



## **ISCC PLUS 205-06 Electricity and Heat from Biogas Plants**

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**ISCC PLUS 205-06**  
**V 1.0**

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Electricity and Heat from Biogas Plants

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## 1 Introduction

ISCC is applicable for all types of biomass and biomass-based products. Next to the mandatory requirements, which are for instance the sustainability standard for biomass production (202) or requirements on the chain of custody (203), the economic operator can choose from voluntary Add-ons. These add-ons are superior to the general ISCC PLUS standard.

In general, only ISCC certified material is accepted under ISCC PLUS. It must be guaranteed that the whole supply chain starting from farm/plantation until last conversion unit is ISCC certified. For further information, please study requirements on the chain of custody (203).

Biomass can be used for producing energy. In a biogas plant, bio-based substrates are processed into electricity and heat. This document describes requirements for the production of sustainable electricity and heat from biogas plants under ISCC. The document lays down requirements for the resource-efficient conversion of sustainable substrates into electricity and heat, the minimization of climate relevant emissions and unused heat energy as well as the utilization of substrates of regional origin. Biogas plants can prove compliance with these requirements during the audit. Therefore, the audit scope must be extended by using the ISCC Add-on “Electricity and heat from biogas plants”.

## 2 Scope

This document describes requirements for biogas plants, converting sustainable biomass into electricity and heat.

## 3 Normative References

As a basic principle, all relevant ISCC documents are valid for the scope. The normative references display the documents whose contents are linked and have to be considered.

Relevant references:

ISCC PLUS	201	System Basics
ISCC PLUS	202	Sustainability Requirements – ISCC PLUS Standard on Sustainability Requirements for the Production of Biomass
ISCC PLUS	202a	Sustainability Requirements – Equivalence Benchmark
ISCC PLUS	203	Requirements for Traceability
ISCC PLUS	204-01	Mass balance requirements <u>or</u>
ISCC PLUS	204-02	Physical Segregation requirements
ISCC PLUS	205-01	GHG emission requirements
ISCC PLUS	255	ISCC Add-ons and Extensions

## 4 Requirements for Sustainable Electricity and Heat from Biogas Plants under ISCC

### 4.1 General Requirements for Plants Processing Biogas

Biogas plants are processing units converting substrates (input material) into biogas in a first step. In a second step, the biogas produced can be further converted in two different ways:

- 1) Biogas can be further processed into biomethane (output material)
- 2) Biogas can be used for producing electricity and heat (output material)

In both cases, ISCC requirements for processing units and for the processing of biogas must be fulfilled to prove compliance with ISCC requirements. If biogas is further processed into biomethane, these plants are classified as biomethane plants under ISCC (option 1). In such a case, ISCC requirements for the production of biomethane must be fulfilled (see also ISCC 201-3). For biogas plants producing electricity and heat (option 2), the requirements set out in this document apply.

However, for both types of biogas utilization, the processing unit must fulfill the following requirements:

- Transparent documentation of substrate input and biogas production of the biogas plant in a log book
- Verification that the biogas production corresponds with the amount and quality of the substrates processed
- Verification that the total energy output of the biogas plant (electricity and heat; biomethane) corresponds with the comparable parameters

In most cases, biogas plants are the elements of the supply chain that receive or buy sustainable biomass, agricultural crop residues, bio-based (processing) residues and wastes directly from farms or plantations. If this is the case, the biogas plant must be classified as a first gathering point and/or collecting point under ISCC and the requirements set out for a first gathering point and/or a collecting point must be verified during the audit.

### 4.2 Requirements for Biogas Plants Producing Electricity and Heat

For biogas plants producing electricity and heat the following requirements apply and must be verified during the audit:

Requirement	Description
Documented and rational utilization of the majority of the heat energy produced	A minimum of 60% of the whole heat energy (This includes the amount of heat energy lost during transport, utilization) produced must be used internally or externally. The utilization of the heat must be measured and documented

High overall efficiency of the biogas plant	The efficiency of the biogas plant is equal or higher 37 % <sub>el</sub> and 37 % <sub>th</sub> <sup>1</sup>
At least one additional measure is implemented to increase the security of the biogas plant	The biogas plant has at least one of the following construction measures increasing the security of the biogas plant, e.g.: <ul style="list-style-type: none"> <li>• Closed wall/dam around the biogas plant</li> <li>• Double-walled fermenter</li> <li>• Closed silo</li> </ul>
Corn / Maize as a substrate for biogas production is limited	A maximum of 45 % (weight percentage) corn / maize is used as a substrate for biogas production
Regional origin of all substrates processed	All substrates used for fermentation are produced or occur within a circle of 25 km around the biogas plant
At least one additional measure is implemented in order to minimize inefficient methane emissions	The biogas plant has at least one of the following measures minimizing methane emissions, e.g.: <ul style="list-style-type: none"> <li>• Covered digestion storage</li> <li>• Measures to stop and monitor methane slip</li> <li>• Measures to consume additional methane</li> <li>• Adequate application of fermentation residues</li> </ul>

<sup>1</sup> Efficiency of the biogas plant; el = electrical, th = thermal