SLOVENSKI STANDARD
oSIST prEN ISO 6338-1:2026

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Izračuni emisij toplogrednih plinov v oskrbovalni verigi z utekočinjenim zemeljskim plinom (LNG) - 1. del: Splošno (ISO 6338-1:2024)

Calculations of greenhouse gas (GHG) emissions throughout the liquefied natural gas (LNG) chain - Part 1: General (ISO 6338-1:2024)

Berechnungsverfahren der Treibhausgasemissionen (THG) in der gesamten Flüssigerdgas-(LNG-)Kette - Teil 1: Allgemeines (ISO 6338-1:2024)

Calcul des émissions de gaz à effet de serre (GES) dans la chaîne gaz naturel liquéfié (GNL) - Partie 1: Généralités (ISO 6338-1:2024)

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International Standard

ISO 6338-1

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Calculations of greenhouse gas (GHG) emissions throughout the liquefied natural gas (LNG) chain —

Part 1: General

Calcul des émissions de gaz à effet de serre (GES) dans la chaîne gaz naturel liquéfié (GNL) —

Partie 1: Généralités

Reference number
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Foreword

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This document was prepared by Technical Committee ISO/TC 67, *Oil and gas industries including lower carbon energy*, Subcommittee SC 9, *Production, transport and storage facilities for cryogenic liquefied gases.*

A list of all parts in the ISO 6338 series can be found on the ISO website.

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

Natural gas will play a key role in the energy transition (e.g. by replacing coal to produce electricity) and the use of liquefied natural gas (LNG) to transport natural gas is expected to increase. The process of liquefying natural gas is energy-intensive. Gas producers are increasingly accountable for their greenhouse gas (GHG) emissions and the ambition to reduce them. Furthermore, there is an emerging marketing demand for GHG data to enable commercial mechanisms such as offsetting to be utilized.

There is no standardized and auditable methodology to calculate the carbon footprint of the whole LNG chain (including but not limited to the well, upstream treatment, transportation, liquefaction, shipping, regasification and end user distribution). Various standards indicate possible approaches but are inconsistent in their results or not easily applicable.

The ISO 6338 series covers each part of the LNG chain, starting with liquefaction.

Attention should be paid to activities that can occur in different parts (e.g. gas treatment and distribution upstream of the liquefaction plant).

NOTE It is not possible to make like-for-like comparisons, or define a certification scheme, for one block only.

An example for e-methane is given in Annex C.

Calculations of greenhouse gas (GHG) emissions throughout the liquefied natural gas (LNG) chain —

Part 1: General

1 Scope

This document:

— provides the general part of the method to calculate the greenhouse gas (GHG) emissions throughout the liquefied natural gas (LNG) chain, a means to determine their carbon footprint;

— defines preferred units of measurement and necessary conversions;

— recommends instrumentation and estimation methods to monitor and report GHG emissions. Some emissions are measured; and some are estimated.

This document covers all facilities in the LNG chain. The facilities are considered "under operation", including emissions associated with initial start-up, maintenance, turnaround and restarts after maintenance or upset. The construction, commissioning, extension and decommissioning phases are excluded from this document but can be assessed separately.

This document covers all GHG emissions. These emissions spread across scope 1, scope 2 and scope 3 of the responsible organization. Scope 1, 2 and 3 are defined in this document. All emissions sources are covered including flaring, combustion, cold vents, process vents, fugitive leaks and emissions associated with imported energy.

This document describes the allocation of GHG emissions to LNG and other hydrocarbon products where other products are produced (e.g. LPG, domestic gas, condensates, sulfur).

This document does not cover specific requirements on natural gas production and transport to LNG plant, liquefaction, shipping and regasification.

This document is applicable to the LNG industry.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14044, *Environmental management — Life cycle assessment — Requirements and guidelines*

ISO 14064-1, *Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*

API *Consistent Methodology for Estimating Greenhouse Gas Emissions from Liquefied Natural Gas (LNG) Operations*