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Hydrogen in energy systems — Vocabulary

Hydrogène dans les systèmes énergétiques — Vocabulaire

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Foreword

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This document was prepared by ISO TC 197, *Hydrogen Technologies*, in collaboration with Technical Committee CEN-CENELEC/JTC 6, *Hydrogen in Energy Systems,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

In this document, terms and definitions have been identified, reviewed and proposed to cover technical aspects for hydrogen in energy systems, with input from sources such as ISO/IEC Standards, European Standards from CEN and CENELEC, national standards, and existing definitions from the dictionaries relevant to particular industries.

This document only contains terms used to describe hydrogen in energy systems within the scope of CEN/CLC/JTC 6.

This document aims to present the basics of the concepts that are subjected to standardisation in the fields related to hydrogen in energy systems. Therefore, this document consists of high-level terms and definitions, and guides the reader to more specific standards/documents, where more technical details can be found.

NOTE In particular, for 3.6, the following applies. Definitions in the existing scopes are mostly specific for the scope of the standard they are used in. Therefore, general definitions are drafted, complemented by more available and useful definitions from European and International standards (CEN, CENELEC, ISO, IEC) and exceptionally also by industry standards, such as ASME, where no European or International standards' definition is available.

Terms and definitions are categorized in the following structure:

— energy carriers,

— energy system, energy infrastructure, smart grid and energy systems integration,

— electric power network and electrical energy storage,

— hydrogen production from electricity and other methods for hydrogen production,

— hydrogen production equipment,

— transmission, distribution and storage in dedicated hydrogen infrastructure and gas network, as well as hydrogen admixture into natural gas and separation,

— hydrogen heat and power generation devices,

— power-to-hydrogen, hydrogen-to-X and energy storage,

— cross cutting items such as: hydrogen safety issues, metrology, quality of energy carriers, certification and materials compatibility.

Hydrogen in energy systems — Vocabulary

1 Scope

This document establishes the terms, definitions, symbols and abbreviations used in the fields related to hydrogen in energy systems.

This document is not applicable to the following fields:

— biological methanation,

— reactors for hydrogen production from other sources,

— road, maritime and aviation transport,

— aeronautics and space.

Note These fields are foreseen to be covered in future editions of this document.

This document does not apply to carbon capture, storage and utilisation, as well as services.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminology 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/

NOTE 1 The sources for the following terms and definitions in this document include documents with different scopes and different application areas. They can therefore be based on premises in the respective sources that are not listed here.

NOTE 2 The following terms and definitions are intended to stand on their own or in the context of this document. This document generally excludes any requirements beyond the use of the terms. Any procedures, tests material selection, or other aspects that play a role separately in the sources must be specified separately in the standards that reference this document.

NOTE 3 In this document, the term ‘gas’ refers - in its physical sense - to fluids in a gaseous state. If specification of the gaseous fluid is needed, the specific term of the gaseous energy carrier is used, such as biomethane, hydrogen and natural gas.

3.1 Energy

3.1.1
energy carrier
substance or medium that can transport energy

Note 1 to entry: For example, *electricity* (3.1.15), *hydrogen* (3.1.2), *natural gas* (3.1.6), fuels.

[SOURCE: ISO/IEC 13273-1:2015, 3.1.2, modified — added note 1 to entry]