

# THE RESOURCEFUL CITIES

Spaces for circular co-creation and action

March 2020

## BASELINE STUDY



RESOURCEFUL CITIES is an URBACT Action Planning Network of ten European cities. This project seeks to develop the next generation of urban resource centers, so they can serve as catalysts of the local circular economy by adopting a participative and integrated approach. The resource centers strive to promote the positive economic, environmental and social impacts, notably for the circular economy. The network thus facilitates waste prevention, reuse, repair and recycling. The centers also work as connection points for citizens, new businesses, researchers and the public sector to co-create new ways to close resource loops at the local level. By bringing together interested actors to work alongside, the goal is to promote the change of values and mindset.

# Table of Contents

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<b>INTRODUCTION</b> .....	<b>3</b>
1.1 Resourceful Cities.....	3
1.2 What is an Urban Resource Centre.....	4
1.3 What kind of challenges will the network address.....	5
1.4 The Baseline Study .....	6
<b>THE STATE OF THE ART</b> .....	<b>8</b>
2.1 Introduction .....	8
2.2 Statistical Overview.....	9
2.3 Policy Review .....	9
2.4 Strategic Challenges .....	13
2.5 Relevant Projects.....	14
2.6 Related Networks & Initiatives .....	16
<b>THE PARTNER PROFILES</b> .....	<b>18</b>
3.1 The Hague.....	19
3.2 Zagreb.....	24
3.3 Vila Nova de Famalicão .....	29
3.4 Cáceres.....	34
3.5 Opole.....	38
3.6 Patras .....	43
3.7 Ciudad Real .....	47
3.8 Bucharest 3 <sup>rd</sup> District.....	52
3.9 Mechelen.....	57
3.10 Oslo .....	62
<b>CONCLUSION</b> .....	<b>67</b>
4.1 The Resourceful Cities Opportunity.....	68
4.2 Cities at a glance .....	69
4.3 Shared Learning Needs.....	71
4.4 Work Programme Flow for Phase II .....	76
4.5 Small Scale Actions .....	79
4.6 Conclusion .....	80
<b>BIBLIOGRAPHY</b> .....	<b>81</b>
<b>APPENDIX</b> .....	<b>83</b>

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# 1. INTRODUCTION

## 1.1 Resourceful Cities

The Resourceful Cities project was initially conceived by the city of The Hague together with the city of Oslo, arising from their membership of the Urban Agenda Partnership on the Circular Economy. The project idea was developed in order to implement one of 12 actions addressed by the partnership. The focus of that specific action was to "Promote Urban Resource Centres for waste prevention, re-use and recycling".

Led by The Hague the Resourceful Cities consortium consists of ten partners, representing a wide geographical spread across Europe. Partner cities include Zagreb, Vila Nova de Famalicão, Cáceres, Opole, Patras, Ciudad Real, Bucharest 3<sup>rd</sup> District, Mechelen and Oslo.

The consortium will undergo an extensive programme of facilitated transnational exchange and learning as well as participative co-creation at the local level in order to develop tailor made comprehensive integrated action plans (IAPs) for each partner city at the end of Phase II. This process of collaborative discovery and development is outlined in the diagram below. The IAPs will focus on making the transition to the circular economy within the framework of the Urban Resource Centre. The plans will include a set of clearly defined actions, timelines, actors and potential funding sources.

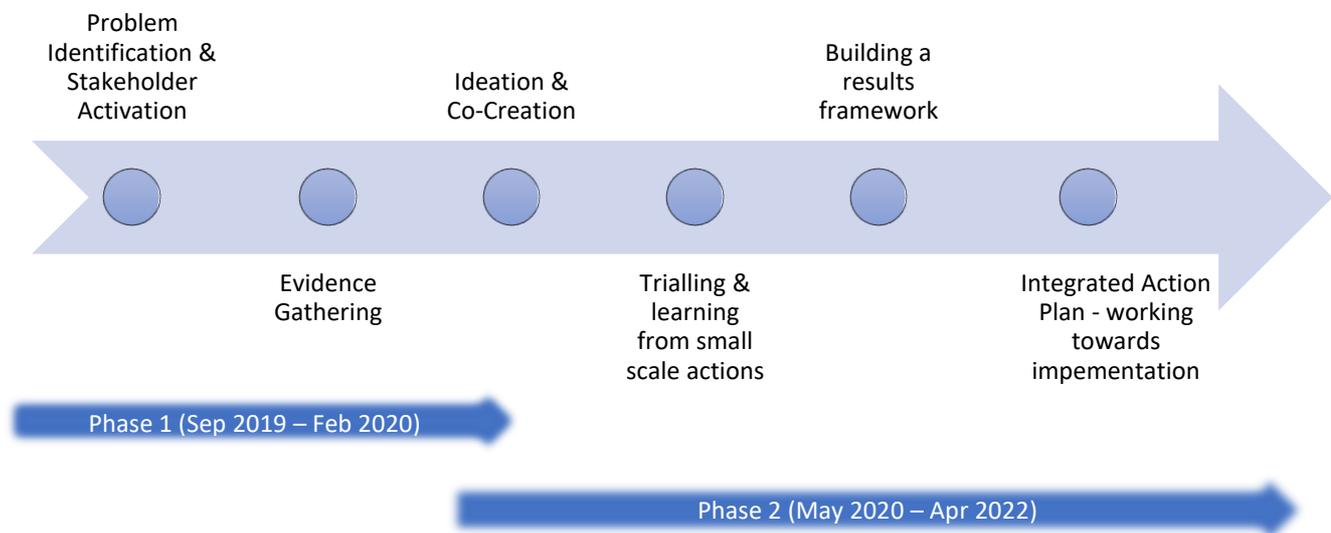


Figure 1. Resourceful Cities Action Planning Network Discovery & Development Process

## 1.2 What is an Urban Resource Centre?

An Urban Resource Centre can be defined as a physical space used to promote the circular economy at a local level. These centres can be designated multi-functional places acting as living labs, where the waste hierarchy is correctly implemented, emphasizing both the social, environmental and economic functions of the circular economy. Urban Resource Centres bring together a wide community of stakeholders, promoting circular consumption, waste prevention, re-use and circular resource management in cities today.

Using the Urban Resource Centre concept as a common framework, partner cities will work together and learn from each other to develop tailor made solutions to common challenges relating to the acceleration of the circular economy and resource efficiency.



**Figure 2. Artist's Impression of the Open Space Goal Visualisation Exercise held during the Resourceful Cities Action Planning Network Kick Off meeting, October 2019**

### 1.3 What kind of challenges will the network address?

Local approaches to waste prevention, re-use, and recycling initiatives are varied, and some cities have worked actively to increase the focus on waste prevention, re-use, and repair. Broadly speaking, however, waste prevention and re-use have traditionally been considered, to be beyond the obligations of the local waste management actors. Many local waste authorities, therefore, still lack the required knowledge and expertise in the field. Partners will work together through network activities in order to fill these knowledge and capacity gaps.

Traditionally, cities work with large recycling stations located in the outskirts of the urban areas, often only accessible by car and many do not offer alternatives to directing the waste to recycling, incineration and landfilling. This trend is turning, cities are growing, land is becoming scarce and citizens demand services which are easy to access. How can cities develop services which fit with the priority of the waste hierarchy, promote the circular economy and invite in citizens, new businesses and start-ups to co-create new ways of closing the resource loops at local level? This question will be explored through a facilitated discovery process during the network’s activities.

Further challenges to be addressed by the network include those barriers identified in a study undertaken by the Urban Agenda Partnership based on in-depth interviews of twelve different Urban Resource Centres. These include barriers relating to the development of business models, overcoming legislative hurdles, improving waste quality, effective communication and developing effective indicator & reporting systems. These barriers were reaffirmed as challenges by the Resourceful Cities network partners during their kick-off meeting in The Hague in early October and several more specific challenges were also identified. The following table summarises the key challenges to be addressed by the network.

CHALLENGE	DESCRIPTION
<i>Waste Reduction</i>	A wide variety of waste reduction measures in partner cities will be reviewed and collected into an accessible repository. Existing command & control measures (regulations, rules, criteria) and market-based instruments (e.g. subsidies, incentives) will be reviewed and new measures will be explored.
<i>Digitalisation</i>	Partners will explore how cities can use digital technologies to support greater resource efficiency and circular economy adaptation and acceleration. Challenges around digitalisation such as funding, literacy & inclusivity will also be explored.
<i>Sustainable Economic Growth</i>	A key challenge here is the development of viable business models which support the decoupling of resource use from economic growth. Other challenges include identifying means of scaling up small scale operations to become self-sustaining resource efficient enterprises. Cities will also explore methods of creating & supporting healthy & inclusive innovation ecosystems within their cities and will learn from each other about supporting CE enterprise development & growth. The development of a common set of indicators which

can be used to monitor and measure impact (social, economic & environmental) will also be addressed.

*Eco Design & Market Influencing* Influencing the market to purchase more eco-friendly products and promoting more eco-friendly design is recognised as a key challenge for this network. Partners will explore ways of promoting an increased focus on the eco-design of goods (easier to repair, to remanufacture, and to re-use) with the aim of maintaining a stable re-use market with a steady supply of re-usable, quality goods. It will also explore means of increasing the attractiveness of these goods to consumers, in order to increase market demand.

*Capacity Building* Partners identified a clear need for capacity building across their municipalities in relation to multiple areas including knowledge around accessing, managing and implementing EU funding in a strategic way, improving coordination and joined up thinking, developing a common language across organisations and developing skills and knowledge associated with working in an integrated and participative manner in the delivery of projects.

*Education & Culture* While individually cities have some good practices to share in terms of education and outreach several challenges remain in this area. Specifically, cities identified difficulties in developing tailor-made diverse marketing & education strategies to reach all sectors of the community to effect widespread and impactful cultural change. This becomes particularly difficult when competing with wealthy corporate giants pushing the consumerist culture.

**Table 1: Challenges to be addressed by the Resourceful Cities Action Planning Network**

## 1.4 The Baseline Study

The production of the baseline study is a key output in Phase I of the Urbact Action Planning Networks. The aim of the document is to provide partners with a shared understanding of the existing knowledge base with, regard to progressing the transition to a circular economy in cities. It is an important foundation stone upon which to develop the Phase II activities.

### 1.4.1 Scope

The Study has three main components namely a ‘State of the Art’, a set of partner profiles and a concluding section.

The State of the Art provides a European level overview of policy, knowledge, funding streams, projects and networks promoting the transition to the Circular Economy and facilitating the development of services associated with Urban Resource Centres.

The partner profiles include a SWOT analysis of the state of play in all partner cities, as well as a review of existing policies, strategies & plans. Key challenges are identified at the local level and a focus is defined for activities, including capacity building needs to be undertaken in Phase II. Each profile establishes that city’s position in relation to the URBACT III programme level indicator.

The concluding section synthesizes the two previous sections. It summarizes the key challenges and needs of each partner city, recognizing the opportunities for growth at both the individual and transnational level. Taking these into account it outlines the work plan to be undertaken during phase II.

## 1.4.2 Methodology

In response to the threefold purpose (review, case study, analysis) of this study a variety of research methods were selected and employed during the preparation of this document and are outlined here below.

Methodology	Description
<i>Input from the Partner Meetings</i>	The kick-off meeting held in the Hague on 3 <sup>rd</sup> & 4 <sup>th</sup> of October 2019 was vital in building the foundations for this baseline study. It provided partners with an opportunity to get to know each other face to face, to both individually and collectively visualize their goals in this network, to identify and discuss challenges and opportunities in their cities and to begin to map transnational exchange and learning opportunities. This work was further developed and refined during Phase 1 until a final draft was presented, discussed, further refined and agreed at the final Phase 1 transnational meeting in Mechelen on the 13 <sup>th</sup> & 14 <sup>th</sup> of February 2020.
<i>Literature Review &amp; Desk Study</i>	A literature review was undertaken during a desk study of the main EU policies and strategies relating to the circular economy.
<i>Questionnaires</i>	A set of questionnaires were drafted by the lead expert and signed off by the lead partners. The questionnaires collected a range of both qualitative and quantitative data relating to the development of the circular economy at the city level. The questionnaires were circulated to all partners cities in September 2019 with a request to have them returned to the lead expert in advance of the city study visit.
<i>City Study Visits</i>	The returned questionnaires provided a guiding framework upon which to elaborate during the study visits. Each city was visited by the lead partner. Semi structured interviews were undertaken with key personnel of the municipality as well as some key stakeholders. The city visits coincided with the first formal meeting of the Urbact Local Group. Information gathered during the visit was consolidated into a summary report which was circulated to the partner city to provide them with the opportunity to edit.
<i>Virtual Partner Consultation</i>	The development of the baseline study was further supported through regular contact between the lead partner, lead expert, network ULG coordinator and individual partner cities, via email and Skype. WhatsApp & Basecamp was also used to share information across the network and to keep in touch.

## 2. The State of the Art

### 2.1 Introduction

Cities consume around 60-80% of global natural resources, produce 50% of global waste and 75% of global greenhouse gas emissions. Over 70% of the population of the European Union live in urban areas.<sup>1</sup> Urban regions dominate as centres of production, but they also have the largest potential to influence greater resource efficiency. The GRECO project funded by ESPON identified the importance of the territorial dimension of a region in determining the transition process to a greener economy. It noted that in cities at least, closing loops through a combination of waste prevention, re-use, repair and recycling, is an integral part of developing circular resource flows, thereby reducing their environmental impact.

Estimates suggest that incorporating innovative technologies and resource efficiency improvements along all value chains could reduce material inputs in the EU by up to 24% by 2030. 'Switching to a circular economy in the food, mobility and built environment sectors is estimated to generate a prospective reduction in greenhouse gas emissions of 48% by 2030 and 83% by 2050 compared with 2012 levels.'<sup>2</sup> Cities are uniquely positioned to accelerate the transition towards a more circular economy in Europe, harnessing economic, environmental and social benefits. The ESPON CIRCTER project identified cities as having a fundamental role in contributing to an effective recovery of all materials that are consumed locally.



It makes sense therefore that cities play an active role in facilitating circular consumption and promoting sustainable lifestyles. However, 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. Cities still lack knowledge on how to effectively work with waste preventive measures facilitating more sustainable consumption and resource loops. Much of the potential for improvement lies in closer interaction and connectivity with the citizen in order to effect change. Urban Resource Centres (URCs) offer significant potential to tackle these challenges. Exploring and acting on this potential at transnational and local level within a diverse set of city needs, lies at the heart of this Resourceful Cities Action Planning Network.

While [spaces showcasing various individual elements of an Urban Resource Centre](#) are relatively common in cities across Europe e.g. incubator & coworking spaces for sustainable businesses, repair/reuse centres etc., the existence of Urban Resource Centres acting as a living lab while still offering a very wide range & multiplicity of circular economy related services is extremely limited. The best example can perhaps be found in Dublin's [Rediscovery Centre](#), which took inspiration from projects such as the [Eden Project](#) in Cornwall, the [WWF Living Planet Centre](#) and the [Green School](#) initiative which originated in Indonesia. The [Maison les Canaux](#) in Paris is another example of a URC type structure, refurbished using circular materials but with a strong focus on social & sustainable entrepreneurship.

## 2.2 Statistical Overview

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According to the global SDG Index and dashboards report 2018 (Bertelsmann Stiftung and Sustainable Development Solutions Network), 11 EU Member States score above 60 out of 100 for SDG 12 (Ensure sustainable consumption and production patterns). This is on average the second lowest ranking SDG for the EU Member States.<sup>3</sup>

While waste management within the European Union (EU) has seen considerable improvements in recent decades, almost a third of European municipal waste is still landfilled and less than 50% is recycled or composted. There are wide variations and disparities of course between Member States and recent policy measures seek to reduce these disparities.

While the EU average percentage share of recycling and composting among other waste treatment methods stands at 43%, actual figures range from between 65% in Germany to 3% in Romania.

Six Member States landfill less than 5% of their municipal waste, namely Denmark, Sweden, Netherlands, Belgium & Austria. At the same time eight Member States landfill over 70% of their municipal waste including Romania, Greece, Latvia, Malta & Croatia. Spain and Poland landfill 60% of their waste, with Portugal landfilling approximately 50%.

There are also wide disparities in the amount of municipal waste per capita and per year, varying from 272 kg in Romania to 766 kg in Denmark, with the EU average standing at 489 kg in 2018, down from 523 kg per person in 2007, believed in part to be as a result of the economic crisis.<sup>4</sup>

It must be noted however that because of the varying data collection methods, the lack of recent data, the wide spectrum of waste types, and the complexity of waste-treatment streams, figures on waste management must be treated with caution, especially when being used to show comparison between Member States. Nevertheless, it provides a rough reflection of the current situation and underlines disparities between member states. The EU is seeking to tackle this through various policy measures introduced in recent years.

## 2.3 Policy Review

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Recognising the major social, economic and environmental gains associated with a transition to the Circular Economy, the European Union has been working to promote this transition across member states in recent years and this is reflected in a series of high-level policy developments and key pieces of legislation, the most important of which are summarized here below.

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<sup>1</sup> <https://www.pbl.nl/sites/default/files/cms/publicaties/PBL-2016-Cities-in-Europe-2469.pdf>

<sup>2</sup> Circular Economy in Europe, EEA 2016

<sup>3</sup> European Commission (2019) Reflection Paper: Towards a Sustainable Europe by 2030 [https://ec.europa.eu/commission/sites/beta-political/files/rp\\_sustainable\\_europe\\_30-01\\_en\\_web.pdf](https://ec.europa.eu/commission/sites/beta-political/files/rp_sustainable_europe_30-01_en_web.pdf)

<sup>4</sup> Data source: Eurostat (env\_wasmun), 2016.

In 2015 the European Commission launched the Circular Economy Action Plan. This consisted of 54 actions supported by a set of measures aimed at influencing production, consumption, and waste management in five priority resource sectors. The resource sectors prioritised were plastics, food waste, critical raw materials, construction & demolition and biomass & bio-based products.

The action plan was accompanied by four legislative proposals on EU waste policy. These four proposals relate to 1) the Waste Framework Directive (2008/98/EC); 2) the Landfill Directive (1999/31/EC); 3) the Packaging and Packaging Waste Directive (1994/62/EC); 4) the Directives on end-of-life vehicles (2000/53/EC), on batteries and accumulators and waste batteries and accumulators (2006/66/EC), and on waste electrical and electronic equipment (2012/19/EU).

Measures put forward under these legislative proposals included:

- setting new waste management & common recycling targets for 2030 (municipal waste 65%, packaging 75%, landfill 10% max of total municipal waste, ban on landfilling of separately collected waste)
- setting minimum requirements for extended producer responsibility schemes
- promoting prevention and reuse
- streamlining provisions on end-of-waste status
- aligning definitions, calculation methods for targets and reporting obligations
- economic incentives for producers to put greener products on the market and support recovery and recycling schemes (e.g. for packaging, batteries, electric and electronic equipment, vehicles)

In 2019, the European Commission adopted a comprehensive report on the implementation of the Circular Economy Action Plan. The report presents the main achievements under the Action Plan. All the 54 actions have been or are being delivered. However, the report found that more could be done to strengthen the policies, especially concerning the circular design of products and to support consumers and circular practices such as reuse and repair.

Several strengthening measures have been included in the 2018 Circular Economy Package. The package is composed of a set of ten key indicators which cover each phase – i.e. production, consumption, waste management and secondary raw materials – as well as economic aspects such as investments, jobs and innovation.

The 2018 European Circular Economy Package incorporates amendments to several directives including those on the landfill of waste, waste, packaging and packaging waste, end of life vehicles, batteries & accumulators and waste batteries and accumulators and on waste electrical and electronic equipment.

Amendments seek to further accelerate the transition to the circular economy, by introducing several measures aligned with SDG 8, 9 & 12. They also included revised targets, reconciling them with realities on the ground, while remaining ambitious. Key measures introduced include:

- An EU Strategy for Plastics in a Circular Economy
- New targets for recycling, packaging & landfilling (detailed in the table below)
- Stricter rules for calculating recycling
- Phasing in separate collection for wider range of waste streams (textiles, bio-waste etc)
- A mandatory extended producer responsibility scheme to be established for all packaging by 2025.
- A monitoring framework on progress toward CE

The new recycling and landfilling targets aim to boost the re-use of valuable material in waste and improve the way municipal and packaging waste is managed. They are intended to further strengthen the "waste hierarchy" by placing prevention, re-use and recycling clearly above landfilling and incineration. Key targets contained with the 2018 Package are outlined in the following table:

<i>Category</i>	<i>Year</i>	<i>Detail</i>
<i>Biowaste</i>	2023	Member States must ensure that biowaste is either separated and recycled at source or is collected separately and not mixed with other types of waste
<i>Reuse &amp; Waste Reduction</i>	2024	European Commission will examine member state data on reuse & consider setting quantitative targets around reuse and waste reduction
<i>Municipal Waste</i>	2025	55% of municipal waste must be prepared for reuse & recycling
<i>Municipal Waste</i>	2030	60% of municipal waste must be prepared for reuse & recycling
<i>Municipal Waste</i>	2035	65% of municipal waste must be prepared for reuse & recycling
<i>Municipal Waste</i>	2035	Amount of municipal waste landfilled must be reduced to 10% or less of total amount generated
<i>All waste</i>	2030	All waste suitable for recycling or other recovery, must not be accepted in a landfill, except for waste for which landfilling delivers the best environmental outcome
<i>Recycled Packaging Waste</i>	2025	The total amount of recycled packaging waste must be at 65%. Individual minimum targets for specific packaging materials as follows: plastic 50%, wood 25%, ferrous metals 70%, aluminium 50%, glass 70%, paper & cardboard 75%
<i>Recycled Packaging Waste</i>	2030	The total amount of recycled packaging waste must be at 70%. Individual minimum targets for specific packaging materials as follows: plastic 55%, wood 30%, ferrous metals 80%, aluminium 60%, glass 75%, paper & cardboard 85%

In addition to these new recycling targets, the newly adopted amendment to the Waste Framework Directive also includes changes to Article 9 “Prevention of Waste”. EU Member States should take measures to promote and support sustainable production and consumption models. They must also monitor and assess the implementation of measures on re-use, using the common monitoring framework established by the Commission.

Complementing and shaping these policy developments is the work of the Urban Agenda Partnership on Circular Economy. The partnership is one of 14 launched within the context of the Urban Agenda for the EU, established by the Pact of Amsterdam in 2016. The Urban Agenda aims to promote cooperation between all levels of government through the development of topic specific partnerships, in order to achieve a sustainable, socially inclusive, innovative and economically powerful Europe. The partnerships seek to collaboratively identify problems and solutions and implement concrete actions in a multi-level working method promoting cooperation between Member States, cities, the European Commission and other stakeholders.

The Urban Agenda Partnership on Circular Economy is coordinated by Resourceful Cities partner, the City of Oslo. It includes the network lead partner The Hague and four other urban authorities, namely Prato, Porto, Kaunas and Flanders region; Member States: Finland, Poland, Slovenia and Greece; the European Commission (DG REGIO, DG ENV, DG CLIMA, DG RTD, and DG GROW); the Council of European Municipalities and Regions (CEMR); Eurocities; URBACT; the European Investment Bank (EIB); and stakeholders (the Association of Cities and Regions for Sustainable Resource management (ACR+); ICLEI, Europa Decentraal, RReuse, OuiShare, and the University of Nijmegen (NL)).

The Partnership has developed an Action Plan containing 12 key actions aimed at improving knowledge, funding & regulation in support of the circular economy transition in cities. This Resourceful Cities network aims at implementing knowledge action no.2 – promoting Urban Resource Centres for waste prevention, re-use & recycling, however several other actions overlap with our interests. All 12 actions are listed here below:

Knowledge	Funding	Regulation
<ul style="list-style-type: none"> <li>• Prepare a blueprint for a Circular City Portal</li> <li>• Promote Urban Resource Centres for waste prevention, re-use &amp; recycling</li> <li>• Develop a 'Circular Resource Management' Roadmap for cities</li> <li>• Develop a Collaborative Economy Knowledge Pack for cities</li> <li>• Manage the re-use of buildings and spaces in a circular economy</li> <li>• Develop City Indicators for Circular Economy</li> <li>• Circular Economy Financial Incentives - Develop a “Pay-as-you-throw” toolkit with coaching</li> </ul>	<ul style="list-style-type: none"> <li>• Prepare a Circular City Funding Guide to assist cities in accessing funding for circular economy projects</li> <li>• Mainstreaming the circular economy as an eligible area into the post 2020 Cohesion Policy and corresponding Funds</li> </ul>	<ul style="list-style-type: none"> <li>• Help make waste legislation support the circular economy in cities</li> <li>• Help make water legislation support the circular economy in cities</li> <li>• Analyse the regulatory obstacles and drivers for boosting an urban circular economy</li> </ul>

At country level all partner countries represented in the Resourceful Cities network have national and regional policies relating to waste management and/or sustainable development which to varying degrees seek to promote waste

prevention, reuse & recycling. At a city level however, not all partners have yet developed a strategy dedicated to driving the circular economy transition.

Oslo has prepared a draft Strategy on Circular Consumption which is awaiting adoption, Mechelen intends to develop a strategy in 2020. Bucharest has a Masterplan for Integrated Waste Management but no strategy at city level dedicated specifically to waste prevention, reuse & recycling. Similarly, Ciudad Real, Patras, Opole have no strategy dedicated specifically to the promotion of the circular economy at city level. Cáceres' local strategy Green Book Creative Cáceres focuses on supporting emerging economic sectors focused on innovation, creativity and sustainable development and aligning with CE principles. Famalicão Circular is a municipal programme developed in 2018 which supports circular economy related projects within the city going beyond the scope and strict focus of waste management and recycling actions. In The Hague the 'Circular The Hague' strategy focuses on developing the circular start-up ecosystem in the city. Zagreb adopted its Education and Information Activities Plan regarding the sustainable waste management of Zagreb in 2018. This is a four-year plan focussed on citizen education and outreach with a view to promoting waste prevention, reuse & recycling.

Activities undertaken within this Action Planning Network will provide partners with an important opportunity to inform the development of a city level strategy aimed at accelerating the circular transition at the local level.

Looking forward to the post 2020 financial framework period, we see promising signs that the Circular Economy will feature strongly in Cohesion policy and post 2020 EU funding programmes.

## 2.4 Strategic Challenges

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Several strategic challenges have been identified at European level. In its 2018 annual report the European Environment Agency (EEA) pointed to three main conclusions following an assessment of EU Member States' re-use activities, based on their national waste prevention programmes.

Firstly, it noted the value of re-use in contributing to waste prevention and the circular economy. It also noted the environmental and socio-economic benefits of reuse. It recognised however that greater reuse requires insight into technical aspects, economic incentives, and a greater understand of consumption patterns and how to influence these.

Secondly, it noted the wide diversity in national approaches but with one clearly commonality - an over reliance on voluntary arrangements. Where EU Member States have initiated re-use networks, voluntary agreements are the most frequently mentioned policy measure in the programmes.

Lastly, recognising the importance of large-scale eco-design, the report concludes that there is a need for new measures to strengthen re-use and extend the lifespan of products, if we are to move beyond the current re-use landscape which is focused on specific niche markets, frequently operated by social enterprises. Across market segments, it recognises that economic incentives could be strengthened through market-based instruments, support for innovation, and 'green procurement'.

In the European Commission’s Environmental Implementation Review 2019, work done on strengthening the overall policy framework for the circular economy was recognised. It is clear from country reports however that waste prevention remains an important challenge for all Member States.

In a 2016 ESPON Policy Brief on Pathways to a Circular Economy in Cities & Regions the importance of adapting circular economy measures to meet local territorial needs and characteristics was recognized. It will not be acceptable to simply copy-paste solutions from one region to another. Every city must start by identifying their own challenges to determine what the transition towards circular economy could look like. The brief recognized the value of experimenting and learning from the implementation of small-scale actions that can then be scaled up and translated into policy.

The Resourceful Cities partners recognise these clearly identified strategic challenges at both the local and transnational level and will seek to tackle these through tailor made action plans developed during the network discovery process.

## 2.5 Relevant Projects

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There have been hundreds of EU projects on the topic of Circular Economy, funded since the 2014 programming period began, far too many to name or detail within the frame of this document. Some key projects of relevance however are outlined below and categorized according to its respective funding programme in the following tables.

The Resourceful Cities Network will learn from and build on work already done within these and other projects. It will take advantage in particular of learning from other URBACT networks including Card4All, Tropa Verde, Making Spend Matter, Gendered Landscape, URGE and Tourism Friendly Cities.

URBAN INNOVATIVE ACTIONS	
Antwerp Circular South – engaging the community in an online & offline circular economy	Stimulating sustainable awareness among citizens of Antwerp and developing a culture of co-creation to drive innovative solutions accelerating the shift to the circular economy.
A2UFood - Avoidable and Unavoidable Food Wastes: A Holistic Managing Approach for Urban Environments	Led by Heraklion, this project seeks to reduce food waste within the urban environment in order to reduce pressure on natural resources, food production and associated processes, including disposal management. It addresses social and legal barriers that hinder food waste reduction, including its reintroduction into a circular economy.
URBAN SOIL 4 FOOD - Establishment of Innovative Urban Soil Based Economy Circles to Increase Local Food Self-sufficiency and Minimize Environmental Footprint	The project is led by the city of Maribor, which is heavily dependent on the import of outside resources. Self-sufficiency rates are low here. The main goal of the project is to use the city’s waste to produce and valorise new products and food using an innovative process to produce urban soil, with the aim to increase local food self-sufficiency and minimise the environmental footprint of the city.

HORIZON 2020		
REFLOW - constRuctive mEtabolic processes For material FLOWs in urban and peri-urban environments across Europe	-	The vision is to develop circular and regenerative cities through the re-localisation of production and the re-configuration of material flows at different scales. The project will use Fab Labs and makerspaces as catalysers of a systemic change in urban and peri-urban environments, which enable, visualize and regulate “four freedoms”: free movement of materials, people, (technological) knowledge and commons, in order to reduce materials consumption, maximize multifunctional use of (public) spaces and envisage regenerative practices. This is an innovative action with a budget in excess of €10 million.
CICERONE - ClrCULAR Economy platfoRm for eurOpeaN priorities strategic agEnda	-	A coordination & support action with a budget of over €2 million this project brings together programme owners, research organizations and other stakeholders to create a platform for efficient Circular Economy programming. A wide diversity of national / regional situations is reflected in the partnership which will develop Strategic Research and Innovation Agenda (SRIA), perform an ex-ante impact assessment of joint programming on circular economy R&I, and develop a policy toolkit to promote the CE priorities in policy development.
CIRC4LIFE - A circular economy approach for lifecycles of products and services	-	CIRC4Life is a consortium of 17 partners with a budget of over €7 million. Partners will develop and implement a circular economy approach for sustainable products and services through their value and supply chains. The project aims to develop three business models along the product value chain (i) co-creation of products/services (ii) sustainable consumption, and (iii) collaborative recycling and reuse. The business models are demonstrated in four industrial areas: LED lighting products, computer tablets, meat supply chain, and vegetable farming and food.
C-VoUCHER - Circularize ValUe CHains across European Regional Innovation Strategies	-	C-VoUCHER is an innovative action with a budget in excess of €5 million. The project aims to develop new circular (cradle to cradle) value chains, disrupting traditional linear (cradle to waste) business models by means of cross-fertilization with Design Thinking experts and Circular Disruptors. 24 selected Classic SMEs from traditional industries (Agro-Food, Health, Sea, Textile, and Manufacturing), will be offered an innovative 4-phase Circularity Program to develop 12 Circularity Solutions, to be then introduced in 42 Adopter SMEs with similar challenges.

EUROPEAN TERRITORIAL COOPERATION PROGRAMMES		
Interreg Europe - Central - SURFACE project	-	SURFACE aims to improve environmental management and quality of life in functional urban areas through the establishment of multi-stakeholder based Smart Re-Use Parks. The project aims to establish harmonised and evidence-based decision making in the field of waste prevention and reuse.
ESPO - CIRCTER - Circular Economy & Territorial Consequences	-	CIRCTER aims to provide evidence on the territorial dimension of the transition towards a Circular Economy and on local and regional patterns and flows of materials, including resources and waste. The analysis of the territorial dimension aims to cover changes in resource use, design, production, distribution, consumption and waste management. In addition, it aims to provide input to European regions and cities on their potential for implementing steps towards a circular economy.
Interreg Europe - CircPro - Smart Circular Procurement	-	CircPro’s main objective is to increase the implementation of circular procurement under partner’s targeted policy instruments so that circular economy principles and criteria are incorporated into them. CircPro targets circular procurement from different approaches that have varying complexity: all of which facilitate closed loops, but where the focus shifts from better quality products to new and innovative products and new business concepts.
Interreg Europe - CECI - Circular Economy blooms through Citizen Involvement)	-	This project aims to improve regional policies by promoting citizen involvement in circular economy. The project has eight partners including Mechelen. CECI will raise public awareness on the importance of citizens in promoting the circular economy and create a demand for circular and sustainable services.
Interreg Europe - RETRACE - A Systemic Approach for Regions Transitioning towards a Circular Economy	-	RETRACE supports the circular economy by promoting good practices that give citizens and businesses the skills and information they need to adopt more eco-innovative behaviour. It promotes good practices that focus on ‘systemic design’ to businesses to transition to a circular economy or the role of local authorities in providing space and guidance for collaboration and dialogue between companies.

Urbact – Tropa Verde

A Transfer network which aims to encourage environmentally responsible behaviour empowering citizens to reuse & recycle. It combines a web platform & low-cost campaigns & considers itself a "civic movement fully committed to sustainability and circular economy". Citizens get vouchers and exchange them for rewards from the City Council and local retailers. It connects disposing waste (green points, civic & social centres, etc.) with local businesses providing gifts or discounts. It has 6 partners including Resourceful Cities partner Opole.

## 2.6 Related Networks & Initiatives

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There are multiple active local, national and transnational networks which are in some way relative to the activities the Resourceful Cities network. The following are just a sample of some of these networks and initiatives.

### *ACR+ Association of Cities & Regions for Sustainable Resource Management*

ACR+ is an international network of cities and regions sharing the aim of promoting sustainable resource management & accelerating the transition towards a circular economy on their territories and beyond. The network launched a specific initiative dedicated to Circular Economy Planning for cities and regions called the Circular Europe Network. Circular Europe Network builds on the expertise of European front runners within the ACR+ network in order to gather, analyse and exchange information on efficient circular economy strategies implemented by cities and regions.

### *BlackRock dedicated Circular Economy Investment Fund*

BlackRock, the world's largest asset management fund, as part of a newly founded partnership with the Ellen MacArthur Foundation, has launched its first investment fund dedicated to accelerating the global development of a circular economy with initial seed funding of \$20 million. The fund will be used to invest in firms with three different types of exposure to the circular economy. Eligible firms will include adopters, or companies setting circular economy targets for their own operations; enablers, companies providing innovative solutions; and beneficiaries, firms which benefit from the transition to a circular economy, such as those selling recycled plastic feedstocks.

### *C40 Cities – Waste to Resources Network*

Created and led by cities, C40 is focused on tackling climate change and driving urban action that reduces greenhouse gas emissions and climate risks, while increasing the health, wellbeing and economic opportunities of urban citizens. C40 has multiple initiatives including the Waste to Resources Network which supports cities to accelerate the transition [Towards Zero Waste](#), reducing waste generation and increasing diversion from landfill and incineration, through regenerative and circular economy principles.

### *European Circular Economy Stakeholder Platform*

This is a joint initiative by the European Commission and the European Economic and Social Committee. It consists of a platform which provides users with the opportunity to exchange and interact with other interested stakeholders on issues relating to the circular economy. Users can submit content to the platform including information relating to good practices, publications, events or networks.

### *European Investment Bank*

The EIB offers a variety of supports to public and private sector bodies seeking to make a circular economy transition. EIB circular economy supports focusses on three mutually reinforcing areas namely, awareness raising – by developing and sharing knowledge on the CE transition, advisory support – by helping circular business mitigate risks and improve the investment readiness of their projects and of course by providing finance to CE projects and promoters with a typically high-risk profile.

### *Informal Extended Resourceful Cities Network*

Resulting from an overwhelming level of interest received by the lead partner in collaboration with Oslo during the partner selection process for this APN, an informal extended network has been organically created, led by the city of Oslo. The aim of this informal network is to share learning, knowledge and experiences around waste prevention, reuse & recycling. Members are also keen to use it as an opportunity to find partners for new projects, discuss financing options and access potential funding streams.

### *RREUSE*

RREUSE represents social enterprises active in re-use, repair and recycling. The organisation seeks to encourage the EU and national governments to move from promoting just recycling and waste management to putting second hand first.

### *SWITCH to Green Initiative*

Launched by the European Commission Directorate General for International Cooperation and Development (DG DEVCO), this is a Flagship Initiative linking complementary programmes to improve the overall coherence, coordination and visibility of existing and future EU-funded international cooperation initiatives on green economy.

### *The Ellen McArthur Foundation*

The aim of this international foundation is to accelerate the transition to a circular economy. The foundation works with business, government and academia to build a framework for an economy that is restorative and regenerative by design.

An extensive list of Circular Economy networks and platforms is available through the European Circular Economy Stakeholder platform at: <https://circulareconomy.europa.eu/platform/en/dialogue/existing-eu-platforms>

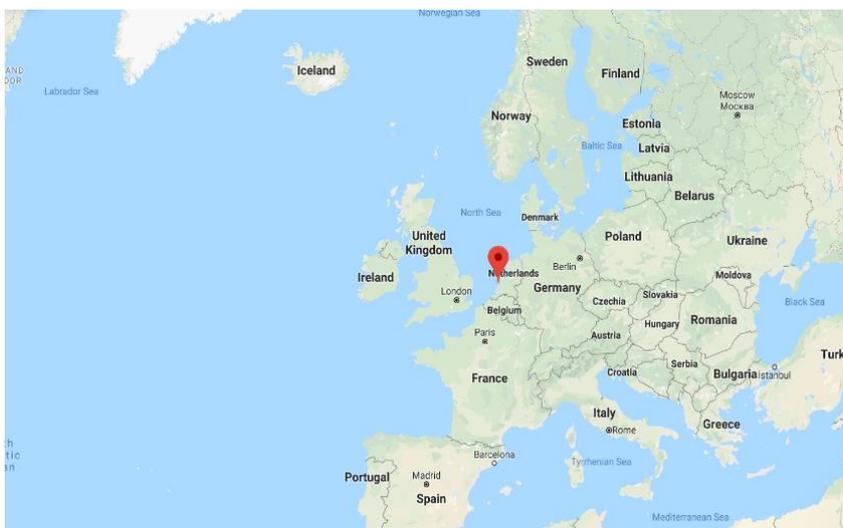
### 3. Partner Profiles



### 3.1 The Hague



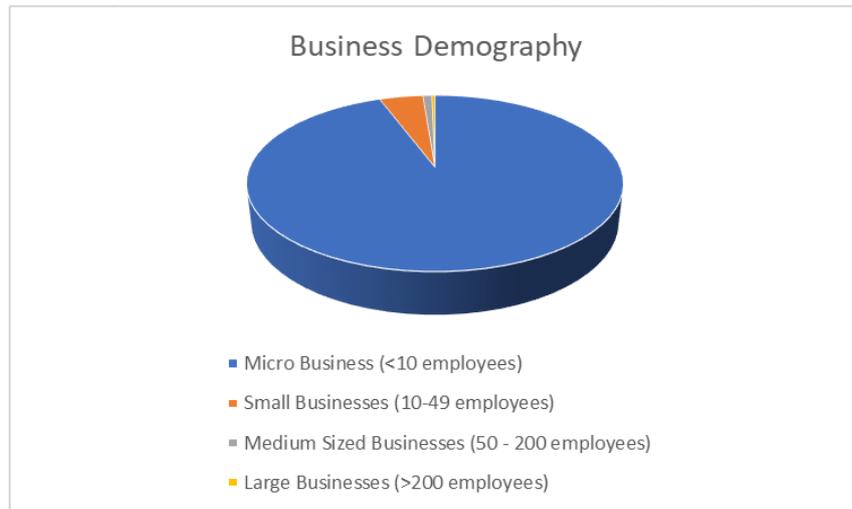
Situated on the west coast of the Netherlands, The Hague is the capital of the province of South Holland. It is also the seat of government of the Netherlands and it houses one of the most important courts in the world.



With a growing population of more than 530,000 and a notably high population density of over 6,500 inhabitants per km<sup>2</sup>, The Hague is the third-largest city in the Netherlands, after Amsterdam and Rotterdam. The Rotterdam–The Hague metropolitan area, with a population of approximately 2.7 million, is the 13th-largest in the European Union and the most populous in the country. The Hague is in the centre of the Haaglanden conurbation and lies at the southwest corner of the larger Randstad conurbation.

The Hague is the seat of the Cabinet, the State's General, the Supreme Court, and the Council of State of the Netherlands. Most foreign embassies in the Netherlands are located in the city. It is known as the home of international law and arbitration. The International Court of Justice, the main judicial arm of the United Nations, is located in the city, as well as the International Criminal Court, the Permanent Court of Arbitration, Europol, and approximately 200 other international governmental organisations.

The Hague strives to offer an attractive environment for enterprise development, recognising its critical importance to the city’s competitiveness and sustainability. The city has a specific policy programme dedicated to supporting the



development of ‘impact companies’, known as the Impact Economy Programme. The Programme supports the development of companies with a focus on societal and technological innovations to address global challenges. The city regularly organises calls for innovative ideas through contests and tenders such as ‘The Hague Innovators Challenge’. The city’s commitment to supporting innovation and new business growth is reflected in the high number of micro businesses in the city, representing over 51,000 of its almost 55,000 businesses.

### Waste Management & Circular Economy in the City

In The Hague, the local government is responsible for the collection of household waste. Individual businesses however are responsible for their own waste management. Within the city, a team of approximately eight people are responsible for the waste-management. They manage the infrastructure and logistics contracts. The HMS (Haagse Milieu Services) is responsible for the day to day waste management operations (with trucks, cars, waste depots, etc.). The city of the Hague is 100% shareholder of the HMS.

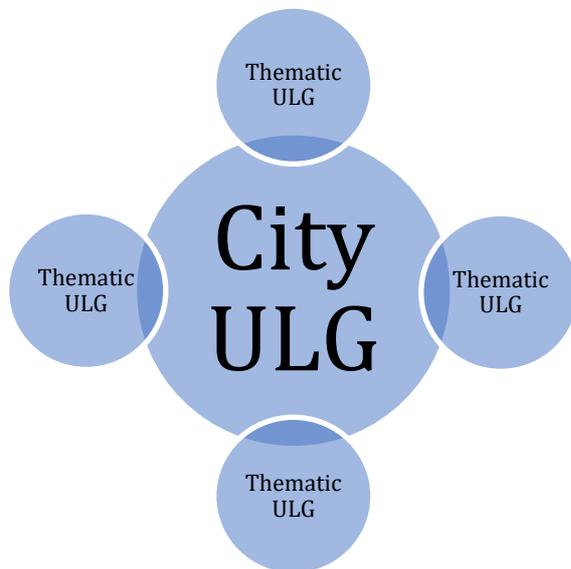
HMS takes a relatively proactive, forward thinking and holistic view of waste management in the city. Going beyond the traditional demand driven waste collection services, it undertakes multiple initiatives to support waste reduction and reuse. These include a pay for waste scheme and plans for a more circular waste collection depot which would encourage the user towards multiple waste reuse & waste reduction opportunities before finally discarding a resource as waste.

Since 2016, The Hague has appointed a Programme Manager to work on supporting circular economy development within the city. The main aim initially is to identify and explore current actors and initiatives across the city in the circular economy. Working together with other cities such as Rotterdam, Utrecht and Amsterdam an ambition was agreed, and a plan developed to become a circular city in 2050. Research was undertaken in 2017 to define priority sectors where circular economy should be applied first. The local ecosystem is being continually mapped, new collaborations are developing, and a circular economy policy was developed in 2018. The city is actively pursuing the transition to the circular economy and a transition team is being formed to accelerate the pace.

SWOT Analysis of The Hague Circular Economy Ecosystem

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• HMS (The Hague waste collector) working beyond traditional waste ‘collector remit’ &amp; trialing waste reduction initiatives.</li> <li>• NME (Nature/environment education) &amp; network in education.</li> <li>• Presence of committed social &amp; circular entrepreneurs in the city.</li> <li>• Compact nature/high density of the city</li> <li>• High quality infrastructure.</li> <li>• Presence of frontrunners in the Circular Economy.</li> <li>• Partner in the Urban Agenda Partnership for the Circular Economy.</li> <li>• International Connectivity.</li> </ul>	<ul style="list-style-type: none"> <li>• Some key areas of inflexibility in HMS rules &amp; operations acting as barriers to Circular Economy transition.</li> <li>• NME has its focus on recycle instead of circular economy.</li> <li>• Sup optimal integration and coordination across departments within the municipality.</li> <li>• Lack of resources and budget for CE focus at city level.</li> <li>• Lack of a shared language and understanding between different actors working towards similar goals.</li> <li>• Lack of experience of working in partnership with private actors.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Promoting circular loops for business waste e.g. Upcycle your waste project.</li> <li>• Strengthen relationship with Leiden &amp; Delft university research &amp; technical educational institutions.</li> <li>• Use of PPPs to drive CE initiatives.</li> <li>• Diverse business cases.</li> <li>• Training &amp; capacity building for companies to incorporate CE practices.</li> <li>• Training &amp; capacity building for CE business to scale &amp; grow.</li> <li>• Potential for URC to support business development e.g. acting as a showroom/shop window for CE businesses.</li> <li>• Building awareness of the ‘real cost’ of products.</li> <li>• Building Innovation &amp; critical mass through collaboration across sector.</li> <li>• A shift to CE in The Hague is estimated to contribute €0.5 billion each year to the economy and 3,500 new jobs.</li> </ul>	<ul style="list-style-type: none"> <li>• No healthy business case(s).</li> <li>• Being able to secure the commitment of politicians.</li> <li>• Securing the necessary budget.</li> <li>• Continued disconnect between consumerism and its ‘true’ cost.</li> <li>• Inability to create a strong shared vision amongst a diverse set of actors operating in circular economy related initiatives.</li> <li>• Continuation of stakeholders to operate independently and in an ad hoc fashion.</li> <li>• Continued lack of integration across municipal departments.</li> <li>• Current waste collection system makes bad behaviour attractive e.g. residual waste is collected at the doorstep, separated waste requires personal responsibility to carry waste to collection point.</li> </ul>

## The Hague's Urbact Local Group (ULG)



The Urbact Local Group structure is designed to respond specifically to the needs of the current ecosystem. Several ULGs will be formed around existing and potential Circular Economy related initiatives focused on specific urban resource centre related themes such as repairing, sharing, education, craft, social inclusion etc. The coordinators of each of these ULGs will come together to form the city wide ULG to develop city wide guidance and strategic support to meet the needs of the thematic ULGs. The structure responds to the opportunities identified through the city's mapping exercise and aims to reap the benefits which can be gained from collaboration at a broader city level.

## Focus of The Hague's Integrated Action Plan

There are several circular economy actors including start-ups and what can be considered Urban Resource Centres already active in the city of The Hague. Coordination and strategic collaboration between these actors however are lacking. The aim of the Integrated Action Plan in The Hague therefore will be to cocreate a strategic support framework for the existing ecosystem.

The Integrated Action Plan will focus on developing a shared strategic vision for the various actors within the ecosystem. It will seek to embed the circular economy within the city's psyche, informing system design and adaptation accordingly. It will identify synergies and added value which can be conceived through collaboration within the Urban Resource Centre Framework and define actions which can cultivate these synergies, for example:

- Providing commercial scale up support and advice to existing operations.
- Sharing of resources between actors to achieve critical mass.
- Developing a road map to support the development of new URCs within the city.
- Capitalizing on opportunities developed through collaboration with academia e.g. circular economy related education, training, apprenticeships, as well as harnessing research skills.
- Gathering end user requirements and feedback to inform negotiations in new contract development with the waste management agency
- Developing a unified voice to influence budgetary and regulatory change.

## The Hague's Learning Needs & Potential Contribution

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Empowering start-ups &amp; small businesses to scale-up quickly to meet market demands for fast, agile product &amp; service delivery to compete with traditional businesses in the linear economy.</li> <li>• Improve integration &amp; coordination across departments within municipality, with private sector, external stakeholders &amp; academia.</li> <li>• Developing a shared language across departments &amp; sectors relating to CE. Communicate benefits for connected concepts e.g. waste management &amp; climate change.</li> <li>• Targeted marketing &amp; communication.</li> <li>• Measuring &amp; communicating 'true cost' of resource consumption to diverse audiences.</li> <li>• How to incorporate CE in the existing city image &amp; branding.</li> <li>• How to make CE a strategic priority backed up by resources at city level.</li> <li>• Changing the waste management system to reward good behaviour.</li> <li>• Encouraging long term political thinking versus dealing with day to day challenges.</li> </ul>	<ul style="list-style-type: none"> <li>• Existing initiatives to support impact start-ups.</li> <li>• Sharing experience of existing neighbourhood based social, innovative &amp; circular initiatives within the Urban Resource Framework.</li> <li>• Frontrunning waste management initiatives e.g. pay for waste.</li> <li>• Experience in previous EU funded projects &amp; Urban Agenda Partnership.</li> <li>• How to connect with the European ecosystem &amp; benefits of transnational cooperation.</li> <li>• Digital as an enabler.</li> <li>• Inclusive education &amp; outreach campaigns.</li> <li>• Developing and managing start-up spaces</li> <li>• Transitioning from the concept of waste to the concept of resources.</li> <li>• Ecosystem mapping.</li> <li>• Identifying priority sectors for circular economy focussed initiatives.</li> </ul>

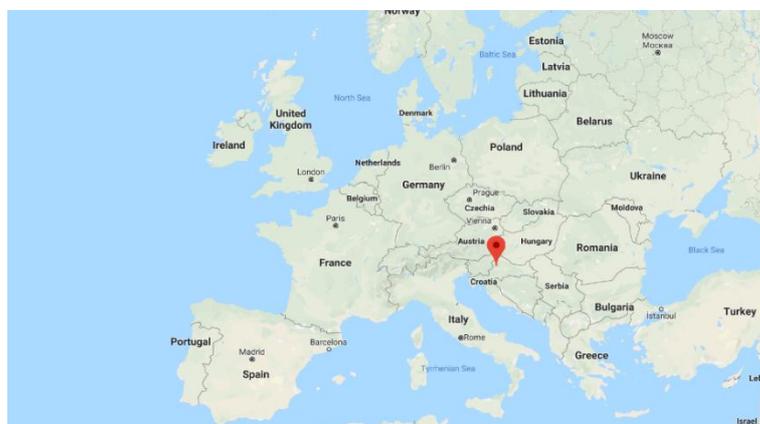
## 3.2 Zagreb

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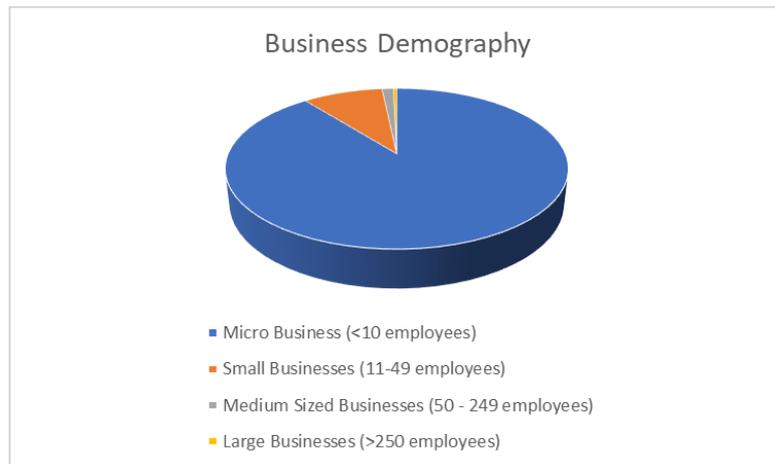


Historically, culturally and physically Zagreb is a distinctly central European city, situated in the middle of the triangle of Vienna, Budapest and Venice. As such it has always been and remains a part of the cultural heart of central Europe.

The City of Zagreb is the capital of the Republic of Croatia and has a population of 802,762, with a population density of 1,252 inhabitants per square km. The City of Zagreb is a unit of local self-government, which is also responsible for the governing of the surrounding county. Zagreb is the cultural, scientific, economic, political and administrative centre of the Republic of Croatia, home to the Parliament, the President and the Government of the Republic of Croatia.



With over 40,000 businesses registered in Zagreb, the large majority of these are micro businesses. Zagreb is an important contributor to the overall Croatian economy and considered an important trade axis between central and



eastern Europe. The city has active metal, electrical, textile, chemical and food & drink industries, as well as pharmaceuticals and wood processing. The number of people employed in craft industries however has seen a large fall, dropping from 46,725 in 2008 to 29,008 in 2017 – a fall of over 37%. Craft makers have noted a decrease in sales since 2008, blaming a lack of disposable income in the general population compared to pre 2008 times.

### *Waste Management & Circular Economy in the City*

Zagreb Holding Ltd. and the Zagreb Waste Management Centre Ltd. are the responsible waste management companies for the city of Zagreb and owned by the municipality. Zagreb Holding Ltd. has fourteen branches in charge of communal, public transport, commercial and energy activities.

The cleanliness branch is one of the fourteen branches in Zagreb Holding Ltd. and is responsible for the collection, transportation, recovery and other waste related activities in the city. This body collects mixed and biodegradable municipal waste and ensures separate collection of wastepaper, metal, glass, plastic and textiles as well as bulky municipal waste. In addition, this branch is responsible for monitoring compliance with waste disposal regulations and for the cleaning of public spaces and the installation and maintenance of waste baskets in the urban pedestrian zone. Investments in increasing the number of recycling yards and mobile recycling yards, green islands and bins for separate collection have led to an increased amount of separately collected municipal waste in the city.

The Zagreb Waste Management Centre Ltd. was established in 2014 with the aim of establishing a sustainable system of waste management for the City of Zagreb. One of its key objectives was to construct a dedicated centre of waste management for the city. This centre has not yet been constructed however though work is underway to overcome implementation barriers to this project, such as finalizing & agreeing the site location, adapting the local plan if required and sourcing funding.

The city has multiple proactive initiatives in support of a circular economy including:

- A major composting facility for the processing of the city’s green waste, as well as bio-degradable waste from marketplaces, shopping malls and manufacturing activities
- A home composting project with the distribution of 20,000 composters.
- An annual public awareness campaign regarding proper waste management.
- Targeted public awareness campaigns towards e.g. children and minority groups such as the Roma community.
- Public community clean ups.
- Annual open call to support NGOs in the field of sustainable development & environmental protection.

## SWOT Analysis of the Zagreb Circular Economy Ecosystem

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Closeness to nature with forest in the centre of the city &amp; mountains on the edge – develops a consciousness about protecting nature.</li> <li>• Relatively high environmental quality.</li> <li>• Strong networking culture across the city &amp; also within the municipality.</li> <li>• Existence of start-ups.</li> <li>• Logistics sector.</li> <li>• Existing knowledge and competences</li> <li>• Strong political will to solve waste problems on city level.</li> <li>• Numerous innovators - innovative ideas.</li> <li>• Strong legislation supporting environmental protection.</li> <li>• Associations promoting eco activities.</li> <li>• Citizen's willingness to participate in waste separation.</li> <li>• Commitment for a sustainable city.</li> <li>• City support for inclusion of marginal groups.</li> <li>• Existing efforts in sustainability and waste management.</li> <li>• Existing waste separation system.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of funding &amp; financing.</li> <li>• Illegal dumping.</li> <li>• Incomplete waste management system.</li> <li>• Insufficient use of renewable energy sources.</li> <li>• Insufficient public awareness.</li> <li>• Insufficient energy efficient building stock.</li> <li>• Insufficient use of cultural heritage values &amp; natural resources for sustainable development purposes.</li> <li>• Unused geothermal resources.</li> <li>• Administrative &amp; bureaucratic burdens.</li> <li>• No Circular Economy department.</li> <li>• Lack of citizen awareness.</li> <li>• Lack of citizen responsibility.</li> <li>• Lack of citizen participation.</li> <li>• Commitment to political visions change too often with elections.</li> <li>• No formal policy of the circular economy.</li> <li>• Lack of synchronization between different government levels.</li> <li>• Lack of infrastructure.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• More effective cooperation with neighbouring counties in protecting the environment &amp; eco-friendly values.</li> <li>• Growing global awareness of importance of environmental protection -reflected in increased funding opportunities.</li> <li>• Improving energy efficiency.</li> <li>• Recycling and valorising waste using good practices and learning from other cities.</li> <li>• Accessing EU funding &amp; financing.</li> <li>• Using Resourceful Cities APN to develop informed citizens &amp; informed children.</li> <li>• Including young people in the innovation process.</li> <li>• Information and education of citizens.</li> <li>• Networking and connection possibilities internationally.</li> </ul>	<ul style="list-style-type: none"> <li>• Centralization at national level in certain sectors (forests, agricultural land, water).</li> <li>• Negative impact of hydroelectric power plants in Slovenia - Krško Nuclear Power Plant.</li> <li>• Insufficient coordination of key stakeholders in environmental issues.</li> <li>• Frequent changes of waste management regulations, plans and programs.</li> <li>• Lack of a common strategy for the protection &amp; use of resources of the City of Zagreb &amp; the Zagreb region.</li> <li>• Not enough efficient local/regional &amp; national administration.</li> <li>• Lack of quality evaluation of processes.</li> <li>• Fear of failure.</li> <li>• Fear of recession.</li> <li>• Unexpected policy changes.</li> </ul>

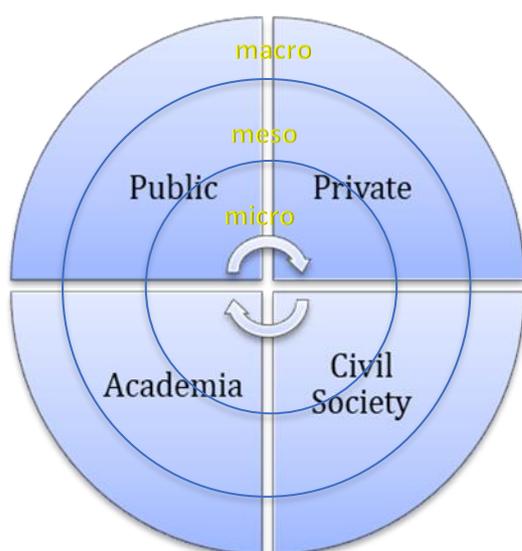
- Facilitating strategic collaboration between stakeholders to accelerate the transition to CE enabling vertical & horizontal co-creation & innovation.
- Branding of Zagreb as a green city.

- Loss of committed stakeholders.
- Fear of change.
- Investment hindered by government change leading to delays in centre construction.

### The Zagreb Urbact Local Group (ULG)

Working in partnerships both within the municipality (across departments) and with stakeholders across the public, private, academic and civil society sectors is already very much part of the culture in Zagreb. There is a common

understanding that progress occurs through cooperation and collaboration. As a result the ULG in Zagreb is highly motivated and enthusiastic, with representatives from across the quadruple helix both at regional and local level, strongly committed to ensuring a positive impact and outcome from this project for the city.



There are already multiple actors within the CE ecosystem in Zagreb. The ULG will provide the mechanism for bringing these stakeholders together to focus on co-creating a shared vision and defining a set of key supporting and enabling activities in order to make that vision a reality. The development of an urban resource centre provides the key focus of the ULG with stakeholders keen to see its development as a physical manifestation of vertical and horizontal integrated action by key stakeholders where citizens, businesses, educators

and researchers collaborate, supported by the public sector, in order to accelerate waste reduction, eco innovation and the transition to the circular economy.

### Focus of Zagreb's Integrated Action Plan

The focus of the Integrated Action Plan in Zagreb will be firstly, on defining a shared vision for all stakeholders. Thereafter the action plan will focus on developing a set of actions to achieve that shared goal and to create the necessary conditions for the establishment of an Urban Resource Centre which can stimulate education and awareness raising among citizens, as well as improving communication between competent authorities.

The plan will seek to focus on actions which promote waste prevention measures and the decoupling of waste generation from economic growth, since waste production in Zagreb is higher than the national average. Stakeholders also recognise the need to focus on raising the awareness of citizens regarding the impact of their consumerism and individual waste management practices on the society, economy and environment. There will also be a focus on raising awareness around the benefits of shifting to a circular economy.

There will be an emphasis on encouraging the reuse of products and extending the life of products to reduce waste generation and preserve resources. The aim is to establish a more effective system of separate collection of useful waste and thus increase recycling and reuse rates, promote new employment opportunities and establish new services.

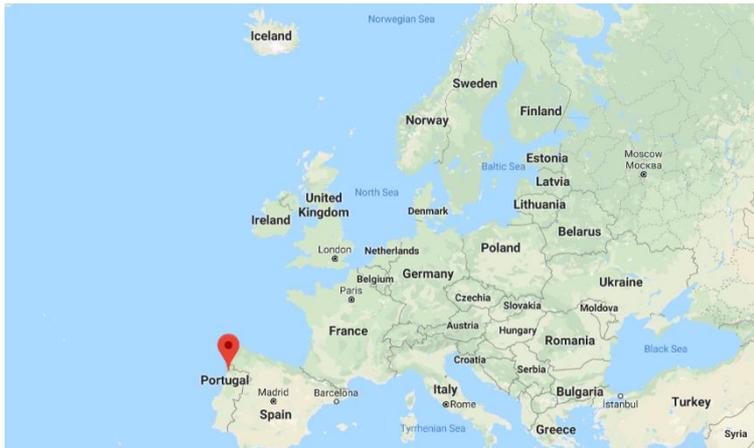
The plan will also seek to focus on the benefits which can be accrued from bringing together and connecting diverse stakeholders with a view to accessing relevant funding sources and improving the implementation of regional and local policies, programs, plans.

### Zagreb's Learning Needs & Potential Contribution

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Digital platforms &amp; smart solutions for waste management.</li> <li>• Finding the most efficient way to move to a circular waste stream model.</li> <li>• Good practices in other cities regarding circular economy.</li> <li>• Continuously raising the awareness of citizens and local society of the importance and benefits of separate collection, reuse and recycling in order to increase waste prevention and save costs.</li> <li>• Developing &amp; implementing a system of green public procurement.</li> <li>• Funding &amp; financing the circular economy.</li> <li>• Incorporating the circular economy into the city branding.</li> <li>• Optimising the benefits of facilitating collaboration between stakeholders across the circular economy ecosystem.</li> </ul>	<ul style="list-style-type: none"> <li>• Front running examples of education programmes targeted at primary &amp; secondary schools.</li> <li>• Leading example of inclusion of people with disabilities in the labour market in a variety of activities.</li> <li>• Previous experience in an Urbact Action Planning Network – Smart Impact.</li> <li>• Previous experience in the Regions for Recycling project.</li> <li>• Strong education &amp; awareness raising campaigns.</li> <li>• Large scale composting projects.</li> <li>• Initiatives to support start-ups and business development.</li> <li>• Promoting a culture of collaboration &amp; cooperation.</li> <li>• Education &amp; awareness targeted at migrant communities.</li> </ul>

### 3.3 Vila Nova de Famalicão

Vila Nova de Famalicão is in the north of Portugal in the Braga district and is part of the Ave River valley. It has a population of approximately 134,000 and a population density of 653 inhabitants per km<sup>2</sup>.



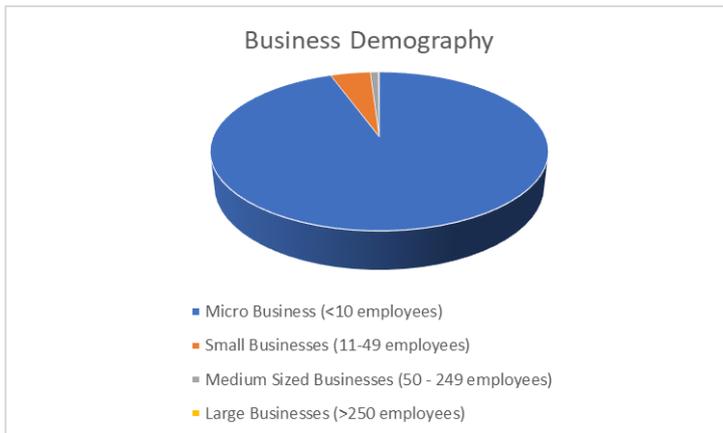
The origins of the city can be traced back to the year 1205 when it was officially named as administrative, judicial and religious headquarters of the Land of Vermoim. Four centuries later, in 1835, in recognition of its economic and social importance, Queen D. Maria II elevated its constitution to that of County. With the construction of the National Roads, namely that of Porto - Braga (1851) and the railway (1875), Vila Nova de Famalicão entered a phase of great economic and population development, which earned it after a century (1985) formal recognition as a city.

From a regional perspective, the city sits within a broader polynucleated urban system which includes the cities of Porto and Braga. These cities along with the lesser well-known cities of Barcelos, Póvoa de Varzim, Vila do Conde, Trofa, Santo Tirso and Guimarães, operate in a complementary network, each with their own strengths and specialisations.



Vila Nova de Famalicão has a privileged geographical position, at the centre of high-quality road and rail axes providing easy access to nearby seaports of Leixões and Viana de Castelo and to the international airports of Porto and Vigo. Nationally it sits at the confluence of three particularly relevant NUTS III areas; the Porto Metropolitan Area, Ave and Cávado. Its privileged geographical position has played a valuable role in attracting and developing economic and social activities, which help to consolidate the regional and national relevance of the city.

The city is one of the most economically active in the country. It accounts for about 4.69% of total turnover in the Northern Region and approximately 1.28% of turnover nationally.



Activities such as textiles and clothing, meat and food processing, electronics and metal working, construction and services are examples of the municipality's significant economic vitality. The secondary and tertiary sectors currently hold almost equal weight in terms of employee numbers. However, there has been a tendency towards increasing economic tertiarization in recent decades, with the growth in the supply of services and a corresponding growth in employment in this sector. The region has also seen the average number of people employed per company decrease in recent

decades due to the restructuring and modernization of existing companies.

### *Waste Management & Circular Economy in the City*

Waste collection is undertaken by private service providers in Famalicão on behalf of the municipality. There are two types of waste collection namely recyclable material (paper & cardboard, metal, plastic packaging & glass) and residual material. Residual waste is collected door to door and taken to a composting plant, where the organic waste is separated and composted and the waste that cannot be recycled goes to landfill.

Recycled waste is collected at eco points (small areas close to residents dedicated to the depositing of packaging of various materials: glass, plastic, metal, paper and cardboard). The city also provides recycling centres where citizens can deposit other types of materials for recycling, such as green waste (branches, cut grass, leaves), wood (fruit boxes, pallets), flat glass, car oil, household appliances and large waste such as sofas, mattresses & furniture.

An initiative is currently underway to collect organic waste from large producers, such as restaurants, companies, schools and hospitals. This organic waste will be composted, resulting in a higher quality compost without contamination from other types of waste.

To promote waste reduction the city supports the eco-school's initiative, believing this to be one of the best ways to support behavioural change. The city equips schools with mini recycling points and collects recyclable waste weekly in each one of them.

Recognizing the need to take a more proactive approach to waste management, the Famalicão Circular initiative was created in 2018 with the aim of supporting multi sectoral projects which promote circularity. Several projects have already been implemented including projects to transform forest biomass into energy, projects to promote industrial symbioses by transforming industrial waste into raw material, local composting projects etc.

The municipality has started to design circular innovation calls through the JUMP initiative. This was undertaken in collaboration with the academic sector, aimed at attracting entrepreneurs and start-ups. Circular activity can also be found in Famalicão's existing local industries as a result of partnerships between industry and academia. Businesses are active in developing projects based on circular economy principles e.g. promoting more circular product design and production, minimizing water consumption, reducing waste, using waste as a raw material, etc. These projects

are supported by organizations such as CITEVE (Textile and Clothing Technological Institute) and CeNTI (Centre of Nanotechnology and Smart Materials) both located in Famalicão.

There are also several projects in the city showcasing active citizen participation. Community groups and schools from primary to professional level actively promote and support waste reduction and reuse through initiatives such as the repair of old cookers and other household equipment, the collection and redistribution of surplus food items through the REFOOD initiative, the collection of food waste for composting and community book sharing.

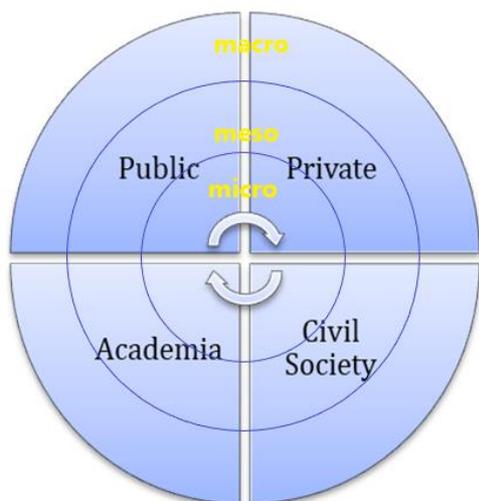
### SWOT Analysis of the Vila Nova de Famalicão Circular Economy Ecosystem

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>Partnership &amp; collaboration already in the DNA of stakeholders across the city</li> <li>Existing sustainability consciousness</li> <li>Existing experimentation &amp; trialing of circular solutions in private sector</li> <li>Citizens open to discovery &amp; innovation</li> <li>Existing multi sectoral &amp; multi-level networks</li> <li>Strong &amp; diverse industrial fabric with companies aware that remaining competitive means incorporating CE principles</li> <li>Industry &amp; research sectors already collaborating on successful CE projects</li> <li>Motivated stakeholders who recognize the valuable opportunity provided by CE &amp; committed to the transition</li> <li>Resilient &amp; adaptable stakeholders</li> <li>Visible social consciousness in the city</li> </ul>	<ul style="list-style-type: none"> <li>Complexity in introducing changes in internal procedures in organizations</li> <li>Internal resistance to change</li> <li>Lack of public transport options particularly outside the city centre</li> <li>Sub-optimal communication of existing positive projects</li> <li>Lack of reliable information, contradictory data</li> <li>Difficulty in engaging people when impacts &amp; outcomes are not quantifiable &amp; visible in a short term &amp; when the cause-effect relationship is debatable</li> <li>Lack of financing</li> <li>Lack of awareness of individual environmental impact related to everyday actions</li> <li>Lack of strategy to engage with those with low level of education</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>Water shortages driving sustainability transitions in the private sector &amp; opening opportunities to develop &amp; implement new approaches &amp; solutions</li> <li>National strategies &amp; programs guide &amp; support local CE projects</li> <li>Municipal strategic vision is aligned with CE values &amp; can mobilize actors</li> <li>Potential to develop &amp; mainstream local resource loops e.g. in agri-food sector</li> <li>Opportunity to rebrand the city as a leader in eco-industrial innovation</li> </ul>	<ul style="list-style-type: none"> <li>Passive attitude and behavior "what I do is not relevant," and "others should do it"</li> <li>Short term perspective of people</li> <li>Financial costs, time &amp; effort spent to implement the circular model is off-putting</li> <li>Lack of visible results in the short &amp; medium term are discouraging &amp; demobilizing</li> <li>Lack of strategic coordination between stakeholders</li> <li>Legislative barriers to CE</li> <li>Economic lobbying</li> <li>Commitment to political visions change too often with elections</li> </ul>

<ul style="list-style-type: none"> <li>• Development of eco-tourism</li> <li>• Potential to redevelop municipal market as a CE hub/URC</li> <li>• CE provides opportunity for new job creation &amp; enterprise development</li> <li>• Industrial symbiosis</li> <li>• Development of CE cluster</li> </ul>	<ul style="list-style-type: none"> <li>• Laziness &amp; lack of motivation</li> </ul>
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*The Vila Nova de Famalicão Urbact Local Group (ULG)*

Working in partnerships across the public, private, academic and civil society sectors is already embedded in the DNA of Famalicão which has several good practice examples in this area.



The Urbact Local Group structure is designed to respond specifically to the needs of the current ecosystem, which is relatively well developed though lacking a shared vision and strategic facilitation. Three key sectoral sub topics have emerged for the ULG, namely circular education, circular business and circular citizens. Cross sectoral sub groups will convene on these topics from time to time in order to focus on these specific areas, incorporating stakeholders from across the quadruple helix. The plenary ULG will focus developing a common vision and on defining actions that are of strategic interest to each sectoral sub topic. Areas of common interest will include for example, funding, skills & training, internationalisation, city branding, legislation & regulation.

*Focus of Vila Nova de Famalicão’s Integrated Action Plan*

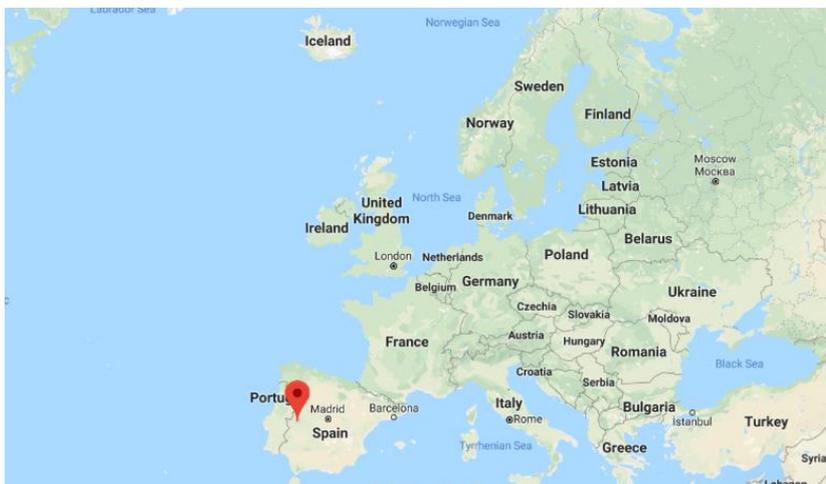
The Integrated Action Plan in Famalicão will focus on co-creating a city-wide strategy to support both existing circular economy actors in the city and the emergence and development of new actors. The strategy will seek to capitalise on the development of synergies between circular economy actors across the city and to harness the potential of the circular economy in support of the overall sustainable development of the city. Famalicão already has some front running projects in industrial eco-innovation and in eco-education. The Integrated Action Plan will focus on defining actions which integrate these into a broader strategic city-wide support framework. It will seek to influence behavioural change at the city level, encouraging and promoting citizen action in supporting the transition to a circular city system. It will incorporate the development of a URC, as a tangible expression of the circular economy in the city, as a vehicle for driving change.

*Vila Nova de Famalicão's Learning Needs & Potential Contribution*

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Green Public Procurement</li> <li>• City Branding</li> <li>• Communicating Famalicao's existing good practices to an international audience</li> <li>• Improving communication between municipal departments &amp; strengthening integration here</li> <li>• Promoting citizen behavioural change</li> <li>• Coordination, optimization &amp; strategic development of the ecosystem</li> <li>• Identifying barriers to implementation and finding solutions</li> <li>• Funding &amp; financing of circular economy initiatives</li> <li>• Defining a circular business, organisation, school and city</li> <li>• Identifying indicators to monitor circular economy transition &amp; to inform benchmarking</li> <li>• Attracting skills &amp; talent</li> </ul>	<ul style="list-style-type: none"> <li>• Showcasing diverse front runner examples of eco innovation in industry, education, community initiatives.</li> <li>• Developing, managing &amp; maintaining cross sectoral partnerships</li> <li>• Showcasing benefits of cross sectoral partnership working</li> <li>• Integration between political level and administration</li> <li>• Front runner in citizen participation in development planning</li> <li>• Supporting enterprise development</li> <li>• Good example of a regional innovation ecosystem in action</li> <li>• Front running large scale REFOOD initiative, cross sectoral partnership reducing food waste &amp; supporting social, emotional &amp; physical need</li> <li>• Incorporation of CE and challenge-based learning into vocational education</li> </ul>

### 3.4 Cáceres

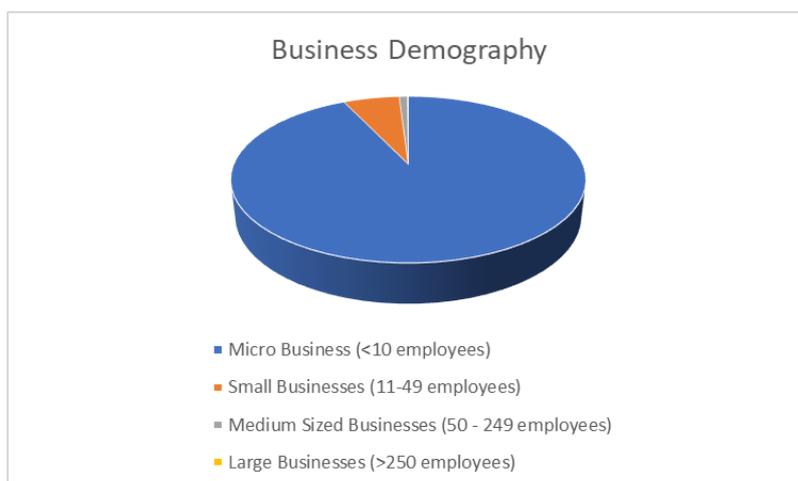
Cáceres is the capital of Cáceres province, in the autonomous community of Extremadura, located in western central Spain. It has a population of approximately 96,720 and a population density of just over 55 inhabitants per square km. Cáceres was declared a World Heritage City by UNESCO in 1986 because of its blend of Roman, Moorish, Northern Gothic and Italian Renaissance architecture. Thirty towers from the Islamic period still stand in Cáceres, of which the Torre del Bujaco is, probably, the most famous.



The origins of Cáceres as a settlement date back to prehistoric times, specifically the Paleolithic period, as evidenced by the paintings in the Maltravieso Caves. Visitors to the city can see remains from medieval times, the Roman occupation, Moorish occupation and the Golden age of Jewish culture in Spain. Cáceres has four main areas to be explored: the historical quarter (the walled city), the Jewish quarter, the modern centre, and the outskirts (Valdesalor, Rincón de Ballesteros).

Cáceres gained importance as a strategic city under Roman occupation. Remains found in the city suggest that it was a thriving center as early as 25 BC. Some remains of the first city walls built by the Romans in the 3rd and 4th centuries still exist, including one gateway, the Arco del Cristo.

After the fall of the Western Roman Empire, the city was occupied by the Visigoths, and entered a period of decline until the Arabs conquered Cáceres in the 8th century. The city spent the next few centuries mostly under Arab rule and was rebuilt. Construction included a wall, palaces, and various towers, including the Torre de Bujaco. Cáceres was reconquered by the Christians in the 13th century (1229). During this period the city had an important Jewish quarter: in the 15th century when the total population was 2,000, nearly 140 Jewish families lived in Cáceres. The Jewish population was expelled by Queen Isabella and Ferdinand of Aragon in 1492, but many remnants of the Jewish presence in that period can still be seen today in the Barrio San Antonio.



Cáceres flourished during the Reconquista and the Discovery of America, as influential Spanish families and nobles built homes and small palaces, and many Extremadura citizens participated in voyages to America where they made their fortunes. In the 19th century, Cáceres became the capital of the province, marking a period of growth which was halted by the Spanish Civil War. Today, the headquarters of the university as well as several regional government departments can be found in Cáceres.

Culture and heritage are a strong point in the city and a unique selling point when it comes to tourism development. Unlike other Spanish tourist hotspots, the city is not affected by mass tourism, likely in part due to its sub optimal connectivity with key transport hubs such as Madrid. The Public administration and defence sector provide the largest source of employment in Cáceres. Thus, a significant opportunity lies in the public sector leading by example and driving the circular economy transition through the development and implementation of a green public procurement strategy. Outside of the public sector there has been a steady stream of start-ups developing in Cáceres in recent years, some of which are circular economy related.

### *Waste Management & Circular Economy in the City*

Responsibility for waste collection in Cáceres lies with the municipality who outsource this task to a private company through a public tender process. CONYSER (CONTRATAS Y SERVICIOS EXTREMEÑOS S.A.) is the private company who undertakes the collection of waste, urban cleaning, protection against pests and maintenance of facades and urban furniture for the city of Cáceres and who have been successful in winning this contract since 1979.

The city has been operating a segregated waste collection system since 1997. Separate waste containers are provided for glass, paper & cardboard and other packaging. Annually, per inhabitant the city recycles 7.05 tons of glass, 26.27 tons of paper & cardboard and 12.29 tons of packaging.

Containers are also provided for the collection of used oil and textile waste though these have a lower level of usage compared with the glass & packaging containers. CONYSER also provides a used furniture collection service.

The development of the Green Book "Creative Cáceres" in 2011 marked the beginning of interest in the circular economy in the city. The transition to the circular economy is supported however throughout the policy framework; at national level through the Sustainable and Integrated Urban Development Strategies financed by the state through the European Structural and Investment Funds and at regional level through the Agenda 2030 strategy. The commitment and interest in making the transition is reflected in the proactivity of several associations and interest groups in Cáceres interested in shifting towards a more circular, values based model, such as [Cooperativa Actyva](#).

Developing an Urban Resource Centre to promote a reduction in the use of resources and reduce the amount of waste, as well as supporting the city's circular economy ecosystem has therefore become a priority for the municipality.

### *SWOT Analysis of the Cáceres Circular Economy Ecosystem*

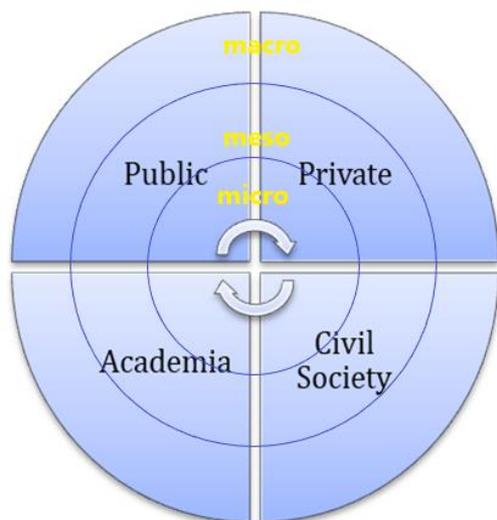
STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Low population pressure.</li> <li>• Important road transport network.</li> <li>• Huge natural potential and growing social sensitivity to the circular economy.</li> <li>• Developed policy framework which supports CE.</li> <li>• High potential agri-food industry.</li> <li>• Proximity trade on the rise.</li> <li>• High quality cultural heritage &amp; natural environment.</li> </ul>	<ul style="list-style-type: none"> <li>• Unfavourable demographic indexes.</li> <li>• Peripheral situation of the region.</li> <li>• Insufficient infrastructure.</li> <li>• Poor valuation of the environment.</li> <li>• Weak productive fabric.</li> <li>• Low presence of the industrial sector.</li> <li>• Tertiary economy with little diversification.</li> <li>• Weak labour market.</li> <li>• Insufficient innovation capacity and technological development deficit.</li> </ul>

<ul style="list-style-type: none"> <li>• Favourable conditions for innovation and growing entrepreneurship.</li> <li>• Important training network for employment.</li> <li>• Administration increasingly sensitized towards the green and circular economy.</li> <li>• Large number of citizen associations.</li> </ul>	<ul style="list-style-type: none"> <li>• Educational and training challenges.</li> <li>• Bureaucracy and slow administration.</li> <li>• Low identity and poor image of the territory.</li> <li>• Lack of shared voice &amp; coordination between various citizen associations.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Future infrastructural improvements.</li> <li>• High tourism potential.</li> <li>• Global ecological awareness &amp; new business models to reflect this.</li> <li>• Growing organic agriculture and livestock.</li> <li>• Trend of job creation and self-employment.</li> <li>• Global environment favourable to innovation and entrepreneurship.</li> <li>• Expansion &amp; diversification of training channels.</li> <li>• New citizens centred governance models supported by technology.</li> <li>• Growing demand for sustainable, high quality, locally produced, authentic products.</li> </ul>	<ul style="list-style-type: none"> <li>• Demographic trends regressive.</li> <li>• Impact of the crisis on external infrastructure financing.</li> <li>• Abuse of the environment.</li> <li>• Limitations of the global economic model.</li> <li>• Systemic crisis of the primary sector.</li> <li>• Strong agroindustrial competition.</li> <li>• Competition for tourism.</li> <li>• Negative labour trends</li> <li>• High industrial competition.</li> <li>• External attraction of talent – brain drain.</li> <li>• Environment of growing bureaucratic demand.</li> <li>• Failure to drive competitiveness in the city &amp; wider region.</li> </ul>

### The Cáceres Urbact Local Group (ULG)

One of the lines of action of the CreaCereS Urban Integrated Sustainable Development Strategy is to create a Circular Economy Laboratory focused on agri-food. Several stakeholders are already collaborating on this action including

Intromac (Extremadura Building Institute), the University, Fundecyt and the Actyva Cooperative. This group of stakeholders will participate in the Resourceful Cities ULG along with staff from various departments in the municipality and entrepreneurs active in the circular economy.



The group will also include representatives from the association of popular universities (AUPEX), which is a non-profit organization dedicated to supporting lifelong learning for those living in rural areas and marginalized communities.

To ensure vertical integration, the ULG will work closely with the Junta de Extremadura (regional government) who are responsible for the treatment of waste through a public entity called Gexpesa. They also have a dedicated office with responsibility for the implementation of the

Extremadura 2030 regional strategy. Cáceres is a partner in another Urbact Action Planning Network called Tourism Friendly Cities. Both ULGs will interact to explore and harness potential synergies.

### *Focus of the Integrated Action Plan in Cáceres*

The Integrated Action Plan will focus on coordinating the various active stakeholders in the city & region in order to develop a unified vision for the promotion of the circular economy in Cáceres. The IAP will focus on developing a physical space which will act as a shop window for all circular economy projects that exist in the region. The space will be intergenerational and promote active participation while acting as a knowledge hub to promote behavioural change in favour of a circular economy. It will be a place of exchange between people, a networking space and a home for the incubation of circular economy start-ups. The IAP will synergise with the plan to create a circular economy laboratory focussed on agri-food and align with the city’s priority to promote innovative business start-ups.

The following are an example of some of the actions which stakeholders would like to develop during the network activities:

- Innovative training activities aimed at young people and long term unemployed
- Defining & analyzing new products & services based on CE which could be offered by local tourism & service enterprises to improve their competitiveness
- Identifying & developing new CE related value chains
- Detecting new practices and methodologies for improving citizen participation in CE policy development
- Developing & sharing a set of recommendations for cities interested in replicating these programs into their own local policies

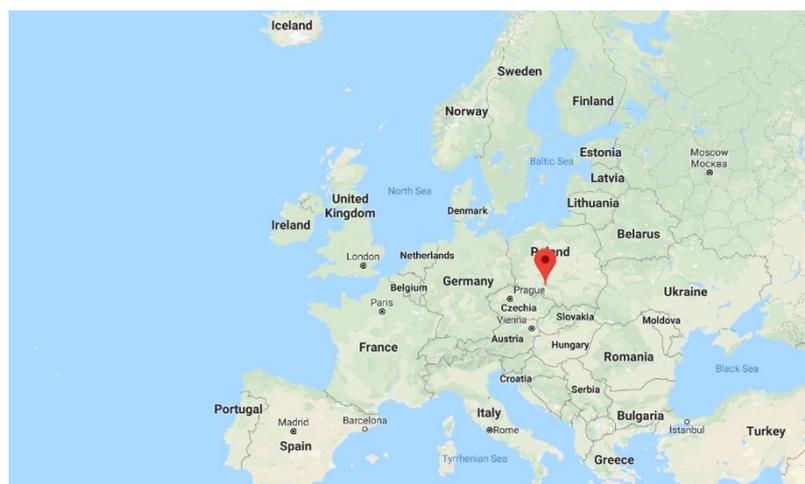
### *Cáceres’ Learning Needs & Potential Contribution*

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Learning of CE good practices from other cities.</li> <li>• Analyse (with partners) the quality of interventions and actions implemented in Cáceres &amp; their potential to be viewed as good practices and replicated/scaled-up.</li> <li>• New innovative methodologies and interventions to engage population on CE and increase citizen participation.</li> </ul>	<ul style="list-style-type: none"> <li>• Naturalmente Cáceres Programme: Promoting biodiversity among citizens; creating meeting spaces, catalysing citizen eco-initiatives; Improving and reinforcing the knowledge of municipal resources in the field of cleaning, waste management and maintenance of parks and gardens; Promoting citizen science-based collaborative projects among core stakeholders.</li> </ul>

- Effective means of communicating & raising awareness amongst citizens of the social, economic & environmental benefits of CE
  - New business ideas focused on CE based on innovation and creativity, which could contribute to improve socioeconomic conditions of more disadvantaged core-groups into labour market (such as young people and long-term unemployed).
  - Identifying new interventions which could be implemented by the city which could potentially improve its waste management system, analysing their sustainability given the existing legal framework and city resources.
  - Green Public Procurement
- The 'Green-Book Creative Caceres: A Model of Innovation, Creativity & Urban Sustainable Development'. It proposes a starting point for the involvement of citizens, companies, groups & institutions aimed at sustainable growth. One of its main goals is to pinpoint new economic emerging sectors.
  - Caceres Always Clean - the waste management system managed by CONYSER enterprise with Caceres city.
  - Training for young people on green & social entrepreneurship & CE launched by the Youth Department of Caceres municipality
  - CREACERES Urban Integrated Sustainable Development Strategy.

### 3.5 Opole

Opole is in the South of Poland, near the Czech and German borders. It is part of an agglomeration with 320,000 residents. The city closely cooperates with other communes in the agglomeration, with the aim of promoting economic growth and employment creation. Opole is the capital of the Opolskie Province and is the cultural, educational, economic and administrative centre of the region.



The city has a known history dating back to the 9th century and is one of the oldest towns in Poland. The origins of Opole as a town relate to the signing of a document giving it the rights of a town in 1217 by Kazimierz I. The city's position on the intersection of several main trade routes helped generate steady profits from transit trade. Later under Prussian control, a strong inflow of settlers from Germany accelerated the process of intense Germanisation.

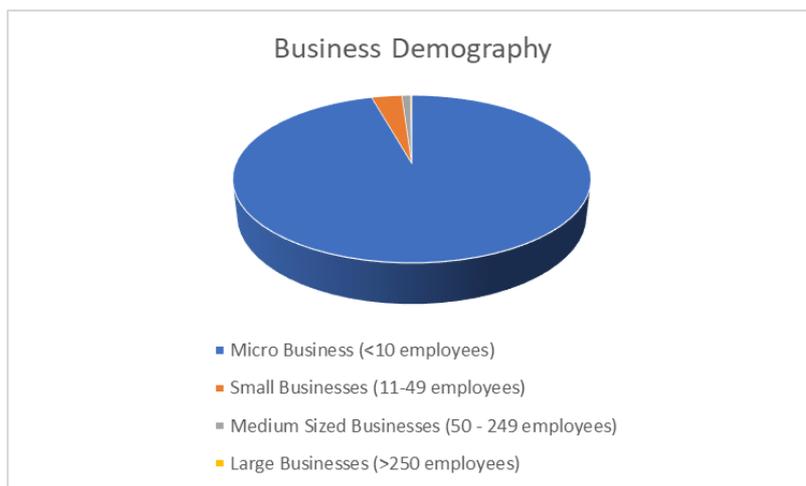
The first railway connection linking Opole with Brzeg and Wrocław was completed in 1843. The first cement factory was constructed in 1859 and the cement industry has continued to contribute to the development and prosperity of Opole. The city suffered major devastation during World War II, with many of the houses and most of the industrial plants and bridges destroyed. By the end of the war only 200 permanent residents remained. With the coming of peace however, people immediately embarked on rebuilding their town. Opole was established as a district capital in 1950 and has been developing very actively ever since.



The city prides itself on multiple convenient and fast railway connections, with railway coverage more than double the national average. River transport serves as a significant traffic route

also. There are two important river ports on the Oder, located within the commune's administrative territory. The city is easily reached by road due to the first-rate road network whose most representative section is the international Dresden-Kiev transport corridor – A4 motorway. The motorway makes it possible to reach the nearest international airports in Wrocław and Katowice in less than an hour. Furthermore, Kamień Śląski airport, which can receive air taxis and flights outside regular air traffic, is located only 24 km from Opole. The city has a highly efficient public transportation system. The popularity of the public bike system is also growing and 35% of the road network in Opole consists of traffic calming areas and bike lanes (124 km).

The city has one of the highest entrepreneurship rates among Polish cities with almost 166 companies per 1000 residents. It can offer a highly qualified professional workforce and is home to six higher education institutions. It is a very attractive location for modern business services thanks to the high number of residents with fluent German. It is also home to multiple thriving industries in sectors such as food, electrical engineering, machine, construction materials, and the automotive sector.



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## Waste Management & Circular Economy in the City

The Waste Management Department is responsible for coordinating and supervising the proper functioning of the municipal waste management system. It manages the tendering process for service provision and cooperates with companies responsible for collecting, treating and recovering household waste. The city has been divided into 4 sectors; each has its own tender procedure. Currently, only two companies provide collection of waste: Remondis and ELKOM.

Collected plastic, paper, glass and metal go to a sorting installation owned by Remondis. Organic waste goes to a composting plant and mixed waste goes to a mechanical waste processing installation, where part of it is used as an alternative fuel and part of it goes to landfill. The composting plant and landfill site is owned by a municipal company (Zakład Komunalny). Zakład Komunalny also runs a selective waste collection point. Residents pay €4.40 per month per person if they segregate waste and €8.80 if they do not. Further price increases are envisaged this year. 94,5% of residents declare that they segregate waste. The cost of the waste management system in Opole in 2018 was €6.2 million.

Opole has made a lot of progress concerning its municipal waste management system in the last twenty years. Selective municipal waste collection started in 1999 with separate paper and plastic waste containers on the streets. Household selective waste collection began in 2006 (paper, plastic, glass, metal, organic waste). Over the past decade, efforts to improve waste recovery have been intensified and the percentage of recyclable waste increases every year. The city has one selective waste collection point and plans to open two other points in the next two years. Fifteen electronic waste collection points were installed in 2018 and this number increased to a total of nineteen points in place, in 2019.

The city undertakes extensive educational activities in the field of proper municipal waste management among residents. At this point the city wishes to accelerate the transition to the circular economy and they are beginning to implement initiatives in support of this. Learning from other cities they have created book exchange points for example. Changing resident trends are becoming increasingly visible with residents for example, organizing the exchange and sharing of used goods. The city wants to harness this energy and support its further development.

National plans and strategies for the circular economy in Poland are in the process of being developed. In September 2019, the Ministry of Entrepreneurship and Technology and the Council of Ministers adopted a road map for the transformation towards a circular economy.

## SWOT Analysis of the Opole Circular Economy Ecosystem

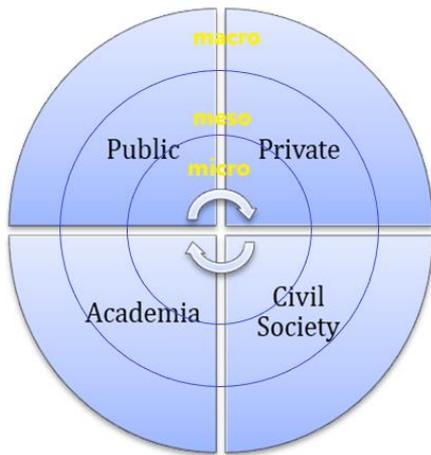
STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Strategic location &amp; strategic importance</li> <li>• Research &amp; development facilities</li> <li>• High percentage of young people – 26,000 students and 9,000 graduates a year</li> <li>• Attractive investment location part of Special Economic Zone “INVEST-PARK”</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of sufficient funding for CE</li> <li>• No modern waste sorting plant in the city</li> <li>• Resistance from residents and a lack of understanding in local society</li> <li>• Inefficient segregation of waste by citizens</li> </ul>

<ul style="list-style-type: none"> <li>• Support for CE among lower-level officials</li> <li>• Political support for CE</li> <li>• Active CE related NGOs</li> <li>• High level ecological education</li> <li>• Existing reuse initiatives</li> <li>• High quality waste management infrastructure</li> <li>• Advanced municipal waste collection system, recovering pure raw materials</li> <li>• Enthusiastic students &amp; elderly supporting municipal eco initiatives</li> <li>• Existing municipal communication network</li> <li>• Volunteer culture &amp; support – municipal building dedicated to citizen communication</li> <li>• Experience of separately collecting biowaste since 1999</li> </ul>	<ul style="list-style-type: none"> <li>• No developed value chains for collected segregated waste</li> <li>• Over-consumption</li> <li>• Monopoly of waste processors</li> <li>• Laziness &amp; indifference of citizens</li> <li>• No local facility for waste processing</li> <li>• Flat fee for waste collection regardless of quantity</li> <li>• Lack of consistency in legislation and no public consultation</li> <li>• Lack of coordination of stakeholders</li> <li>• Low level of influence nationally</li> <li>• Lack of reparability of products</li> <li>• New things = high status</li> <li>• Lack of financial incentives to behave well or to manage waste well</li> <li>• High &amp; growing quantity of waste per capita</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Host of the national festival of Polish song – opportunity for wide public reach</li> <li>• Potential of municipality employees</li> <li>• CE contributing to city branding</li> <li>• Inform development of city CE strategy</li> <li>• EU funding &amp; financing</li> <li>• Social inclusion</li> <li>• Cooperation between local institutions e.g. techno park, art school, creatives etc.</li> <li>• More direct incentive schemes</li> <li>• Promote CE innovation e.g. competitions</li> <li>• Digital as an enabler</li> <li>• Social media for transition acceleration</li> <li>• Global eco movement</li> <li>• Bring waste management inhouse</li> <li>• Lobby for positive change in legislation</li> <li>• International cooperation &amp; learning</li> </ul>	<ul style="list-style-type: none"> <li>• Reduction in financial resources for CE education</li> <li>• Lack of professionals involved in circular economy at local level</li> <li>• Costly implementation of solutions of circular economy among entrepreneurs.</li> <li>• Failure to draw down EU funds</li> <li>• Lack of legislative stability</li> <li>• Changing political visions locally</li> <li>• Insufficient no. of staff, time &amp; staff burnout</li> <li>• Lack of leadership for coordination</li> <li>• Race for success undermining team effort</li> <li>• Brain drain &amp; depopulation</li> <li>• Monopolization in processing of waste</li> <li>• Inability to gain interest &amp; support of stakeholders</li> </ul>

### The Opole Urbact Local Group (ULG)

A cross sectoral ULG has been created in Opole with representation from across the quadruple helix. The ULG also includes representatives from the association of municipalities and is supported by the vice mayor who sits on the monitoring committee for the regional Operational Programme. Stakeholder mapping exercises will be undertaken throughout the network lifecycle to ensure an inclusive and effective process.

It is expected that a core group of stakeholders will be engaged to work on more general challenges and ideas while focus groups will be established for specific topics that demand more specialized knowledge. This will help to keep the stakeholders engaged by mobilizing them on topics that are relevant to their activity and field of knowledge, while at the same time harnessing each stakeholder’s individual talents.



*Focus of Opole’s Integrated Action Plan*

The main aim and challenge in Opole is to reduce the amount of household waste being produced and to increase the amount of waste that is separately collected. The city wishes to learn from others so that it can improve the waste management system and increase the environmental awareness of residents.

The Integrated Action Plan will focus on creating a physical space (a potential location has already been identified) where people can, besides dropping waste, also repair broken toys, furniture, or

exchange things they don’t need anymore. The hope is to develop an Urban Resource Centre in the heart of the city, supported and promoted by effective promotion & awareness raising actions to encourage citizens to visit and use the centre. The city believes that the development of this centre will accelerate the transition to the circular economy and close the resource loops at local level.

While there are multiple entities now active in the circular economy in Opole there is a lack of integration and collaboration between these bodies. The city wants to define actions which will help to integrate the various entities undertaking initiatives in the circular economy. Increased collaboration it is hoped, will enable the development of new activities, initiatives and solutions in the circular economy in the city and the wider agglomeration.

*Opole’s Learning Needs & Potential Contribution*

<i>Learning Needs</i>	<i>Potential Contribution</i>
<ul style="list-style-type: none"> <li>• Green Public Procurement</li> <li>• Improving compliance with waste separation guidelines</li> <li>• CE business models, funding &amp; financing</li> <li>• Retaining &amp; promoting citizen participation</li> <li>• Developing value chains for raw materials recovered from waste</li> <li>• Engaging hard to reach target groups</li> <li>• Developing roadmap for URC delivery</li> <li>• Developing an integrated ‘one voice’ messaging campaign</li> <li>• Coordinating actors to develop a shared vision</li> <li>• Developing skilled facilitators for collaborative action, discovery &amp; innovation</li> <li>• Promoting the use of the URC</li> <li>• Waste reduction initiatives and incentives</li> </ul>	<ul style="list-style-type: none"> <li>• Command &amp; Control Measures</li> <li>• Leader in waste management education through multiple methods &amp; channels</li> <li>• Incorporating education pathway in the municipal recycling centre</li> <li>• Inclusion of the elderly population</li> <li>• Supporting long term unemployed through CE</li> <li>• Experience in separating waste at source (biowaste since 1999)</li> <li>• Existing effective circular economy initiatives &amp; active stakeholders</li> <li>• High quality existing waste infrastructure</li> <li>• Experience in URBACT Troja Verde network</li> <li>• Municipality leading by doing e.g. through a resource exchange initiative</li> </ul>

### 3.6 Patras

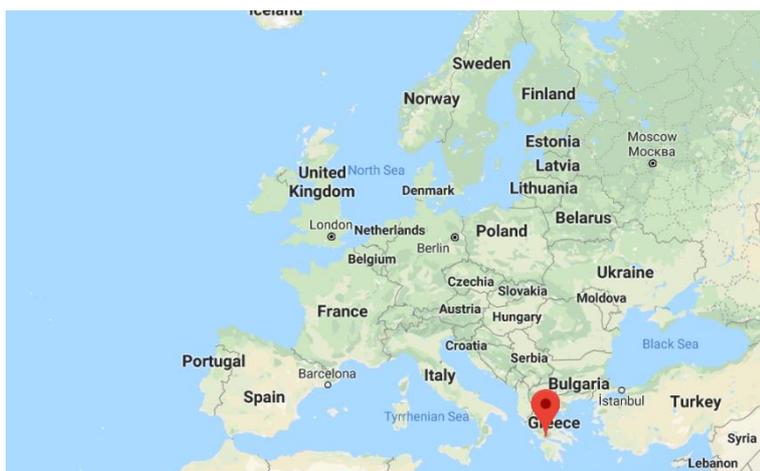
Patras, the third largest city in Greece, is the metropolitan centre of the Region of Western Greece and regarded as the country's gateway to the west. With a population of 213,984 inhabitants and a population density of 642 people per km squared, the city extends over an area of 333,14 km<sup>2</sup> along the coastline and is backed by mountains.



Since roman times, Patras has been an important port and cosmopolitan centre of the eastern Mediterranean basin. It was the place of Saint Andrew's martyrdom and a crossroad of civilizations that has become a bridge of cultures through the years. Today the city still believes in building an inclusive equal society for everyone.

The economy of the city mostly depends on a thriving service sector, whose main activities include retailing, logistics, financial and public sector services. Patras suffered a severe problem of deindustrialization during the decades of 1980s and 1990s, when several major productive units closed down

in successive order. As a result, the city took a great economic hit resulting in a huge rise of unemployment. It managed to overcome those conditions and improved through investing mainly in smart technologies, science and innovation, environment and energy, tourism and culture.



In Patras there are 227 primary and secondary schools and 3 higher educational institutions. The number of students at all educational levels exceeds 50,000 which is almost a quarter of the city's overall population.

The total number of businesses in Patras exceeds 21,000. While there is no official data pertaining to business size, it is estimated that the percentage of micro business, or those with less than ten employees, exceeds 55%.

## Waste Management & Circular Economy in the City

The collection of mixed municipal waste, green and bulky waste is carried out by the Municipality of Patras specifically within the Directorate of Cleanliness, Recycling & Mechanical Equipment. The collection of recyclable materials, however, is carried out by the Hellenic Recovery Recycling Corporation (HERRCO) under a contract between the Municipality of Patras and HERRCO. In total throughout the municipality, there are approximately 6,500 bins (1,100 litre) for mixed waste and about 2,800 bins (1,100 litre) for recyclable packaging waste. Glass is also collected through a separate network of 123 blue bins. The Municipality of Patras owns a collection centre for recyclable materials and is currently working on a major management plan with the objective of reducing its cost, increasing its revenue and transforming it into a Recycle and Reuse Centre.

Apart from this Patras also has some existing examples of circular initiatives ongoing in the city including:

- A social service, supported by the municipality where old clothes, toys and books are collected for redistribution to citizens in need.
- Non-functioning light bulbs used in public lighting are collected by the municipality's Electricity & Lights Department and are routed to an external company in order to be replaced with more efficient LED bulbs.
- Old vehicles such as cars and motorcycles are collected and gathered at special facilities in order to be dismantled and reused as spare parts or metal.
- Electronic devices no longer in use are collected by the Recycling Department of the municipality and are delivered to a specialized company in order to extract reusable parts out of them.
- There is also an initiative for the collection of used cooking oils which are turned into biodiesel and used to heat schools.

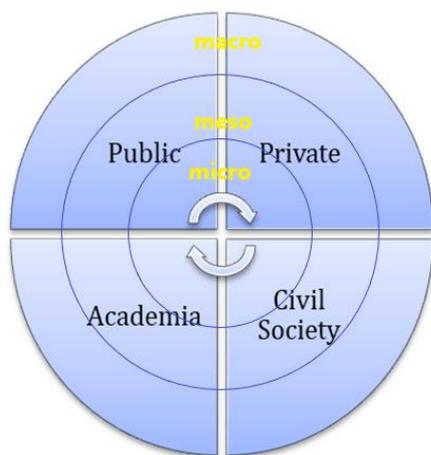
## SWOT Analysis of the Patras Circular Economy Ecosystem

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Existing national legislation supporting circular economy</li> <li>• Local strategic plan focused on Circular Economy</li> <li>• Commitment of elected officials to enhance circular economy</li> <li>• Strong scientific workforce and expertise</li> <li>• Large student population (three universities, three institutes of technology)</li> <li>• Existing examples of integrated working across departments within the municipality</li> <li>• Willingness to act to promote change</li> <li>• High participation of volunteers in municipal initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Poorly informed citizens regarding circular economy issues &amp; benefits</li> <li>• Lack of funding &amp; finance</li> <li>• Lack of application of the strong knowledge base in the city</li> <li>• Lack of infrastructure &amp; facilities to promote CE</li> <li>• Poor citizen participation in CE</li> <li>• Lack of coordination around CE stakeholders &amp; actions</li> <li>• Difficulties in public/private partnerships</li> <li>• Bureaucratic obstacles</li> <li>• Existence of hard to reach remote areas</li> <li>• Lack of CE businesses</li> <li>• Recyclable materials are excluded from the procurement process (legislation needs to change)</li> </ul>

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Harness innovation potential of educational institutes</li> <li>• Promotion of circular business development to accelerate the transition</li> <li>• Enhance &amp; increase engagement &amp; awareness raising</li> <li>• Actively involve students in the circular transition</li> <li>• Use of social media to promote behavioural change in the younger population</li> <li>• Use Patras Carnival as an opportunity for outreach &amp; awareness raising</li> <li>• Harness ability of municipality to encourage civic participation</li> <li>• Pursue competitive funding calls</li> <li>• Utilize the growing café culture to promote the circular economy</li> <li>• Harness the potential of circular economy activities to fulfil social needs</li> </ul>	<ul style="list-style-type: none"> <li>• Large number of products disposed at landfills</li> <li>• Removal of waste from bins by those looking to find value in the disposed resources</li> <li>• Low integration of stakeholders</li> <li>• Delay in implementation of Green Point recycling corners</li> <li>• Slow rates of cooperation between sectors</li> <li>• Large number of immigrants</li> <li>• Reluctance of citizens to collaborate</li> <li>• Lack of rewards for citizens that do engage in initiatives</li> <li>• Lack of civic responsibility &amp; respect for public facilities</li> <li>• High crime rate</li> <li>• Lack of funding &amp; financing</li> <li>• Insufficient awareness raising and buy in from the public</li> </ul>

### The Patras Urbact Local Group (ULG)

The Resourceful Cities project team in Patras consists of staff from the Department of Environment and from the Department of Planning & Studies. Working in this way across departments on specific projects is not unusual within the municipality.



While there are several projects and initiatives in Patras which align with the circular economy, a coordinated ecosystem whereby various actors collaborate in order to achieve a common goal does not currently exist. The potential value of increased strategic collaboration is recognised both at regional level and at national level and specifically mentioned within the National Circular Economy Strategy.

The aim therefore will be to bring these actors together in the first instance within the Urbact Local Group which will focus on the strategic development and coordination of the circular community at the city level. Emerging sub-topics which may require more specific expertise and focus include waste management and operations, developing a sharing community and enterprise development & innovation. Such topic focussed sub-groups will be

developed as necessary in order to make the best use of ULG member expertise and skillsets, all the while maintaining adequate representation to ensure appropriate vertical and horizontal integration.

*Focus of the Integrated Action Plan in Patras*

The focus of the Integrated Action Plan will be to gather together key cross sectoral stakeholders in order to cocreate and agree a shared vision for circular economy in the city, with a focus on the development of Urban Resource Centres as a tool to accelerate the transition. The shared vision will set a direction for all city actors and inform the development of other policy levers to promote the transition to a more resource efficient sustainable growth model in the city. A key action in the development of the circular economy ecosystem will be to map the existing initiatives for reuse and examine the possibility of establishing a common framework.

The city intends to create a Green Point Network which will incorporate the concept of the urban resource centre to contribute significantly to solving the present problem of the ineffective collection of specific recyclable materials. The aim is to increase the reuse and recycling of certain categories of waste such as metal, plastic, paper, glass, fabric, wood, packaging waste etc., resulting in their removal from landfill. The IAP will define actions and potential funding streams to develop ‘creative re-use centres’ through the development of Green Points (centres for recycling, training and sorting at origin), turning them into ‘Green Centres’.

The Green Centres will:

- Encourage repair, reuse and alteration, through training, education & awareness raising.
- Function as a meeting point for consumers and producers to receive feedback on design and layout, thereby encouraging eco-design.
- Act as centres for social training (repair-café, more integrated structures, local/regional platforms and websites).
- Be closely linked with waste processing structures.
- Provide advice on the sorting and classifying of waste.
- Maintain a database of inflowing waste.

*Learning Needs & Potential Contribution of Patras*

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Experiences from other cities on promoting proper separation of waste at source</li> <li>• Developing &amp; implementing green public procurement</li> <li>• How to gain the support of policy makers</li> <li>• Funding &amp; financing</li> <li>• Developing circular economy friendly legislation and policy levers</li> <li>• Promoting civic engagement &amp; participation</li> <li>• How to harness the student population &amp; engage them in driving the transition</li> </ul>	<ul style="list-style-type: none"> <li>• Highly experienced in EU project implementation</li> <li>• Strong environmental education programmes</li> <li>• Showcasing digital &amp; smart city solutions for waste management</li> <li>• Experience of collecting used cooking oil for conversion to energy in schools</li> <li>• Sharing experience as the Green Point recycling corners are implemented</li> <li>• Experience of running open calls for eco-friendly businesses</li> </ul>

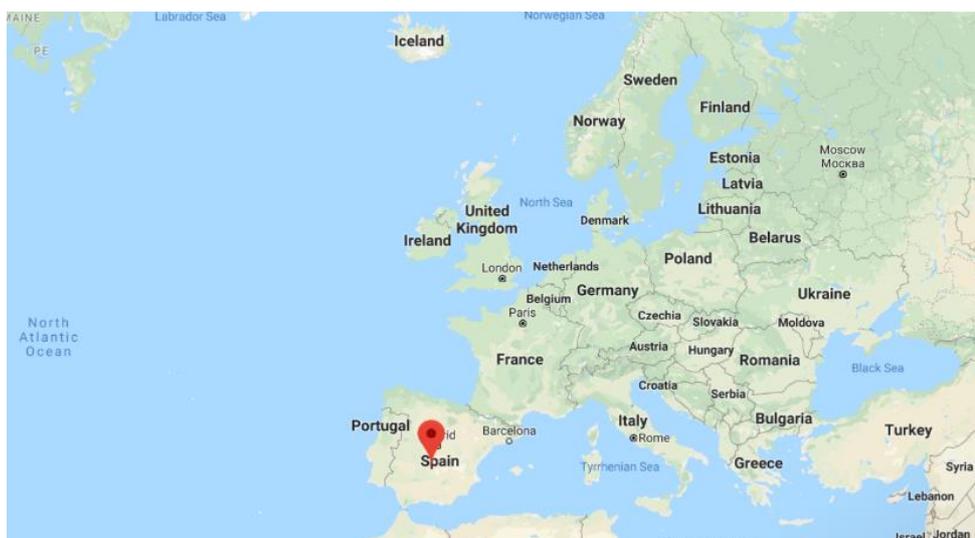
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| <ul style="list-style-type: none"> <li>• Communicating the true cost of consumption in a clear way</li> <li>• Developing indicators to monitor progress</li> <li>• Using circular economy as a vehicle for job creation</li> <li>• Learning from others who are more experienced at separating waste at source &amp; implementing Green Point recycling corners</li> <li>• Learning from others how to develop vehicles to facilitate strategic collaboration &amp; networking in support of eco-innovation.</li> </ul> | <ul style="list-style-type: none"> <li>• Research institute active in assessing lifecycle management of resources in organisations using ICT tools &amp; in encouraging industrial symbiosis</li> <li>• Strong school's education programme encouraging participation &amp; awareness around the impact of over consumption</li> <li>• Recycling programmes in schools</li> <li>• Sharing of research and innovation arising out of multiple research projects in academia including, production of ecological herbicide, converting agricultural sludge to compost, creating valuable resource streams from food waste &amp; disposable nappies etc.</li> </ul> |
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### 3.7 Ciudad Real

Located slightly to the south of central Spain, Ciudad Real has a population 74,743 and a population density of 262 inhabitants per square km. It is part of the Castilla-La Mancha region, famous of course as the setting for Miguel de Cervantes' novel, "Don Quijote de La Mancha".

Ciudad Real was founded in 1255 by King Alfonso X "The Wise", with the purpose of weakening the growing power of the military and the Templar Knights. As a result, it developed as a walled city, with seven doors and 130 towers, a

population of mainly Christians, Arabs and Jews who settled in three respective areas of the city, namely Saint Mariah, Saint Peter and Saint Santiago. The centre of the city suffered heavy losses during the Spanish Civil war and as a result today only small parts of the original walls remain.

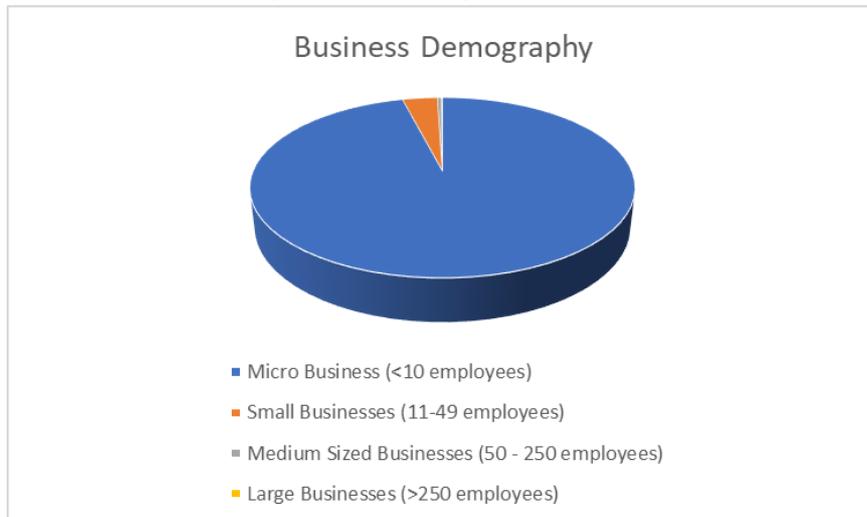


The city is excellently connected with other Spanish cities through the high-speed train line which makes more than 40 daily stops in Ciudad Real. It takes only 49 minutes to reach the city centre of Madrid, and no more than two hours to the Andalusian coast. As well as its high-speed train the city has a high-quality road network and an airport. It has been ranked in the top five for high quality of life in cities across Spain and is home to many people employed in the capital, Madrid. The city is surrounded by many small villages and settlements. These are costly to manage in terms of service provision and suffering from depopulation and decline.



Although small in number, Ciudad Real has experienced a high growth rate of new companies since 2013. This is reflected in the high percentage (96%) of micro businesses within the city’s business demographic structure. There is a strong tertiary & tourism sector in the city with service-related businesses accounting for over 80% of the total. At the same time the city has a relatively weak industrial sector, with employment heavily dependent on the tourism and public sectors.

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### *Waste Management & Circular Economy in the City*

Ciudad Real together with 91 other municipalities in the province and the Provincial Council of Ciudad Real form a consortium, entitled Consortium Medio Ambiente RSU, for the supply of services for the collection, management and treatment of waste.

Containers are provided to facilitate the separation of waste by citizens. The quantity and location of containers is determined by each individual municipality. The municipality is also responsible for supervising and promoting their proper use by residents, while the waste management consortium is responsible for waste collection, management and treatment.

To further promote and increase waste separation, the waste management service also provides door-to-door collection of waste fractions such as paper and cardboard, glass containers, vegetable oil and bulky household goods. As well as street containers there is also a network of recycling centres across the city called Clean Points.

To promote waste reduction and the correct separation of waste, the waste management service runs education and awareness programmes in primary and secondary schools, as well as community composting programmes.

There is growing awareness amongst waste management actors in the city that the current linear system of ‘take, make, dispose’ cannot continue and that the shift to the circular economy must take priority if impending crisis is to be avoided. In February 2018, the city council signed up to the Seville Declaration for a Circular Economy. Initiatives supporting the transition have since started to ramp up in the city. In 2018 for example workshops were held to promote textile recycling and waste reduction.

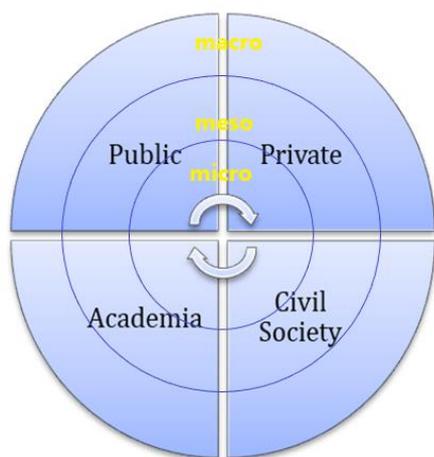
### SWOT Analysis of the Ciudad Real Circular Economy Ecosystem

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• High quality of life</li> <li>• Ease of connectivity with major Spanish cities</li> <li>• Size &amp; scale of the city - easy to reach people &amp; form relationships</li> <li>• High level of education in the population</li> <li>• Soon to be first region in Spain to publish CE regulations to cover the entire lifecycle of products</li> <li>• Presence of key actors within the municipality willing to push for change &amp; the transition to the CE</li> <li>• Citizens supportive of public gatherings &amp; events</li> <li>• Experience in developing cooperatives in wine &amp; olive oil</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of availability of space</li> <li>• No specific regulation supporting waste reduction</li> <li>• Division of responsibility within the city is too strict and siloed</li> <li>• A weak industrial sector</li> <li>• High rate of dereliction on the outskirts</li> <li>• Stagnation in the rate of RDI investments</li> <li>• Low engagement &amp; awareness of the population broadly about the importance of the CE as a driver for socioeconomic development</li> <li>• High unemployment</li> <li>• No visible creative sector</li> <li>• Lack of funding</li> <li>• Poor planning &amp; development practice</li> <li>• Weak industrial fabric</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• New department of waste management &amp; willingness for change</li> <li>• Willingness &amp; commitment to develop an innovation ecosystem support infrastructure to promote business start-ups focused on innovation &amp; indigenous resources</li> <li>• Planned adaptation of the Green Point</li> <li>• Incorporating the participation of young people into the economic fabric of the city</li> <li>• Working with big supermarkets to stock more local food</li> <li>• Engaging the creative sector in the eco-innovation process</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of political urgency &amp; commitment to transition to the Circular Economy</li> <li>• Consumption habits driven by large commercial organisations with strong marketing power and influence</li> <li>• New products remaining cheaper than repairing products – lack of taxation associated with resource inefficiency</li> <li>• Culture currently supports consumerism &amp; negates reuse &amp; repair</li> <li>• Continuing investments in support of linear economy</li> <li>• Depopulation from the many surrounding villages</li> </ul>

<ul style="list-style-type: none"> <li>Actively engaging marginalised groups in CE activities &amp; harnessing their resourcefulness</li> <li>Developing value chains for several high potential waste fractions identified (oil, electronic goods, green waste)</li> <li>Valorising agricultural waste streams</li> <li>Large public library in the city</li> <li>Development of eco-tourism with a focus on gastronomy</li> <li>Blank canvas</li> </ul>	<ul style="list-style-type: none"> <li>Inaction and apathy</li> <li>Lack of citizen responsibility or enthusiasm to become agents of change</li> <li>Threatening behaviour by some marginalised groups at recycling stations in a bid to access 'waste' with high value components</li> <li>Continued lack of collaboration between &amp; coordination of stakeholders</li> </ul>
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### The Ciudad Real Urbact Local Group (ULG)

Ciudad Real already has trialed a cross sectoral participative working group in the city called the Local Sustainability Council. The group was established in 2017 to act as an advisory and participatory body for the city with the aim of promoting sustainable development. The group however became highly political and did not function as initially intended with insufficient participation from members. This was a valuable learning experience which has informed the development of the current ULG. An opportunity exists now to co-create a shared vision with stakeholders from the bottom up, which will be capable of consolidating and sustaining the commitment of key stakeholders across the city and its hinterland.



Aligning with the URBACT methodology the ULG structure in Ciudad Real consists of a single working group. Crossing the micro, meso and macro levels, membership of the group includes representatives from across the public, private and academic sectors, as well as participation from active citizen interest groups. The structure responds to the needs of the current circular economy ecosystem in Ciudad Real which is in the early stages of its evolution. This partnership will work to develop key foundational supporting actions and initiatives to foster and cultivate a thriving circular economy ecosystem in the city in the medium term. With a focus on promoting behavioural changes, job creation and citizen responsibility.

### Focus of Ciudad Real's Integrated Action Plan

The Integrated Action Plan in Ciudad Real will focus on developing a support framework to promote the development and growth of a fertile circular economy ecosystem in Ciudad Real and its hinterland to facilitate and accelerate the transition to the circular economy in the city. The key aim will be to reduce the amount of waste produced per inhabitant and to use the development of the circular economy to generate new & diversified local employment opportunities. The support framework will be co-created between key sectors in the city including academia, public bodies, private sector organisations and civil society groups at various levels. The following key priorities are envisaged:

- The development of training programmes aimed at young people and long-term unemployed, in order to promote their integration into the labour market.
- The development of innovation programmes linked to the circular economy.

- Encouraging the inclusion of disadvantaged communities in the innovation & entrepreneurship process.
- Supporting circular innovation in traditional businesses operating in the linear economy.
- Developing innovative citizen participation methods and embedding these into the development processes of organisations across the city.
- Improving the effectiveness of the waste management system in the city.
- Designing actions based on learning from other cities to promote behavioural change and citizen responsibility.
- Capitalising on the potential of the agricultural sector & the development of local food loops.
- Training for businesses develop consciousness around circularity.

### *Ciudad Real's Learning Needs & Potential Contribution*

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Possibilities to improve the waste management system.</li> <li>• Innovative and effective citizen participation methodologies.</li> <li>• Improving citizen environmental awareness.</li> <li>• Raising awareness of waste separation guidelines.</li> <li>• Helping traditional businesses adapt to become more circular.</li> <li>• Engaging smaller settlements in the hinterland.</li> <li>• Green public procurement.</li> <li>• Managing food waste.</li> <li>• Developing local food loops &amp; valuable resource flows between city &amp; hinterland.</li> <li>• Promoting the image of recycled/upcycled textiles as desirable.</li> <li>• Developing benchmarking &amp; standards for circular business (KPIs &amp; indicators).</li> <li>• Exploring the provision of municipal benefits/incentives for CE companies.</li> <li>• New business models for circular economy to promote job creation.</li> <li>• Funding &amp; financing to develop the CE ecosystem.</li> <li>• Inclusion of both the young and old.</li> <li>• Inclusion &amp; engagement of migrants &amp; marginalised groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Showcasing the GREEN LINE service, supporting communication between citizens, businesses &amp; the municipality</li> <li>• Showcasing an online tool for public participation.</li> <li>• Previous URBACT experience and success in accessing sizeable national funds as a result of URBACT APN participation.</li> <li>• Municipal market dedicated to the direct marketing of local products.</li> <li>• Showcasing biofuel production from landfill.</li> <li>• Employment of people with disabilities in the waste management services.</li> <li>• Showcasing community composting programmes.</li> <li>• Local Clean-Points for the collection of environmentally dangerous urban waste.</li> <li>• Environmental Education &amp; Awareness including Celebration of Days for Sustainable Development, Collaboration with Red Cross, Education Programme on Recycling for Education Centres, Day of Learning Cities, JUGARAMA “Workshop for Circular Economy”, Animalia, Awareness Campaign.</li> <li>• EXCELLENCE CERTIFICATION “PAPER 21” Initiative aimed at recycling paper.</li> <li>• Participation in the Network of Sustainable Cities and Municipalities in Castilla La Mancha region &amp; Ratification of the Seville Declaration.</li> </ul>

### 3.8 Bucharest's 3<sup>rd</sup> District

The 3<sup>rd</sup> District of Bucharest is one of a total of six districts in the capital of Romania. It is the 3<sup>rd</sup> largest sub-administrative division of the city and the most densely populated. With a population of nearly half a million, it is the second-most populated administrative area in the country, second only to Bucharest itself. Stretching over an area of 240 square kilometres, Bucharest Municipality measures about 22 kms north to south and almost 20 kms west to east. The 3<sup>rd</sup> District itself, extends from the city centre, University Square, to the eastern edge of Bucharest and has an area of 34 km<sup>2</sup>.



The first historical mentioning of Bucharest appears in 1459 as residence of Vlad Țepeș. Bucharest is the capital of Romania since 1862 and is the most important political, economic and cultural-scientific centre of the country. The city is found in one of the most developed regions of Romania, namely the Bucharest-Ilfov region.

Bucharest has experienced several successive attempts to modernize its boulevards, starting in the middle of the 19th century and

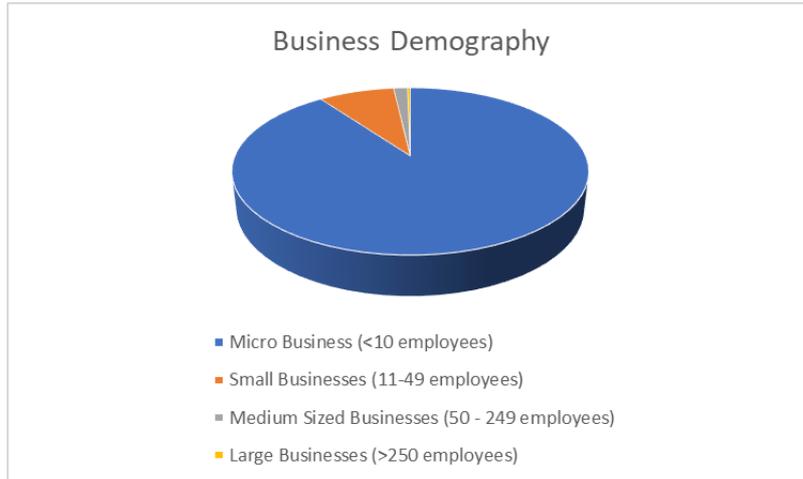
continuing with the 1980s regularization. As a result, Bucharest lost most of its earlier historical fabric, including its old slums and some of its historic districts which have been replaced by Parisian like boulevards.



The resulting urban landscape shows a visible patchwork of socio-spatial structures formed in different historical periods. Among them, are traces of the old slums (Colțea), of the old lots from 1900-1940 (Hala Traian), of the communist-era neighbourhoods (Titan - Balta Albă) mixed with the new residential complexes built over recent years.

From an economic point of view, the 3<sup>rd</sup> District is one of the most vibrant districts, with services related businesses operating in the areas as well as construction and ICT. The city provides enough critical mass therefore to enable the municipality to deliver a relatively effective and efficient waste management service to its citizens.

The 3rd District offers high potential for new economic growth. This of course brings challenges in terms of ensuring



the balance between increasing the quality of life and maintaining a satisfactory standard for the entire community as well as increasing economic attractiveness for investors. Therefore, a sensitive approach to place making and regeneration is required here. The development of an Urban Resource Centre in the district provides a valuable opportunity therefore to address social, environmental and economic needs in the district, contributing to the continual sustainable transformation of what is seen as the greenest, cleanest and smartest district in Bucharest.

### *Waste Management & Circular Economy in the 3<sup>rd</sup> District*

In 2018 the 3rd District established its own Department of Waste Management, under the direct supervision of the Local Council. Prior to 2018, the sanitation service was delivered by a private company.

The Department of Waste Management is responsible for the delivery of the sanitation service, which consists of:

- separate collection and separate transport of municipal waste, both residential and commercial (including separately collected fractions, namely wet & dry fractions)
- collecting and transporting waste from dwellings generated by redevelopment and rehabilitation activities
- sweeping, washing, spraying and maintenance of public spaces and roads etc.

Since the establishment of the Department of Waste Management, the local authority has started to strengthen its actions in the field of waste prevention and the promotion of sustainable consumption and production practices among citizens and businesses.

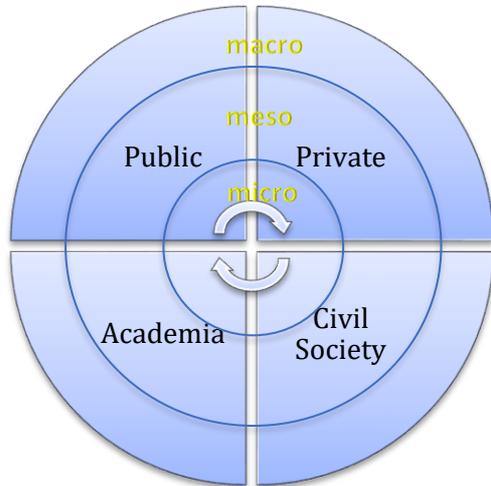
The district has a history of collaboration with various NGOs. For example, in 2016 together with Ecotic NGO the 3rd District established the first collection points of small electrical and electronic equipment (WEEE) in Bucharest.

The ambition of the 3<sup>rd</sup> District is to become the cleanest, greenest and smartest district in Bucharest. The transition to the circular economy is a key element in achieving this aim. The district intends to capitalise on the exchange and learning activities provided by this network in order to accelerate that transition.

## SWOT Analysis of the 3<sup>rd</sup> District of Bucharest's Circular Economy Ecosystem

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Large areas of undeveloped brownfield</li> <li>• Partnerships with academia.</li> <li>• Areas under regeneration in the district.</li> <li>• Three research institutes in the district relating to energy (ICPE-CA and ICEMENERG) &amp; textiles (The National Research &amp; Development Institute for Textiles and Leather).</li> <li>• Large number of residents with higher education.</li> <li>• Political support.</li> <li>• 6 state technological high schools.</li> <li>• Good relationship with various NGOs and private companies.</li> <li>• Experience in working with EU funds.</li> <li>• An established partnership with the first IT cluster in Bucharest.</li> <li>• Experience in smart city initiatives.</li> <li>• Management of the municipality experienced in managing transition &amp; committed to transition.</li> <li>• Innovators in the public sector.</li> <li>• Modern &amp; efficient waste management infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease in district income from industry.</li> <li>• Low urban comfort due to poor planning &amp; development e.g. dwelling areas adjacent to industrial areas.</li> <li>• Low percentage of active population</li> <li>• Social nonintegration of minorities.</li> <li>• Separate collection of municipal waste, although growing, is still at a low level</li> <li>• High poverty levels in some parts of the district.</li> <li>• Lacking a culture of collaboration and integration between people, businesses &amp; organisations.</li> <li>• Lack of freely available funds to support the transition to the CE.</li> <li>• High initial costs for new technologies.</li> <li>• Lack of digitalizing procedures and lack of field workers knowledgeable in working with new technologies.</li> <li>• Lack of space to expand the district.</li> <li>• Scarcity of financial support from the local government for start-ups</li> <li>• Low awareness regarding the importance of sustainable consumption</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Willingness to take action &amp; consensus that progress is necessary.</li> <li>• Availability of EU funds &amp; EU partnerships.</li> <li>• The historic centre located in the 3<sup>rd</sup> District, has a high potential for URC activities with significant economic, social &amp; environmental impact.</li> <li>• Private companies willing to invest or to relocate in the 3<sup>rd</sup> District.</li> <li>• CE represents a new development niche for the business area, especially SMEs.</li> <li>• Digital as an enabler.</li> <li>• CE to grow eco-tourism.</li> <li>• Developing a CE cluster.</li> <li>• Tapping into vibrant creative sector.</li> <li>• Interregional/districts collaboration.</li> </ul>	<ul style="list-style-type: none"> <li>• Population migration to other districts.</li> <li>• The ageing population.</li> <li>• Low traffic capacity of Bucharest Belt that leads the vehicles to go through the 3<sup>rd</sup> District.</li> <li>• Instability &amp; inconsistency that comes with changing political visions.</li> <li>• Lack of experts in innovation.</li> <li>• Resistance to change.</li> <li>• Lack of circular companies &amp; innovation.</li> <li>• Lack of civic responsibility.</li> <li>• Resistance to selective collection.</li> <li>• Insufficient communication &amp; awareness campaigns for the population.</li> <li>• Not giving a voice to citizen's suggestions &amp; ideas.</li> <li>• Lack of shared vision.</li> </ul>

### The 3<sup>rd</sup> District of Bucharest's Urbact Local Group (ULG)



This is the 3<sup>rd</sup> District's second partnership in an Urbact Action Planning Network. Building on their experience in the 'Infocus - Smart Specialisation at Local Level' Action Planning Network' a cross sectoral ULG has been created with representation from across the quadruple helix. The ULG also includes representatives from the regional development association who are partners in the Interreg Europe PLASTEKO project. Potential synergies between these two projects will be identified and developed. Stakeholder mapping exercises will be undertaken throughout the network lifecycle to ensure newly identified stakeholders are included in the co-creation process.

It is expected that a core group of stakeholders will be engaged to work on more general challenges and ideas while focus groups will be established for specific topics

that demand more specialized knowledge. This will help to keep the stakeholders engaged by mobilizing them on topics that are relevant to their activity and field of knowledge.

### Focus of the 3<sup>rd</sup> District of Bucharest's Integrated Action Plan

The focus of the IAP will be to develop a shared vision among stakeholders. This will set a direction for the city to inform the development of other policy levers such as urban planning standards, economic incentives and targeted public engagement strategies. Ultimately this will initiate an acceleration of the transition to the circular economy in the 3<sup>rd</sup> District. The IAP will seek to develop an efficient set of urban policies in order to reinforce waste prevention measures and encourage reuse and recycling.

The IAP process will focus on the co-creation of actions with the aim of:

- Educating the local community on the correct procedure for separation at source and supporting the recycling of uncontaminated waste.
- Identifying effective solutions to develop the civic spirit amongst the 3<sup>rd</sup> District's residents and thereby preventing unnecessary waste.
- Developing further fiscal and financial incentives for those who effectively support the concept of green economy and circular economy.
- Promoting green procurement in the public and private sectors.
- Increasing the recycling rate of municipal waste through innovative technologies.

- Developing methods to monitor the quantitative and qualitative tendencies of waste generation in District 3.
- Reducing food waste.
- Identifying and using digital enabling solutions.
- Promoting green skills & environmental awareness in vocational education & training.
- Promoting circular economic businesses & initiatives.

*The 3<sup>rd</sup> District of Bucharest’s Learning Needs & Potential Contribution*

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Encouraging a culture of collaboration</li> <li>• How to improve the municipal waste management procedures</li> <li>• Successful Circular Economy business models</li> <li>• Funding &amp; financing CE initiatives</li> <li>• Education &amp; awareness raising</li> <li>• Promoting behavioural change to diverse target groups</li> <li>• CE as a vehicle for social inclusion</li> <li>• Disincentivising vacancy</li> <li>• Incentivising green business development</li> <li>• Promoting citizen participation</li> <li>• Incorporating CE into the city branding</li> <li>• Best practices in promoting CE</li> <li>• Monitoring &amp; mapping resource flows</li> <li>• Mapping the circular economy ecosystem</li> <li>• How to retain and attract skills &amp; talent</li> <li>• Becoming a magnet city district for CE business</li> </ul>	<ul style="list-style-type: none"> <li>• Experience from previous Urbact APN</li> <li>• Experience in implementing smart service delivery solutions &amp; transition management</li> <li>• Showcasing one of Europe’s newest, most high-tech waste management facilities</li> <li>• Showcasing smart waste management solutions (big belly bins)</li> <li>• Experience in implementing large scale energy upgrading and refurbishment of apartments schools &amp; apartment blocks</li> <li>• Showcasing ESF funded incubator initiative</li> <li>• Experienced in developing an electronic waste collection initiative in partnership with NGO</li> <li>• Sharing public/private partnerships initiative focused on the collection of cigarette butts.</li> </ul>

### 3.9 Mechelen

Located in the heart of Flanders within twenty minutes reach of both Brussels and Antwerp, Mechelen has a population of 86, 616 and a population density of 1,329 inhabitants per km<sup>2</sup>.



The city evolved around the river Dijle and was built on wetlands. Water management has always been a preoccupation since the first pile dwellings in the 5th century BC. In the 15th century the city was the juridical capital of ‘the Netherlands’. For a short period in the 16th century it even became the political capital of ‘the Netherlands’. It never lost its central role in Europe, and almost became the ‘capital’ of Flanders in the seventies. Today, Mechelen is a touristic hot spot because of its cultural heritage, recognized by UNESCO.

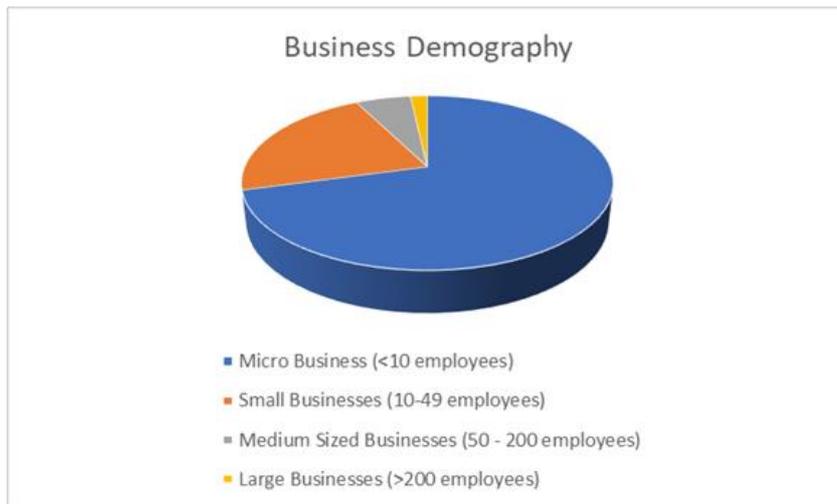
Mechelen has grown in popularity, leading to a growing population and economy throughout the last decades. After a period of increasing dilapidation and criminality, however, the city invested strongly in infrastructure and social cohesion/inclusion, now bearing its fruits. In the recently developed policy plan (2019-2025), the city chose to put a focus on three key priorities: stimulating circular and innovative entrepreneurship, fighting child poverty and leading the modal shift in mobility modes.



The city administration is coordinated by different transversal themes, such as climate neutrality, diversity, child-friendliness, welcoming city, smart city and circular economy. The city evolves on the power of participation and co-creation amongst citizens, organizations, city administrations, companies and knowledge institutions to tackle the

challenges that the city faces. The city’s unwavering commitment to creating a citizen centered sustainable city is an obvious characteristic upon arrival. The Neverending park project is an example of the way in which citizens are involved in the making of the city. Furthermore, streets are virtually car free, making for a remarkably attractive, pleasant and people focused city centre environment.

Mechelen has a strong manufacturing, creative and innovative sector and can easily attract human capital. Since 2010, the number of companies grew from 5 000 to almost 6 000 - supported by a growing purchasing power, average income and a declining poverty index.



Mechelen scores remarkably high regarding economic innovation potential in comparison to other Flemish central cities. This is due to the strong representation of bio-tech companies there as well as mechanical engineering firms focused on the repair of machines and equipment businesses. According to the circular economy job monitor, Mechelen is the third city in Flanders regarding the actual number of jobs in circular economy now, and their ambition is to boost this number even more.

### *Waste Management & Circular Economy in the City*

IVAREM is the intermunicipal society for sustainable waste management in the region of Mechelen. Their goal is to initiate, coordinate and realise a progressive, sustainable and integral waste management system for the region.

IVAREM is responsible for:

- Residual waste collection, transport, pre-treatment and processing.
- Selective waste collection, transport, pre-treatment and processing (metals, plastic, glass, green waste, textile, paper and cardboard, car tyres, electric and electronic equipment, inert materials and small dangerous waste).
- Waste prevention & re-use (education, outreach, awareness raising).
- Public cleanliness, in cooperation with the responsible city department.

In October 1994, IVAREM opened the first landfill gas power plant and in 2003, it built the first mechanic-biological waste separation installation in Flanders using a technique of biological drying and mechanical separation of the residual waste.

Beyond traditional waste management and in order to accelerate the transition to a circular economy a partnership of public authorities, companies, knowledge institutions and civil society was created in 2016 entitled Circular Flanders, with its offices located in Mechelen. Circular Flanders is funded by the Flemish government and embedded in the Flemish Public authority for waste (OVAM).

In 2017, the city of Mechelen signed the Green Deal Circular Procurement and initiated projects on circular economy in order to build expertise in this area. In 2018, Mechelen engaged a CE coordinator with the aim of mainstreaming circular thinking within all services of the city, and the city signed the Green Deal Circular Construction issued by Circular Flanders. The CE programme manager works on several projects concerning circular city and is responsible for mainstreaming circular thinking and facilitating cooperation in view of the realisation of circular economy, among citizens, businesses, and the various internal services within the city administration. A specific CE project coordinator for the support of businesses and entrepreneurs regarding circular economy is engaged in 2020.

### SWOT Analysis of the Mechelen Circular Economy Ecosystem

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• Strong political support &amp; ambition</li> <li>• Strong connection with 3<sup>rd</sup> level institutes</li> <li>• Many CE experts present (OVAM, Circular Flanders, researchers, consultants)</li> <li>• Professional waste collection system: recycling statistics are already good</li> <li>• Public appetite for sustainability projects, many existing bottom-up initiatives</li> <li>• Motivated municipal employees in support of sustainability projects</li> <li>• Open to experimentation &amp; innovation</li> <li>• A strong history PPP</li> <li>• Manageable city size</li> <li>• Front runner in sustainability initiatives (Green leaf award 2020, Eco-design awards, Water Resilient Cities)</li> <li>• CE a transversal theme /strategic organizational goal (2019-2025)</li> <li>• Diverse population</li> </ul>	<ul style="list-style-type: none"> <li>• Complicated political structures nationally &amp; regionally</li> <li>• Lack of joined up thinking</li> <li>• Lack of focus (too many projects at the same time)</li> <li>• Lack of indicators in regional strategy</li> <li>• No dedicated secure budget for circular economy implementations (depending on subsidies)</li> <li>• Different actors speak different jargon &amp; don't mingle that often</li> <li>• Lack of smart solutions to support waste management</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• New incubation centre to become leading in CE</li> <li>• Continually improving infrastructure</li> <li>• Integration of CE in smart city initiatives and vice versa</li> <li>• MoU could be developed with local third level institutions</li> <li>• Potential to link with high number of CE initiatives in other Flemish cities</li> <li>• Co-creation spirit in Mechelen (City lab2800 methodology)</li> <li>• Possibility to link diverse demographic groups through CE initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Slow bureaucratic procedures</li> <li>• Strong political will against change</li> <li>• A slow transition</li> <li>• Lack of data on the circular economy</li> <li>• Lack of indicators to monitor circular economy progress</li> <li>• Growing polarisation on climate change and sustainability issues</li> <li>• Risk of not including everyone in one CE approach</li> </ul>

### *The Mechelen Urbact Local Group (ULG)*

Mechelen has a large variety of existing social, innovative and circular initiatives and living labs in the city which align with the Urban Resource Centre framework. These initiatives operate using a variety of business models. Some are initiated by private operators such as an urban living lab for circular construction, others are publicly supported citizen operated such as the library of tools or the library of baby gear. The city also grants vacant spaces to social and innovative start-ups and various creative entrepreneurs add to the transition. The city views these spaces & initiatives as urban resource centres. A publicly funded action research initiative, called [Stroom](#), was undertaken in 2018 to explore how and which circular solutions for everyday needs are preferred among a variety of citizens. This is the basis for the city’s further work on mainstreaming circular thinking among the citizens.



The Urbact Local Group structure reflects the needs of the current ecosystem. Several ULGs will be formed around existing and planned Circular Economy related initiatives each focussing on their own specific priorities. The coordinators of each of these ULGs will come together to form the city wide ULG which will develop city wide guidance and strategic support to meet the needs of the individual ULGs. The structure responds to the specific focus of each initiative while at the same time recognising the benefits which can be gained from collaboration at a broader city level.

The climate council (formal advisory body of the city) recently expressed the need to not only focus on energy consumption and mobility, but also to broaden their scope to circular economy with a focus on materials, food and water consumption. This body forms one of the specialised ULGs.

### *Focus of Mechelen’s Integrated Action Plan*

The aim of the Integrated Action Plan in Mechelen will be to define actions and strategies which focus on the added value that can be gained through strategic collaboration between the many existing actors at a city level. These actors include innovators, entrepreneurs, academics and supporting players. The focus of the Integrated Action Plan therefore will be to cocreate a strategic support framework for the existing ecosystem.

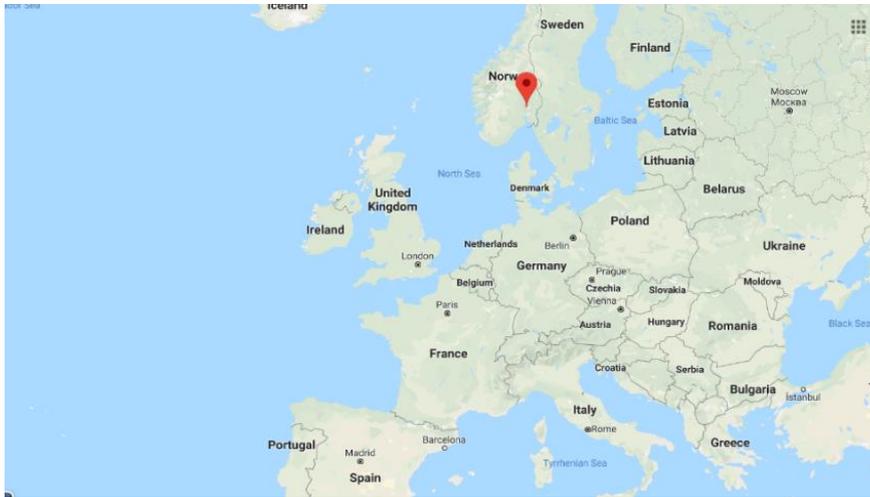
The plan will develop a shared strategic vision for the various stakeholders within the ecosystem. It will focus on supporting the many great initiatives that already exist in Mechelen, both citizen and business led. It will seek to mainstream these existing activities so that they can service and incorporate a larger proportion of the population than at present. It will focus on finding viable business models in order to sustain these existing initiatives in the long term. It will seek to create and support the development of URCs in various neighbourhoods (one main centre is the Potterij, but other smaller centres can exist).

*Mechelen's Learning Needs & Potential Contribution*

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Development of Common Indicators</li> <li>• Digital as an enabler</li> <li>• Supporting the development of viable business models for circular economy</li> <li>• Financing models for CE</li> <li>• Supporting small scale actors to scale up</li> <li>• Targeted marketing or public awareness campaigns to sell CE to diverse audiences</li> <li>• Developing user informed language around CE from diverse groups</li> <li>• PPP initiatives promoting sustainability &amp; CE</li> <li>• How other cities reach their reuse targets</li> <li>• how to develop a repair centre</li> <li>• Measuring &amp; communicating the 'true cost' of consumer products</li> <li>• Communicating shared value – promoting common understanding between environmental &amp; economic driven actors</li> <li>• Learning how to prioritize great ideas</li> <li>• Optimising communication &amp; pitching of activities to diverse audiences.</li> <li>• Improving departmental integration</li> </ul>	<ul style="list-style-type: none"> <li>• Creating the right circumstances for a diverse start-up scene related to sustainability</li> <li>• Experience in circular public procurement</li> <li>• Methods to support community sustainability initiatives</li> <li>• Sharing existing front running sustainability initiatives</li> <li>• Vacant spaces for sustainable enterprise development on temporary basis</li> <li>• Regional innovation fund for circular economy initiatives (Circular Flanders)</li> <li>• Promoting &amp; supporting a culture of experimentation (OVAM)</li> <li>• Engaging research community to support circular economy transition</li> <li>• Showcasing the challenges, associated solutions and benefits of a sustained city-wide commitment to sustainability</li> <li>• Showcasing URC aligned initiatives based on a variety of business models</li> <li>• Methodologies for improving &amp; valuing citizen participation</li> </ul>

### 3.10 Oslo

European Green Capital 2019 and the capital city of Norway, Oslo has a population of approximately 680,000 and a population density of 5,221 citizens per km squared. It is one of the fastest growing capitals in Europe and this is reflected in the large number of construction projects which have taken place in the city over recent decades.



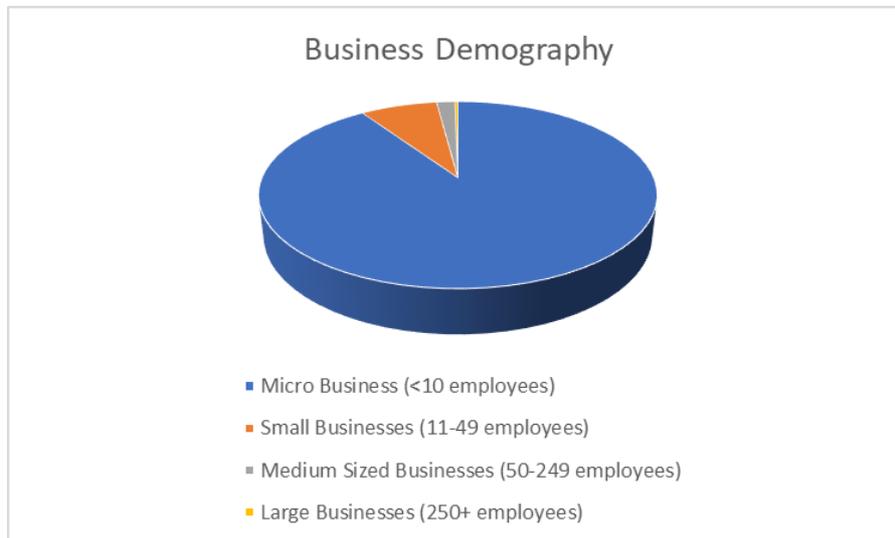
One of the most notable characteristics of the city is its connection and closeness to nature. Oslo is immersed in an extremely high-quality natural environment and this is obvious both from the heart of the city centre and across its suburbs. The city is surrounded by the Marka Forest, a nationally protected area, and by the Oslo Fjord, both connected to each other by multiple waterways.

Developers in Oslo have been careful to preserve the city's nature and wildlife, and to reuse existing structures in new and clever ways. The nature surrounding the city is of great value to the citizens and life within the city. This has contributed to a drive to make the city green and reduce the environmental impact of urban life. It has led Oslo to develop one of the most ambitious climate strategies in the world, aiming to be a zero-emission city by 2030.



Credit: Oslo Centre for Urban Ecology/Ingar Sørensen

Oslo has been ranked as one of the most effective municipal bodies in the country and it is also the city where the private sector has the best conditions to succeed according to a recent study. It is the city with the fastest growth rate of newly established start-ups in Europe and this is reflected in its business demography statistics with almost 81,000 of its 90,000 businesses classed as micro businesses.



### *Waste Management & Circular Economy in the City*

Oslo has a cycle-based waste management system. Household waste is separated at source and collected according to waste type, with the aim of acquiring clean waste streams for recycling. Food waste (green) and plastic packaging (blue) is source separated by the citizens in green and blue plastic bags. The sorting facilities optically recognize the colours and the green and blue bags are separated from residual waste. The collection system covers all citizens and is operated by the Agency for Waste Management.

The Agency for Waste Management takes a proactive, forward thinking and holistic view of waste management in the city. Going beyond the traditional demand driven waste collection services, it undertakes multiple initiatives to support waste reduction and reuse. It has its own dedicated research, development & innovation (RD&I) department with responsibility for continual service optimisation and improvement regarding waste management in the city.

Plastic packaging, glass and metals packaging, as well as Electrical waste (WEEE), are recycled through Extender Producer Responsibility (EPR) systems in Oslo. Waste fractions like metals, paper, hazardous waste etc. are recycled or recovered through contracts with industrial partners.

Food waste is treated at the City-owned biogas plant with a capacity of 50,000 tons of food waste. Food waste is turned into biogas for buses and waste trucks in Oslo. Liquid fertilizer from the biogas production is used by local farmers. Garden waste is composted and sold to citizens as garden soil. No biodegradable waste is sent to landfill.

The city manages five big recycling stations, nine so-called “mini-recycling stations”, as well as a Centre for Urban Ecology. The big recycling stations operate large-scale waste management services, which mainly focus on collecting and recovering waste for recycling, but also facilitate re-use.

Oslo has two waste-to-energy incineration plants. These plants generated 905 GWh of district heating energy and 140 GWh of electricity in 2015. The district heating produced at these two plants cover 20% of total heating demand in Oslo.

### SWOT Analysis of the Oslo Circular Economy Ecosystem

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>• High environmental ambitions &amp; awareness among citizens</li> <li>• CE enshrined in policies &amp; strateies</li> <li>• Diversity</li> <li>• Strong local identity</li> <li>• A city in transition, regeneration districts</li> <li>• Frontrunning in Digitalization</li> <li>• Citizen centered urban development</li> <li>• City collaborates with many big companies e.g. IKEA, NESPRESSO etc.</li> <li>• Strong local communities, volunteer sector &amp; a strong democracy</li> <li>• Sharing libraries</li> <li>• Biophilia (Close to nature)</li> <li>• Experience in URC type development</li> <li>• Plentiful resources (People, spaces, ideas, waste products, money)</li> <li>• European Green Capital</li> <li>• Good cooperation with local stakeholders</li> <li>• Internationally connected</li> <li>• Several exisiting CE iniatiaves &amp; supports</li> <li>• City open for collaboration &amp; PPPs</li> <li>• Frontrunning green companies</li> <li>• Several city districts have earmarked green funds</li> <li>• Schools are engaged and include circular design in curriculum</li> <li>• Strong network on Urban agriculture</li> <li>• High level of trust in public institutions and between people</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of prioritization - too many good ideas</li> <li>• Complexity</li> <li>• Consumerism embedded in Norwegian lifestyle</li> <li>• A lot of green washing</li> <li>• Lack of visible link between consumption and environmental damage – lack of awareness of ‘real cost’ of consumerism &amp; everyday products</li> <li>• Lack efficient integration within the city administration</li> <li>• Tax on repair &amp; high cost of repairs</li> <li>• Loneliness/isolation, particularly in some ethnic minorities &amp; older people</li> <li>• Insufficient value or potential value awareness of local production systems &amp; products &amp; experiences</li> <li>• Lack of skills on repair</li> <li>• Lack good policies on social housing / real estate market</li> <li>• Changing &amp; transient political agendas</li> <li>• Still not enough incentives for sustainable / circular business models</li> <li>• Lack of eco-design and repairability requirements</li> <li>• Culture of buying from established chains and brands</li> <li>• Lack of knowledge on origin of materials in products</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Increasing environmental awareness</li> <li>• Collaboration with private sector</li> <li>• Digital platforms that harvest BigData</li> <li>• Restrictions on public advertisements</li> <li>• Using technology to bring Circular economy closer to citizens</li> <li>• Empathy Mapping &amp; building</li> <li>• Subconscious environmental awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Globalisation</li> <li>• Poor communication, business as usual</li> <li>• Lack of "Real" participation methods</li> <li>• Language barriers</li> <li>• Polarization</li> <li>• Small city</li> <li>• Centralization on city level</li> <li>• Algorithms in social media driving polarization</li> </ul>

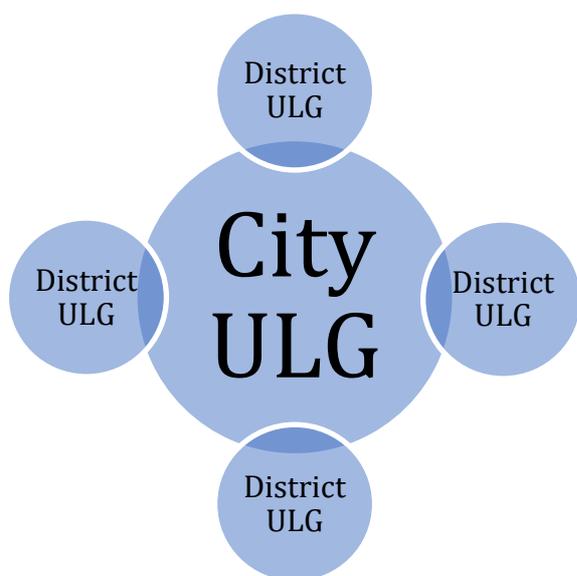
<ul style="list-style-type: none"> <li>• Diverse population = Diverse ideas</li> <li>• Incorporate behavioural theory in service design</li> <li>• Engaging student population</li> <li>• Increasing collaboration with academia and research bodies (education, monitoring, evaluation etc.)</li> <li>• Digital database for re-use products</li> <li>• Storage space for re-use goods</li> <li>• Practical workshops to engage unemployed</li> <li>• Collaboration = dynamism + synergies</li> </ul>	<ul style="list-style-type: none"> <li>• Climate change</li> <li>• Threats of "over-communication"</li> <li>• Need to maintain enthusiasm for change + positivity</li> <li>• Political timing and the need to act now</li> <li>• Many empty spaces that are underutilized could lead to further vacancy if left unaddressed</li> <li>• Growing inequalities</li> </ul>
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### The Oslo Urbact Local Group (ULG)

Quadruple helix partnership working is common in Oslo. There are several districts and neighbourhoods which are under regeneration at present, supported by dedicated resources and partnerships including Hovinbyen (Oslo's largest regeneration district supported by the quadruple helix, strategic partnership Pådriiv) and the Ground Valley (a large suburban area, including four city districts with a large immigrant population)

The city has several existing initiatives operating at the district and neighbourhood level which identify with the Urban Resource Framework including Vollebekk Fabrikker (a start-up incubator for green & social businesses) as well as nine recycling stations which promote waste reduction and reuse. Moreover, Oslo has several support organisations which promote, synergise with and add value to these initiatives such as ByKuben (Center for Urban Ecology) and Pådriiv (district focused strategic development partnership).

The Urbact Local Group structure is designed to respond specifically to the needs of the current ecosystem. Several



ULGs will be formed around existing and potential Circular Economy related initiatives at district and neighbourhood level in the city e.g. one focused on a regeneration district seeking to build entrepreneurship and community spirit, another focussed on promoting local food loops etc. The coordinators of each of these ULGs will come together to form the city wide ULG which will develop city wide guidance and strategic support to meet the needs of the neighbourhood level ULGs. The structure responds to the diverse needs of each city district while at the same time recognising the benefits which can be gained from collaboration at a broader city level.

### *Focus of Oslo's Integrated Action Plan*

The Integrated Action Plan in Oslo will focus on harnessing the benefits and opportunities which can be gained from collaboration between stakeholders working towards accelerating the circular economy through the development of Urban Resource Centres. It will seek to create synergies between existing initiatives while also creating a fertile ecosystem which will nurture the development of new Urban Resource Centre (URC) based initiatives.

To create this ecosystem and based on their own real experiences ULGs will identify barriers to progress and formulate solutions to overcome these barriers. They will develop methodologies for participatory implementation of projects which can be applied across diverse contexts. The aim will be to develop a city-wide roadmap for implementation of URC related projects, in order to fast-track the city's transition to the circular economy.

### *Oslo's Learning Needs & Potential Contribution*

Learning Needs	Potential Contribution
<ul style="list-style-type: none"> <li>• Methodologies for promoting citizen centred urban development.</li> <li>• Creating intergenerational spaces to promote resource sharing (hard &amp; soft), waste reduction &amp; reuse.</li> <li>• Optimising communication &amp; pitching of activities to diverse audiences.</li> <li>• Targeted marketing &amp; communication.</li> <li>• Measuring &amp; communicating 'true cost' of resource consumption.</li> <li>• Empower start-ups &amp; small businesses to scale-up quickly so that they can meet market demands for fast and agile product &amp; service delivery capable of competing with traditional businesses in the linear economy</li> <li>• Improve integration across departments within municipality, with external stakeholders &amp; with academia</li> <li>• Promoting organisational agility</li> </ul>	<ul style="list-style-type: none"> <li>• Digital as an enabler</li> <li>• Promoting development of sustainable start-ups</li> <li>• Promoting an innovation culture</li> <li>• Public Private Partnerships promoting sustainability</li> <li>• Experience from several existing neighbourhood-based initiatives within the Urban Resource Framework</li> <li>• Development of URCs within diverse local contexts</li> <li>• R,D&amp;I department within the waste management agency</li> <li>• International office promoting vertical integration</li> <li>• Green Public Procurement</li> <li>• Public bodies as leaders of circular economy</li> <li>• The use of targets to drive results &amp; impact</li> </ul>

## 4. CONCLUSION

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## 4.1 The Resourceful Cities Opportunity

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Recognition of the potential benefits and opportunities which a shift to a circular economy system could provide at local national and European level is not new. The Ellen McArthur Foundation estimates that a €3,000 increase in the disposable income of EU households could be gained by following a more circular development pathway by 2030. This could be gained through a reduced cost price for products and services and through the reduction of unproductive time e.g. less time spent in congestion. Further benefits include;

- a reduction in carbon emissions – the Commission estimates a reduction of 450m tonnes by 2030
- higher quality of life
- new, more diverse and inclusive employment opportunities – the European Commission estimates the creation of 580,00 jobs by 2030
- reducing the dependency of the EU on raw materials imports
- increasing the competitiveness of EU businesses
- estimated savings of €600 billion for EU businesses, equivalent to 8% of their annual turnover

Recently released data shows that progress towards this transition needs to be urgently ramped up. Resource extraction and carbon emissions are still on the rise. According to the 2020 Circularity Report published by PACE (Platform for Accelerating the Circular Economy), the world is now only 8.6% circular, down from 9% in 2019. The report recommends three key steps to speed up the transition. One of the steps identified is to build a global coalition for action that is both diverse and inclusive.

The Resourceful Cities network is both diverse and inclusive, both in its constituent partner cities and on the ground within its various ULG formations. The network provides us with the opportunity to bring together businesses, governments, citizen associations and academics from across Europe so that we can learn from each other and collectively boost our ability to speed up the transition to a more circular and inclusive economic system.

Peer to peer learning and knowledge transfer within this network will accelerate the transnational dissemination of effective circular economy practices, incentives and policies. Through our work we intend to help foster a collaborative ethos within our partner cities. We will share our roadmap for this transition with cities throughout Europe and invite them to follow us on our journey. We want to increase understanding and promote a shift in market demands towards circular and sustainable products and services thereby developing a fertile breeding ground to support a paradigm shift towards more equitable and inclusive development that respects our planet's limitations.

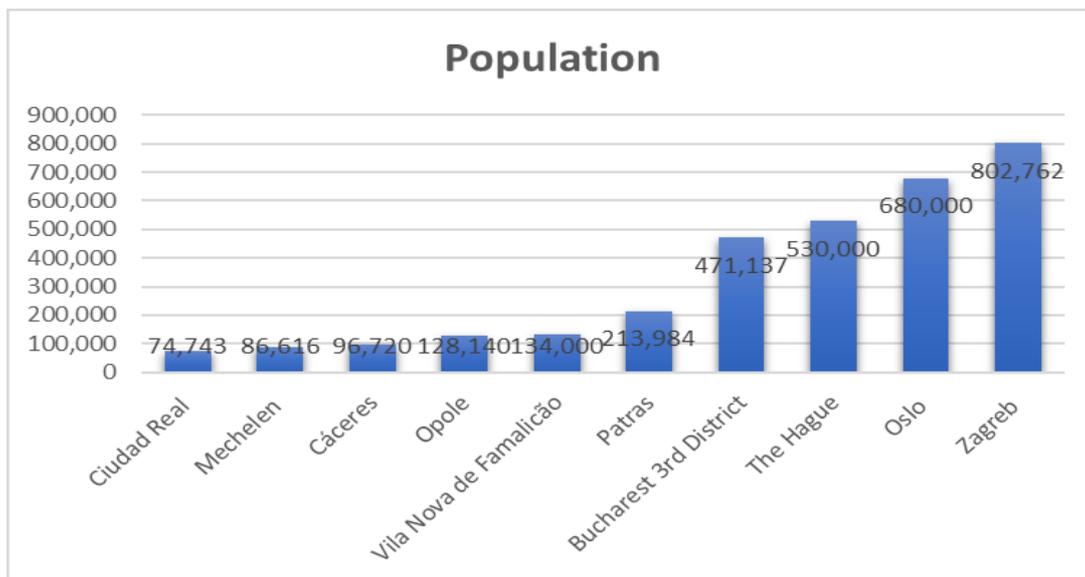
According to Peter Lacy, author of 'The Circular Economy Handbook' wide-scale adoption of the circular economy represents a \$4.5 trillion-dollar opportunity globally by 2030. For every 1% increase in GDP, resource usage has risen on average 0.4%. The flow of materials accounts for more than half of emissions in OECD countries. 'Reducing that insatiable demand could therefore go a long way in achieving the global target of limiting temperature increases in the atmosphere to below 1.5 degrees Celsius.' This reminds us of why our work within this network is so vitally important. We must plan carefully to ensure that the development of next generation urban resource centres are effective in promoting behavioural change and supporting a rapid and seismic shift in our current development model.

## 4.2 Cities at a glance

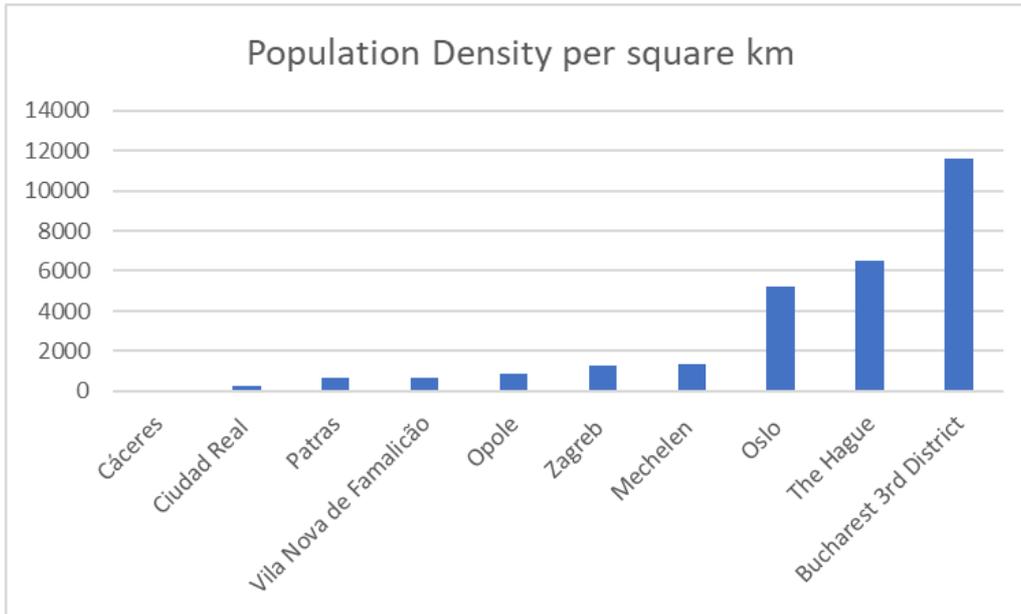
Resourceful Cities partners are highly diverse in terms of their size, density and territorial characteristics as well as in their socio economic and policy contexts. This diversity provides us with a valuable opportunity to develop roadmaps and guidelines for a variety of contexts and to showcase and share these with cities across Europe seeking to accelerate their transition to the circular economy through the development of Urban Resource Centres. The following charts and tables provide an overview of partner city characteristics.

### Population Size & Density

City size in terms of population varies between smaller cities such as Ciudad Real with a population of just under 75,000 to the larger cities of Bucharest, The Hague, Oslo and Zagreb with populations ranging from approximately 470,000 to 800,000. Taking the OECD definition of city size into account the network has five small cities namely Ciudad Real, Mechelen, Cáceres, Opole and Vila Nova de Famalicão, the medium sized city of Patras and the four metropolitan areas of Bucharest, The Hague, Oslo and Zagreb.

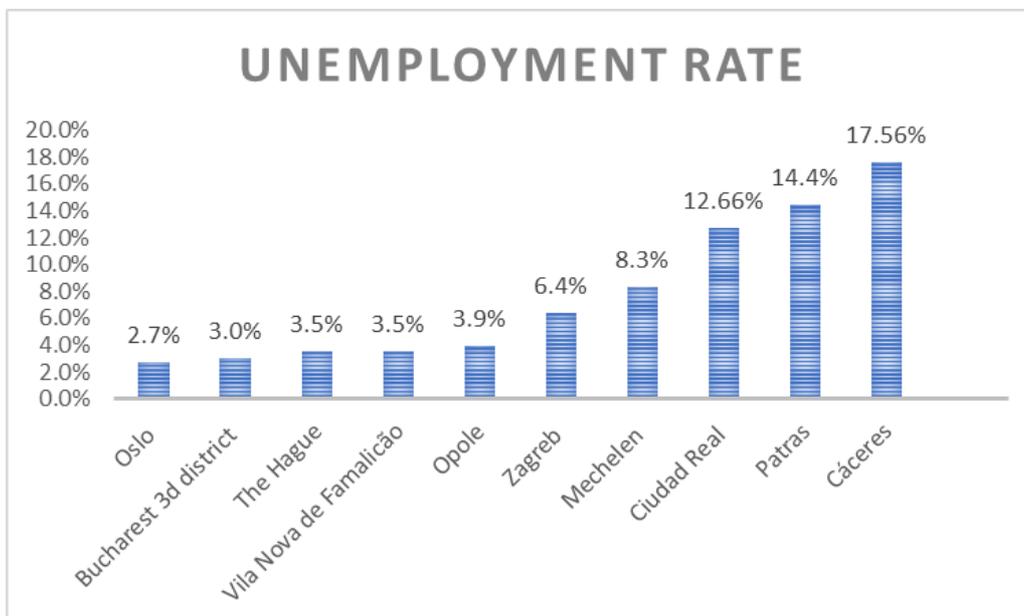


Network cities also differ greatly in terms of their population density with Cáceres having the lowest density and Bucharest, the highest. Density has clear implications on the way waste is managed within a city. Higher population density implies a scarcity of land, higher land costs and an increased pressure to preserve and protect existing land and the environment. It also implies that citizens may have little space for storage of separated waste in the home, that there may be pressure to find adequate space for communal bins and that larger municipal sorting sites are likely far away. Applying the OECD definition of population density, the network encompasses seven low density cities and three high density cities



### Unemployment

The unemployment rate between cities is also highly diverse with Oslo having the lowest unemployment rate at less than 3% and Cáceres with the highest unemployment rate of above 17%. Six of the partner cities have unemployment rates below the European average of 7.4%, while four cities have unemployment rates above the European average.



### 4.3 Shared Learning Needs

Despite the diversity between cities within the network, they share many similar challenges in dealing with their ambition to accelerate the transition to the circular economy.

The core requirements, identified by partners throughout the city visits and reaffirmed during the second transnational meeting, which this programme must address are those associated with the development of a URC. These have been identified as:

- The need the URC is addressing i.e. responding to sustainability challenges & opportunities (the context)
- Key actors & partnerships required to make it happen
- A viable business model to support URC operation

The following table outlines the various topics, subtopics and partner interest for exchange and learning identified during the city visits and transnational meetings of phase one. These topics have informed the development of the phase two programme.

COMMUNICATION & BRANDING		
	Learning	Sharing
<b>Targeted marketing, awareness &amp; behavioural change campaigns to reach diverse groups</b>	All partners	All partners
<b>Developing user informed language for diverse audiences</b>	All partners	
<b>Communicating the true cost of the linear lifestyle</b>	All partners	
<b>Communicating shared value – promoting common understanding between environmental &amp; economic driven actors</b>	All partners	
<b>Incorporating CE in to the existing city brand</b>	All partners	Mechelen, Oslo
<b>Optimising communication &amp; pitching of activities to diverse audiences.</b>	All partners	

## SUSTAINABILITY CHALLENGES & PARTNERSHIPS

	Learning	Sharing
<b>Tackling vacant spaces and promoting economic development</b>	Bucharest 3 <sup>rd</sup> District, Zagreb	Oslo, Mechelen
<b>Measures to incentivize behavioural change &amp; CE transitions</b>	All partners	Opole, Famalicão
<b>Supporting businesses to transition to CE - training existing businesses to become more circular</b>	Ciudad Real, Bucharest 3 <sup>rd</sup> District	
<b>Tackling out migration - attracting skills &amp; talent, becoming a magnet city</b>	Famalicão, Bucharest 3 <sup>rd</sup> District, Cáceres, Zagreb	Oslo, Mechelen
<b>Supporting local food suppliers - developing local food loops</b>	Ciudad Real, Oslo, Cáceres, Patras	Ciudad Real, Oslo, Cáceres
<b>Managing food waste</b>	Ciudad Real, Mechelen, Patras	Famalicão
<b>Supporting small scale businesses to scale-up</b>	Mechelen, The Hague, Oslo	Famalicão
<b>Promoting an innovation culture</b>	Ciudad Real, Cáceres	Zagreb, Mechelen, Famalicão, Bucharest 3 <sup>rd</sup> District, Oslo, The Hague
<b>Promoting eco-design</b>	All partners	Famalicão
<b>Facilitating strategic collaboration within the CE ecosystem</b>	All partners	

## THE ROLE OF THE CITY

	Learning	Sharing
<b>Digital as an enabler</b>	Mechelen, Zagreb	Oslo, The Hague, Bucharest 3 <sup>rd</sup> District, Patras
<b>Improving Municipal Infrastructure &amp; Services</b>	Mechelen, Ciudad Real, Famalicão, Patras, Bucharest 3 <sup>rd</sup> District	Oslo, The Hague, Bucharest 3 <sup>rd</sup> District
<b>Combining repair &amp; reuse in one centre</b>	Mechelen	The Hague
<b>Green Public Procurement</b>	Famalicão, Ciudad Real, Patras, Cáceres, Zagreb	Oslo, Mechelen
<b>Ecosystem Mapping</b>	All partners	The Hague

<b>Optimising the resourcefulness of the city region -engaging small settlements in the hinterland</b>	Ciudad Real	
<b>Public bodies as leaders of circular economy</b>	Famalicão, Ciudad Real, Bucharest 3 <sup>rd</sup> District	Oslo, Cáceres
<b>Promoting vertical integration</b>	All partners	Oslo, Ciudad Real, Famalicão
<b>Using targets to drive results &amp; impact</b>	All partners	Oslo
<b>Creating optimal conditions for a diverse start-up scene related to sustainability</b>	Ciudad Real, Bucharest 3 <sup>rd</sup> District	Zagreb, Mechelen, Oslo, The Hague, Famalicão
<b>URC BUSINESS MODEL</b>		
	Learning	Sharing
<b>Funding &amp; financing URC</b>	All partners	Mechelen, Famalicão
<b>Public, private partnerships supporting URC</b>	Mechelen, Bucharest 3 <sup>rd</sup> District	Zagreb, Oslo, Famalicão
<b>Business models for spaces operating within the URC framework</b>	All partners	Mechelen, Oslo, The Hague, Famalicão, Opole
<b>Training existing businesses to become more circular</b>	Ciudad Real, Bucharest 3 <sup>rd</sup> District	
<b>CE promoting inclusive employment opportunities</b>	Bucharest 3 <sup>rd</sup> District, Patras,	Zagreb, The Hague, Ciudad Real, Oslo, Cáceres
<b>ENGAGEMENT, VISIONING &amp; CAPACITY BUILDING</b>		
	Learning	Sharing
<b>Improving &amp; valuing citizen participation</b>	Oslo, The Hague, Ciudad Real, Bucharest 3 <sup>rd</sup> District, Patras	Mechelen, Famalicão
<b>Prioritizing multiple good ideas</b>	Mechelen, The Hague	
<b>Improving departmental integration within municipality</b>	All partners	
<b>Methodologies to support neighbourhood/community sustainability initiatives</b>	Ciudad Real, Bucharest 3 <sup>rd</sup> District, Patras	Mechelen, Famalicão
<b>Engaging research &amp; education community to support circular economy transition &amp; respond to societal challenges</b>	Oslo, The Hague, Bucharest 3 <sup>rd</sup> District, Ciudad Real	Mechelen, Famalicão, Patras

<b>Promoting organisational agility</b>	Oslo	Bucharest 3 <sup>rd</sup> District
<b>Encouraging long term political thinking versus short term day to day prioritisation</b>	The Hague	Mechelen, Oslo
<b>Promoting citizen centred urban development</b>	Oslo, Ciudad Real, Bucharest 3 <sup>rd</sup> District	Famalicão, Zagreb, Patras
<b>Engaging citizens across generations</b>	All partners	Oslo, Opole, Zagreb
<b>Engaging marginalised groups</b>	All partners	Oslo, Zagreb
<b>Previous URBACT experience</b>	All partners	Ciudad Real, Zagreb, Cáceres, Bucharest 3 <sup>rd</sup> District, Patras, Opole
<b>MONITORING &amp; MEASURING</b>		
	Learning	Sharing
<b>Development of Common Indicators - defining a circular business, organisation, school and city</b>	All partners	Oslo, Opole
<b>Measuring the true cost of the linear lifestyle</b>	All partners	
<b>EXPERIMENTATION, LEARNING &amp; SUPPORTING IMPLEMENTATION</b>		
	Learning	Sharing
<b>Showcasing the challenges, associated solutions &amp; benefits of a sustained city-wide commitment to sustainability</b>	The Hague, Famalicão, Patras	Mechelen, Oslo
<b>Research, Development &amp; Innovation within waste management</b>	Ciudad Real	Oslo, Bucharest 3 <sup>rd</sup> District, Patras
<b>Integration between the political representatives &amp; the administration</b>		Famalicão, Cáceres, Ciudad Real, Opole, Patras

The following diagram provides a visual representation of how these topics will be incorporated into the phase two work programme. The programme front loads thematic learning within the first two stages (Activation & Planning Actions) of phase two, in order to optimise exchange and learning opportunities for cities on content which can be included in their IAPs. The programme consists of four thematic transnational meetings, designed around the vertical pillars, to take place in stage one and two. Horizontal learning themes will be addressed at both local and transnational level throughout all stages of phase II.



These four thematic transnational meetings will be followed by three further transnational meetings including a face to face draft IAP peer review meeting in Bucharest towards the latter part of stage two, a webinar which will focus on monitoring and risk assessment to take place at the beginning of stage three and a final transnational meeting to take place in Zagreb at the end of stage three to focus on achieving maximum impact at network level and at local level for partners and their final integrated action plans. Thematic topics have been chosen to both reflect learning needs and to maintain a focus on the network topic i.e. the development of urban resource centres.

A smooth transfer of knowledge from the transnational exchange and learning programme to the local level is ensured through regular ULG meetings. At least one ULG meeting will take place in each partner city between each transnational meeting. This will ensure both an opportunity to transfer learning at the local level and will also enable the gathering of partner input and the collection of local information that will be required to ensure optimum knowledge sharing and the exchange of good practices at the next transnational meeting. A continuous knowledge flow back and forth between the transnational and the local is therefore ensured.

ULG meetings will coincide with the production of communication and thematic outputs designed to transfer learning in a compact, usable and easily understandable manner. Thus, outputs such as post-meeting briefing notes, infographics, snapshots and illustrations will be a strong feature. Prior to each of the transnational meetings, a pre-meeting briefing note will be produced to be shared with the ULG, outlining the content of the meetings and any collection of information or input that is required prior to the meeting.

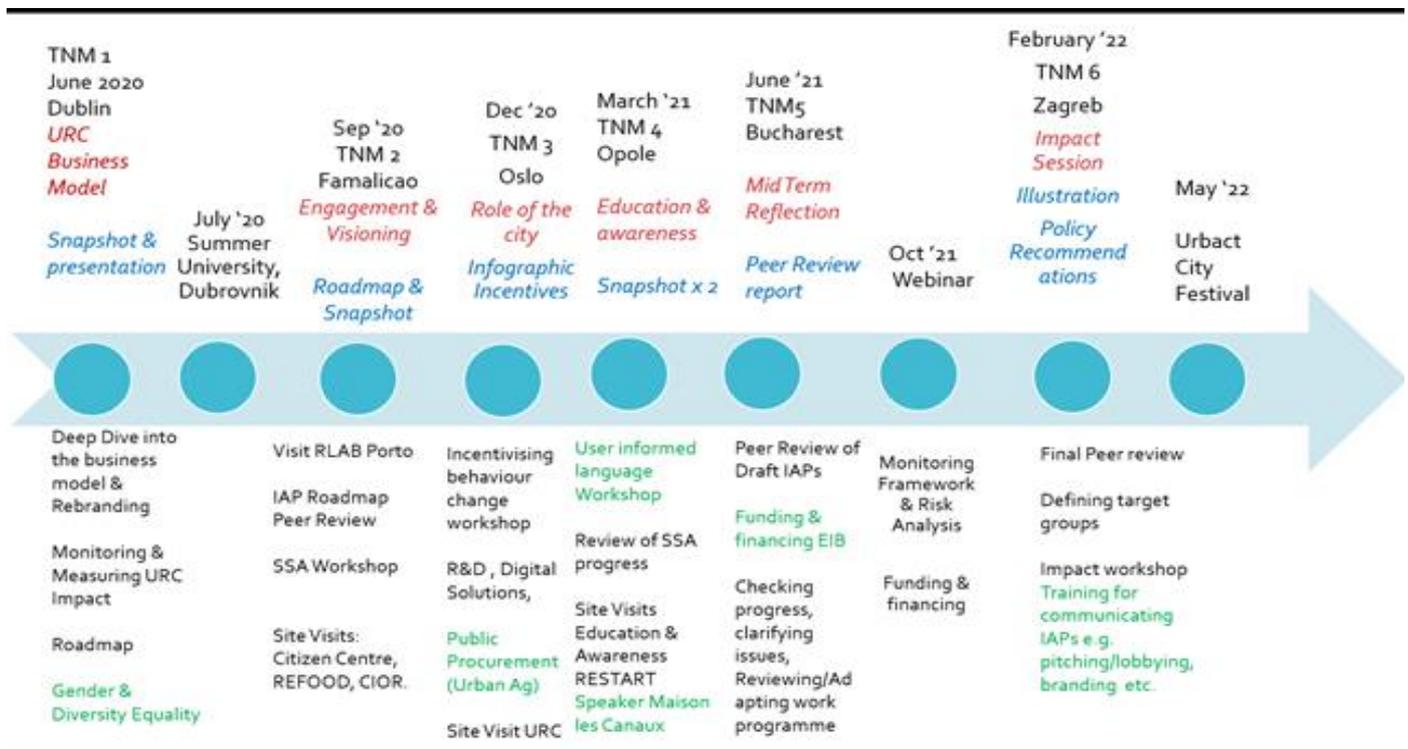
Partners will be supported throughout the process through regular one to one contact with the lead expert and the ULG coordinator via email and Skype.

The outputs produced will be useful in both ensuring a smooth transfer of knowledge between the transnational and the local level while at the same time providing valuable content for the final network product which will be an online platform designed to share learning with cities outside of the network interested in developing a URC in their own city.

In the following section a more indepth view is provided showing how the flow of information from macro to micro level will be ensured using the first two transnational meetings as an example.

#### 4.4 Work Programme Flow for Phase II

Face to face meetings in phase II focus on addressing the identified learning topics and subtopics while taking advantage of the learning, sharing and demonstration opportunities provided by the site visits. The following diagram sets out the timeline and format for the core transnational exchange and learning programme. Host cities have been suggested based on multiple factors including an effort to optimise the sharing and learning potential within the timeline for the programme of work, experience within the theme addressed and presence of physical examples of that theme. The elements in **green** denote areas where external experts or speakers will be invited to deliver a masterclass or similar and elements in **blue** denote proposed thematic & communication outputs.



The learning & sharing grid below showcases some of the bilateral/multilateral exchanges which partners have identified from the outset. This grid will be reviewed at each transnational meeting in order to ensure that optimal exchange & learning opportunities are captured and that it remains relevant to evolving needs.

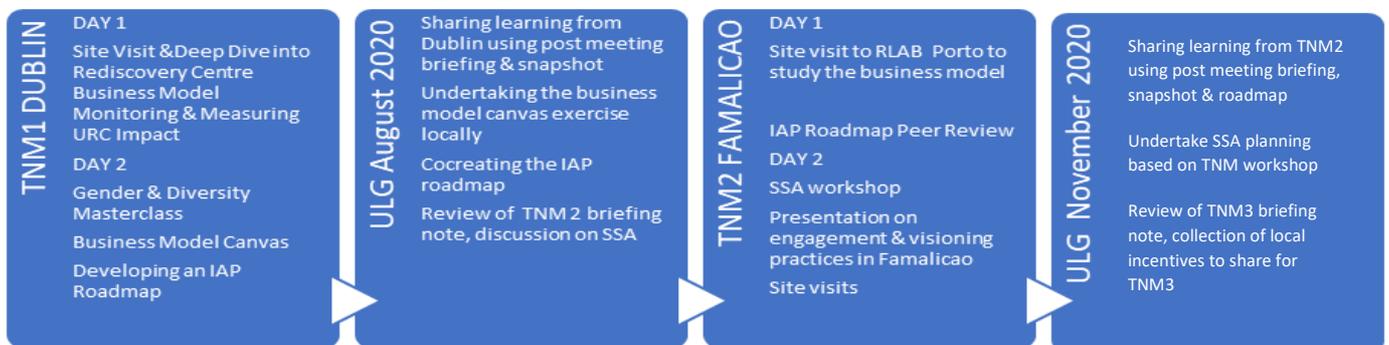
LEARNING										
	The Hague	Zagreb	Famalicao	Cáceres	Opole	Patras	Ciudad Real	Bucharest	Mechelen	Oslo
S H A R I N G	The Hague		Scoping the ecosystem	Scoping	Scoping	Scoping	Scoping	Scoping	Scoping	Scoping
	Zagreb								Repair /reuse centre	Scoping
	Famalicao	Scale Up	Scale Up				Harnessing Research Potential		Scale Up	Scale Up
	Cáceres					Food	Food	Cooperative culture		Food
	Opole									
	Patras									
	Ciudad Real	Using IAP to harness €	Using IAP to harness €	IAP to harness €		IAP to harness €	IAP to harness €			
	Bucharest									
	Mechelen						Engaging creative community			
	Oslo				Food		Food Coffee Culture	Food		

To ensure value for money and efficiency, partners will take the opportunity to align these bilateral/multilateral exchanges with existing transnational face to face meetings. The Hague for example will present on their experiences of scoping and mapping the CE ecosystem during the first transnational meeting. Ciudad Real will present their experience of gaining significant funding as a result of their previous Urbact participation during the peer review meeting. Focus groups will be organised to facilitate other bilateral/multilateral discussion topics during the transnational meetings.

The following Gantt chart showcases a detailed timetable of basic activities, this will be complemented by some additional actions outlined in the application form e.g. quarterly ULG coordinator web meetings, extended network session during the European week of regions & cities. The timetable follows the guidance from URBACT while taking into account the elements required in order to deliver a successful outcome for all partners.

	2020								2021								2022								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	M	J	Jl	A	S	O	N	D	J	F	M	A	M	J	Jl	A	S	O	N	D	J	F	M	A	M
<b>WP 1 Management</b>																									
Action 1																									
Action 2																									
Action 3																									
Action 4																									
<b>WP 2 Transnational Exchange &amp; Learning</b>																									
Action 1																									
Action 2																									
Action 3																									
Action 4																									
Action 5																									
Action 6																									
Action 7																									
Action 8																									
<b>WP 3 Impact on local governance &amp; practices</b>																									
Action 1																									
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Action 4																									
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Action 8																									
<b>WP 4 Communication</b>																									
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Action 6																									
Action 7																									
<span style="display: inline-block; width: 15px; height: 10px; background-color: #FFD700; border: 1px solid black;"></span> Deliverable <span style="display: inline-block; width: 15px; height: 10px; background-color: #FFA07A; border: 1px solid black; margin-left: 10px;"></span> Face to face meetings/events all partners <span style="display: inline-block; width: 15px; height: 10px; background-color: #FFD700; border: 1px solid black; margin-left: 10px;"></span> Training for LE/LP/CO <span style="display: inline-block; width: 15px; height: 10px; background-color: #800080; border: 1px solid black; margin-left: 10px;"></span> Small Scale Action																									

The following diagram illustrates the continuous flow of learning and sharing between the transnational and the local level using during the activation stage. This flow of exchange and learning between macro and micro levels will continue throughout phase II. Partner cities will follow a common methodology throughout phase II which will be guided by the need to **reflect on** and **contribute to** activities undertaken during previous and subsequent TNMs. This will be supported by pre and post meeting briefing notes as well as thematic and methodological outputs. At the same time partners will be supported one to one, by the lead expert and ULG network coordinator in order to adapt methodologies introduced during the TNMs to suit their local needs and contexts at ULG level.



## 4.5 SMALL SCALE ACTIONS

Partners welcome the opportunity to undertake small scale actions during phase II. While potential small scale action ideas were discussed during phase I, none of these ideas are set in stone and thus the following table provides a sample of initial ideas for small scale actions at partner level. These will be further explored and refined during the first eight months of the project at transnational and local level with a view to implementation taking place between months nine and seventeen. This timing will enable partners to use the experience gained during the SSA to inform the development of their IAPs.

CITY	POTENTIAL SMALL SCALE ACTION
The Hague	<ul style="list-style-type: none"> <li>▪ Trialling cooperative models between currently separate CE initiatives in the city</li> </ul>
Zagreb	<ul style="list-style-type: none"> <li>▪ Piloting an incentive scheme to encourage citizens to make more use of the recycling centre</li> </ul>
Vila Nova de Famalicão	<ul style="list-style-type: none"> <li>▪ Running workshops to inform the development of a new eco industrial brand for the city</li> <li>▪ Map the CE industries, entities and projects within the city, with a view to informing a wider scale mapping exercise</li> <li>▪ Trial a digital platform showcasing information about CE products &amp; initiatives in the Municipal Market</li> <li>▪ Trialing a deposit machine in the Municipal Market, with incentives (points) in partnership with local businesses and public and private entities</li> </ul>
Cáceres	<ul style="list-style-type: none"> <li>▪ Trialling a deposit scheme to include rewards or points which can be used in the local economy</li> </ul>
Opole	<ul style="list-style-type: none"> <li>▪ Piloting a temporary space dedicated to reuse in the city centre</li> </ul>
Patras	<ul style="list-style-type: none"> <li>▪ Purchasing of a cargo bike to trial collection of coffee grounds from cafes &amp; restaurants</li> <li>▪ Purchasing of a mobile recycling unit to travel to public events and raise awareness</li> </ul>
Ciudad Real	<ul style="list-style-type: none"> <li>▪ Pilot a public awareness initiative encouraging waste reduction, reuse &amp; recycling</li> <li>▪ Implementing internal waste management plan in the departments of the city hall.</li> <li>▪ Pilot a small scale action to reuse the organic waste in primary schools with dining room and green areas to make organic fertiliser</li> <li>▪ Creating an urban vegetable garden net in the city.</li> <li>▪ Pilot a reward system of local commerce discounts for people who recycle</li> </ul>
Bucharest 3 <sup>rd</sup> District	<ul style="list-style-type: none"> <li>▪ Pilot the delivery of circular economy workshops in primary &amp; secondary schools</li> <li>▪ Exploring possibilities for developing a small scale action with the IT Cluster e.g. a digital resource platform</li> </ul>
Oslo	<ul style="list-style-type: none"> <li>▪ Testing of a pop-up room for repair and reuse services in a new building block for elderly people</li> <li>▪ Training in Urban gardening to raise awareness of the food cycle and importance of local fresh produce for health</li> <li>▪ Training for local citizens on waste reduction measures, repair and re-use activities.</li> <li>▪ New participatory approaches to support development in a new URC.</li> <li>▪ 5 day design sprint to test different approaches to re-use, refurbish, repair initiatives at one of the URCs together with private sector stakeholders, other parts of the city and citizens.</li> </ul>
Mechelen	<ul style="list-style-type: none"> <li>▪ Piloting a cooperative business model between citizen initiatives and entrepreneurs across the value chain in order to create value from the various city departments' coffee grounds.</li> </ul>

## 4.6 CONCLUSION

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All partner cities bring their own strengths and opportunities for learning to the network and this will be capitalised upon in the work programme. We will also capitalise on the opportunity to find synergy with existing projects on the ground in partner cities, with other URBACT networks related to our topic and sub- topics, as well as learning from previous networks and projects. There will in some instances be a need to bring in experience and expertise from outside the network in order to develop new capacities. There are without doubt, strong opportunities here to influence policy and practice at the local level within individual cities, regions and member states but also at the European level through the Committee of the Regions and through the network's connection with the Urban Agenda partnership on circular economy for example. Harnessing these and other opportunities provided by improved vertical and horizontal integration in our planning practice will be vital in ensuring maximum impact for this high potential network both at the local and transnational level.

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## APPENDIX 1 – ULG Coordinator Biographies by City

CITY	ULG COORDINATOR
The Hague	<p>Ger Kwakkel holds a degree in Environmental Studies from the University of Wageningen. He works at the Waste Management department at the City of The Hague, where he is the Head of Circular Economy. In the past he was the head of the Nature and Environmental Education department at the City of The Hague, where he was in charge of all the environmental educational projects and the network of more than 10 city managed urban farms. He has developed the current circular economy roadmap for the City of The Hague and is partner in various Interreg projects like Plasticity and Sharepair. Ger has mapped out the entire circular economy network in The Hague and has facilitated the development of various bottom-up circular economy projects like Made in Moerwijk.</p>
Zagreb	<p>Nevenka Preradović is the Head of Program Support and Environmentally Sustainable Development Department at Environmental Protection and Sustainable Waste Management Sector within City Office for Economy, Energy and Environmental Protection in Zagreb. She holds a Bachelor of Arts degree in Linguistics and Literature (Italian and French) from Zagreb University, Faculty of Philosophy. Nevenka has been working for the City of Zagreb since 2009. Previously she has been working for 15 years in the Ministry of Environmental Protection of the Republic of Croatia in the field of sustainable development, public information and participation in environmental matters (Aarhus Convention), civil society cooperation, environmental label and other horizontal environmental issues including international cooperation in above mentioned fields at national level. In the City of Zagreb Nevenka continues to work on sustainable development, environmental information and civil society cooperation matters at regional and local level, as well as international level. She is responsible for preparing sustainable development and environmental plans and programs, supporting development of other sectorial plans and programs, projects and documents as well as for the environmental pollution register of the City of Zagreb. She has an extensive network, both national and international, on the topic of sustainable and environmental matters including waste management.</p>
Vila Nova de Famalicão	<p>Marisa Moreira works at the Municipality of Vila Nova de Famalicão as a senior technician in the Strategic Planning and Entrepreneurship Division She is trained in Agricultural Engineering and Organic Farming. She coordinates the Entrepreneurship Group of the Agricultural and Agrifood Sector of the Municipality of Vila Nova de Famalicão. Marisa also has experience in the facilitation and coordination of working groups as well as vast experience in transnational exchange and learning as participant in various European projects.</p>

<p><b>Cáceres</b></p>	<p>M<sup>a</sup> Concepción Dochao Sierra is a technician at the Popular University (public training entity hierarchically dependant of the municipality) and manages a wide range of core stakeholders. She is a Training and Project manager. Her degree in Sociology from Salamanca University has provided her with the required skills and knowledge for the development of different diagnoses and local plans and policy instruments. Furthermore, she is the Coordinator of the Agrofood Circularity Laboratory in Cáceres an intervention which is currently being developed inside the Urban Integrated Sustainable Local Strategy called CreaCereS, financed by the European Development Regional Fund.</p>
<p><b>Opole</b></p>	<p>Iwona Kowalczyk works since 2006 at the waste management department of the city of Opole. In 2016 she became the head of the department. She has led various educational and awareness building projects like the Ecological City festival, the 1<sup>st</sup> Regional Educational Conference for local government employees and the Trash-fly lab book for children. She has worked as project member on the URBACT Tropa Verde project and is experienced with the URBACT methods and philosophy. She has great facilitation skills, creative and excellent organization and planning skills. In the course of phase 2 another ULG coordinator from the municipality will be appointed or an external expert will be contracted to assist in the ULG coordination.</p>
<p><b>Patras</b></p>	<p>Chrissa Geraga has a Bachelor Degree in Physics by the University of Patras, a postgraduate diploma in “Training &amp; Development” from Thames Valley University – UK, and an MBA by Hellenic Management Association and certification as trainer. Since 1991, she has been managing EU and national projects. She is a certified trainer of the EOPPEP (National Organisation of Certification in Greece) being involved in numerous training seminars and workshops (EU level included) as a trainer and as a speaker. She is also a member of “TEAM EUROPE” specialist’s group coordinated by the European Commission (DG Communication). She shares valuable expertise in networking (local coordinator of city of Patras activation in “ALDA”, “Intercultural cities” and “Forum of Adriatic &amp; Ionian Cities” networks) and in the submission, implementation and scientific coordination of national and EU projects on active citizenship, cohesion, education, employment/entrepreneurship, culture and tourism (ECOS-OUVERTURE, EUROMANAGEMENT, ADAPT, SEE, INTERREG, ERASMUS, URBACT, URBAN, ENPI-CBC-MED, Operational Plans of Region of Western Greece, etc.). She coordinated the “anti-hate/anti-rumour” initiative in Patras that won the 2nd world prize for democratic innovation, in the “2015 World Forum for Democracy” organised by the Council of Europe (Nov 2015, Strasburg). She has been the scientific coordinator of two URBACT projects (“MY GENERATION”, “ARRIVAL CITIES”) and also member of Patras working team in “RUN UP” URBACT project.</p>
<p><b>Ciudad Real</b></p>	<p>Eva Navarro Alcolea has a degree in Psychology from the Complutense University of Madrid, with double specialization in Clinical and Industrial Psychology. She also has an official Master in Research in Applied Psychology and has more than 20 years of experience in project management, both at the local and European level. Eva is currently working as a Local Development Technician at the IMPEFE, an autonomous body of the City Council of Ciudad Real whose objectives are economic promotion, training and employment in the city. She has previous experience in managing a project of the URBACT initiative, specifically, the "EnterHub" project. As well as experience in other European Initiatives such as "Erasmus +", "Europe for Citizens" and INTERREG. Eva has experience in the management of projects to promote</p>

	<p>employment and entrepreneurship at local level, one of the objectives that we want to get involved in this project.</p>
<p><b>Bucharest 3<sup>rd</sup> District</b></p>	<p>With an experience of over 12 years in the local administration, Mr. Wan Buzduga has worked on various projects, the majority aimed at attracting European funds in the 3rd District of Bucharest, but also projects that involved the active collaboration with the local community, NGOs and local entrepreneurs. He is the Chief of The Service of Policies, Programs, and Community Relations Management within the Mayoralty of the 3rd District.</p> <p>Mr. Wan Buzduga was appointed to represent the Municipality of the 3rd District in all matters regarding the dual vocational training and as such he has been actively involved in the process of working together with other relevant stakeholders to ensure the development of the dual system in technical high schools. Also, he is actively engaging with the private sector to convince the economical agents of the need to invest in the dual learning system and the education of young people.</p>
<p><b>Mechelen</b></p>	<p>Julie Poppe started to work as a project coordinator in Mechelen in 2018, on a neighbourhood project which aimed to research which kind of circular solutions for every day needs are in the interest of common people (<a href="http://www.mechelen.be/stroom">www.mechelen.be/stroom</a>). The neighbourhood was chosen on the basis of its diversity in socio-economic and cultural backgrounds of the people living there. Since half a year Julie works as a programme manager on circular city governance within the Strategy and Development department of the city of Mechelen. Before working for the city of Mechelen Julie had been working in development cooperation on policy research and as a sustainability programme manager. She conducted extensive ethnographic fieldwork abroad, when she worked as a researcher in Social and Cultural Anthropology and studied participative methods within statecraft, nature conservation and development cooperation.</p>
<p><b>Oslo</b></p>	<p>Both Siri Karlsen Bellika and Charlotte Fagernæs are working in the Development department in the Agency for waste and recycling management at the City of Oslo. Both are experienced in making collaborations with other municipal agencies, boroughs within the city and other types of stakeholders. Siri is working with strategic decision-making and project planning, and Charlotte is working with development of services focusing on citizen power. Siri has also played an active role in the coordination of the EU Urban Agenda Partnership on Circular Economy, leading the action on Urban Resource Centre's.</p>