

# International Workshop Agreement

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## IWA 9

### Framework for managing sustainable development in business districts

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*Guide pour la gestion du développement durable  
dans les quartiers d'affaires*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). ISO's technical work is normally carried out through ISO technical committees in which each ISO member body has the right to be represented. International organizations, governmental and nongovernmental, in liaison with ISO, also take part in the work.

In order to respond to urgent market requirements, ISO has also introduced the possibility of preparing documents through a workshop mechanism, outside of ISO committee structures. These documents are published by ISO as International Workshop Agreements. Proposals to hold such workshops may come from any source and are subject to approval by the ISO Technical Management Board which also designates an ISO member body to assist the proposer in the organization of the workshop. International Workshop Agreements are approved by consensus amongst the individual participants in such workshops. Although it is permissible that competing International Workshop Agreements exist on the same subject, an International Workshop Agreement shall not conflict with an existing ISO or IEC standard.

An International Workshop Agreement is reviewed after three years, under the responsibility of the member body designated by the ISO Technical Management Board, in order to decide whether it will be confirmed for a further three years, transferred to an ISO technical body for revision, or withdrawn. If the International Workshop Agreement is confirmed, it is reviewed again after a further three years, at which time it must be either revised by the relevant ISO technical body or withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO should not be held responsible for identifying any or all such patent rights.

International Workshop Agreement IWA 9 was launched at a workshop held in Paris, France, in January 2010, which was hosted by Paris La Défense Business District in association with the Association Française de Normalisation (AFNOR), and approved at a workshop held in Beijing, China, in October 2010, which was hosted by Beijing Central Business District.

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## Introduction

This International Workshop Agreement establishes a framework for:

- managing sustainable development in both existing and new business districts and their different components;
- improving the contribution of business districts to sustainability and sustainable development;
- assessing the performance of business districts in contributing to sustainable development, as described in this International Workshop Agreement.

This International Workshop Agreement does not set benchmarks or expected levels of performance regarding the economic, environmental and social aspects and impacts of business districts.

Methods of assessment of the contribution of the built environment (buildings and civil engineering works) to sustainability and sustainable development are being developed. These developments have been prompted by:

- a recognition of impacts of the built environment on the economy, the society, and the environment ;
- an increased focus on sustainability and sustainable development across all sectors and especially in the construction sector;
- a need to meet the market demand for differentiation between different built environments and their activities, processes, and services, based on measured economic, environmental and social performance and related aspects and impacts;
- a shift from single performance measures to a more comprehensive set of economic, environmental and social considerations, and
- a recognition of the benefits of proactive voluntary measures, as developed in ISO standards.

Sustainability indicators and a core set of indicators for the built environment form a basis for the suite of ISO standards intended to address specific issues and aspects of sustainability relevant to construction works within a built environment. The issue of sustainable development is broad and of global concern, and, as such, involves all communities and affected and concerned parties. Both current and future needs define the extent to which economic, environmental and social aspects are considered in a sustainable development process.

The built environment is a key element in determining quality of life, and contributes to cultural identity and heritage. As such, it is an important factor in the appreciation of the quality of the environment in which those within society live and work.

The building and construction sector is highly important for sustainable development because:

- it is a key sector in national economies;
- it has a significant interface with poverty reduction, through the basic economic and social services provided in the built environment and the potential opportunities for the poor to be engaged in construction, operation and maintenance;

- it is one of the single largest industrial sectors and, while providing value and employment, it absorbs considerable resources, with consequential impacts on economic and social conditions and the environment;
- it creates the built environment, which represents a significant share of the economic assets of individuals, organizations and nations, providing societies with their physical and functional environment;
- it offers a significant opportunity to show improvement regarding its economic, environmental and social impacts.

Over its life cycle, the built environment within a business district consumes considerable resources and contributes to the transformation of the business district and its associated environs into a centre of wealth creation. As a result, it can create major economic and social consequences and impacts on the environment and human health.

While the challenge of sustainable development is global, the strategies for addressing sustainability in a business district are, to a large extent, local and may therefore differ in context and content from region to region. These strategies will reflect the context, the preconditions, priorities and needs, not only in the built environment, but also in the social environment. The latter includes social equity, cultural identity and traditions, heritage, human health, safety and comfort, and social infrastructure, such as poverty reduction and job creation.

This International Workshop Agreement defines a framework for managing sustainable development in both existing and new business districts. The use of this framework will help achieve the required technical performance with minimum adverse economic, environmental and social impacts, while also encouraging consideration of economic, social and cultural aspects, which could result in improvement (reduced adverse impacts) at a local, regional and global level. This International Workshop Agreement considers the general principles presented in ISO 15392, ISO 26000 and the standards on environmental management prepared by ISO/TC 207.

In order to manage sustainable development within a business district, it is necessary to measure the outcome of potential and actual changes. Indicators are used as quantitative, qualitative or descriptive measures of performance that enable information on complex phenomena, like: economic, environmental and social impacts, to be simplified and presented in a form that is relatively easy to use and understand.

The three main functions of indicators are quantification, simplification and communication. Targets can also be set with the help of indicators. Changes in a business district over time, and the development of changes in relation to stated objectives, can be monitored with the help of indicators. As to decision-making, indicators play an important function in highlighting trends.

When developing and selecting indicators, the starting point is the identification of the main users and of their respective needs. Sustainability indicators for business districts are needed in decision-making by a number of affected and concerned parties, including:

- developers, builders and owners of business districts or of buildings and other types of construction works in business districts;
- designers and city planners;
- contractors;
- administrative and regulatory bodies;
- tenants and property managers;
- users, including visitors, residents and employees.



Business districts need sustainability indicators, both for their own decision-making in designing, constructing and managing buildings and for indicating to the public and clients the overall economic, environmental or social impact of the activities, processes and services in the business district.

Indicators, as well as sets and systems of indicators, for the specification, appraisal and representation of the contribution of the business district to sustainable development, can be used in many different ways. For example, their application can support the following:

- designing and decision-making during the planning stage of a business district (e.g. design for environment, design for sustainability);
- developing and using assessment methods and certification systems (e.g. labelling);
- showcasing the performance of a business district (e.g. marketing);
- specifying and confirming requirements in the context of procurement (e.g. sustainable procurement);
- monitoring or evaluating the achievement of objectives over time (e.g. continuous improvement);
- accepting responsibility for impacts on the economy, society and environment; and
- illustrating activities and results in the context of responsibility towards the economy, society and environment (e.g. sustainability reporting).

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# Framework for managing sustainable development in business districts

## 1 Scope

This International Workshop Agreement provides a framework for managing sustainable development in a business district, including the evaluation, comparison and improvement of its performance. It also identifies and describes factors to be considered when developing and evaluating the economic, environmental and social performance of new and existing business districts.

This International Workshop Agreement can also be used to compare or assess the performance of business districts regarding the provisions described within it.

This International Workshop Agreement does not set benchmarks or expected levels of performance regarding the impacts of business districts.

This International Workshop Agreement is intended to be used in conjunction with, and in accordance with the principles set out in, ISO 15392, ISO 26000 and the standards on environmental management prepared by ISO/TC 207 (see Clause 4).

## 2 Normative references

The following referenced documents are indispensable for the application 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 6707-1, *Building and civil engineering — Vocabulary — Part 1: General terms*

ISO 14050, *Environmental management — Vocabulary*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6707-1, ISO 14050 and the following apply.

### 3.1

#### **affected and concerned party**

person or organization with an interest in or a concern about a **business district** (3.8) or any of its **facilities** (3.10)

NOTE 1 The interest can include a financial interest and can be continuing or temporary, as that of a visitor.

NOTE 2 Adapted from ISO 15686-10:2010, definition 3.30.

### 3.2

#### **access to services**

availability and accessibility of services both within and outside the **business district** (3.8)

NOTE 1 Services can include public amenities, transportation, parking, entertainment, health-care, water supply, energy supply, waste management, etc.

NOTE 2 Adapted from ISO 15392:2008, definition 3.1.

### 3.3

#### **accessibility**

ability of a space to be entered with ease

NOTE 1 Requirements for accessibility depend on the **user's** (3.26) needs and on the activities undertaken during the **life cycle** (3.16) of the **business district** (3.8) and of its **facilities** (3.10), e.g. public events, construction work, maintenance and deconstruction.

NOTE 2 "Barrier-free use of business districts and specific facilities" would relate to requirements for accessibility related to the needs of users with reduced mobility.

NOTE 3 Adapted from ISO 6707-1:2004, definition 9.3.80.

### 3.4

#### **accountability**

state of being answerable for decisions and activities to organizations, governing bodies, legal authorities and, more broadly, the **affected and concerned parties** (3.1) in the **business district** (3.8)

NOTE Adapted from ISO 26000:2010, definition 2.1.

### 3.5

#### **aspect**

element of a **business district** (3.8) activity, product or service, related to its **life cycle** (3.16), that can interact with the economy, society or environment

NOTE 1 An example of an economic aspect is the availability of project funding.

NOTE 2 An example of a social aspect is the use of medical services.

NOTE 3 An example of an environmental aspect is greenhouse gas emissions.

### 3.6

#### **asset**

whole building, structure or unit of construction works, or a system or component or part thereof

[ISO 15686-10:2010, definition 3.1]

### 3.7

#### **built environment**

collection of man-made or man-induced physical objects located in a particular area or region

NOTE 1 When treated as a whole, the built environment typically is taken to include buildings, external works (landscaped areas), infrastructure and other construction works within the area under consideration.

NOTE 2 Derived from the definition of "environment" in ISO 6707-1.

[ISO 15392:2008, definition 3.5]

### 3.8

#### **business district**

**built environment** (3.7) consisting of mixed-use occupancies, the majority of which (by any criteria) are offices, characterized by some high-density occupancies and usually large in- and out-flows of persons and freight

NOTE 1 A business district is typically located either within the city centre or the suburbs.

NOTE 2 Mixed uses generally include academic, residential, office, trade and entertainment.

NOTE 3 A concentration of multi-storey buildings is a typical characteristic of business districts located in city centres which have a high level of occupant density.

NOTE 4 In this International Workshop Agreement, an industrial park is not considered to be a business district.

### 3.9

#### **business district authority**

organization authorized and accountable for the development of a management framework, and responsible for economic, environmental and social outcomes in the **business district** (3.8)

NOTE A business district authority can be a person, a federal, state/regional or local government, a state/regional development body or bodies, or a resident/owner/user group.

### 3.10

#### **facility**

physical setting used to serve a specific purpose

NOTE 1 A facility may be part of a building, a whole building or more than one building, and may include related constructions (such as roads and walkways), which, taken as a whole, serve a specific **function** (3.11).

NOTE 2 The term encompasses both the physical object(s) and its (their) use.

[ISO 15686-10:2010, definition 3.8]

### 3.11

#### **function**

purpose or activity of **users** (3.26) and of **affected and concerned parties** (3.1), for which a **business district** (3.8), or one of the **assets** (3.6) or **facilities** (3.10) located therein, is designed, used or required to be used

### 3.12

#### **functional requirement**

**functionality** (3.13) required by **affected and concerned parties** (3.1) in a **business district** (3.8) or in a specific **facility** (3.10), building or other constructed **asset** (3.6) within the business district or in a movable asset, for a specific **function** (3.11)

NOTE Adapted from ISO 15686-10:2010, definition 3.12.

### 3.13

#### **functionality**

suitability or usefulness for a specific purpose or activity

[ISO 15686-10:2010, definition 3.13]

### 3.14

#### **impact**

economic, societal or environmental change, adverse or beneficial, wholly or partially resulting from an **aspect** (3.5)

NOTE 1 An example of an economic impact is the cancellation of a funded project.

NOTE 2 An example of a social impact is the removal of medical services.

NOTE 3 An example of an environmental impact is climate change or land pollution.

### 3.15

#### **indicator**

quantitative, qualitative or descriptive measure representative of one or more **impact** (3.14) categories

NOTE 1 Adapted from ISO 14040:2006, definition 3.40, and ISO/TR 14061:1998, definition 2.6.3.

NOTE 2 Periodic evaluation and monitoring using indicators can show direction of any impact.

NOTE 3 Indicators defined in ISO 14031 that relate to environmental performance can be used as references.

### 3.16

#### life cycle

consecutive and interlinked stages of the object under consideration

NOTE 1 For consideration of environmental **impacts** (3.14) and environmental **aspects** (3.5), the life cycle comprises all stages, from raw material acquisition or generation of natural resources to final disposal.

NOTE 2 For consideration of economic **impacts** (3.14) and economic **aspects** (3.5), in terms of costs, the life cycle comprises all stages from construction to decommissioning. A period of analysis can be chosen to be different from the life cycle, see ISO 15686-5.

NOTE 3 For consideration of social **impacts** (3.14) and social **aspects** (3.5), in terms of costs, the life cycle comprises all stages from construction to decommissioning. A period of analysis can be chosen to be different from the life cycle, see ISO 15686-5.

NOTE 4 Adapted from ISO 15392:2008, definition 3.15.

### 3.17

#### life-cycle assessment

compilation and evaluation of inputs, outputs and potential environmental **impacts** (3.14) of a **business district's** (3.8) activities, processes or services, or some combination thereof, throughout its **life cycle** (3.16)

NOTE Adapted from ISO 14040:2006, definition 3.2.

### 3.18

#### life-cycle costs

total cost of a **business district's** (3.8) activities, processes or services, or some combination thereof, throughout its **life cycle** (3.16), while fulfilling any **performance requirement** (3.21)

NOTE 1 Life cycle costs can include the costs of planning, design, acquisition, operations, maintenance and disposal, less any residual value.

NOTE 2 Adapted from ISO 15686-1:2011, definition 3.11.

### 3.19

#### life-cycle costing

methodology for systematic economic evaluation of **life cycle costs** (3.18) over a period of analysis, as defined in the agreed scope

NOTE Life-cycle costing can address a period of analysis that covers the entire **life cycle** (3.16) or (a) selected stage(s) or periods of interest thereof.

[ISO 15686-5:2008, definition 3.1.8]

### 3.20

#### performance

ability to fulfil the required **function** (3.11) under intended use conditions or behaviour when in use

NOTE Performance concerns the **business district** (3.8) as a system, including its activities, processes and services, and their interactions, as well as the relative importance of each **performance requirement** (3.21).

### 3.21

#### performance requirement

**performance** (3.20) demanded or expected of a **business district** (3.8) for a specified use

NOTE Adapted from ISO 6707-1:2004, definition 9.1.16.

### 3.22

#### resilience

adaptive capacity of an organization in a complex and changing environment

NOTE 1 Resilience is the ability of an organization to resist being affected by an event or the ability to return to an acceptable level of performance in an acceptable period of time after being affected by an event.

NOTE 2 Resilience is the capability of a system to maintain its functions and structure in the face of internal and external change and to degrade gracefully when it must.

[ASIS SPC.1-2009, definition D.50]

### 3.23

#### **service life**

period of time after installation during which a **facility** (3.10) or some of its component parts meet(s) or exceed(s) the **performance requirement** (3.21)

NOTE Adapted from ISO 15686-10:2010, definition 3.28.

### 3.24

#### **sustainability**

state in which components of the ecosystem and their functions are maintained for present and future generations

NOTE 1 Sustainability is the goal of **sustainable development** (3.25) and can result from the application of the concept of sustainable development.

NOTE 2 In the context of a **business district** (3.8), sustainability relates to how the attributes of activities, processes or services used in the business district contribute to the maintenance of ecosystem components and functions for future generations.

NOTE 3 While the challenge of sustainability is global, the strategies for sustainability in business districts are local and differ in context and content from region to region.

NOTE 4 "Components of the ecosystem" include plants and animals, as well as humans and their physical environment. For humans, this includes a balancing of key elements of human needs: economic, environmental, social and cultural conditions for societies' existence.

NOTE 5 Adapted from ISO 15392:2008, definition 3.20.

### 3.25

#### **sustainable development**

development that meets the needs of the present without compromising the ability of future generations to meet their own needs

NOTE 1 Sustainable development concerns all resources providing a better quality of life, equally for present and future generations. Sustainable development also aims to eradicate poverty and gives priority to the needs of the poor.

NOTE 2 Adapted from ISO 15392:2008, definition 3.21.

### 3.26

#### **user**

organization or person that uses, or intends to use, a building or other construction works located in a **business district** (3.8)

NOTE 1 This includes any person or entity that uses a business district or one of its **facilities** (3.10), whether as an occupant, visitor or member of the public interested in the facility.

NOTE 2 Adapted from ISO 15686-10:2010, definition 3.34.

## 4 Principles and concepts of sustainability and sustainable development in a business district

### 4.1 Principles

#### 4.1.1 General

In order to effectively manage sustainable development in a business district, a basis for decision making or behaviour is necessary. This International Workshop Agreement sets out principles, as a framework to achieve this outcome.

NOTE The principles are listed in alphabetical order and no prioritization is intended.

The business district authority should consider applying the following principles to its internal management processes, when developing and managing its sustainable environmental, economic and social performance outcome.

#### 4.1.2 Accountability

This principle encompasses the accountability of a business district for its impacts on society and the environment.

#### 4.1.3 Transparency

This principle encompasses openness about decisions and activities that affect society, the economy and the environment and willingness to communicate these in a clear, accurate, timely, honest and complete manner.

NOTE For sustainability of buildings, civil engineering and other construction works, transparency relates to information about products as well as decision-making processes. For that purpose, an appropriate review and verification route of relevant documentation may need to be established.

#### 4.1.4 Responsibility

This principle encompasses the social responsibility for actions carried out by individuals or groups of individuals, independently of possible legal or financial consequences.

NOTE 1 The development of local skills and institutional capacity supports the sustainability of business districts.

NOTE 2 For more information on social responsibility, see ISO 26000.

#### 4.1.5 Long-term consideration

This principle encompasses the review of short-, medium- and long-term implications when taking decisions.

As a minimum, it includes the following:

- performance over time (as the ability of fulfilling a defined level of function throughout the use phase);
- life-cycle thinking (i.e. considering the consequences of a choice made in one life cycle stage during the other stages);
- legacy – consideration of impacts of development. The legacy may extend well beyond the physical boundaries of the concerned development.

NOTE The legacy can be physical (e.g. buildings and infrastructure), environmental (e.g. environmental benefit or damage), social (e.g. cultural heritage, skills, capacity building) or economic (e.g. employment, economic growth).



#### 4.1.6 Holistic approach

This principle encompasses the inclusion of all relevant and related aspects of sustainability, when considering and assessing sustainability aspects of business districts. A holistic approach addresses all aspects of sustainability over the life cycle of business districts.

#### 4.1.7 Equity

This principle encompasses the balanced and objective consideration of intergenerational, interregional and intra-societal ethics, including environmental protection, economic efficiency and social needs.

#### 4.1.8 Global thinking and local action

This principle encompasses the consideration of the global consequences of local actions, taking account of local and regional concerns, to ensure that:

- when acting locally, the regional and global relevance and consequences are considered;
- when establishing and applying global strategies, the local implications, relevance, demands and resources are considered.

#### 4.1.9 Involvement of affected and concerned parties

This principle encompasses the analysis of contributions and requirements of affected and concerned parties regarding their respective areas of responsibility and the timing of their involvement.

#### 4.1.10 Precaution and risk management

This principle encompasses risk prevention in accordance with the precautionary principle and mitigation of impacts through risk management:

- precaution (avoidance of risks): following the precautionary principle, impacts on future generations are considered as the basis for analysing potential risks and preventing their occurrence;

NOTE Adoption of new technologies or new products should include a precautionary perspective without unduly compromising innovation.

- risk management (management of identified risks): risk management is a set of coordinated activities including risk assessment, risk treatment, risk acceptance and risk communication.

#### 4.1.11 Continual improvement

This principle encompasses the improvement of all aspects of sustainability related to the development and management of a business district. It includes the economic, environmental and social performance of a business district and addresses means of assessment, verification, monitoring and communication.

### 4.2 Sustainability concepts and benefits

#### 4.2.1 Sustainability concepts

While developing and managing its environmental, economic and social performance outcome, the business district authority (see 3.9) should endeavour to:

- improve the business sector and the built environment, the land and commercial value in the district; sectors interacting with and supporting the business sector are to be addressed by objectives, where relevant, e.g. real estate sector, financial and insurance sector, transportation, construction, etc.;

- reduce adverse impacts, while improving value, where impacts as well as value may be judged against any combination of the three primary aspects of sustainability;

NOTE 1 “Value” embraces performance, but it is conceptually broader and is not intended to refer solely to “economic value”.

- encourage a pro-active and participatory approach;
- stimulate innovation;
- promote economic growth, i.e. increase productivity;
- reconcile contradictory interests or requirements arising from short-term and long-term planning or decision making, e.g. considering innovative financial planning and management;
- promote innovation through collaboration and exchange of ideas in the business district;
- promote and encourage clustering of like businesses;

NOTE 2 Clustering like business can refer to IT, electronic banking, etc.

- promote anchor facilities to develop, retain and build up knowledge needed for clustered businesses, such as research centres, university, product testing centres, laboratories, etc.

#### 4.2.2 Sustainability benefits

Applying sustainability concepts in developing and managing a business district may produce numerous benefits at a global and local level, including:

- larger return on investment;
- creation of a distinctive place and associated feeling of place for the occupants;
- contribution to a more productive and contented workforce;
- opportunities for wealth creation;
- developments sensitive to their context;
- enhanced local biodiversity;
- reduced greenhouse gas emissions.

NOTE 1 Increase the usage of renewable resources.

NOTE 2 Business districts can also refer to Agenda 21 for further benefits.

### 4.3 Features and functions of business districts

#### 4.3.1 General

The features and functions of each business district are unique. However, all business districts may be seen as:

- both a single development area as well as an integrated collection of buildings and civil engineering works;

- a place to work, live, and socialize; and
- a combination of different activities and services in operation.

The life-cycle of a business district or of its components is typically much shorter than that of other built environments.

#### **4.3.2 Single development area and an integrated collection of different buildings and civil engineering works forming a built environment**

A business district can be considered as an integrated collection of buildings and civil engineering works forming a single built environment. The development, operation and improvement of a business district should be seen in the context of having a life-cycle that includes planning, design, construction, operation, maintenance and end-of-life, e.g. refurbishment, reuse or dismantling.

NOTE For further information on service life planning in the built environment, see the ISO 15686 series of standards.

#### **4.3.3 Place to work, live or socialize**

During the life cycle of a business district, consideration should be given as to how to provide its users with the conditions appropriate to work, live, study, undertake leisure or other social activities.

Consideration should also include both technical and functional requirements as well as the behaviour of affected and concerned parties. They will serve as the basis for assessing the performance of business districts.

NOTE The behaviour of affected and concerned parties can be ascertained through periodical reviews.

#### **4.3.4 Combination of different activities and services in operation**

During the operational phase in a business district's life-cycle, various activities and services are available to affected and concerned parties along with conditions appropriate for work, accommodation, education, health-care, leisure, safety, etc.

The economic, environmental and social impacts of these activities and services should be taken into account.

## **5 Planning for a sustainable business district**

### **5.1 Mission vision and values**

The business district authority (see 3.9) responsible for developing or managing a business district (see 3.8) should first establish a mission, a vision and a set of core values. These are necessary to provide members of the business district authority as well as affected and concerned parties (see 3.1) in the business district with an understanding of the organization's purpose, its vision for the future and the core values it applies in doing business.

### **5.2 System boundary**

When planning a business district, a clear indication of the system boundary should be given.

This International Workshop Agreement is applicable to a defined area of development and to all related activities and services taking place in that area, over which the business district authority has control and influence. It includes:

- buildings, e.g. office, residential, commercial, educational, cultural, recreational or any other types of buildings located in the business district;
- related support, supply and maintenance services; and
- infrastructure, including different types of civil engineering works, e.g. access roads or lanes, public transport stations and facilities, tunnels and underground utilities networks, parking space for vehicles, transit and storage areas for goods, green areas.

For an area of development to be considered a business district (see 3.8) and to be singled out from other types of districts, a built environment should fulfil the following:

- a) density (floor area) of office buildings versus other types of buildings above 50% ; and
- b) total office footprint area versus total land area above 50%; or
- c) number of office employees greater than total number of other types of affected and concerned parties (residents, visitors, shoppers, etc.), subject to the influence and/or control of the business district authority.

NOTE It is important to avoid counting people twice, i.e. working residents or working shoppers count as office employees only.

Interactions with neighbouring cities or with other types of built environments that may influence the capacity to be sustainable should be taken into account by the business district authority.

### 5.3 Goals

The business district authority (see 3.9) should endeavour to attain the following goals:

- ensure a safe, comfortable and stimulating working and living environment in the area under its influence within and outside the business district;
- promote sustainable development as an overarching and cost-effective policy and as an operational goal, that all affected and concerned parties (see 3.1) should carry out at their respective level of responsibility/activity in the business district;
- demonstrate that sustainable development is not only achievable, but that it yields substantial returns in economic, environmental and social terms for the business district and for all affected and concerned parties;
- spearhead an area-based sustainable development approach that can be reproduced in other built environments.

### 5.4 Business district sustainability strategy

To reach the goals outlined in 5.3, the business district authority (see 3.9) should, in liaison with affected and concerned parties (see 3.1), develop a sustainability strategy that will lead to:

- identify key environmental, social and economic aspects and impacts;
- identify economic, environmental, and social improvement objectives and targets;
- develop and implement effective planning and control procedures;
- gather information on other business districts sustainability strategies, establish benchmarks and use them for continual improvement;

- encourage built environment and infrastructure planning systems, that incorporate sustainable design principles and practices;
- consider possible impacts of unplanned events, including accidental and emergency situations, develop plans to respond to such situations which minimise the likelihood of occurrence of such impacts, and mitigate any resulting impacts which may occur;
- consider refurbishment and end-of-life scenarios of components in the business district or of the business district as a whole, and include them in the sustainability strategy.

## 5.5 Resource planning

The business district authority (see 3.9) should ensure the availability of the resources necessary to develop, implement, monitor and improve the business district sustainability strategy (see 5.4), e.g. financial, human, technological and operational resources.

## 5.6 Organization

The management structure of the business district authority (see 3.9), including its roles, responsibilities and organizational chart should be clearly defined, documented and communicated in order to facilitate effective management.

A permanent Sustainable Management Committee (see 6.2.2) should be formed to provide expertise and support in implementing the business district sustainability strategy (see 5.4).

The Sustainable Management Committee should promote a supportive, non discriminatory and participatory style of management, encourage capacity-building, career evolution and a safe, comfortable and stimulating working environment to increase productivity, provide a return on human capital and enhance the well-being of affected and concerned parties.

## 5.7 Governance

### 5.7.1 Role of governance

Governance contributes to mobilize affected and concerned parties (see 3.1) and clarifies the extent of their collaboration and support in elaborating strategies, taking decisions, managing and monitoring their implementation.

This collaboration may lead to more effective organizational and institutional arrangements, higher accountability and improved cost-effectiveness.

Affected and concerned parties should collectively establish their governance and get involved at all stages in the decision process during the entire life cycle of the business district.

### 5.7.2 Involvement of relevant affected and concerned parties at all stages in project development

The business district authority (see 3.9) should endeavour to involve all relevant affected and concerned parties in decisions related to the business district, whenever deemed appropriate.

## 5.8 Initial review

An existing business district seeking to develop and implement a sustainable development strategy in accordance with business district sustainability strategy (see 5.4), should first review its level of performance, particularly the status of economic, environmental and social aspects and impacts and use the results as a first step in a continual improvement process.

The review should cover five key areas:

- identification of economic, environmental and social aspects, whether they relate to regular operations in the business district or to abnormal circumstances, such as extreme weather conditions or emergency situations and accidents;
- identification of legal and other type of requirements applicable to the business district;
- examination of existing economic, environmental and social practices and procedures, including those associated with procurement and contracting activities;
- evaluation of previous emergency situations and accidents;
- determination of the role and place of affected and concerned parties in the management of the business district.

Tools and methods for undertaking a review may include checklists, conducting interviews, direct inspection and measurement, results of previous reviews, depending on the nature of the activities.

The review should provide quantitative and qualitative data, on the basis of which impact(s) may be appraised, benchmarks established, corrective measures adopted and monitored.

## **6 Framework for applying the principles of sustainability and sustainable development in a business district**

### **6.1 Sustainable development policy**

In liaison with affected and concerned parties (see 3.1), the business district authority (see 3.9) should establish, implement and maintain a policy (or policies) related to sustainable development. This policy should state the organization's commitment for achieving (and improving upon) sustainable development in the business district and in its different activities and services.

The business district authority should, in liaison with affected and concerned parties, ensure that the policy (or policies) related to sustainable development:

- is appropriate to the location and the economic, environmental and social context in the business district and deals with development issues;
- considers significant economic, environmental and social impacts associated with activities and services the business district provides;
- clearly defines the scope and boundaries of the policy (or policies);
- includes a commitment to:
  - foster continual improvement;
  - make information and of all necessary resources to achieve objectives and targets available;
  - whenever relevant and possible, give preference to the employment of persons living in the business district or nearby communities;
  - procure products and services of local origin, providing that they are not detrimental to the business district's strategy;
  - comply with legal, contractual or other applicable requirements relating to the business district sustainable development policy (or policies);

- provides the framework for setting and reviewing objectives and targets;
- is documented, implemented, maintained and communicated to all persons working for and on behalf of the business district;
- is regularly reviewed and updated;
- is available to affected and concerned parties.

## **6.2 Planning for sustainability**

### **6.2.1 General**

As a first step in the planning process in existing business districts, the Sustainable Management Committee should present to the business district authority (see 3.9) recommendations for improvement based on the conclusions of the initial review (see 5.8). In new business districts, an initial review may not be relevant.

### **6.2.2 Sustainable Management Committee**

The Sustainable Management Committee should be the focal point for sustainable development in the business district. Sustainable Management Committee members should be representative of all affected and concerned parties (see 3.1) and have access to or possess a collective competence in sustainable development.

In the accomplishment of its mission, the Sustainable Management Committee should consider:

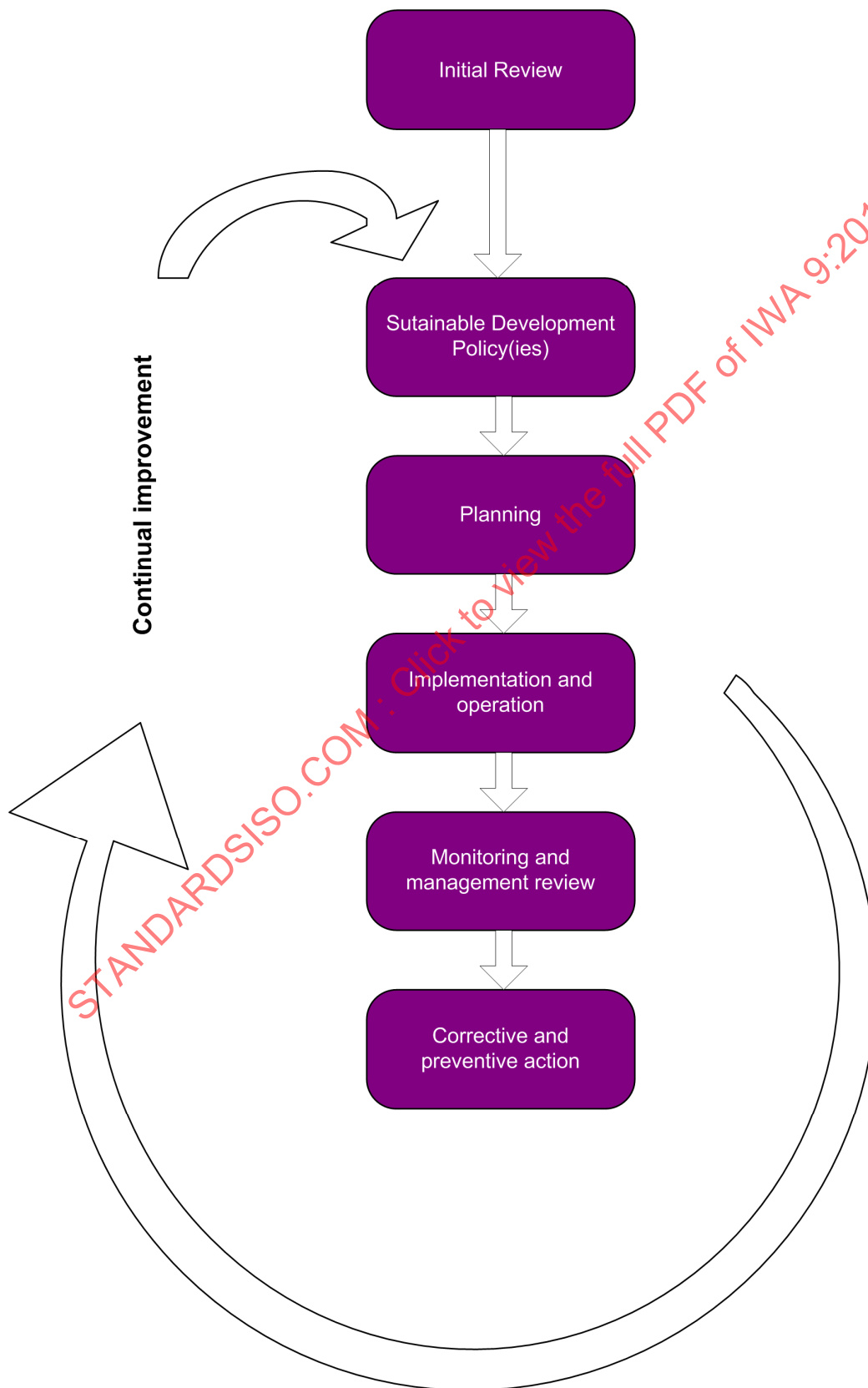
- a) the sustainable development policy (see 6.1), the conclusions of the initial review (see 5.8), where appropriate, the business district sustainability strategy (see 5.4) and the benefits of their implementation for the business district and for its different components;
- b) the need to raise awareness, develop ownership and foster participatory support;
- c) the need to build up capacity at each level of management in the business district authority and in relevant affected and concerned parties.

The Sustainable Management Committee should analyse sustainable development policies of affected and concerned parties and report to the business district authority to avoid discrepancies and inconsistencies. It should also:

- set criteria for sustainable operation and maintenance in the business district;
- elaborate a sustainable supply-chain management guideline, consistent with the business district sustainability strategy (see 5.4);
- conduct regular reviews and evaluations of the business district's sustainable development impacts and advise on corrective actions, if necessary;
- ensure information transparency, in conformity with related policy (or policies).

### 6.2.3 A Plan-Do-Check-Act (PDCA) approach for business districts

The Sustainable Management Committee (see 6.2.2) should elaborate and follow a PDCA approach, on the basis of the figure below:





A PDCA approach can briefly be described as follows:

- Plan: establish objectives and processes necessary to deliver results, in accordance with the organization's sustainable development policy (or policies);
- Do: implement processes;
- Check: monitor and measure processes against sustainable development policy (or policies), objectives, targets, legal and other requirements, and report results;
- Act: take actions to continually improve sustainable development performance continuously.

#### 6.2.4 Economic, social and environmental aspects

The Sustainable Management Committee (see 6.2.2) should identify all economic, environmental and social aspects (see 3.5), whether they fall under its control or influence or are unplanned and unscheduled. Aspects may be associated with one or more of the following (listed in alphabetical and not in priority order), e.g.:

- access to services;
- accessibility;
- aesthetics, including that related to natural and cultural heritage;
- emissions to air and discharges to land or water;
- generation of energy;
- level of energy efficiency;
- generation and discharge of waste;
- levels of security and public safety;
- increased employment opportunities;
- indoor conditions;
- inflow of capital and other resources, e.g. additional investment or human capital;
- land use;
- use of ecosystem services;
- use of hazardous and/or dangerous substances;
- use of natural resources;
- level of well-being and comfort.

The Sustainable Management Committee should assess the impacts associated with its aspects to determine those that create significant risk and that must be borne in mind when developing, implementing, maintaining and improving the business district sustainability strategy (see 5.4).

### 6.2.5 Legal and other requirements

The Sustainable Management Committee (see 6.2.2) should identify legal and other requirements, which the business district subscribes to, analyse how they apply to its economic, environmental and social aspects, and report to the business district authority.

The business district authority (see 3.9) should ensure that the above-mentioned requirements are taken into account when establishing, implementing and maintaining its sustainability strategy.

### 6.2.6 Sustainability objectives and targets

The business district authority should set objectives and targets to fulfil its commitments to sustainable development and achieve other organizational goals contained within its sustainable development policy (or policies) (see 6.1).

The process of setting and reviewing objectives and implementing programs to achieve them provides a systematic basis for the business district authority to improve its performance in some areas, whilst maintaining its level of performance in others. Both management and operational performance can be addressed through the setting of objectives.

Measurable performance indicators should be used as a basis for tracking progress in achieving objectives and targets and for continual improvement. Indicators should be objective, verifiable, reproducible and appropriate to activities, products and services in the business district. They should also be consistent with the business district sustainability strategy (see 5.4) as well as practical, cost-effective and technologically feasible.

The character, quality and availability of the information yielded through indicators depend on the stage in the life cycle at which the issues of concern are being investigated.

Indicators can be used separately or together, although experience demonstrates that they prove more effective in the latter case. Affected and concerned parties (see 3.1) should always be borne in mind when using indicators.

An indicative list of economic (see 6.4.1), environmental (see 6.4.2) and social indicators (see 6.4.3) is provided below.

NOTE For further information on indicators, see ISO 14031 and ISO 21929-1.

## 6.3 Implementing the business district sustainability strategy

The Sustainable Management Committee (see 6.2.2) should monitor significant economic, social and environmental aspects (see 3.5) in the business district, in accordance with the business district sustainable development policy (or policies) (see 6.1) as well as the sustainability objectives and targets (see 6.2.6) elaborated by business district authority (see 3.9).

Methods of control may include the use of a hierarchy, policy or physical changes, procedural or administrative documentation or cultural or social changes as circumstances dictate.

To implement the business district sustainability strategy, the Sustainable Management Committee may develop policies related to documentation, record retention, the conduct of internal audits, etc. as necessary.

#### **6.4 Monitoring measuring and reviewing sustainable development performance**

The Sustainable Management Committee should periodically monitor and measure the performance of the business district in sustainable development to ensure compliance with the policy, objectives and targets that it has developed and with any legal or other requirements with which it is required to comply. Evaluation reports and measurement should be retained and made accessible.

The Sustainable Management Committee should review the sustainable management strategy at planned intervals, to ensure that it continues to be effective in maintaining sustainability in the business district and uses this information as the basis for continually improving the strategy and revising the policies, objectives and targets, as necessary. Records of the management review and its outcome should be retained for future use.

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## Annex A (informative)

### Examples of elements for developing indicators

Tables A.1 to A.3 provide an indicative list on the basis of which full-fledged indicators could be developed by the Sustainable Development Committee, as relevant and necessary.

**Table A.1 — Environmental indicators**

| Aspect | Objectives                                                    | Targets                                                                                                                                             | Programs | Indicators | Sustainability management | Monitoring & measurement |
|--------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|---------------------------|--------------------------|
| Energy | Manage total energy consumption in the business district      | Introduce an energy management plan for the district                                                                                                |          |            |                           |                          |
|        | Manage energy consumption in residential buildings            | Reduce energy consumed for heating, domestic hot water and non-specific electricity                                                                 |          |            |                           |                          |
|        |                                                               | Reduce specific energy consumed (domestic appliances)                                                                                               |          |            |                           |                          |
|        | Manage energy consumption in office buildings                 | Reduce energy consumed for heating, domestic hot water, specific and non-specific electricity in public and private office buildings                |          |            |                           |                          |
|        | Manage energy consumption of infrastructure (public lighting) | Reduce energy consumed by public lighting                                                                                                           |          |            |                           |                          |
|        |                                                               | Reduce light pollution at night                                                                                                                     |          |            |                           |                          |
|        | Increase heating and electricity requirements covered by RNE  | Production of heating and electricity using centralized sources of RNE (presence of a heating network, centralized production of green electricity) |          |            |                           |                          |

| Aspect | Objectives                                                                                                                  | Targets                                                                      | Programs | Indicators | Sustainability management | Monitoring & measurement |
|--------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------|------------|---------------------------|--------------------------|
| Water  | Preserve water supply and reduce drinking water consumption                                                                 | Preserve local water supply and ensure its long-term sustainability          |          |            |                           |                          |
|        |                                                                                                                             | Reduce leaks in the water system                                             |          |            |                           |                          |
|        |                                                                                                                             | Recover rainwater                                                            |          |            |                           |                          |
|        |                                                                                                                             | Reduce consumption drinking water in residential buildings                   |          |            |                           |                          |
|        |                                                                                                                             | Reduce consumption drinking water in public and private commercial buildings |          |            |                           |                          |
|        |                                                                                                                             | Reduce consumption drinking water in green areas                             |          |            |                           |                          |
|        |                                                                                                                             | Launch incentive programs to reduce consumption of drinking water            |          |            |                           |                          |
|        | Optimize rainwater management to reduce flood risks and the rate of discharge into the system, and develop the urban fabric | Reduce flood risks                                                           |          |            |                           |                          |
|        |                                                                                                                             | Take advantage of water to develop the urban fabric                          |          |            |                           |                          |
|        |                                                                                                                             | Encourage separate treatment of rainwater and wastewater                     |          |            |                           |                          |
|        | Optimize rainwater management to reduce flooding risks and rate of discharge in the system, and develop the urban fabric    | Develop solutions to retain and treat rainwater at the district level        |          |            |                           |                          |
|        | Optimize wastewater management                                                                                              | Recover wastewater                                                           |          |            |                           |                          |
|        |                                                                                                                             | Purify wastewater using natural processes                                    |          |            |                           |                          |
|        |                                                                                                                             | Recover household wastewater                                                 |          |            |                           |                          |

| Aspect | Objectives                                   | Targets                                                                                     | Programs | Indicators | Sustainability management | Monitoring & measurement |
|--------|----------------------------------------------|---------------------------------------------------------------------------------------------|----------|------------|---------------------------|--------------------------|
| Waste  | Limit and sort construction site waste       | Recycle construction site waste                                                             |          |            |                           |                          |
|        | Limit soil contamination                     | Clean polluted soil                                                                         |          |            |                           |                          |
|        | Reduce production of waste before collection | Reduce the quantity of waste sent to treatment facilities                                   |          |            |                           |                          |
|        |                                              | Reuse recyclable objects                                                                    |          |            |                           |                          |
|        | Recover organic waste                        | Recover the district's organic waste through community composting                           |          |            |                           |                          |
|        |                                              | Promote selective sorting and the recovery of organic waste                                 |          |            |                           |                          |
|        | Promote material recycling                   | Develop solutions for achieving high recovery and recycling rates                           |          |            |                           |                          |
|        |                                              | Facilitate the use of selective waste systems                                               |          |            |                           |                          |
|        |                                              | Promote selective sorting of recyclable materials by encouraging eco-friendly practices     |          |            |                           |                          |
|        | Promote material recycling                   | Achieve high recovery and recycling rates for packaging and ordinary industrial waste (DIB) |          |            |                           |                          |
|        | Reduce pollution caused by waste collection  | Reduce pollution (CO <sub>2</sub> emissions, noise, odours) caused by waste collection      |          |            |                           |                          |

| Aspect   | Objectives                                                                              | Targets                                                                                               | Programs | Indicators | Sustainability management | Monitoring & measurement |
|----------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------|------------|---------------------------|--------------------------|
| Mobility | Reduce travel need                                                                      | Limit commuting                                                                                       |          |            |                           |                          |
|          | Promote use of public transport                                                         | Anticipate needs for public transport                                                                 |          |            |                           |                          |
|          |                                                                                         | Set up a accessible and comfortable public transport stations in the business district                |          |            |                           |                          |
|          |                                                                                         | Inform affected and concerned parties and raise their awareness on available public transport service |          |            |                           |                          |
|          |                                                                                         | Plan a public transport system with a high level of service                                           |          |            |                           |                          |
|          | Reduce use of individual vehicles                                                       | Propose alternative solutions when no public transport is available                                   |          |            |                           |                          |
|          | Reduce use of individual vehicles                                                       | Reduce number of car parks in non residential buildings                                               |          |            |                           |                          |
|          |                                                                                         | Reduce number of car parks in residential buildings                                                   |          |            |                           |                          |
|          |                                                                                         | Reduce number of car parks in developed space                                                         |          |            |                           |                          |
|          |                                                                                         | Reduce number of car parks in public space                                                            |          |            |                           |                          |
|          |                                                                                         | Foster car parks sharing                                                                              |          |            |                           |                          |
|          |                                                                                         | Evaluate share of individual vehicles in total transport mix over time                                |          |            |                           |                          |
|          |                                                                                         | Reduce impact of merchandise delivery                                                                 |          |            |                           |                          |
|          | Promote use of environment-friendly fuels for vehicles (LPG, electricity, landfill gas) | Use alternative fuels for vehicles                                                                    |          |            |                           |                          |
|          |                                                                                         | Develop electric cars-tailored infrastructure                                                         |          |            |                           |                          |
|          | Promote alternative modes of transport to individual vehicles                           | Raise awareness of affected and concerned parties on available alternative transport services         |          |            |                           |                          |
|          |                                                                                         | Foster car-sharing                                                                                    |          |            |                           |                          |
|          |                                                                                         | Bolster non-polluting transport solutions, such as bicycle riding                                     |          |            |                           |                          |
|          |                                                                                         | Promote walking                                                                                       |          |            |                           |                          |

| Aspect       | Objectives                                                 | Targets                                                                                              | Programs | Indicators | Sustainability management | Monitoring & measurement |
|--------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------|------------|---------------------------|--------------------------|
| Urban forms  | Recover wasteland                                          | Establish the district on urban wasteland (polluted or unpolluted site)                              |          |            |                           |                          |
| Biodiversity | Protect existing biodiversity                              | Reduce encroaching on existing forests and farmlands                                                 |          |            |                           |                          |
|              |                                                            | Develop sensitive areas (biotopes, biodiversity, ecosystems) preservation master plans               |          |            |                           |                          |
|              |                                                            | Protect existing green spaces, wetlands and biodiversity                                             |          |            |                           |                          |
|              | Create and restore biodiversity and green spaces           | Protect existing biodiversity during construction phase                                              |          |            |                           |                          |
|              |                                                            | Create natural, biodiversity and water protection areas                                              |          |            |                           |                          |
|              |                                                            | Resort to and foster development of ecosystem services                                               |          |            |                           |                          |
|              |                                                            | Establish accessible green spaces                                                                    |          |            |                           |                          |
|              |                                                            | Create food gardens                                                                                  |          |            |                           |                          |
|              | Manage biodiversity over time                              | Conceive and implement biodiversity management plans                                                 |          |            |                           |                          |
|              | Reduce risks and promote health and safety in the district | Reduce pollution (NO <sub>x</sub> , SO <sub>x</sub> , PM <sub>10</sub> dust etc.) in the ambient air |          |            |                           |                          |