



EKOenergy's criteria for renewable gas

review process 2023-2024

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For comments and questions, contact Steven.Vanholme@sll.fi

For the currently valid version of EKOenergy's criteria for renewable gas, see <https://www.ekoenergy.org/ecolabel/criteria/ekoenergy-gas/>

Background - Introduction

EKOenergy, the global nonprofit ecolabel for renewable energy

EKOenergy is a globally active nonprofit ecolabel for renewable energy. It is managed by the Finnish Association for Nature Conservation in cooperation with other environmental NGOs.

EKOenergy has separate criteria for renewable electricity, renewable gas, and renewable heat and cold. These criteria all take following aspects into account

- sustainability of the production
- reliable tracking and the avoidance of double counting
- additional impact through support for the energy transition, e.g. through the funding of renewable energy installations in low- and middle income countries.
- communication and consumer information

See www.ekoenergy.org for more information.

Objectives of EKOenergy's label for renewable gas

Through our ecolabel for renewable gas, we want to:

- Raise awareness about sustainability issues related to the production of renewable gas. Our label not only helps us get in touch with energy suppliers and energy consumers but also is a tool to raise issues such as 100% renewable energy, a fast energy transition, the impact of energy production on nature, international solidarity, and more.
- Promote the types of renewable gas that have the least negative impact on nature and the environment. This also includes that the use of EKOenergy-labelled gas should lead to a significant reduction of lifecycle GHG emissions compared to the use of fossil fuels.
- Promote reliable tracking and the avoidance of double-counting
- Raise funds for renewable energy projects in low- and middle-income countries, including renewable gas projects.

Review of our criteria for renewable gas - Send us your comments

For the development and the review of our criteria we follow ISEAL's Standard Setting Code. <http://www.isealalliance.org/our-work/defining-credibility/codes-of-good-practice/standard-setting-code>. We also strive to adhere to the requirements of ISO 14024.

EKOenergy's criteria for renewable gas exist since 2017. They have been partially updated in 2021. That review process focused on the allowed raw materials for the production of EKOenergy-labelled biogas. In 2023, we initiated a more encompassing review, involving all aspects of the gas criteria.

You can find the draft of the proposal for new criteria hereafter. We are looking forward to your thoughts and welcome comments. Please write us at steven.vanholme@sll.fi

DRAFT: EKOENERGY'S CRITERIA FOR RENEWABLE GAS

1. The scope of EKOenergy's ecolabel for renewable gas

1.1 A label for consumed megawatt-hours

EKOenergy's ecolabel for renewable gas is an ecolabel for megawatt-hours sold to final energy consumers and/or consumed by final consumers.

The ecolabel only exists when an energy consumer chooses EKOenergy. Its use also requires the involvement of at least one authorised entity, i.e., a company that has signed the EKOenergy Agreement.

1.2 Renewable gas

The term renewable gas covers gases (gaseous under standard temperature and pressure) that are produced from renewable primary energy sources, such as:

- biogas, including biomethane and biopropane,
- hydrogen produced from biomethane, also called biohydrogen, and
- gases created through electrolysis using renewable electricity (power-to-gas), such as (green) hydrogen.

2. Consumer information

Authorised EKOenergy sellers and service providers have to inform their EKOenergy consumers about the origin of the EKOenergy-labelled gas (or energy attribute certificates) they supply. This information has to include minimally:

- The country of production
- The type of renewable gas
- The type of raw materials used to produce biogas

When the supplied gas is a mixture of EKOenergy-labelled gas, other renewable gas, and/or fossil gas, the supplier has to inform the (potential) consumer about the percentage of EKOenergy-labelled gas in the mixture.

EKOenergy's authorised sellers and service providers also give consumers correct information about

- The differences between EKOenergy-labelled energy and other types of renewable energy
- How consumers of EKOenergy-labelled energy can use EKOenergy's logo in their own communication, in particular by referring to EKOenergy's brand book

3. Sustainability

Life-cycle assessments of renewable gas demonstrate that the following factors play a big role in the environmental footprint of renewable gas:

- the origin of the raw materials and the energy used to produce the renewable gas,
- the amount of gas that leaks into the atmosphere. Leakage quickly occurs at the place of production, during transport, or at the location where the gas is used,
- the efficiency rate of the electrolysis process.

3.1 General requirement: fulfil all legal requirements

The production of the renewable gas has to fulfil

- All legal requirements in force at the place of production
- All the requirements imposed by the permits.

3.2 Requirements regarding the used feedstock and energy

A. In the case of biogas

Accepted sources of feedstock:

1. Biogenic waste that cannot be used as food or feed, while respecting the waste hierarchy.¹
 - Agriculture residues including manure and crop residues.²
 - Organic residues of production processes (so called processing residues), e.g. residues from the food industry (such as bakery or brewery waste) or forest industry by-products and waste products (such as sawdust or bark).
 - Biomass originating from nature management in accordance with a nature management plan approved by a national or regional nature protection agency
2. Woody biomasses
 - Forestry biomass, but always excluding:
 - Stumps and roots
 - Logs with a diameter of more than 10 cm

¹ The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy: (a) prevention, (b) preparing for re-use, (c) recycling, (d) other recovery, e.g., energy recovery, (e) disposal. (See for example article 4 of the EU Waste Framework Directive 2008/98/EC).

² Crop residues are defined as an integral part of the commercial production of agricultural crops; these may include damaged or misshapen fruit or vegetables, trimmings and other plant parts which are not the intended end product, such as straw, leaves or tops. These can be collected from the field or from a packing unit, prior to leaving the farm-gate. Agricultural residues also include crops from excess production and biomass originating from intercropping cultivations which are not used as food.

- Woody biomass harvested from protected areas, unless harvested in implementation of a nature management plan as specified above.
- Rotten wood
- Short-rotation coppice, unless harvested from land that was forested or had a high conservation value before being planted with short-rotation species.

3. Sewage or waste water

4. Landfill gas

Rule in the case of use of both eligible and non-eligible biomass

If a production device uses both eligible forms of biomass and non-eligible forms of biomass, the share of gas that qualifies must match the share of eligible biomass input.

B. In the case of gases made through electrolysis

Accepted types of energy

The used electricity fulfils EKOenergy's sustainability criteria for electricity and is tracked as required by EKOenergy's tracking criteria for electricity.

If legislation sets stricter rules regarding the time and the location of production of the used electricity, EKOenergy's requirements come in addition to these rules.

3.3 Leakage

The operator of the gasification installation where the gas originates has submitted a description of measures taken to detect and avoid gas leakage into the atmosphere.

INPUT REQUESTED:

Strong economic, safety, and ecological motives exist to detect and repair potential leaks of methane and hydrogen. However, in practice, leakage remains a serious and underestimated problem. For example, according to a recent study, the biogas supply chain may emit up to 18.5 million tonnes of methane annually in all process stages.

We are welcoming other suggestions on how to address this issue in our criteria. We can only include requirements and conditions that are relevant, can be implemented in many parts of the world, and can be checked.

Regardless of whether we will find a workable solution to distinguish between production facilities that carefully monitor potential leakage and other production facilities, as a label, we commit to raising awareness about the issue of leakage amongst gas consumers and EKOenergy-labelled gas consumers in particular.

3.4 Efficiency of the gasification process

We suggest not including this aspect in our criteria, as there are strong economic reasons to increase the efficiency of the conversion process continuously, and there is no way an ecolabel can make a tangible impact above and beyond these economic drivers.

4. Contributions for additional positive impact

4.1 Supporting the energy transition in low- and middle-income countries

For each MWh of EKOenergy-labelled renewable gas, a contribution of at least €0.10 (ten euro-cent) has to be made to EKOenergy's Climate Fund. These contributions are used to fund renewable energy projects in low-and middle-income countries.

All funded projects are run by experienced non-profit organisations and take place in close cooperation with local communities. EKOenergy's Secretariat coordinates the selection processes of these projects, involving experts from several fields.

Installations and activities funded through EKOenergy's Climate Fund can not at the same time lead to the generation of carbon credits ('offsets').

4.2 Supporting EKOenergy's work

For each MWh of EKOenergy-labelled renewable gas, a contribution of at least €0.08 (eight euro-cent) is made to fund EKOenergy's work of running the ecolabel and promoting renewable energy worldwide.

If more than 250 GWh of EKOenergy-labelled renewable gas is sold to the same end-consumer during a calendar year, this contribution (0.08 €) doesn't have to be paid for the part exceeding 250 GWh. The same cap applies when the consumer uses self-produced renewable gas.

5. Avoidance of double counting through reliable tracking

5.1 Accepted tracking systems

Only reliably tracked megawatt-hours can get the EKOenergy label.

EKOenergy accepts the use of the following energy attribute tracking systems:

- Guarantees of Origin (for gas) in Europe
- Tracking systems that fulfil the criteria of the International REC Standard

EKOenergy's Secretariat can accept the use of other tracking systems if:

- They are managed in a transparent and reliable way,
- Access for market players is based on objective and fair criteria,
- Registration of the same production in other tracking systems is fully excluded,
- Certificates are redeemed (cancelled/retired) as a proof of supply/consumption.

In the case of on-site produced renewable gas, EKOenergy's Secretariat can also allow the use of other third-party-certified reporting tools too.

5.2 Market boundaries

Tracking certificates can be used to prove the consumption of renewable gas in another country than the country of production if both countries are part of the same energy market and/or when export of gas takes place between the 2 countries.

6. Auditing and verification

6.1 Annual audit of authorised entities

KOenergy's Secretariat audits the fulfilment of the criteria at least annually.

For the audit process, the authorised entities (i.e., authorised sellers, service providers, and consumers) fill out a form they receive from the Secretariat. All facts provided must be supported or warranted by public authorities and other reliable third-party sources, e.g, accepted Energy Attribute Certificate systems.

If such information is not readily available, an auditor complying with all the International Standards on Auditing requirements and accepted beforehand by EKOenergy's Secretariat must confirm the provided information.

The auditor has to check and confirm that:

- The authorised entity has a reliable and transparent record of his EKOenergy sales.
- The authorised entity has redeemed the correct amount of tracking certificates to cover the supplied volumes of EKOenergy-labelled gas.
- the origin and type of gas mentioned on the certificates match with the information that the seller has given to its consumers.

The audit documents and proofs must be delivered to the EKOenergy Secretariat annually, no later than June 30th (for volumes of the previous calendar year).

6.2 Additional check of the producer

To adequately assess the fulfillment of the criteria listed in chapter 4 of this document, an additional check of the renewable gas producer can be organised.

That audit includes:

- The total gas production.
- The total input of raw material for biogas production, its composition and the calorific value of each of the used fuels
- The amount and types of biomass input that is eligible for EKOenergy.
- The measures taken to avoid leakage of gas into the atmosphere

This check is also based on third-party verified informations, such as information endorsed by public authorities or by an external auditor complying with all the requirements of International Standards on Auditing.

7. Governance and complaint mechanism

Chapter 3 of the text ‘EKOenergy – Governance structure and criteria for electricity’ (‘EKOenergy’s criteria for electricity’) describes the decision structure of the EKOenergy label. The same rules apply to EKOenergy’s criteria for renewable gas. See <https://www.ekoenergy.org/ecolabel/criteria/electricity/> and <https://www.ekoenergy.org/about-us/governance-and-decision-making/>.

Questions and suggestions regarding the implementation of these criteria can be sent to EKOenergy's Secretariat: info@ekoenergy.org. For example, if you think our label is being used in violation of the provisions of these criteria, don't hesitate to get in touch.

Anyone who wants to report (suspected) irregularities about the functioning of our label and its Secretariat can directly contact director of the Finnish Association for Nature Conservation. Check out the contact information at www.ekoenergy.org/whistleblower [Doesn't exist yet]. Irregularities may include unfair practices in the labelling process, failure to meet our own criteria, breach of laws, etc. When you report such irregularities, your identity will not be

disclosed unless you consent. You will enjoy protection from any adverse consequences related to your complaint.

8. Review of the criteria

EKOenergy is a living ecolabel. As knowledge and experience develop, so will EKOenergy. Any stakeholder or interested party can submit a comment about EKOenergy's requirements or suggest a change in the criteria at any time by contacting EKOenergy's Secretariat.

The next general review of these renewable gas criteria will occur no later than 2030.

All reviews will happen according to the rules set by the ISEAL Code of Good Practice for Setting Social and Environmental Standards; for example, relevant stakeholders, such as the users and the sellers of EKOenergy-labelled energy, will get several opportunities to comment.

Sources to include in the source list:

- <https://www.sciencedaily.com/releases/2022/06/220617111456.htm> : Biogas and biomethane supply chains leak twice as much methane as first thought

Date: June 17, 2022

Source: Imperial College London

Summary: A new analysis has found that biogas and biomethane, while more climate friendly, leak more than twice as much methane as previously thought.

- <https://www.europeanbiogas.eu/wp-content/uploads/2020/05/Methane-emission-mitigation-strategies-info-sheet-for-biogas-industry.pdf>: Methane emission mitigation strategies, EBA

p. 5: "Digestate is the remaining part of the degraded biomass after biogas production: it is stable organic matter rich in various nutrients (N, P, K). Depending on the feedstock used for biogas production, digestate is directly usable as organic fertilizer in the same way raw animal slurries are spread on fields in agriculture. It can also be further upgraded to recover high quality mineral nutrients. Digestate used as organic fertilizer displays multiple advantages: it allows reuse of nutrients and substitutes mineral fertilizer of fossil origin."

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4413003/> Asian-Australas J Anim Sci. 2015

May; 28(5): 716–729.

doi: 10.5713/ajas.14.0683

PMCID: PMC4413003

PMID: 25715690

Life Cycle Assessment of Biogas Production in Small-scale Household Digesters in Vietnam

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- <https://www.sciencedirect.com/science/article/pii/S0360319922052570> , Environmental sustainability assessment of large-scale hydrogen production using prospective life cycle analysis