

SS ISO 59010:2025
ISO 59010:2024, IDT
(ICS 03.100.01; 13.020.20)

SINGAPORE STANDARD

**Circular economy – Guidance on the transition
of business models and value networks**



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ISBN 978-981-5277-63-0

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 59010:2024, “Circular economy – Guidance on the transition of business models and value networks”, published by the International Organization for Standardization.

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International Standard

ISO 59010

Circular economy — Guidance on the transition of business models and value networks

*Économie circulaire — Recommandations relatives à la
transition des modèles d'affaires et des réseaux de valeur*

**First edition
2024-05**



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CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
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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).

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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.^[23] 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^[24].

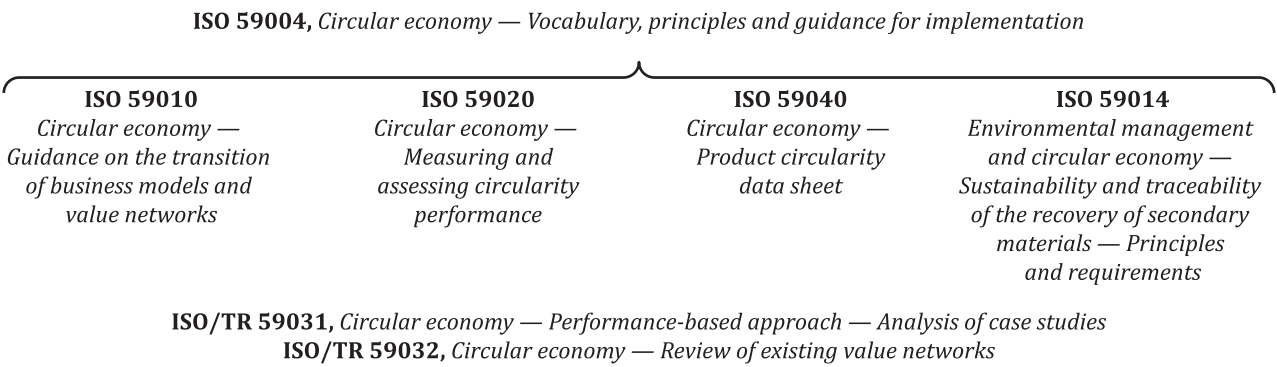


Figure 1 — ISO 59000 family of standards

0.2 Relationship between ISO 59004, this document and ISO 59020

ISO 59004, this document and ISO 59020 are interconnected, as shown in [Figure 2](#), and support organizations in implementing a transition towards a circular economy.

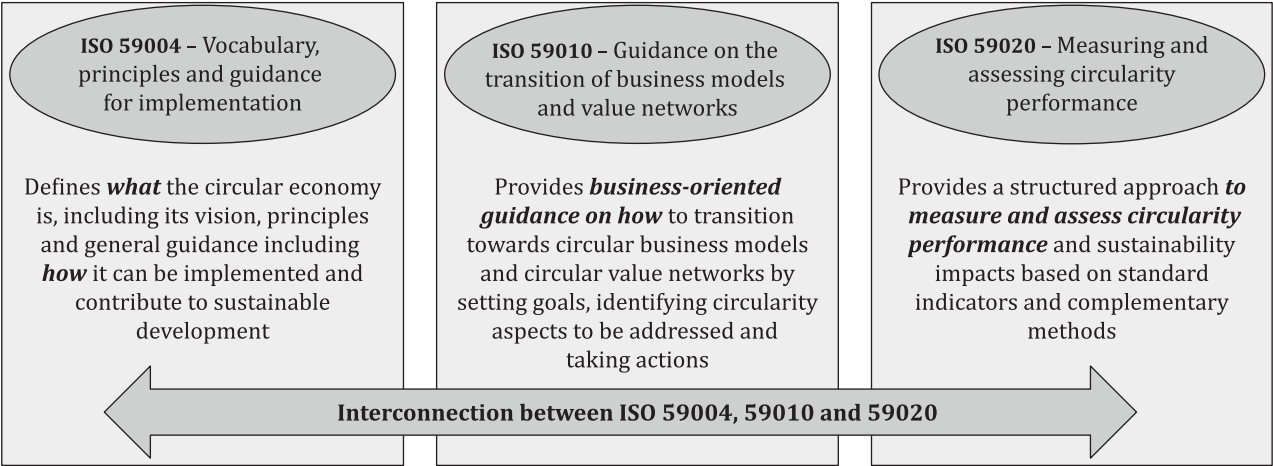


Figure 2 — Relationship between ISO 59004, this document and ISO 59020

0.3 Purpose and the outline of this document

Today’s predominant linear economy-based value creation models are being increasingly scrutinized from social, environmental and business perspectives. As a result, diverse responses such as landfill closures, material bans and extended producer responsibility (EPR) policies are being implemented. Furthermore, environmental degradation during extraction, production, use, end-of-life treatment and related pollution are now commonly acknowledged as severe risks for businesses and societies, all of which depend on ecosystem services. Besides the increasing operational risks posed by the degradation of environmental ecosystems, the failure to protect them can negatively impact an organization’s reputation.

In addition to these market risks, organizations anticipate continuous regulatory and reputational challenges as governments seek to address pollution and climate change. In this context, a circular economy and related value creation models have emerged as a promising strategy, gaining increased attention and support in society. Circular value creation models provide many more sustainable opportunities than existing linear models. During the development of this document, a survey was conducted to gather examples of changes in value creation models and value networks, and the results are provided in ISO/TR 59032.

Circular value creation models continuously improve their resource management practices and contributions to a circular economy and more sustainable business pathways. Circular value creation models establish measurable indicators (see ISO 59020) which can track resource use and losses over time, and monitor their impacts on and benefits to society and the natural environment.

In addition to its potential environmental benefits, studies show that a circular economy offers opportunities worth trillions of United States dollars, including job creation, which builds resiliency in national and international economies.^[26] These findings have propelled momentum towards a global circular economy, and as a result, organizations have begun the transition to take advantage of these many opportunities.

However, transitioning from a linear to a circular value creation model can be challenging because it typically demands that an organization’s value creation models and value networks be restructured. Accordingly, this document gives guidance for organizations wishing to transition their linear value creation models and value networks to circular ones.

This document is divided into eight clauses, of which [Clauses 4](#) to [8](#), including their subclauses and interrelationships, are shown in [Figure 3](#).

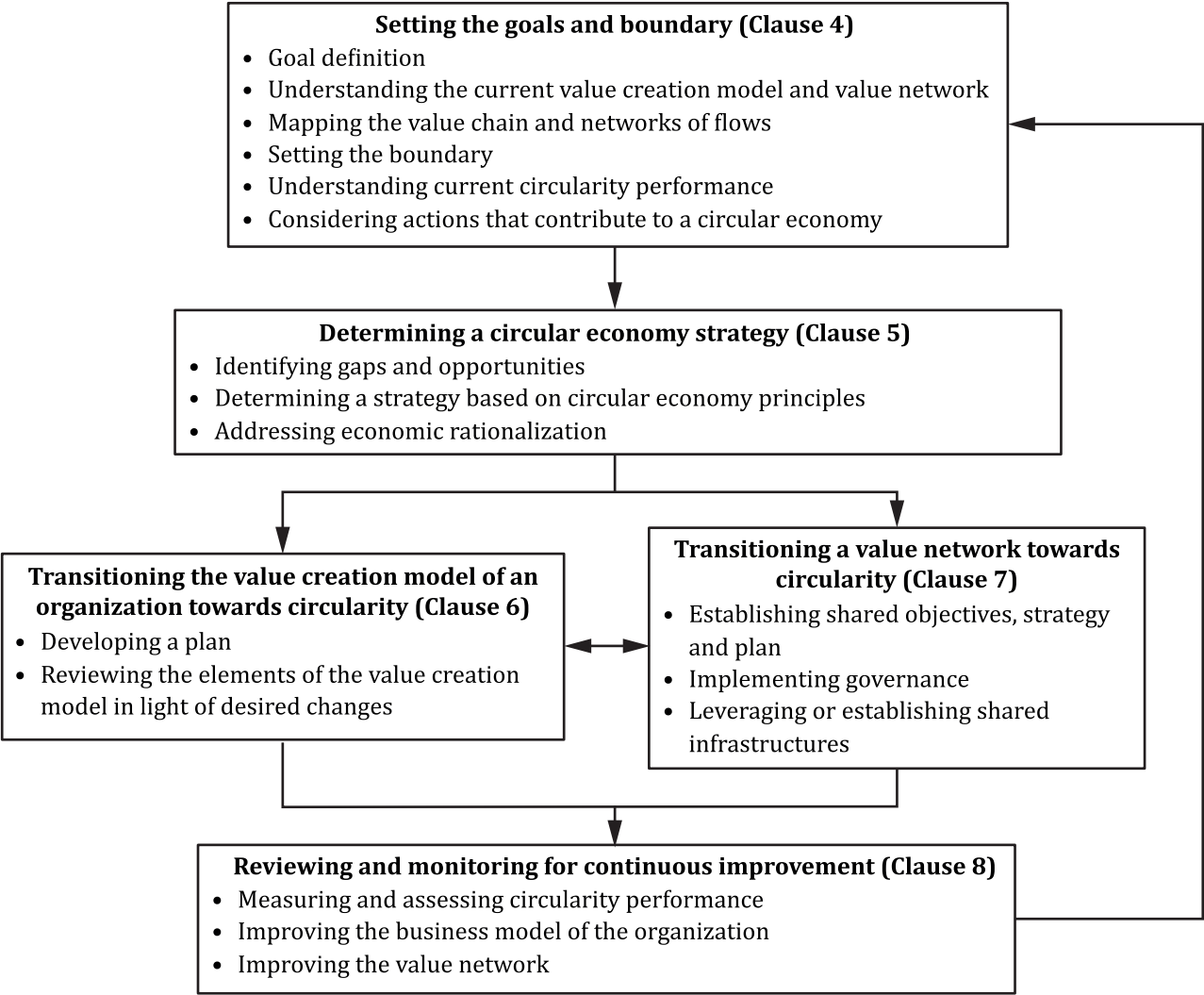


Figure 3 — Main structure of this document

0.4 Correspondence between ISO 59004 and this document

This document seeks to provide a more business-oriented methodology than ISO 59004, by which the transition from linear economy to circular economy is implemented in an actual business strategy. Therefore, as shown in [Table 1](#), the two documents are complementary. This document focuses on business-oriented perspectives at the organizational and inter-organizational levels, while ISO 59004 is more generic and also applies at higher levels.

Table 1 — Correspondence between selected clauses in ISO 59004 and this document

Clauses and subclauses of ISO 59004		Corresponding clauses and subclauses in this document	
7.2	Context and reference situation assessment	4.2	Understanding the current value creation model and value network of the organization
		4.3	Mapping the value chain and networks of flows
		4.4	Setting the boundary for addressing circularity
		4.5	Understanding current circularity performance
6	Actions that contribute to a circular economy	4.6	Considering actions that contribute to a circular economy
7.3	Circular economy purpose, mission, vision and goals definition	4.1	Goal definition
		5.1	Identifying gaps and opportunities
		5.2	Determining a circular economy strategy based on circular economy principles
		5.3	Addressing economic rationalization
7.4	Circular economy strategic priorities and action plan development	6.1	Developing a plan
7.5	Circular economy implementation	6.2	Reviewing the elements of the value creation model in light of desired changes
7.6	Circular economy monitoring, reviewing and reporting	7	Transitioning a value network toward circularity
		8.1	Measuring and assessing circularity performance
		8.2	Improving the value creation model of the organization
		8.2	Improving the value network

Circular economy — Guidance on the transition of business models and value networks

1 Scope

This document gives guidance for an organization seeking to transition its value creation models and value networks from linear to circular.

This document is applicable to any organization regardless of size, sector or region.

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 59004 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 value creation model

business model

organization's chosen system of interconnected and interdependent decisions and activities that determines how it creates, delivers and captures *value* (3.16)

Note 1 to entry: A value creation model involves external *processes* (e.g. transportation, take back) beyond those of the organization's processes (e.g. education, financing) and the *solutions* (3.14) it provides.

Note 2 to entry: The value creation model can have a focus on the short, medium or long term, or some combination thereof.

[SOURCE: ISO 59004:2024, 3.5.1]

3.2 circular economy

economic system (3.3) that uses a systemic approach to maintain a circular flow of resources, by recovering, retaining or adding to their *value* (3.16), while contributing to sustainable development

Note 1 to entry: *Resources* (3.12) 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* (3.19), losses and releases from the economic system.

[SOURCE: ISO 59004:2024, 3.1.1]