



## ISO STANDARDS IN SUPPORT OF ACTION ON CLIMATE CHANGE

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### Background

At its General Assembly in September 2021, ISO members approved the London Declaration, ISO's commitment to contribute to climate action through standards.

The objectives of ISO's London Declaration are to:

- Foster the active consideration of climate science and associated transitions in the development of all new and revised International Standards and publications
- Facilitate the involvement of civil society and those most vulnerable to climate change in the development of International Standards and publications

<https://www.iso.org/ClimateAction/LondonDeclaration.html>

ISO has many International Standards that are essential in supporting the climate agenda, but in addition to this, the active consideration of climate science will need to be embedded throughout all standards (new and existing ones) to ensure that the international standards support the intent of the London Declaration and a transition to net-zero.

To help deliver on ISO commitments, the TMB has developed a London Declaration Action Plan, focusing on the following key areas:

- Committees to include climate considerations
- ISO deliverables to respond to the need for urgent climate action
- Underrepresented stakeholders participation increased

ISO Central Secretariat commissioned research to inform on the current and potential impact of ISO standards regarding UN Sustainable Development Goal 13, "Climate action".

The consulting company responsible for this research followed a robust text- and content-based analysis of all ISO deliverables, scoring standards for their "relevance"<sup>1</sup> to SDG 13, and the "effect"<sup>2</sup>

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<sup>1</sup> Degree to which a standard contributes to the needs of climate action

<sup>2</sup> Expected result that the use and application of a standard can have on climate action. Effects can apply to several dimensions: Climate risks and impacts, GHG emissions / mitigation, Climate change adaptation, Carbon removals, Carbon neutral / Net zero emissions, Carbon capture / Negative emissions, Climate finance, Climate corporate governance, Carbon footprint, GHG emission reductions / carbon removals Project, Co-benefits associated with mitigation and/or adaptation, Validation, verification and other conformity assessment (including calculation)

on SDG 13, composing an overall "impact" score. The carbon-intensive sectors were also considered in the analysis of ISO catalogue.

Based on the research findings, the consulting company produced a recommended list of standards to be revised as a matter of priority (see **Annex 1**) the expectation being that by revising the standards to align with developments in climate science, their ability to support climate action will be enhanced. In addition, a series of wider recommendations were provided to the ISO/TMB (attached as **Annex 2** to provide the full context of the research output).

## What does this mean for you?

All ISO committees are required to consider their standards portfolio through the climate action lens and should know how and when they will tackle any necessary revision.

The TMB Task Force is aware that committees are already actively working to realize SDG 13 and the London Declaration, therefore information as to actions already underway, or relevant work program updates would be welcome.

Resources are available to all committees to take up this challenge of reviewing the standards and revising as required. Currently, resources include:

- **ISO Guide 84:2020** - Guidelines for addressing climate change in standards (free download)
- ISO elearning module about Guide 84 on <https://learning.iso.org/> (available in May 2023)
- ISO TMB Climate Change Coordination Committee (CCCC) to provide advice on how to tackle climate action
- London Declaration webinar material (February/March 2023)

## What will happen next?

The ISO/CS will regularly touch base with the committees to understand how they are incorporating the objectives of the London Declaration in their standardization activities.

Questions, comments, feedback or information can be sent to Stefan Marinkovic ([marinkovic@iso.org](mailto:marinkovic@iso.org)).



## ANNEX 1: Priority Standards

The standards proposed for revision by the research consultants are those (1) from highly emitting sectors, (2) that are highly relevant and (3) which currently have a low to medium effect on climate action. The intent of a revision would therefore be to increase the positive effect of these standards.

Sector	TC	<b>Priority standards</b> <i>High emitting sectors ; Relevance = medium/high ; Effect = low/medium</i>
Energy	TC 27 - Coal and coke	<b>ISO 609:1996</b> - Solid mineral fuels — Determination of carbon and hydrogen — High temperature combustion method  <b>ISO 609:1996/Cor.1:1996</b> - Solid mineral fuels — Determination of carbon and hydrogen — High temperature combustion method TECHNICAL CORRIGENDUM 1  <b>ISO 625:1996</b> - Solid mineral fuels — Determination of carbon and hydrogen — Liebig method  <b>ISO 625:1996/Cor.1:1996</b> - Solid mineral fuels — Determination of carbon and hydrogen — Liebig method TECHNICAL CORRIGENDUM 1  <b>ISO 29541:2010</b> - Solid mineral fuels — Determination of total carbon, hydrogen and nitrogen content — Instrumental method
Energy	TC 28 - Petroleum and related products, fuels and lubricants from natural or synthetic sources	<b>ISO 23306:2020</b> - Specification of liquefied natural gas as a fuel for marine applications

Sector	TC	<b>Priority standards</b> <i>High emitting sectors ; Relevance = medium/high ; Effect = low/medium</i>
Energy	TC 180 - Solar energy	<p><b>ISO 9059:1990</b> - Solar energy — Calibration of field pyrhemometers by comparison to a reference pyrhemometer (<i>revision started</i>)</p> <p><b>ISO 9459-1:1993</b> - Solar heating — Domestic water heating systems — Part 1: Performance rating procedure using indoor test methods</p> <p><b>ISO 9459-2:1995</b> - Solar heating — Domestic water heating systems — Part 2: Outdoor test methods for system performance characterization and yearly performance prediction of solar-only systems</p> <p><b>ISO 9459-4:2013</b> - Solar heating — Domestic water heating systems — Part 4: System performance characterization by means of component tests and computer simulation</p> <p><b>ISO 9459-5:2007</b> - Solar heating — Domestic water heating systems — Part 5: System performance characterization by means of whole-system tests and computer simulation</p> <p><b>ISO 9806:2017</b> - Solar energy — Solar thermal collectors — Test methods (<i>revision started</i>)</p> <p><b>ISO 9846:1993</b> - Solar energy — Calibration of a pyranometer using a pyrhemometer (<i>revision started</i>)</p> <p><b>ISO 9847:1992</b> - Solar energy — Calibration of field pyranometers by comparison to a reference pyranometer (<i>revision completed</i>)</p>
Energy	TC 193 - Natural gas	<b>ISO 15112:2018</b> - Natural gas — Energy determination
Energy	TC 197 - Hydrogen technologies	<b>ISO 16110-2:2010</b> - Hydrogen generators using fuel processing technologies — Part 2: Test methods for performance

Energy	TC 238 - Solid biofuels	<p><b>ISO 16559:2022</b> - Solid biofuels — Vocabulary</p> <p><b>ISO 16948:2015</b> - Solid biofuels — Determination of total content of carbon, hydrogen and nitrogen</p> <p><b>ISO 16967:2015</b> - Solid biofuels — Determination of major elements — Al, Ca, Fe, Mg, P, K, Si, Na and Ti</p> <p><b>ISO 16968:2015</b> - Solid biofuels — Determination of minor elements</p> <p><b>ISO 16993:2016</b> - Solid biofuels — Conversion of analytical results from one basis to another</p> <p><b>ISO 17225-1:2021</b> - Solid biofuels — Fuel specifications and classes — Part 1: General requirements</p> <p><b>ISO 17225-2:2021</b> - Solid biofuels — Fuel specifications and classes — Part 2: Graded wood pellets</p> <p><b>ISO 17225-3:2021</b> - Solid biofuels — Fuel specifications and classes — Part 3: Graded wood briquettes</p> <p><b>ISO 17225-4:2021</b> - Solid biofuels — Fuel specifications and classes — Part 4: Graded wood chips</p> <p><b>ISO 17225-6:2021</b> - Solid biofuels — Fuel specifications and classes — Part 6: Graded non-woody pellets</p> <p><b>ISO 17225-7:2021</b> - Solid biofuels — Fuel specifications and classes — Part 7: Graded non-woody briquettes</p> <p><b>ISO/TS 17225-8:2016</b> - Solid biofuels — Fuel specifications and classes — Part 8: Graded thermally treated and densified biomass fuels</p> <p><b>ISO 17225-9:2021</b> - Solid biofuels — Fuel specifications and classes — Part 9: Graded hog fuel and wood chips for industrial use</p> <p><b>ISO/DIS 17827-1</b> - Solid biofuels — Determination of particle size distribution for uncompressed fuels — Part 1: Oscillating screen method using sieves with apertures of 3,15 mm and above</p> <p><b>ISO/DIS 17827-2</b> - Solid biofuels — Determination of particle size distribution for uncompressed fuels — Part 2: Vibrating screen method using sieves with aperture of 3,15 mm and below</p> <p><b>ISO/DIS 17830</b> - Solid biofuels — Particle size distribution of disintegrated pellets</p> <p><b>ISO 18122:2022</b> - Solid biofuels — Determination of ash content (<i>revision completed</i>)</p> <p><b>ISO 18123:2023</b> - Solid biofuels — Determination of volatile matter (<i>revision completed</i>)</p>
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Sector	TC	<b>Priority standards</b> <i>High emitting sectors ; Relevance = medium/high ; Effect = low/medium</i>
		<p><b>ISO 18125:2017</b> - Solid biofuels — Determination of calorific value</p> <p><b>ISO/FDIS 18134-3</b> - Solid biofuels — Determination of moisture content — Oven dry method — Part 3: Moisture in general analysis sample</p> <p><b>ISO 20024:2020</b> - Solid biofuels — Safe handling and storage of solid biofuel pellets in commercial and industrial applications</p> <p><b>ISO/TS 20048-1:2020</b> - Solid biofuels — Determination of off-gassing and oxygen depletion characteristics — Part 1: Laboratory method for the determination of off-gassing and oxygen depletion using closed containers</p> <p><b>ISO 21404:2020</b> - Solid biofuels — Determination of ash melting behaviour</p>
Energy	TC 255 - Biogas	<p><b>ISO 20675:2018</b> - Biogas — Biogas production, conditioning, upgrading and utilization — Terms, definitions and classification scheme</p> <p><b>ISO 22580:2020</b> - Flares for combustion of biogas</p> <p><b>ISO 23590:2020</b> - Household biogas system requirements: design, installation, operation, maintenance and safety</p> <p><b>ISO 24252:2021</b> - Biogas systems — Non-household and non-gasification</p>

Sector	TC	<b>Priority standards</b> <i>High emitting sectors ; Relevance = medium/high ; Effect = low/medium</i>
Energy	TC 300 - Solid recovered materials, including solid recovered fuels	<p><b>ISO 21640:2021</b> - Solid recovered fuels — Specifications and classes</p> <p><b>ISO 21644:2021</b> - Solid recovered fuels — Methods for the determination of biomass content</p> <p><b>ISO 21645:2021</b> - Solid recovered fuels — Methods for sampling</p> <p><b>ISO 21646:2022</b> - Solid recovered fuels — Sample preparation</p> <p><b>ISO 21654:2021</b> - Solid recovered fuels — Determination of calorific value</p> <p><b>ISO 21663:2020</b> - Solid recovered fuels — Methods for the determination of carbon (C), hydrogen (H), nitrogen (N) and sulphur (S) by the instrumental method</p> <p><b>ISO 21911-1:2022</b> - Solid recovered fuels — Determination of self-heating — Part 1: Isothermal calorimetry</p> <p><b>ISO 21912:2021</b> - Solid recovered fuels — Safe handling and storage of solid recovered fuels</p> <p><b>ISO/TR 21916:2021</b> - Solid recovered fuels — Guidance for the specification of solid recovered fuels (SRF) for selected uses</p>

Sector	TC	<b>Priority standards</b> <i>High emitting sectors ; Relevance = medium/high ; Effect = low/medium</i>
Transport	TC 22 - Road vehicles	<p><b>ISO 4164:2012</b> - Mopeds — Engine test code — Net power</p> <p><b>ISO 6460-1:2022</b> - Motorcycles — Measurement method for gaseous exhaust emissions and fuel consumption — Part 1: General test requirements</p> <p><b>ISO 6855-1:2012</b> - Mopeds — Measurement method for gaseous exhaust emissions and fuel consumption — Part 1: General test requirements</p> <p><b>ISO 6855-2:2012</b> - Mopeds — Measurement method for gaseous exhaust emissions and fuel consumption — Part 2: Test cycles and specific test conditions</p> <p><b>ISO 6855-3:2012</b> - Mopeds — Measurement method for gaseous exhaust emissions and fuel consumption — Part 3: Fuel consumption measurement at a constant speed</p> <p><b>ISO 16183:2002</b> - Heavy duty engines — Measurement of gaseous emissions from raw exhaust gas and of particulate emissions using partial flow dilution systems under transient test conditions</p> <p><b>ISO 16185:2000</b> - Road vehicles — Engine families for certification of heavy-duty vehicles by Exhaust emission</p> <p><b>ISO 19449:2015</b> - Mopeds — Measurement methods for gaseous exhaust emissions during inspection or maintenance</p> <p><b>ISO 23274-1:2019</b> - Hybrid-electric road vehicles — Exhaust emissions and fuel consumption measurements — Part 1: Non-externally chargeable vehicles</p> <p><b>ISO 23274-2:2021</b> - Hybrid-electric road vehicles — Exhaust emissions and fuel consumption measurements — Part 2: Externally chargeable vehicles</p> <p><b>ISO 23828:2022</b> - Fuel cell road vehicles — Energy consumption measurement — Vehicles fuelled with compressed hydrogen</p>



Sector	TC	<b>Priority standards</b> <i>High emitting sectors ; Relevance = medium/high ; Effect = low/medium</i>
Transport	TC 110 - Industrial trucks	<b>ISO 23308-1:2020</b> - Energy efficiency of industrial trucks — Test methods — Part 1: General ( <i>revision started</i> )  <b>ISO 23308-2:2020</b> - Energy efficiency of industrial trucks — Test methods — Part 2: Operator controlled self propelled trucks, towing and burden carrier trucks ( <i>revision started</i> )  <b>ISO 23308-3:2020</b> - Energy efficiency of industrial trucks — Test methods — Part 3: Container handling lift trucks ( <i>revision started</i> )
Transport	TC 204 - Intelligent transport systems	<b>ISO 24533-2:2022</b> - Intelligent transport systems — Electronic information exchange to facilitate the movement of freight and its intermodal transfer — Part 2: Common reporting system
Building and construction	TC 59 - Buildings and civil engineering works	<b>ISO/AWI TS 12720</b> - Sustainability in buildings and civil engineering works — Guidelines on the application of the general principles in ISO 15392  <b>ISO 15392:2019</b> - Sustainability in buildings and civil engineering works — General principles  <b>ISO 20887:2020</b> - Sustainability in buildings and civil engineering works — Design for disassembly and adaptability — Principles, requirements and guidance  <b>ISO 21678:2020</b> - Sustainability in buildings and civil engineering works — Indicators and benchmarks — Principles, requirements and guidelines  <b>ISO 22057:2022</b> - Sustainability in buildings and civil engineering works — Data templates for the use of environmental product declarations (EPDs) for construction products in building information modelling (BIM)

Sector	TC	<b>Priority standards</b> <i>High emitting sectors ; Relevance = medium/high ; Effect = low/medium</i>
Building and construction	TC 163 - Thermal performance and energy use in the built environment	<p><b>ISO/FDIS 6781-1</b> - Performance of buildings — Detection of heat, air and moisture irregularities in buildings by infrared methods — Part 1: General procedures</p> <p><b>ISO 6781-3:2015</b> - Performance of buildings — Detection of heat, air and moisture irregularities in buildings by infrared methods — Part 3: Qualifications of equipment operators, data analysts and report writers</p> <p><b>ISO 9869-1:2014</b> - Thermal insulation — Building elements — In-situ measurement of thermal resistance and thermal transmittance — Part 1: Heat flow meter method</p> <p><b>ISO 9869-2:2018</b> - Thermal insulation — Building elements — In-situ measurement of thermal resistance and thermal transmittance — Part 2: Infrared method for frame structure dwelling</p> <p><b>ISO 12567-1:2010</b> - Thermal performance of windows and doors — Determination of thermal transmittance by the hot-box method — Part 1: Complete windows and doors</p> <p><b>ISO 12567-2:2005</b> - Thermal performance of windows and doors — Determination of thermal transmittance by hot box method — Part 2: Roof windows and other projecting windows</p> <p><b>ISO/FDIS 16478</b> - Thermal insulation products — Vacuum insulation panels (VIPs) — Specification</p> <p><b>ISO 21129:2007</b> - Hygrothermal performance of building materials and products — Determination of water-vapour transmission properties — Box method</p>
Building and construction	TC 205 - Building environment design	<p><b>ISO/TR 16822:2016</b> - Building environment design — List of test procedures for heating, ventilating, air-conditioning and domestic hot water equipment related to energy efficiency</p>



## ANNEX 2: Recommendations from the research

### Background

The research consultants also provided the following recommendations for review by the ISO/TMB. These recommendations are being shared as information only to provide you with the full context of the findings of the research.

**Note: the ISO/TMB have not yet discussed the recommendations outlined below.**

**Key recommendation #01:** ISO/TMB is recommended to give priority to the revision of standards presented in Annex 1 of this communication. Considering the potential positive effects, the committees, their standards and the relevant sectors (energy, transport, building and construction), should be given priority, together with other technical bodies covering relevant climate action topics. Other committees/sectors to be given priority are Mechanical engineering or Information technology. The year of publication of the standards should also be considered as a criterion for prioritization, as the oldest ones are less likely to contribute to climate action.

**Key recommendation #02:** From the analysis of the correlations between Sectors and Impact of standards, the sectors that need particular attention to boost the positive effects of standards towards climate action are those with a smaller number of relevant standards under certain high-emitting sectors, such as Ores and metals (with the exception of steel that is already active), Food and Agriculture, Chemicals

**Key recommendation #03:** A benchmarking exercise should be performed within sectors, to learn from the successful experiences of other committees inside the same sector (example, iron should learn from the example of steel)

**Key recommendation #04:** ISO should regularly maintain a mapping of its standards supporting climate action using the methodology of the consultant that has been tested and validated. We recommend that the mapping of the standards under the SDG 13 is performed using the same methodology across committees and applying a coherent criterion for validation of the results. The mapping should be validated by a reduced number of persons to ensure consistency of the results.

**Key Recommendation #05:** There is a need to review and update environmental terminology to include climate action. ISO should consider aligning the vocabulary of relevant ISO deliverables with terminology in practice in industry.

In addition, references (and cross-references) to updated standards such as ISO 14050:2020 Environmental management – Vocabulary or including climate related concepts such as Scope 1, Scope 2, Scope 3 or carbon capture.

ISO 14050 should be considered as a living standard, a virtual standard, that is always open for revision, and to expand its scope and title to environment and climate change.

**Recommendation #06:** Revise ISO Guide 84.

**Recommendation #07:** Revise ISO ICS (International Classification for Standards) to include "Climate action" or "Adaptation to climate change".

**Recommendation #08:** ISO to consider the feasibility to cover insufficiently addressed climate action-related topics.

**Recommendation #09:** Revise certain MSS in terms in terms of their role in climate action.