



**International  
Standard**

**ISO 37111**

**Sustainable cities and  
communities — Urban settlements  
— Guidance for a flexible approach to  
phased implementation of ISO 37101**

**First edition  
2024-06**

STANDARDSISO.COM : Click to view the full PDF of ISO 37111:2024

STANDARDSISO.COM : Click to view the full PDF of ISO 37111:2024



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Aspects and characteristics of urban settlements</b> .....	<b>2</b>
4.1 General.....	2
4.2 Implementing ISO 37101 in urban settlements.....	3
4.3 Considering progressive implementation of ISO 37101.....	3
<b>5 Context of the organization</b> .....	<b>4</b>
5.1 Understanding the organization and its context.....	4
5.2 Identifying the organization.....	4
5.3 Identifying interested parties and engaging collaboration and participation of all.....	5
<b>6 Tools and methods to support the implementation</b> .....	<b>6</b>
6.1 General.....	6
6.2 Tool and method 1 — Building and promoting shared vision locally.....	7
6.3 Tool and method 2 — Organizing workshops by engaging interested parties.....	8
6.4 Tool and method 3 — Readiness — Getting prepared to initiate the process.....	9
6.5 Tool and method 4 — Conducting capability review.....	10
6.6 Tool and method 5 — Identifying and adjusting a roadmap with interim objectives or milestones.....	10
6.6.1 Roadmap.....	10
6.6.2 Interim objectives.....	11
6.6.3 Milestones.....	12
6.7 Tool and method 6 — Adopting a risk management approach.....	12
6.8 Tool and method 7 — Specific plans, public policies and incentives.....	13
6.8.1 Specific planning.....	13
6.8.2 Use of public policies and incentives.....	14
6.9 Tool and method 8 — Using action plans with tasks for responsible actioners.....	15
6.10 Tool and method 9 — Using a KPI framework to drive implementation.....	16
6.11 Tool and method 10 — Monitoring, reporting and verification of progressing process.....	17
6.11.1 General.....	17
6.11.2 Establishing evaluation models.....	17
6.11.3 Undertaking analysis and continuing improvement.....	18
6.11.4 Reporting.....	19
<b>Annex A (informative) Examples of interim objectives that contribute to address the six purposes provided in ISO 37101 and with an indication of the corresponding 17 UN SDGs</b> .....	<b>20</b>
<b>Annex B (informative) Tools and methods in ISO 37111 (this document) that contribute to the five steps in ISO 37104</b> .....	<b>23</b>
<b>Annex C (informative) Examples of a KPI framework for sustainable urban settlements</b> .....	<b>24</b>
<b>Annex D (informative) Examples of evaluation models</b> .....	<b>28</b>
<b>Bibliography</b> .....	<b>32</b>

## 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 different types of ISO documents 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](http://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](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 268, *Sustainable cities and communities*.

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](http://www.iso.org/members.html).

## Introduction

ISO 37101 establishes a management system for the sustainable development of cities and communities. It aims to be applicable to all urban settlements of any size and characteristics. However, it is considered that the context, size and characteristics of certain urban settlements are sufficiently different for there to be a need for additional guidance to facilitate a more flexible and appropriate implementation of ISO 37101. This document provides relevant guidance, tools and methodologies to allow for these specific circumstances and, more generally, to also facilitate the initial stages of sustainable development, or a planned phased implementation, of ISO 37101, where this is needed.

The definition of “urban settlements” is not simple, as it depends on many interdependent factors. Some of them relate, for example, to the size of the settlement’s population in relation to a region’s wider geography, or how the administrative units are organised in a local or national context. The term also has varying designations in different languages, that are not always equivalent. For the purposes of this document, we will mainly be referring to urban settlements that are relatively small in size compared to big cities or metropolitan areas. We will also include subdivisions of a city, such as neighbourhoods, boroughs or urban districts. Specialised urban settlements can, for example, include urban settlements based around ports or harbours, railway junctions, market towns, a single specialised industry such as mining or steel-making, tourism centres, administrative, ecclesiastical or educational (e.g. university) centres. These often do not have the full range of functions and services normally associated with a large city.

The specialised or smaller urban settlements we are considering will typically still have a certain level of administrative autonomy in decision-making. This includes the ability to independently manage resources, such as having control over a budget.

In spite of the diversity of characteristics of urban settlements, the range of problems in relation to sustainability can be similar to those affecting large urban developments. However, the scale and intensity of those problems can be less or be more focused, while the administrative or organizational unit will often have access to proportionately less resource.

Given the complexity of sustainable development, the technical knowledge required to understand the wide array of subjects involved should not always be available in smaller or more specialised urban settlements, including in public administration. This can be one of the most significant challenges faced by specialised or smaller urban settlements when engaging in the promotion of sustainable development and the implementation of a full management system.

This document gives guidance for different types of urban settlements, some with specific functions, others at different stages of sustainable development, to implement ISO 37101 flexibly and manageably. Different histories, demographics, local industries, geographic locations, innovation skills and other distinctive characteristics can be considered on a case-by-case basis, recognizing that each type of urban settlement needs to develop in a way that reflects and enhances their unique characteristics and experiences. Their distinguishing features, which underpin their attractiveness, quality of life, and social cohesion, will also generate specific cross-cutting issues and encourage diversity.

In a specialised or smaller urban settlement, solutions and initiatives that promote sustainable development need to be more focused and they eventually demand smaller but carefully targeted investment. These smaller or specialised urban settlements can make a start and take small steps in sustainable development through being creative, and using simple but accessible solutions, making more use of SMART processes and methods (software) and relying on local people’s knowledge and education (rather than more expensive infrastructure and hardware).

This document provides a flexible approach, giving guidance to urban settlements that have limited resources and could only meet the full ISO 37101 requirements through small, phased steps and gradual improvements that eventually build maturity (see the maturity model provided in [Annex D](#)). The tools and methods included allow administrative units or organizations to monitor and measure the progress of improving sustainable development outcomes at successively higher levels of maturity, and as they develop to dynamically adjust their results and expectations to remain aligned with the UN Sustainable Development Goals (SDGs).

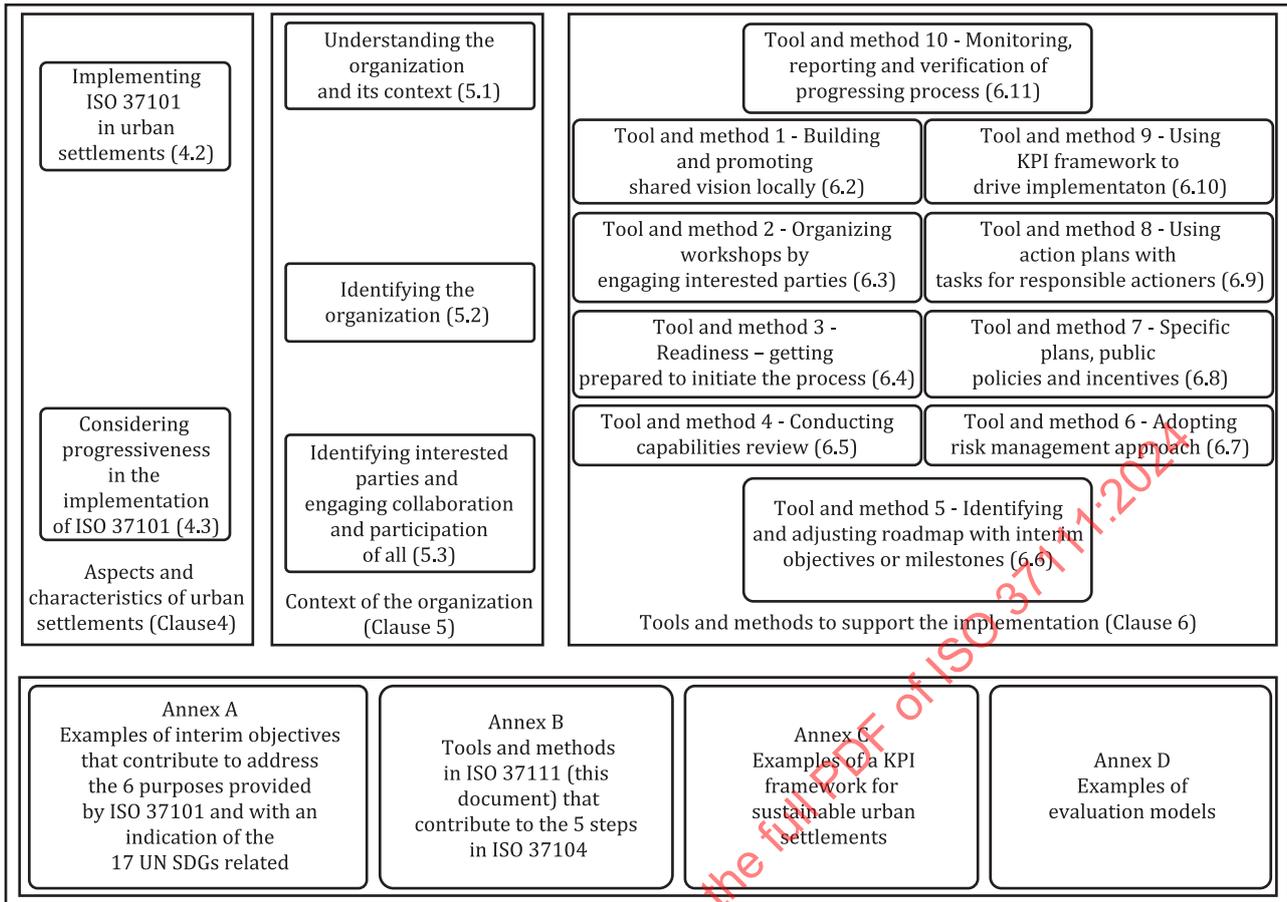
## ISO 37111:2024(en)

There are some characteristics that foster successful sustainable development for smaller or more specialised urban settlements, including:

- **Creativity:** Being creative can contribute significantly to the sustainable growth of smaller or more specialised urban settlements. As an example, new technologies can be pioneered at a smaller scale, because it is easier to pilot smaller or niche sustainable schemes (e.g. local currencies for tourist towns or car-sharing in more ruralised, dispersed communities) due to lower operational costs locally. These conveniences and advantages can improve quality of life locally and so help to attract more residents, visitors, and investors.
- **Local context:** The unique distinction that a local context has can be utilized to avoid homogenized solutions. Therefore, it is critical to identify potential opportunities and risks for local improvement. For example, it can be relevant to consider intergenerational inequity issues such as providing facilities or infrastructure that serves a range of ages especially children and aging people.
- **Cooperation:** Active collaboration in various forms, such as intercity, inter-regional, and international collaboration, assists urban settlements to make the best use of resources at the lowest possible cost, to counteract risks together, and become more resilient, e.g. collective energy purchase. Furthermore, issues such as lowering carbon emissions rely heavily on the cross-sectoral synergy of the energy supply, mobility, buildings and materials, and behaviour. Therefore, cooperation between administrative units or local organizations at different levels is important, so that joint efforts can be made to achieve the overall goal.
- **Connection:** Accessibility is vital for sustainable development. Urban settlements are interconnected with adjacent regions and cities, and better connections within megacities can improve public services and transportation conditions, while investment in improving infrastructure (particularly large infrastructure) is typically unaffordable for smaller urban settlements on their own. Moreover, ecological corridors can greatly improve the environmental impact of the entire region.
- **Competition:** It is important to maintain a good business environment, i.e. simplifying the start-up process, protecting minority investors, and providing good-quality public services. Meanwhile, opportunities for mutuality should be explored in new emerging areas such as e-business, smart cities, cyber technologies, artificial intelligence, the Metaverse and the digital economy in order to increase sustainability and competition.
- **Competence:** Smaller urban settlements increasingly attract and retain talent due to a relatively superior quality of life. They can also promote the formation of industry clusters that bring together businesses from similar sectors, fostering collaboration and knowledge sharing among businesses. For example, by focusing on knowledge-based industries, smaller urban settlements can attract a diverse range of businesses and entrepreneurs, which create a culture of continuous learning and professional development.

This document contains a scope ([Clause 1](#)), normative references ([Clause 2](#)), terms and definitions ([Clause 3](#)), and aspects and characteristics of urban settlements ([Clause 4](#)). [Clause 5](#) elaborates on the context of the organization. [Clause 6](#) provides ten tools and methods. [Figure 1](#) illustrates an overview of the main components in this document.

# ISO 37111:2024(en)



**Figure 1 — Overview of the main components in ISO 37111 (this document)**

STANDARDSISO.COM : Click to view the full PDF of ISO 37111:2024

# Sustainable cities and communities — Urban settlements — Guidance for a flexible approach to phased implementation of ISO 37101

## 1 Scope

This document provides guidance for a more flexible implementation of ISO 37101. This can be appropriate for smaller urban settlements or those dominated by a specialised function. Others can be starting on their journey of maturing sustainability from a very low-level base, or aim to explore sustainable development in a gradual, phased way due to limited resources. Some will want to rapidly initiate action that will have an immediate impact to demonstrate value and stimulate wider support. It provides practical toolkits to achieve implementation (e.g. policies and economic incentives, technical tools, and self-assessment checklists).

This document applies to urban settlements of any composition and type.

## 2 Normative references

The documents listed below are referred to in the text in such a way that some or all of their content meets the requirements of this document. Only the edition cited applies to dated references. In the case of undated references, the most recent edition of the referenced document (including any amendments) is used.

ISO 37100, *Sustainable cities and communities — Vocabulary*

ISO 37101:2016, *Sustainable development in communities — Management system for sustainable development — Requirements with guidance for use*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 37100, ISO 37101 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 urban settlement

built-up area with a residential population and infrastructure for the built environment that encompasses various functions within a community, including administrative, cultural, economic, residential, and religious aspects

Note 1 to entry: In this document, an urban settlement can include cities and their surroundings, rural-urban fringes or areas separate from a large city or distinctive areas within a large city, such as urban districts, boroughs, towns, counties, zones and parts of a city, such as neighbourhoods.

Note 2 to entry: There is no universally recognized definition of population scale classification for urban settlements, and different regions and countries have their own standards; therefore, this document takes the approach of describing the features of urban settlements rather than offering a definition based on scale.

### 3.2

#### **capability**

ability to perform or support a function

Note 1 to entry: In the context of an urban settlement, several aspects relate to capability, such as carbon emissions, energy, water resources, natural environment, culture, public facilities, and economic development.

[SOURCE: ISO 6707-1:2020, 3.7.1.9, modified — Note 1 to entry has been added.]

### 3.3

#### **intergenerational equity**

fairness in the differences (e.g. in terms of living standards, quality of life, financial opportunities) between one generation and the next

### 3.4

#### **readiness**

state of having the knowledge, skills, processes and technologies needed to address a particular issue or challenge

Note 1 to entry: Considerations of readiness can include diagnosis of the local status quo in order to understand the level of major sustainability considerations, e.g. maturity, digitalization, citizen's understanding, competency and skills of experts.

Note 2 to entry: Adapted from ISO/IEC 27050-4:2021, 3.2.

### 3.5

#### **statistical system**

comprehensive processes across organizations to connect producers of statistics with other producers and users in a consistent way that ensures transparency, openness, clarity and ready accessibility in the release and use of data, statistics and wider analysis

### 3.6

#### **indicator**

quantitative, qualitative or descriptive measure

[SOURCE: ISO 15392:2019, 3.18]

### 3.7

#### **KPI framework**

#### **key performance indicator framework**

essential management tool that comprises a selection of KPIs, identified as critical to assess progress towards an intended result, providing a focus for strategic and operational improvement, allowing for effective value demonstration and resource management

Note 1 to entry: The KPIs are typically quantifiable and time-bound and can be used by an organization or individual.

### 3.8

#### **cross-sectoral cooperation**

planning (combined with monitoring and evaluation) at a strategic-level, within an organization, between similar organizations, or across entire or different linked sectors, to maximize the benefits in a cost-efficient way, and to avoid siloed decision-making

## **4 Aspects and characteristics of urban settlements**

### **4.1 General**

Urban settlements usually have some degree of autonomy, they have their own identity and can be described as small cities, urban districts or communities. This description includes the concept of neighbourhoods, which are part of a city.

In general terms, they have many of the characteristics of a city, but compared with major cities, their scale and size are smaller, which frequently implies that the challenges and the issues referred to in ISO 37101 as sustainability issues are relatively and comparatively of a smaller scale (although in some circumstances still complex).

Another characteristic of urban settlements is that they have fewer resources, in particular in relation to the knowledge and expertise on sustainability issues and the major challenges of sustainable development.

In contrast, due to the size and scale, it is possible that the measures and solutions to deal with these challenges can be simpler and do not require extremely sophisticated measures.

Nonetheless, the goals of sustainable development are achievable through the management system for sustainable development established in ISO 37101 when it is used flexibly in and applicable to cities and communities of all sizes and types.

### 4.2 Implementing ISO 37101 in urban settlements

The implementation of ISO 37101 in an urban settlement should be conceived in a way that takes into account the context of that area and it should adopt solutions that are as simple as possible as it attempts to tackle the main challenges (in accordance with the requirements of ISO 37101) in a pragmatic, effective and efficient way.

By doing this, the following benefits can be achieved:

- meeting various interested parties' practical needs and periodical expectations, including demonstrating legal compliance and improving relations with small-scale, intimate, inter-dependent local communities;
- delivering cost savings (e.g. lowering the cost of research and development on tools and methods or experiential learning);
- improving the recognition of the commitment to sustainable development by an organization, by demonstrating clear and pre-defined interim achievements;
- enabling all interested parties to engage in a management system for sustainable development;
- improving coordination and facility sharing with other nearby cities or communities that are also outside stakeholders;
- raising awareness about sustainability in various maturity levels and phases;
- focusing more on software and human resources instead of hardware only.

### 4.3 Considering progressive implementation of ISO 37101

When planning the implementation of a management system for sustainable development of an urban settlement, it can be useful to consider a progressive phased implementation as described in [5.1](#). The adoption of considering a progressive implementation of ISO 37101 offers several additional benefits for urban settlements, particularly for those with limited available resources, by allowing an organization to:

- develop a management system at its own pace;
- define the scope when implementing ISO 37101 and tailor this to fit the local resources available;
- decide how many phases it wishes to go through and what level of maturity it envisions its management system to reach in each phase;
- decide on issues or other aspects to be considered, such as a distinctive local culture, or emerging industry that distinguishes them from the competition or surrounding urban areas;
- start with the area's greatest potential for long-term improvement and achieve optimum benefits;
- mobilize quickly to implement ISO 37101, and ultimately achieving the UN SDGs;

- identify interim objectives and suitable indicators, select toolkits, perform task decomposition, and assign tasks to entities in charge;
- dynamically adjust implementation for performance improvement, e.g. interim objectives, indicators and tasks;
- stimulate a positive culture and attitude towards sustainable management.

## 5 Context of the organization

### 5.1 Understanding the organization and its context

Urban settlements can be of any size. Therefore, they can include "small" human communities or neighbourhoods within a city, or part of a multi-nuclear city, or autonomous communities within the urban-rural fringe or separate from a large city. In order to define urban settlements when applying this document, some of the following aspects should be considered:

- They are areas with relatively independent and stable communities and populations, with physical, political or historical-cultural boundaries that can be distinguished from other human settlements. They have a relatively small or medium population and built-up area compared to other cities in the same country and region, as defined by each country's criteria.
- Locally, there are usually a plethora of normal daily office duties. Staff can lack sustainability expertise and find it difficult to secure financing and to manage complex projects such as lower-carbon emissions schemes, however, the proximity to other citizens with some knowledge or sustainability experience, due to the smaller scale, can engage more active participation.
- They are typically not centres of authority or economic hubs of first-level administrative divisions, because a small or medium proportion of the economy is in larger urban regions. For example, some are called a "satellite city", a district of a megacity, or a part of an urban agglomeration located near the most important economic activity hubs. Most of them are located far from centres of economic activity. They also include subdivisions of cities, such as neighbourhoods, usually the provision of public services is made by the parent city and many times they don't have a formal autonomous administration. When compared to large cities, their economy is less diverse and resilient.
- As local infrastructure and services are provided at a smaller scale, most of them are not sufficient or complete when compared to large cities. Meanwhile, some urban settlements can share important infrastructure and services (e.g. airports, harbours) with other cities and settlements.

When planning the implementation of a management system for sustainable development of an urban settlement, periodical adjustments are essential for organizations seeking to manage it. Regular reviews and adaptations responding to new trends and changes are necessary to ensure success. Organizations should regularly reassess external and internal factors related to the development of the urban settlement and update or modify them to keep pace with the implementation of ISO 37101.

### 5.2 Identifying the organization

As a starting point, the administrative unit or organization can be informal and recognized or endorsed by relevant stakeholders. This means that it can be any of the urban settlement stakeholders as listed in a) to d) below.

In the case of a smaller urban settlement which does not have a formal autonomous public administration (e.g. a neighbourhood), the organization in charge of the management system can find it useful to secure some form of formal endorsement from the local government. The organization should meet the requirements provided by ISO 37101:2016, 4.2 and 4.3.

- a) **Authorities:** Local authorities play a critical role in taking the lead in long-term management of urban settlements. Local governments are usually in place, and they can initiate a vision which includes a clear description of the purposes and interim objectives. They can provide public services and involve the coordination of relevant interested parties in forming and maintaining a long-term strategy.

- b) Civil society organizations: These organizations exist in most types of urban settlements globally, and can play a more important role in assisting local governments in achieving phased objectives and implementing a specific plan. Self-governing organizations can coordinate all the businesses, residents, and visitors to participate in a variety of sustainable management activities.
- c) Users: Within smaller or specialised urban settlements, a user refers to enterprises, residents, visitors, or other individuals.
- d) Other participants: There are other participants that are outside the urban settlement, including public service providers or developers, which can assist in areas such as the implementation of long-term plans or tasks. There are also other types of organizations, such as academic organizations or national governments, which can provide various forms of assistance to the sustainable development initiative.

NOTE 1 City councils and local governments are defined as local authorities in ISO 37101.

NOTE 2 Local governments include responsible entities, which are typically the departments or executive institutes of the local governments.

NOTE 3 The roles are not fixed. They can sometimes change in the activities of sustainable management. Self-governing organizations and large enterprises, for example, are usually also users.

### 5.3 Identifying interested parties and engaging collaboration and participation of all

Interested parties are key components for a successful and effective management system, and since urban settlements are usually relatively small with close personal connections and communications, identifying the variety of interested parties, understanding the various local contexts, and recognizing the different levels of willingness to be involved are essential (e.g. engagement, participation and collaboration) during the implementation process.

NOTE [Subclause 5.3](#) in this document pertains to the context of organization and leadership relative to ISO 37101:2016, 4.1, 4.2, 4.3, and Clause 5, which emphasize the importance of understanding concerns and engaging stakeholders in policy and vision-building to ensure legitimacy. Stakeholders are also ready to be reminded of the process.

For smaller and specialised urban settlements, interested parties can include the following:

- a) authorities:
  - city council;
  - governments of the surrounding areas;
  - wider regional governments;
  - local government and sub regional institutions;
  - ministerial and other relevant high-level participants;
  - local representation of the national government;
  - economic and social councils;
  - state-led, intergovernmental bodies and forums;
  - state-led and private industries acting on behalf of the local government, e.g. contractors or operators of inner or inter regional infrastructures, property developers, technology and application providers, system integrators, infrastructure service providers and operators.
- b) civil society organizations:
  - non-governmental organizations;
  - alliances (including voluntary groups);

- trade unions;
- chambers of commerce;
- social organizations/public institutions;
- educational, religious or faith organizations;
- scientific societies;
- professional societies;
- inter-city coordination organizations;
- self-governing organizations within the neighbourhoods;
- self-governing organizations in the surrounding neighbourhoods.

c) users:

- business enterprises;
- small and medium-sized enterprises (SMEs);
- individuals, including citizens, visitors, employees and experts;
- indigenous residents.

d) other interested parties:

- academia, knowledge providers;
- consultancy firms or planning and design institutes outside the urban settlement;
- quality infrastructure organizations;
- monitoring and evaluation companies;
- education, healthcare, transportation and other public service providers;
- facilities and utilities enterprises;
- innovative companies and start-ups;
- urban developers.

The organization should engage all interested parties to communicate and discuss the main sustainable development issues of urban settlements, and to collaboratively find solutions.

## 6 Tools and methods to support the implementation

### 6.1 General

This clause provides tools and methods for smaller and specialised urban settlements that wish to rapidly initiate actions, address prioritized sustainability purposes and issues, and support and facilitate the implementation processes of ISO 37101.

The organization can begin by identifying phased or intermediate targets on the journey towards more mature sustainable development. These targets could even include steps to reach maturity level 1 (refer to ISO 37101:2016, Annex A).

At any maturity level, the organization can select any combination of these tools and methods to start with, noting that usually at least three should be considered. There is no necessary fixed order or prerequisite for adopting these tools and methods, and all of them will need the engagement of interested parties (see [5.3](#)).

The organization can carry out evaluation and reporting (see [6.11](#)) and adopt a risk management approach (see [6.7](#)) of the actual maturity level both at the beginning and the end of the period of that maturity level, which should be around 2 years to 3 years for one level, for example, in order to assess the effectiveness of the implementation when adopting those selected tools and methods.

When utilizing the tools and methods as provided in this document, it is recommended to identify the frequencies and other relevant factors based on individual needs. This will effectively help the urban settlement in strengthening advantages and enhancing capabilities to improve various aspects.

Some of the tools and methods are useful to one or more of the five steps provided in ISO 37104, and it is highlighted that these tools and methods should support managing the implementation with the overall goal being to implement all of the requirements of ISO 37101. The linkages of the tools and methods in this document that can contribute to the five steps in ISO 37104 are provided in [Annex B](#).

Additionally, urban settlements should encourage cross-sectoral cooperation, information and knowledge sharing with other urban settlements. They can do so by establishing alliances, workshops, or events to exchange experiences on the usage of such tools and methods and share the learnings.

### 6.2 Tool and method 1 — Building and promoting shared vision locally

The shared vision is a set of statements that clearly describe the intended outcome of sustainability in the future, with the setting of objectives to be achieved and performance to be monitored. It is therefore part of and the basis for the policy described in ISO 37101:2016, 5.2. The vision provides guidance on the direction of various sectors. The shared vision for sustainable development is a key commitment by the management system of the urban settlement. It states the formal expression of the intentions and direction of the organization. Therefore, the vision takes into account the sustainability purposes and issues provided in ISO 37101, and reflects the current situation and the desired outcomes, highlights the needs, common understanding and core values of all interested parties.

The organization should plan to achieve the shared vision as the basis and core of its policy when establishing objectives of sustainable development in the urban settlement (refer to ISO 37101:2016, 6.2).

Organizing workshops by engaging interested parties (see [6.3](#)) can facilitate discussions and help to identify areas for consensus and to build and promote shared vision, in order to mobilize contributions and resources as needed.

The shared vision should be developed according to ISO 37101:2016, 5.2, and within participatory processes, using intensive and extensive consultation and engagement of the interested parties. Having a shared vision has several advantages:

- explaining purposes to all interested parties in a clear and concise manner, as well as attracting citizens to work together collaboratively;
- converting broad, long-term visions into more specific, action-oriented terms, and providing blueprints for a more sustainable future;
- improving the organization's image as competent and professional, which in part assures the funding sources

The shared vision should be communicated to all interested parties to encourage additional external resources and draw internal and external public attention. Social participation can help to build collaboration within communities through mutual trust, listening, respect for diversity, and continuous civic empowerment. However, it can be the case that at the beginning, due to the lack of a shared vision, it can take a long time to seek external resources, and the audience can be limited to a small group of leaders.

Promoting a shared vision to the general public can enable citizens to agree and act on future visions, as well as to become more involved in the process. Organizations can use the following methods to raise public awareness:

- design a logo or slogan and related items;

- create websites or short blogs/films/slides presenting the vision of a local sustainable future;
- organize promotional events with the core value of sustainable development to raise awareness and funds.

By doing this, the organization can keep the local community informed and engaged about the importance of making changes and delivering a prosperous future. Meanwhile, interested parties can contribute external resources to accelerate the progress.

It is also helpful to be aware that building a shared vision can support other tools and methods, including identifying a roadmap with interim objectives and milestones (see [6.6](#)) to ensure that progress is being made, establishing and coordinating specific planning (see [6.8.1](#)), developing and introducing policies and incentives (see [6.8](#)) and using the KPI framework to drive implementation (see [6.9](#)).

### 6.3 Tool and method 2 — Organizing workshops by engaging interested parties

Due to the lack of available information and limited understanding of the interested parties in smaller urban settlements, the organization can find it difficult to address the expectations and needs of all legitimately interested parties. It is therefore beneficial to use workshops as a means to engage all interested parties to fully communicate and together review and identify prioritized sustainability issues provided in ISO 37101, keeping in mind that it is necessary to achieve a balanced outcome for the economy, society, environment, etc.

To facilitate the effective production of group thinking among all the interested parties, workshops should be organized as follows:

- The organization should invite and collect at least two to five valid representatives of each different interested party group, including staff or representatives of local authorities, civil societal organizations, public services providers and other participants (see [5.3](#)).
- The depth of a consensus can be increased by bringing interested parties together, by exchanging views, sharing evidence and by developing a consensus-based agreement.
- The organization should explain to the participants the expected outcome of the workshop (see ISO 37101:2016, 6.2 or objectives for sustainable development) and the elements should be considered to achieve that, such as the interim objectives (see [6.6](#)) or specific planning (see [6.8.1](#)).
- When trying to identify something together, e.g. shared vision (see [6.2](#)) or focus issues, a clear decision mechanism should be explained, e.g. each participant can cast a maximum of three to six votes for the options in favour. The organization can count the ranking of each option according to the voting result. The ranking list can be shared with a third-party reviewer to evaluate how to best arrange the implementation scheme. An example of a voting table for issues is provided in [Table 1](#).
- The organization should collect and analyse the voting results and disclose the result of the ranking list to all the participants.

More workshops can be organized to accommodate different participants in different locations and at different levels of maturity.

**Table 1 — Example of voting table for issues as derived from ISO 37101**

Purposes / shared vision		Attractiveness	Preservation and improvement of environment	Resilience	Responsible resource use	Social cohesion	Well-being
Issues							
1	Governance, empowerment and engagement						
2	Education and capacity building						
3	Innovation, creativity and research						
4	Health and care in the community						
5	Culture and community identity						
6	Living together, interdependence and mutuality						
7	Economy and sustainable production and consumption						
8	Living and working environment						
9	Safety and security						
10	Community infrastructure						
11	Mobility						
12	Biodiversity and ecosystem services						

NOTE The voter can use a maximum of six checkmarks “√” in this table to indicate they are in favour of the issue.

**6.4 Tool and method 3 — Readiness — Getting prepared to initiate the process**

Readiness should be checked to determine whether or not the organization is ready to start the process. This includes maturity level confirmation, understanding citizen attitudes and preferences, and the organizational competency and skills. It can serve as a preliminary step for establishing and coordinating specific planning (see 6.8.1), developing and introducing public policies and incentives (see 6.8.2) and using a KPI framework to drive implementation (see 6.10).

Readiness ensures that the smaller urban settlement has the minimum conditions and resources to start the implementation process of ISO 37101, even for specialised, selected purposes or issues, such as in a pilot period, and afterwards, to progressively enlarge that scope of the management system for sustainable development.

The organization can conduct a review of the need for changes and keep a record of the actions to be taken. Reviewing and confirming all documents and providing advice for improvements is necessary. The primary work can include:

- carrying out a baseline review if possible;
- sorting out the organizational structure and responsibility;

- conducting a conformance assessment;
- carrying out a quick scanning exercise against ISO 37101 to assess the current situation;
- training personnel in key positions (e.g. understanding citizen attitudes and preferences, as well as expert's competencies and skills);
- identifying preliminary relevant interested parties;
- identifying problems and risks;
- scheduling sustainable development KPIs (see [6.10](#)).

All observations, conclusions, and recommendations for additional necessary actions should be documented and recorded as part of the stage of readiness. If any corrective or preventive action is taken, the organization should follow up to ensure that the action was effectively implemented.

## 6.5 Tool and method 4 — Conducting capability review

The tool and method of readiness, getting prepared to initiate the process (see [6.4](#)), represents the minimum start-up conditions, while a capability review looks forward to what is possible to be achieved or projected.

A capability review helps the organization to identify the potential maturity status according to their local needs and features. The result of this tool and method can be useful for establishing and coordinating specific planning (see [6.8.1](#)), developing and introducing public policies and incentives (see [6.8.2](#)), using a KPI framework to drive implementation (see [6.10](#)) and using action plans with tasks for responsible actioners (see [6.9](#)).

In this tool and method, the 12 sustainability issues specified in ISO 37101 should be considered. A maturity matrix (see [Annex D](#)) can also be used as a tool. Additionally, other quantitative and qualitative analyses of various aspects are helpful to conduct the potential assessment of a sustainable development status, including:

- resource use, e.g. carbon emissions, land use, consumption of energy, water, waste management;
- environmental capacity, e.g. eco-footprint, air pollution, water pollution, noise, light pollution, heat-island effect, biodiversity;
- social and economic capability, e.g. culture, public services, innovation and industry services, environment for conducting business, high quality education and health system;
- infrastructure and transportation, e.g. roads, railways, bridges, tunnels, water supply, sewage, electrical grids, and telecommunications.

The outcome should be a report produced detailing the results of the capability review. The organization can use the findings to inform the development of action plans for improving capability.

## 6.6 Tool and method 5 — Identifying and adjusting a roadmap with interim objectives or milestones

### 6.6.1 Roadmap

A roadmap is a pragmatic plan which describes the steps that the organization should take in order to achieve the intended outcome. It clearly outlines links between tasks and priorities for actions in the short-term, mid-term and long-term. An effective roadmap should also include interim objectives (see [6.6.2](#)), metrics or milestones (see [6.6.3](#)) to allow monitoring of progress towards the ultimate goals. It can be a set of technical, incentive, financial and organizational demands identified by interested parties involved during the development process.

Road mapping is the evolving process of creating and implementing a roadmap along with monitoring and updating as necessary. The process is often as important as the resulting document, because it engages

and aligns diverse interested parties in a common course of action, sometimes for the first time. By getting interested parties to work together towards something, e.g. the shared vision (see 6.2), the process can help build up relationships that have a significant, long-lasting impact and can support its implementation.

A roadmap can include:

- performance targets;
- pathways;
- priorities;
- timeframes;
- development, demonstration and deployment of a pilot experiment scheme;
- interim objectives (see 6.6.2);
- milestones (see 6.6.3).

The frequency of updating a roadmap depends largely on the timeframe allowed. Typically, roadmaps should be updated periodically (e.g. every three to five years). In some cases, roadmaps are updated more frequently to reflect progress, by adjusting available resources or re-scheduling considerations.

### 6.6.2 Interim objectives

The interim objectives should be connected to the objectives of sustainable development (refer to ISO 37101:2016, 6.2), including the strategy for sustainable development (refer to ISO 37101:2016, 6.2.2). This is an important tool for smaller urban settlements that should not have the resources and capabilities to progress rapidly or deal with all issues at the same time (i.e. in parallel).

When applying this document to identify interim objectives, this can be a feasible step towards the longer-term objectives of sustainable development in line with the 6 purposes and 12 sustainability issues specified in ISO 37101, and the result of baseline review (refer to ISO 37101:2016, 6.1.2). The organization can propose more detailed elaboration according to the shared vision (see 6.2) and its specific situation and practical needs, with the following examples:

- a) examples of interim objectives for attractiveness can be:
  - strengthening the innovation and creative capacity for a good environment for conducting business;
  - ensuring economic development and advancement as well as regulations that can impact local SMEs because of the limited industrial diversity.
- b) examples of interim objectives for social cohesion can be:
  - strengthening flexible and easy participation by engaging all interested parties in the local management;
  - addressing concerns to improve social cohesion such as intergenerational equity.
- c) examples of interim objectives for preservation and improvement of environment can be:
  - protecting and improving the high-quality living environment;
  - establishing harmonious relationships among citizens, the environment and local enterprises;
  - preserving the values of the local culture features.
- d) examples of interim objectives for responsible resource use can be:
  - engaging wider collaborations and partnerships to strengthen the society's consensus on effectively utilizing resources and energy;
  - promoting a green and lower-carbon emission lifestyle.

e) examples of interim objectives for well-being can be:

- enhancing the happiness of residents with the accessibility to equal education, healthcare and work opportunities;
- establishing sound social security mechanisms and effective public security, continuously improving public services, creating an inclusive society and welfare for all the citizens and enterprises.

f) examples of interim objectives for resilience can be:

- taking specific care of vulnerable citizens, e.g. aging persons, when public health emergencies occur, such as epidemics or pandemics;
- taking measures to help SMEs, e.g. when the global supply chain is interrupted.

Further elaborations can be added to describe the interim objectives more specifically and distinctly. For example, if urban attractiveness focuses on the business environment, local governments can interpret it as three actions, including starting a business, business deregistration and enterprise change, to make the interim objectives clearer to fit the local context. All the interim objectives can be promoted through the shared vision (see 6.2). Readiness, getting prepared to initiate the process (see 6.4) and conducting a capability review (see 6.5) are also helpful.

The examples of interim objectives which correlate to the six purposes provided in ISO 37101 and the 17 UN SDGs are listed in [Annex A](#).

### 6.6.3 Milestones

Milestones mark important stages or events through the process of implementing the management system for sustainable development. They help manage phased progress typical of smaller urban settlements.

Milestones can be significant nodes in a roadmap (see 6.6.1), which should be displayed as below. Milestones allow interested parties to know how far the tool and method have been carried out. The organization should evaluate milestones and adjust the roadmap regularly.

Milestones can include the following elements:

- KPI values;
- missions;
- personnel / responsible entity in charge;
- milestones as the interim performance nodes for achieving the objectives, with specific dates identified.

NOTE Milestones can be connected to interim objectives (see 6.6.2) or to specific activities or outcomes.

## 6.7 Tool and method 6 — Adopting a risk management approach

A risk management approach for urban development enables the organization to develop plans to minimize harmful events before their impacts affect urban settlements. There are many types of risks associated with the implementation of ISO 37101 (e.g. financial, environmental, climate change). For specialised and smaller urban settlements, the resources to deal with risk are usually lower so that, without addressing risks, potentially smaller urban settlements can be exposed to higher levels of harm.

For each maturity level, it is suggested that the organization should develop and maintain a documented and auditable risk management approach capable of managing all types of risks that can directly or indirectly affect the implementation of the management system, or its intended outcomes.

ISO 31000 gives guidance on risk management frameworks and risk management processes.

The risk management process involves the definition of the scope, context and criteria (where the organization identifies the types of risks to be considered, the criteria against which the risk will be

evaluated, including risk tolerance and the acceptable levels of risk), risk assessment (risk identification, risk analysis and risk evaluation), risk treatment, monitoring and review, communication and consultation, record and reporting.

The risk management framework includes the structure, including the decision-making rules, roles, authorities, responsibilities and accountabilities, resources allocation and periodical review.

Flexibility is needed in smaller urban settlements in incorporating these elements into risk management, as the organization will need to prioritise what it can effectively identify, assess, and mitigate given the level of skill and resources available. This will need wide discussion and stakeholder consultation. Not everyone can expect to get everything they request.

## 6.8 Tool and method 7 — Specific plans, public policies and incentives

### 6.8.1 Specific planning

Specific planning is a planning document that implements the purposes and overall long-term plan in a specific sector. Specific planning includes details of implementation measures for an issue particularly relevant to that specialised or smaller urban settlement.

Specific planning is useful for the organization to meet the sustainable development objectives of the management system, e.g. to support urban planning and policymaking. Specific planning should consider the context and needs of a smaller urban settlement, within limits set by restricted capabilities (see 6.5) and should be coordinated with other specific planning in order to achieve the holistic and optimum overall outcomes. Table 2 provides an example list of linkages between different specific planning and the six purposes, or 12 issues provided in ISO 37101 as well the UN SDGs.

Table 2 — Example list of specific planning

12 sustainability issues specified in ISO 37101	Specific planning	Corresponding 17 UN SDGs
Issue 3,2,4,5,12	culture planning	Goal 4,11
Issue 12	environmental protection and restoration planning	Goal 13,14,15
Issue 7,9,10,11,12	energy planning	Goal 12,13
Issue 7,11,12	lower carbon emission planning	Goal 7,11,12,13
Issue 1,3,7	industrial planning/ economic planning	Goal 8,9,11
Issue 1,6,7,10,11	transportation and mobility planning	Goal 1,8,9,10,12
Issue 6,7,10,11	Transit-Oriented-Development (TOD) planning	Goal 8,9
Issue 6,7,8,12	sustainable building planning	Goal 6,7,11,12,13
Issue 4,6,12	flora and fauna diversity planning	Goal 14,15
Issue 8,9,10	water efficient use and non-natural water recycling and re-use planning	Goal 6,11,13
Issue 3,5,7,10,12	green infrastructure planning	Goal 7,9,11,12,13
Issue 1,3,4,6,8,9,11	smart city planning	Goal 1,2,8,9
Issue 1,2,3,4,6,7,8,9,12	resilience planning	Goal 1,2,3,5,11
Issue 4,6,7,10,12	integrated waste management planning	Goal 7,11,13,14,15
Issue 4,5,8,12	landscape planning	Goal 8,11

Table 2 (continued)

12 sustainability issues specified in ISO 37101	Specific planning	Corresponding 17 UN SDGs
Issue 1,4,5,6,9,12	participatory planning	Goal 5,10,16,17
<b>Key</b>		
Issue 1: Governance, empowerment and engagement	Goal 1. No Poverty	
Issue 2: Education and capacity building	Goal 2. Zero Hunger	
Issue 3: Innovation, creativity and research	Goal 3. Good Health and Well-Being	
Issue 4: Health and care in the community	Goal 4: Quality Education	
Issue 5: Culture and community identity	Goal 5: Gender equality	
Issue 6: Living together, interdependence and mutuality	Goal 6: Clean water and sanitation	
Issue 7: Economy and sustainable production and consumption	Goal 7: Affordable and clean energy	
Issue 8: Living and working environment	Goal 8: Decent work and economic growth	
Issue 9: Safety and security	Goal 9: Industry, innovation and infrastructure	
Issue 10: Community and infrastructure	Goal 10: Reduced inequalities	
Issue 11: Mobility	Goal 11: Sustainable cities and communities	
Issue 12: Biodiversity and ecosystem service	Goal 12: Responsible consumption and production	
	Goal 13: Climate action	
	Goal 14: Life below water	
	Goal 15: Life on land	
	Goal 16: Peace, justice and strong institutions	
	Goal 17: Partnerships for the goals	

6.8.2 Use of public policies and incentives

In the wider country or region, beyond the specialised or small urban settlement, there should be a wide range of public policies and incentives to address specific issues that can be accessed. The organization should act to identify and apply them, while in other cases they can be compulsory. The organization should consider these already existing public policies and understand their impacts in more restricted context and evaluate how they could contribute to the achievement of the desired sustainable development objectives, or the purposes within the framework specified in ISO 37101.

Specialised or small urban settlements, individually or collectively, can secure new policies and incentives to help achieve the desired outcomes of the management system, in line with the shared vision (see 6.2).

To gain support for new policies, these policies and incentives should also target the 17 UN SDGs. Table 3 provides an example list of possible relevant public policies and incentives.

Table 3 — Example list of public policies and incentives

12 sustainability issues in ISO 37101	Public policies and incentives	Corresponding 17 UN SDGs
Issue 12	Environmental protection policy	Goal 3,6,7,12,14,15
Issue 3,7,8,12	Policies that promote green innovation	Goal 7,9,13
Issue 7,12	Policies that promote lower carbon emissions towards carbon neutral, carbon tax policy	Goal 7,9,11,13
Issue 7, 12	Policies that promote circular economy and waste management	Goal 7,11
Issue 1,5,6,8,10	Policies that support community engagement	Goal 1,2, 5,10,13
Issue 6,10	Measures to support and incentivize citizen enrichment	Goal 11,16,17

Table 3 (continued)

12 sustainability issues in ISO 37101	Public policies and incentives	Corresponding 17 UN SDGs
Issue 3,7	Implementing opinions on encouraging talent entrepreneurship	Goal 8,9
<b>Key</b>		
Issue 1: Governance, empowerment and engagement		Goal 1. No Poverty
Issue 2: Education and capacity building		Goal 2. Zero Hunger
Issue 3: Innovation, creativity and research		Goal 3. Good Health and Well-Being
Issue 4: Health and care in the community		Goal 4: Quality Education
Issue 5: Culture and community identity		Goal 5: Gender equality
Issue 6: Living together, interdependence and mutuality		Goal 6: Clean water and sanitation
Issue 7: Economy and sustainable production and consumption		Goal 7: Affordable and clean energy
Issue 8: Living and working environment		Goal 8: Decent work and economic growth
Issue 9: Safety and security		Goal 9: Industry, innovation and infrastructure
Issue 10: Community and infrastructure		Goal 10: Reduced inequalities
Issue 11: Mobility		Goal 11: Sustainable cities and communities
Issue 12: Biodiversity and ecosystem service		Goal 12: Responsible consumption and production
		Goal 13: Climate action
		Goal 14: Life below water
		Goal 15: Life on land
		Goal 16: Peace, justice and strong institutions
		Goal 17: Partnerships for the goals

The decision-making process for developing and introducing public policies and incentives can be more effective by engaging ordinary citizens in terms of deciding whether and where to allocate a portion of the municipal or public budget. It is therefore useful to encourage the social participation of all interested parties (see 5.3).

The levels of social participation and decision-making can be recognized as four ascending stages.

- Co-design and co-ownership stage: Initially interested parties, can take the lead and the political authorities need only facilitate this participation.
- Co-management and decision-making stage: Citizens, as co-designers, simply express their opinions without a comprehensive understanding of sustainable development. Authorities can keep interested parties informed, allowing them to participate in management.
- Co-monitoring and audit stage: With the improvement of the management system, interested parties can monitor the management process, and authorities can consult them for professional feedback leading to more expert decision-making.
- Co-responsibility stage: When any urban settlement reaches a certain level of maturity, interested parties can share wider responsibilities for processes and outcomes with local authorities and continue to participate in management and review.

### 6.9 Tool and method 8 — Using action plans with tasks for responsible actioners

The tool and method of using action plans is to deliver functions or elements for a management system to achieve one or more specific goal(s), which, for a specialised or smaller urban settlement, can be very simple and systematic. This can include, for example, intermediate objectives (see 6.6.2), milestones (see 6.6.3) and resources to be allocated.

Any action plan should have a clear objective, assignment of responsibility, accountability, authority, resources, and should typically include a task or several tasks, in order to achieve its objective.

One or more action plans can be considered to support a specific sustainable development objective, purpose or issue as provided in ISO 37101. Action plans with various tasks can be articulated with the specific planning (see 6.8.1) and KPI framework (see 6.10), as they are important implementation carriers towards achieving sustainable development for specialised and smaller urban settlements.

The tasks in the action plans can be identified and assigned to responsible entities on an annual basis. An annual report on the performance of tasks should be prepared and released.

The examples of responsible entities are as follows:

- construction department;
- environmental protection department;
- transportation department;
- legal affairs department;
- finance and economy department;
- local developers or public services providers;
- civil society organizations, NGOs.

A leadership group, such as a committee, should be identified or established as the top management to take charge of the management of the action plan, including functions such as task assignment, ensuring the progress, or coordination among different responsible entities. This can be more difficult in a smaller urban settlement if the necessary range of skills is not available. Therefore, the responsibilities of the leadership group need to be shared and can include the following:

- to coordinate inter-regional cooperation including task assignments;
- to clarify the roles and responsibilities of the various responsible entities or personnel in charge;
- to promote collaboration in order to complete the tasks;
- to guide the process engaging all interested parties in the successful fulfilment of a specific task;
- to assess the performance;
- to supervise the implementation of the plan, including dynamic adjustment of tasks and assignment;
- to ensure that the implementation of an action plan is documented;
- to ensure that the resources are available, including a statistical system or smart city platform.

### 6.10 Tool and method 9 — Using a KPI framework to drive implementation

This document recommends establishing a KPI framework and identifying suitable KPIs as an important tool and method, which can assist the organization in measuring its progress on focused issues towards sustainable development. This is even more important in a specialised or smaller urban settlement because there is likely to be limited additional resource or support so that resources that do exist have to be managed very tightly and carefully. Examples of a KPI framework for sustainable urban settlements have been provided as an informative reference in [Annex C](#).

If the urban settlement is trying to get started or is taking a slower, phased approach, it is very important to select the most relevant KPIs that are incisive and outcome-based in the short term and allow progress to be evaluated over a longer period of time. The organization should select KPIs in consideration of the local context, capabilities (see 6.5), possible future hotspots and feedback from interested parties through workshops (see 6.3). Depending on which specific sustainable development objectives or purposes the specialised or smaller urban settlement wishes to respond to more urgently, the organization can design KPIs to measure progress in the achievement of the sustainable development objectives. It can select indicators

provided in ISO 37120, ISO 37122, and ISO 37123 or use its own, keeping in mind that this document does not encourage urban settlements to start with the complete set of those KPIs at this stage.

The organization should then identify the calculation methods and data collection needs for each of the KPIs, determine the current status value of each KPI, and further set a benchmark value for the end of the maturity level period to each KPI and quantify the interim objectives (see [6.6.2](#)) as a set and guide all the specific plannings (see [6.8.1](#)) during this period. The action plans with tasks for responsible actioners (see [6.9](#)) can link to this tool and method. The organization should carry out these exercises annually.

The following activities are useful for data collection and calculation for KPIs:

- establish a KPI framework capable of producing accurate and reliable statistical information that can be used to inform decision-making and policy development;
- gradually introduce a set of procedures, methods, and techniques used to collect, analyse, interpret, and present data, from various resources;
- decompose each KPI and get access to the preliminary data and understand and translate each contribution and relation to the overall result with various sources, e.g. a series of data inputs, and the tasks (see [6.9](#)) assigned to responsible entities to have a positive impact on the outcome;
- use documented data that is traceable, recordable, accountable, validated and technically sound;
- understand and know what the assumptions of a KPI are, e.g. sampling, scenarios, measuring process, calculation methods;
- ensure the security and privacy through the processes of collection, calculation, storage, and usage of data.

To elaborate the articulation between KPIs and the statistical system, it is recommended to:

- establish a statistical system in line with the KPIs;
- introduce a statistical system that can be established step-by-step.

## 6.11 Tool and method 10 — Monitoring, reporting and verification of progressing process

### 6.11.1 General

In order to implement a phased approach progressively, it is very helpful to have a maturity model in place which allows mapping progress against the ultimate outcomes and long-term goals.

In a phased approach especially, as an urban settlement matures over time and develops, it is helpful to maintain regular evaluations and reporting as supportive tools to identify interim objectives (see [6.6.2](#)) or steps, which enables a more accurate assessment of the achievements. The risk management approach (see [6.7](#)) can also be utilized to look ahead and identify potential risks associated with subsequent actions. Once the risks are identified, preparatory measures can be undertaken through adjustments to ultimately reach the necessary readiness for advancing to the next maturity level.

Sometimes, organizations can overlook this tool especially if they want to achieve quick changes in a short term, but in time this can lead to further complications.

### 6.11.2 Establishing evaluation models

The organization should conduct a performance evaluation using the evaluation models provided below as far as the data sources and collection needs can be fulfilled. Again, this is even more important in a specialised or smaller urban settlement because there is likely to be limited additional resource or support so that resources that do exist have to be managed very tightly and carefully.

The evaluation models established should be in accordance with ISO 37101, enabling advancing by steps through the maturity level assessment.

The maturity model is compatible with any flexible approach adopted, as follows:

- Maturity model (see [D.2](#)) can be used to identify the maturity level of the urban settlement through a management process review.

If the organization has selected one or more of the tools and methods, it can also use evaluation models such as a satisfaction model, or an accomplishment model provided as follows:

- A satisfaction model can measure the views from various interested parties. This model employs a variety of methods to engage all interested parties to participate and express their views on various subjects, through questionnaires, expert consulting, workshops (see [6.3](#)), etc. An example of a satisfaction model is provided in [D.3](#). The organization can produce their own satisfaction model according to the local context. The organization can choose the related interested parties (see [5.3](#)) to distribute the questionnaires, and an analysis (see [6.11.3](#)) should be completed after the questionnaires are surveyed.
- An accomplishment model identifies the quantitative level of fulfilment of environmental, community and economic outcomes (see [6.9](#)) for a specific period. An example of an accomplishment model is provided in [D.4](#). The organization can produce their own accomplishment model according to the local context.

The satisfaction model and accomplishment model can provide additional information to complement the assessment results of the maturity model.

### 6.11.3 Undertaking analysis and continuing improvement

Any organization should analyse the actual results, e.g. the outcome of the evaluation models (see [6.11.2](#)) against the intended outcomes, such as the interim objectives (see [6.6.2](#)) or milestones (see [6.6.3](#)). As a result, organizations should propose improvements and identify opportunities to advance maturity.

The following analytical measures can support:

- Benchmark analysis: Key benchmark results demonstrate accomplishments in comparison with other organizations in a similar context. It is possible to compare the intended outcomes and results with those described in international standards, national standards, or released best practices in order to evaluate their performance. This can be more difficult in the case of specialised centres with specialised and focused needs.
- Citizen-centric analysis: The results of citizen-based performance measures can demonstrate how successful the organization is when engaging interested parties. Citizen satisfaction, dissatisfaction, participation levels, and complaints are all examples for this type of analysis.
- Leadership and governance analysis: Leadership in an organization determines the ultimate performance of a flexible approach. This is even more important in a specialised or smaller urban settlement because there is likely to be limited leadership capabilities. Effectiveness or ineffectiveness of leadership will influence the direction of the decisions and strategies. The good results of a leadership and governance analysis can show a fiscally sound, ethical organization that fulfils its governance responsibilities by meeting the needs of most interested parties.
- Implementation process analysis: Internal measurements, response times and data collected by other organizations are examples of effectiveness and efficiency measurements for management system and a management process. This is even more important in a specialised or smaller urban settlement because of limited additional resources.
- Personnel-focused analysis: Workforce-focused results can demonstrate how well the organization has done in creating and maintaining a productive, caring, engaging, and learning environment for all personnel, e.g. the extent of training, re-training, or cross-training to meet the needs of capacity building; the extent of union-management collaboration; the extent of volunteer involvement in process and program activities; staffing levels across work units; and certifications completed to meet skill needs are all factors to consider.

#### 6.11.4 Reporting

All performance evaluation results should be reported to the organization's management (see [6.9](#) if applicable) to aid decision-making, and continual improvement and should be reported to other interested parties, through suitable tools and methods, such as workshops (see [6.3](#)).

All results should be recorded annually and comparisons between sequential years should be published.

STANDARDSISO.COM : Click to view the full PDF of ISO 37111:2024

**Annex A**  
(informative)

**Examples of interim objectives that contribute to address the six purposes provided in ISO 37101 and with an indication of the corresponding 17 UN SDGs**

Table A.1 provides a matrix showing the corresponding relationship between interim objectives (see [6.6.2](#)) that contribute to the 17 UN SDGs and the six purposes provided by ISO 37101.

STANDARDSISO.COM : Click to view the full PDF of ISO 37111:2024

Table A.1 — Examples of interim objectives and linkages

Purposes provided in ISO 37101	Examples of interim objectives	Corresponding 17 UN SDGs
Attractiveness	<ul style="list-style-type: none"> <li>— strengthening the innovation and creative capacity for a good environment for conducting business</li> <li>— ensuring economic development and advancement as well as regulations that can impact local SMEs because of the limited industrial diversity</li> </ul>	4,8,9,10,16
Preservation and improvement of environment	<ul style="list-style-type: none"> <li>— protecting and improving the high-quality living environment</li> <li>— establishing harmonious relationships among citizens, the environment and local enterprises</li> <li>— preserving the values of the local culture features</li> </ul>	3,6,11,13,14,15
Resilience	<ul style="list-style-type: none"> <li>— taking specific care of vulnerable citizens, e.g. aging persons, when public health emergencies (PHEs) occur, such as epidemics or pandemics</li> <li>— taking measures to help SMEs, e.g. when global supply chain was interrupted</li> </ul>	1,2,3,8,9,11,13,16,17
Responsible resource use	<ul style="list-style-type: none"> <li>— engaging wider collaborations and partnerships to strengthen the society's consensus on effectively utilizing resources and energy</li> <li>— promoting green and lower-carbon emission lifestyle</li> </ul>	3,6,7,11,12,13,15
Social cohesion	<ul style="list-style-type: none"> <li>— strengthening flexible and easy participation by engaging all interested parties in the local management</li> <li>— addressing concerns about improving social cohesion such as intergenerational equity</li> </ul>	1,3,5,10,11,13,16,17

**Key**

- Goal 1: No Poverty
- Goal 2: Zero Hunger
- Goal 3: Good Health and Well-being
- Goal 4: Quality Education
- Goal 5: Gender Equality
- Goal 6: Clean Water and Sanitation
- Goal 7: Affordable and Clean Energy
- Goal 8: Decent Work and Economic Growth
- Goal 9: Industry, Innovation and Infrastructure
- Goal 10: Reduced Inequality
- Goal 11: Sustainable Cities and Communities
- Goal 12: Responsible Consumption and Production
- Goal 13: Climate Action
- Goal 14: Life Below Water
- Goal 15: Life on Land
- Goal 16: Peace and Justice Strong Institutions
- Goal 17: Partnerships to achieve the Goal

ISO 37111:2024(en)

Table A.1 (continued)

Purposes provided in ISO 37101	Examples of interim objectives	Corresponding 17 UN SDGs
Well-being	<ul style="list-style-type: none"> <li>— enhancing the happiness of residents with accessibility to equal education, healthcare, work opportunities, etc.</li> <li>— establishing sound social security mechanisms and effective public security, continuously improving public services, creating an inclusive society and welfare for all the citizens and enterprises</li> </ul>	1,2,3,4,8,9,10,11

**Key**

- Goal 1: No Poverty
- Goal 2: Zero Hunger
- Goal 3: Good Health and Well-being
- Goal 4: Quality Education
- Goal 5: Gender Equality
- Goal 6: Clean Water and Sanitation
- Goal 7: Affordable and Clean Energy
- Goal 8: Decent Work and Economic Growth
- Goal 9: Industry, Innovation and Infrastructure
- Goal 10: Reduced Inequality
- Goal 11: Sustainable Cities and Communities
- Goal 12: Responsible Consumption and Production
- Goal 13: Climate Action
- Goal 14: Life Below Water
- Goal 15: Life on Land
- Goal 16: Peace and Justice Strong Institutions
- Goal 17: Partnerships to achieve the Goal

STANDARDSISO.COM : Click to view the full PDF of ISO 37111:2024

**Annex B**  
(informative)

**Tools and methods in ISO 37111 (this document) that contribute to the five steps in ISO 37104**

Table B.1 provides a matrix that outlines the tools and methods of ISO 37111 that can be used during each step as provided in ISO 37104, namely political commitment, baseline review, strategy definition, establishment of the action plan, monitoring, reporting and verification of progress.

By utilizing the recommended tools and methods in ISO 37111, organizations can carry out steps as provided in ISO 37104 more effectively, in order to better ensure the successful achievement of the implementation of ISO 37101.

**Table B.1 — Tools and methods in ISO 37111 (this document) that contribute to steps of ISO 37104**

Tools and methods in ISO 37111 (this document)	Steps provided in ISO 37104				
	Step 1	Step 2	Step 3	Step 4	Step 5
<a href="#">6.2</a> Building and promoting shared vision locally	√			√	
<a href="#">6.3</a> Organizing workshops by engaging interested parties	√	√	√	√	
<a href="#">6.4</a> Readiness – getting prepared to initiate the process		√		√	
<a href="#">6.5</a> Conducting capability review	√	√	√	√	
<a href="#">6.6</a> Identifying and adjusting a roadmap with interim objectives or milestones			√	√	
<a href="#">6.7</a> Adopting a risk management approach		√	√	√	
<a href="#">6.8</a> Specific plans, public policies and incentives	n/a				
<a href="#">6.8.1</a> Specific planning				√	
<a href="#">6.8.2</a> Use of public policies and incentives				√	
<a href="#">6.9</a> Using action plans with tasks for responsible actioners				√	
<a href="#">6.10</a> Using KPI framework to drive implementation			√	√	√
<a href="#">6.11</a> Monitoring, reporting and verification of progressing process	n/a				
<a href="#">6.11.1</a> General					√
<a href="#">6.11.2</a> Establishing evaluation models		√			√
<a href="#">6.11.3</a> Undertaking analysis and continuing improvement		√			√
<a href="#">6.11.4</a> Reporting					√
<b>Key</b>					
Step 1: Political commitment (ISO 37104:2019, Clause 4)					
Step 2: Baseline review (ISO 37104:2019, 5.2)					
Step 3: Strategy definition (ISO 37104:2019, 5.3)					
Step 4: Establishment of the action plan (ISO 37104:2019, 5.4)					
Step 5: Monitoring, reporting and verification of progress (ISO 37104:2019, 5.5)					

**Annex C**  
(informative)

**Examples of a KPI framework for sustainable urban settlements**

Table C.1 is an example of a KPI framework that can be used to order the indicators in line with the UN SDGs. The examples of KPIs are drawn from a range of sources including the UN SDGs defined in Reference [10] and ISO 37120, ISO 37122 and ISO 37123, for urban settlements.

Noting that the UN 2030 Agenda encourages countries to develop their own KPI frameworks tailored to their individual needs and priorities.

**Table C.1 — Examples of KPIs applicable to sustainable urban settlements**

UN SDGs	Examples of KPIs
Goal 1. No poverty	Percentage of population covered by social security (minimum standards) <sup>a</sup>
	Participation rate of national health insurance <sup>b</sup>
	The speed of cancer and heart disease detection rates
	Percentage of prevalence of obesity of children (under 18 yrs) population, (BMI>30) <sup>c</sup>
	Disaster-related economic losses <sup>e</sup>
	Population living in disaster-prone areas <sup>e</sup>
Goal 2. Zero hunger	Poor growth in children under 5 yrs of age <sup>c</sup>
	Percentage of undernourished child population (under 18 yrs) <sup>c</sup>
	Daily protein (or calories-kJ) intake per capita
	Percentage of food loss <sup>d</sup>
	Proportion of agricultural area under productive and sustainable agriculture
	Percentage of fresh products (foods and fruits) with good quality supplied with good distribution in the area
	The average food miles (or kilometres) between producers and consumers
Goal 3. Good health and well-being	Notable infectious disease rate per 1 000 population <sup>e</sup>
	Suicide rate per 1 000 population <sup>e</sup>
	Transportation deaths per 1 000 population <sup>e</sup>
	Number of in-patient hospital beds per 1 000 population <sup>e</sup>
	Number of physicians per 1 000 population <sup>e</sup>
	Local medical practitioners for mental health per 1 000 population
	Percentage of noise reaching quality standard in functional area <sup>e</sup>
	Air pollution days per year (air pollution index less than 100)
Goal 4. Quality education	Percentage of non-profit early-years schooling/pre-school (for ages 3 yrs to 6 yrs)
	Percentage of disabled school-aged children and females enrolled in schools <sup>e</sup>
	Percentage of school-aged population enrolled in schools <sup>e</sup>
	Primary education student-teacher ratio <sup>e</sup>
	Secondary education student-teacher ratio <sup>e</sup>
	Average years of education of working-age population
	Percentage of youth going to higher education on completion of school
Seats held by women at decision-making levels <sup>j</sup>	

Table C.1 (continued)

UN SDGs	Examples of KPIs
Goal 5. Gender equality	Seats held by women in top management in both public and private sectors
	Equivalent pay for equivalent jobs with same responsibilities across public and private sectors <sup>j</sup>
	Ratio of female-to-male in labour force <sup>c</sup>
Goal 6. Clean water and sanitation	Compliance rate of drinking water quality <sup>e</sup>
	Number of sanitary-latrines per 1 000 population
	Compliance rate of water quality of decentralized drinking-water source
	Basic water supply <sup>e</sup>
	Potable water supply <sup>e</sup>
	Percentage of water loss in the water distribution system <sup>e</sup>
	Waste-water collection <sup>e</sup>
	Household sanitation <sup>e</sup>
	Water consumption per capita <sup>e</sup>
	Freshwater consumption <sup>e</sup>
	Waste-water treatment <sup>e</sup>
Goal 7. Affordable and clean energy	Percentage of city population with authorized electrical service <sup>e</sup>
	Number of gas distribution service connections per 1 000 population <sup>e</sup>
	Percentage of total end-use energy derived from renewable sources <sup>e</sup>
	Average annual hours of electrical service interruptions per household <sup>e</sup>
	Total electricity consumption per capita (GJ/year) <sup>e</sup>
	Number of annual net zero carbon buildings
	Public building sustainability <sup>e</sup>
	Residential thermal energy consumption <sup>e</sup>
Public building energy consumption <sup>e</sup>	
Goal 8. Decent work and economic growth	Gross value added
	Number of deaths caused by industrial accidents per 1 000 population <sup>e</sup>
	Job-housing ratio <sup>e</sup>
	Growth rate of disposable household income <sup>c</sup>
Goal 9. Industry, innovation and infrastructure	Research and development expenditure as a proportion of GDP <sup>b</sup>
	Proportion of medium and high-tech industry value added in total value added (GDP) <sup>b</sup>
	Small and Medium-Sized Enterprise (SME) policy index <sup>c</sup>
	Density of transportation infrastructure <sup>k</sup>
	Area of shared offices (including incubator)
Goal 10. Reduced inequalities	The number of start-up enterprises
	Proportion of population at or below minimum hourly wage
	Urban-rural income ratio
	Gini co-efficient <sup>c</sup>
	Percentage of city population with regular solid waste collection <sup>e</sup>
	Percentage of green spaces in built-up area <sup>e</sup>
	Public green area (m <sup>2</sup> ) per capita within 500 m from home (based on random samples)
	Percentage of commuters using a travel mode to work other than a personal vehicle <sup>e</sup>
	Housing price-to-income ratio <sup>g</sup>