

TÜV SÜD Standard



Industrie Service

**Certification of electricity products
from renewable energy sources
with new renewables requirement**

Abbreviated: Product EE01

with

**Regionality module “EE01 Region product”: Minimum
percentage from regional sources**



Version 01/2015

Revision 1


<p>TÜV SÜD CMS Standard 80 (Version 01/2015)</p> <p>Certification of electricity products from renewable energy sources</p> <p>with new renewables requirement</p> <p>(Product EE01)</p>	 Industrie Service
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Change history

- 07/2013 Numerous clarifications throughout the standard.
 New definition of the term "region".
 Addition of technology mix as a new renewables requirement.
 Definition of new plants by calendar year.
 VdTÜV Code of Practice 1304, 09/2014 edition used as basis.
 Reduction of payment for support funds option to 0.2 eurocent / kWh
 Net energy principle now also applicable to electricity generated by power stations not certified by TÜV SÜD
 Detailed accounting regulations.
 Integration of general certification principles, including risk management, materiality, level of assurance
- 01/2015 Clarification in chapter 4.4.1

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Terms and definitions

Renewable energy	Hydropower (pumped storage plants minus energy input for pumping operation), wind power, biomass, biogas, landfill gas, solar power/photovoltaics, geothermal power, biogenic content of household refuse and industrial waste.
Biomass	Energy carrier in accordance with the German Biomass Ordinance as amended at the time of certification.
Biogas	Gas defined as biogas in the currently applicable legislation: Biomethane, gas from biomass, landfill gas, sewage gas and hydrogen derived from the electrolysis of water and synthetically produced methane, provided the major part of the electricity used for electrolysis and the major part of the carbon dioxide or carbon monoxide used for methanisation is established as coming from renewable sources as defined in 2009/28/EC. ¹
Biomethane	Biogas upgraded to natural-gas quality and injected into the natural gas grid.
Region	A continuous territory in a first-level NUTS region ² defined by the certificate holder. Deviation from the boundaries of the first-level NUTS regions is acceptable with the Certification Body's approval.
Net production	The net production is calculated from the amount of electricity fed into the grid minus the amount of power purchased from external sources to cover own energy demand including 100% of the energy input for pump operation of pumped storage hydro-electric power stations. Electricity is only considered as having been fed into the grid after it has been transformed to the level of voltage in the grid (TÜV SÜD net energy principle).

Abbreviations


CMS	TÜV SÜD Industrie Service GmbH · Carbon Management Service
EEG	Act on the Revision of the Renewable Energy Sources Legislation in the Field of Electricity in the Federal Republic of Germany
EnWG	German Law on Electricity and Gas Supply (Energy Industry Act — EnWG)
GoO	Guarantees of Origin
UBA	German Federal Environmental Agency

References

- VdTÜV Code of Practice 1304 (10/2014)
- Leitfaden “Stromkennzeichnung” des BDEW Bundesverband der Energie- und Wasserwirtschaft e.V. (“Electricity Labelling” Guidelines published by the German Association of Energy and Water Industries, available in German only)
- ISO/IEC 17065:2012: Conformity assessment – Requirements for bodies certifying products, processes and services.

¹ Energy Management Act

² First-level regions of the official EU nomenclature of territorial units for statistics (NUTS) (first-level regions in Germany are the German states (*Länder*))

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Foreword

Consumers opting for the purchase of a green electricity product seek to buy electricity that is derived completely (100%) from renewable sources of energy, and thus contribute to the expansion of renewables capacity. Given this, green electricity products that offer the aspect of additionality, i.e. additional environmental benefits, are considered to be more valuable.

Taking this into account, green electricity products eligible for certification under this standard must satisfy the new renewables requirement, which, according to the definition in this standard, covers:

- direct support, i.e. investment in a new plant, or
- indirect support, i.e. the purchase of electricity produced in a new plant, or
- indirect support, i.e. the purchase of electricity generated by a mix of technologies.

This standard also requires that a minimum of 75% of any increase in the price of green electricity products not justified by higher costs must be invested in the expansion of renewable energy capacity.

Beyond individual products, the certification standard also looks at corporate strategy. For successful certification the company must have declared the objective of increasing the share of renewable energy in the company's total energy mix.

Another quality criterion of this standard is that it includes TÜV SÜD's net energy principle. In contrast to other calculation methods, this principle of calculation considers not only the consumption of energy covered by internal sources but also the consumption of energy covered by external sources, and requires that both must be covered by renewable energy carriers.

Given this, customers buying electricity products certified by this standard can be certain that the product involves far-reaching support aspects and is 100% renewable in overall accounting.

Starting from this basis, the standard also offers the additional option of certification of regional electricity products or of electricity products with CO₂ offsetting.

Regional consumption and generation of electricity from renewable sources strengthens customers' relations to generation plants, contributes to value added in the region and can help to minimise the requirement for “electricity highways”, i.e. supra-regional electricity transmission lines.

1. Scope and fundamentals

1.1. Scope

This standard defines the requirements for delivery of electricity from renewable sources to consumers (green electricity product) and forms the basis for the certification of said products. It further offers the options of certification of green electricity products that additionally offer regionality or CO₂ offsetting.


1.2. Sources and legal basis

- a. Directive 2009/28/EC of the European Parliament and the Council of 23 April 2009 on the promotion of the use of energy from renewable sources (Renewable Energy Directive);
- b. Directive 2009/72/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity (Internal Electricity Market (IEM) Directive)
- c. Act on the Revision of the Renewable Energy Sources Legislation in the Field of Electricity in the Federal Republic of Germany (EEG) as amended.
- d. German Law on Electricity and Gas Supply, Energy Industry Act (EnWG) as amended;

1.3. Validity

This standard (Version 01/2015) will come into effect on 1 February 2015.

Following the introduction of a revised standard, certificate holders are granted a transition period of 12 months or up to the next re-certification audit (whichever is the longer), during which they can align their certified system to the

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requirements of the revised standard. The re-certification audit following the expiry of this period will then be based on the revised standard. Justified exceptions to this rule may be accepted by the certification body “climate and energy” of TÜV SÜD.

1.4. Communication and use in advertising

Use of the certification in advertising statements must be in compliance with the Testing and Certification Regulations of the TÜV SÜD Group. Certification marks may only be used by the certificate holder.

2. Requirements for certificate holders

2.1. Certification scope

Certificate holders must document the scope of certification in writing, append the scope to the application for certification and submit it to the certification body. To change the scope of certification, a new application must be submitted to the certification body. In this case, the application must include the following aspects:

- Product name(s);
- Clientele (e.g. private households, business customers, special contract customers)
- Sales region;
- Option of new renewables requirement;
- Operating facility/-ies;
- Optional modules. For the “Regionality” module the region must be specified. In new applications certificate holders can also name further companies that they wish to include in the scope of the certification, such as:
- Electricity suppliers that sell the certified product;

- Power stations that do not hold own certifications;
- Service providers that carry out certification-relevant functions.

To be included in the scope of certification, these companies must maintain contractual relationships with certificate holders and comply with the relevant certification requirements.

2.2. Promotion of renewable energy

The certificate holder has set itself the objective of increasing the share of renewable energy in its electricity mix and has documented this objective either in its corporate policy or in a 3 to-5-year plan for increasing the share of renewable energy in its energy mix.

2.3. Organisation

The certificate holder has appointed an Audit Representative. The Audit Representative submits all information needed for certification and is responsible for communicating the certification requirements within the company.


The organisation has established and documented the processes, roles and responsibilities for the provision of the product.

2.4. Purchase and acceptance process

The purchase process must ensure that suppliers provide a contractual guarantee that their energy carriers meet all the requirements specified for the green electricity products and that they can supply the documentation required to establish this fact. The acceptance process must ensure that suppliers provide the documents agreed in the delivery contract and that these documents are retained as specified.

2.5. Electricity disclosure

The information and presentation provided for the electricity disclosure of the green electricity product is in line with the law and consumer-friendly.

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3. Requirements for the accounting system

3.1. Accounting period

The accounting period must be defined in the run-up to certification and must not exceed a maximum of 12 months. At the end of the defined accounting period the energy account must not show a negative balance. Taking into account continued satisfaction of the renewables requirements, a positive balance may be carried forward to the next accounting period.

3.2. Ensuring of positive balance

The certificate holder maintains a reliable procedure for ongoing monitoring and ensuring of a positive balance of the quantities purchased, stored and delivered. This procedure also considers possible deviations of the actual values from the forecasts and ensures that such deviations will not lead to a negative balance.

3.3. Maintenance of characteristics

The maintenance of renewables characteristics complies with the legal requirements.

3.4. Accounting system

3.4.1. General

The quantities of energy generated and/or purchased and the quantity of energy delivered and/or consumed must be documented in an accounting system. Entries are based on either bills (e.g. trade) or meter readings (e.g. consumption).

3.4.2. Credit entries

Renewable energy credit entries in the certificate holder's accounting system are effected on receipt of the energy and/or the relevant documentation within the boundaries of the accounting system. If the certificate holder differentiates between various qualities of the product (e.g. regionality), the renewable energy credit entry in the accounting system must also

be differentiated according to these qualities. The quantities in the credit entry depend on the final bills and/or the metering values. One credit entry may summarise the energy quantities received in one month at maximum.

3.4.3. Debit entries

Debit entries from the certificate holder's accounting system are effected upon the sale of the electricity product and its exit from the energy accounting system and/or consumption of the renewable energy. One debit entry may summarise the quantities sold or consumed during one month at maximum. Various product qualities (e.g. regionality) require quality-specific documentation of debit entries. The quantities of the debit entries depend on the final bills (trade) and/or the metering values (consumption).

3.4.4. Use of forecast values


If no final billing data are available in the accounting period or if reading of electricity meters is only performed once a year, the above entries can also be effected on the basis of conservative forecasts.

3.4.5. Updating of forecast values

If entries are based on forecast values, the conservative nature of these forecast values must be verified once the final data are available. If necessary, the calculation of the forecast values must be changed to ensure that differences between the forecast values and the actual values can be corrected in the next accounting period at the latest.

3.4.6. No double counting

The accounting system must be suitable to exclude double counting of renewable energy as a general principle.

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4 Requirements for renewable energy

4.1 Verification systems

If a national register of guarantees of origin as defined in Directive 2009/28/EC has been placed into service, proof that the delivered electricity originates from renewable sources of energy must be provided through a guarantee of origin from the respective national register.

If no such national register exists, the origin from a renewable source of energy must be established through:

- a. Assessment of generation within the scope of certification of the green electricity product according to the TÜV SÜD standard Generation EE; or
- b. Certification of electricity according to the TÜV SÜD standard “Generation EE” or a similar standard.

4.2 Net energy principle

Only quantities of energy from renewable sources that were verifiably generated according to TÜV SÜD’s net energy principle are recognised. If no proof is available, generation according to the net energy principle can be established through one of the options set forth in 4.1 hereunder, provided the amount of energy purchased is re-calculated on the basis of TÜV SÜD’s net energy principle. Proof according to 4.1 for energy from pumped storage hydro-electric power stations is only accepted where certified according to the TÜV SÜD “Generation EE” certification standard. If there are no data on the power consumption of the power station, a flat-rate consumption of 2 % must be assumed. If the flat-rate percentage is applied to the power station’s own power consumption, the respective guarantees of origin must be obtained in addition and cancelled with the name of the green electricity product.

4.3 No double counting

4.3.1 Double counting based on support schemes

Electricity subsidised to strengthen the expansion of energy from renewable sources cannot be certified. Given this, electricity for which feed-in remuneration is paid and/or the guarantees of origin of this electricity cannot be accepted. Electricity derived from plants supported by investments and/or the guarantees of origin of this type of electricity are acceptable. Unsubsidised electricity which is sold directly from plants eligible for subsidies can be included. Subsidised quantities of electricity that are physically allocated to suppliers on the basis of legal regulations can be recognised on a pro-rata basis and need not be purchased elsewhere.

4.3.2 Double counting at suppliers

As a matter of principle, guarantees of origin that are obtained separately from the delivery of electricity are only accepted from countries of origin where electricity labelling is mandatory. Guarantees of origin from countries where electricity labelling is not mandatory will only be recognised if the supplier can furnish proof of a valid method of electricity labelling certified by a recognised third party and in which the feedback of the certificate holder’s electricity mix (without guarantee of origin) will be included.

4.4 Support requirement

The electricity product must include a support element, for which three options are accepted

- New renewables requirement
- Support funds
- Technology mix

The electricity product must fulfil the requirements of at least one of the three options above.

4.4.1 New renewables requirement

Option 1: New renewables requirement³

At least 30% of the energy agreed in the contracts for the delivery of renewable energy is derived from new generation capacities (new renewables quota). "New capacity" refers to new plants as defined in the "Generation EEnew" module of the "Generation EE" TÜV SÜD standard (newly developed energy potential, significant plant refurbishment or capacity increase), that have been taken into service (commissioned) no earlier than the years given in the table below. The year of commissioning, which is relevant for categorisation as a new plant, is determined by the first year of delivery and/or sale of electricity covered by certification based on EE01 according to the following table:

Year of delivery covered by initial certification	Year of commissioning of the delivery plants
2013	2010
2014	2011
2015	2012
2016	2013
2017	2014
2018	2015
2019	2016
2020	2017

In the following years the quantities generated by new plants that have already been certified can be replaced by quantities generated in other plants which must have been taken into service in the same or a later year than the replaced plants.

If the quantity of electricity sold increases compared to the previous year, the additional quantity sold must be covered by electricity generated in plants that were taken into service in the same or a later year than that of initial certification. Overfulfilment of the new

renewables quota in the previous year cannot be carried forward to the following year.

The accepted year of commissioning for the new renewables quota is established on initial certification and does not change in the following years unless the maximum age of new plants is exceeded. The difference between year of delivery and year of commissioning of the new plant must not exceed 10.

The maximum age of new plants is limited and depends on the following table:

Year of delivery	Year of commissioning of the delivery plants
2013	2003
2014	2004
2015	2005
2016	2006
2017	2007
2018	2008
2019	2009
2020	2010

4.4.2 New renewables requirement

Option 2: Support funds⁴

To meet the requirements of this option, the certificate holder must pay at least 0.2 euro cent per kWh of green electricity into the support fund. This support rate may be aligned to market development if necessary. However, within the first three years following initial certification according to this standard (version 01/2015) the applicable support rate will remain unchanged.

4.4.3 New renewables requirement


Option 3: Technology mix

To fulfil this option, the following minimum shares apply for the year of accounting:

- Hydropower under 2 MW: 10 % or

³ "Distributor model"

⁴ "Fund model"

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- Wind power 7.5 % or
- Solar power, geothermal power, biomass: 5 % or
- Biogas / bio-methane: 3 %

The commissioning date of the plants must be after 1 January 2000.

A mix from the above technologies, taking into account the different weightings, is possible.

4.5 Additional support requirement

At least 75% of any increases in the price of the green electricity product compared to conventional electricity products and/or increases in price of the green electricity product that are not justified by the purchase, support, or costs of generation and certification of energy from renewable sources must be spent on climate-change projects, in particular the expansion of energy from renewable sources (subsidies).

Other support models are also possible following a case-by-case review, provided they meet the support criteria outlined above.

4.6 Use of subsidies

Subsidies must be invested promptly. Appropriate support projects must be implemented at 1- to 3-year intervals depending on the amount of annual subsidies. The use of subsidies must be governed both by support regulations and a support plan regulating how and when to invest and in which projects. The support plan must be updated annually. The section below includes a whitelist of support measures.

Proper accounting of the subsidies received and spent must be ensured.

Subsidies realised during certification must be used in accordance with the certification standard even after expiry of the certification.

4.7 Whitelist of support measures

The following support measures meet the requirements of this TÜV SÜD standard as a general principle:

- New plants for power generation from renewable sources. These plants may be subsidised by the government, provided the subsidies received minus the ongoing costs of operation are reinvested as subsidies;
- New plants for the generation of thermal power using energy from renewable sources.
- Rehabilitation of plants that meet the criteria of the TÜV SÜD standard "Generation EE", "EE new" module;
- Certificate from recognised climate-change projects (e.g. CER, ERU, Gold Standard, VCS) that include plants for the generation of energy from renewable sources;
- Support schemes for heat pumps following energy consultancy;
- Support schemes for solar thermal energy;
- Research projects in technologies of the future aimed at supporting the further integration of energy from renewable sources into the electricity market (e.g. new storage technologies, intelligent networking/control of generators and consumers). Acceptance of the support of research projects must be checked on a case-by-case basis in advance.

Subsidies may also be spent on plants subsidised by law (e.g. feed-in tariffs according to the EEG, KEV or Oemag, EI-Cert).


The financed projects have to reinvest:

- the income from these projects minus the ongoing operating costs, or
- the invested subsidies within 15 years with a nominal annual interest rate of 5.5 %, or
- in the event that the subsidised plant was rented out, the amount of rent earned, as reasonable

as subsidies.

5. Optional modules

The following modules are optional. Compliance with these modules is identified separately in the certificate.

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5.1 Regionality module

At least 50% of the energy from renewable sources used for the electricity product in the accounting period is produced in the same region in which they are consumed, irrespective of whether this amount of electricity is generated in new plants or not.

5.2 CO₂ offsetting module

100 % of the greenhouse gases caused by the production of electricity from renewable sources are offset by carbon emission reductions (CERs) from recognised climate-change projects. The CERs needed to compensate for the emissions must be retired in the respective registry. This must be done within 3 months after the end of the accounting period at the latest. The retirement must be clearly referenced to the ecopower product and the relevant accounting period. Climate-change projects are considered recognised if certified in the CDM, JI, Gold Standard or VCS systems. The greenhouse gas emissions caused must be calculated by recognised methods that also take into account upstream chains. The certificates of emission reduction (CERs) for CO₂ offsetting must be contractually assured in advance on the basis of plausible and conservative forecasts.

6. Requirements for the certification programme

6.1 Certification process

The certification process comprises certification audits and surveillance audits. While the certification audit focuses on the assessment of systems, processes, tools etc., the surveillance audit verifies compliance with the requirements of the standard in the past accounting period and reviews possible changes in the system compared to the certification audit. The certification cycle comprises a certification audit, a first surveillance audit (depending on the risk involved, at least one audit within 12 months of the certification audit) and a second surveillance audit (depending on the risk involved, at least once within 12 months of the first surveillance

audit). The second surveillance audit will be followed by either a re-certification process that is analogous to the certification process or a closure audit (depending on the risk, 12 months of the 2nd surveillance audit at the latest).


6.2 Secondary certificates

In case of additional optional product certification, “secondary certificates” – based on a basic certificate – for identical products can be offered and issued to additional distribution points, distributors or shareholders of the certificate holder. Requirements for the issue of secondary certificates include a valid certification contract concluded between the certificate holder and the certification body, and successful initial certification including verification of the acceptability of secondary certification and the establishment of the required processes. To maintain the validity of the secondary certificate, the certification body must regularly (on the basis of the risk involved, at least every 12 months) review the accounting and communication by the holder of the secondary certificate. Secondary certificates are valid for a maximum of three years; their validity is linked to the validity of the basic certificate.

Certified energy products are considered identical if their marketed characteristics are identical. If the characteristics of a product are changed, the requirements for a secondary certificate are no longer fulfilled and the organisation must obtain independent certification if it seeks to use certification or the certification mark in communication and advertising. The decision as to whether secondary certification is acceptable or not is made by the responsible certification body in consultation with the holder of the basic certificate.

6.3 Risk assessment

Certification bodies must maintain a risk management system for auditing, evaluation and decision-making. The risk management system must analyse the risk of the certificate holder’s non-conformity with the requirements of this standard. Risk assessment must take into

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account the following indicators as a minimum requirement:

- a) Availability and quality of an internal quality management system
- b) Number, scope and complexity of the products included in certification
- c) Number and characteristics of energy carriers
- d) Non-conformities identified in previous audits
- e) Number of sub-contractors

The quantity and the intensity of the audit must be defined based on the results obtained in risk assessment. This concerns, as minimum requirements:

- a) Audit type
- b) Review of the measured data and original documentation
- c) Review of business transactions (purchase / sale)

In addition, by establishing the audit intervals the Certification Body must define whether additional interim checks will be required in the 12-month period.

6.4 Materiality

The materiality of data is defined as follows: information is significant if the omission or incorrect statement or reporting of said information could lead to a different result of the evaluation. In light of the above, this standard defines the materiality level at 5% of the quantity of energy sold or purchased.

6.5 Level of assurance

Certification is based on a decision made with reasonable assurance in accordance with ISEA 3000. Certifications that are based on a decision with limited assurance are not accepted within the scope of this standard.