

CIRCULAR ECONOMY **MATURITY INDEX**



Circular economy maturity index for cities enabling self-assessment and the identification of improvement potential.

Version 1
02 2022

D.T2.5.1: Circular Economy Maturity Index

A.T2.2.5 Circular Economy Index

Issued by:	Partner Nr. 10 - BWCON
Reviewed by:	Partner Nr. 1 - TUKE
Version date:	13.02.2022
Version. Revision	V1.0
Circulation	Public

DOCUMENT HISTORY

Date	Version	Description of Change
13.02.2022	v. 1.0	Content outline issued by PP10

This document reflects the author's view. The programme bodies are not liable for any use that may be made of the information contained therein. This project is implemented through the CENTRAL EUROPE Programme co-financed by the ERDF.

CONTENT

1. Introduction: CityCircle's approach to a circular economy maturity index for cities	5
1.1 The OCED Scoreboard model	6
1.2 Implementation in the CityCicle Maturity Index for Cities	7
<hr/>	
2. Circular Economy Maturity Index	8
2.1 How to carry out the assessment	8
2.2 Governance of the Circular Economy in Cities and Regions	12
Roles and Responsibilities	12
Strategic vision	13
Awareness and transparency	14
Co-ordination	15
Policy coherence	16
Stakeholder engagement	17
Appropriate scale	18
Regulation	19
Financing	20
Capacity building	21
Innovation	22
Data and assessment	23
2.3 Acting Circular in Cities and Regions	24
Land use / urban land use	24
Urban green infrastructure	25
Public Spaces	26
Sustainable Buildings	27
Water Use	28
Sustainable Energy	29
Mobility and Transport	30
Waste Management	31

The information contained in this report is subject to change without notice and should not be construed as a commitment by any members of the CITYCIRCLE Consortium. The CITYCIRCLE Consortium assumes no responsibility for the use or inability to use any procedure, protocol, software or algorithms which might be described in this report. The information is provided without any warranty of any kind and the CITYCIRCLE Consortium expressly disclaims all implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular use.

The responsibility for the content of this publication lies with the authors; it does not necessarily reflect the opinion of the European Community. The European Regional Development Fund is not responsible for any use that may be made of the information contained herein. The information contained is given for information purposes only and does not legally bind any of the parties involved.

1 INTRODUCTION: CITYCIRCLE'S APPROACH TO A CIRCULAR ECONOMY MATURITY INDEX FOR CITIES

The Circular Economy Maturity Index for cities, according to the CityCircle application, is defined as a tool **enabling a self-assessment and the identification of improvement potential**.

After an intensive literature research and evaluation, the CityCircle partners have identified several European or even larger initiatives aiming for defining Circular Economy monitoring and assessment frameworks for Cities, which are clearly identified as major players in the Circular transformation.

The following exemplarily sources provide a good overview on ongoing initiatives:



Urban Agenda 2019

Urban Agenda Partnership on Circular Economy (2019): Indicators for circular economy (CE) transition in cities - Issues and mapping paper.

Brussels: 03/05/2019; Version 4. <https://ec.europa.eu/futurium/en/circular-economy/issues-and-mapping-paper-indicators-circular-economy-transitions-cities>

OECD 2020

OECD (2020): The Circular Economy in Cities and Regions:

Synthesis Report, OECD Urban Studies, OECD Publishing, Paris, <https://doi.org/10.1787/10ac6ae4-en>.

From this research, it was clear that focussing on developing a maturity index based on quantitatively measurable indicators would not only go beyond the possibilities of the CityCircle, due to the complexity of the definition of indicators measurable in practice and the rapid evolution of the topic. Any reference framework defined within the project would be rapidly outdated. Considering the lack of comparable data for many indicators, it would also be limited in terms of benchmarking with other cities.

In order to develop a tool corresponding to the ambition defined by the project, a qualitative approach focussing on strategic dimensions of Circular Economy in Cities was chosen. Such an approach can include quantitative indicators but should be flexible enough to adapt the indicators to the state of the art of what is measurable in practice, without modifying the overall assessment framework. Such an approach is provided by the OECD Scoreboard model (OECD 2020).

1.1 The OCED Scoreboard model

The OECD Scoreboard on the Governance of the Circular Economy is intended as a self-assessment tool based on the 12 key governance dimensions that would enable a circular economy system to take place. Transitioning from a linear to a circular economy requires governance conditions to be put in place, from regulation to financing, information sharing, stakeholder engagement and policy evaluation, amongst others. While the identified governance conditions are not exhaustive, understanding whether these conditions exist and are well implemented is key for policymakers to assess what works, what does not and what can be improved.

THE OECD SCOREBOARD OFFERS TO CITIES AND REGIONS UNDERTAKING THE ASSESSMENT:

An *overview* of the current situation concerning 12 governance dimensions, to make decisions based on facts and clear objectives.

The scoreboard allows countries, regions and cities to evaluate whether the necessary enabling conditions are in place, could be improved or missing.

Guidance for improvement:

Governments carrying out the self-assessment will be able to identify the policy areas in which action is needed to promote, facilitate and enable the circular transition. Once the main challenges have been identified, the scoreboard can help governments identify the relevant policy actions to make progress from newcomers to advanced. The scoreboard allows governments to identify their level of advancement towards each of the identified governance conditions at the time of the evaluation (baseline) and measure progress over time.

A tool for *dialogue*, since the self-assessment is based on a multi-stakeholder participative process.

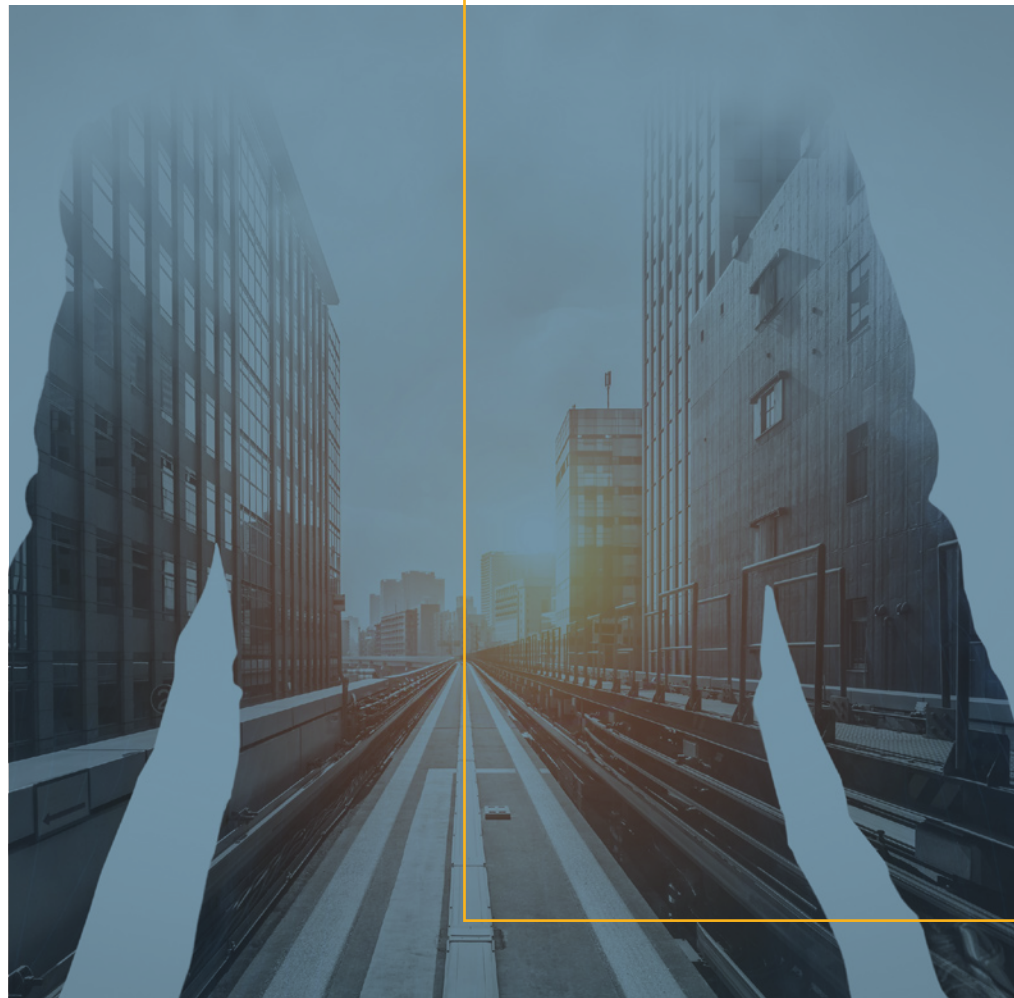
The multi-stakeholder process on which the self-assessment is based can help improve policies and tools thanks to the feedback received and proposals for improvement. It can also help raise awareness of the opportunities of circular transition and build consensus on the main challenges and potential ways forward.

1.2 Implementation in the CityCicle Maturity Index for Cities

Considering the appropriateness and wide acceptance of the OECD model, building on a large number of practical examples from cities all over the world, the CityCircle partners have decided to adapt this approach.

While the OECD Scoreboard model concentrates currently on the aspects of governance, the CityCircle partners have adapted the model to further operational dimensions of the circular transformation in the context of cities:

- + *Land use / urban land use*
- + *Urban green infrastructure*
- + *Public Spaces*
- + *Sustainable Buildings*
- + *Water Use*
- + *Sustainable Energy*
- + *Mobility and Transport*
- + *Waste Management*



2 CIRCULAR ECONOMY MATURITY INDEX

This chapter encompasses:

- recommendations how to carry out the self-assessment
- the assessment templates for the area *Governance of the circular economy in cities and regions*
- the assessment templates for the area *Acting Circular in Cities and Regions*

2.1 How to carry out the assessment

To carry out the self-assessment, the OECD recommends the involvement of a team with the capacity to engage multiple stakeholders. The CityCircle partners recommend following this collective approach as it enabled to involve multiple stakeholders in identifying potentials for improvement and develop action plans while working on the assessment. And this is exactly what the tool is meant for.

Nevertheless, it is perfectly possible to perform the assessment without following this methodology and use the initial result as a discussion-basis for developing actions aiming at improving the situation by involving in each area assessed the most relevant stakeholders, which are not the same in each area.

The recommended implementation steps are as follows (Source OECD 2020):



- ✓ **Identify the lead team to co-ordinate the self-assessment.** To ensure the achievement of a successful self-assessment process, a lead team should be clearly identified to co-ordinate the whole process. It can be a municipal or regional department, a dedicated office or agency, etc. In practice, the lead institution should have the convening power to gather stakeholders and to thoughtfully plan and manage the entire self-assessment process. In addition to ensuring knowledge and capacity to carry out the assessment, the lead institution should be motivated and able to promote and put in practice the proposals for change, as a result of the assessment. The lead institution should also take into account the need for human and financial resources to carry out the assessment and organise multi-stakeholder workshops.



- ✓ **Set objectives and scope of the assessment.** The self-assessment is a tool for dialogue among stakeholders to identify policies and instruments that are performing well or where adjustments are needed. More specifically, the self-assessment can be carried out to: promote collective thinking among stakeholders; share knowledge and address asymmetries of information across governments and stakeholders; foster learning across stakeholders involved in the circular economy; identify gaps in existing policies, institutions and instruments; develop critical thinking on who does what and how.
- ✓ **Map stakeholders.** Horizontal co-ordination (across departments) is important to get in-depth information about the current work in specific areas that can be related to a circular economy system. Collectively responding to scoreboard questions can be a way to raise awareness among the government structures, engage new areas with the circular transition and avoid siloes. Beyond governmental departments, public, private and non-profit actors can improve the quality and representativeness of the self-assessment process. It would be important to also take into account their responsibilities, core motivations and interactions. The lead team responsible to co-ordinate the assessment should then map and engage stakeholders in the assessment and take into account input to define priorities and actions.
- ✓ **Organise targeted workshops with key stakeholders to perform the assessment.** The workshops can be platforms in which stakeholders can share, compare and confront their views and achieve consensus. Stakeholder groups have a key role as “do-ers” of the circular economy. The number of meetings may change depending on the opportunities for stakeholders to provide input in between the workshops and to build consensus on the assessment and actions needed.



During each workshop:

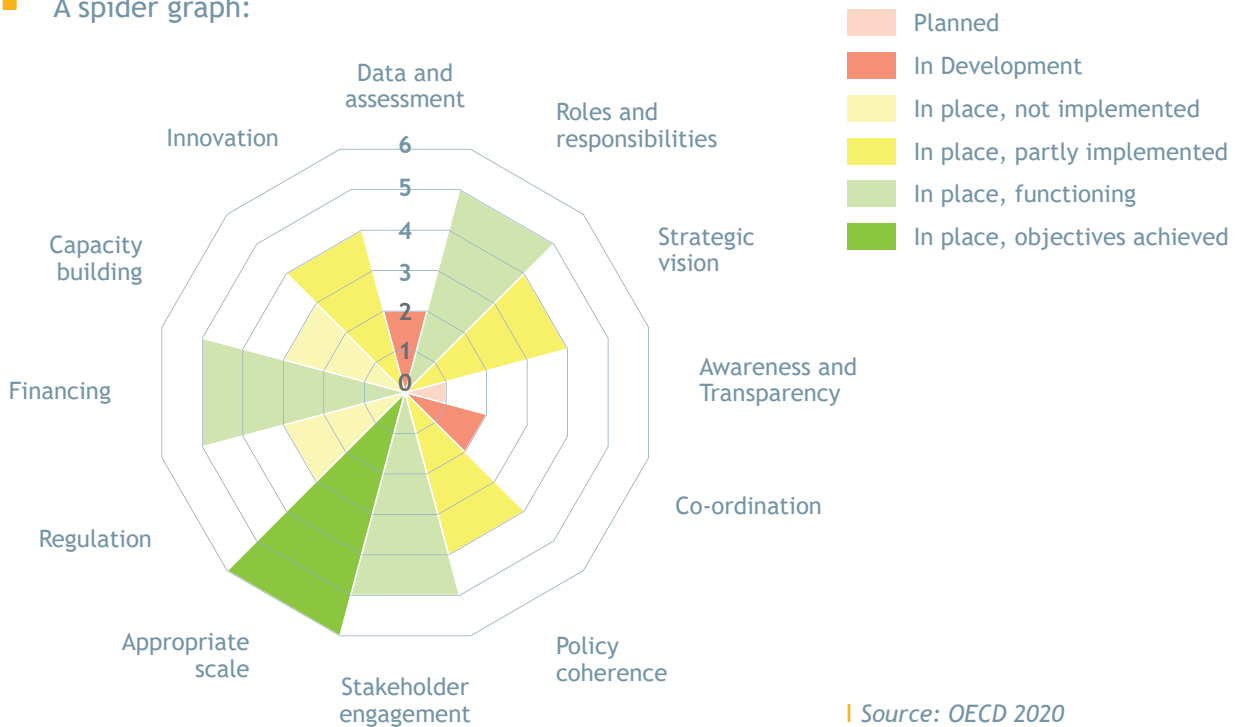
- Allow time to present the OECD scoreboard dimensions and key concepts.
- Discuss and agree on the score for the level of advancement achieved for each dimension. For each dimension in the scoreboard, the respondent should enter in the cell on the right of each table a score or “not applicable (N/A)”, when information is not available or not applicable. The potential scores that may be given for each question range from 1 to 6 or N/A, corresponding respectively to:
 - Newcomers: Planned (1); In development (2).
 - In progress: In place, not implemented (3); In place, partly implemented (4).
 - Advanced: In place, functioning (5); In place, objectives achieved (6).
- Respondents are encouraged to provide further information considered relevant, or web-links to further document the responses. Also, liaising with statistical offices and other areas producing data is key for the process and future policymaking decisions related to the circular transition.
- For each dimension, respondents can evaluate how satisfactory the implementation of each dimension, by selecting the icon corresponding to the level of satisfaction of the process (not satisfactory; to be improved; satisfactory).

- ✓ **Consider repeating this process once a year.** The scoreboard can serve as a baseline against which to compare a second assessment, which could occur a year after to verify changes and improvements. Repeating the evaluation annually may help engage stakeholders throughout time. It should be taken into account, though, that changes in may take more than one year to be put in place.

Visualisation of the results

There are at least two easy and easy to grasp ways to visualize the results of the assessment, using:

- A spider graph:



- A traffic lights system (e.g. red for “Newcomer”, yellow for “In progress” and green for “Advanced”)

	Roles and responsibilities	Strategic vision	Awareness and Transparency	Coordination	Policy coherence	Stakeholder engagement	Appropriate scale	Regulation	Financing	Capacity building	Innovation	Data and assessment
City	In place, functioning	In place, partly implemented	Planned	In Development	In place, partly implemented	In place, functioning	In place, objectives achieved	In place, not implemented	In place, functioning	In place, not implemented	In place, partly implemented	In Development

Source: OECD 2020

Both visualizations enable to identify at a glance in which areas the administration performing the self-assessment needs to improve the most.

The spider graph could be complemented by an indicator showing the average of other cities having performed a similar assessment. Such a comparison database is currently not available. It could be implemented for instance on the regional level, if several cities perform the assessment in parallel, using the same reference framework.

2.2 Governance of the Circular Economy in Cities and Regions

ROLES AND RESPONSIBILITIES

Roles and responsibilities	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is the city (or region) a role model for the transition towards the circular economy?						
	There is a political commitment to transition from a linear to a circular economy. Circular economy initiatives are planned.	The government is in the process of clarifying who does what and how to lead the transition towards the circular economy.	There is clear leadership, and the government is identifying how to be a role model and lead by example.	The government starts implement a range of actions leading towards circular economy models, from preventing waste generation, use secondary material, etc.	There is commitment and leadership. The government is “putting in practice what it preaches” through concrete examples and activities.	The government adopts circular economy principles in all policies and activities. It is a role model for citizens and businesses and leads by example. Roles and responsibilities are clearly allocated across municipal/ regional departments.
Additional information:						Score:
Level of satisfaction of “Roles and responsibilities”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

STRATEGIC VISION

Strategic vision	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is a strategic vision for the transition towards the circular economy developed and implemented?						
	The government is planning to develop a circular economy strategy, based on clear political willingness, leadership and coordination across departments. The lead institution is mapping all concerned stakeholders to engage them in the circular transition.	The circular economy strategy is in development, through the performance of technical analyses of urban stocks and flows, mapping of the existing circular initiatives in various sectors, definition of goals and actions, stakeholder engagement mechanisms to co-create the strategy.	A circular economy strategy is in place, establishing priorities, goals and actions. Financial and human resources are being consolidated.	A circular economy strategy is in place and partially implemented. Stakeholders are engaged.	A circular economy strategy is in place. Actions are performed by public, private and not-for-profit actors.	The government is planning to develop a circular economy strategy, based on clear political willingness, leadership and coordination across departments. The lead institution is mapping all concerned stakeholders to engage them in the circular transition.
Additional information:						Score:
Level of satisfaction of “Strategic vision”: Please select the icon corresponding to the level of satisfaction:				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

AWARENESS AND TRANSPARENCY

Awareness and transparency	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is a circular economy culture promoted?						
	The government identifies means to raise awareness on the circular-economy- related opportunities. This can take the form of a social media campaign, events and communication campaign.	The government is establishing structured information points, such as a dedicated website and plans workshops with key stakeholders, to discuss obstacles and opportunities of the transition to the circular economy.	Communication campaigns, stakeholders mapping and the identification of spaces for dialogues for collaboration are identified but not yet operative.	The government puts in place dedicated awareness campaigns for stakeholder's groups and identifies ways to enhance collaboration, dialogue and strengthen the market space (e.g. through dedicated spaces, labels, certificates).	Information on the circular economy opportunities flows and stakeholders are informed. This information is regularly updated.	Stakeholders are informed, clear communication is in place. Producers and consumers are aware of the opportunities and of the means made available by the government to boost the transition towards a circular economy.
Additional information:						Score:
Level of satisfaction of "Awareness and transparency": <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

CO-ORDINATION

Co-ordination	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Are co-ordination mechanisms across levels of government (e.g. regional, national, supranational) to implement circular economy initiatives in place?						
	Synergies across levels of governments are identified, to align objectives and find solutions to regulatory, financial, information issues, amongst others.	Representatives from various levels of governments are kept informed and specific circular economy	Synergies across levels of governments are identified, to align objectives and find solutions to regulatory, financial, information issues, amongst others.	Representatives from various levels of governments are kept informed and specific circular economy	Synergies across levels of governments are identified, to align objectives and find solutions to regulatory, financial, information issues, amongst others.	Representatives from various levels of governments are kept informed and specific circular economy
Additional information:						Score:
Level of satisfaction of “Co-ordination”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

POLICY COHERENCE

Policy coherence	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is the circular economy initiative linked to other strategies, plans and programmes developed by the local or regional government (e.g. smart, green, sustainable, etc.)?						
	The circular economy can be a means to achieve objectives stated in existing strategies (e.g. green, carbon-neutral, etc.). These strategies are identified.	The government is developing co-ordination mechanisms to map needs and priorities across various departments in charge of policies for which circular economy principles and actions can help achieve the expected objectives (e.g. climate change, housing, energy, urban planning, etc.).	While needs, synergies and priorities are identified, implementation is lacking due to conflicting interests and a lack of a system thinking.	Coherence across policies and departments is in place, through	The circular economy can be a means to achieve objectives stated in existing strategies (e.g. green, carbon-neutral, etc.). These strategies are identified.	The government is developing co-ordination mechanisms to map needs and priorities across various departments in charge of policies for which circular economy principles and actions can help achieve the expected objectives (e.g. climate change, housing, energy, urban planning, etc.).
Additional information:					Score:	
Level of satisfaction of “Policy coherence”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

STAKEHOLDER ENGAGEMENT

Stakeholder engagement	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is collaboration across the public, private and not-for-profit sectors fostered to boost the transition?						
	The government is planning to promote collaboration with knowledge institutions, businesses and start-ups to work on prioritised areas related to the circular economy at the local or regional level.	The government is establishing a dialogue with businesses and knowledge institutions to find innovative circular solutions to local or regional problems that require knowledge building and entrepreneurial initiative (e.g. from material sorting to a modular building).	Agreements are established but collaboration is not yet implemented.	Collaboration with knowledge institutions and private and not-for-profit actors are in place and partly implemented. As such, results are not yet achieved or only partially achieved with specific stakeholder's categories.	The collaboration is paving the way for an ecosystem in which knowledge institutions, government, businesses and civil society find fertile ground for collaboration, beyond specific projects. As such, this collaboration is supported by the government through the creation of coworking shared spaces for cross-fertilisation amongst several actors and the organisation of events and workshops.	Stakeholders are actively engaged in the transition towards a circular economy, as its implementation is a shared responsibility. The government facilitate contacts and collaboration.
Additional information:						Score:
Level of satisfaction of "Stakeholder engagement": Please select the icon corresponding to the level of satisfaction:				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

APPROPRIATE SCALE

Appropriate scale	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Are circular economy initiatives implemented at the most appropriate scale?						
	According to the characteristics of various sectors (e.g. mobility, built environment, water, etc.), the government is exploring how to facilitate collaboration across value chains and at the most appropriate scale.	The government supports the conceptualisation of circular demonstration projects, experiments and pilots at various scales and makes available spaces, areas, facilities and/ or financial support.	Small-scale initiatives are identified, for example at the neighbourhood or community-based level. Functional approaches across urban and rural areas are taken into account.	Circular economy initiatives are experimented at various scales and favour urban-rural linkages, where appropriate.	Circular economy initiatives are embedded in a territorial approach, considering functional rather than administrative boundaries.	Circular economy initiatives are embedded in a territorial approach, considering functional rather than administrative boundaries. Results are monitored and follow-up initiatives are considered.
Additional information:						Score:
Level of satisfaction of “Appropriate scale”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

REGULATION

Regulation	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is regulation fit to foster the transition to a circular economy?						
	The government identifies regulatory gaps, obstacles and considers solutions.	The government develops or adapts regulation to enhance the transition towards a circular economy (e.g. plastic, energy use, secondary material). Stakeholders are consulted.	The update of regulations for various or specific sectors (e.g. from land planning to food) is in place but not yet implemented.	Regulation is conducive of circular economy practices in an experimental way. It can be further scaled up.	Regulation is fit to foster the circular economy transition in various sectors.	Regulation is fit to foster the circular economy transition. A dialogue across levels of government is established when responsibilities are shared. Results are monitored and initiatives scaled up.
Additional information:						Score:
Level of satisfaction of “Regulation”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

FINANCING

Financing	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is regulation fit to foster the transition to a circular economy?						
	Financial instruments and/or a dedicated budget for circular economy initiatives and projects are planned.	The creation of a dedicated budget and/or the setup of financing mechanisms for the circular economy are in development (e.g. multi- annual budgets).	Financial instruments are in place but resources not yet allocated.	Financial instruments are in place and partly implemented. Private sector financing is mobilised, if need be.	Financial instruments are in place and functioning.	Financial instruments and/or a dedicated budget for circular economy initiatives and projects are planned.
Additional information:						Score:
Level of satisfaction of “Financing”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

| CAPACITY BUILDING

Capacity building	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is regulation fit to foster the transition to a circular economy?						
	The government is reviewing and analysing the required skills and capacities for carrying out all activities associated with implementing the circular economy	Specific capacity-building, training or educational programmes for the circular economy are planned. They can be related to green public procurement, resources management, etc.	Some initial capacity-building experiences for the circular economy are in place but they are still fragmented and soft (e.g. workshops, seminars).	Existence of specific capacity-building programmes on the circular economy and/or activities associated with specific aspects of the circular economy and related sectors.	Specific capacity-building programmes are in place. They are result-oriented and tailored to different needs and stakeholders. They focus on developing new skills and technical competencies.	Specific capacity-building programmes are implemented. They contribute to creating new skills, technical competencies and new jobs opportunities.
Additional information:						Score:
Level of satisfaction of “Capacity building”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

INNOVATION

Innovation	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is regulation fit to foster the transition to a circular economy?						
	The government identifies urban or regional problems (e.g. waste sorting, modular building, packaging, etc.) that can be solved through innovative approaches (e.g. new business models) and is preparing calls for projects to foster circular business models.	The government calls start-ups and businesses to provide solutions to urban or regional problems through transparent selection processes. If the solution provided by a project proves successful, the local or regional government can invest in it or becomes its launching customer, for example.	The enabling environment for supporting circular business innovation is in place (e.g. regulation, funds) but not yet implemented.	The enabling environment for supporting circular business innovation is in place (e.g. regulation, funds), implemented on an experimental basis (e.g. launching customer).	A variety of instruments to support the transition towards the circular economy for both big and small enterprises are in place (e.g. networks, spaces, incubators, etc.)	The enabling environment for supporting circular business is in place (e.g. regulation, funds) and functioning. The local or regional government provides additional tools, such as co-creation spaces, networks, single window for businesses and capacity-building programme.
Additional information:						Score:
Level of satisfaction of “Innovation”: Please select the icon corresponding to the level of satisfaction:				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

DATA AND ASSESSMENT

Data and assessment	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is regulation fit to foster the transition to a circular economy?						
	The government plans to collect data conducive to circular economy-related decisions (e.g. inventory of empty buildings, circular economy-related initiatives, circular jobs, etc.).	The collection of data by sector or type of activity is in development, thanks to the collaboration of various stakeholders.	Inventories and/or dataset are available and circular-economy-related policies and decisions are likely to be informed by robust and up-to-date data.	Data are being systematically collected and shared in a user-friendly manner.	Data is publicly available and citizens and businesses are informed of the opportunities related to circular business models and behaviours. Digital tools are used to stimulate collaboration and interaction across stakeholders (e.g. open data, web portal).	Data is systematically used and updated to inform the public policy design and implementation and promote circular business models.
Additional information:						Score:
Level of satisfaction of “Data and assessment”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

2.3 Acting Circular in Cities and Regions

LAND USE / URBAN LAND USE

Land use / urban land use	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Are the city´s developing through “(Urban) land use planning (including urban green space)” in a direction towards the circular economy?						
	The city administration is aware of national and European regulations. Current circumstances of land use are analyzed.	The city administration works together with architects and construction companies for optimal land use. Procedure and strategies are defined. The regulations are defined. Furthermore, innovation according to this goal are developed.	The city administration is the clear leadership. They set clear goals and follow a clear strategy, taking into account the financial situation, resources as well as the necessary land use. Furthermore, plans and innovations are ready to be integrated. Through partnerships with construction companies, they are educated about the goal and the impact of it.	The city has started to build more climate neutral and to modify old buildings. The goal is to fight against climate change and to provide a better future for the population. In addition, more green spaces is being created for residents to have a place to get away from everyday life. They should get more access on the daily life. These are the measures for implementing circularity.	Every land use is according to the strategy the city follows. Building is built with green resources and are energy-efficient (producing their own electricity with solar panels for example). The construction companies build environmentally friendly. The regulations are completely implemented.	The measures are achieved. The cities still work on improving their skills and efficiencies in (Urban) land use planning (Green Space). Many cities and countries take an example from it and start working towards it.
Additional information:						Score:
Level of satisfaction of “(Urban) land use planning (including urban green space)”: <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

URBAN GREEN INFRASTRUCTURE

Urban green infrastructure	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is the city a role model in urban green infrastructure for the transition towards the circular economy?						
	As a result of the city administration's efforts, strategies have been undertaken to address health and quality of life, climate change adaptation, biodiversity, social cohesion and participation, green building culture, and others. A lot of green infrastructure can be implemented at the urban/ regional level, according to the government. As well as goals and measures to introduce urban green infrastructure (such as bicycle speedways / emission release laws), a variety of innovations have been proposed and planned.	By means of communication, the city administration divides tasks and plans strategies for communicating with the private sector and local businesses (e.g. Greening of roofs, revitalization of fallow land). Defining the legal framework and researching its feasibility (e.g. complying with planning laws) is an integral part of the project.	In the sense of financial resources as well as human resources, there is a clear leadership and circular economy strategy in place: - A set of regulations has been implemented - The necessary innovations have been developed and are ready for implementation.	The implementation of the measures for the circulatory economy starts: - Initiate communication with target audiences - Test innovative ideas (like green building structure) - Note the first results - Compliance and implement of laws - Combination of green and grey infrastructure.	The implemented points start to show success step by step. Communication is starting to have an impact on people, tested innovative ideas have been adopted, successful cooperation, available capacities and budgets are sufficient as well as successful compliance of regulations and laws. The initial linear process starts to deform into a circular economy.	A circular economy strategy has been established with specific objectives that is regularly reviewed and tested. The city administration continues to stay in touch and exchange with the target group. As part of the city administration, the status of the situation is constantly evaluated and improvements are sought.
Additional information:						Score:
Level of satisfaction of "Urban green infrastructure": <i>Please select the icon corresponding to the level of satisfaction:</i>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

Public Spaces	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Are the city's public spaces a step forward towards the circular economy?						
	In 2013, the Governing Council of UN-Habitat, a Member States ordered and challenged an agency to address the issue of public space to show how this can contribute to sustainable urban development and how it can improve life quality.	The UN-Habitat, focused on how to make public spaces. <ul style="list-style-type: none"> - They consolidated local and international approaches to create inclusive cities. - They facilitated and implemented the exchange, cooperation and research. - Developed a policy on the role that public spaces can play in meeting the challenges in our urbanized world. - Assist coordinating partners in disseminating knowledge to existing sustainable urban development. 	The UN-Habitat's Urban Planning and Design Branch (UPDB) and the office of external relations got into the development and implementation of the Global Programme on Public Spaces: <ul style="list-style-type: none"> - Partnership for public space - City-wide strategies and pilot/demonstration projects. - Knowledge managements, tools and advocacy. The UN-Habitat made a partnership with the INU and adopted the Charter of public space.	The UN's Open Working Group drafted the 2016-2030 Sustainable Development Goals. Proposed Goal: 'Build cities and human settlements that are inclusive, safe, resilient and sustainable.' <ul style="list-style-type: none"> - One target for 2030: is "by 2030, provide universal access to safe, inclusive and accessible, green and public spaces, particularly for women and children, older persons and persons with disabilities". 	The Urban Agenda for the EU aim is to realize the potential and contribution that urban areas have by: <ul style="list-style-type: none"> - integrating and coordinating the approach to EU policies and legislation with potential impact on urban areas and also - contributing to territorial cohesion by reducing the socioeconomic gaps observed in urban areas and regions. - launched in 2019 ('Vienna Partnerships') which consists on the Partnerships of Culture and Cultural Heritage and Security in Public Spaces. 	The measures have been achieved, and the cities are working on improving their public spaces. Several countries now are focusing on creating these spaces and many organizations are joining to keep track of this development.
Additional information:						Score:
Level of satisfaction of "Public space": Please select the icon corresponding to the level of satisfaction:				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

Sustainable Buildings	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is the building strategy of the city capable for the transition towards the circular economy?						
	<p>The city administration has committed to establish a circular building strategy. Current building assets and planned buildings are analyzed. Possible approaches to increase the circular principles for buildings have been collected (e.g., reuse of material, repurposing of buildings, smart technologies to reduce energy consumption). Measures and Objective to increase the circularity of building assets have been defined.</p>	<p>The city communicates its goals with possible stakeholders, like building owners or houseowner associations and informs them about the plans and the possibilities of circular principles. (e.g., repurposing of buildings, installation of energy and water reservoirs, sustainable building concepts). The city communicates with construction companies about the new approach (e.g., degree of reusability, degree of reused resources in new buildings, implementation of smart building systems, etc.). Legal framework for new construction contracts is created (conditions for contractors).</p>	<p>Preparation of required measures for the implementation of circular economy in buildings:</p> <ul style="list-style-type: none"> - A communication strategy to stakeholders and the public to increase awareness - Required infrastructure is established, (internet connection, etc.). - Laws and regulations are ready to be deployed and are conform to state/ EU law. 	<p>The measures, to establish circular principles in buildings start to being implemented:</p> <ul style="list-style-type: none"> - Communication about circular principles in buildings are started with houseowner association, building owners and residents. - Step-by-step implementation and testing of new technologies. - Establish connection between building (smart buildings) - Implementation of laws and regulations. 	<p>The measures are completely implemented and adjusted:</p> <ul style="list-style-type: none"> - All stakeholders are informed about the circular building approach (houseowners, residents, construction industry). Appeals and regulations have been communicated. - Innovative technologies have been introduce and adjusted. Possible complications have been solved or have a solving strategy. - Circular Principles in buildings and construction have taken over and replaced old practices (Circular is the new standard). - Laws and regulations are fully implemented. 	<p>The Circular building strategy has been implemented and runs. The set targets are reached. Stakeholders are included into the decision making. There is a constant flow of information between the city and the stakeholders. The city administration still searches permanently for other or better circular building concepts and keeps on improving the current one. Ready for new adjustments Through the successful implementation, the city can become a role model for other cities. Knowledge is shared with other cities.</p>
Additional information:					Score:	
<p>Level of satisfaction of “Sustainable Buildings”: Please select the icon corresponding to the level of satisfaction:</p>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

Water Use	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is the water system of the city capable for the transition towards the circular economy?						
	<p>The city has realized a water shortage, plans to fix it. The current water system flows linear, and it is planned to close the loop. The current water system has been analyzed. Potential improvement in the reuse of water and wastewater has been recognized. Green alternatives solutions have been defined and planned.</p>	<p>The city has contacted governmental and private water institutions to communicate a cooperation in water use. The city addressed water treatment facility and companies to improve their water recycling. Laws are getting made to enforce a strict water use.</p>	<p>The needed facilities and process to treat water are prepared. A communication strategy is ready to be executed. All needed innovations are developed and ready to be installed. The circular water system is ready to be established. Laws and regulations are valid and ready to be implemented.</p>	<p>The needed facilities and process to treat water are started to be implemented. The communication to the private households and local organizations, to change their behavior on how to use water is engaged. Innovations are getting step-by-step installed and tested. A Water circle is getting established and tested. Laws and regulations are getting implemented.</p>	<p>The measures are completely implemented and adjusted. Every private household and organization are informed about the circular water management. Appeals and regulations have been communicated. Innovations have been completely introduced and adjusted if there are complications. The circular water use strategies are fully adopted and have replaced the linear processes. Laws and regulations are fully implemented.</p>	<p>All measures for the circular water use are installed and running. The defined targets are achieved. The communication to households and organizations is given constantly. The city administration still searches permanently for other or better circular measures that can improve the circular water use and is ready to adjust. Lessons learned a given to other cities.</p>
Additional information:						Score:
<p>Level of satisfaction of “Water Use”: Please select the icon corresponding to the level of satisfaction:</p>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

Sustainable Energy	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Does the power supply of the city derive from renewable resources and is the energy consumption optimized?						
	<p>The city/regional administration has committed to derive its energy from renewable resources. The current power supply has been analysed. The current energy consumption and energy efficiency has been analysed. The government identifies urban or regional potential of introducing sustainable, green energy. Objectives and measures in order to introduce green energy and to improve energy efficiency have been defined and planned (e.g. innovations / strategies / laws).</p>	<p>The city administration plans a communication strategy to transparently communicate with private households and local organizations to educate them about the objectives. The regional administration has asked power suppliers and other energy related companies to develop/provide solutions for the earlier defined measures (e.g. construction of a wind/solar plant) The needed regulations/ legislations for the legal framework are defined and checked on the feasibility.</p>	<p>The needed measures, to obtain green energy and improve energy efficiency are prepared: - A communication strategy is ready to be executed. - All needed innovations are developed and ready to be installed (e.g. construction of a wind/solar plant). - Laws and regulations are valid and ready to be implemented.</p>	<p>The measures, to obtain green energy and improve energy efficiency are prepared : - Communication and Appeal to the private households and local organizations to change their behaviour about energy consumption. - Innovations are getting step-by-step installed and tested. - Laws and regulations are getting implemented.</p>	<p>The measures are completely implemented and adjusted: - Every private household and organization are informed about the introduction of sustainable energy supply and the correct behaviour on sustainable energy consumption. Appeals and regulations have been communicated. - Innovations have been completely introduced and adjusted if complications occur - Laws and regulations are fully implemented.</p>	<p>All measures for a fully sustainable energy supply and an optimized energy efficient behaviour are installed and running. The defined targets are achieved. The communication to households and organizations is given constantly.</p>
Additional information:						Score:
<p>Level of satisfaction of “Sustainable Energy”: Please select the icon corresponding to the level of satisfaction:</p>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

Mobility and Transport	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is the city a role model in mobility and transport for the transition towards the circular economy?						
	There is a political commitment to moving towards a circular economy. Current mobility and transport were analyzed, and potentials determined. Goals and measures were defined and planned for the area (e.g. restricting the use of private transport, increasing the attractiveness of public transport and car sharing, improving the transport plan).	The city administration deals with the division of tasks and plans strategies for communication with private households and local companies to discuss goals (e.g. use of public transport, reduce traffic load). The regulations for the legal framework (e.g. price increases for the use of private vehicles) are defined and checked for feasibility.	There is clear leadership and a circular economy strategy in place that sets priorities, goals, and measures in consideration of financial and human resources: - Regulations have been implemented - The innovations required have been developed and ready for installation	The city administration starts with the implementation of the measures for the circulatory economy: - Communication with the target groups takes place - The innovative ideas are used & tested - First results are noted - The government identifies ways to improve	Information about the possibilities of the circular economy is updated. The measures were implemented and adjusted. Those affected communicate results, criticism, and suggestions for improvement. The improvements and innovations are introduced and adapted. The circular disposal strategies are adopted full and have replaced the linear processes.	There is a circular economy strategy with specific objectives that has been put in place and is regularly monitored and revised. The city administration serves as a model and is in constant communication with the target groups. In addition, the city administration is constantly evaluating the status and looking for opportunities for improvement.
Additional information:						Score:
Level of satisfaction of “Mobility and Transport”: Please select the icon corresponding to the level of satisfaction:				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory

Waste Management	LEVEL OF ADVANCEMENT (1-6)					
	Newcomer		In progress		Advanced	
	Planned (1)	In development (2)	In place, not implemented (3)	In place, partly implemented (4)	In place, functioning (5)	In place, objectives achieved (6)
Is the waste management of the city capable for the transition towards the circular economy?						
	<p>The city administration has committed to establish a circular waste management. The current waste management has been analyzed. Single fields of the waste processing (e.g. sorting, transportation etc.) which possess potential for more circularity has been collected. For this fields, objectives and measures (e.g. innovations / strategies / laws) have been defined and planned.</p>	<p>The city administration plans a communication strategy to transparently communicate with private households and local organizations to educate them about the objectives (e.g. appeal to produce less waste, development of recyclable products). The city administration has asked companies and dumping enterprises to develop/provide solutions for the earlier defined measures (e.g. construction of a biogas facility, innovative way of waste sorting, etc.). The needed regulations/ legislations for the legal framework (e.g. fees for waste disposal, etc.) are defined and checked on the feasibility.</p>	<p>The needed measures, to achieve circular waste management are prepared:</p> <ul style="list-style-type: none"> - A communication strategy is ready to be executed. - All needed innovations are developed and ready to be installed. - The circular waste disposal processes are ready to be established. - Laws and regulations are valid and ready to be implemented. 	<p>The measures, to achieve circular waste management have started being implemented:</p> <ul style="list-style-type: none"> - The communication to the private households and local organizations, to change their behaviour about waste, started. - Innovations are getting step-by-step installed and tested. - Waste disposal strategies are getting established and tested. - Laws and regulations are getting implemented. 	<p>The measures are completely implemented and adjusted:</p> <ul style="list-style-type: none"> - Every private household and organization is informed about the circular waste management. Appeals and regulations have been communicated. - Innovations have been completely introduced and adjusted, if there are complications. - The circular waste disposal strategies are fully adopted and have replaced the linear processes. - Laws and regulations are fully implemented. 	<p>All measures for the circular waste management are installed and running. The defined targets are achieved. The communication to households and organizations is given constantly. The city administration still searches permanently for other or better circular measures that can improve the circular waste management and is ready to adjust the waste management.</p>
Additional information:						Score:
<p>Level of satisfaction of “Waste Management”: Please select the icon corresponding to the level of satisfaction:</p>				▲ Satisfactory	▶ To be improved	▼ Not Satisfactory