants:
Specific criteria for naturemade star heat production**

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion Environmental impact threshold value	Solar thermal energy plants listed at http://kollektorliste.ch/ achieve the naturemade star threshold value for environmental impact categorically.
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SK-PPW-01 Protection of surroundings	Solar thermal energy plants can be certified if they are located in areas approved for building development .
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**6.8. Wind energy plants:
Specific criteria for naturemade star electricity production**

A simplified recertification process is available upon request for plants <30 kVA. The relevant requirements are set out in [Appendix B](#).

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion	The environmental impact caused by audited plants must not exceed the naturemade star threshold .
Environmental impact threshold value	This is verified using a parameter model standardised for wind energy plants .
SK-PWK-01	For wind energy plants it must be ensured that the surrounding area remains protected. Negative effects, above all those on officially protected areas, are to be avoided. Wind turbines in areas listed in the Swiss Federal Inventory of Landscapes, Natural Sites and Monuments of National Importance (BLN) are excluded from naturemade star certification as a matter of principle.
Protection of surroundings	

**6.9. Wood and waste wood cogeneration and combustion plants:
Specific criteria for naturemade star electricity and heat production**

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion	The environmental impact caused by audited plants must not exceed the naturemade star threshold .
Environmental impact threshold value	This is verified using a parameter model standardised for wood fuels and waste wood .

SK-PH-01	The operator of a plant for generating electricity and heat from wood fuel and waste wood provides a self-declaration stating the origin of the wood fuels.
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Waste wood

Tropical wood may only be used as fuel if it is waste wood. Any tropical wood used must come from FSC-certified cultivation.

Untreated wood

The origin of untreated wood meets a standard equivalent to FSC certification.

Multicyclone

Plants equipped with a multicyclone and no other cleaning filters use only untreated (freshly cut) wood or waste wood from first-level processing. This is verified during the annual review audit based on the declaration.

SK-PH-02	CHP plants for generating electricity and heat from wood fuel and waste wood can be certified under the naturemade star quality seal if they achieve an annual efficiency that meets the minimum requirements set out in Appendix A.6 .
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SK-PH-03	Specifically for CHP plants
Energy strategy	<p>An energy strategy has been developed for the plant, which covers at least the following points:</p> <ul style="list-style-type: none"> – all energy flows of the plant (inputs and outputs) – measures to increase the plant's energy efficiency – a schedule for implementing the planned measures
<hr/>	
SK-PH-04	Specifically for CHP plants with downdraft co-current fixed-bed gasifier and dry gas cleaning
Waste water	<p>Waste water as a by-product is subjected to wet oxidation treatment in a special waste water disposal plant. If another waste water treatment method is used, evidence of appropriate disposal and/or treatment must be provided.</p>
<hr/>	
SK-PH-05	Specifically for combustion plants for heat generation
Quality management	<p>Only plants with an output >70 kW are eligible for certification.</p> <p>The plant was constructed and optimised based on the quality management standards for wood-fired thermal plants, including the completion of a feasibility study. Both the framework conditions for energy planning and the location and condition of the building have been taken into account in the process.</p>

6.10. Green waste fermentation plants:

Specific criteria for naturemade star electricity, heat and biogas/biomethane production

Basic criteria	
<p>Only the energy production from plants which comply with the basic criteria is eligible for certification:</p> <ul style="list-style-type: none"> – BK-P-01 Energy sources – BK-P-02: Evidence of net energy production – BK-P-03: Mandatory registration, prevention of multiple sales – BK-P-04: Energy management – BK-P-05: Characteristics of naturemade-certified energy – BK-P-06: Corporate policy, principle – BK-P-07: Environmental management system – BK-P-08: Legal compliance – BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star) – BK-P-10: Supplies to end customers 	
Specific criteria	
<p>Global criterion</p> <p>Environmental impact threshold value</p>	<p>The environmental impact caused by audited plants must not exceed the naturemade star threshold.</p> <p>This is verified using a parameter model standardised for biomass plants.</p>
<p>SK-PG-01</p> <p>Energy sources for biogas plants</p>	<p>Only plants are eligible for certification which:</p> <ul style="list-style-type: none"> – are demonstrably designed with a view to generating energy from renewable energy sources – use substrates that are biogenic residue and waste (see Appendix A.5.) which does not compete with food and feed production – add no more than 10 per cent propane gas to the biogas to adjust its fuel value <p>The use of biogenic materials that are explicitly or primarily grown for energy generation purposes and compete for land with food or forage crops (so-called energy crops) is not permitted.</p> <p>The substrate purchase prices excluding transport costs must be stated in the parameter model (where this is required). If a company produces waste or production residue that is fermented within the company or a subsidiary, regionally specific market prices must be entered in the parameter model.</p>
<p>SK-PG-02</p> <p>No use of genetically modified organisms</p>	<p>The knowing use of genetically modified organisms² for energy generation is prohibited. Unintentional traces of modified biogenic material are permitted.</p>

²Plants and animals in accordance with the Ordinance on the release of organisms into the environment, FrSV, SR 814.911)

	<p>Products/residue of genetically modified plants and animals as well as genetically modified microorganisms and their products/residue may be used, if genetic contamination of the natural environment by material capable of continued propagation in the energy generation plant and upstream processes for producing the substrate is excluded.</p>
<p>SK-PG-03 Safeguarding of soil fertility and productivity</p>	<p>The long-term fertility and productivity of the soil used to grow biomass for fuels must be ensured by returning the nutrients of the substrates used for energy generation into the natural cycle together with the digestate.</p>
<p>SK-PG-04 Integration into the landscape</p>	<p>Certified plants integrate optimally into the surrounding landscape and do not impair it.</p>
<p>SK-PG-05 Odour emissions</p>	<p>The emission of odours which may occur during acceptance, processing and fermentation of substrates should be avoided as far as possible. All odour reduction measures must be state of the art.</p>
<p>SK-PG-06 Exhaust gas emissions</p>	<p>Exhaust gas emissions may occur during acceptance and processing of substrate or when biogas is burned for the production of electricity and/or heat. These emissions must satisfy the requirements of the Swiss Ordinance on Air Pollution Control (LRV 1985).</p> <p>Emissions to be declared in the parameter model for biomass plants must be shown together with current measurements, which need to be repeated at least every 2 years.</p>
<p>SK-PG-07 Gas emissions and methane leakage</p>	<p>Electricity/heat</p> <p>Spot (methane) measurements must be conducted regularly (several times per year) and documented appropriately to avoid emissions.</p> <p>Biogas/biomethane</p> <p>At rated operation, the defined off-gas emitted from the treatment plant must not contain more than 1 per cent methane relative to the methane contained in biogas. Proof of compliance with this threshold is subject to the requirements of SVGW Guideline G209.</p>
<p>SK-PG-08 Noise emissions</p>	<p>Only plants which meet the requirements of the Swiss Noise Abatement Ordinance (LSV 1986) are eligible for certification.</p>

**6.11. Agricultural biogas plants:
Specific criteria for naturemade star electricity, heat and biogas/biomethane production**

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01: Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion	The environmental impact caused by audited plants must not exceed the naturemade star threshold .
Environmental impact threshold value	This is verified using a parameter model standardised for biomass plants .

SK-PLG-01	Only plants are eligible for certification which:
Energy sources for biogas plants	<ul style="list-style-type: none"> – are demonstrably designed with a view to generating energy from renewable energy sources – use substrates that are biogenic residue and waste (see Appendix A.5.) which does not compete with food and feed production – in case of dual-fuel BTTPs, have a fuel oil consumption that does not exceed 10 per cent of the total energy input – add no more than 10 per cent propane gas to the biogas to adjust its fuel value <p>The use of biogenic materials that are explicitly or primarily grown for energy generation purposes and compete for land with food or forage crops (so-called energy crops) is not permitted.</p> <p>The substrate purchase prices excluding transport costs must be stated in the parameter model (where this is required). If a company produces waste or production residue that is fermented within the company or a subsidiary, regionally specific market prices must be entered in the parameter model.</p>

<p>SK-PLG-02 No use of genetically modified organisms</p>	<p>The knowing use of genetically modified organisms³ for energy generation is prohibited. Unintentional traces of modified biogenic material are permitted.</p> <p>Products/residue of genetically modified plants and animals as well as genetically modified microorganisms and their products/residue may be used, if genetic contamination of the natural environment by material capable of continued propagation in the energy generation plant and upstream processes for producing the substrate is excluded.</p>
<p>SK-PLG-03 Safeguarding of soil fertility and productivity</p>	<p>The long-term fertility and productivity of the soil used to grow biomass for fuels must be ensured by returning the nutrients of the substrates used for energy generation into the natural cycle together with the digestate.</p>
<p>SK-PLG-04 Integration into the landscape</p>	<p>Certified plants integrate optimally into the surrounding landscape and do not impair it.</p>
<p>SK-PLG-05 Prevention of gas emissions, management of plant disruptions</p>	<p>An operating log must be kept to document all plant disruptions. To prevent gas leakage during disruptions of operations, plants must be equipped with a system for burning off gas (e.g. in flares or burners) that is either permanently installed or is ready to be operated at any time.</p>
<p>SK-PLG-06 Odour emissions</p>	<p>The emission of odours which may occur during acceptance, processing and fermentation of substrates should be avoided as far as possible. All odour reduction measures must be state of the art.</p>
<p>SK-PLG-07 Exhaust gas emissions</p>	<p>Exhaust gas emissions may occur during acceptance and processing of substrate or when biogas is burned to produce electricity and/or heat. These emissions must satisfy the requirements of the Swiss Ordinance on Air Pollution Control (LRV 1985).</p> <p>Emissions to be declared in the parameter model for biomass plants must be shown together with current measurements, which need to be repeated at least every 2 years.</p>

³Plants and animals in accordance with the Ordinance on the release of organisms into the environment, FrSV, SR 814.911)

SK-PLG-08	Electricity/heat
Gas emissions and methane leakage	Spot (methane) measurements must be conducted regularly (several times per year) and documented appropriately to avoid emissions.
	Biogas/biomethane
	At rated operation, the defined off-gas emitted from the treatment plant must not contain more than 1 per cent methane relative to the methane contained in biogas. Proof of compliance with this threshold is subject to the requirements of SVGW Guideline G209.
SK-PLG-09	For agricultural biogas plants, ammonia emissions are monitored via a farm fertiliser management system and minimised by appropriate measures, including by covering slurry pits or installing a biofilter and spreading slurry close to the surface. Farm fertiliser management includes measures recommended by the Swiss Federal Institute for Agricultural Economics and Engineering (ART) to reduce ammonia losses ⁴ .
Farm fertiliser management, reduction of ammonia emissions	
SK-PLG-10	Only plants which meet the requirements of the Swiss Noise Abatement Ordinance (LSV 1986) are eligible for certification.
Noise emissions	

⁴ Cf. Frick, F. & Menzi, H. (1997): *Hofdüngeranwendung: Wie Ammoniakverluste vermindern? Auch einfache Massnahmen wirken*. FAT Reports, No. 496.

6.12. Sewage gas plants:

Specific criteria for naturemade star electricity, heat and biogas/biomethane production

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion Environmental impact threshold value	The environmental impact caused by audited plants must not exceed the naturemade star threshold . This is verified using a parameter model standardised for biomass plants .
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SK-PKG-01 Energy sources for biogas plants	Only plants are eligible for certification which: <ul style="list-style-type: none">– are demonstrably designed with a view to generating energy from renewable energy sources– use co-substrates that are biogenic residue and waste (see Appendix A.5.) which does not compete with food and feed production– add no more than 10 per cent propane gas to the biogas to adjust its fuel value <p>The use of biogenic materials that are explicitly or primarily grown for energy generation purposes and compete for land with food or forage crops (so-called energy crops) is not permitted.</p> <p>The co-substrate purchase prices excluding transport costs must be stated in the parameter model (where this is required). If a company produces waste or production residue that is fermented within the company or a subsidiary, regionally specific market prices must be entered in the parameter model.</p>
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SK-PKG-02 No use of genetically modified organisms	The knowing use of genetically modified organisms ⁵ for energy generation is prohibited. Unintentional traces of modified biogenic material are permitted.
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⁵Plants and animals in accordance with the Ordinance on the release of organisms into the environment, FrSV, SR 814.911)

	<p>Products/residue of genetically modified plants and animals as well as genetically modified microorganisms and their products/residue may be used, if genetic contamination of the natural environment by material capable of continued propagation in the energy generation plant and upstream processes for producing the substrate is excluded.</p>
<p>SK-PKG-03 Energy strategy</p>	<p>An energy strategy has been developed for the plant, which covers at least the following points:</p> <ul style="list-style-type: none"> – all energy flows of the plant (inputs and outputs) – measures to increase the plant's energy efficiency – a schedule for implementing the planned measures
<p>SK-PKG-04 Odour emissions</p>	<p>The emission of odours which may occur during acceptance and processing of co-substrates should be avoided as far as possible. Odour reduction measures must be state of the art (e.g. paved surfaces with waste water catchment).</p>
<p>SK-PKG-05 Exhaust gas emissions</p>	<p>Exhaust gas emissions may occur during acceptance and processing of substrate or when biogas is burned to produce electricity and/or heat. These emissions must satisfy the requirements of the Swiss Ordinance on Air Pollution Control (LRV 1985).</p> <p>Emissions to be declared in the parameter model for biomass plants must be shown together with current measurements, which need to be repeated at least every 2 years.</p>
<p>SK-PKG-06 Gas emissions and methane leakage</p>	<p><u>Electricity/heat</u></p> <p>Spot (methane) measurements must be conducted regularly (several times per year) and documented appropriately to avoid emissions.</p> <p><u>Biogas/biomethane</u></p> <p>At rated operation, the defined off-gas emitted from the treatment plant must not contain more than 1 per cent methane relative to the methane contained in crude gas. Proof of compliance with this threshold is subject to the requirements of SVGW Guideline G209.</p>
<p>SK-PKG-07 Noise emissions</p>	<p>Only plants which meet the requirements of the Swiss Noise Abatement Ordinance (LSV 1986) are eligible for certification.</p> <p>Where organic waste is used as co-substrate, the noise emissions from associated truck traffic must be taken into account.</p>

**6.13. Biogas/biomethane CHP plants:
Specific criteria for naturemade star electricity and heat production**

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

SK-PBK-01 Gas origin	Only naturemade star-certified biogas/biomethane is used for cogeneration. The biogas/biomethane plant(s) in which the biogas/biomethane input is generated and the cogeneration plant are interconnected via a gas network. Biogas/biomethane supplies are tied to physical supplies.
SK-PBK-02 Annual efficiency	The overall system (plant and thermal supply network) must achieve an annual efficiency of at least 80 per cent.

6.14. Groundwater heat pumps

Basic criteria

Only the energy production from plants which comply with the basic criteria is eligible for certification:

- BK-P-01: Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of energy in naturemade / naturemade star / naturemade resources star quality
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion

Environmental impact threshold value

Heat generation: The environmental impact caused by heat generation plants to be audited must not exceed half of the impact of a condensing natural gas boiler (>100 kW).

Cooling generation: The environmental impact caused by plants to be audited must not exceed half of the impact of a reference cooling unit operated with the Swiss electricity product mix (average value of the Swiss production mix). The reference cooling unit is:

- for plants with a cooling capacity of up to 400 kW a 134a cooling unit and
- for plants with a cooling capacity of more than 400 kW a cooling unit using a refrigerant that does not deplete the ozone layer and is not stable in the atmosphere.⁶

This is verified using a standardised model for heat pumps or cooling units ("parameter model").

SK-GW-01

Use of green electricity

Only electricity from naturemade star-certified production is used to operate the heat pump or cooling unit.

SK-GW-02

Monitoring of energy efficiency and optimisation of operation

Plant efficiency is monitored on an ongoing basis. For this purpose, efficiency parameters (annual performance factor, energy efficiency ratio or similar) are measured at least annually.

Optimisations of operation are demonstrably examined and implemented on this basis.

⁶ The refrigerant R134a is prohibited in plants with a cooling capacity of more than 400 kW in accordance with Annex 2.10 No. 2.1(3)(d) ChemRRV (Swiss Chemical Risk Reduction Ordinance).

<u>SK-GW-03</u> <u>Refrigerant</u>	<u>Only natural refrigerants (according to the BAFU (Swiss Federal Office for the Environment) classification⁷) are used as refrigerants.</u>
<u>Regular maintenance</u>	<u>Groundwater wells, heat pumps and return wells are checked regularly for contamination and leakage. These checks are conducted on the basis of a maintenance concept which defines appropriate inspection intervals and the form of documentation.</u>
<u>SK-GW-04</u> <u>Groundwater temperature monitoring</u>	<p><u>Effects on groundwater temperature in the vicinity of return wells are analysed and monitored. Monitoring is based on a measurement concept which explains measuring points, measuring intervals and the form of documentation as well as the quantification of heat/cold input and ground regeneration. Where appropriate, an expert is consulted for developing the measurement concept.</u></p> <p><u>Results are evaluated at least annually. Measurement results are compared with the planning values from the construction or operating permit. The responsible cantonal office is notified of any deviations, i.e. excessive temperature increases or decreases.</u></p>

⁷See BAFU, Overview of the most important refrigerants, as of September 2020:
<https://www.bafu.admin.ch/bafu/en/home/topics/chemicals/info-specialists/chemicals--regulations-and-procedures/refrigerants.html>

**6.15. Waste incineration plants:
Specific criteria for naturemade electricity and heat production**

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

SK-PKV-01 Energy sources in waste incineration plants	Only the quantity of energy that corresponds to the energy portion of biogenic waste or other biogenic sources of energy in the overall energy used in the plant can be certified.
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SK-PKV-02 Determination of the renewable waste portion	<p>The biogenic waste portion forms the basis for the certifiable quantity of energy. This portion is determined by the Swiss federal government (national greenhouse gas inventory); it equates to 50 per cent of the total energy content.</p> <p>A higher biogenic waste portion is acceptable if more non-fermentable or non-compostable biogenic waste is verifiably incinerated in addition to the 50 per cent content.</p>
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SK-PKV-03 Plant efficiency	Energy from waste incineration plants can only be certified if the plant achieves the total energy efficiency shown in the diagram in Appendix A.6. , which is based on the efficiency previously required for the compensatory feed-in remuneration.
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SK-PKV-04 Slag	Prices for slag disposal in the waste incineration plant are transparent, cover costs and reflect the polluter-pays principle. This is to prevent the volume of slag being increased for commercial reasons.
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SK-PKV-05 Separation quota	<p>Plant operators provide evidence of compliance with the framework conditions of the regional waste management plans of their catchment areas.</p> <p>Waste incineration plant operators verifiably endeavour to separate and recycle waste, in particular also to provide relevant information to the public.</p>
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6.16. Waste incineration plants:

Specific criteria for naturemade resources star electricity and heat production

Basic criteria

Only the energy production from plants which comply with the [basic criteria](#) is eligible for certification:

- BK-P-01 Energy sources
- BK-P-02: Evidence of net energy production
- BK-P-03: Mandatory registration, prevention of multiple sales
- BK-P-04: Energy management
- BK-P-05: Characteristics of naturemade-certified energy
- BK-P-06: Corporate policy, principle
- BK-P-07: Environmental management system
- BK-P-08: Legal compliance
- BK-P-09: First sale of certified energy (naturemade/naturemade star/naturemade resources star)
- BK-P-10: Supplies to end customers

Specific criteria

Global criterion

Environmental impact threshold value

The environmental impact caused by audited plants must not exceed the [naturemade star threshold](#).

This is verified using a [parameter model standardised for waste incineration plants](#).

SK-PKVR-01

Framework conditions and obligation to share information⁸

Plant operators provide evidence of compliance with the framework conditions of the regional waste management plans of their catchment areas.

Waste incineration plant operators verifiably endeavour to inform the public and parties in the collection region about waste prevention, sorting and recycling.

SK-PKVR-02

Acceptance prices⁹

Prices for waste disposal in waste incineration plants are transparent, comprehensible, cover costs, reflect the polluter-pays principle and are designed to promote recycling.

⁸ The LK-KVA1 criterion is largely consistent with the naturemade criterion AK-KVA5 Separation quota.

⁹ The LK-KVA2 criterion is largely consistent with the naturemade criterion AK-KVA4 Slag.

<p>SK-PKVR-03 Delivery conditions and quality assurance</p>	<p>The plant's delivery conditions contain requirements regarding the composition of waste. These conditions are aligned with goals for recovering recyclable waste components and avoiding the acceptance of prohibited waste and hazardous waste.</p> <p>The licensee takes the following steps to ensure that delivery conditions are met:</p> <ul style="list-style-type: none"> – Detailed checks for quality control purposes are performed on at least 0.5 per cent of waste supplied (relative to the number of deliveries) or at least 5 times per working week on average. Detailed checks entail checks of the entire delivery, using a quantifiable method to verify compliance with the delivery conditions. All detailed checks are documented. – Any failure to comply with delivery conditions attracts sanctions by the licensee. Depending on the severity of non-compliance, the licensee may reject the waste delivered and suspend deliveries from the respective supplier, issue a written warning or file a complaint.
<p>SK-PKVR-04 Logistics</p>	<p>Vehicle quality regarding energy efficiency and air quality constitutes an important procurement criterion for logistics services and vehicles deployed on company premises. Fleet quality in terms of energy efficiency and air quality is a criterion for awarding a contract in tenders for logistics services.</p>
<p>SK-PKVR-05 Net energy efficiency (NEE)</p>	<p>The waste incineration plant achieves a net energy efficiency (NEE) of at least 0.65.</p>
<p>SK-PKVR-06 Wastewater discharge</p>	<p>The impacts of wastewater discharge according to discharge conditions have been analysed, and the relevant description contains a detailed balance of the substances discharged.</p> <p>The licensee verifies compliance with:</p> <ul style="list-style-type: none"> – all threshold values in accordance with the regional operating licence; or – the benchmarks set out in the Water Protection Ordinance (Appendix 3.2, No. 36 GSchV), if there is no operating licence setting out thresholds <p>based on at least 3 measurements taken throughout the year. If measurements find that thresholds are not complied with, the waste incineration plant undertakes to investigate and implement relevant improvements. The relevant process and deadlines are defined as part of the audit. This applies to all thresholds which are exceeded, including where this occurs in isolated instances.</p>

SK-PKVR-07

Metal recycling

The waste incineration plant operator or the service provider which slag processing is outsourced to respectively recycles metals from combustion residue with high efficiency, using processes and plants respectively which are among the most efficient in Switzerland. It also demonstrably endeavours to increase the efficiency of metal recovery from combustion residue. It provides relevant evidence in the form of analyses of internal separation or project participations:

- The quantities of metal recovered from combustion residue are accounted for and documented on an annual basis. Their 2-year average must not fall below the 2010 quantities (Fe) or 2016 quantities (Al) respectively.
 - The quantity of particulate non-ferrous metals with a particle size >2 mm which is contained in but not recovered from the combustion residue of the slag processing facility is accounted for and documented on an annual basis. Its annual average must not exceed 0.7 per cent by weight.
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7. Certification criteria for energy supplies

From 1 January 2022, there is only a single naturemade quality seal at four quality levels:



- **Basic criteria:** These apply to all quality levels and energy products.
- **Specific criteria:** These apply to the various energy products and define the requirements for the different minimum qualities, which are represented by dots.

7.1. Basic criteria for energy supplies

BK-L-01

Origin of energy, proofs of origin

Energy traded/sold via a certified energy supply licence can be clearly traced back to a certified production plant:

- For naturemade-certified energy supply licences, energy is solely sourced from naturemade/naturemade star-certified plants;
- For naturemade resources star-certified energy supply licences, energy is solely sourced from naturemade resources star-certified plants.

An exception from these rules is electricity from plants receiving government subsidies (see criterion [SK-LS-02](#)).

Electricity

naturemade/naturemade star/naturemade resources star-certified electricity is procured via the national proof of origin system (HKN system). Procured proofs of origin must be deleted in the HKN system for the certified energy product. The plants from which energy has been sourced (naturemade production licence) must be declared as part of the annual review audit.

Biogas/biomethane and heat

The licensee must disclose to the naturemade lead auditor the registers and supply contracts via which the biogas/biomethane produced has been purchased. Proof of origin is to be provided via nationally recognised registers as far as possible. If the licensee uses a register that is not nationally recognised, it must disclose to the competent naturemade lead auditor the register's operation and all naturemade transactions.

The plants from which energy has been sourced (naturemade production licence) must be declared as part of the annual review audit.

<p>BK-L-02 Guarantee of added environmental value</p>	<p>Evidence must be provided that there are no double sales of the environmental added value.</p> <p>naturemade certification provides a guarantee to end customers that the full added environmental value of energy is sold together with the certified energy products. Partial added value, in particular greenhouse gas savings, cannot be traded on markets or supplied to end customers separately from naturemade-certified energy.</p> <p>The sale to end customers concerns balances at the supply/consumer level and does not impact on balances at the national level. End customers have an impact on the balance of Switzerland's national climate protection targets, in particular if naturemade-certified energy was produced within Switzerland.</p> <p>Approach to subsidised renewable energy</p> <p>Renewable energy from subsidised plants is eligible for naturemade certification if the subsidising body does not claim the full added environmental value at the supply/consumer level. VUE may request a relevant certificate.</p>
<p>BK-L-03 Quality levels within a supply licence</p>	<p>Various quality levels (1-4 naturemade dots) can be offered via a certified supply licence, provided that the minimum requirements are complied with.</p> <p>No new certification or recertification is required if the quality level ratios vary (1-4 naturemade dots) under a single supply licence. The quantities supplied at each quality level must be stated in the annual review audit.</p> <p>Suppliers may put together their products freely, provided they comply with the defined minimum requirements and the communications and design guidelines.</p> <p>The correct use of the logo (1-4 naturemade dots for the respective quality levels or naturemade resources star respectively) is verified during the annual review audit and each recertification audit.</p>
<p>BK-L-04 Promotion and improvement</p>	<p>Maintaining and promoting the sustainable and efficient supply of energy must be an essential part of the licensees' corporate policy.</p>
<p>BK-L-05 Legal compliance</p>	<p>All technical, legal and other requirements necessary to supply the energy must be complied with.</p>
<p>BK-L-06 Energy management</p>	<p>To safeguard procedures, the supplier uses an energy management system that is in keeping with the company's circumstances, and it conducts appropriate measurement and monitoring activities.</p>
<p>BK-L-07 Availability, synchronicity, excess demand</p>	<p>There is synchronicity between certified energy procured and certified energy consumed/sold on an annual basis.</p> <p>Excess demand/supply in electricity supplies</p> <p>Any excess supply or demand must be balanced similarly to the method for the validity of proofs of origin (Proofs of Origin</p>

	<p>Regulation HKSV Art. 1(4)). The years of production and consumption must be identical.</p> <p>Excess demand/supply in heat and biogas/biomethane supplies</p> <p>In exceptional cases, excess demand in one year may account for a maximum of 15 per cent of the quantity sold in the same year. This excess can be either set off against unsold certified energy from the previous year or reduced in the course of the following year.</p> <p>In case of excess supply, VUE will, in exceptional cases, allow certified heat and biogas/biomethane that has been procured but not yet sold to be carried forward to the following year. This carry-forward may not exceed 15 per cent of the quantity sold in the year of procurement.</p> <p>Compliance with this criterion forms part of the annual review audit. In case of excess demand, compensation for the corresponding quantities must be recorded as a requirement in the review audit.</p>
<p>BK-L-08 Compliance with communications guidelines</p>	<p>All energy suppliers selling naturemade-certified energy products must comply with the communications and design guidelines defined by VUE.</p>
<p>BK-L-09 Product information</p>	<p>Energy suppliers must provide end customers with consistent product information that goes beyond the certificate. This information must be provided to customers at the time the certified energy is sold and must cover at least the following aspects:</p> <ul style="list-style-type: none"> – the composition of energy sources used in per cent – the naturemade logo for the relevant quality level in an appropriate form
<p>BK-L-10 Adjustment and adoption of minimum requirements for naturemade energy products</p>	<p>Licensees currently certified according to the certification guidelines, version 4.0 and above, put together their naturemade-certified energy products according to the quality differentiation (including naturemade star quotas) provided in the most recent certification guidelines. Any adjustments are communicated early on, at least 5 years in advance.</p>

BK-L-11

Special regulations for long-term contracts with energy end customers

Licensees may conclude long-term contracts with energy end customers that extend beyond the term of the licensing agreement. These supply contracts must be based on the criteria in the certification guidelines that are stated in the licensing agreement and apply at the time the supply contract is made. The following conditions must also be complied with:

- If the licence is not recertified, the licensee is obliged to terminate the contract with the end customer at the end of the licensing period or to source the contractual naturemade-certified energy products via third parties.
- Long-term contracts that extend beyond the validity of the licensing agreement but are based on the certification criteria of the licensing agreement may only be made for a maximum term that ends concurrently with the end of the subsequent certification period.
- The licensee notifies the VUE executive office and the lead auditor of any supply contracts that extend beyond the term of the licensing agreement as part of the recertification process.

BK-L-12

Sale of certified products via sub-licensees

Certified energy products may be sold to end customers via sub-licensees. In this case, the licensee accepts responsibility for the correct handling of the process and compliance with the naturemade certification criteria. When energy is supplied via a sub-licence, the following conditions must be complied with and set down in a contract between the licensee and sub-licensee:

- The composition of the energy product may not be changed by the sub-licensee.
- The naturemade criteria, in particular those pertaining to the minimum requirements for naturemade supply licences ([BK-L-10](#)), to product information ([BK-L-09](#)) and to communications guidelines ([BK-L-08](#)), must be complied with by all parties.
- The sub-licensee is obliged to share information with the licensee and VUE, in particular about sales of certified energy supplies.

Naming of sub-licensed certified energy supplies

The sub-licensee may give the certified product its own name, provided that the following conditions are met:

- The sub-licensee notifies the licensee of the name change or
 - The sub-licensee refers to the parent product in all means of communication regarding the energy product (licensee, licence number or licence name respectively).
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7.2. Specific naturemade requirements regarding electricity supply licences

SK-LS-01

Requirements regarding naturemade electricity products - minimum requirements

The following requirements apply to electricity products:

- naturemade-certified electricity products contain exclusively electricity or proofs of origin respectively that is/are derived from naturemade, naturemade star or naturemade resources star-certified plants. The KEV-subsidised electricity content may be incorporated, provided that certain conditions are met.
- Suppliers selling naturemade-certified electricity products to end customers must achieve a certain minimum quota of electricity sourced from naturemade star-certified plants for each certified electricity product. For the coming years, the minimum quota is:
 - 2022: 10 per cent
 - 2023: 11 per cent
 - 2024: 12 per cent
 - 2025: 13 per cent
 - 2026: 14 per cent
- This quota is measured by the entire volume of electricity effectively sold to end customers as part of the respective product (including supplies by sub-licensees).
- Volumes sold to traders are not affected by this quota.

Minimum requirements for electricity suppliers not subject to energy source labelling requirements

The differentiation between the various qualities in terms of the composition of naturemade products is identical to that described in [SK-LS-02](#), with the exception of subsidised electricity (KEV portion).

The licensee is responsible for customers receiving the relevant portion of subsidised electricity.

SK-LS-02

Incorporation of electricity subsidised under the KEV scheme into naturemade electricity products

The naturemade quality seal is used in the free market. In terms of legal compliance, KEV-subsidised electricity may be incorporated into all naturemade/naturemade star/naturemade resources star-certified electricity products. The following must be noted in this regard:

- naturemade-certified electricity products (1-3 dots): The defined minimum quota of naturemade star electricity must always be covered by electricity from naturemade star-certified plants.
- naturemade star (4 dots) and naturemade resources star-certified electricity products: If KEV-subsidised electricity is incorporated into the product and not backed up by naturemade star or naturemade resources star electricity respectively, the certified electricity product is categorised as comprising a correspondingly lower portion of electricity from naturemade star or naturemade resources star-certified plants respectively. This needs to be communicated accordingly.
- There is always the option of voluntarily backing up KEV-subsidised electricity with proofs of origin of naturemade star quality if the relevant product is to contain 100 per cent electricity of this quality.

Licensees are responsible for diligent and correct communications with their end customers. They may use wordings such as

“naturemade star including KEV-subsidised electricity” or “naturemade star and KEV-subsidised electricity” or “naturemade star with KEV-subsidised electricity” or “100% naturemade star electricity” (if back-up cover with naturemade star proofs of origin is obtained).

SK-LS-03

Use of the naturemade logos for electricity products to indicate a pathway towards green energy

If more than the minimum quota of electricity defined by the VUE is sourced from naturemade star-certified plants and supplied to end customers as part of the certified electricity product in keeping with the pathway towards green energy, this may be visualised in the naturemade logos according to the following table:

SK-LS-04

Minimum requirements



Portion of electricity from naturemade star-certified plants	Minimum requirements	Minimum requirements + 10 per cent	Minimum requirements + 30 per cent	100 per cent or 100 per cent minus KEV-subsidised electricity ¹⁰
Portion of electricity from naturemade resources star-certified plants				100 per cent or 100 per cent minus KEV-subsidised electricity ¹

¹⁰ According to the electricity disclosure communication of the Federal Office for Energy in the respective year - see also the relevant criterion for the incorporation of KEV-subsidised electricity.

SK-LS-05

Green funds for naturemade electricity products

All naturemade star-certified electricity supplied to end customers as part of naturemade and naturemade star supply licences (= quantity of deleted naturemade or naturemade star proofs of origin respectively) is subject to a green fund levy.

The payable fund levy is 0.7 cents per kilowatt hour for all naturemade star electricity sold to end customers.

The criteria and rules regarding the green fund are described in detail in the "[naturemade Green Funds](#)" guidelines. The guidelines set out the following topics:

- accumulation of funds
 - products subject to the fund levy
 - amount of the fund levy
- management of fund monies/organisation of the steering committees
 - management of fund monies
 - organisation of the steering committees
- use of fund monies
 - allocation of fund monies to specific purposes
 - purposes
- responsibility/reporting/monitoring
- termination of licence
- fund dissolution

7.3. Specific naturemade requirements regarding heat supply licences

SK-LW-01

Requirements regarding naturemade heat supply licences and logo use

The following requirements apply to heat supply licences:

- naturemade-certified heat supply licences cover exclusively heat that is derived from naturemade, naturemade star or naturemade resources star-certified plants.

SK-LW-02

Minimum requirements



Portion of heat from naturemade star-certified plants	Minimum requirements yet to be defined	Minimum requirements yet to be defined	Minimum requirements yet to be defined	100 per cent
Portion of heat from naturemade resources star-certified plants				100 per cent

7.4. Specific naturemade requirements regarding biogas/biomethane supply licences

SK-LG-01

Requirements regarding naturemade biogas/biomethane products and logo use

Biogas/biomethane products are only identified by the naturemade star quality seal (4 dots and the supplement "star"). All biogas/biomethane (100 per cent) is derived from naturemade star-certified plants.



SK-LG-02

Mixed products with natural gas

naturemade star-certified biogas/biomethane may be marketed as a mixed product together with natural gas. The relevant, specific conditions and required declarations are described in the [communications and design guidelines](#).

Appendix

A. Supplementary requirements for and information about the certification criteria

A.1. Assessment of global impacts and threshold values for environmental impact

Basis

VUE follows a science-based process for drawing up life cycle assessments (LCAs) of the **global impacts** of individual types of energy generation. This process is based on the EcoIndicator 99 evaluation method¹¹, which involves modelling of the various types of energy production plants using type-specific baseline data.

Individual energy production plants are reviewed using a standardised model (parameter model) provided by VUE.

Parameter model

The assessment of the ecological impacts of the various types of power plants is based on existing or easily obtainable specific parameters of the plants to be audited. This data allows an index level to be calculated using a model referred to as parameter model. If the index level is below the threshold defined by VUE, the requirements of the global criterion, i.e. the environmental impact threshold value, are deemed fulfilled.

Environmental impact threshold values for naturemade star

– **Electricity**

The environmental impact caused by audited plants must not exceed half of the impact of a modern combined-cycle gas-turbine power plant.

– **Heat**

The environmental impact caused by audited plants must not exceed half of the impact of a condensing natural gas boiler (>100 kW).

– **Biogas/biomethane**

The environmental impact caused by audited plants (from gas generation through to biogas/biomethane being fed into a grid or supplied directly to a filling station) must not exceed half of the impact of natural gas used as fuel (from generation through to transport and feed into a grid).

Environmental impact threshold values for naturemade resources star

– **Disposal function threshold value**

The threshold value of the audited plant must not exceed the environmental impact that would be caused by disposing of a volume of inert material equivalent to the waste volume processed by the waste incineration plant.

– **Energy threshold value**

The environmental impact caused by the audited plant must not exceed a quarter of the environmental impact that would be caused if the quantity of energy (electricity and heat) sold by the waste incineration plant was produced by a modern combined-cycle gas-turbine power plant.

¹¹ Cf. Goedkoop M., R. Spriensma, 2000. The EcoIndicator 99; A damage oriented method for Live Cycle Impact Assessment, Methodology Report, 2nd revised Edition 17.4.2000, Pré Consultants B.V., Amersfoort.

– **Reusable materials threshold value**

The environmental impact of reusable materials must not exceed a quarter of the environmental impact that would be caused by the primary production of the recovered quantities of reusable materials (deducting any processing processes)¹².

For waste incineration plants which receive compensatory feed-in remuneration (KEV) for their production of electricity from renewables, the production of electricity from renewables is not recognised in the parameter model.

- If processes for recovering reusable materials considered as part of the LCA for the parameter model are outsourced to other plants, the licensee must ensure that these plants meet the legal requirements as well as the licensee's environmental requirements.

A.2. Procedure for verifying the greenhydro criteria and additional criteria for naturemade star hydroelectric power plants (addendum to criterion SK-PWS-01)

1. Preliminary study

It is recommended that applicants complete a preliminary study according to greenhydro requirements before developing their first management program. This study comprises the following:

- system overview of the ecological conditions in the catchment area
- clarification of relevant tasks to be completed prior to certification
- cost estimate for certification

The preliminary study may be submitted to the VUE Hydroelectric Power Technical Coordination for comments.

2. Management program

The management program is developed by the applicant and comprises the following:

- overview of the ecological conditions in the relevant catchment area
- description of the hydroelectric power plant and its environmental impacts on watercourses, nature and landscapes
- description of any cumulative impacts caused by additional hydroelectric power plants
- definition of the hydroelectric power plant's geographic scope and its impacts (system delimitation)
- reasoned list of applicable and inapplicable basic greenhydro requirements
- proposal for how to comply with the applicable basic greenhydro requirements and applicable regulations
- optionally: intended ecological outcomes during the next certification period.

For recertification, the fully revised management program additionally comprises the following:

- description of the ecological measures taken during the prior certification period(s) and their effects
- reasons why programmed measures have not (yet) been implemented or have not been implemented as planned
- for pending requirements: a schedule for implementation, including intermediate steps and deadlines

¹² Reason for the level set for the reusable materials threshold value: For the production of metals, LCA data is only available on average plants, as opposed to energy production data, which can be obtained on the currently best available fossil technologies. Metals such as aluminium, copper and zinc are often produced outside Europe in countries with low environmental standards. The threshold value for reusable materials relative to current production from fossil sources was therefore set at half the level of that for energy, i.e. at a quarter of the environmental impact which would be caused by primary production.

3. Specialist audit

The specialist audit is conducted by accredited auditors (specialist auditors) upon request by VUE. A specialist audit aims to assess whether the management program provides evidence that the relevant basic greenhydro requirements and regulations have been met with regard to a correct system delimitation. If they have not been met fully, relevant corrective action may be imposed, including any intermediate steps and deadlines. Finally a specialist recommendation is given regarding certification.

The specialist auditor may submit contested issues to the VUE Hydroelectric Power Technical Coordination for final assessment at any time.

A.3. Hydroelectric power plants with cumulative effects - cases to be differentiated (addendum to criterion SK-PWS-02)

Cases	Additional conditions for certification
<p>Cascading power plants with run-of-river operation Hydroelectric power plants located sequentially along a running watercourse not separated by natural lakes, solely operating in run-of-river operation. Hydroelectric power plants of this type cause cumulative effects on reservoir and bedload management and the migration of fish.</p>	<p>Run-of-river power plants can be certified individually, taking into account their potential impact on bedload transport and the requirements of fish migration throughout the cascading plants.</p>
<p>Cascading power plants with hydropower peaking operation Hydroelectric power plants which modulate outflows and cause, inherit or refer relevant hydropeaking as defined by greenhydro in addition to the cumulative effects referred to above.</p>	<p>Power plants with hydropower peaking operation can also be certified individually, if they meet the following requirements:</p> <ol style="list-style-type: none"> 1. Storage power plants within the cascade which cause hydropeaking must fully comply with the basic greenhydro requirements (hydropeaking requirements regarding both freely flowing sections within the cascade and sections below the return of water to the receiving watercourse at its end). 2. The other hydroelectric power plants within the cascade must mitigate hydropeaking impacts as far as possible: The mitigation steps required are assessed on the basis of impacts and relationships between the owners and operators of the affected hydroelectric power plants. 3. If all hydroelectric power plants belong to the same owner, the basic requirements regarding hydropeaking must be complied with fully in each individually certified hydroelectric power plant. 4. If the hydroelectric power plant causing hydropeaking belongs to a different owner, it must be assumed that the ability to influence that owner is reduced or even lacking. The hydroelectric power plant can still be certified in this case, if the available operational potential for mitigating the impact of hydropeaking is utilised to a reasonable extent. Ecological impacts of fluctuating water levels in river impoundments can, for example, be weighed against the unmitigated transmission of peak flows.
<p>Plants sharing parts of their facilities with other plants Hydroelectric power plants sharing certain parts of their facilities with other plants (e.g. shared diversion channels or shared use of weirs), where impacts cannot be clearly separated.</p>	<p>Hydroelectric power plants sharing certain parts of their facilities with other plants, where impacts cannot be clearly separated, can only be certified in exceptional cases if they contribute substantially to improving the ecological situation along the entire system.</p> <p>Certification requires a preliminary decision of the VUE Board that certification may be applied for. Residual flow turbines can only be certified in conjunction with their main use.</p>

Additional information in the management program for power plants with cumulative effects

Additional information must be provided in the management program to support the certification of hydroelectric power plants with cumulative effects:

1. overview of the hydroelectric power plants involved, including their geographic scope and mode of use (for hydropower peaking plants this includes dependency on the operation of the upstream hydroelectric power plants, operational impacts on downstream hydroelectric power plants and the way in which the operation of the power plants is controlled or interlinked, if applicable)
2. owners and operators of the hydroelectric power plants within the cascade and their relationships
3. assessment of the cumulative impacts on watercourses, nature and landscapes within the area of the hydroelectric power plant to be certified, with a resulting assessment of the impacts of the hydroelectric power plant to be certified, which then forms the basis for the greenhydro assessment procedure
4. measures to mitigate relevant impacts of the other hydroelectric power plants
5. For hydroelectric power plants sharing parts of their facilities with other plants:
6. reasons why it is not possible to obtain certification of all power plants involved
7. proposed measures for proportionally mitigating the impacts of the overall system, including a description of the deficits which will remain
8. proposal regarding the separation of the hydroelectric power plant from the overall system in communications

The early involvement of local environmental organisations is required in all cases.

A.4. naturemade star certification of plant expansions and new hydroelectric power plants (addendum to criterion SK-PWS-03)

Prohibition of deterioration

Evidence regarding the prohibition of deterioration is furnished by the following:

- project effects on morphologically and hydrologically intact bodies of water and bodies of water that have been or will be rehabilitated: the description of these factors must be based on an ecomorphological assessment in line with the sequential modular approach and on a description of the hydrological condition of the relevant body of water before and after utilisation (part of the concession process), taking into account the statutory obligations regarding watercourses/rehabilitation and/or existing rehabilitation plans
- project effects on habitats and populations: the description must refer to spawning areas and crustacean habitats of national significance, in particular fish habitats and habitats of species that are highly endangered or in danger of extinction
- project effects on waterfalls: the description must specify any affected waterfalls and project effects on the water volumes and appearance of in these waterfalls in detail
- project effects on protected areas based on the objectives of protection, including evidence that these objectives are not hampered or that the condition of the protected area is improved
- opinion on the hydroelectric power plant by local environmental organisations, to be submitted via an environmental organisation represented within VUE

Compensatory measures required by or negotiated with the grantor of the respective concession can be credited as an alternative and may be capable of fully meeting the more stringent requirements.

Procedure

For naturemade star certification of new hydroelectric power plants the following information must be supplied ahead of the standard procedure for naturemade star certification of hydroelectric power plants:

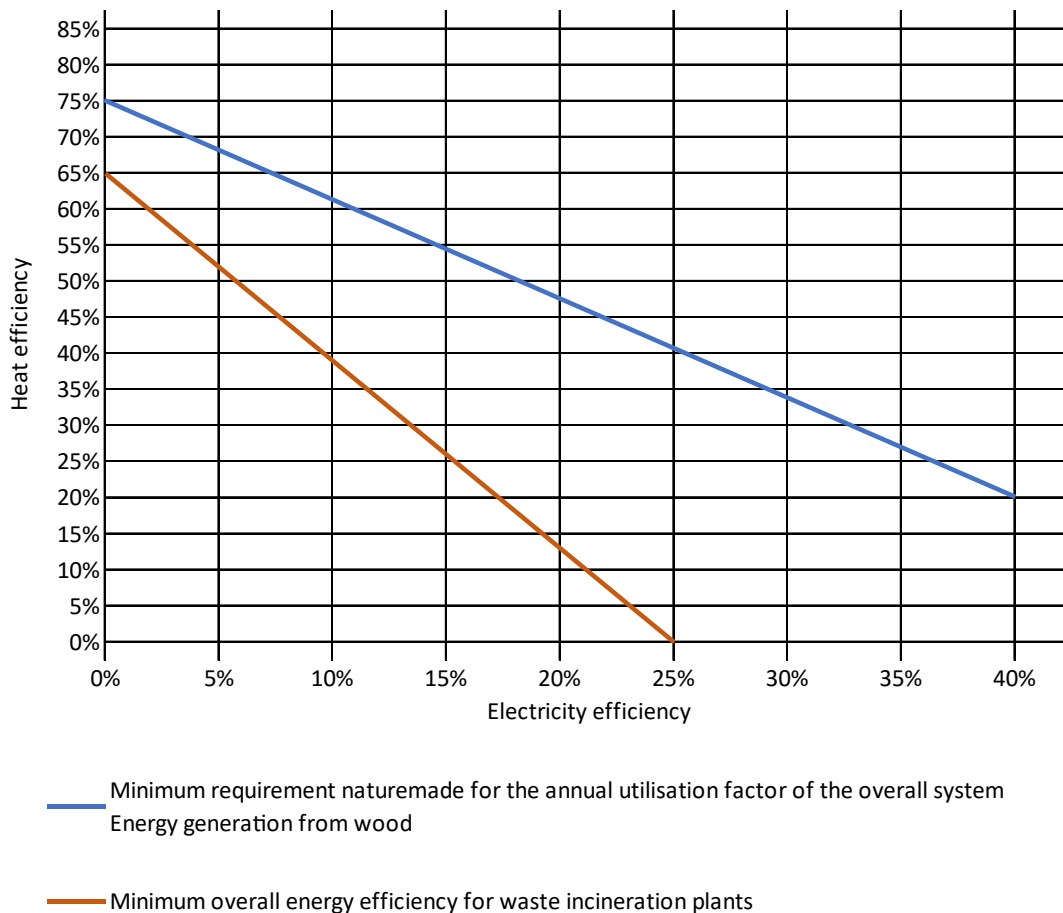
1. description and parameters of the hydroelectric power plant, in particular the time it will be commissioned
2. system delimitation, including an assessment of the relevant basic greenhydro requirements
3. evidence of compliance with the prohibition of deterioration rule

A.5. Specifics regarding biogenic residue and waste (addendum to the criteria SK-PG-01, SK-PLG-01 and SK-PKG-01)

Biogenic residue and waste are defined as substances listed in category A of the positive list of the Swiss Customs Directorate (OZD). For substances listed in categories B and C, the evidence required in the [OZD positive list](#) must be provided.

For substances not listed in the OZD positive list, credible evidence must be furnished that their processing in a biogas plant is sensible because either feedstuff channels in the region are saturated (excess) or the substance can be used as neither food nor feedstuff due to its poor quality (downgrading).

A.6. Minimum efficiency requirements



B. Simplified (re)certification procedure for small production plants

A simplified procedure is only available for photovoltaic plants, wind energy plants and drinking water power plants **located in Switzerland and producing outputs <30 kVA**. All other plants are subject to the standard certification procedure.

Package licences are not available as part of the simplified certification procedure.

B.1. Photovoltaic plants

Simplified (re)certification procedure for photovoltaic plants <30 kVA:

- registration with the Swiss proof of origin system (HKN system)
- online registration via www.naturemade.ch with the required documents and information
- confirmation that the [specific naturemade criteria for photovoltaic plants](#) are complied with (required for registration)
- re-registration for naturemade recertification every 5 years

A certification audit, recertification audit or annual review audit by a naturemade-accredited lead auditor is not required.

B.2. Wind energy plants

No simplified certification procedure is available.

A simplified **recertification** procedure is only available if there are **no pending requirements** at the given time.

Simplified recertification procedure for wind energy plants <30 kVA:

- registration with the Swiss proof of origin system (HKN system)
- submission of the recertification application for wind energy plants <30 kVA
- confirmation that the [specific naturemade criteria for wind energy plants](#) are complied with (required for registration)
- re-registration for naturemade recertification every 5 years

A recertification audit or annual review audit by a naturemade-accredited lead auditor is not required.

B.3. Drinking water power plants

No simplified certification procedure is available.

A simplified recertification procedure is only available if there are **no pending requirements** at the given time.

Simplified recertification procedure for drinking water power plants <30 kVA:

- registration with the Swiss proof of origin system (HKN system)
- submission of the recertification application for drinking water power plants <30 kVA
- confirmation that the [specific naturemade criteria for drinking water power plants](#) are complied with (required for the application)
- re-registration for recertification every 5 years.

A recertification audit or annual review audit by a naturemade-accredited lead auditor is not required.

naturemade Green Fund Guidelines

1. Introduction

1.1. Objectives of the green fund

The green fund makes an additional contribution to offsetting unavoidable impacts of energy production on the climate and nature throughout the entire energy system. It also helps support the federal Swiss Energy Strategy 2050.

1.2. Purpose of these guidelines

The sale of naturemade star-certified electricity includes contributions to a green fund. These naturemade Green Fund Guidelines set out the conditions applicable to this process.

1.3. Scope

These guidelines apply to suppliers and their energy products certified under the naturemade quality label, which suppliers market to their end-customers, and to licensees of naturemade star hydroelectric power plants ("producers").

2. Accumulation of funds

2.1. Products subject to the fund levy

A fund levy is payable on all naturemade star-certified electricity that is supplied to end customers as naturemade star-quality electricity via naturemade supply licences (at any quality level). The payable fund levy is defined by the relevant volume of naturemade star electricity sold (= number of deleted naturemade star proofs of origin) under a naturemade-certified supply licence.

2.2. Amount of the fund levy

The payable fund levy is 0.7 cents/kWh for all naturemade star electricity sold to customers.

3. Management of fund monies / organisation of the steering committees

3.1. Management of fund monies

The management of fund monies accrued from electricity generated by naturemade star-certified hydroelectric power plants and sold to end customers is the responsibility of the operator of the certified hydroelectric power plant (producer).

The management of fund monies accrued from electricity generated from naturemade star-certified new renewable energies (PV, wind, biomass, drinking water power plants) and sold to end customers is the responsibility of the licensee of the supply licence as a matter of principle. However, this licensee may transfer the management to a suitable third party.

This also applies to the corresponding volumes from sales to sub-licensees.

VUE licensees with naturemade star-certified hydroelectric power plants and supply licences may merge their fund management.

Both suppliers and producers may transfer the levied fund monies to which they are entitled to a central fund managed by VUE with a separate steering committee, for example if expenditure for managing the fund is too high and/or the annual fund income from product sales is very low. The relevant suppliers are free to submit their own project proposals in the process. Alternatively, such suppliers/producers may also submit project applications including fund monies directly to the VUE steering committee for review and approval.

3.2. Organisation of the steering committees

Separate steering committees may be set up for the funding purposes of greening/biodiversity promotion and the building of green energy production capacities/energy efficiency, but this is not mandatory. The relevant decision is up to the respective suppliers. The following must be noted.

Greening/promotion of biodiversity steering committee

For **hydroelectric power**, the greening/promotion of biodiversity steering committee is situated with the respective power plant operators (producers). The involvement of the supplier who sells the largest volume of the naturemade star-quality energy produced by the respective power plant to end customers is desirable and is to be facilitated in a form that is both appropriate and adapted to needs. The steering committee members should be broadly selected and include representatives of the power plant company, the local/regional authorities, environmental organisations active at the local/regional level and selected suppliers, as mentioned above. Specialists on various subject matters or representatives of other key stakeholder groups may also be brought in. Measures to be financed from the fund are determined by the steering committee.

The funds of various naturemade star-certified power plants may be merged with the power plant operators' approval and managed by a single steering committee.

Building of green energy production capacities/energy efficiency steering committee

It must be ensured that the steering committees which decide on the use of funds for the purpose of building green energy production capacities and energy efficiency enjoy adequately broad support, for example by involving at least one environmental organisation. However, committee membership may be different from membership in the greening/promotion of biodiversity steering committees.

4. Allocation and use of fund monies

4.1. Allocation of fund monies to specific purposes

The available fund monies are allocated to the various purposes (greening/promotion of biodiversity and building of green energy production capacities/energy efficiency) according to the following framework conditions:

- Funds are allocated to the purposes described in point 4.2 based on a **supplier's product mix** of naturemade products effectively sold to end customers.
- **Fund monies from naturemade star new renewable energies:** Fund monies accrued from electricity generated from naturemade star-certified new renewable energies (PV, wind, biomass, drinking water power plants) and sold to end customers can be both fully used for greening/promotion of biodiversity purposes and for building green energy production capacities/energy efficiency.
- **Fund monies from naturemade star hydroelectric power:** Fund monies accrued from electricity generated from naturemade star-certified hydroelectric power plants and sold to end customers can be fully used for greening/promotion of biodiversity purposes. A maximum of 10 per cent of these monies may be used for building green energy production capacities/energy efficiency.
- Any **exceptions** must be discussed with the VUE.
- **Timing of fund contributions:** The supplier transfers the fund contributions to the fund(s) according to the above allocation key and flexibility provisions by the end of June of the year following the year of the relevant sale at the latest. Earlier transfers (based on forecast sales volumes) are expressly permitted to ensure fund liquidity or to accelerate the implementation of measures. In case of hydroelectric power, this transfer can, for example, occur in conjunction with the procurement of proofs of origin already.

4.2. Purposes

Principles

Legally required refurbishment or replacement measures and measures required according to naturemade certification must not be funded from naturemade fund monies. Any environmental upgrades going beyond such requirements may, however, be funded. This requires a careful differentiation from legal requirements, though.

There must be no overfunding of projects supported by fund monies.

Before any projects are awarded partial funding from fund monies, all other funding options that may be available must be examined and applied for (e.g. federal, regional or municipal subsidies or financial support from energy suppliers).

As a matter of principle, VUE leaves it up to the competent steering committees to assess the acceptability of measures to be funded from fund monies. The VUE executive office is available to assist with specifications and to ensure that measures meet the naturemade criteria. In cases of doubt, the decision is up to the VUE Board.

All measures must be budgeted and accounted for transparently.

Fund monies are used to fund measures which contribute to achieving VUE's vision, i.e. greening/biodiversity promotion measures or the building of naturemade star-certified green energy production capacities/greater energy efficiency.

The potential funding purposes are aligned with the ecological potentials offered by an energy system or its associated negative impacts on biodiversity respectively. The utilisation of the available potential for greening the respective energy system in Switzerland must also be taken into account in the process

Improvements implemented using naturemade fund monies may require subsequent maintenance works. Relevant examples include maintenance of plantings in newly created habitats or neophyte control. Maintenance and care works form part of environmental upgrades, even if they need to be performed repeatedly over extended periods of time. Such maintenance works for environmental upgrades funded by naturemade may therefore also be funded from naturemade fund monies.

Communication activities on projects (partially) funded from fund monies may also be covered by fund monies. However, it must be ensured that the expenditure for implementing measures remains proportionate to expenditure for associated communication and reporting activities and administration.

Innovation projects may form part of both greening/biodiversity promotion and the building of green energy production capacities/energy efficiency. The relevant decision is taken by the competent steering committees. Innovation projects funded from fund monies are novel projects that directly contribute to implementing VUE's vision. Innovation projects include, for example, applied research and development projects on green energy and climate protection technologies or biodiversity promotion (for fundamental research, relevant reasons need to be provided). New energy storage technologies may also be supported.

The outcomes of and experiences from supported innovation projects are made available to all VUE partners. Supported projects must be comprehensible to end customers. The use of fund monies for innovation projects aims to achieve outcomes that can be specifically applied, whether directly or indirectly. Outcomes will be made available to a broad public.

Greening/promotion of biodiversity

Fund monies for ecological rehabilitation initiatives and the promotion of biodiversity are to be used primarily in the local environment of the certified plant (if meaningful measures can be implemented in end customers' local environment, this may also be treated as a priority area), secondly in the certified plant's broader environment or catchment area respectively and thirdly at other appropriate sites.

Because fund monies are to be used to mitigate unavoidable impacts of electricity generation from the respective source, it is desirable if fund initiatives relate to this source as far as possible and meaningful (see example below). This applies particularly where fund initiatives can be integrated into an overall regional concept.

For hydroelectric power, funds may be used for environmental upgrades of the respective watercourse used for power generation, its hydrological catchment area and other (regional or even national) watercourses. Environmental upgrades of threatened habitats of non-aquatic organisms (e.g. marshlands or networking projects) may also be funded. Other biodiversity-promoting projects are also conceivable. Environmental upgrades outside Switzerland may only be funded if they form part of an overall project that is situated close to the border (except where fund monies are levied from a hydroelectric power plant outside Switzerland).

For wind energy, the following are examples of conceivable projects: protection of birds or bats, noise control and landscape protection, environmental upgrades and maintenance of habitats worthy of protection in the area directly affected by the relevant plant.

For photovoltaic systems, conceivable measures include the greening of roofs and façades, environmental upgrades and maintenance of habitats worthy of protection, nesting boxes, the protection of small organisms and insects and the design of ecological, green areas in the immediate vicinity of the respective systems.

For biomass (including waste water treatment plants), possible projects include environmental reforestations or environmental upgrades and maintenance of habitats in areas surrounding the respective plants.

4.3. Building of green energy production capacities/energy efficiency

Building of green energy production capacities

Projects aimed at building green energy production capacities may be partially funded from fund monies if the new production plant is naturemade star-certified and the added environmental value of energy production from the plant (proof of origin) can be traded.

The construction of the energy production system may in particular neither constitute a minimum legal requirement nor serve to comply with any voluntary building standard (e.g. Minergie).

For photovoltaic systems, funding is to support primarily those systems for which there are no other subsidies or financial supports available apart from one-off federal subsidies (e.g. at the regional or municipal level or from energy suppliers).

The portion of energy production that has been funded from fund monies may be sold as naturemade star-certified energy by the supplier or used for the supplier's naturemade products.

Energy efficiency

New technologies and incentive mechanisms for increasing energy efficiency may also be funded.

5. Responsibility / reporting / monitoring

Suppliers and hydroelectric power producers respectively are responsible for funds being allocated according to these guidelines. They are additionally responsible for ensuring that the steering committees responsible for using fund monies are familiar with these guidelines and comply with them.

Suppliers are free to transfer all fund monies to which they are entitled to a steering committee situated with a producer (see above). The producer is responsible for ensuring that steering committees situated with the producer comply with these guidelines.

The annual review audit includes a review of the management and correct use of all fund monies.

The use of fund monies is reported on as part of the annual fund survey conducted by VUE. Additional communications on steering committee activities, for example in annual reports or media releases etc., are very much appreciated by VUE.

6. Termination of licence

The following provisions apply if unused fund monies remain in the fund after termination of a licensing agreement (these provisions form part of the certification criteria and therefore of the licensing agreement):

- Fund monies must be put to the same use as during the agreement term.
- The steering committee continues to exist and retains its original function until the fund monies are exhausted.
- The licensee submits to the VUE an annual written report as part of the fund survey, detailing the measures taken, costs incurred, measures planned and remaining fund monies. The first such report is due one year after the licence has been terminated at the latest.
- Wherever possible, fund monies should be invested within a period of five years.
- If necessary, licensees may transfer remaining fund monies to a central fund managed by VUE with a separate steering committee.

7. Fund dissolution

When the monies contributed to a fund have been exhausted and no more naturemade products are sold to accrue fund monies, the fund may be dissolved by resolution of the competent steering committee.

naturemade energieneutral quality standard

1. Introduction

1.1. Definitions, roles and system overview

Definitions

– **Target agreement (TA)**

A target agreement is an agreement between a company and its monitoring body which defines the extent to which energy consumption is to be reduced voluntarily or in a binding manner (so-called target pathway).

– **Efficiency surplus**

An efficiency surplus on the efficiency marketplace is an increase in efficiency which goes beyond the target pathways set out in the TA models recognised by VUE (see the criteria EM-E1 to EM-E5 below) and which is recorded in the VUE register by the monitoring body.

– **Efficiency shortfall**

An efficiency shortfall occurs when a company subject to a target agreement fails to achieve the target pathway set out in its TA model in a particular year.

– **naturemade efficiency certificate (EC)**

An EC is generated from an efficiency surplus when a supplier procures such a certificate from the respective company subject to a target agreement.

– **Energy protocol**

The energy protocol is a toolkit for quantifying, measuring, managing and reporting on an organisation's or company's energy consumption ("buyer"). The energy protocol defines standards for how the buyer is to achieve energy neutrality and how efficiency certificates are to be used.

– **Energy neutrality**

Energy neutrality within the meaning of the naturemade energieneutral quality standard is achieved when a buyer's energy consumption as determined on the basis of the energy protocol (or the buyer's production or services respectively) is offset by means of ECs. If this is achieved, the naturemade energieneutral quality seal may be used.

Roles in the efficiency marketplace

– **Company subject to a target agreement**

A company which is subject to a target agreement according to a TA model recognised by VUE (according to the criteria EM-E1 to EM-E4) and which generates efficiency surpluses.

– **Monitoring bodies**

Monitoring bodies are operators of a TA model recognised by VUE; they certify annual efficiency surpluses achieved by companies subject to a target agreement.

– **Certification body**

VUE issues standards for the use of ECs and verifies them. It is additionally responsible for recognising TA models that are suitable for the efficiency marketplace. The certification body decides on the appropriate form of the audit process based on the eligibility and auditing provisions.

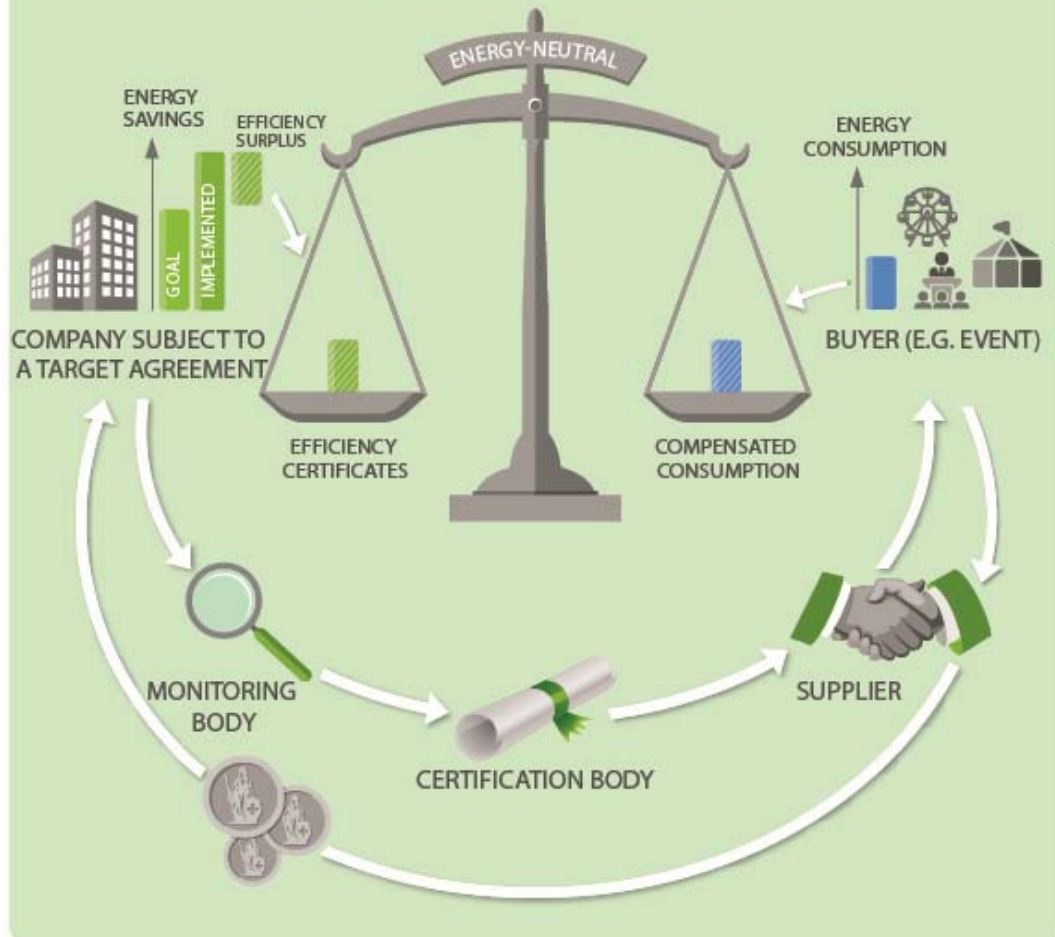
– **Supplier**

Suppliers procure efficiency surpluses from companies subject to a target agreement to generate ECs. ECs can be supplied to buyers, allowing them to achieve energy neutrality. The VUE executive office may also act as an interim supplier to invigorate the market.

– **Buyer**

Buyers are end customers of ECs.

EFFICIENCY MARKETPLACE



2. Conditions of certification

2.1. Specific provisions regarding the efficiency marketplace

Scope

The certification guidelines of the VUA Association for Environmentally Sound Energy apply to the following:

- monitoring bodies
- suppliers

Mandatory licensing agreement with VUE for both monitoring bodies and suppliers (“licensees”)

Monitoring bodies: Monitoring bodies may only release efficiency surpluses to suppliers once suppliers have signed a licensing agreement. Monitoring bodies are issued with a “package certification” to avoid the need for certifying each company subject to a target agreement individually.

Suppliers: Suppliers may only access the VUE register and generate and trade ECs once they have signed a licensing agreement.

VUE membership

Membership in the VUE Association for Environmentally Sound Energy is a prerequisite for being authorised to act as a monitoring body or supplier. The application for membership may be submitted together with the audit documentation. Membership fees are determined subject to the relevant provisions in the [“Financial contributions regulations”](#) for the efficiency marketplace.

Funding

The current “Financial contributions regulations” issued by VUE apply.

Sub-licences

If sub-licences are issued to suppliers, both the licensee supplier and any sub-licensees must comply with the certification criteria. The licensee must be able to provide relevant evidence as part of its audits and is responsible for its sub-licensees complying with the certification guidelines.

Sub-licensing agreements must be submitted to VUE for information.

Validity of efficiency surpluses

Efficiency surpluses can be procured by suppliers - and thus converted into ECs - during the year in which they are certified by a monitoring body and until 31 March of the subsequent year at the latest. The year in which an efficiency surplus is certified is the calendar year following the year in which relevant measures were implemented. Compliance with this requirement is secured at two levels:

By monitoring bodies correctly entering efficiency surpluses achieved in the VUE register for the respective year.

By VUE deleting the register with effect from 31 March of each year.

Discretion of companies subject to a target agreement

When companies subject to a target agreement have achieved efficiency surpluses, it is at their discretion to decide how many efficiency surpluses to transfer to which supplier.

Unit, validity and deletion of ECs

1 EC is equivalent to 1 MWh of weighted energy saved (according to criterion EM-L2).

ECs are valid until 31 December of the second year from the year in which they were generated (i.e. in which the efficiency surplus was procured by the supplier). If an EC was generated in 2021, for example, it is valid until 31 December 2023.

The supplier is responsible for having the corresponding number of ECs deleted from the VUE register.

Tradability of ECs

Throughout their validity, ECs may be freely traded between suppliers who have a relevant licensing agreement with VUE.

Quality of saved energy

The two levels of "efficiency" and "quality" are deliberately kept separate. As a result, there are no requirements regarding the quality (e.g. naturemade star for electricity) of energy (electricity, heat, fuel) used by buyers, if the equivalent quantity is compensated by means of ECs.

2.2. Eligibility and auditing provisions

Authorisation of monitoring bodies and suppliers

VUE is responsible for authorising monitoring bodies and suppliers to operate on the efficiency marketplace. Authorisation is granted based on the criteria EM-E1 to EM-E4 for monitoring bodies and EM-L1 to EM-L4 for suppliers.

VUE's authorisation of monitoring bodies is based on a review of target agreement models conducted at the federal and regional level.

Review audits

Monitoring bodies: Monitoring bodies are exempt from review audits. However, they are required to enter certified efficiency surpluses in the VUE register by 31 May of the year of certification.

Suppliers: VUE conducts annual review audits. Upon a buyer's request, a supplier may have an individual audit conducted regarding the correct application of the energy protocol.

Contents of supplier review audits

Supplier review audits are conducted based on the VUE certification criteria. Suppliers are audited for the following aspects in particular:

- That the supplier has procured at least as many ECs as it has supplied to buyers (including random samples of payments made for ECs to companies subject to a target agreement and the timely deletion of ECs in the VUE register by suppliers).
- Random checks are performed regarding the correct application of the energy protocol and the calculation tools provided by VUE respectively.

3. naturemade energieneutral certification criteria

3.1. Generation of efficiency surpluses and naturemade efficiency certificates

EM-E1:
Recognised TA models

Monitoring bodies are service providers instructed by the BFE (Swiss Federal Office for Energy) to implement target agreements as part of the Swiss CO₂ and Energy Law. Only TA models of monitoring bodies can be recognised by VUE.

The criteria set out under EM-E2 and EM-E4 must additionally be complied with before a TA model can be recognised by VUE.

EM-E2:
Handling of efficiency shortfalls

The following principle applies to the handling of efficiency shortfalls:

All efficiency shortfalls incurred since the target agreement was made with the monitoring body must first be set off before a company is able to have efficiency surpluses certified for obtaining an EC (regardless of when it entered the efficiency marketplace).

EM-E3:
Eligibility of green power, biogas or ECs for achieving efficiency surpluses

Only efficiency measures can be counted towards efficiency surpluses, i.e. the purchase of renewable energies (green power, biogas) and ECs cannot be counted. As a result, relevant purchases of green power, biogas or ECs are deducted from efficiency surpluses if the procurement of green power, biogas or ECs is recognised as a measure for the purposes of monitoring a target agreement. This ensures that efficiency surpluses can only be achieved by implementing energy saving measures.

EM-E4:
Data protection

Monitoring bodies obtain the written consent of companies subject to a target agreement that the companies agree to the data necessary for EC transactions being published in the VUE register.

3.2. Supply of naturemade efficiency certificates to achieve the naturemade energieneutral quality standard

EM-L1: Market opportunities	<p>ECs may only be sold for the intended purposes approved by VUE. The following market opportunities exist for ECs:</p> <ul style="list-style-type: none">– supply of ECs to buyers wishing to achieve energy neutrality for energy-neutral events, printed products and other services in accordance with the energy protocol <p>ECs <u>cannot</u> be credited in order to achieve target agreements (cf. EM-E3).</p>
EM-L2: Weighting factors	<p>When ECs are generated, weighting factors are applied to the various energy sources to ensure a comprehensive approach to primary energy. To keep matters simple, electricity savings are not calculated based on the respective effective electricity mix but based on a national average. The decisive factors for calculation are set down in the BFE document “Guidelines on target agreements for increasing energy efficiency with the federal government”.</p> <p>The same factors must be applied in the calculation of energy neutrality.</p> <p>VUE is aware and accepts that the use of renewable energies can also be credited to achieve the efficiency targets of companies subject to a target agreement (substitution), because these energies are also integrated via the weighting factors (>0).</p> <p>The criterion is categorically met if the calculation tools provided by VUE are used to calculate energy neutrality.</p>
EM-L3: Shortfall in coverage	<p>Suppliers must achieve a balance between valid ECs procured and supplied within each annual cycle, i.e. suppliers may not have a shortfall in EC coverage at the end of the year. A maximum shortfall in coverage of 15 per cent is accepted during the market launch stage (“borrowing”).</p>
EM-L4: Legal compliance	<p>All technical, legal and other requirements necessary to procure and supply ECs are complied with.</p>
