

URBAN AGENDA FOR THE EU

Circular Economy

ACTION PLAN

*** The Pact of Amsterdam states that the Action Plan "can be regarded as non-binding".
Therefore, the actions presented in this Action Plan are not compulsory. ***

Date 30.11.2018



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1 INTRODUCTION

The **Pact of Amsterdam** was adopted in the first half of 2016, during the Dutch Presidency of the Council of the EU, by the EU Ministers responsible for Territorial Cohesion and/or Urban Matters. The Pact strives to involve Urban Authorities in achieving Better Regulation, Better Funding, and Better Knowledge.¹ The relevance of this involvement is highlighted by the statistic that cities and urban areas now house more than 70% of all Europeans.

In addition to being the drivers of innovation and the economy, cities are also the battleground for many societal struggles of the 21st century, as emphasised in the United Nations agreements of the New Urban Agenda² and the 2030 Agenda on Sustainable Development³. The **Urban Agenda for the EU** (hereafter: the Urban Agenda) helps ensure that these facts are acknowledged and reflected by EU legislation, funding and knowledge sharing.

The Urban Agenda is composed of **12 priority themes** essential to the development of urban areas. Each theme has a dedicated partnership. These partnerships bring together cities, Member States and European institutions. Together, they aim to implement the Urban Agenda by finding workable ideas focused on the topics of EU legislation, funding and knowledge sharing. One of these partnerships is the **Partnership on Circular Economy**.

Cities play an essential role in the development of a circular economy; they act as enablers of potential measures by which they can influence both consumers and businesses. Moreover, overall governance, enabling businesses, public procurement, consumption and resource management are all themes with a bearing on the development of circular economy concepts within cities.

European cities are uniquely positioned to address complex problems through practical experimentation and innovation. The transition to a circular economy requires multi-level governance and new visions of what the city of the future could look like. Therefore, involvement at a local level is crucial for the transformation from a traditional linear approach to a circular strategy.

1.1 Objectives

The Partnership on Circular Economy (hereafter: the Partnership) has looked into the whole circle, beginning with the extraction of raw materials to design, production, transportation, consumption and, finally, the recycling of waste with residues for final disposal.

¹ http://ec.europa.eu/regional_policy/sources/policy/themes/urban-development/agenda/pact-of-amsterdam.pdf

² <https://unhabitat.org/new-urban-agenda-adopted-at-habitat-iii/>

³ <http://www.un.org/sustainabledevelopment/development-agenda/>

Key action areas



Figure 1 Closing the loop – An EU Action Plan for the Circular Economy (source: DG Environment, October 2016)

However, given time and resource constraints, this scope had to be limited, and the Partnership has focused on the parts of the circle which they believe are most relevant to cities and which they have the greatest potential to influence. To choose among several potential topics and actions, a set of criteria have functioned as guidelines for their screening and evaluation:

- Cities' needs – the urban dimension clearly reflect cities' needs;⁴
- Fit the concept of the Circular Economy – as put forward by the Commission in the Circular Economy Package on 02.12.2015;⁵
- Potential for improvement – present the greatest potential for improvement in relation to Better Regulation, Better Funding and/or Better Knowledge;
- Reality check – are feasible and can be realistically implemented;
- Expertise – it is possible for the Partnership to mobilise the necessary expertise;
- Added value – that add unique value to this Partnership, and cannot, or are not, being undertaken easily by other partnerships/initiatives, stakeholders, etc.

In the orientation stage, the following themes have been selected by the Partnership:

- Circular consumption;
- Urban resource management;
- Circular business enablers and drivers;
- Governance.

⁴ ESPON, Interact, Interreg Europe and URBACT – Pathways to a circular economy in cities and regions. Policy brief addressed to policy makers from European cities and regions, October 2016

⁵ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Closing the loop - An EU Action Plan for the Circular Economy, December 2015

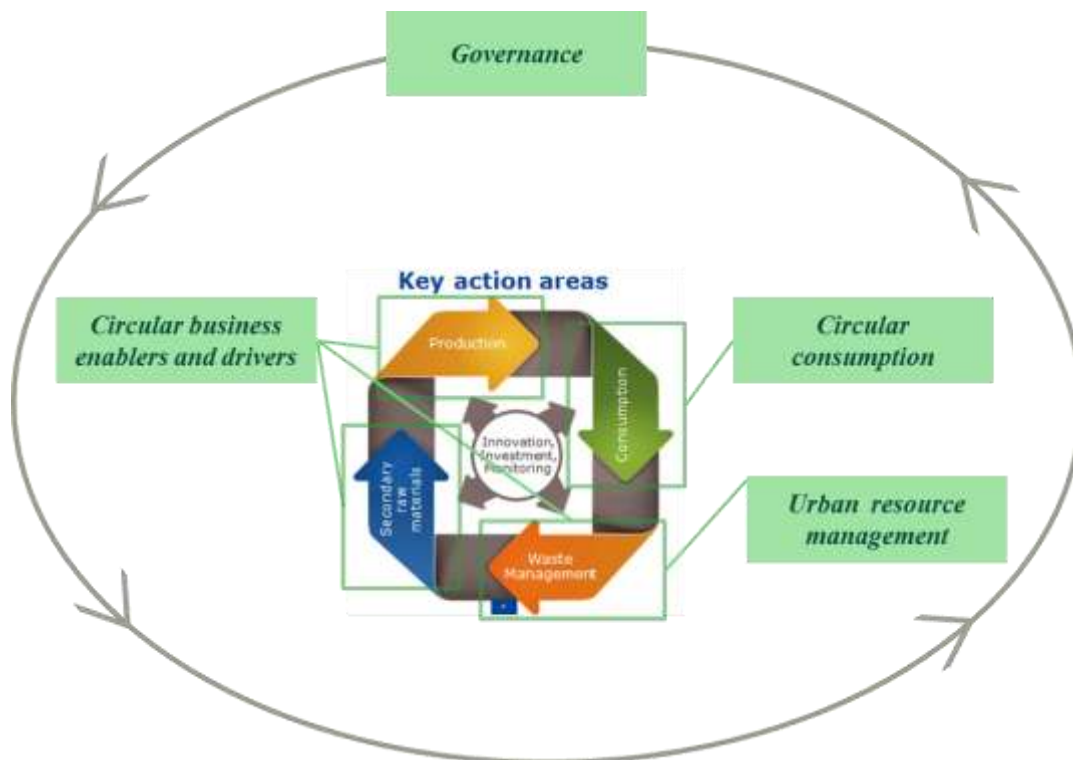


Figure 2 Scope of the Partnership

By choosing the themes mentioned above, the Partnership covered most of the relevant circular economy aspects from a city perspective. The Partnership has not elaborated an overall plan for introducing the circular economy at a city level, but has rather focused on specific actions and recommendations that would fit into already existing plans for most cities.

The theme of “Governance” is crucial to the circular economy, both at the city, Member State and EU level. Hence, during the stocktaking phase, a special focus has been placed on the need for better governance at all levels. The cross-cutting topic of governance should help address the right issues at the right level.

1.2 Governance of the Partnership

The City of Oslo is the Coordinator of the Partnership of Circular Economy. The Technical Secretariat provided by Ecorys (and funded by DG REGIO of the European Commission) has been operating from the beginning of the work of the Partnership.

1.3 Members

The Partnership consists of six urban authorities, namely the City of Oslo, The Hague, Prato, Porto, Kaunas and Flanders region. The Partners which are EU Member States include Finland, Poland, Slovenia and Greece. The European Commission (DG REGIO, DG ENV, DG CLIMA, DG RTD, DG

GROW), the Council of European Municipalities and Regions (CEMR), EUROCITIES, URBACT, the European Investment Bank (EIB) and the Association of Cities and Regions for sustainable Resource management (ACR+) are also partners. A full list of Partners and the nature of their involvement is included in Annex 1.

1.4 Background information used

Each Partner organisation nominated an expert for the different topics to be investigated. As a result, the Partnership could rely on several experts to provide input for developing both the scoping fiches and actions. In addition, the Partnership has received input from external stakeholders. However, most of the stocktaking was done by the Partners themselves. This means that some aspects of the circular economy had to be left out due to a lack of knowledge within the Partnership. The circular economy is a broad topic and it would have been impossible for the Partnership to cover all of the possible bottlenecks that cities might face in the introduction of a circular economy in their cities.

The Partnership as a whole has not carried out new studies during its work. Several reports from projects or studies by others have been identified and made available to the Partners. A list of relevant reports and studies is available in Annex 2.

1.5 Working method of the Partnership

By 30.11.2018, the Partnership had organised ten Partnership meetings. For 2019, an additional three meetings are planned. The Partnership also organised one workshop during the Cities Forum in Rotterdam in November 2017, and a parallel session during EU Green Week in May 2018. In addition to this, the Partnership discussed some of the draft actions with the members of the EUROCITIES Working Group on Waste as well as other interested members at the EUROCITIES annual meeting. In May 2018, as part of EU Green Week, the Partnership (the City of Oslo and EUROCITIES) also co-organised a workshop on the action on urban bio-resources together with Municipal Waste Europe and the European Composting Network.

So far, the work of the Partnership has consisted of six main steps:

First step – Orientation Paper

The initial phase of the Partnership was the orientation stage. During the first Partnership meeting, the Orientation Paper was sketched out, providing direction and focus for the Partnership. It was in the Orientation Paper⁶ that the aforementioned six criteria and the four main themes were agreed on. The Orientation Paper has been discussed and acknowledged by the Urban Development Group and the Directors General Meeting On Urban Matters in the spring of 2017, during the Estonian Presidency of the Council of the EU.

⁶ <https://ec.europa.eu/futurium/en/circular-economy/circular-economy-orientation-paper>

Second step - scoping fiches

Each of the different themes was discussed in a separate Partnership meeting. The Partnership invited external experts to provide their input to the discussion. For each topic, interested Partners created a working group to identify bottlenecks and possible actions to reduce the barriers. Partners involved local experts to participate in the work, and the outcome of the work was organised into 11 scoping fiches. The first theme was discussed in the second Partnership meeting, and the last of the four themes at the sixth meeting. As a result, the different topics developed separate timeframes for further work. A list of all the themes and scoping fiches is included in Annex 3.

Third step – selection of possible actions

For each scoping fiche, a session during a Partnership meeting was dedicated for a discussion between all Partners on the following points:

- Does the scoping fiche reflect the discussions that took place within the working group?
- Do the proposed actions reflect the scoping fiche and the identified barriers?
- How do the proposed actions reflect the criteria set by the Partnership (p. 5 of this Action Plan).

Based on these discussions, a list of actions was formulated. To reduce the total number of actions, each Partner voted for what they considered to be the most important action and the outcome of these votes formed the basis for the draft action list. Each Partner then nominated themselves for further work to elaborate one or several of the actions.

Fourth step – decision on final actions

After the eight meeting of the Partnership, the below list of actions was compiled. However, some of the actions needed more time to be developed. This resulted in two separate processes with regards to the Action Plan; the Partnership decided to put forward their Plan in two parts. Thus, the Action Plan also underwent two separate rounds of consultations.

Part 1 of the Action Plan consisted of eight actions that were published on the website Futurium (hosted by the European Commission) for public consultation in February 2018. Part 2 consisted of four actions which were published for public consultation in July 2018⁷. The allocation of actions per public consultation session is included in the table below.

Table 1 List of actions	Related theme	Part 1/ Part 2
Better Regulation		
Help make waste legislation support the circular economy in cities	Urban Resource Management, Governance, Circular business enablers and drivers	Part 1

⁷ Both Parts of the Action Plan may be found here: <https://ec.europa.eu/futurium/en/circular-economy/introduction-draft-action-plan-partnership-circular-economy>

Help make water legislation support the circular economy in cities	Urban Resource Management	Part 1
Analyse the regulatory obstacles and drivers for boosting an urban circular bioeconomy	Urban Resource Management, Governance, Circular business enablers and drivers	Part 2
Better Funding		
Prepare a Circular City Funding Guide to assist cities in accessing funding for circular economy projects	Governance	Part 1
Mainstream the circular economy as an eligible area into the post 2020 Cohesion Policy and corresponding Funds	Governance	Part 1
Better Knowledge		
Prepare a blueprint for a Circular City Portal	Urban Resource Management, Governance, Circular business enablers and drivers, Consumption	Part 1
Promote Urban Resource Centres for waste prevention, re-use and recycling	Urban Resource Management, Governance, Circular business enablers and drivers, Consumption	Part 1
Develop a Circular Resource Management Roadmap for cities	Urban Resource Management, Governance, Circular business enablers and drivers	Part 1
Develop a Collaborative Economy Knowledge Pack for cities	Governance, Circular business enablers and drivers, Consumption	Part 1
Manage the re-use of buildings and spaces in a Circular Economy	Urban Resource Management	Part 2
Develop City Indicators for a Circular Economy	Governance	Part 2
Develop a “Pay-as-you-throw”-toolkit with coaching	Urban Resource Management, Governance, Consumption	Part 2

Fifth step – consultation carried out

The first public consultation ran from the 6th of February until the 16th of March 2018, and the second from the 25th of July until the 14th of September 2018. The Partnership also attended several conferences, meetings, seminars and webinars, presenting the 12 actions to various stakeholders. Both parts of the Action Plan have also undergone Inter-Service Consultations within the European Commission, and have been revised based on the feedback received.

Sixth step – Consolidation of Action plan, part 1 and 2

The Action Plan, part 1 was discussed and approved by the Urban Development Group and the Directors General Meeting on Urban Matters in the spring of 2018, during the Bulgarian Presidency

of the Council of the EU. The Action Plan, part 2 has been discussed and approved by the Urban Development Group and the Directors General Meeting on Urban Matters in the fall of 2018, during the Austrian Presidency of the Council of the EU. The current document is the consolidated version of the two parts – and forms the final Action Plan.

1.6 The plan for a circular economy in cities

The Partnership has been given a very broad remit. From the beginning, the Partnership has been clear not to be developing the ultimate guide towards a circular economy. Neither has the Partnership been able to identify all the barriers or bottlenecks that cities experience. Nevertheless, the Partnership has, based on the expertise and knowledge obtained throughout its work, identified several actions and recommendations to be put forward to the EU, Member States and cities. To summarise, these actions and recommendations touch upon some of the most important barriers and also provide advice for cities in their work towards a strategy for circular economy. The following actions presented are concrete actions to realise a city where residents and entrepreneurs do not think in terms of waste, but in terms of resources with permanent economic and social value.

This city shall benefit from European legislation which enables local authorities, companies and investors to **make the most of all types of waste, including wastewater and biowaste**. With **post 2020 cohesion policy having an explicit reference to the circular economy**, it becomes easier for local authorities to access funding for investments into circular infrastructure and develop new knowledge. The city is provided with concrete tools on how to use **economic incentives** to improve waste management, as well as **tools to guide the city through the different funding possibilities**, assisting investors interested in directing funds to supporting the circular transition.

This is a city where **urban resource centres** are social and economic hubs for residents and enterprises to meet with each other and collaborate on circular initiatives, and where **underused buildings and spaces are considered a resource**, stimulating a better use of the built environment. This is a city with the knowledge of how tap into the **collaborative economy** as a means to improve their economic, environmental and social resources, and one able to utilise a greater proportion of its local resources through a **roadmap for circular resource management**.

The knowledge and experiences from other cities are shared through an interactive **circular city portal**. Finally, **circular city indicators** help the city measure its performance and provide it with a good system for continuously improving on their progress.

The transition from a linear to a circular economy will be different in each European city. What is common to all of them is that they are handed the tools to decide which path to follow based on others' experiences, well-developed guidelines, as well as legislation which allows for and even promotes their circular transition. Cities are given information on the funds available, and have a clear idea on how to make use of these in the way that they see fit.

2 ACTIONS

2.1 Better Regulation

The Urban Agenda for the EU focuses on a more effective and coherent implementation of existing EU policies, legislation and instruments. Drawing on the general principles of Better Regulation, EU legislation should be designed so as to achieve the objectives at a minimum cost without imposing unnecessary legislative burdens. In this sense, the Urban Agenda will contribute to the Better Regulation Agenda. The Urban Agenda will not initiate new regulation, but will be regarded as an informal contribution to the design of future and the revision of existing EU regulation, in order for it to better reflect urban needs, practices and responsibilities. It recognises the need to avoid potential bottlenecks and minimise administrative burdens for urban authorities.⁸

2.1.1 Help make waste legislation support the circular economy in cities

Stimulate resource efficiency by the use of secondary raw materials from waste, by improving the resource perspective in the waste legislation of (among others) the Waste Framework Directive, Packaging and Packaging Waste Directive, End of Life Vehicle Directive, Waste from Electric and Electronic Equipment Directive, and removing legislative barriers without compromising current levels of protection of public health and the environment.

What is the specific problem?

The Partnership has identified several barriers and bottlenecks regarding the use of secondary raw materials (recycling) or products (re-use) originating from waste streams. In the Partnership this has been put forward from a public procurement perspective, a consumer perspective, a waste management perspective, and from a business enabler perspective.

As soon as products or materials enter the waste stream, a set of regulatory measures apply to protect human health and the environment against any harm from those products and materials. These regulations make it difficult, if not impossible to redirect waste fractions back into the economic cycle for re-use or recycling. Where hazardous substances are concerned, these regulatory measures are valid. There are, however, circumstances under which the rather strict regime of waste legislation is not needed, and can even be counterproductive for the circular economy. For cities, these **barriers become apparent in different situations** such as:

- The recycling of source-separated household waste, like food waste and plastics;
- Preparing initiatives for re-use, like setting up repair or second-hand shops;
- Supporting initiatives aimed at waste prevention for enterprises and citizens.

⁸ Urban Agenda for the EU – Pact of Amsterdam, Article 5.1

The removal of these barriers is important to facilitate the circular economy and to stimulate the uptake of the use of secondary raw materials. This first of all calls for a basic evaluation of the current legislative framework, the implementation and application of that framework, and the definitions of waste in the context of a circular economy. **For analytical purposes** we will take the European waste management hierarchy as a starting point.



Figure 3: The European waste management hierarchy

The triangle shows that preparing for re-use and recycling are part of the waste definition. As a consequence, these two categories that are of key importance to the circular economy are subject to quite strict rules and regulations. An important question that arises is whether this is always necessary from the perspective of protecting human health and the environment, for example in situations where there is no risk of hazardous substances.

An important question that arises is whether a differentiation between waste for repair, re-use and recycling and waste sent to energy or landfills could be useful for improving existing regulatory provisions to better fit the circular economy. It can be argued that regulatory provisions aimed at the re-use of waste streams already exist, in the form of so-called end-of-waste criteria. However, until now, end-of-waste criteria have been set for only a very limited number of materials. Furthermore, the process of developing end-of-waste criteria for new products and materials will be quite complex and time-consuming.

One option to better meet the requirements of the circular economy could be to keep products and materials that are fit for re-use and recycling out of the waste stream in the first place. This could, for example, be done through the introduction of 'beginning of waste criteria', by which products and materials that are fit for re-use and recycling would have to meet requirements comparable to primary resources, and would only be allowed into the waste stream when there are clear risks of negative impacts on human health and the environment. In this way, secondary raw materials would not be subject to unnecessary limitations that arise from the waste status. At the same time, this may allow for a more friendly and competitive market environment for secondary resources, from which the urban economy would be able to benefit in the form of new economic activity and employment. In turn, products and materials that do take on the waste status can always be redirected back into the economic cycle through the existing provisions for the end of waste status.

How do existing EU policies/legislations/instruments contribute?

There are several policies and legislations that can (theoretically) contribute:

- Waste framework directive and other waste directives:
 - Definition of waste, definition of recycling (methods for reporting from Member States to the Commission);
 - End of waste criteria;
 - Separation at source;
- Directive on Packaging and Packaging Waste;
- Proposed Directive on the reduction of the impact of certain plastic products on the environment;
- Roadmap on resource efficiency:
 - Waste to energy;
 - Circular Economy package.

Which action is needed?

The revision of the Waste Framework Directive and associated regulations, and documents such as the recent communication on the interface between chemical, product and waste legislation, primarily aim at improving existing policies and regulations as well as the European Strategy for Plastics in a Circular Economy. These are all highly relevant for this particular action of the Partnership. A logical first step would be to conduct a more **in-depth assessment of the (revised) legal and policy frameworks** in order to gather more precise and comprehensive information on the regulatory obstacles and drivers for boosting the use of secondary raw materials from waste streams.

Depending on the outcomes of the first step, the second step could result in providing **guidance to improve the practical implementation and use of existing frameworks**, thus reinforcing the positive drivers. At the same time, barriers and obstacles could lead to **recommendations to adapt or complement existing frameworks** in order to better facilitate the use of secondary raw materials from waste streams. Where possible and needed, the proof of concept to support these recommendations will have to be developed from practical experience. One element of this could be the introduction of so-called 'beginning of waste' criteria as a method of setting standards (including those for public health and environment) to divert end-of-life products and materials away from the waste stream and into the realms of secondary resources for re-use and recycling.

It is important to stress that this action on waste legislation will not remove the obstacles and barriers on its own. This action has to be placed within the context of a broader set of measures that aim at stimulating the use of secondary raw materials from waste streams, such as those regarding financial incentives, product design standards, planned obsolescence, procurement, etc.

How to implement the action?

- Conduct an in-depth analysis of the obstacles and drivers in existing (revised) legal and policy frameworks;

- Carry out a broad survey to collect more examples from (urban) practice concerning obstacles and drivers;
- Carry out case studies as proof of concept for obstacles and drivers and good practice;
- Translate results into guidance and recommendations for implementation and improvement.

Which partners?

Action leader: City of The Hague and City of Oslo

Participants: City of Prato, Poland, CEMR, EUROCITIES

Relevant partners: Expert assistance will be required from Europa decentraal; a regular exchange of views and information with DG ENV is of key importance for this action.

Which timeline?

In the second half of 2018, the focus will be mainly on the in-depth assessment of the (revised) legal and policy frameworks. At the same time, an extensive survey will be conducted to collect more examples from urban practice in terms of obstacles and barriers as well as drivers and possibilities. In the first quarter of 2019, on the basis of the assessment and the survey, a number of relevant case studies will be selected for further analysis and to develop proof of concept to support possible recommendations.

The results of the steps mentioned above will be laid down in a draft report in the second quarter of 2019 and will subsequently be put up for consultation from the most relevant Partners and stakeholders. The final findings of this action will be reported in the third quarter of 2019.

2.1.2 Help make water legislation support the circular economy in cities

The Partnership calls for a robust and comprehensive EU legislation to create an environment where cities, as water operators, will develop and implement solutions for water re-use as a part of a strategy for better water management and a transition towards a circular economy. There is an important potential to reduce the use of drinking water in the first place by re-using wastewater and harvested rainwater for purposes such as street cleaning, watering city parks and gardens, and industrial activities. Increasing the available volume of re-used water for such applications would reduce the demand for (scarce) drinking water. The Partnership shall develop a general position (paper) which can be used as input into the ongoing and upcoming revisions of EU strategies on water and wastewater.

What is the specific problem?

Water is one of the most critical resources worldwide, but also in parts of Europe. Clean water is not only used as drinking water, but for a wide range of uses within the city. There are strong restrictions towards the use of cleaned water from wastewater treatment plants – preventing it to be used as drinking water. However, re-used wastewater and harvested rainwater could be used for other purposes, such as street cleaning, the irrigation of parks and gardens, industrial purposes, and so on. After all, different uses require different “levels” or standards of water quality, which

means that re-used wastewater could be used for a number of purposes – thus reducing the demand for fresh drinking water. The re-use of water and harvested rainwater could also play an important part in broader climate adaption initiatives.

Due to risks for human health and the environment, the re-use of water has strong limitations in the existing EU, national and regional regulations on water and wastewater. A more efficient re-use of water, however, is essential in the transition towards a circular economy. There are currently several projects and initiatives to re-use wastewater all over Europe. The differences in national and regional legislations, however, lead to differences in the possibilities for cities to investigate and use this existing knowledge.

Barriers identified in the re-use of water are, among others:

- Wastewater from industrial production activities has more regulatory limitations than urban wastewater;
- The term ‘urban wastewater’ is, according to European legislation, defined as domestic wastewater or the mixture of domestic wastewater with industrial wastewater and/or run-off rain water. Most cities have one system for collecting urban wastewater, including wastewater from industries and commercial activities which results in the limitation for these cities to re-use water;
- The lack of minimum quality requirements for water in its different uses and processes, like different quality standards for recycled water, results in the use of treated wastewater simply being forbidden;
- The lack of clear responsibility for and the risks borne by each player has impacts on quality assurance, monitoring, maintenance, blackout scenarios , etc.;
- Reluctance to allow new technologies to be implemented, meaning that the regulations tend to focus on describing technologies rather than meeting the required standards.

Hence, the Partnership underlines that wastewater is one of the most abundant resources in cities – an “untapped resource”, as the UN called it in the 2017 World Water Development Report⁹: Its use should neither be neglected nor discarded, and use / re-use could protect water reservoirs from overexploitation due to the expected future increases for water demand in cities. According to DG ENV, both southern Member States, such as Spain, Italy, Greece, Malta and Cyprus, and northern Member States, like Belgium, Germany and the UK, already have in place numerous initiatives regarding water re-use for irrigation, industrial uses and aquifer recharge. Cyprus and Malta already re-use more than 90% and 60% of their wastewater, respectively, while Greece, Italy and Spain re-use between 5% and 12% of their effluents, clearly indicating a huge potential for further uptake.

The Partnership is aware of the regional differences within the European Union. These differences could lead to different priorities for a more efficient water management. Therefore, Member States with less of a focus on the re-use of wastewater should not try to stop more ambitious Member States by blocking the necessary regulations in EU legislation on water re-use. This could hinder

⁹ <http://www.unwater.org/publications/world-water-development-report-2017/>

other Member States, regions or cities in promoting the re-use of water, where this is considered an efficient strategy towards better water management by the relevant actors involved. Identifying and proposing changes in European legislation could be an important step towards better water efficiency and contribute towards cities transitioning towards a circular economy.

How do existing EU policies/legislations/instruments contribute?

The most important EU regulations are the Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000, establishing a framework for Community action in the field of water policy (the Water Framework Directive), and the Council Directive 91/271/EEC of 21 May 1991, concerning urban wastewater treatment (the Urban Wastewater Directive). The European Commission is finalising a legal proposal on water re-use based on the JRC report on minimum requirements for water re-use for agricultural irrigation and aquifer recharge. An ATG Water Re-use group under the CIS process also addresses the issue of water re-use.

Additionally, DG RTD is running two new pilot initiatives in 2018: the Innovation Deal on Water Re-use¹⁰ and the P4P (Projects for Policy) on Urban Water Management (UWM). Furthermore, the current intent at the EU level is not to impose water re-use to Member States which do not want to pursue it. In the report of the public consultation to set minimum quality requirements for re-used water in the European Union, the perceptions of stakeholders and citizens about the idea of re-used wastewater with agriculture purposes are summarised¹¹. No technical limits or indications are available at this stage (based on the Inception impact assessment)¹². For this reason an action, promoted by the Partnership, is justified.

Which action is needed?

The Partnership calls for a robust and comprehensive EU legislation to create an environment where cities, as water operators, will develop and implement solutions for water re-use as a part of a strategy for better water management and a transition towards a circular economy.

We are seeking:

- A commitment from the EU Parliament, the Council and the Commission on the theme of water re-use. This is a main theme for European cities in their transition towards a circular economy. This commitment should be visible in all communications regarding the ongoing revisions of EU strategies on water and wastewater, the revision of EU legislation of the Water Framework Directive, the Urban Wastewater Directive, and the publication of guidelines and requirements for the re-use of urban wastewater;
- Recognition from the EU Parliament, Council and the Commission on the potential of the re-use of water as a climate adaption measure;

¹⁰ <https://ec.europa.eu/research/innovation-deals/index.cfm?pg=home>

¹¹ <http://ec.europa.eu/environment/water/pdf/WaterReuse2ndConsultation-Report-and-Annex-COM.pdf>

¹² http://ec.europa.eu/smart-regulation/roadmaps/docs/2017_env_006_water_reuse_instrument_en.pdf

- The Commission to engage in an active implementation of the Urban Water Agenda 2030¹³, as a critical framework which facilitates the implementation of EU water regulation and helps cities work towards greater water re-use;
- A shift in EU legislation for the re-use of wastewater from a source perspective to criteria for use for different purposes. For this, a higher focus on a control-at-source approach has to be implemented in water legislation, in line with the Extended Producer Responsibility principle in the Waste Framework Directive;
- Support for the development of necessary technology for the control-at-source and treatment of wastewater and harvested rainwater;
- Recognition of the importance of a regional and urban/rural perspective of resource management for wastewater, rainwater and sludge;
- Development of a proposal to create a certification label for production processes using recycled water;
- Behavioural change (acceptance for water re-use).

The shift in European policy towards the principles of the circular economy requires better management and re-use of water – and a recognition of the role of all levels (EU, national, regional, local) in European policy making. Together with relevant stakeholders, the Partnership will identify and influence the on-going revision of policy and regulations and ask for support of legal initiatives in this direction. The Partnership's work will be based on practical city experiences from Partner cities as well as other cities.

When water is treated as a consumable, it must be kept pure and easy or profitable to extract. All water, including freshwater, gray water and harvested rainwater, should flow in cascades, where it may be used for another purpose. Whenever possible, energy and nutrients should be extracted from consumable water; there are now many revolutionary new techniques to help with this process, as well as other innovations that encourage re-use.

How to implement the action?

To promote the re-use of wastewater and a more circular urban water management, the Partnership will seek to influence the on-going revisions of the EU water and wastewater regulations. The Partnership will develop a general position (paper) which can be used as input into on-going and upcoming revisions of EU strategies on water and wastewater. The Partnership will seek alliances with other local and regional actors to strengthen the importance of cities in the future management of water resources.

Important steps to reach this will include:

- Collecting useful information from focus groups with relevant stakeholders;
- Identifying and starting a dialogue with other city stakeholders working on water and wastewater;

¹³ <http://urbanwateragenda2030.eu/>

- Producing a position paper on promoting the re-use of wastewater to be delivered to all relevant EU institutions, Member States, and regions.

Which partners?

Action leader: City of Prato

Participants: City of Prato, City of Maribor, Flanders region, City of Oslo, EUROCITIES

Relevant partners: Europa decentraal

Which timeline?

The action will be carried out during 2018 and 2019.

May 2018 – March 2019:

- Develop a position and input to the on-going legal process, in accordance with the timeframe set up by the Commission;
- Start up the process and carry out interviews and focus groups with relevant stakeholders in order to collect useful information for the definition of the certification standard;
- Promote the action to the relevant decision makers.
- Meet with relevant stakeholders for the definition of the main requirements for the certification standard for the re-use of water;
- Identify relevant bodies to develop a certification standard for the re-use of water.

April 2019: Evaluation of the results of the work carried out by the Partnership.

2.1.3 *Analyse of the regulatory obstacles and drivers for boosting an urban circular bioeconomy*

This action will analyse the regulatory aspects (including potential obstacles and drivers) of the main EU legislations influencing the production of biobased products (e.g. biobased chemicals, plastics, fertilisers, feed ingredients, etc.) from the organic fraction of municipal solid waste (OFMSW) and/or urban wastewater sludge (UWWS).

What is the specific problem?

Cities are geographical and economic areas with a high concentration of biowaste flows; they produce about 1.3 billion tonnes of solid waste annually, of which roughly 50% is organic.¹⁴ On the one hand, urban biowaste poses economic, social and environmental challenges to cities' agendas; e.g. its management is costly and it is still too often landfilled, causing GHG emissions and potential hazards to human health and the environment. Moreover, its recycling (when applied)¹⁵ is generally restricted to a very limited number of products, such as compost and biogas.

¹⁴ World Economic Forum (2017) *Project MainStreaming - Urban Biocycles*.

¹⁵ The percentage of municipal waste recycled (including urban biowaste) is still limited within the EU – with significant difference among Member States and regions: http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Municipal_waste_treatment,_EU-28,_kg_per_capita.png

On the other hand, emerging biobased technologies can help to turn these challenges into opportunities: biowaste and wastewater contain valuable substances that urban waste-based biorefineries can process into innovative biowaste-based products, such as chemicals, plastics, fertilisers, feed ingredients, and so on.

These value chains can have many economic, social and environmental benefits, such as:

- Generating local jobs;
- Improving the sustainability of local waste management schemes (e.g. reducing the landfilling of biowaste);
- Biowaste and wastewater are secondary feedstocks available year-round in significant quantities. They can be used for biorefining. There is a growing demand for new biological feedstocks to supply a variety of uses¹⁴. The innovative and cascading use of biowaste and wastewater as feedstocks for biorefining can reduce the increasing demand for primary feedstock for similar purposes;
- The extraction/production of valuable substances from local biowaste and wastewater - including critical materials like phosphorus¹⁶ - contributes to reduce their imports from outside the EU;
- Supporting industrial symbiosis between the waste and wastewater management sectors and the biobased industries producing chemicals, fertilisers, plastics, feed ingredients, etc.;
- Providing significant local contributions to achieve EU targets in the policy fields of the circular economy, bioeconomy, reindustrialisation, sustainable growth and GHG emissions reduction (e.g. contributing to achieve climate mitigation targets by reducing landfilling and transferring the carbon contained in urban biowaste into new products, keeping it stored), urban-rural cooperation, production of renewable energy, etc.

Nevertheless, as pointed out by experts to the Partnership, some technical, regulatory, financial and social aspects can hinder the development of the value chain producing urban biowaste-based products. For example, among others:

- Some biowaste-based processes are not yet achieving a commercial Technology Readiness Level (TRL)¹⁷ and its upgrade is often costly;
- Further research is needed to assess the presence of hazardous substances in some biowaste-based products;
- Some elements of the EU regulation on waste, chemicals, wastewater, fertilisers and other policy areas are perceived as regulatory obstacles for the production of urban biowaste-based products;
- The policy and political discussion on regulatory obstacles and drivers is still limited;
- The creation of a market for biowaste-based products could, due to their origin, be met with some concerns among consumers;
- There is a significant knowledge gap among urban and regional policy makers on the potentials and challenges of this value chain.

¹⁶ European commission, the 2017 list of Critical Raw Materials for the EU; <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0490&from=EN>

¹⁷ <https://ec.europa.eu/research/participants/portal/desktop/en/support/faqs/fag-2890.html>

How do existing EU policies/legislations/instruments contribute?

The Partnership has identified several EU policies and initiatives that can support the implementation of an urban circular bioeconomy, including:

- The new EU regulation on waste should lead to an increase in the amount of (urban) biowaste available also for biorefining. According to the new Waste Framework Directive, by 31 December 2023 biowaste shall either be separated and recycled at the source or collected separately. The Directive also aims at reducing landfilling and promotes the use of materials produced from biowaste¹⁸;
- The new Bioeconomy Strategy states that cities should become major circular bioeconomy hubs and that circular urban development plans could translate into very significant economic and environmental gains. Moreover, the strategy contains a specific action on urban circular bioeconomy to 'develop urban bioeconomies through piloting circular bioeconomy cities through Horizon Europe';¹⁹
- The Covenant of Mayors for Climate and Energy²⁰ provides EU cities with a political and policy framework to reduce GHG emissions in their waste sectors.

Nonetheless, as mentioned above, the Partnership has identified some EU regulatory areas that can affect the development of this value chain. For example, according to the Nordic Council of Ministers, 'a precondition for a more circular economy is a more efficient use of resources and the utilisation of waste as a resource. However, the existing regulation of waste does not always promote this as its primary aim is to ensure safe waste handling²¹ – innovative biowaste-based technologies should therefore demonstrate to be safe for our health and the environment, while producing/extracting more out of biowaste. Moreover, subsidies for energy uses of biomass do not facilitate the use of urban biowaste for the production of innovative biobased chemicals and materials. Furthermore, the climate mitigation potentials of this value chain are not formally recognised by the EU regulatory framework for climate mitigation, etc.

Which action is needed?

Policy and decision makers should be provided with information on the regulatory aspects for boosting an urban circular bioeconomy in EU cities, with special reference to the production of urban biowaste-based products.²² This action aims at providing an analysis of the main EU legislation influencing the development of the value chain producing innovative biobased products (such as biobased chemicals, fertilisers, plastics, feed ingredients, etc.) from biowaste and wastewater. The outcomes of this analysis will be shared with the European Commission towards improving existing legislation in this policy area.

¹⁸ http://ec.europa.eu/environment/circular-economy/index_en.htm

¹⁹ <https://ec.europa.eu/research/bioeconomy/index.cfm?pg=policy&lib=strategy>, p.76

²⁰ http://www.covenantofmayors.eu/about/covenant-of-mayors_en.html

²¹ Nordi Council of Ministers (2017) *Barriers for utilisation of biowaste, Analysis of institutional barriers for using biowaste as a resource*, p.5.

²² The technical, financial and social obstacles mentioned above are tackled by other initiatives, such as the Horizon 2020 and BBI JU projects [EMBRACED](#), [PERCAL](#), [RES URBIS](#) and [URBIOFIN](#).

Which partners?

Action leader: City of Oslo

Participants: DG RTD, City of Porto, Finland and Greece

Relevant partners: Europa decentraal

Which timeline?

During the first half of 2018, the Partnership launched a survey on EU regulatory obstacles and drivers for the production of urban biowaste-based products. The survey addressed experts from cities, industries and academia. In May 2018, and in cooperation with other stakeholders, the Partnership organised a workshop discussing the main potentials and challenges to boost an urban circular bioeconomy.²³ The responses to the survey and the outcome of the workshop provided the basis for a survey report to be delivered by the beginning of 2019.

2.2 Better Funding

The Urban Agenda for the EU will contribute to identifying, supporting, integrating and improving traditional, innovative and user-friendly sources of funding for Urban Areas at the relevant institutional level, including those from European Structural and Investment Funds (ESIF) (in accordance with the legal and institutional structures already in place) in view of achieving the effective implementation of interventions in urban areas. The Urban Agenda will not create new or increased EU funding aimed at higher allocations for Urban Authorities. However, it will draw from and convey lessons learned on how to improve funding opportunities for Urban Authorities across all EU policies and instruments, including Cohesion Policy.

2.2.1 *Prepare a Circular City Funding Guide to assist cities in accessing funding for circular economy projects*

The guide to be developed under this action is intended to help cities identify and access suitable sources of funding and financing for their own circular projects as well as for projects promoted by private and public entities in their territories. The guide will also build knowledge on how to design and set up effective funding schemes for circular city projects, taking into consideration their varying types, sizes and risk profiles.

What is the specific problem?

Cities can promote the circular economy by implementing their own projects but also by supporting projects promoted by other public and private promoters inside their territories. In either of these two cases, cities may be in need of external sources of funding and financing to complement their increasingly limited budgetary sources. Besides **lacking awareness of the existing sources of funding and financing for circular economy investments** and the conditions for accessing

²³ <https://ec.europa.eu/futurium/en/circular-economy/road-urban-bioeconomy-barriers-and-solutions-closing-loop-bio-resources>

and/or blending them, cities and funding institutions often **lack the knowledge** on how to assess, design and set up funding programmes and/or schemes for circular economy projects.

Circular developments in cities comprise projects of varying types and scale, involving both public and private promoters. With regards to public promoters, projects may face financing gaps due to constrained municipal public budgets and limited credit lines from public and commercial banks. In the case of private promoters, circular businesses and projects are often small and/or carry other risks that are not acceptable to commercial banks. Such risks can be related to (i) small promoters with limited collateral or few physical assets as loan security; (ii) innovative and not yet fully commercially proven technologies with associated construction and operating risks; and (iii) transitions to new and unproven business models with associated commercial and market risks.

Furthermore, there are obstacles and structural barriers that complicate the blending of public and private financing and of loan financing and grants. There are also obstacles to accessing micro financing and to integrating grants and other subsidies from different sources or funds that target different themes or focus areas. Addressing these barriers and obstacles would improve the often much needed funding for circular projects in cities.

Local authorities, in their capacity of funder, as well as other funders, e.g. commercial banks and private investors, may also have difficulties relating to the circular economy concept and the particularities of circular projects in cities, something that limits their understanding of the needs and opportunities, and their willingness to provide funding or financing for such projects.

In light of this, there is **a need to increase the visibility and understanding of the different sources of grant funding and loan financing available** for projects that support the transition towards the circular economy in cities, and to enable funders to better relate and respond to such funding needs and opportunities.

How do existing EU policies/legislations/instruments contribute?

In the context of the EU Circular Economy package²⁴, reference is made to financial support from the EU for the transition to a circular economy via ESIF funding, including €5.5 billion from structural funds for waste management and investments into the circular economy at the national level. Moreover, €940 million are allocated under the Work Programme 2018-2020 of Horizon 2020, the EU framework programme for research and innovation, under the Focus Area "Connecting economic and environmental gains – the Circular Economy". Funding for circular projects is also available under the Urban Innovative Actions, LIFE, URBACT and Interreg Europe programmes.

With regards to the €5.5 billion of investment aid for projects in the solid waste sector, parts of these funds are being used to support investments promoting waste minimisation and enabling circular waste management practices such as sorting, recycling and the composting of materials and biowaste. However, the focus is on (household) waste management and not on the circular economy, and a large portion of these funds can be expected to be dedicated to major infrastructure projects aiming at the safe treatment and disposal of residual household wastes that are not directly contributing to the circular economy (particularly so in newer Member States).

²⁴ http://ec.europa.eu/environment/circular-economy/index_en.htm

Of relevance in this context are also the ESIF funds (2014-2020), which are potentially accessible for circular economy projects and businesses under the different national and regional operational programmes dedicated to:

- (i) Thematic objective 1, “strengthening research, technological development and innovation – RTDI” (with over €60 billion in total funds available in the current programming period 2014 – 2020, of which over €40 billion from the EU);
- (ii) Thematic objective 3 “enhancing the competitiveness of SMEs” (with over € 90 billion in total funds available in the current programming period 2014 – 2020 of which over €60 billion from the EU);
- (iii) Other thematic objectives including thematic objective 4 (“supporting the shift to a low carbon economy in all sectors”).

While there are no investment priorities under these thematic objectives dedicated to the circular economy, part of the mentioned funds could potentially be accessed by businesses and projects dealing with the circular economy, e.g. by RTDI projects involving circular processes or product innovation, or by start-ups promoting innovative circular business models. It is important to note that, in addition to EU funding, there may be other national and regional sources of funding and financing for circular economy projects that may be considered in the inventory phase.

Finally, it should be noted that the European Investment Bank (EIB) provides funding for circular projects of different kinds and with different risk profiles, as well as advisory services to circular project promoters. EIB also provides advisory support to urban authorities. An example of this is the European Investment Advisory Hub - URBIS²⁵, which is a new dedicated urban investment advisory platform. This will be elaborated further in the guide, explained in the following section.

Which action is needed?

This action comprises the **preparation of a guide to funding and financing sources for circular initiatives and projects in cities**. The guide will consider the needs for funding and financing of not only project implementation, but also technical assistance and capacity building. The technical assistance may involve both preparation of circular strategies and/or plans and the preparation of project pipelines and individual projects. The guide will target both fund seekers and funders and, to the extent justified, also other stakeholders at the national, regional or local level with a role in facilitating and supporting circular project developments.

As a first step, an assessment and summary of circular city funding/financing needs will be made. In parallel, an inventory of existing guides and resources on circular funding and financing will be carried out, with a particular focus on city contexts and needs. With this as the basis, available sources and channels for such funding and financing, and their respective relevance and applicability for the identified circular city’s needs, will be identified and compiled.

The guide will both introduce and provide links to existing guides and resources on circular city funding and financing, and present new, complementary, guidance on circular economy funding and financing sources for technical assistance and public and private investments in circular city

²⁵ http://europa.eu/rapid/press-release_IP-17-4941_en.htm

projects. The guide should be comprehensive yet concise and accessible, with a user friendly and easily updatable format. Efforts will be made to facilitate navigation according to status as fund-seeker or funder, and reflecting the type of promoter, project, etc.

The guide will include information on eligibility criteria and application procedures for different circular city funding and financing sources, to support fund seekers. The guide will also consider the needs of cities with limited prior circular insight or experience, supplying information on technical and financial advisory providers.

To facilitate the assessment of circular projects in different funding and financing institutions, the guide will also provide support aimed at facilitating project assessments and funding and financing decisions. This may, for example, comprise circular economy project characteristics, definitions of circular project screening and bankability criteria, and performance or monitoring indicators.

The guide will also provide additional recommendations on how to remove barriers for e.g. blending of public and private financing and of loan financing and grants, and facilitating access to micro financing. Measures facilitating a transition towards more integrated funding of circular projects in cities will be identified, also considering ways to remove barriers to co-funding more than one focus area or theme in addition to circular aspects (e.g. climate).

The guidance provided will be practical and implementation-oriented, using case studies and showcasing best practice funding and financing solutions where applicable.

The work under this action will be carried out in consideration of the work done under another Partnership action aimed at mainstreaming circular economy as an eligible area in the future European Structural and Investment Fund programme 2021 – 2027 as well as the action aimed at enhancing the knowledge base on the development of the circular economy in cities (Circular City Portal). This will avoid overlaps and ensure that potential synergies are fully exploited.

In order to increase its visibility, the guide produced under this action will be incorporated into and disseminated together with the Circular City Portal proposed in a separate action by the Partnership, as well as through other appropriate channels.

How to implement the action?

The guide will be implemented in the form of a website, with preparation carried out in two phases. The first phase will comprise desk research, interviews with stakeholders, data and information collection and the preparation of new content for the guide in line with the agreed structure and scope. This phase will also include the preparation of an interactive PDF prototype of the guide that will serve as a basis for discussions with stakeholders. The second phase will comprise development and implementation of the website, including migration to a suitable web host.

Which partners?

This action will be implemented by a core group comprising the following Partnership members:

Action leader: European Investment Bank (EIB)

Participants: Flanders region, Slovenia, ACR+, DG RTD, DG REGIO, DG ENV

Which timeline?

The work on this action will start as soon as possible after the Draft Action Plan of the Partnership is published at the end of January 2018. The work will be planned with a goal to have a first version of the guide ready by mid-2019.

2.2.2 Mainstreaming the circular economy as an eligible area into the post 2020 Cohesion Policy and corresponding Funds

The shift towards a circular economy is expected to begin in urban areas where the economic, social and territorial impact is greater and the conditions for integrated interventions are met. Therefore, it is necessary for the European Union's Cohesion Policy to mainstream the circular economy, in order to provide the required impetus through the European Structural and Investment Funds. Provisions should be introduced in the relative post-2020 regulatory framework to ensure that the ESIF programmes contribute substantially and in a sustainable way to the transition towards a circular economy.

What is the specific problem?

The regulatory framework governing the European Structural and Investment Funds (ESIF) in the current programming period (2014-2020) **does not explicitly support the shift towards a Circular Economy** (at least at the urban level). Minor exceptions to this are some funding means such as the Urban Innovative Actions (UIA) and the URBACT under the European Territorial Cooperation goal, that may occasionally use the circular economy as a topic for funding. However, the funding provided for circular economy-related actions under these programmes is relatively limited and insufficient to create the needed impetus for the implementation of such a policy priority.

In this context, supporting the shift towards a circular economy in cities requires specific and clear references in the regulatory framework to the eligibility of the relevant actions and/or operations. Therefore, provisions should be foreseen in the Cohesion Policy post-2020 to ensure that the ESIF programmes contribute substantially and consistently to the transition towards a circular economy in the urban areas of the EU.

How do existing EU policies/legislations/instruments contribute?

The ESIF regulatory framework provides all the options and opportunities for the effective and efficient implementation of innovative and sustainable projects and/or investments aiming at social, economic and territorial cohesion in the EU. This framework appears to be appropriate to enable the shift towards a circular economy at the EU level due to the magnitude of the financial resources that could be invested to such projects in the context of Cohesion Policy, but also due to the leveraging possibilities and the financial and legal certainty that the framework provides.

The current ESIF regulatory framework does not make a distinct reference to the circular economy as one of the eligible areas for funding, neither at the level of thematic objectives nor at the level of investment priorities (or anywhere else). Nevertheless, such relevant actions could be implemented through ESIF-funded actions under a broader scope or related content (e.g. "eco-innovation" in

investment priority 1b of ERDF, integrated territorial tools such as the Integrated Sustainable Urban Development, Integrated Territorial Investments and Community Led Local Development).

However, a clear reference and focus on the circular economy (at the urban level) in the ESIF regulatory framework could decisively boost related investments, which would in turn contribute to the achievement of Cohesion Policy objectives i.e. social, economic and territorial cohesion, as well as other EU goals, ultimately contributing to investments with high EU value added.

Which action is needed?

A detailed set of legislative options and complementary alternative recommendations is proposed to be elaborated and submitted under this action that could be useful to the Commission services in charge of planning the European Cohesion Policy post 2020 and preparing the relevant regulations. Moreover, it is proposed to communicate the results and recommendations of this action to all the European institutions (European Parliament, Council, EESC, CoR). This requires the cooperation and synergy with all relevant stakeholders sharing common interests for promoting the proposed concepts and options for this action. Finally, it would be recommended to participate and/or organise coordinated events for the dissemination of the results and proposals, and raising awareness among a wider group of stakeholders (e.g. metropolitan cities, cities networks, etc.).

More specifically, it is proposed to provide **appropriate amendments and complementary options** to the current regulatory framework governing ESIF with references and provisions promoting a circular economy in urban areas. In particular, it is necessary to clearly provide for the eligibility of funding actions that support the shift towards a circular economy (including the collaborative e.g. sharing economy) for a more inclusive and sustainable growth.

As a first reflection and based on the rationale of the ESIF regulations for the 2014-2020 programming period, the eligibility of circular economy actions post 2020 could be ensured in the following ways:

- *Top-down approach*: Broadening the eligibilities set by the regulations, alternatively by: a) adding a new thematic objective for the circular economy; or b) incorporating circular economy in an existing thematic objective (e.g. TO 6), adding a clear reference to the circular economy; or c) adding new investment priorities with reference to the circular economy to the Thematic Objectives 2 (“enhancing access to, and use and quality of ICT”), 6 (“preserving and protecting the environment and promoting resource efficiency”) and 9 (“promoting social inclusion, combating poverty and any descriptions”); or d) enriching the description of the existing investment priorities with clear references to the circular economy.
- *Bottom-up approach*: Introducing circular economy and related actions to instruments and strategies for economic, social and territorial development funded by ESIF, such as the Research and Innovation Strategies for Smart Specialisation, Sustainable Urban Development Strategies, etc.

How to implement the action?

The action will be implemented “in-house” by the action leader and the other members of the action group, utilising their substantial knowledge and experience of EU Cohesion Policy, regional/urban strategy, development issues and environmental policy, as well as planning and management matters. More specifically, the following tasks are proposed to be elaborated within this action by the action members:

- Mapping of existing funding opportunities for circular economy actions (at the urban level). This includes a critical review and analysis of what aspects/actions of a circular economy can be financed under the current investment priorities of the ESIF;
- Recording of the funding needs for circular economy actions;
- Identification of the gaps to be covered;
- Identification of the EU funding sources/instruments relating to post 2020 Cohesion Policy;
- Proposals to feed in the post 2020 Cohesion Policy regulatory framework;
- Promotion of the results/proposals to the European institutions and all involved stakeholders.

Which partners?

Action leader: Greece (Ministry of Economy & Development)

Participants: DG REGIO, CEMR, EIB, OVAM (Flanders region)

Which timeline?

#	Tasks	Duration	Deliverables
1	Mapping of existing funding opportunities	2 weeks (05/02-16/02/2018)	Current situation (at the end of task 3)
2	Recording the funding needs	2 weeks (12/02-23/02/2018)	
3	GAP analysis	2 weeks (19/02-02/03/2018)	
4	Funding sources/instruments post 2020	4 weeks (26/02-23/03/2018)	Regulatory proposals (at the end of task 5)
5	Proposals to feed in the regulatory framework post 2020	4 weeks (05/03-30/03/2018)	
6	Promoting the results/proposals	4 weeks (02/04-27/04/2018)	Dissemination material

2.3 Better Knowledge

The Urban Agenda for the EU will contribute to enhancing the knowledge base on urban issues and the exchange of best practices and knowledge. Reliable data is important for portraying the diversity of structures and tasks of Urban Authorities, for evidence-based urban policy making, as well as for providing tailor-made solutions to major challenges. Knowledge on how Urban Areas evolve is fragmented and successful experiences can be better exploited. Initiatives taken in this

context will be in accordance with the relevant EU legislation on data protection, the re-use of public sector information, and the promotion of big, linked and open data.²⁶

For all knowledge-related actions the Partnership will try to establish a link with the Strategic Research and Innovation Agenda on Innovating Cities lead by DG RTD.

2.3.1 Prepare a blueprint for a Circular City Portal

With this action we would like to (i) consolidate, compile and guide cities to relevant information and resources freely available on the development of the circular economy in cities and (ii) promote the further development, dissemination and sharing of new information and know-how on the subject with a focus on practical implementation issues. The main aim of the action is to contribute to the creation of an openly shared knowledge basis that would inspire and guide cities in their journey towards a circular economy.

What is the specific problem?

At present, most cities still view the circular economy from the perspective of waste management. Over the past couple of decades, many EU cities have acquired vast experience with the development and implementation of waste management strategies and plans that contribute to the development of a circular economy (e.g. on waste prevention, material recycling, bio-waste digestion and composting). Beyond waste management, some cities have started experimenting with individual circular economy initiatives focused on re-use and sharing strategies, but such projects remain the exception rather than the rule.

The vast amount of cities in the EU currently **lack a holistic and comprehensive strategy, plan or roadmap** for the circular economy that goes beyond the utility and waste management sector. Only a very small number of European cities have fully embarked on the transition to a circular economy and developed such detailed visions, strategies and roadmaps. When it comes to implementation however, even front-runner cities find themselves in the initial phase of learning, experimenting and discovery. Initial consultations within the Partnership and with several cities have shown that the main obstacles for cities are:

- The circular economy is not yet mainstreamed in existing strategies, and a clear vision is missing (this is the case for most cities);
- A lack of support from the political level;
- Insufficient understanding and a (shared) knowledge basis;
- Silo thinking within the city administration;
- A lack of dedicated resources for the promotion of a circular economy (e.g. insufficient funding, staff);
- The tax system and specific sector legislation are often seen as critical barriers.

²⁶ Urban Agenda for the EU – Pact of Amsterdam, Article 5.2

The most important limitation in many cases is the **lack of understanding and knowledge of the circular economy and its business models**. Additionally, many cities lack the adequate institutional capacities and governance strategies, methods and tools, required to lead an inclusive, multi-stakeholder process involving the public and private sectors, as well as citizens/consumers, towards the outline of said visions, strategies and roadmaps towards a truly circular city. Working towards the circular economy is a creative process, requiring a lot of networking, connecting practices and knowledge. While there is a vast amount of literature dealing with the barriers and obstacles for the circular economy and the possible actions needed to overcome these, only very few sources are focusing on the specific needs of cities. Strategic approaches, individual roadmaps, and projects promoted by front-runner cities that have initiated the transition to a circular economy are presented on different websites and can serve to inspire other cities, however the available information is often not intended to guide cities that have not yet embarked on such a journey.

In addition to the specific problems for the cities described above, a **knowledge gap is encountered** between the European Commission and Member States on the one side and cities on the other side. For the moment, proper guidelines on how to implement the circular economy at the city level is lacking.

How do existing EU policies/legislations/instruments contribute?

Through its web portal dedicated to cities²⁷, the European Commission is already providing a lot of relevant information for cities in the circular economy (amongst other priority themes), which features links to relevant EU strategies and policies, funding opportunities and advice, as well as to networking points. In October 2017, the Commission and the European Economic and Social Committee launched the European Circular Economy Stakeholder Platform.²⁸ Dedicated to all stakeholders involved in the circular economy process, the Platform aims to act as a network of networks. However, no specific entrance for cities was foreseen in this platform. In the interviews carried out in preparation for this action, cities pointed out the need for more practical guidance to further support circular developments in their city.

After the public consultation and meetings with the Commission and the European Economic and Social Committee, a first step was taken to adjust the Stakeholder Platform so that cities can search specifically for good practices of local authorities. This is a good first step, and the following steps of this action will entail organising a workshop to gain input from the cities themselves, with the objective of improving the Stakeholder Platform towards better meeting urban needs.

Finally, in the context of the EU One Stop Shop for Cities²⁹ and in support of the ambitions defined in the Urban Agenda, the European Commission and the European Investment Bank have recently launched URBIS, a new dedicated urban investment advisory platform within the European

²⁷ https://ec.europa.eu/info/eu-regional-and-urban-development/topics/cities_en

²⁸ <http://circulareconomy.europa.eu/platform/en/about>

²⁹ https://ec.europa.eu/info/eu-regional-and-urban-development/topics/cities-and-urban-development/priority-themes/circular-economy-cities_en

Investment Advisory Hub (EIAH). URBIS has been developed to provide advisory support to urban authorities to facilitate, accelerate and unlock urban investment projects, programmes and platforms in various fields including the circular economy.

Which action is needed?

The members of the Partnership are proposing a **Circular City Portal**, with the objectives of:

- Guiding cities to innovative ways of governance which can help in the implementation of a long term circular strategy. This can be in the form of an ‘easy starting kit to circular economy’;
- Searching for partners who can bring cities together to exchange experiences and to learn from each other. This can involve existing city networks but also educational institutes who, for instance, wish to set up a circular academy. This action answers to the need of cities to meet in person with other cities, a need arising from the stakeholder workshops organised as part of the action and arising from the public feedback;
- The circular city portal will also have an online pillar. This will not result in an altogether new platform, but in cooperation with the Commission and the European Economic and Social Committee the action group will enter dialogue with cities in order to optimise the existing European Circular Economy Stakeholder Platform to better match urban needs.

In this way, the online platform:

- (i) serves as a central point of access for information, dedicated to the promotion of the circular economy in cities, that is freely available from various sources including institutional websites and platforms in the public space, thus allowing interested cities and other stakeholders an easier and quicker access and navigation to the relevant information and tools they need;
- (ii) promotes the further development, dissemination and sharing of new bespoke information, tools and know-how, by and among cities with the aim to contribute to the creation of an openly shared knowledge basis that would inspire and guide cities in their journey towards a circular economy.

The Circular City Portal should focus on providing **practical implementation oriented “do-it-yourself” guidance**, based on case studies of best practices from across the EU, on various aspects of circular city developments covering e.g. policy/strategy development, project preparation and implementation, monitoring and evaluation, public awareness raising and stakeholder involvement, access to funding/financing, and so on.

For this online portal the contribution of the Partnership (in cooperation with the European Commission, the European Economic and Social Committee, the cities and other relevant stakeholders) will be to draw up a **blueprint for the Circular City Portal**. The blueprint shall be based on a thorough assessment of concrete needs experienced by cities in terms of information and knowledge, including but not limited to the following preliminary list of topics identified by the Partnership:

- Development of circular economy strategies and roadmaps, circular business models and value chains (i.e. for food and biowastes, for building and construction materials/wastes, etc.) with mapping of key success factors, obstacles/barriers for implementation and mitigating actions;
- Strategic governance options/tools/levers of change focusing on policy/strategy development, spatial planning, multi-stakeholder coordination/cooperation processes, permitting/licensing, economic incentives/disincentives, public awareness and education;
- Stakeholder mapping and analysis tools;
- City metabolism/resource flow scan/inventory;
- Circular city metrics/indicators and metering/monitoring systems;
- Circular procurement guidelines;
- Circular funding/financing and advice;
- Circular training guidelines with map of existing resources/tools;
- Social (behavioral) side of a transition towards the circular economy (i.e. how citizens will be involved in the transition process, how to communicate and reach out to the citizens).

How to implement this action?

- Q2 2018: uploading strategies and good examples (learning by doing) by the Partnership and stakeholders;

- Q2 2018: organising a workshop with stakeholders (cities etc.);

- Q2 2018/Q1 2019: preparing a (offline) framework guidance for circular city governance, including innovative ways of governance to encourage or implement the circular economy in cities;

Q1 2019: finishing the blueprint for improving the existing stakeholder platform, so that the urban dimension of the circular economy can become more visible;

- Q1 2019: set up a meeting with the coordination group and secretariat of the website to discuss the blueprint.

Which partners?

Action leader: Joint Partnership responsibility

Participants: (Flanders region), Slovenia, EIB, URBACT, CEMR, ACR+, EUROCITIES, City of Oslo, DG REGIO, DG ENV, Poland, Greece, City of Kaunas

What timeline?

The preparatory work will start in early 2018, following the adoption of the Draft Action Plan of the Partnership. The work on developing a first proposal for the blueprint of the Circular City Portal will be carried out in 2018, with further development and implementation by the custodian in 2019.

2.3.2 Promote Urban Resource Centres for waste prevention, re-use and recycling

This action aims to facilitate the establishment of so-called “Urban Resources Centres” - physical centres that enable sustainable consumption within a city, provide education on waste prevention measures, and facilitate re-use, repair and recycling. This will be done through investigating the potential of these centres and share knowledge through a network of centres and enable peer-to-peer exchange. Part of the implementation of the action, will also be to address alternatives for funding and financing of the Urban Resource Centres.

What is the specific problem?

To enable the transition to a circular economy in cities, a much stronger focus needs to be put on the role of waste prevention, re-use and recycling with regards to local waste management. In addition, the city needs to play an active part in facilitating for more circular consumption activities.

Central to the theme of circular economy is sustainable consumption and waste prevention. The choices made by citizens in their everyday life could either support or hamper cities transition to a more circular economy. Cities are in a position to help, motivate, nudge or push their citizens in the right direction. Therefore, **cities should facilitate for citizens so it is easier to reduce waste and develop more sustainable consumption patterns**. However, initial consultation with the Partnership and several other cities show that the social and behavioural side of a transition towards the circular economy and how citizens will be involved in the transition process is still not adequately addressed at a local level.

The waste hierarchy puts waste prevention at the top of the priorities that public authorities should follow with regards to waste management policy. Yet even though waste prevention principally is to be prioritised, it is rarely an integral part of local waste management.



Figure 4: The European waste management hierarchy

There have been several efforts to ensure a stronger focus on waste prevention. This includes a specific requirement in the Waste Framework Directive for Member States to have national waste

prevention programmes. However, the national prevention strategies published so far rarely appoint specific tasks to specific actors. Research¹ shows that local waste managers are rarely mentioned in these programmes as responsible or relevant actors. By the same token, **local waste management authorities are rarely obliged to integrate waste prevention into the local waste management plans.**

At the same time, there is little knowledge among consumers and citizens when it comes to waste prevention and sustainable consumption, and how people can avoid generating waste in their own daily life. The information and knowledge related to repair and re-use services in the city is limited and so is the overview of existing initiatives and services. In order for people to use circular services and products, it needs to be convenient and accessible. Consumer information needs to be contextualised, and the information needs to be where the citizens/consumers make their choices.

Today, many cities miss designated facilities that support and promote waste prevention, re-use and repair activities. There are large recycling facilities for bulky waste, but these facilities do not necessarily promote waste prevention or re-use. Through this action, the Partnership seeks to use the tools of innovation and co-creation to facilitate for physical centres available to the citizens, where waste prevention, re-use and repair will be put in focus and the priority of the waste hierarchy is implemented at a local level.

How do existing EU policies/legislations/instruments contribute?

The *Roadmap to a Resource Efficient Europe* (COM(2011) 571) states that a higher priority needs to be given to re-use and recycling and incentives for waste prevention and recycling have to be created. In particular, the Roadmap includes the reduction of waste generation as an "aspirational target" for waste management, which has to be achieved by 2020. It is also stated that Member States should ensure full implementation of the EU waste acquis including minimum targets through their national waste prevention and management strategies. However, as stated above, these strategies are rarely implemented on city level. Also, the focus is often on the waste management strategies and not the waste prevention strategies.

The *7th Environment Action Programme* 'Living well, within the limits of our planet' also highlights the importance of waste prevention, indicating the considerable potential for improving waste prevention and management in the Union to make better use of resources, open up new markets, create new jobs and reduce dependence on imports of raw materials, while having lower impacts on the environment. To achieve that aim, market-based instruments and other measures that privilege prevention, recycling and re-use should be applied much more systematically throughout the Union.

In the revision of the European *Waste Framework Directive* in 2008 (COM(2008)98), one of the changes concerned a stronger focus on waste prevention. A specific outcome of the amendment of the Directive was an obligation for the Member States to develop national waste prevention

strategies. Since waste prevention can occur in all phases of the value chain, it is beneficial to develop overall national strategies. However, from a city perspective these waste prevention programmes are rarely integrated into the local waste management plans in cities with concrete measures.

The *Circular Economy Package* from the EU Commission also contains adopted changes in the Waste Framework Directive to address waste prevention. Among other things, there is a focus to reinforce implementation of the waste hierarchy through economic instruments and additional measures for Member States to prevent waste generation. More specifically, the European Plastic Strategy in a Circular Economy emphasises the importance of waste prevention and management as an important factor in keeping plastics out of the oceans. Still, it will take time to see what will be the specific outcome of these adapted changes and how it will affect cities work with waste prevention and re-use.

Which action is needed?

Cities need **a designated multifunctional place** where waste prevention, re-pair and re-use would be both promoted and exercised in practical terms. The action is to facilitate the establishment of so-called Urban Resource Centres in European cities, where a specific focus is put on preventing waste and facilitating re-use. As mentioned above, there is still a need to put a stronger focus on waste prevention and a correct implementation of the waste hierarchy at city level. To make this happen, the Partnership proposes to facilitate for the establishment of Urban resource centres.

Cities can provide physical spaces in the city centre that are easy to access for the public. Urban Resource Centres bring together a wide community of stakeholders into a disruptive space, combining opportunities to co-create and prototype new products or artistic creations using wastes, access to educational training on new and lost skills in circular economy, entrepreneurship, mobile interpretation centre, community engagement, in order to find alternatives for key waste streams generated at a municipal/ inter-municipal / regional level. The Partnership aims to facilitate the establishment of these kinds of centres in European cities, through acquiring more knowledge on the impact and different functions of these centres. The Partnership will seek to identify barriers in the establishment and operation of these centres with regards to funding, regulation and knowledge and raise these issues on a European level.

Studies show that there are several already established centres. They differ in characteristics and concepts, and also organisational form, funding sources and visions. The Partnership has identified three different functions for these Resource Centres:

1. **Education/communication/awareness raising**

Creating a meeting space for stakeholders, businesses and the citizens where they can come to learn and get information about sustainable living, waste prevention, existing initiatives etc. Such Centres can also showcase good practices and role models, and invite stakeholders and initiatives to share their knowledge.

2. Social economy and social cohesion

Involve NGOs and businesses working with marginalised groups to ensure that the Centres also give back to the local community. Collaboration with social entrepreneurs and non-profit organizations that incentivise local job creation and inclusion of these marginalized groups can also be emphasised.

3. Economic activity/ecosystem/incentives

The Centres can also work as an incubator, collaborating with local companies to develop sustainable and circular business models that promote waste prevention and that can fuel economic activity in the area. The Centres can also be formed as small recycling stations, where people can bring things they no longer need or that are broken. These Centres need to be cross-sectorial and interdisciplinary, working to build down the silo's both within public administration but also increase the interaction between private and public sector.

The Urban Resource Centres address three different dimensions of the circular economy: social, economic and environmental:

SOCIAL	ECONOMIC	ENVIRONMENTAL
<p><i>Jobs creation</i> (new and lost skills) – industry (SMEs) are increasingly demanding new and lost skills and partnerships on product design, production processes and waste recovery alternatives. This enables job creation, and potentially also the reintegration of marginalized people outside the labour market.</p>	<p><i>Transformation of industrial sectors</i> – Although this trend is still in its infancy in some industrial sectors, in others the transformation to the circular economy is already well under way;</p>	<p><i>Waste prevention</i> – as the first step of waste hierarchy, that goes from prevention, preparation for re-use, recycling and energy recovery through to disposal;</p>
<p><i>Engaging community on responsible consumption and disposal</i> – changing consumer behaviour and stimulate re-use and repair to avoid wastage. Involve marginalized groups in the work and create a platform for knowledge sharing and education for both marginalized groups and also children.</p>	<p><i>Entrepreneurship and New business models</i> – emerging industries and services are rising from the circular economy, Start-ups need support to grow up ideas, business and for a fast market uptake of their solutions</p>	<p><i>Waste management</i> - From waste to resources – When it is not possible to prevent waste, the RC seeks to provide integrated and innovative solutions for waste streams which are not properly managed</p>
<p><i>Increase of life quality</i> – better and friendlier solutions for waste prevention, re-use and recycling. Also re-use and second-hand goods give people from low-income households the ability to maintain good living standards at</p>	<p><i>Co-creation in circular economy</i>: users together with researchers, technologist and artists to develop disruptive solutions and create their own ideas. Develop and enable initiatives supporting a collaborative economy which</p>	<p><i>Boosting the market for secondary raw materials</i> – The creation of alternative and appealing solutions for the different resources boosts the market towards such solutions;</p>

affordable prices.	encourage switching from providing goods to services.	
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Figure 5 Three dimensions of the circular economy addressed by the Urban Resources Centres

There are three main steps/phases in this action:

Phase 1– Research/Classification

1. Conduct a classification study
2. Deliver a final report with further recommendations with regards to the establishment and organisation of “Urban Resource Centres”
3. Disseminate findings from classification

Phase 2 - Enabling knowledge exchange platforms

4. Enable a city network for Urban resource centres
5. Enable Peer-to-Peer exchanges

Phase 3 – Ensure a sustainable organisation of European Resource Centres

6. Address financial and legislative barriers identified
7. Assess different business models to ensure a sustainable organisation Urban Resource Centres
8. Ensure a permanent and sustainable organisation of the knowledge exchange platform

Phase 1 – Research/Classification

There are different centres located all over Europe addressing recycling, re-use, repair and waste prevention in different ways. The first phase concerns assessing the impact of already established centres and through a **classification of the centres**, review critical success factors and transferrable qualities.

Phase 2 – Enabling knowledge exchange platforms

The Partnership and the working group dedicated to this action will facilitate the establishment of Urban Resource Centres through the collection of knowledge and best practices. This will include **collecting experience from existing centres** and organise relevant stakeholders in a **City network** dedicated to facilitate for the establishment of these centres and also enable peer-to-peer exchange. However, there are many already established network dedicated to issues of circular economy, re-use and sustainable resource management. Therefore, the Partnership will also assess whether there are already established networks or structures that could facilitate this knowledge exchange platform.

Phase 3 – Ensure a sustainable organisation of European Resource Centres

The network would investigate funding opportunities; this can include both the development of a business model that would ensure financing of the centres or building of an overview of other options available for funding. The network would also work to develop a **guidance document** for cities to help establish the centres and work to highlight barriers and challenges on an EU level. The experiences collected in the network could be put forward as **recommendations to strengthen the regulatory framework on waste prevention from a city perspective**. The network will also provide the interested cities with the opportunity to participate in peer-to-peer programmes with other experienced cities.

Through this action we hope to establish structures and systems that help cities establish Urban Resource Centres. We believe that through these centres, cities are able to use their physical space to put focus on waste prevention, re-use and resource efficiency in collaboration with both citizens and the private sector.

How to implement the action?

In the period until October 2018 the working group will focus on the classification: collecting cases, conducting interviews and write a report based on the findings from the classification. There will be continuous dialogue with relevant stakeholders concerning the establishment of a knowledge exchange platform, and how to best organize this platform. In October until the end of the Partnership, the focus will be on ensuring a sustainable organization and continuous work with the issues of waste prevention, re-use and recycling, through the promotion of Urban Resource Centres.

Partners

Action leader: City of Oslo

Participants: Greece, CEMR, City of Porto, City of The Hague, ACR+

Relevant partners: RREUSE, Interreg project *SURFACE*, Urban Innovative Action *Circular South*

Timeline

- Phase 1 – Research/ Classification: Will be undertaken in the time from March until October 2018.
- Phase 2 - Enabling knowledge exchange platforms: Will be undertaken in the time from October 2018 until March 2019.
- Phase 3 – Ensure a sustainable organisation and continuous work on the topic: Will be undertaken in the time from March 2019 until December 2019.

2.3.3 Develop a 'Circular Resource Management' Roadmap for cities

Establish a practical roadmap which enables cities to develop an urban resource management plan. In this Roadmap, the three main elements of resource management will be incorporated; a) mapping of resources and resource flows, b) brokerage facilities to bridge the gap between supply and demand; and c) the monitoring of results.

What is the specific problem?

There is widespread support among cities for the transition towards a circular economy. Part of this transition is improved resource efficiency, meaning reduction of the use of virgin resources and increased use of secondary resources. The basic principles of this can be illustrated by the so-called 'value hill' of circular economics.



Figure 6 The 'value hill' of circular economics

Identifying and understanding material stocks and flows within the city is of special interest for a resource efficient circular economy. An important aspect of this is the use of the economic potential of waste materials as a valuable secondary resource for new products. Given their vast knowledge of, and experience with municipal waste management, cities are well equipped to facilitate this for the benefit of local economic activity and employment. However, at present most cities strongly focus on getting the waste out of the city as quickly as possible, and at the lowest possible costs. This also means limited focus on waste prevention and resource management in the post-use phase of the value chain.

At the same time, for most businesses resource efficiency is only an issue at the input side of their processes. At the output side there are end products and waste. The end products represent value and profit, and waste represents costs. The practice of most businesses is to dispose of their waste in the most cost effective way possible. So the challenge is to incentivise businesses to become more aware of their waste streams, the value that it may represent and the potential savings in

costs. In the same way at the input side, the focus is on virgin materials and not on re-use or recycling of secondary materials. As a consequence there is limited demand for these materials, although using them could be the most cost effective business option. So on the input side the challenge would be to boost demand for secondary raw materials.

Supporting and enabling businesses to identify and exploit these opportunities may help to speed up cities' transition towards a circular economy in terms of resource efficiency in the value chain. At the same time a shift from urban waste management to urban resource management would be a logical step for cities to take. This does not mean that waste management will become completely obsolete, but the primary focus will shift to waste as a secondary resource. In order to achieve this, all stakeholders involved need to at least:

- a) Gain more insight into the characteristics of resources and resource flows in the city (quantities, flowrates, owners, involved stakeholders, availability, quality, etc.). In recent years several cities have invested in the mapping of resources. The practical impact in terms of resource efficiency has however been limited. This is partly due to the availability, quality and consistency of data.
- b) Know which tools and measures can be helpful in connecting supply and demand of secondary resources. Most stakeholders are not aware of or familiar with the possibilities to use certain waste materials as secondary resources for their products. As a consequence, markets for secondary resources do not develop. Local authorities are in a position to help create a market environment that is resource efficiency friendly. One way of doing this is through so called resource brokerage facilities for bridging the gaps between supply and demand. Although some examples of this exist across Europe, more knowledge about an effective implementation of brokerage facilities is needed.
- c) Monitor the progress of resource efficiency in the city. At present there is a need to develop indicators and hands on monitoring tools that will provide cities with information about the progress made with regard to resource efficiency.

How do existing EU policies/legislations/instruments contribute?

The Roadmap to a Resource Efficient Europe (COM(2011) 571) and the EU Action Plan for the Circular Economy (COM(2015)614) outline how we can transform Europe's economy into a sustainable one by 2050. It proposes ways to increase resource productivity and decouple economic growth from resource use and its environmental impact. In January 2018 the European Commission adopted a new set of measures, including:

- A Europe-wide EU Strategy for Plastics in the Circular Economy and annex 1 to transform the way plastics and plastics products are designed, produced, used and recycled.
- A communication on options to address the interface between chemical, product and waste legislation 2 that assesses how the rules on waste, products and chemicals relate to each other.

- The introduction of a monitoring framework at EU and national level to monitor the progress toward a circular economy.
- A report that highlights the potential on how to make the use of the 27 critical materials in our economy, more circular.

Different (framework) legislations primarily aim at protecting the environment and human health (Directive EG 1907/2006 [REACH]). Examples of such regulations are the Waste Framework Directive and end of waste criteria (2018/98/EC), the Waste Directive (COM/2015/0595, 2015/0275 (COD)), the Water regulation, the Food waste regulation, the Regulation on Animal Bi-Products etc. This also implies that this legislation does not always fit circular economy objectives.

Which action is needed?

Supporting businesses and local authorities to identify their waste or by-products, diverting them away from the waste streams and using them as secondary resources for new products, will contribute to a more efficient resource management that is economically sound in terms of value creation. This may help speed up a city's transition to a Circular Economy in terms of resource efficiency, lowering environmental impact, and creating new economic activity and jobs. The Partnership has identified that an urban resource management plan could be an important tool to achieve this.

The main objective of this action is to establish terms of reference for setting up an effective system of urban resource management. The main outcome of this action will be a practical roadmap that cities can use to develop urban resource management plans that can be tailored to their individual needs.

In this roadmap the three main elements of resource management will be incorporated:

a) Mapping of resources and resource flows: Availability, accuracy and consistency of data are crucial for the reliability of any system of resource management. Issues like data security and (real time) tracking of resources will also be addressed. Existing systems (like RMIS) will be inventoried and checked for applicability and usability on city level.

b) Brokerage facilities to bridge the gap between supply and demand: A toolbox that will support cities in setting up the appropriate local facilities to better match supply and demand of secondary resources. This toolbox will suggest options that cities can choose from, like for example a functional description of the tasks of a resource broker or infrastructural provisions like intermediate storage facilities or urban resource hubs. The toolbox will also address issues like financial incentives (subsidies and grants, tendering criteria, etc.), legal instruments (like planning permissions) and communication and education.

c) Monitoring of results: The roadmap will provide indicators, tips and tools for monitoring progress in resource efficiency. To develop a monitoring framework on city level, existing

monitoring systems and indicators will be taken into account and checked for usage and compatibility on city level.

How to implement the action?

In phase 1 an inventory of cities (and contact persons) will be made to find exemplary cities to gather experience of their approach in developing and executing one or more elements we envision in the resource management plan. In the second phase detailed research is carried out in a selective number of exemplary cities in order to further deepen the knowledge and experience. In phase 3 and 4 the outcome of phase 1 and 2 will be analyzed and worked out into a draft roadmap for cities to develop their own Resource Management Plan. This draft will be discussed with the interviewees and adapted based on the outcome.

The roadmap will then be disseminated through different channels amongst which the network of the Partnership and platforms like European Circular Economy Stakeholder Platform.

Partners

Responsible action leader: City of The Hague

Participants: City of Oslo, City of Porto, City of Prato, City of Maribor, EIB, Poland, Finland, City of Kaunas, OVAM (Flanders region), CEMR, URBACT

Relevant partners: ACR+, MWE, EUROCITIES, EIB/URBIS

Timeline

- Phase 0: Kick-off: May 2018
- Phase 1: General mapping of existing practices: May 2018 - Sept 2018
- Phase 2: In depth questionnaire of (5-7) best cities/practices: Sept 2018 – Jan 2019
- Phase 3: Analysis: Jan 2019 – Mar 2019
- Phase 4: Synthesis: Mar 2019 - Jul 2019
- Phase 5: Dissemination: Aug 2019 – Dec 2019
- Phase 6: System of maintenance: Dec 2019 ->

2.3.4 Develop a Collaborative Economy Knowledge Pack for cities

A holistic, co-created and up-to-date Knowledge Pack on the Urban Circular Collaborative Economy' is a guide for city officials and other partners and stakeholders. With such a Pack, stakeholders will be able to make the most of the Collaborative Economy's benefits as well as anticipate and mitigate possible negative impacts.

What is the specific problem?

A new economic paradigm is developing, which is underestimated and misunderstood.

Currently the widespread connotation of the Sharing or Collaborative Economy is (even by The

European Financial Review³⁰ and PWC³¹) limited to international centralised digital sharing platforms like AirBNB, Uber and Ebay. “There is no universally accepted definition of the collaborative economy, which is also referred to by a range of synonyms such as the ‘sharing economy’, ‘peer-to-peer economy’ or ‘demand economy’. Most definitions of the ‘collaborative economy’ include some or all of the following elements: online platforms, temporary usage, peer-to-peer (consumer-to-consumer) relations, exchange of goods or services.”³²

However, there is a myriad of sectors with a variety of spectra within the Collaborative Economy. Ranging from for profit to for benefit; from centralised to decentralised; from global to local; and from online to certainly also offline platforms and communities.



Figure 7 The various sectors of the collaborative economy

The Collaborative Economy varies from, and is certainly not limited, to “renting your neighbours’ lawn mower, to sharing energy generation locally and reducing reliance on the grid, to sharing in the purchase and rental of properties with fractional investment schemes.”³³

The Collaborative Economy is a new economic paradigm that is vastly and rapidly developing globally, on European level, on Member State level, on regional and even on a street level. It can be seen as an illustration of a new global ‘zeitgeist’, heralded by a new philosophical movement as

³⁰ <www.europeanfinancialreview.com/?p=17488>

³¹ <www.pwc.co.uk/issues/megatrends/collisions/sharingeconomy/future-of-the-sharing-economy-in-europe-2016.html>

³² COMMISSION STAFF WORKING DOCUMENT: SWD(2016) 184 - European agenda for the collaborative economy - supporting analysis

³³ <<http://www.afr.com/real-estate/smart-homes-blockchain-and-ai-how-tech-will-change-property-in-2018>>

'new modernism' or 'Transmodernism', based on values like environmentalism, neighbourhood life, community building and technological development.³⁴

The Collaborative Economy is the **driving force or vehicle behind many Circular Economy initiatives**, empowering circular consumption and CO2 reduction. It also fosters **social cohesion and social inclusion**. Due to its apparent novelty, complexity, limitlessness and rapid development, the Collaborative Economy and its role and influence on society have become unfathomable for many.

Better knowledge of the Collaborative Economy empowers members of the Partnership, their peers and other stakeholders to competently interact with it, whether to mitigate its negative impacts or facilitating the positive. It is global megatrend that is hitting the world like a wave. The question is where on that wave one wants to be. Being swept away by the wave, ride on top of the wave or co-create the wave?

How do existing EU policies/legislations/instruments contribute?

The EC has funded several studies on the subject, however they are considered **not comprehensive enough and too much focused on the digital platforms:**

- a) DG GROWTH – PWC: 'Assessing the size and presence of the collaborative economy in Europe' (April 2016)³⁵: Non-comprehensive and limited to digital platforms;
- b) DG GROWTH: Communication from the Commission: 'A European agenda for the collaborative economy' (June 2016)³⁶ - Non-comprehensive and limited to digital platforms
- c) DG GROWTH: Collaborative Economy - Website, Factsheet, Memo, Infographics, Video, Workshops, Analytical paper³⁷ - Non-comprehensive and limited to digital platforms
- d) DG CONNECT: The Collective Awareness Platforms for Sustainability and Social Innovation (CAPS)³⁸ - Date passed
- e) DG RTD: Horizon 2020 funding³⁹ - Big priority on Circular Economy: A New round in 2018
- f) DG REGIO: ESPON: Deadline 26 Jan. 2018 - Partnership has submitted a request for funding.

Which action is needed?

A field research followed by a step-by-step approach to fine-tune and disseminate acquired knowledge. By creating a comprehensive Knowledge Pack on the Collaborative Economy with a more holistic and current view of the Collaborative Economy, stakeholders will be able to operate with a thorough understanding of the Collaborative Economy and be able to gain most benefit of it and anticipate on possible negative impacts.

³⁴ <en.wikipedia.org/wiki/Transmodernism>

³⁵ Assessing the size and presence of the collaborative economy in Europe, PWC UK for the European Commission (DG GROW)

³⁶ <http://ec.europa.eu/growth/single-market/services/collaborative-economy_en>

³⁷ <http://ec.europa.eu/growth/single-market/services/collaborative-economy_en>

³⁸ <<https://ec.europa.eu/digital-single-market/en/collective-awareness>>

³⁹ http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html#h2020-work-programmes-2018-20

Collaborating internally amongst DG's and viewing the Collaborative Economy as more than a profit component (GROW) or digital platforms (CONNECT), more social benefit (REGIO) can be attained and the gap between for profit and for benefit can be bridged. Collaborative Economy can thus, indirectly, become **a tool for diagonal collaboration between various departments and current silos.**

Actions

Phase 1: Research

- 1) Stocktaking and assessment of typologies of collaborative circular initiatives across the EU.
- 2) Stocktaking and assessment of typologies of collaborative circular initiatives in about five EU cities.
- 3) Research paper with relevant local, national and EU policies and their impact on aforementioned initiatives.

Phase 2: Disclose and fine-tune findings

- 4) Co-created Collaborative Economy conference where the findings of steps 1, 2 and 3 are presented to a wide audience and where input is gathered for a white paper.
- 5) White paper created in partnerships with stakeholders.

Phase 3: Dissemination & application

- 6) Factsheet, Infographics & Video
- 7) Workshop and webinars for city officials and other stakeholders
- 8) Partner cities apply results in their policy development process

Which partners?

Action Leader: City of The Hague

Action partners: City of Prato, City of Maribor, City of Oslo, City of Porto, Finland, Greece, Flanders region, URBACT, ACR+

Relevant partners: DG ENV, DG GROW, DG CONNECT, ICLEI, Barcelona City Council, EURO-SHE, Europa decentraal, CEPS, EESC, Ouishare, Transition Network, Procomuns, DRIFT, FAB City, LabGov, P2P Foundation, Hofstede Insights, Nesta, ShareNL, EURO-LATAM LEX, CALUP, Shared Cities (SCCM), IAAC, Ideas for Change

Which timeline?

- Before starting: Jan – April 2018
 - a. Create a partnership with +/- 5 cities
 - b. Apply for ESPON
 - c. Start stakeholder dialogue
 - d. Formulate methodology & ToR
 - e. Prepare a cost estimate & raise funding
 - f. Start dialogue with various DG's and other partnerships
- Phase 1: Research (actions 1, 2 & 3): May – Dec 2018

- g. Appoint a research team
- h. Draft a research plan
- i. Execute the research
- Phase 2: Disclose and fine-tune findings (actions 4 & 5): Feb – April 2019
 - j. Set goals and objectives for conference
 - k. Find partners for conference
 - l. Fix data, location and logistics for conference
 - m. Create p.o.a. for and write whitepaper
- Phase 3: Dissemination & application (actions 6, 7 & 8): May – Sept 2019
 - n. Find partners for dissemination
 - o. Create portal for dissemination
 - p. Design communication tools
 - q. Design and organize workshops and webinars
 - r. Application of results in policy at Partner cities' discretion
- After completion: Oct – Dec 2019
 - s. Evaluation and financial administration

2.3.5 *Manage the re-use of buildings and spaces in a circular economy*

The Partnership will define a robust and comprehensive framework to develop and implement solutions for urban circular re-use of space and buildings as a part of a strategy for better urban management and a transition towards circular economy. There is an important potential to reduce the use of land in an urban context. Such actions will also contribute to enhance more attractive, healthy and sustainable urban environments.

What is the specific problem?

The urban re-use of buildings and spaces facilitates the protection of historic urban landscapes, cultural heritage and existing buildings in general. Most of the buildings that will be here in 2050 are already built, and they will need refurbishment and retrofitting in order to achieve carbon reduction targets. Improvements and continuous maintenance of existing buildings are necessary in order to allow circular management and to avoid the creation of waste. Adequate use of the existing building stock is also needed.

Economic crises, financial market instability, de-industrialization and political changes often lead to the collapse of the former intended use of a building and leave buildings and spaces in a city abandoned. Often, the process of redeveloping an abandoned space takes time, leaving central buildings and spaces in a city empty for several years. It could be the high cost of environmental remediation and redevelopment, political opposition and protests against unwanted projects context, the lengthy processes of approving plans and restoration projects, or even due to poor economic interest in certain areas.

"Empty spaces" and abandoned or underused buildings could be: former factories and unused industrial buildings, construction sites, slaughterhouses; former schools and kindergartens, railway

stations, monasteries; abandoned cinemas, theatres, shopping centres, hotels, offices; abandoned buildings owned by public or "public" bodies and companies; public works not completed, incomplete or terminated and never activated; property objects of bankruptcy; closed communal spaces (e.g. neighbourhood offices and other property spaces, etc.); former public housing, barracks; "ghost city", villages, etc.

Temporary use of empty buildings/spaces is a practice in urbanism aiming to revitalize urban areas, especially abandoned and decaying buildings. This aims to protect the landscape and cultural heritage, applying criteria for the maintenance of the territory and restoration of historical and non-historical centres. It is a circular model that goes far beyond the simple enhancement of spaces but is based on knowledge and sustainability. Enabling temporary use of buildings/spaces requires securing the premises used, with "basic" interventions like the removal of debris, a minimum structural consolidation, the installation of fire protection systems, the equipment or the restoration of basic infrastructures. The new inserted functions could need the architectural support for their completion. The quality and cost of architectural interventions are commensurate with the type and duration of temporary re-use of the property and can therefore be divided into different levels.

The main barriers for local authorities for an increased re-use of vacant buildings and spaces are typically related to legislation and knowledge issues. It is a new model in which urban authorities must identify the abandoned / underutilised space or building and create the conditions for temporary re-use or permanent transformation.

Cities need to equip themselves with a real and concrete strategy of urban re-use management of abandoned buildings and spaces, which vary according to each of the types listed above. There are different levels of an urban authority which may set the stage for temporary re-use, such as:

"Level 0" provides the insertion of interior, exterior and temporary exhibits, that are easy to remove, the use of recycled materials or fully recyclable, basic infrastructure and furniture;

"Level 1" provides primary stable infrastructure plant (light, electricity, water, sanitation) in addition to the interior, exterior and temporary exhibits, that are easy to remove and the re-use of waste materials or completely recyclable;

"Level 2" includes in addition to the provision of primary stable infrastructure plant (light, electricity, water, sanitation), the installation of architectural permanent light structures but always structurally independent from the building (Mural facade, site-specific public art projects, mezzanines, spaces "box in the box", container) ⁴⁰.

In this new circular vision of the city, an abandoned building needs to be seen as a resource, and demolishing should be avoided. In this sense innovative forms of urban management at local level

⁴⁰ http://www.temporioso.org/?page_id=1620

are necessary to promote a transition towards a circular city and society, with a particular attention to boost employment, start-ups and new business models.

What is the added value for cities to implement reconversion actions for buildings and empty spaces?

1. Stopping the consumption of land and redevelop urban areas of the city otherwise degraded;
2. To get out of the logic of large public works and enter a new "smart" logic with "low impact" works that re-use space without upsetting the local area, with a focus of investment more on software than hardware;
3. Developing a new model of urban management of a "circular city" in the logic of "urban re-use management"; This include stimulating a circular approach to programming of buildings/land-use, mixed-use development of buildings and neighbourhoods to shorten the flow of natural resources / materials / people and stimulate circularity buildings containing production (urban agriculture) and consumption (restaurant) of food , urban industries upcycling waste streams from neighbourhoods, etc.
4. Boosting employment and the emergence of new start-ups and business models focused on temporary re-use.

The problem of under managed spaces in the contemporary city is increasingly discussed, investigated and analysed, yet the term lacks conceptual clarity and definition. Furthermore, the functional aspects, the morphology and the opportunities of these spaces have not been clearly articulated. If lost spaces are voids within the urban fabric empty of meaning, lacking clear functions, where time seems to have stood still, they are spaces which lie in wait for something. So, they can be considered as opportunities waiting to happen, opportunities that urban planning has to recognise and develop in an urban regeneration point of view.

Instead of waiting with an empty space, which can also be taxed by the municipality, temporary use of space can offer several advantages. It allows various community members to obtain the space for their social, cultural, or other needs, under often more favourable terms. The property owner often has less requirements than in the case of a normal lease: they do not have to maintain the spaces and can cancel the use at a much shorter notice. Additionally, temporary users can use the space at no or symbolical cost, and often maintain the spaces themselves.

Such an approach is perceived as win-win for both property owners who get tax benefits and users and a wider city community who get new content and vitality in those spaces. Moreover, buildings are less prone to decay because they are in use. Furthermore, such use is intrinsically bottom-up driven with, for example, a co-creation process by citizens and can demonstrate needs in a city which would otherwise be left undiscovered.

Therefore, temporary use is a powerful tool to make our cities "future proof". Since the concept of temporary use is interacting with many other urban dynamics it creates the right environment for social innovation to develop. The concept of temporary use is conceived as the use of vacant buildings and land by urban pioneers, entrepreneurs and bottom-up initiatives, often resulting in

facing various societal challenges and in creating possibilities for social innovation to develop in cities.

How do existing EU policies/legislations/instruments contribute?

In the absence of a European regulation on temporary use, it is necessary to increase collaboration and strengthen knowledge. In this context, the Urban Agenda Partnership on Sustainable Land Use is investigating regulatory and funding aspects of underutilised spaces/buildings and collaboration could be an opportunity for maximizing the potential of this action. In the context of the current Action Plan, the focus will therefore be on “Better Knowledge”.

This action has also a clear link with the EU policy on “energy efficiency in buildings”. Buildings are responsible for approximately 40% of energy consumption and 36% of CO2 emissions in the EU. Currently, about 35% of the EU's buildings are over 50 years old and almost 75% of the building stock is energy inefficient, while only 0.4-1.2% (depending on the country) of the building stock is renovated each year. Therefore, more renovation of existing buildings has the potential to lead to significant energy savings – potentially reducing the EU's total energy consumption by 5-6% and lowering CO2 emissions by about 5%. In this sense new urban planning management instruments adopted by the city could have a positive environmental impact.

Which action is needed?

The real challenge for an urban authority is to move from “urban planning” to a new model of “urban re-use management”, where the city's planning moves towards city management: how the functional transition of the city is developed towards new, innovative functions at a social level.

- In the above context of defining strategies for urban re-use of buildings and spaces, we believe there is a need for an Urban Agency acting as a facilitator in the functional transition of parts of the city, which can have the dual objective of:
- Managing the public buildings included in the urban re-use program;
Connecting the potential demand for new functions with private property (private to private match), following diversified models for public and private buildings.

How to implement the action?

The main output of this action will be to develop a handbook on Managing the re-use of buildings and spaces in a circular economy, in order to give an instrument and knowledge to implement better urban model strategy based on the principle of Urban Re-use Management. This handbook will also contain Terms of Reference for the above mentioned Urban Agency.

This approach, focused on urban circular re-use, is characterised by the definition of a shared vision, the strong commitments of city governors, the increase of knowledge, capacities and awareness among citizens.

1) Knowledge, capacities and awareness

Definition of a model for an urban authority on “Managing the re-use of buildings and spaces in a circular economy”. A shared vision is the precondition for ensuring the implementation of new policies and the creation of new designed urban context where an Urban Agency acting as

facilitators in the functional transition of parts of the city.

2) Commitments of city governors

Governance and institutions provide the framework for urban authority and stakeholders to work together on solutions and strategies at the building, neighbourhood, metro and catchment scales, integrating re-use of in the city's services and design. Policy makers and governors define master plans and provide incentives to unlock the synergies across sectors in order to define the rules that allow the temporary re-use of abandoned spaces and areas.

The handbook "Managing the re-use of buildings and spaces in a circular economy" will be set as follows:

1. Premise
2. The urban circular re-use mapping of spaces and buildings;
3. The "Urban Agency" model for urban authority;
4. Urban communication strategy at support of urban circular changing;
5. Good practices at European level;
6. Conclusions

Within the handbook it will be explained which **project phases** to go through when developing an urban re-use agency:

Phase 1: *Verification of the stock of buildings and spaces* not used at urban level in the different analyses: property (private, public, NGO, etc.) and building type (industrial, residential, school, military building, stations, etc.). In this phase an archive of unused buildings will be elaborated - inventory of empty buildings of the city (heritage map). In this analysis the criteria and a reusability score must be identified first. The elements for the formation of a database in the form of a due diligence on unused buildings must include these themes: geo-location, quantitative elements, graphs, images, properties, typology, reusability coefficient.

Phase 2: *Definition of the Urban Agency model* on the re-use that acts on the urban scale as a facilitation structure between the offer of existing public and private spaces and buildings ready for re-use and the demand for private / public space. The role of the Agency in relation to the application can be twofold:

- on the one hand it can convey and collect the existing demand within the city;
- on the other hand, the function of the Agency may be to create the demand for the use of empty spaces based on urban strategies for economic development, social cohesion and cultural policies.

Phase 3: *Definition of diversified re-use strategies* according to public or private property status:

Phase 4: *Establishment and implementation of the urban re-use agency.*

Phase 5: (transversal to all phases): *Establishment of a communication office and activities.*

Expected results	Indicators
1. Creation of an archive of unused buildings;	<ul style="list-style-type: none"> • Mapping of the stock of buildings not used at urban level and classification by type and property; • Criteria and reusability scores created.
2. Creation and definition of a model of Urban Re-use Agency;	<ul style="list-style-type: none"> • Collected requests existing within the city; • Periodic updates of the stock of buildings; • Plan for re-use of buildings and spaces created.
3. Creation and definition of a diversified re-use strategy according to the type and the building;	<ul style="list-style-type: none"> • National / European legislation analysis on public property strategies; • good practices recorded; • Economic models to evaluate the effectiveness and socio-economic convenience of making available publicly owned properties to identified private operators; • Incentives (tax, waste tax, VAT, etc.) aimed at facilitating the private sector to make the property available in the defined inventory; • Business models able to activate defined private-private economic relationships.
4. Creation and commissioning of an urban re-use agency.	<ul style="list-style-type: none"> • Public notice for the identification of the implementing entity; • Set up urban agency.

Which partners?

Action leader: City of Prato

Participants: ACR+, URBACT, DG ENV, DG REGIO, Slovenia, City of Oslo, Finland, OVAM (Flanders region), Greece

The Partnership will also seek to involve the Urban Agenda Partnership on Sustainable Land Use in the development and implementation of this action.

Which timeline?

22.06.2018	Action Sheet Finalised	City of Prato
15.09.2018	Incorporate feedback from public feedback	City of Prato
20.09.2018	Final Action Plan	City of Oslo
30.09.2018	Final Handbook available	City of Prato
Before 31.10.2018	Necessary funding available to implement the pilot action of Urban Agency	Action Group

2.3.6 Develop City Indicators for Circular Economy

The EU Commission launched in January 2018 a monitoring framework for the circular economy. The indicators proposed by the Commission will help EU Member States to develop a circular economy strategy, and to report on the progress of the work towards a circular economy for the EU area. Through the work of implementing circular economy on city level, cities have experienced the need of indicators for monitoring and to report on their work. The Partnership has identified the lack of such indicators as a main bottleneck for cities in implementing a Circular Economy strategy.

What is the specific problem?

During the work with the topic of Governance and the Action “Prepare a blueprint for a Circular City Portal”⁴¹, the need for indicators of monitoring circular economy is identified. There are several initiatives for developing indicators for use in cities. However, none are as yet fully developed and ready to be used by cities.

The Partnership notes that a strategy for a transition towards a circular economy will need a set of indicators to monitor this transition. Most cities will start a process by developing a strategy, set targets and develop measuring indicators.

In the report Circular City Governance (Jan Juncker et al, Radboud University, Nijmegen April 2018) writes:

Within the better knowledge domain, it is worth noting that monitoring and evaluation systems to measure progress of circular developments are lacking. A well-functioning monitoring and evaluation system that ensures feedback to strategy and planning can be considered as a crucial support tool for circular transitions and paramount for effective learning by doing. This leads to a recommendation of an action on develop (guidance on) monitoring and evaluation frameworks for circular city transitions.

The OECD has launched a proposal for a project on The Economics and Governance of Circular Economy in Cities, where indicators for monitoring will be an essential part of the project.

The EUROCITIES Task Force on Circular Economy has identified the lack of indicators as a main challenge for cities and has also proposed to establish necessary indicators.

The City of London has started a process of developing city indicators on Circular Economy. In this work they have experienced that indicators should cover principles including total waste and recycling, circular economy jobs, material use and productivity, emissions and quantitative measures which assess how a city is enabling the circular economy.

⁴¹ The Action Plan – Part I can be found here: <https://ec.europa.eu/futurium/en/circular-economy/actions>

The Partnership repeats the old quote: What is not measured, will never be done. The need for indicators to measure progress towards a circular economy is essential for the EU, Member States and on EU level. A set of indicators are essential for implementation of Circular Economy on city level.

Similarly, the Partnership should take an active role in the development of city indicators for a circular economy. We propose to form a consortium to develop these indicators and ensure that this work has an impactful effect for cities transitioning towards a circular economy on the ground.

How do existing EU policies/legislations/instruments contribute?

The Commission has launched the following initiatives:

- Communication from the Commission to the European Parliament on a monitoring framework for the circular economy, 16.01.2018. This communication is a part of the Commission Circular Economy Strategy. The Communication proposes a set of 10 indicators for Member States to report on their progress towards a circular economy. The Action will promote cities to use these indicators on the basis of their need and acting in a coordinate and constructing way.
- The circular economy monitoring framework draws upon and complements the existing Resource Efficiency Scoreboard and Raw Materials Scoreboard, which were developed in recent years by the Commission. The 10 indicators are developed for Member States reporting to the EU and some of them are not transferrable to a city level. As most economic activity takes place in cities, a monitoring framework with a set of indicators specific to cities is needed to fulfil the European circular economy strategy.
- The European Green Capital Award, wherein the selection of a city awarded with the title of European Green Capital is assessed on the basis of twelve environmental indicators:
 - Climate Change: Mitigation
 - Climate Change: Adaptation
 - Sustainable Urban Mobility
 - Sustainable Land Use
 - Nature and Biodiversity
 - Air Quality
 - Noise
 - Waste
 - Water
 - Green Growth and Eco-innovation
 - Energy Performance
 - Governance

Which action is needed?

Several European cities have a dedicated strategy for a circular economy, but the management system to measure and evaluate the progress is not operational. There are several efforts made at the national level, but there is still no organised initiative to develop indicators fit for measuring the circular economic transition at a local level.

Policy makers and city managers face an array of sustainability indicator frameworks. However, it is important to also have indicators guiding circular economy decisions and strategies. The Partnership will aim to develop (guidance on) monitoring and evaluation frameworks (indicators) for circular city transitions. The guidance will be an important tool for cities in their work to establish and implement a strategy for circular economy.

It is important to stress that different cities will have different goals and ambitions. Indicators must therefore be able to take into account different geographical, cultural and institutional differences. The Partnership suggests to develop a guidance with a set of indicators suitable to measure circular performance, leaving it for the cities to decide which indicators are most relevant for them.

For the development of this action we propose the following phases:

Phase 1– Workshop and establishment of consortium

1. Initiate dialogue with stakeholders on the topic of circular city indicators
2. Organise a workshop to discuss the organization and scope of a consortium
3. Establish a consortium for the development of circular city indicators
4. Identify funding opportunities for a project on city indicators
5. Decide on scope of the project

Phase 2 – Make a guidance document with proposals for city indicators on a transition towards a Circular Economy

6. Identify and agree on a set of indicators (input indicators, process indicators, performance indicators – both qualitative and quantitative)
7. Disseminate information about the guidance document at a Partnership seminar in the spring of 2019
8. Develop an educational path. Based on the work carried out, the action will aim to establish a network of experts for cities to contact in order to explain the importance and use of such indicators.

How to implement the action?

The development will be done in cooperation with other stakeholders already engaged in the work for this action, like the OECD, ACR+ and EUROCITIES among others. The role of the Partnership will be to seek financial support for the development and to secure that the outcome will be available and distributed to all relevant users, for instance through the Circular City Portal.

There is a risk that several sets of monitoring systems (indicators) could be developed at the same time. As the indicators will be used in different cities under different political, legal and governmental circumstances, the monitoring system will be adapted to each city's need; hence a common and identical monitoring system will not be possible. Several monitoring systems operating at the same time is not expected to hinder cities in working towards a circular economy.

Without necessary funding, the action will be difficult for the Partnership to implement. The guidance will need to reflect ongoing processes within the Commission, seek knowledge of work initiated in cities and will need to have competence for governance at a local level, the availability of statistics and methodology for measuring flows of materials, work creation, etc. The Partnership and its Partners do not have all the needed knowledge and will depend on financial funding to contract the necessary competences. Hence, ensuring both funding and the access to knowledge are the main challenges for this action.

Which partners?

Action leader: City of Oslo

Partners: City of Porto, OVAM (Flanders region), Slovenia, CEMR, EUROCITIES, ACR+, City of Kaunas, Greece, EIB, Finland, DG RTD, DG ENV

Relevant Partners: OECD, DG ENV, URBACT

The Partnership will in addition include other stakeholders in the action as needed.

Which timeline?

Phase	Activity	Timeline
Phase 1	Workshop and establishment of consortium <ul style="list-style-type: none"> Arrange workshop with stakeholders to discuss the scope and organization of the consortium Project and financing <ul style="list-style-type: none"> Funding and resources for the project should be addressed parallel to Phase 1 	September – November 2018
Phase 2	Make a guidance document on city indicators for Circular Economy <ul style="list-style-type: none"> First set of indicators ready for discussion in December 2018 Indicators discussed by the Partnership within February 2019 Indicators presented at the Partnership seminar within June 2019 	November – June 2019

2.3.7 Circular Economy Financial Incentives - Develop a “Pay-as-you-throw” toolkit with coaching

Develop a “Pay-as-you-throw” (PAYT) toolkit as support for cities, connecting stakeholders in need of knowledge with experts with experience in a taskforce that can provide support and coaching to municipalities. Through the implementation of this action, the Partnership aim to make it easier for cities to set the right price level and monitoring systems so PAYT can be installed for maximum effectiveness.



What is the specific problem

The transition towards a circular economy requires a shift from a linear consumption-based model towards a more services-oriented model, where value is kept in a product while ownership is of lesser importance than the ability to derive use from the product. This can be done by fiscal and financial stimuli. In principle, the (lack of) development of circular practices can partly be seen as a matter of economics and price points. Economic rationale implies that the least effort option is exercised and so, changing the price points changes the options that are chosen by market and civil actors. Government actors have two options at their disposal: increasing the price of least favoured options and decreasing the price of most favoured options. The task at hand is to modify the current price trend into the desired price trend, as shown below.

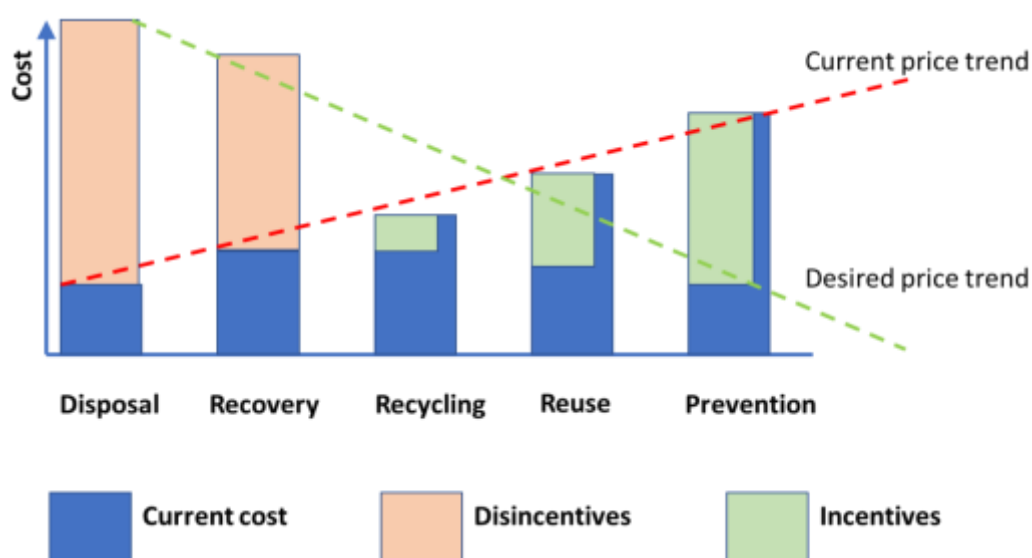


Figure 8 – The mechanism of financial incentives for a circular economy

As visible in the diagram, one can impose financial disincentives on disposal and recovery while incentivising recycling, re-use and prevention. Common measures of doing so are through taxes, levies and subsidies, which make least preferred options more expensive than the preferred options. Market actors should then rationally change their behaviour towards the desired options.

The Partnership has chosen three common and effective instruments to influence the price points, which will be explained in detail in their respective sections below:

Table 2 – Measures, mandates and targets

Measure	Mandate	Target
Modifying the Value Added Tax (VAT) of services that recycle, re-use or prevent waste, or of products and materials that incorporate recycled, re-used parts or are re-used as a whole	EU Member States and EU	Consumers, producers
Implementing Extended Producer Responsibility (EPR). The extended producer responsibility ensures that market parties that generate waste streams (packaging, electronics, tyres, ...) pay for adequate infrastructure to	Member States	Consumers, producers

collect and recycle the stream		
Introducing Pay As You Throw (PAYT) schemes, that charge citizens a levy for generating waste either per unit volume or weight.	Municipalities	Consumers

The measures above cover the full chain of stakeholders (producers, consumers and governments) and all governance levels necessary. A complicating factor with waste legislation is that waste is primarily a municipal problem, while both producer responsibility and (tax) legislation are usually set at the national or European level.

Indeed, only an intelligent mix of these measures applied in close collaboration with all stakeholders can make a complementary framework that delivers the necessary incentives. The current situation varies between different materials and value chains, also based on regulatory obstacles, safety requirements and local conditions. We acknowledge that VAT, EPR and PAYT are not at all new instruments; the question is how to apply them correctly, considering the full system of products, materials and services in a circular economy.

How do existing EU policies/legislation contributes?

The review of VAT, EPR and PAYT gathered important knowledge and possible actions for all levels of government, for public, private as well as civil actors, and for multiple waste streams and waste hierarchy options.

Directive 2006/112/EU⁴² on the common system of value added tax regulates and establishes the common system of value added tax (VAT) between the EU Member States. The Directive provides Member States with the opportunity to use a reduced VAT rate for small repair services: bicycles, shoes, leatherwear, clothes and linen (the full list of possibilities is in the Annex III of the Directive). This is also reflected in the Commission's VAT proposals based on the "VAT Action Plan," granting Member States more flexibility on the use of reduced VAT rates (see VAT Action Plan (COM(2016)148, adopted in April 2016) and its "Follow-up," namely the Commission proposal for amending the VAT Directive (COM(2018)329, adopted in July 2018, accompanied by the Commission Staff Working Document).

Several EU Member States have used the opportunity of differentiating VAT to promote environmental purposes.

Directive 2008/98/EC⁴³ has underlined the importance of economic instruments:

*In order to contribute to achieving the objectives laid down in this Directive, Member States should make use of economic instruments and other measures to provide incentives for the application of the waste hierarchy such as those indicated in Annex IVa, which includes, inter alia, landfill and incineration charges, **pay as you throw schemes**,*

⁴² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32006L0112>

⁴³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0098>



extended producer responsibility schemes, facilitation of food donation, and incentives for local authorities, or other appropriate instruments and measures.

Article 8 describes the use of Extended Producer Responsibility in Member States.

Annex IV a: Examples of economic instruments and other measures to provide incentives for the application of the waste hierarchy referred to in article 4:

2. 'Pay-as-you-throw' systems that charge waste producers on the basis of the actual amount of waste generated and provide incentives for separation at source of recyclable waste and for reduction of mixed waste;

Which action is needed?

Following an in-depth analysis of the three aforementioned methods of circular economy incentives for urban authorities, **PAYT** was deemed to be the most effective option for source separation and an essential first step to produce clean streams. By offering door-to-door collection and electronically tracking residual waste and recycling citywide, the scheme could increase recycling by relevant percentage. PAYT system rewards people and business who separate waste and penalises those who do not.

Added value of action:

- The whole community benefits from the improvements in waste collection;
- Better health and safety standards because streets are cleaner;
- A fair system because people pay according to the amount of waste they generate and how they separate it;
- More jobs in the recycling sector;
- Less non-recyclable waste, so fewer collections – saving on fuel and labour costs.

PAYT schemes are the only scheme under review that is fully within the mandate of municipalities. It works by charging citizens a fee for each amount of waste they produce, thus imposing costs on wasteful behaviour. Most often PAYT schemes are applied for residual waste. This generates an incentive to reduce residual waste, and one option to do so is by separating the recyclable waste at the source. The income from PAYT then partly pays for the separate collection and/or processing of the separated waste streams. Two general variants exist:

1. **Volume based taxation**, often implemented by using pre-paid garbage bags, bins of different sizes or differentiating the fee based on the collection frequency.
2. **Weight based taxation** systems require significantly investment in both time and money to setup infrastructure for weighing and administration.

PAYT success factors

Several studies have been performed to investigate the success factors for a PAYT implementation. Although each case is different and there is no "one size fits all" solution, the studies identify some important factors for a successful implementation of a PAYT system:

1. **Type of fee structure** - Weight based PAYT generally outperform volume based PAYT systems. However, the implementation of weight based systems can require a higher investment in cost and time to create the proper infrastructure.
2. **Infrastructure** - An extensive infrastructure to collect the recyclable waste streams needs to be in place – this can be financed through the PAYT income.
3. **Quality of fraction and separate collection** - Separate collection of waste fractions leads to higher recycling rates. Also, due to increasing requirements for the quality of the recycled materials it becomes more important to separate the waste fractions.
4. **Collection system** - Door-to-door collection systems result in highest capture rates and yields of recyclables. Door-to-door collection is more applicable to rural areas, whereas in municipal areas with multi-story housing central collection points are often used.
5. **Environmental awareness and informing citizens** - High level of environmental awareness among the households is important, both to increase commitment as well as reduce the risk of illegal dumping.
6. **Alignment with other measures** - PAYT schemes need to be aligned with EPR systems in the country.
7. **Fee structure** - The fee of the PAYT system needs to reflect the true cost of waste management. Thought needs to be given how to cover the cost of the system, also in the long run when residual waste streams go down in volume.
8. **Cross-financing** - Cross-finance the recyclable waste streams by applying a fee to the residual waste, and do not apply variable charges to the recyclable waste stream.

PAYT barriers

1. **Spill-over effects and waste crime.** In areas where regional coordination is not very strong, introduction of PAYT schemes may result in:
 - a. Illegal disposal of waste (although this effect is disputed);
 - b. Avoidance of charges by travelling to areas without PAYT schemes;
 - c. Cost avoidance by polluting recyclable streams with residual waste. This then urges the separated streams to incur high costs for inspection of quality while it deteriorates much of the streams to low quality recyclables.

Effects a. and b. are generally found to be **small** in comparison to the overall positive effect of introducing the PAYT scheme, in particular when environmental awareness under citizens is high.
2. **Worries about the costs to local authorities and households.** In the case of Luxembourg, the organisation representing the cities and communes (Syvicol) was concerned that those costs had not been considered properly and objected to a model of charging from central government. One additional motivation for such objections are **discriminatory effects** on low-income households. If one hypothesises that low income households tend to use more disposable / short lifespan products that generate more waste, this causes them to they pay more with PAYT schemes in place, placing them in a positive feedback loop of poverty - waste – PAYT fees.
3. **Ensuring enough revenue to cover the cost of the scheme.** Because PAYT schemes use a marginal tariff on the disposed waste, the income from the scheme can go down when the

scheme is successful. It is therefore necessary to find a way to ensure stable revenues for the service provider, for example by using a fixed component in combination with the variable component.

4. **Guidance required from national legislation.** Local municipal authorities are helped when the national government gives guidance how to design and rate the level of a PAYT waste charge. Different countries take different approaches to this, with Denmark, France, Italy and the Netherlands giving guidance in national legislation, while Germany and Belgium complement the national legislation with regional or federal states' specific regulation¹.
5. **Lack of recycling infrastructure expansions.** The introduction of a PAYT system should always be accompanied by proper infrastructure to collect the recyclable waste streams.
6. **Limited outreach to consumers about how to change purchasing habits.** As also noted earlier, it is important to increase social and environmental awareness under citizens.
7. **Charging of a separate fee for recycling.** The idea is to stimulate citizens to hand in recyclable waste separately. It is therefore better to cross-finance the recyclable waste streams with the taxes on residual waste, instead of taxing the recyclable waste streams.
8. **For weight-based PAYT systems, setting up a data collection system for billing, accounting and system optimization purposes can be a complex and challenging task.**
9. **Cost avoidance by polluting recyclable streams with residual waste.** This then urges the separated streams to incur high costs for inspection of quality while it deteriorates much of the streams to low quality recyclables.

Finally, while PAYT schemes are effective to motivate citizens to separate at the source and finance the infrastructure for separate collection and, they are only one step towards a circular economy. PAYT schemes usually do not cover material recovery or recycling operations, i.e. the loop is not closed.

How to implement the action?

Develop a PAYT a toolkit as support for cities, connecting stakeholders in need of knowledge with experts with experience through the taskforce mentioned above. Provide guidelines, workshops and consequently make it easier for cities to set the right price level and monitoring systems so PAYT can be installed for maximum effectiveness.

The toolkit as support for cities will define:

1. Analysis of application cases

1.1 Success factors

1.2 Criticalities and barriers to the implementation of a system of punctual pricing

2. Economic and financial elements of PAYT application

3. External factors that influence the system

3.1 Recycling and recovery infrastructures

3.2 Development and diffusion of a complex EPR system

3.3 Social involvement and education and training of citizens

4 Tools and practical supports available to municipalities

Which partners?

Action leader: City of Prato

Participants: City of Oslo, City of Poland, Finland, Greece, City of Porto, City of The Hague

Which timeline?

Date	Activity	Responsible
22.06.2018	Action Sheet finalised	City of Prato
31.07.2018	Choose experts and partners to develop the Toolkit	City of Prato
15.09.2018	Incorporate feedback from public feedback	City of Prato
20.09.2018	Final Action Plan	City of Oslo
15.10.2018	First draft of Toolkit	City of Prato
31.10.2018	Feedback on the draft of Toolkit	Partnership
30.11.2018	Final draft of Toolkit	City of Prato
15.12.2018	Feedback on the draft of Toolkit	Partnership
31.12.2018	Final Toolkit available	

3 GOOD POLICIES, GOVERNANCE AND PRACTICES (RECOMMENDATIONS)

Recommendations are intended to suggest good policies, good governance or good practice examples which could be used for inspiration. The below recommendations have been developed during and throughout the eight Partnership meetings that took place in the period January 2017 – May 2018. Some of these have been considered as Actions, others have been conceived as recommendations from the start. All recommendations have the aim to contribute to the uptake of the circular economy within an urban context.

3.1 EU level

The Partnership recommend the European Commission to:

1. *Mainstream Circular Economy dimension into ISO and BSI certification.* Circular economy aspects are also to be considered in the ISO and BSI certification processes.
2. *Look into the possibilities of using Directive 2006/112/EU on Value Added Tax (VAT) as a measure to reduce waste* by specifically boosting re-use and repair routes, to retain value of products as long as possible. This is the primary category of the waste hierarchy and therefore deserves serious attention.
3. *Use EPR as a means to set up and maintain cost-effective material processing routes* that put costs at the polluter and can incentivise eco-design, while making sure that demand for the secondary material exists or is created.

3.2 Member State level

- 1) *Review of VAT on repair services.* Member States are encouraged to review their VAT legislation, with the aim to incentive the uptake of the circular economy in cities. In particular, the use of repair and similar services is to be promoted, e.g. through lowering the VAT rates on such services. In this respect, the recent VAT reform in Sweden is considered as an example, which deserves to be monitored and promoted.
- 2) *Promote the exchange about the Circular Economy amongst cities.* Member States can contribute to the uptake of the Circular Economy in cities by promoting the exchange of good practices within a national context (e.g. platforms).

- 3) *Promote capacity building and training on the circular economy.* The uptake of the circular economy can be enhanced by capacity building and training of (municipal) staff, especially so in medium-sized and smaller cities.

3.3 City level

- 1) *The importance of sustainable spatial planning practices.* The circular economy potential in cities can be much enhanced by conducive spatial planning policies, which promote the efficient use of space, urban land and buildings. Generally speaking, the circular economy potential can be enhanced through the development of compact and/or higher densities of cities.
- 2) *Promote circular public procurement.* Municipalities have an important lever at their disposal through the public procurement of goods and services. They can actively apply circular economy principles through applying circular economy considerations in eligibility and award criteria (e.g. the use of Life Cycle costings)

Recommendation is being pursued in the context of the Urban Partnership on Innovative Public Procurement.

- 3) *Appoint a Circular Economy Coordinator or Project Manager.* Promoting the circular economy is a cross-cutting objective which exceeds the competences of a single city department. Cities leading on the circular economy (e.g. Amsterdam), have appointed a Circular Economy Coordinator or Project Manager who reports directly to a dedicated Alderman and/or the City council.

4 LINKS WITH OTHER COMMITMENTS

Article 12 of the Pact of Amsterdam⁴⁴ requests that Urban Partnerships consider in their work the relevance of a range of cross-cutting issues (listed as 12.1 to 12.11). After all, the complexity of urban challenges requires integrating different policy aspects to avoid contradictory consequences and make interventions in Urban Areas more effective. It is understood that competences and responsibilities differ amongst participants and that the EU does not have competences on some of these issues.

First of all, it should be acknowledged that the topic of the circular economy is itself inherently cross-cutting, and that working on this topic entails promoting cooperation across silos and sectors. Taking that into account, the Partnership on Circular Economy acknowledges to have established connections with the cross-cutting topics as highlighted in the Pact. In particular, it wishes to underline the importance and relevance of following themes:

12.1 Effective urban governance, including citizens participation and new models of governance.

The circular economy promotes new business models and stakeholder engagement. In particular the Actions on City Indicators and Re-use of Buildings and Spaces address the topic of urban governance.

12.2 Governance across administrative boundaries and inter-municipal cooperation: urban-rural, urban-urban and cross-border cooperation.

Although cities are driving forward the circular economy, it is acknowledged that effective markets for resources and waste require cooperation across municipal boundaries. However, none of the four above mentioned actions directly address this issue.

12.3 Sound and strategic urban planning (link with regional planning, including 'research and innovation smart specialisation strategies' (RIS3), and balanced territorial development), with a place-based and people-based approach.

The Partnership actively promotes sustainable urban planning, and the action on the Re-use of Buildings and Spaces specifically support this.

12.4 Integrated and participatory approach.

The Partnership actively promotes an integrated and holistic approach, and has thereto installed from the beginning a specific working group on governance issues.

⁴⁴ http://ec.europa.eu/regional_policy/sources/policy/themes/urban-development/agenda/pact-of-amsterdam.pdf

12.5 Innovative approaches, including Smart Cities.

The Action Plan strongly promotes innovative approaches, and has applied these in particular in Action “Circular Economy Financial Incentives – Develop a “Pay-as-you-throw”-toolkit” will look at how use the technology and innovation to establish effective “Pay-as-you-throw” – schemes.

12.6 Impact on societal change, including behavioural change, promoting, among other things, equal access to information, gender equality and women empowerment.

The Action Plan has taken forward several actions that promote such change, the action on “Re-use of Buildings and spaces” in particular.

12.8 Urban regeneration, including social, economic, environmental, spatial and cultural aspects, also linked to the brownfield redevelopment with the objective of limiting greenfield consumption.

The Partnership is preparing an action on the Re-use of Buildings and Spaces.

12.10 Provision of adequate public services of general interest (within the meaning of Article 14 TFEU in conjunction with Protocol Number 26).

The Action Plan acknowledges this notion.

12.11 International dimension: link with the New Urban Agenda (Habitat III) of the UN (to be agreed upon), the Sustainable Development Goals (SDGs, 2030 Agenda on Sustainable Development) of the UN and the Paris Agreement on climate change of December 2015.

See section below.

A more detailed overview on which of the Partnership’s Actions contribute to the above cross-cutting issues is provided in Annex 4 of the Action Plan.

4.1 New Urban Agenda and Sustainable Development Goals

The Urban Agenda for the EU is part of the EUs commitment to both the New Urban Agenda (Habitat III) and the 2030 Agenda for Sustainable Development. The actions addressed in this Action Plan are in accordance and correspond with the set commitments and goals in these international agreements. The circular economy is a topic that touches upon several of the world’s critical challenges, both in relation to the social, economic and environmental issues. The following sections will provide an insight into how this Action Plan corresponds with both the New Urban Agenda and the 2030 Agenda for Sustainable Development.

4.1.1 New Urban Agenda (Habitat III)

The New Urban Agenda was adopted at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, Ecuador on 20th of October, 2016. It was endorsed by the United General Assembly on 23rd of December 2016.

The New Urban Agenda represents a paradigm shift and offers a new model of urban development that is able to integrate all facets of sustainable development to promote equity, welfare and shared prosperity. The five main pillars of implementation include: national urban policies, urban legislation and regulations, urban planning and design, local economy and municipal finance, and local implementation.

The New Urban Agenda incorporates a new recognition of the correlation between good urbanisation and development. It underlines the linkages between good urbanization and job creation, livelihood opportunities, and improved quality of life, which should be included in every urban renewal policy and strategy. This further highlights the connection between the New Urban Agenda and the 2030 Agenda for Sustainable Development, especially Goal 11 on sustainable cities and communities.

Based on this a series of commitments is documented covering many different aspects of urban policies. Those commitments which are most related to the theme Circular Economy is listed below, and specific correspondence to each action is listed in Annex 4.

44. We recognize that urban form, infrastructure and building design are among the greatest drivers of cost and resource efficiencies, through the benefits of economy of scale and agglomeration and by fostering energy efficiency, renewable energy, resilience, productivity, environmental protection and sustainable growth in the urban economy.

45. We commit ourselves to developing vibrant, sustainable and inclusive urban economies, building on endogenous potential, competitive advantages, cultural heritage and local resources, as well as resource-efficient and resilient infrastructure, promoting sustainable and inclusive industrial development and sustainable consumption and production patterns and fostering an enabling environment for businesses and innovation, as well as livelihoods.

49. We commit ourselves to supporting territorial systems that integrate urban and rural functions into the national and subnational spatial frameworks and the systems of cities and human settlements, thus promoting sustainable management and use of natural resources and land, ensuring reliable supply and value chains that connect urban and rural supply and demand to foster equitable regional development across the urban-rural continuum and fill social, economic and territorial gaps.

60. We commit ourselves to sustaining and supporting urban economies to transition progressively to higher productivity through high-value-added sectors, by promoting diversification, technological upgrading, research and innovation, including the creation of quality, decent and productive jobs, including through the promotion of cultural and creative industries, sustainable tourism, performing arts and heritage conservation activities, among others.

63. We recognize that cities and human settlements face unprecedented threats from unsustainable consumption and production patterns, loss of biodiversity, pressure on ecosystems,

pollution, natural and human-made disasters, and climate change and its related risks, undermining the efforts to end poverty in all its forms and dimensions and to achieve sustainable development. Given cities' demographic trends and their central role in the global economy, in the mitigation and adaptation efforts related to climate change, and in the use of resources and ecosystems, the way they are planned, financed, developed, built, governed and managed has a direct impact on sustainability and resilience well beyond urban boundaries.

65. We commit ourselves to facilitating the sustainable management of natural resources in cities and human settlements in a manner that protects and improves the urban ecosystem and environmental services, reduces greenhouse gas emissions and air pollution and promotes disaster risk reduction and management, by supporting the development of disaster risk reduction strategies and periodical assessments of disaster risk caused by natural and human-made hazards, including standards for risk levels, while fostering sustainable economic development and protecting the well-being and quality of life of all persons through environmentally sound urban and territorial planning, infrastructure and basic services.

66. We commit ourselves to adopting a smart-city approach that makes use of opportunities from digitalization, clean energy and technologies, as well as innovative transport technologies, thus providing options for inhabitants to make more environmentally friendly choices and boost sustainable economic growth and enabling cities to improve their service delivery.

70. We commit ourselves to supporting local provision of goods and basic services and leveraging the proximity of resources, recognizing that heavy reliance on distant sources of energy, water, food and materials can pose sustainability challenges, including vulnerability to service supply disruptions, and that local provision can facilitate inhabitants' access to resources.

71. We commit ourselves to strengthening the sustainable management of resources, including land, water (oceans, seas and fresh water), energy, materials, forests and food, with particular attention to the environmentally sound management and minimization of all waste, hazardous chemicals, including air and short-lived climate pollutants, greenhouse gases and noise, and in a way that considers urban-rural linkages, functional supply and value chains vis-à-vis environmental impact and sustainability and that strives to transition to a circular economy while facilitating ecosystem conservation, regeneration, restoration and resilience in the face of new and emerging challenges.

74. We commit ourselves to promoting environmentally sound waste management and to substantially reducing waste generation by reducing, re-using and recycling waste, minimizing landfills and converting waste to energy when waste cannot be recycled or when this choice delivers the best environmental outcome. We further commit ourselves to reducing marine pollution through improved waste and wastewater management in coastal areas.

81. We recognize that the realization of the transformative commitments set out in the New Urban Agenda will require enabling policy frameworks at the national, subnational and local

levels, integrated by participatory planning and management of urban spatial development and effective means of implementation, complemented by international cooperation as well as efforts in capacity development, including the sharing of best practices, policies and programmes among Governments at all levels.

122. We will support decentralized decision-making on waste disposal to promote universal access to sustainable waste management systems. We will support the promotion of extended producer responsibility schemes that include waste generators and producers in the financing of urban waste management systems reduce the hazards and socioeconomic impacts of waste streams and increase recycling rates through better product design.

Links with the Partnership: The overall work of the Partnership is supportive to these general commitments.

4.1.2 *New Urban Agenda and the 2030 Agenda for Sustainable Development*

In 2015, countries adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals. Governments, businesses and civil society together with the United Nations are mobilizing efforts to achieve the Sustainable Development Agenda within 2030. The Agenda calls for action by all countries to improve the lives of people everywhere. The Urban Agenda for the EU will contribute to the implementation of the UN 2030 Agenda for Sustainability in several ways. The most central is Goal 11 'Make cities inclusive, safe, resilient and sustainable', and the twelve different partnerships all intersect with the ambitions and targets of the various Sustainable Development Goals (SDGs).

The SDGs call for action to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and address a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.

Several of the SDGs are relevant and correspond with the agreed actions within the Partnership on Circular Economy. The most relevant goals and targets are listed below, with a reference to the correspondence with our Partnership.

Goal 6. Ensure access to water and sanitation for all:

- *6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe re-use globally*

Goal 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

- *8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.*
- *8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead.*

Goal 9 Build resilient infrastructure, promote sustainable industrialization and foster innovation

- *9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities*
- *9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending*

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

- *11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries*
- *11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management*

Goal 12. Ensure sustainable consumption and production patterns

- *12.2 By 2030, achieve the sustainable management and efficient use of natural resources*
- *12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment*
- *12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and re-use*
- *12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature*

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

- *17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries*

Links with the Partnership: As the concept of the circular economy concerns the decoupling of economic growth and environmental degradation, these targets are generally promoted in all actions put forward. A more detailed overview on which of the Partnership's Actions contribute to the above cross-cutting issues is provided in Annex 4 of the Action Plan. Conclusion is that several of the actions strongly support the SDGs, mainly Goal 8, 9, 11, 12 and 17.

ANNEXES

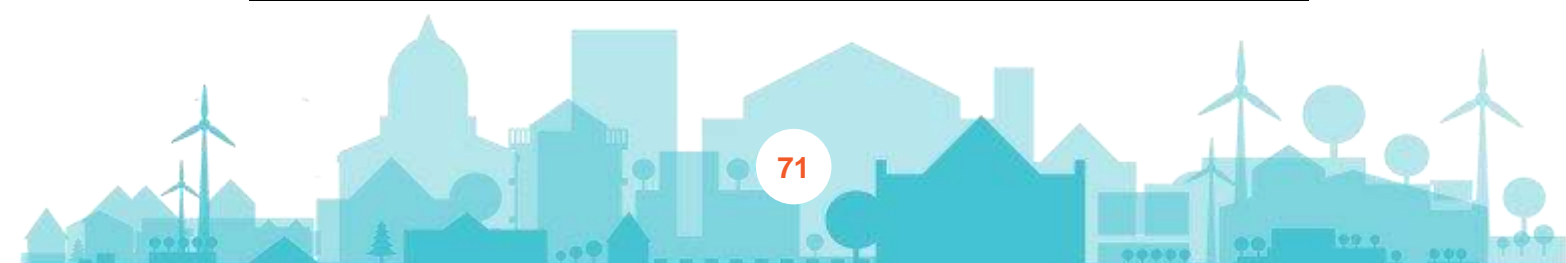
Annex 1: List of members and involvement

Partner	Topic leader	Action leader	Member of Action Working Group
City of Oslo	<ul style="list-style-type: none"> • Circular Public Procurement⁴⁵, • Bio-resources, • Waste prevention and Circular Consumption, • Food waste prevention 	<ul style="list-style-type: none"> • Analyse the regulatory obstacles and drivers for boosting an urban circular bioeconomy • Promote Urban Resource Centres for waste prevention, re-use and recycling • Develop City Indicators for a Circular Economy 	<ul style="list-style-type: none"> • Waste legislation • Water legislation • Mainstream the circular economy into the post 2020 Cohesion Policy and corresponding Funds • Circular City Portal • Roadmap for Circular Resource Management in cities • Manage the re-use of buildings and spaces in a circular economy • Develop a “Pay-as-you-throw”-toolkit with coaching
City of Prato	<ul style="list-style-type: none"> • Water as a Resource • Sustainable buildings 	<ul style="list-style-type: none"> • Develop a “Pay-as-you-throw”-toolkit with coaching • Help make water legislation support the circular economy in cities • Manage the re-use of buildings and spaces in a circular economy 	<ul style="list-style-type: none"> • Waste legislation • Develop a Collaborative Economy Knowledge Pack for cities • Roadmap for Circular Resource Management in cities
City of Porto	<ul style="list-style-type: none"> • Industrial symbiosis 		<ul style="list-style-type: none"> • Analyse the regulatory obstacles and drivers for

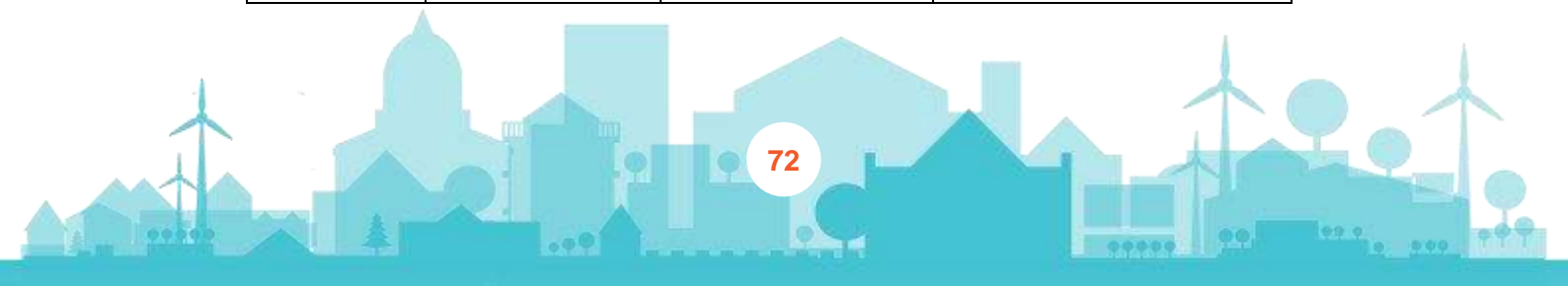
⁴⁵ The theme of Circular Public Procurement was transferred to the Partnership on Public Procurement in September 2017



			boosting an urban circular bioeconomy <ul style="list-style-type: none"> • Urban Resource Centres • Roadmap for Circular Resource Management in cities • Develop a Collaborative Economy Knowledge Pack for cities • Develop City Indicators for a Circular Economy
City of Kaunas	<ul style="list-style-type: none"> • Eco-design 		<ul style="list-style-type: none"> • Roadmap for Circular Resource Management in cities • Develop City Indicators for a Circular Economy
City of The Hague	<ul style="list-style-type: none"> • Collaborative economy • Urban Resource Management 	<ul style="list-style-type: none"> • Help make waste legislation support the circular economy in cities • Roadmap for Circular Resource Management in cities • Develop a Collaborative Economy Knowledge Pack for cities 	<ul style="list-style-type: none"> • Urban Resource Centres • Develop a “Pay-as-you-throw”-toolkit with coaching
OVAM (Flanders region)	<ul style="list-style-type: none"> • Governance 	<ul style="list-style-type: none"> • Prepare a blueprint for a Circular City Portal 	<ul style="list-style-type: none"> • Circular City Funding Guide • Mainstream the circular economy into the post 2020 Cohesion Policy and corresponding Funds • Develop City Indicators for a Circular Economy • Manage the re-use of buildings and spaces in a circular economy



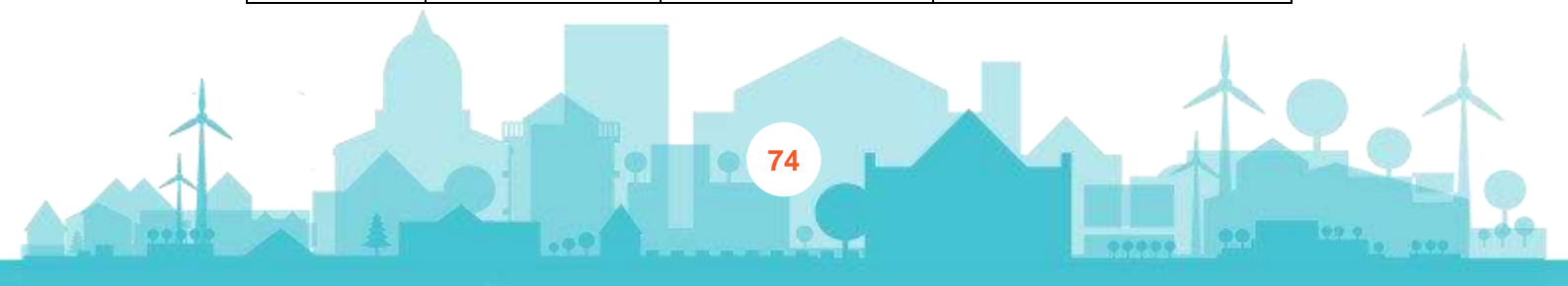
Finland			<ul style="list-style-type: none"> • Roadmap for Circular Resource Management in cities • Develop City Indicators for a Circular Economy • Manage the re-use of buildings and spaces in a circular economy • Analyse the regulatory obstacles and drivers for boosting an urban circular bioeconomy • Develop a “Pay-as-you-throw”-toolkit with coaching
Slovenia	<ul style="list-style-type: none"> • Governance 	<ul style="list-style-type: none"> • Prepare a blueprint for a Circular City Portal 	<ul style="list-style-type: none"> • Water legislation • Circular City Funding Guide • Roadmap for Circular Resource Management in cities • Manage the re-use of buildings and spaces in a circular economy • Develop City Indicators for a Circular Economy
Poland			<ul style="list-style-type: none"> • Develop a “Pay-as-you-throw”-toolkit with coaching • Roadmap for Circular Resource Management in cities
Greece		<ul style="list-style-type: none"> • Mainstream the circular economy as an eligible area into the post 2020 Cohesion Policy and corresponding Funds 	<ul style="list-style-type: none"> • Waste legislation • Analyse the regulatory obstacles and drivers for boosting an urban circular bioeconomy • Circular City Funding Guide • Circular City Portal • Urban Resource Centres • Collaborative Economy



			<p>Knowledge Pack</p> <ul style="list-style-type: none"> • Develop a “Pay-as-you-throw”-toolkit with coaching • Manage the re-use of buildings and spaces in a circular economy • Develop City Indicators for a Circular Economy
European Investment Bank	<ul style="list-style-type: none"> • Governance 	<ul style="list-style-type: none"> • Prepare a Circular City Funding Guide to assist cities in accessing funding for circular economy projects 	<ul style="list-style-type: none"> • Mainstream the circular economy into the post 2020 Cohesion Policy and corresponding Funds • Circular City Portal • Roadmap for Circular Resource Management in cities • Develop City Indicators for a Circular Economy
EUROCITIES			<ul style="list-style-type: none"> • Waste legislation • Circular City Funding Guide • Circular City Portal • Develop City Indicators for a Circular Economy
CEMR			<ul style="list-style-type: none"> • Waste legislation • Circular City Funding Guide • Mainstream the circular economy into the post 2020 Cohesion Policy and corresponding Funds • Circular City Portal • Urban Resource Centres • Develop City Indicators for a Circular Economy
URBACT			<ul style="list-style-type: none"> • Circular City Portal • Roadmap for Circular Resource Management in cities • Collaborative Economy



			<p>Knowledge Pack</p> <ul style="list-style-type: none"> • Manage the re-use of buildings and spaces in a circular economy
ACR+ (from September 2017)			<ul style="list-style-type: none"> • Circular City Portal • Roadmap for Circular Resource Management in cities • Collaborative Economy Knowledge Pack • Develop City Indicators for a Circular Economy • Manage the re-use of buildings and spaces in a circular economy
DG Regional and Urban Policy			<ul style="list-style-type: none"> • Mainstream the circular economy into the post 2020 Cohesion Policy and corresponding Funds • Manage the re-use of buildings and spaces in a circular economy
DG Environment			<ul style="list-style-type: none"> • Waste legislation • Circular City Funding Guide • Circular City Portal • Water legislation • Manage the re-use of buildings and spaces in a circular economy • Develop City Indicators for a Circular Economy
DG Research and development	<ul style="list-style-type: none"> • Bio-resources 	<ul style="list-style-type: none"> • Analyse the regulatory obstacles and drivers for boosting an urban circular bioeconomy 	<ul style="list-style-type: none"> • Circular City Funding Guide • Develop City Indicators for a Circular Economy
DG CLIMA			<ul style="list-style-type: none"> • Water legislation



Annex 2: List of relevant studies

Report/Study	Author	Topic	Link
Regulatory barriers for the Circular Economy	Technopolis Group	Regulation in the Circular Economy	http://ec.europa.eu/DocsRoom/documents/19742
Bridge! Better EU regulation for local and regional authorities	Europa Decentraal	Regulation	https://europadecentraal.nl/bridge-english/
Perspective study: Governance for C2C	C2C Network	Governance	http://www.c2c-centre.com/library-item/perspective-study-governance-c2c
Cities in the Circular Economy	Ellen MacArthur Foundation	Circular Cities	https://www.ellenmacarthurfoundation.org/publications/
Executive Briefing: BS 8001 – a new standard for Circular Economy	BSI	Circular Economy standard	https://www.bsigroup.com/en-GB/standards/benefits-of-using-standards
Circular Economy in Cities Around the World – a selection of case studies	Patrick Lindner, Cynthia Mooij, Heather Rogers	Circular Cities	http://www.europarl.europa.eu/RegData/etudes/STUD/2017/602065/IPOLE_STU(2017)602065_EN.pdf
Circular by design – Products in the Circular Economy	European Environment Agency	Eco-design and circular products	https://www.eea.europa.eu/publications/circular-by-design
Rethinking Economic Incentives for separate collection	Zero Waste Europe	Waste management	https://www.zerowasteurope.eu/wp-content/uploads/2017/07/Rethinking-economic-incentives2.pdf
Environmental taxation and EU environmental policies	European Environment Agency	Taxation and regulation	https://www.eea.europa.eu/publications/environmental-taxation-and-eu-environmental-policies
Beyond the Circular Economy Package – Maintaining momentum on Resource Efficiency	Aldersgate group	Resource Efficiency	http://www.aldersgategroup.org.uk/latest#business-needs-long-term-support-to-deliver-

			324bn-circular-economy-opportunity
UIA second Call for Proposals: Policy trends from the proposals under the topic of circular economy	Reka Soos, Urban Innovative Action	Trends in Circular Economy	http://www.uia-initiative.eu/sites/default/files/2017-10/UIACall2_policytrends_circular%20economy.pdf
In-depth report: Indicators for Sustainable Cities	Science for Environment Policy	City Indicators	http://ec.europa.eu/environment/integration/research/newsalert/pdf/indicators_for_sustainable_cities_IR12_en.pdf
Circular City Governance: An explorative research study into current barriers and governance practices in circular city transitions in Europe	Jan Jonker and Naomi Montenegro Navarro, Radboud University, Nijmegen 2018	Governance	
Pay-As-You-Throw schemes in the Benelux countries	Daniel Card (Eunomia) and Jean-Pierre Schweitzer (IEEP)	Economic Incentives	https://ieep.eu/uploads/articles/attachments/84782562-17b9-4a16-b496-95dca4183cf/BE-NL-LU%20PAYT%20final.pdf?v=63680923242
"Cross-analysis of 'Pay-As-You-Throw' schemes in selected EU municipalities (executive summary)",	Jean-Jacques Dohogne, Lisa Labriga and Giuliana Longworth	Economic Incentives	Available upon request: http://www.acrplus.org/index.php/en/news/acr-news/723-payt-report-now-available

Annex 3: List of themes, topics and actions

Theme	Topic/Scoping fiche	Action
Governance	Governance	Prepare a blueprint for a Circular City Portal
		Develop a “Pay-as-you-throw”-toolkit with coaching
		City Indicators for a Circular Economy
		Mainstream the circular economy as an eligible area into the post 2020 Cohesion Policy and corresponding Funds
		Prepare a Circular City Funding Guide to assist cities in accessing funding for circular economy projects
Urban Resource Management	Urban Resource Efficiency	Help make waste legislation support the circular economy in cities
	Bio-Resources	Develop a ' Circular Resource Management ' roadmap for cities
	Water as a Resource	Analyse the regulatory obstacles and drivers for boosting an urban circular bioeconomy
	Sustainable Buildings	Help make water legislation support the circular economy in cities
Circular Consumption	Waste prevention and Circular Consumption	Manage the re-use of buildings and spaces in a circular economy
	Food Waste Prevention	Promote Urban Resource Centres for waste prevention, re-use and recycling
	Collaborative Economy	Prepare a blueprint for a Circular City Portal
Circular Business enablers and drivers	Industrial Symbiosis and innovative business models	Develop a Collaborative Economy Knowledge Pack for cities
	Circular Public Procurement	Develop a ' Circular Resource Management ' roadmap for cities
	Eco-Design	<i>Transferred to Partnership on Public Procurement</i>
		<i>Transferred to topic on governance, waste prevention and industrial symbiosis.</i>

Annex 4: List of actions in Action Plan and their correspondence with international commitments

Action	Cross-Cutting issues (as referenced in the Pact of Amsterdam)	New Urban Agenda	2030 Agenda for Sustainable Development
Better Regulation			
Help make waste legislation support the circular economy in cities	12.9, 12.11	Section: 45., 63., 71., 65., 70., 72., 73., 74.	Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Help make water legislation support the circular economy in cities	12.2, 12.5, 12.9, 12.11	Section: 45., 63., 71., 65., 70., 72., 73., 74.	Goal 6 (6.3), Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Analyse the regulatory obstacles and drivers for boosting an urban circular bioeconomy	12.5, 12.11	45, 63, 65, 70, 71, 74.	Goal 8 (8.3, 8.4), Goal 9 (9.4, 9.5), Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Better Funding			
Prepare a Circular City Funding Guide to assist cities in accessing funding for circular economy projects	12.11	Section: 45., 63., 71., 56., 58., 60.	Goal 8 (8.3, 8.4), Goal 9 (9.4, 9.5), Goal 11 (11.3, 11.6), Goal 9 (9.4, 9.5), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Mainstream the circular economy as an eligible area into the post 2020 Cohesion Policy and corresponding Funds	12.11	Section: 45., 63., 71., 56., 58., 60.	Goal 8 (8.3, 8.4), Goal 9 (9.4, 9.5), Goal 11 (11.3, 11.6), Goal 9 (9.4, 9.5), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Better Knowledge			
Prepare a blueprint for a Circular City Portal	12.2, 12.5, 12.6, 12.11	Section: 45., 63., 71., 47., 48.	Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)



Promote Urban Resource Centres for waste prevention, re-use and recycling	12.1, 12.3, 12.4, 12.5, 12.8, 12.11	Section: 45., 63., 71., 53., 47., 48., 66., 65., 70., 72., 73., 74.	Goal 8 (8.3, 8.4), Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Develop a Circular Resource Management Roadmap for cities	12.1, 12.5, 12.11	Section: 45., 63., 71., 65., 70., 72., 73., 74.	Goal 9 (9.4, 9.5), Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Develop a Collaborative Economy Knowledge Pack for cities	12.1, 12.5, 12.11	Section: 45., 63., 71., 66.	Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Manage the re-use of buildings and spaces in a Circular Economy	12.1, 12.3, 12.6, 12.8, 12.11	44, 45, 49, 51, 53, 63, 65, 69, 71.	Goal 8 (8.3, 8.4), Goal 9 (9.4, 9.5), Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
City Indicators for a Circular Economy	12.1, 12.2, 12.11	45, 47, 48, 63, 65, 71, 81, 88, 91.	Goal 8 (8.3, 8.4), Goal 9 (9.4, 9.5), Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)
Develop a « Pay-as-you-throw »- toolkit with coaching	12.5, 12.11	45, 60, 63, 65, 66, 71, 122, 134.	Goal 8 (8.3, 8.4), Goal 9 (9.4, 9.5), Goal 11 (11.3, 11.6), Goal 12 (12.2, 12.4, 12.5, 12.8), Goal 17 (17.16)

