

SS ISO 59020:2025
ISO 59020:2024, IDT
(ICS 13.020.20; 03.100.01)

SINGAPORE STANDARD

**Circular economy – Measuring and assessing
circularity performance**



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Published by Enterprise Singapore

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ISBN 978-981-5277-65-4

National Foreword

This Singapore Standard was prepared by the Working Group on Circular Economy set up by the Technical Committee on Circularity of Materials under the purview of the Environment and Resources Standards Committee.

This standard is an identical adoption of ISO 59020:2024, “Circular economy – Measuring and assessing circularity performance”, published by the International Organization for Standardization.

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International Standard

ISO 59020

Circular economy — Measuring and assessing circularity performance

*Économie circulaire — Mesure et évaluation de la performance
de circularité*

**First edition
2024-05**



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Published in Switzerland

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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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 323, *Circular economy*.

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

0.1 Background

The global economy is “linear” as it is mainly based on extraction, production, use and disposal. This linear economy leads to resource depletion, biodiversity loss, waste and harmful losses and releases, all of which collectively are causing serious damage to the capacity of the planet to continue to provide for the needs of future generations.^[56] Moreover, several planetary boundaries have already been reached or exceeded.

There is an increased understanding that a transition towards an economy that is more circular, based on a circular use of resources, can contribute to meeting current and future human needs (welfare, housing, nutrition, healthcare, mobility, etc.). Transitioning towards a circular economy can also contribute to the creation and sharing of more value within society and interested parties, while natural resources are managed to be replenished and renewed and in a sustainable way, securing the quality and resilience of ecosystems.

Organizations recognize many potential reasons to engage in a circular economy (e.g. delivering more ambitious and sustainable solutions; improved relationships with interested parties; more effective and efficient ways to fulfil voluntary commitments or legal requirements; engaging in climate change mitigation or adaptation; managing resource scarcity risks, increasing resilience in the environmental, social and economic systems), while contributing to satisfying human needs.

The ISO 59000 family of standards (see [Figure 1](#)) is designed to harmonize the understanding of the circular economy and to support its implementation and measurement. It also considers organizations, such as government, industry and non-profit, in contributing to the achievement of the United Nations (UN) Agenda 2030 for Sustainable Development^[54].

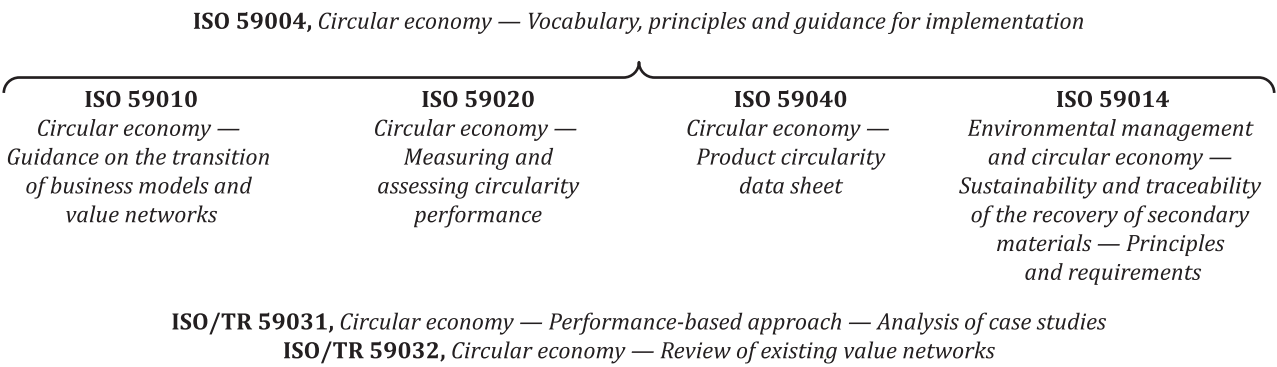


Figure 1 — ISO 59000 family of standards

0.2 Relationship between this ISO 59004, ISO 59010 and this document

ISO 59004, ISO 59010 and this document are interconnected, as shown in [Figure 2](#), and support organizations in implementing a transition towards a circular economy.

ISO 59020:2024(en)

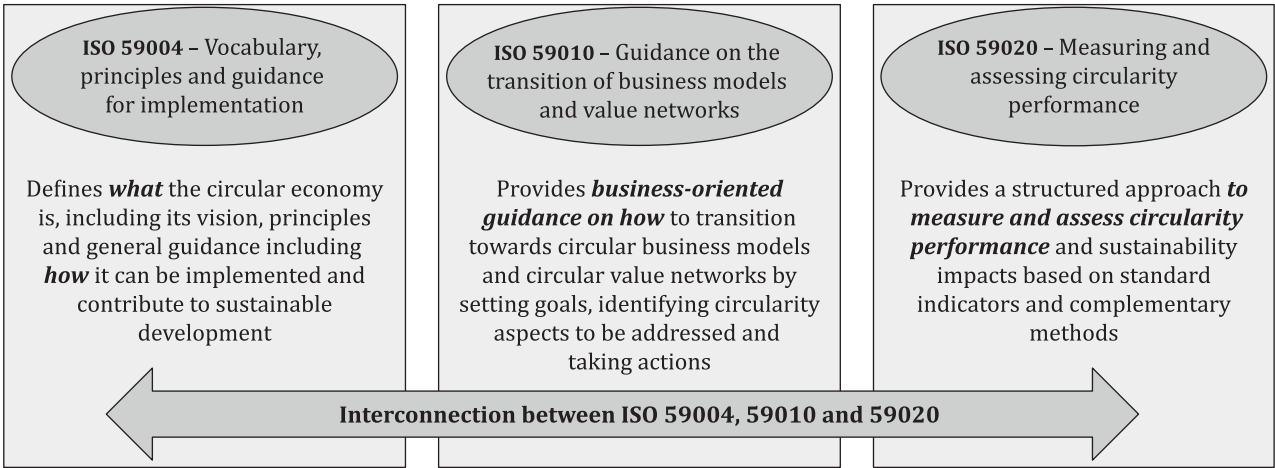


Figure 2 — Relationship between ISO 59004, ISO 59010 and this document

0.3 Purpose and the outline of this document

The purpose of this document is to assist organizations in the collection of the necessary information and the calculation to enable circular economy practices that minimize resource use and optimize the circular flow of resources, while contributing to sustainable development.

The results provide an integrated view of circularity and sustainable development and are intended to be used to support the transition towards a circular economy. In contributing to sustainable development this document also considers the UN Agenda 2030^[54] and the Sustainable Development Goals (SDGs).

Terms, definitions and principles are provided to help users and other interested parties interpret and apply the guidance. This document provides a platform for the development of more detailed circularity assessment standards that are appropriate for individual sectors.

Circular economy — Measuring and assessing circularity performance

1 Scope

This document specifies requirements and gives guidance to organizations for measuring and assessing a defined economic system to determine their circularity performance at a specific time. Measurement and assessment are performed by the collection and calculation of data with the help of mandatory and optional circularity indicators.

This document provides a framework to guide users within organizations of all types and sizes through the measurement and assessment process, including system boundary setting and choice of indicators, as well as processing and interpreting data in a consistent and reproducible manner to generate meaningful and verifiable results.

The framework is applicable to multiple levels of an economic system, ranging from regional, interorganizational and organizational to the product level.

To measure and assess social, environmental and economic impacts that are caused by the actions of the organization to achieve circular goals and objectives, the document provides a list of complementary methods that can be used in addition to this document.

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 59004, *Circular economy — Vocabulary, principles and guidance for implementation*

ISO 59010, *Circular economy — Guidance on the transition of business models and value networks*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 59004, ISO 59010 and the following apply.

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/>

3.1 Terms related to circularity and the circular economy

3.1.1

circular economy

economic system that uses a systemic approach to maintain a circular flow of resources, by recovering, retaining or adding to their value, while contributing to sustainable development

Note 1 to entry: *Resources* (3.3.11) can be considered concerning both stocks and flows.

Note 2 to entry: The inflow of virgin resources is kept as low as possible, and the circular flow of resources is kept as closed as possible to minimize *waste* (3.3.12), *losses* (3.3.13) and *releases* (3.3.14) from the economic system.