



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 20675:2021**  
**01-september-2021**

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**Bioplin - Proizvodnja, priprava, nadgradnja in uporaba bioplina - Izrazi, definicije in shema razvrščanja (ISO 20675:2018)**

Biogas - Biogas production, conditioning, upgrading and utilization - Terms, definitions and classification scheme (ISO 20675:2018)

**iTeh STANDARD PREVIEW**

Biogaz - Production, traitement, épuration et utilisation du biogaz - Termes, définitions et classification (ISO 20675:2018)

**Ta slovenski standard je istoveten z: prEN ISO 20675**

**ICS:**

27.190	Biološki viri in drugi alternativni viri energije	Biological sources and alternative sources of energy
75.160.40	Biogoriva	Biofuels

**oSIST prEN ISO 20675:2021**

**en,fr,de**

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INTERNATIONAL  
STANDARD

ISO  
20675

First edition  
2018-02

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**Biogas — Biogas production,  
conditioning, upgrading and  
utilization — Terms, definitions and  
classification scheme**

*Biogaz — Production, traitement, épuration et utilisation du biogaz  
— Termes, définitions et classification*

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Reference number  
ISO 20675:2018(E)

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Published in Switzerland

<b>Contents</b>		Page
<b>Foreword</b> .....		<b>iv</b>
<b>Introduction</b> .....		<b>v</b>
<b>1 Scope</b> .....		<b>1</b>
<b>2 Normative references</b> .....		<b>1</b>
<b>3 Terms and definitions</b> .....		<b>2</b>
<b>4 Abbreviated terms</b> .....		<b>9</b>
<b>5 Classifications</b> .....		<b>10</b>
<b>Annex A (informative) Explanation to the scope</b> .....		<b>11</b>
<b>Annex B (informative) Biogas characteristics, processes and classifications</b> .....		<b>15</b>
<b>Bibliography</b> .....		<b>20</b>

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## ISO 20675:2018(E)

### Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). **(standards.iteh.ai)**

This document was prepared by Technical Committee ISO/TC 255, *Biogas*.

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## Introduction

The technical committee on biogas (ISO/TC 255) was established in 2011 in order to

- provide liberalization and facilitation for international trade of biogas installations,
- contribute to international cooperation on technical regulations, standards and assessment procedures,
- curb discriminatory technical requirements as the main form of trade protectionism, and
- reduce and eliminate the technical barriers for international trade of biogas installations.

This document about terms, definitions and classifications is applicable for biogas production by anaerobic digestion, gasification from biomass and power to gas from biomass sources, biogas conditioning, biogas upgrading and biogas utilization.

The availability of a set of agreed terms and definitions for biogas installations, as well as a classification scheme for the whole biogas chain, is necessary in order to

- moderate the communication between the different biogas parties through meaningful discussions,
- facilitate development of regional and national regulations and incentive programs to promote biogas production and application,
- contribute to the reinforcement of biogas installations' safety and business competitiveness with recognized terms and definitions that clarify the actors' expectations related to procurement, contracts and services as well as reporting on biogas related action plans and road maps, and
- contribute to the use of standards by facilitating their development and furthering the users' understanding and application of standards.

ISO/TC 255 intends to promote international technology exchange and to accelerate international application of biogas (products) and equipment by developing and maintaining globally harmonized standards.

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# Biogas — Biogas production, conditioning, upgrading and utilization — Terms, definitions and classification scheme

## 1 Scope

This document defines terms and describes classifications related to biogas production by anaerobic digestion, gasification from biomass and power to gas from biomass sources, biogas conditioning, biogas upgrading and biogas utilization from a safety, environmental, performance and functionality perspective, during the design, manufacturing, installation, construction, testing, commissioning, acceptance, operation, regular inspection and maintenance phases.

Biogas installations are, among others, applied at industrial plants like food and beverage industries, waste water treatment plants, waste plants, landfill sites, small scale plants next to agricultural companies and small scale household installations.

The following topics are excluded from this document:

- boilers, burners, furnaces and lightening, in case these are not specifically applied for locally produced biogas;
- gas-fuelled engines for vehicles and ships;
- the public gas grid;
- specifications to determine biomethane quality;
- transportation of compressed or liquefied biogas;
- transportation of biomass or digestate;
- assessment and determination whether biomass is sourced sustainably or not.

This document describes the following for information purposes as well:

- the parameters to determine the size (e.g. small, medium-sized, or large scale);
- the parameters to determine the type of installation (e.g. domestic, industrial);
- the parameters to describe the type of technique;
- terms and processes in order to develop health, safety and environmental protection guidelines for biogas installations.

NOTE For an explanation of the Scope, see [Annex A](#).

## 2 Normative references

There are no normative references in this document.

## ISO 20675:2018(E)

### 3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

#### 3.1 anaerobic digestion

biological conversion of biodegradable materials by micro-organisms in the absence of oxygen creating two main products: *biogas* (3.2) and *digestate* (3.19)

Note 1 to entry: An example of anaerobic digestion is the biological conversion of the biodegradable parts of *biomass* (3.9) sources, but also fossil biodegradable sources.

Note 2 to entry: Wet and dry anaerobic digestion systems are applied.

#### 3.2 biogas

gas produced by anaerobic digestion of organic matter, *gasification* (3.25) of *biomass* (3.9) or power to gas from biomass sources and without further upgrading or purification

Note 1 to entry: Biogas comprises mainly methane and carbon dioxide and/or hydrogen and/or carbon monoxide and/or heavier hydrocarbons with two till six carbon atoms.

Note 2 to entry: *Bio-syngas* (3.15) is also a type of biogas.

#### 3.3 biogas boiler

boiler which uses *biogas* (3.2) as fuel

#### 3.4 biogas flare

installation to burn *biogas* (3.2), whether superfluous or not

Note 1 to entry: A flare is applied for biogas generated in *biogas installations* (3.5) or extracted from landfill sites, among others, to avoid methane and/or hazardous compounds to be emitted into the atmosphere. A biogas flare can be applied as safety, environmental and/or process device.

Note 2 to entry: A typical flare consists of, among others, an ignition system, flame and temperature detection system, windproof body and combustion chamber, biogas piping, valves, condensate drainage, electrical control cabinet, installation fixtures, burner head, heat insulation and pilot or ignition burner.

Note 3 to entry: A flare can be classified in three main categories: *open flare* (3.43), *enclosed flare* (3.23) and *enclosed high efficiency flare* (3.24).

#### 3.5 biogas installation

installation including its pipelines, pipes and accessories for anaerobic digestion of *biomass* (3.9), *gasification* (3.25) of biomass and waste, upgrading of *biogas* (3.2), liquefaction of biogas, storage of biogas (in raw, gas or liquid form), storage of CO<sub>2</sub>, storage of auxiliaries, storage of biomass and *digestate* (3.19)

Note 1 to entry: Upgrading of biogas includes cooling, compressing, heating, separation, reaction in order to purify or upgrade the biogas to a higher methane percentage.

**3.6****biogas pipeline**

system of pipework for transportation of *biogas* (3.2) or *biomethane* (3.12) with all associated equipment and stations up to the point of delivery and outside the *biogas installation* (3.5)

Note 1 to entry: This pipework is mainly below ground, but includes also above-ground parts.

**3.7****biogas storage**

buffer, gas holder, tank, vessel, bag or similar to store *biogas* (3.2)

Note 1 to entry: The biogas storage can be part of the fermenter.

**3.8****biogenic content**

organic material from *biomass* (3.9)

**3.9****biomass**

material of biological origin excluding material embedded in geological formations and/or transformed to fossilized material

Note 1 to entry: Biomass is organic material that is plant-based or animal-based, including, but not limited to dedicated energy crops, agricultural crops and trees, food, feed and fibre crop residues, aquatic plants, alga, forestry and wood residues, organic agricultural, animal and processing by-products, agricultural, municipal and industrial organic waste and residues whether or not in landfills, sludge, waste water, and other non-fossil organic matter.

**3.10****biomass pipeline  
digestate pipeline**

system of pipework for transportation of liquid *biomass* (3.9) or *digestate* (3.19) with all associated equipment and up to the point of delivery

**3.11****biomass pretreatment**

treatment of *biomass* (3.9) with chemical, physical, thermal and biological methods in order to increase methane production when the biomass is digested or gasified

**3.12****biomethane**

methane-rich gas with the properties similar to natural gas derived from *biogas* (3.2) produced by anaerobic digestion or *gasification* (3.25) or from power to gas by upgrading

Note 1 to entry: Requirements for chemical and physical properties of biomethane, such as heat content, flame characteristics, dew points, traces of chemical compounds, are part of standards for injection of biomethane in public grids and standards for vehicle fuels and are not in the scope of, and thus not described by, this document.

Note 2 to entry: In the business, the term “upgraded biogas” is also used instead of the term “biomethane”.

**3.13****biomethane potential of biomass**

potential of *biomethane* (3.12) production expressed in normal cubic metres per tonne dry matter of *biomass* (3.9)

**3.14****biomethane storage**

buffer, gas holder, tank, vessel, cylinder or similar to store *biomethane* (3.12)

Note 1 to entry: In case of liquefied biomethane, this often concerns vacuum insulated tanks.