



**European Committee
of the Regions**

**Commission for
the Environment,
Climate Change and Energy**

ENVE

The Local and Regional Dimension in the New Circular Economy Action Plan



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List of abbreviations

CAP	Common Agriculture Policy
CE	Circular Economy
NCEAP	New Circular Economy Action Plan
CoR	Committee of the Regions
CPP	Circular Public Procurement
ERDF	European Regional Development Fund
EU	European Union
GHG	Greenhouse Gases
GPP	Green Public Procurement
ICT	Information and Communications Technology
LRA	Local and Regional Authority
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
PAYT	Pay as you throw
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RoHS	Restriction of Hazardous Substances.
SDG	Sustainable Development Goals
SME	Small-Medium Enterprise
WEEE	Waste Electrical and Electronic Equipment
WWTP	Waste Water Treatment Plant

Summary

In March 2020, the European Commission adopted a new Circular Economy Action Plan (NCEAP) as one of the main blocks of the EU's new sustainability agenda, the European Green Deal.

This report – commissioned by the European Committee of the Regions (CoR) as part of the process for the preparation of its opinion on the NCEAP – explores the potential of local and regional authorities (LRAs) in the transition to a circular economy (CE). It is based on information from studies, from inputs to a consultation of the European Committee of Regions, and from local and regional circular projects and initiatives developed across the EU. It includes a focus on projects in Eastern and Southern Member States, as there has been less dissemination of experiences in these countries than in other Member States. The desk research was supported by interviews with key NGOs and associations working on circular economy at EU level.

The information gathered shows that LRAs have used a broad range of approaches for developing the circular economy: many start with waste management innovations, but public procurement, partnerships with local actors and awareness-raising actions are also among the main approaches used. In pursuing these approaches, LRAs have faced several common challenges, in particular the need to build knowledge and technical capacity, both their own and within their territories, as well as the need to access financial resources. Through the development of circular labels and coordination bodies, LRAs can identify the sectors with the largest potential, engage their populations and upscale the transition to the circular economy in a more efficient manner.

EU-level legislation can facilitate the actions for the CE but can also create bottlenecks. Waste legislation is key element: LRAs and stakeholders have highlighted end-of-waste criteria as a concern as these can create obstacles to circularity. Other issues identified include the need for better guidelines for strategic approaches like circular public procurement. The competences of LRAs to implement EU legislation and take CE initiatives vary, and there can be overlaps in the roles of different levels of governance. Consequently, coordination of multi-level governance is crucial for the achievement of CE objectives.

LRAs have found that the establishment of indicators, targets and commitments is a key step to define ambition levels and to provide a framework for planning their development of the CE. Where possible, the use of quantifiable targets will facilitate tracking and comparing CE goals, according to the capacities of each LRA. Existing cases can provide successful examples for the use of indicators and

targets in areas such as the promotion of citizen engagement through awareness-raising campaigns, the improvement of recycling rates, or the development public-private partnerships. Targets established in the context of some of these initiatives include: high rates of separate collection of municipal waste (e.g. 70% or more has been achieved), reduction of waste going to landfill (e.g. 50% reductions and more have been achieved) and increases in the volume of public procurement contracts invested in circular solutions (e.g. a minimum share for green and circular public procurement).

These examples not only serve as inspiration for other LRAs, but also convey the message that high and ambitious targets at EU-level are feasible (indeed, some ambitious targets have been set and achieved in less developed regions of Europe). EU-level goals could include expanding the outreach of capacity-building initiatives and increasing the number of LRAs making use of funds for the circular economy. The EU should consider long-term goals to achieve complete (100%) municipal waste separation, reach near-zero landfilling and waste incineration, favouring instead reuse and recycling through secondary raw material markets, and reduce Europe's material footprint.

In conclusion, LRAs are key actors for the development of circular initiatives on the ground, in particular due to their competences on waste management and to their participation in markets through public procurement budgets. Many European LRAs have been pioneers in the transition to the CE while others across the EU have undertaken their first key actions. Pioneering circular initiatives have produced promising results in many areas, and in the coming years efforts should be focused on propagating these circular solutions across Europe: this would be a crucial step for scaling up the transition to the CE and ensuring the success of the NCEAP. The EU can provide greater support, for example by increasing knowledge-sharing efforts and by giving LRAs more direct access to funding. At the same time, more LRAs can be proactive and take advantage of the opportunities to replicate existing models and explore new approaches.

The impact of COVID-19 crisis on European society and the difficulties in providing a quick response have highlighted the consequences of externalising a high share of manufacturing to third countries. The efforts to rebuild the EU economy could be used to improve and incentivise the resource-efficiency of our productive processes, to shorten many supply chains, and to provide more sustainable and resilient pathways through circular initiatives.

Introduction

This report provides the results of a study carried out in the framework of the preparation of the position of the European Committee of the Regions (CoR) on the European Commission's proposed new Circular Economy Action Plan (NCEAP).

The new Action Plan¹, released in late March 2020, contains a chapter on 'Making circularity work for people, regions and cities'. The NCEAP does not, however, highlight the leading role that many European LRAs hold as pioneers in the transition to the circular economy. Many of these initiatives are already beyond research or pilot stages and have become competitive and efficient economic alternatives. Consequently, LRAs have played an important role in establishing the base for the large-scale transition to the CE that Europe has committed to perform in the coming years. Whether their CE work is pioneering or under development, LRAs play a key role in the implementation of CE projects and initiatives on the ground. The success of EU policies for the circular economy is thus closely tied to initiatives at local and regional level.

The overall objective of the study was to present an overview of the approaches undertaken by Local and Regional Authorities (LRAs) for the circular economy. The study also sought to identify CE targets set by LRAs and present recommendations on EU measures and policy actions to support LRAs in this field. This study was based on a general literature review on LRAs' circular economy initiatives, combined with a review of the advances and challenges faced by LRAs in Member States where this policy area is less developed. For the latter, initiatives were reviewed in the following Member States: Bulgaria, Czech Republic, Spain, Italy, Poland, Portugal and Slovakia. The study also drew on interviews, including with the CoR's Rapporteur on the NCEAP, Mr. Tjisse Stelpstra, and his expert, Ms Ingrid Zeegers.

¹ European Commission, (2020). *A new Circular Economy Action Plan For a cleaner and more competitive Europe* (Brussels, 11-3-2020), viewed 7 July, https://eur-lex.europa.eu/resource.html?uri=cellar:9903b325-6388-11ea-b735-01aa75ed71a1.0017.02/DOC_1&format=PDF

LRAs' approaches to the circular economy

The strategies and initiatives that LRAs have developed for the transition to the circular economy can take different approaches depending on the entity in charge, the sectors addressed, and the products or services whose circularity is being developed.

As the objective of this project is to present opportunities for LRAs to step up their participation in the transition to the CE, the initiatives found during our research have been classified in different approaches with the aim of facilitating the identification of obstacles and enablers for enhancing the engagement and contribution of LRAs in the main scenarios on which the CE is being developed, facilitating thus the comparison and benchmarking of best practices among them. Since LRAs' profiles may be quite diverse regarding the governance level, competencies, financial capacities, technical challenges, or socioeconomic context, the approaches to circular economy used to structure this document comprise a broad and diverse number of activities, which may be adapted to each particular case.

The specific approaches that individual LRAs can take will depend on their powers and competence. The CoR's web portal on the division of powers across levels of government shows that EU Member States vary significantly in terms of the roles that LRAs hold for key policy areas related to the circular economy, such as waste management, spatial planning and agriculture. A 2015 study for the European Commission on the self-rule of local authorities similarly shows that the scope for action at this level – for example in taking on new tasks and in developing new sources of financing – also vary across the EU, though overall local authorities have achieved greater self-rule powers in the period from 1990 to 2014. (See also section 2 for further notes on LRAs' competences.)

The approaches presented in this section reflect the main pathways identified in the existing literature, they include connections and common areas of work between them, with a focus on those that appear most relevant for LRAs. In practice, however, these approaches are not carried out separately: most of the initiatives found during the research address more than one of these approaches, and indeed this is necessary – for example, awareness raising and financing will be needed to improve waste management.

1. Overview of existing approaches for the transition to a Circular Economy

1.1 Raising awareness and empowering citizens²

As described in the NCEAP communication³, the CE aims at providing improved products and services both from a performance perspective but also considering resource-use aspects. It is important, therefore, that citizens understand which are the key efforts towards circularity that they can contribute to, thinking of the positive impacts that they could trigger, not only from an environmental perspective, but also from a social and economic angle.

Raising citizens' awareness of the key aspects of the circular economy is a key step for ensuring a long-lasting support of circular markets for products and services, which is a key element for establishing a solid CE framework. At local level, ensuring that citizens support through their choices the circular products and services will translate into job creation at local and regional level, reducing waste and possibly enabling secondary raw material markets and new production processes.

Knowledge sharing and communication campaigns are some of the ways in which cities can increase awareness of circular economy best practices, initiatives, and market opportunities. These campaigns may be carried within the formal education system, focusing on engaging younger generations in this long-term transition, or applied at a more general level, addressing citizens across generations by communicating the efforts made for developing circularity in key sectors at local level. Education and communication campaigns could be funded through non-formal education programmes and marketing strategies linked to the development of circular markets.

An example of an existing initiative that incorporates this approach can be found in the STREFOWA Interreg project, focused on addressing food waste in Central European MS and which is presented in section 5 of this document. Issues like food waste can largely profit from circular initiatives as food is regarded as a valuable resource for citizens at all levels, therefore, efforts in reducing waste generation in this sector are easily identifiable by the population. Furthermore,

² Ellen McArthur Foundation, (2019). *City Governments and their role in enabling a circular economy Transition*, viewed 2 July 2020, available at:

https://www.ellenmacarthurfoundation.org/assets/downloads/CE-in-Cities_Policy-Levers_Mar19.pdf

³European Commission, (2020). *A new Circular Economy Action Plan for a cleaner and more competitive Europe (Brussels, 11-3-2020)*, viewed 7 July 2020, https://eur-lex.europa.eu/resource.html?uri=cellar:9903b325-6388-11ea-b735-01aa75ed71a1.0017.02/DOC_1&format=PDF

these initiatives can be linked to local food production, and funded through other EU strategies such as the Farm to Fork⁴.

Opportunities

- Local communication efforts and maintaining a bottom-up approach, including the involvement of local associations in these efforts, can favour community engagement by sharing the ownership of the long-term objectives of the transition to the CE;
- Local sharing initiatives can involve citizens directly in the circular economy, raising awareness and also building community;
- Circular economy can be included in school curricula⁵ as a way to introduce its principles and to encourage younger generations to participate in its development;
- Local circular labels can empower citizens when purchasing products or services.

Challenges and needs

- Citizens, businesses and event experts can sometimes confuse environmental or ‘green’ aims and methods and those for the circular economy;
- Citizens' awareness and participation in circular efforts is sometimes low⁶, drawing people who already have greater environmental awareness rather than reaching the general public;
- The ‘consumer culture’ is often deeply rooted in society and may be challenging to overcome to promote circular principles⁷;
- Mobilising local communities may be time-consuming and requires continuous efforts⁸.

⁴ European Commission, DG Agriculture and Rural Development (n.d.). *Farm to Fork Strategy – for a fair, healthy and environmentally-friendly food system*, viewed 2 July 2020, https://ec.europa.eu/food/farm2fork_en

⁵ Ellen McArthur Foundation, Schools and Colleges, viewed 10 August 2020, <https://www.ellenmacarthurfoundation.org/our-work/activities/schools-colleges>

⁶ Vlaanderen Circulair (2020). *Circular City Governance: Opportunities And Challenge*, viewed 3 July 2020, <https://vlaanderen-circulair.be/circulargovernance/files/IG-opportunities.pdf>

⁷ Dhawan, P. (n.d). *Circular Economy Guidebook For Cities*, viewed 3 July 2020, https://circulareconomy.europa.eu/platform/sites/default/files/circular_cities_publication.pdf

⁸ Climate-KIC (2019). *Transforming Municipality Districts into Learning Centres of Circular Economy*, viewed 3 July 2020, <https://www.climate-kic.org/wp-content/uploads/2019/06/Learning-Centres-of-Circular-Economy.pdf>

1.2 Capacity building

Capacity building refers to the training and advisory support that frontrunners in the CE can provide to other LRAs, to individuals, companies, and organisations. LRAs can work in partnership with local actors to develop practical training and business capacity-building programmes to help mainstream circular economy understanding and practices within society².

Several CE initiatives across different sectors have already proven to be able to provide competitive solutions and have matured sufficiently for moving from pilot or incubation stage, to a propagation phase where they are replicated in other LRAs. The importance of replicating initiatives in multiple locations is not only based on the environmental benefits that these initiatives bring to our societies, but also on the fact that by enlarging the CE, new circular production chains may arise through synergies and opportunities with related industries.

Capacity-building efforts are a cornerstone of these steps towards a generalisation of circular production chains, offering not only technical training but also the possibility of collaborative learning through dedicated knowledge-exchange platforms. An example of this approach are the different resource efficiency programmes aiming at developing waste recycling schemes, such as the PAVE THE WAYSTE⁹ project, addressing a selection of remote areas in Greece and Spain.

The EU has identified potential sources of fund for capacity-building initiatives in the Skills Agenda¹⁰, which includes initiatives such as upskilling pathways, jobs coalition, blueprint for sectoral cooperation on skills, vocational education and training: actions under the Agenda which could be linked to LRAs' efforts for developing circular capacities. The European Social Fund is a key source of EU finance. For those regions most affected by the transition to a carbon-neutral economy, the Just Transition Mechanism may also become an opportunity for supporting the re-training of their workforce into circular industries.

⁹ PAVE the WAYSTE (2015). *Home*, viewed 3 July 2020, <http://www.pavethewayste.uest.gr/en/>

¹⁰ European Commission (2020). *European Skills Agenda - Employment, Social Affairs & Inclusion - European Commission*, viewed 3 July 2020, <https://ec.europa.eu/social/main.jsp?catId=1223>

Opportunities

- Boosting the social and local economy as a pillar of the CE: circular job opportunities may serve to fight social exclusion and create a more resilient society¹¹;
- Businesses associations and local NGOs can be involved in non-formal learning programmes on circular economy skills;
- The circular economy can be integrated into existing training programmes;
- Successful LRAs' initiatives for the circular economy can be disseminated and then replicated in other locations. It will be valuable to identify the specific capacity needs for the replication of the most promising pilot initiatives.

Challenges and needs

- Not only technical capacities are an obstacle: within LRAs' administrations (as well as private organisations), officials need motivation and incentives for proposing and leading CE solutions¹²;
- The existence of language barriers¹³ may hinder direct communication between key technical staff across different MS for the sharing of good practices and the replication of CE initiatives.

1.3 Direct financial support for CE initiatives²

Financial support includes grants, subsidies, direct and indirect investments, and public-private partnerships through which LRAs can facilitate¹⁴ the development of circular initiatives. For example, Amsterdam has used a revolving fund that provides project loans, London has created a venture capital fund for circular economy SMEs, while many other cities have used direct grants¹⁵. The specific funding mechanisms can be tailored to stakeholders' and projects' needs: Brussels, for example, provides grants for specific projects, equity and loans for circular

¹¹ Circle Economy (2020). *Leaving no one behind: Learning from social enterprises that are creating a more inclusive circular economy*, viewed 3 July 2020, <https://medium.com/circleeconomy/leaving-no-one-behind-learning-from-social-enterprises-that-create-a-more-inclusive-circular-7af6feec47cd>

¹² Interreg Europe (n.d.). *Programme to Support Integrated Rural Development LEADER NSK*, viewed 3 July 2020, <https://www.interregeurope.eu/policylearning/good-practices/item/1556/programme-to-support-integrated-rural-development-leader-nsk/>

¹³ Zero Waste Europe, *Speak their language*, viewed 10 August 2020, <https://zerowastecities.eu/wp-content/uploads/2019/11/Zero-Waste-Municipalities-guide-1.pdf>

¹⁴ Ellen McArthur Foundation, *Finance CE: Money makes the world go round*, viewed 10 August 2020, <https://www.ellenmacarthurfoundation.org/assets/downloads/ce100/FinanCE.pdf>

¹⁵ Organisation for Economic Co-operation and Development (OECD) (2019). *The Circular Economy In Cities And Regions: Key lessons learnt*.

businesses and a development fund for very small companies which receive advice and support to request private loans¹⁶. Small financial actions can help to establish new circular initiatives: for example, providing citizens with vouchers that can be used for local products and services, or holding competitions for local pilot actions.

The funds may draw on LRAs' budgets and revenues, either from their regular budgets, or raised specifically for circular economy initiatives. Depending on their competences, LRAs may be able to issue 'green & circular bonds'¹⁷ and 'social impact bonds'¹⁸ to incentivise investments in for circular initiatives.

LRAs can also tap into EU and national funds. Key sources have included the LIFE¹⁹ and Horizon 2020 programmes (which financed, for example, the SaltGae project presented in section 5) as well as European Structural and Investment Funds (ESIF): the latter provided financing for the BIOREGIO²⁰ project, led by the Castilla-La Mancha region in Spain and bringing together partners in five other Member States to work on the circularity of biological resources. The European Investment Bank can provide loans to local governments as well as advisory support and has prepared a Circular City Funding Guide²¹. The European Commission has proposed to unlock further resources through its Sustainable Europe Investment Plan²² and its plan for recovery from the coronavirus²³.

¹⁶ Circular City Funding Guide (n.d). *Circular City Funding Guide*, viewed 3 July 2020, <https://www.circularcityfundingguide.eu/case-studies/brussels-broad-support-from-a-well-developed-framework/>

¹⁷ "Green bonds are standard bonds created to finance environmentally beneficial projects", according to WBCSD and Climate-KIC (2018). *Green bonds*, viewed 3 July 2020 [https://www.ceguide.org/Strategies-and-examples/Finance/Green-bonds.LRAs could issue green and circular bonds to finance CE projects.](https://www.ceguide.org/Strategies-and-examples/Finance/Green-bonds.LRAs%20could%20issue%20green%20and%20circular%20bonds%20to%20finance%20CE%20projects.)

¹⁸ In social impact bonds, governments negotiate with private groups for the financing for social projects and programmes; the private financiers are repaid based on the results achieved. These bonds have mainly been used in the United Kingdom and US. See for example: Social Finance, *Social Impact Bonds*, <https://socialfinance.org/social-impact-bonds/>, viewed 6 August 2020; and UK government, *Social Impact Bonds*, <https://www.gov.uk/guidance/social-impact-bonds>, viewed 6 August 2020. In the EU these bonds are starting to be developed and implemented with the support of the European Investment Bank, <https://www.eib.org/en/press/all/2020-209-eib-and-municipality-of-madrid-promote-the-city-s-first-social-impact-bond-putting-madrid-at-the-forefront-of-social-policy>.

¹⁹ European Commission (2017). *LIFE And The Circular Economy*. viewed 3 July 2020, <https://ec.europa.eu/environment/archives/life/publications/lifepublications/flippingbook/circulareconomy/HTML/files/assets/common/downloads/publication.pdf>

²⁰ Bioregio (2019). *Hacia Una Economía Circular Basada En Los Recursos Orgánico*, viewed 3 July 2020, https://www.castillalamancha.es/sites/default/files/documentos/pdf/20191217/plan_de_accion_bioregio_action_plan_dme_17.12.2019_espanol.pdf

²¹ Circular City Funding Guide (n.d). *Circular City Funding Guide*, viewed 3 July 2020, <https://www.circularcityfundingguide.eu/>

²² European Commission (2020). *Investing in a climate-neutral and circular economy*, viewed 3 July, https://ec.europa.eu/commission/presscorner/detail/en/fs_20_40

²³ European Commission (2020). *Investing in a Climate-Neutral and Circular Economy. The European Green Deal*, viewed 3 July 2020, https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/recovery-plan-europe_en

Opportunities

- LRAs' financial support for circular initiatives can be 'blended' with other sources, such as crowdfunding for socially oriented projects and commercial loans for local enterprises;
- LRAs can learn from successful models in place;
- LRAs can apply directly for some EU funding programmes, including LIFE, HORIZON 2020 and the ESIF Urban Innovative Actions²⁴.

Challenges and needs

- LRAs will need expertise on both financing and the circular economy in order to establish effective funding strategies that incorporate sustainable and in particular circular indicators²⁵;
- LRAs could have more direct access to some EU funding instruments – such as ESIF – for example where operational programmes are managed at national level²⁶. This is particularly urgent for those Member States with a lower absorption rate²⁷ of EU funds, as a way to facilitate use of these funds for the development of circular initiatives.

1.4 Fiscal measures (tax incentives)

Fiscal measures take the form of taxes, charges, fees or fines. They can raise revenue and they also provide incentives for companies and individuals that can play a key role in promoting shifts towards the circular economy². Fiscal measures are commonly used for waste management, such as taxes on the landfilling or incineration of waste as an incentive for recycling and reuse. For example, the Action Plan towards bio-based circular economy in Sud Muntenia Region (Romania) includes landfill taxes²⁸. Direct charges on households using 'Pay as You Throw' (PAYT) schemes can encourage waste minimisation and separation: for example, the country of Aschaffenburg, Germany, set up a system with chips

²⁴ Urban Innovative Actions (n.d.). *Identify and test innovative solutions for sustainable urban development*, viewed 3 July 2020, <https://uia-initiative.eu/en>

²⁵ OECD, Investment governance and the integration of environmental, social and governance factors, viewed 4 August 2020, <https://www.oecd.org/cgfi/Investment-Governance-Integration-ESG-Factors.pdf>

²⁶ European Commission, EU regional and urban development, Managing authorities, https://ec.europa.eu/regional_policy/en/atlas/managing-authorities/

²⁷ European Structural and Investment Funds, Funds Absorption Rate 2007-2013 <https://cohesiondata.ec.europa.eu/2007-2013-Finances/SF-2007-2013-Funds-Absorption-Rate/kk86-ceun>

²⁸ Bioregio (2019). *Action Plan Towards Bio-Based Circular Economy*, viewed 3 July 2020, [Action plan towards bio-based circular economy -Sud Muntenia Region, Romania](https://www.bioregio.eu/action-plan-towards-bio-based-circular-economy-sud-muntenia-region-romania)

and bar codes on bins and a weighing system on trucks²⁹; the Flanders Region in Belgium requires differently coloured bags, charging households a high price (2 Euros a bag) for residual waste bags and a low price for recyclable waste bags.

Taxes can be set on resource extraction, such as gravel or stone quarrying, and tax breaks can be provided for circular businesses, such as those that repair products or use recycled materials, for example recycling demolition waste such as used bricks in new construction.

Opportunities

- Extensive experience on fiscal measures for waste management across the EU and beyond³⁰;
- Fiscal measures can be linked to direct financial support mechanisms, such as taxes that support a revolving fund.

Challenges and needs

- The use of dedicated taxes for developing circular economy strategies can yield revenues for LRA and also serve to provide incentives for integrating circularity in the private sector; however, the final aim of a circular taxation scheme needs to be clear and its incentive and revenue raising effects modelled: for example, a tax that successfully reduces landfilling of waste will have declining revenues;
- Taxes on the extraction of raw materials (such as gravel and sand) may reduce local production but increase imports rather than promote the use of recycled materials as an alternative.

1.5 Circular Public Procurement³¹

Many LRAs practice green public procurement (GPP) to direct public purchases towards more environmentally friendly goods and services. The European Commission supports GPP via guidelines³², which encourage the purchase of ‘green’, energy-efficient products and eco-innovation. Thus, GPP initiatives –

²⁹ Morlok, J., et al. (2017), “The Impact of Pay-As-You-Throw Schemes on Municipal Solid Waste Management: The Exemplar Case of the County of Aschaffenburg, Germany”, *Resources* 2017, 6, 8; doi:10.3390/resources6010008

³⁰ See for example: <http://payasyouthrow.org/>; OECD, PINE database, <https://pinedatabase.oecd.org/>

³¹ European Commission (2017). *Public procurement for a Circular Economy: Good practice and guidance*, viewed 3 July 2020, https://ec.europa.eu/environment/gpp/pdf/Public_procurement_circular_economy_brochure.pdf

³² European Commission (n.d.). *Green Public Procurement*, viewed 3 July 2020, https://ec.europa.eu/environment/gpp/index_en.htm

such as the Sardinian Green Public Procurement schema³³, which is further detailed in section 5 – can support the transition to the circular economy.

Circular public procurement (CPP) takes GPP further: it can be defined as the process of purchasing works, goods or services that seek to contribute to closed energy and material loops within supply chains, whilst minimising, and in the best case avoiding, negative environmental impacts and waste creation across their whole life-cycle. For example, durability and reparability are among the considerations for circular procurement. LRAs have a great potential to trigger changes in the local economy due to their large purchasing power and the long-term perspectives of the service contracts that they usually require. On the other hand, their capacity for acquiring circular products and services is often restricted by the lack of local markets providing the products needed, and by existing requirements for public tenders, which may justifiably call for fair competition (creating an obstacle if there is a single local supplier for a sustainable good or service).

One initiative is the Green Deal Circular Purchasing Project³⁴ in Flanders (Belgium), which brings together both government bodies in the region as well as business purchase managers. The initiative provided facilitators to share knowledge on circular purchasing. Each participating organisation committed to carry out projects implementing the common goals of reducing materials, in particular raw material inputs, extending the life of products and increasing reusability and recyclability of products and materials³⁵. This project is part of the wider Circular Flanders initiative, which is promoting circularity more generally, including goods and services that could be used in circular purchasing.

Opportunities

- Development of the local economy thanks to long-term service contracts and the strong purchasing power of public administrations;
- The professionalization of the figure of the public procurer may enable important advances in public tendering, allowing to provide dedicated training on CE and CPP³⁶;

³³ European Commission (2015). *Sardinia's Regional Action Plan for GP*, viewed 3 July 2020, https://ec.europa.eu/environment/gpp/pdf/news_alert/Issue53_Case_Study109_sardinia_regional_action_plan.pdf

³⁴ Circular Flanders, Circular Purchasing Project, viewed 10 August 2020, <https://www.vlaanderen-circulair.be/nl/onze-projecten/detail/green-deal-circulair-aankopen>

³⁵ Ellen MacArthur Foundation (2017). *Flanders Public Waste, Materials & Soil Agency. Belgium: Flanders Materials Programme*, viewed 3 July 2020, <https://www.ellenmacarthurfoundation.org/case-studies/belgium-flanders-materials-programme>

³⁶ Ecap (2017). *Added Value. Reaping The Benefits Of 3 Years Of The Green Deal On Circular Procurement*, viewed 3 July 2020, www.ecap.eu.com/wp-content/uploads/2017/07/ENG-Green-Deal_Circular-Procurement-Magazine.pdf

- Life Cycle Costing as an important tool for long-term decision-making processes on CPP;
- LRAs have a favourable position to centralise knowledge and promote good practices on CPP across stakeholders³⁷.

Challenges and needs

- Making a clear distinction between Green Public Procurement and Circular Public Procurement, using the progress on GPP to introduce and develop CPP;
- Lack of well-established markets for many circular products and services hinders the development of CPP.

1.6 Urban refurbishment

Local authorities play an active role on the physical development of their territory. The construction sector constitutes a key source of waste today. Although a growing share of the EU’s construction and demolition waste is recycled, often this material is ‘downcycled’, i.e. used for low-value applications such as road foundations.

LRAs can play a key role in encouraging private construction and waste firms to improve the recycling of this waste to ensure that materials are reused differently and upcycled. As an example of an initiative on this pathway can be found on the city of Vienna, which since 2016 joined a demolition consortium called Baukarussell, in partnership with large property developers, to develop new services for the dismantling of large industrial buildings, promoting the upcycling of building components³⁸. Circularity can also be integrated in the management of local assets: in the case of Vienna, the city aims to incorporate the approach into its own building investment. LRAs can go further, ensuring that circular economy is addressed when redesigning and transforming urban spaces for public uses, such as investing in green infrastructure, thus supporting a circular, local economy³⁹.

³⁷ In Denmark for instance, the government aims at developing a task force on green procurement. A platform “the responsible procurer” is also available to facilitate knowledge-sharing between enterprises and public authorities: [Strategy for Circular Economy – Ministry of Environment and Food and Ministry of Industry, Business and Financial Affairs](#)

³⁸ Climate-KIC (2018). *Municipality-led circular economy case studies In partnership with the Climate-KIC Circular Cities Project*, viewed 3 July 2020, <https://nordic.climate-kic.org/wp-content/uploads/sites/15/2018/05/Municipality-led-circular-economy-case-studies.pdf>

³⁹ Climate-KIC (n.d.). *Success Stories. Circular Cities Project*, viewed 3 July 2020, <https://nordic.climate-kic.org/success-stories/circular-cities-project/>

The development of the CE under this pathway can be linked with EU initiatives. The NCEAP refers to the ‘Renovation waves’ set out under the Green Deal. Related initiatives include building renovation for energy efficiency purposes and the initiative to remove asbestos from all EU buildings⁴⁰.

While construction is perhaps the most prominent area for circular potential at local level, a broader perspective – urban mining, which extracts materials from recycled urban waste as well as obsolete urban infrastructure such as conduits⁴¹ – looks at existing waste and other resources in cities as an opportunity: the potential ‘urban mines’ of Amsterdam are being studied⁴².

Opportunities

- LRAs directly manage construction and renovation projects and can apply circular methods to these; moreover, LRAs play a major role in shaping private construction and renovation projects in their territories;
- LRAs can build synergies with other policy frameworks, such as those promoting energy efficiency in buildings.

Challenges and needs

- The potential for developing circular solutions is limited by the existing production processes in the local industries and the possibilities offered by their by-products;
- Existing administrative requirements can be a major challenge – these can include permits that must follow existing regulations regarding building materials⁴³;
- Refurbishment can be a slow and complex process; many cities, like Prague for instance, struggle to modernise their real estate due to fragmented ownership of the buildings⁴⁴;

⁴⁰ European Economic and Social Committee (EESC) (n.d.). *Freeing the EU from Asbestos*, viewed 3 July 2020, <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/freeing-eu-asbestos>

⁴¹ See, for example: European Circular Economy Stakeholder Platform, *Symposium on Urban Mining and the Circular Economy*, viewed 6 August 2020: <https://circulareconomy.europa.eu/platform/en/news-and-events/all-events/5th-symposium-urban-mining-and-circular-economy>

⁴² Metabolic (2017). *Developing a method to assess the metal contents of buildings in the city*, viewed 3 July 2020, <https://www.metabolic.nl/projects/prospecting-the-urban-mines-of-amsterdam-puma/>

⁴³ As highlighted by the Cinderella project in Maribor, Slovenia: [Transforming Municipality Districts into Learning Centres of Circular Economy – EIT Climate-KIC Circular Cities Project](#)

⁴⁴ Circular Economy (2019). *Circular Prague*, viewed 3 July 2020, [https://assets.website-files.com/5d26d80e8836af2d12ed1269/5de95a133e0b522c1f9d4ea6_Prague-Final-Report-20190406_MR-compressed%20\(1\).pdf](https://assets.website-files.com/5d26d80e8836af2d12ed1269/5de95a133e0b522c1f9d4ea6_Prague-Final-Report-20190406_MR-compressed%20(1).pdf)

- It may be difficult to find incentives to manage and reuse demolition waste, as the costs to prepare and clean waste make it more expensive than new materials⁴⁵.

1.7 Urban planning and land use

Urban planning assesses physical, social, and environmental factors and determines the allocation, development and usage of urban structures such as buildings, infrastructure, and parks. Urban planning has a powerful impact on how people and goods move around local and regional territories and can have a strong impact on whether materials, products, and nutrients can be re-captured and kept in use. It can also create long-term housing, mobility, and behavioural lock-ins. It is therefore invaluable to include circular economy principles in urban planning decision making.

In Portugal, LIPOR, the Intermunicipal Waste Management company of Greater Porto, launched a land-use project called ‘Horta a Porta’ to optimize the use of space in the Porto area while working towards waste reduction.⁴⁶ The aim is to create and connect green spaces to promote organic farming, the preservation of biodiversity, and composting. In Brussels, a food strategy seeks to increase local sourcing of fruit and vegetables to shorten supply chains and related waste⁴⁷. As part of its circular economy strategy, the city of Prato in Italy redeveloped old factories and other buildings as part of a neighbourhood renovation that includes co-working and training spaces⁴⁸.

Opportunities

- LRAs can provide support and financial resources to facilitate circularity in urban planning, especially through public procurement⁴⁹.

⁴⁵ Climate-KIC (2018). *Municipalities as drivers for circular economy in refurbishment and construction projects*, viewed 3 July 2020, <https://nordic.climate-kic.org/wp-content/uploads/sites/15/2018/05/Municipalities-as-drivers-for-circular-economy.pdf>

⁴⁶ LIPOR - Intermunicipal Waste Management Service of Greater Porto (2020). *Horta da Formiga (Home Composting Center)*, viewed 3 July 2020, <https://www.lipor.pt/en/awareness/visits/horta-da-formiga-home-composting-center/>

⁴⁷ GoodFood (2015). *Strategie Good Food «Vers Un Système Alimentaire Durable En Région De Bruxelles-Capitale*, viewed 3 July 2020, https://document.environnement.brussels/opac_css/elecfile/Strat_GoodFood_FR

⁴⁸ City of Prato (n.d.). *Macrolotto Creative District*. Viewed 3 July 2020, <http://www.cittadiprato.it/EN/Sezioni/248/Macrolotto-Creative-District/>

⁴⁹ Urban Act (2020). *Transition to circular economy: the ‘power’ of the building sector towards better cities*, viewed 3 July 2020, <https://urbact.eu/transition-circular-economy-‘power’-building-sector-towards-better-cities>

Challenges and needs

- Technological barriers may represent a costly and time-consuming barrier in the built environment, preventing innovative processes;
- Current laws and regulations constitute a barrier hindering innovation and scale-up in the built environment while also slowing down procedures, such as a lack of existing certifications for certain reused materials. Temporary regulation-free zones have proven to incentivise the testing of new circular solutions on processes and materials⁵⁰;
- Current market mechanisms may favour the linear economy which appears as more profitable than the CE⁵¹;
- Company culture may not be favourable to circular principles and prevent behavioural change among consumers and companies⁵².

Scale and context-based conditions

The legal competences of regional authorities on the development of large infrastructures present an important opportunity for developing circularity within the construction sector.

1.8 Waste management and reduction⁵³

From waste collection and transport to incineration and recycling, many LRAs are key players in waste management. Many LRAs have also taken action for waste prevention, together with local stakeholders and citizens. By reducing waste and increasing its recycling and reuse, LRAs contribute directly to improving resource use and enhancing the sustainability of production in their territories⁵⁴. This can be part of a broad strategy – Wallonia (Belgium) has updated its regional waste strategy to link waste and resources – and also initiatives for individual waste streams. In Bulgaria, for example, the city of Sofia took action to streamline and facilitate the collection of Waste Electrical and Electronic Equipment (WEEE) in households, cooperating with local organisations responsible for waste management (Recovery Organisations)⁵⁵.

⁵⁰ Circular Economy (2018). *Scaling The Circular Built Environment*, viewed 3 July 2020, [Scaling the circular built environment, pathways for business and government - WBCSD](#)

⁵¹ Circular Economy (2018).

⁵² Circular Economy (2018).

⁵³ Circular Economy – OREE (2015). *Circular economy for the preservation of resources and the climate*, viewed 3 July 2020, https://circulareconomy.europa.eu/platform/sites/default/files/circular_economy_for_the_preservation_of_resources_and_the_climate_oree.compressed.pdf

⁵⁴ Agence de l'Environnement et de la maîtrise de l'Energie (ADEME) (2014). *Guide Méthodologique Du Développement Des Stratégies Régionales D'économie Circulaire En France*, viewed 3 July 2020, <http://www.presse.ademe.fr/wp-content/uploads/2014/11/Guide-strategie-eco-circulaire-FINAL.pdf>

⁵⁵ ACR Plus (2014). *Good Practice Sofia Municipality: Weee Collection*, viewed 3 July 2020, https://www.acrplus.org/images/project/R4R/Good_Practices/GP_Sofia_WEEE-collection.pdf

LRAs can also link waste management and resource recovery with social goals: in Wallonia (Belgium), over 200 social enterprises operate repair points, second-hand shops and sorting centres⁵⁶.

In the areas of waste management, LRAs have developed their strategies based on the EU's comprehensive legal framework, which includes targets to be achieved at local and regional level, for instance, recycling at least 65% of municipal waste by 2030. EU funds such as the ESIF, Horizon 2020 circular labels and LIFE have been used by LRAs to finance innovations in their waste management practices and infrastructure: one example is the HEC PAYT project, supported by the LIFE Programme, in Cyprus, Estonia and Greece (see section 5)⁵⁷.

Opportunities

- Many LRAs have advanced separate collection and waste recycling methods;
- Key waste streams can provide resources for LRA territories: life cycle assessment and related tools can support decision-making for waste initiatives;
- Waste recycling and reuse initiatives can create local jobs.

Challenges and needs

- While many types of recycling lead to overall reduction in energy use and greenhouse gas emissions (compared to using raw materials), this is not true in all cases: LRAs need expertise to ensure that recycling, energy and climate goals are in synergy;
- Current EU legislation contains barriers to waste reuse: end-of-waste criteria have been highlighted in several studies⁵⁸ and also by stakeholder responses to the CoR's consultation;
- In some Member States, local waste management systems may not be harmonised, and this can hinder cooperation on circular actions⁵⁹;
- LRAs may lack facilities for waste recycling and require financing for them;

⁵⁶ Environnement Wallonie (2017). *Observatoire de la réutilisation Wallonie/Bruxelles - Edition 2017*, viewed 3 July 2020, http://environnement.wallonie.be/dechets/Observatoire_2017.pdf

⁵⁷ A further example is the Horizon 2020 DECISIVE project, Urban bio-waste: from a linear to a circular approach, viewed 10 August 2020, <http://www.decisive2020.eu/>

⁵⁸ European Commission – European Resource Efficiency Knowledge Centre (EREK) (2019). *The implementation of the circular economy in Europe. Perspectives of EU industry cluster managers and regional policymakers*, viewed 3 July 2020, https://www.clustercollaboration.eu/sites/default/files/eu_initiatives/report_-_the_implementation_of_the_circular_economy_in_europe.pdf

⁵⁹ [Strategy for Circular Economy – Ministry of Environment and Food and Ministry of Industry, Business and Financial Affairs](#) (2018)

in some cases, investment in incineration capacity has ‘locked in’ territories, making it difficult for them to shift to greater recycling;

- In urban areas where land value is high and population is dense, LRAs may find it challenging to expand waste treatment areas or to build new ones⁶⁰;
- Many LRAs hire private companies to collect and also treat their waste. These contracts may hinder LRA capacity to specify recycling methods or to ensure local treatment;
- Citizen awareness and involvement is needed to ensure that key waste streams are separated for collection – this can be challenge at first for some types of waste, such as biowaste⁶¹.

1.9 Promotion of circular products and services

The future of the CE is to present sustainable alternatives to existing products and services. LRAs may be able to support the development of circular production and consumption in their territories, for example by promoting changes in production chains at local businesses. This is likely to be a long-term process, with initial actions opening the way for future initiatives.

LRAs can support the design of circular products⁶², both by working with local industry and also by including design requirements in their public procurement; they can work with local industry and universities to study and promote industrial symbiosis⁶³; and they can promote product sharing and reuse initiatives. In Wallonia (Belgium), the regional government has developed a certification scheme to support the reuse of electronics and other products to reassure consumers of their quality. In the Netherlands, a dedicated platform⁶⁴ aims at increasing the manufacture of circular products by facilitating contact between circular entrepreneurs, serving also for sharing best practices and adding visibility to the products participating to these principles.

The development of circular markets is regarded as an essential step for ensuring the long-term establishment of circular solutions. LRAs may provide an important

⁶⁰ Committee of the Regions (2016). *The growth potential of an integrated EU Urban Agenda*, viewed 3 July 2020, https://kfsk.se/wp-content/uploads/2016/02/Report-Growth_potential_integrated_urban_agenda.pdf

⁶¹ In Slovakia, the Community Composting initiative in the city of Nitra highlighted that the management of biowaste was quite demanding and requirement an active involvement of the local population, which may be difficult to maintain over the long term: <https://www.interregeurope.eu/policylearning/good-practices/item/3071/>

⁶² Agence de l’Environnement et de la maîtrise de l’Energie (ADEME) (2014). *Guide Méthodologique Du Développement Des Stratégies Régionales D’économie Circulaire En France*, viewed 3 July 2020, <http://www.presse.ademe.fr/wp-content/uploads/2014/11/Guide-strategie-eco-circulaire-FINAL.pdf>

⁶³ European Commission, (2020). *A new Circular Economy Action Plan For a cleaner and more competitive Europe (Brussels, 11-3-2020)*, viewed 3 July 2020, https://eur-lex.europa.eu/resource.html?uri=cellar:9903b325-6388-11ea-b735-01aa75ed71a1.0017.02/DOC_1&format=PDF

⁶⁴ Nederland Circulair (n.d.). *Nederland Circulair*, viewed 3 July 2020, <https://www.circulairondernemen.nl/>

support in the initial stages of many circular solutions, however the long-term goal must focus on developing these solutions to a mature status in which they represent a competitive market reality, capable of surviving without public support. In order to achieve this development level, it is crucial that CE initiatives fulfil not only LRA needs through support schemas such as CPP, but that also fully integrate the private sector and participate in the local economy.

LRAs can promote circular products and services directly to the public through dedicated marketing campaigns and more generally by raising awareness among citizens. Raising awareness is also a key component of these actions.

Opportunities

- LRAs can use their knowledge of local economic structures to identify opportunities for sustainable products and the potential for adapting existing circular approaches⁶⁵;
- Many LRAs have local business support programmes which could be adapted to include circular aspects;
- Promoting circular products or services is facilitated by the favourable current policy framework at the EU level, especially from the Ecodesign Directive for instance or ecolabels implementing circular standards⁶⁶;
- LRA efforts to promote CE and raise awareness can provide synergies with the beneficial tax regimes and the financing approaches described above.
- Local circular labels can strengthen proximity consumption of purchasing products or services.

Challenges and needs

- Certification is needed for some products, and some rules require certification for use in public procurement: international certification schemes, however, often do not consider the use of recycled or reused material⁶⁷;

⁶⁵ The Danish Government - Ministry of Environment and Food and Ministry of Industry, Business and Financial Affairs (2018). *Strategy for Circular Economy. More value and better environment through design, consumption, and recycling*, viewed 3 July 2020, <https://mfvm.dk/publikationer/publikation/pub/hent-fil/publication/strategy-for-circular-economy/>

⁶⁶ The Danish Government - Ministry of Environment and Food and Ministry of Industry, Business and Financial Affairs (2018). *Strategy for Circular Economy. More value and better environment through design, consumption, and recycling*, viewed 3 July 2020, <https://mfvm.dk/publikationer/publikation/pub/hent-fil/publication/strategy-for-circular-economy/>

⁶⁷ ⁶⁷ European Commission – European Resource Efficiency Knowledge Centre (EREK) (2019). *The implementation of the circular economy in Europe. Perspectives of EU industry cluster managers and regional policymakers*, viewed 3 July 2020, https://www.clustercollaboration.eu/sites/default/files/eu_initiatives/report_-_the_implementation_of_the_circular_economy_in_europe.pdf

- LRAs may need to overcome a lack of awareness on the part of businesses and civil society regarding circular market opportunities⁶⁸;
- Large existing enterprises in a city or region may lack a culture of innovation and thus a desire to foster new, circular technologies and products⁶⁹;
- Local businesses, especially SMEs, struggle to locate appropriate sources of finance; this can be more acute in poorer Member States and regions⁷⁰;
- Consumer acceptance and behavioural change are often slow and difficult to achieve⁷¹.

1.10 Circular clusters and partnerships

The creation of networks or clusters to favour collaboration is a key mechanism to support circular economy actions. Partnerships and clusters can stimulate collaboration among public and private actors through multi-stakeholder workshops and events where participants can share experience and knowledge and identify best practices and obstacles.

Such approach requires a strong engagement from stakeholders and it is necessary that LRAs play an active role to support and facilitate collaboration. In this context, local and regional governments can resort to participatory mechanisms such as policy innovation labs, crowdsourcing and participatory budgeting to further strengthen the engagement. LRAs might focus on local manufacturing clusters to promote partnerships among existing businesses. The involvement of private investors can facilitate financing for circular initiatives.

The development of clusters of material reuse adds an extra layer of resilience to a local CE, by ensuring that both materials and also job creation remain within the vicinity. This also serves as a passive awareness-raising mechanism among the population, as resource-use clusters may involve many different businesses participating to different sectors. These clusters facilitate the development and application of public support mechanisms, which may act as triggers for larger-scale changes in the economy and production processes.

As an example, the government of the Brussels-Capital Region (Belgium) created networks linking businesses and the civil society through its ‘be circular’

⁶⁸ As an example, a 2019 study carried out by the Sonocom survey institute in Brussels showed that 3 out of 4 for companies in the city did not know the concept of the CE: <https://hub.brussels/en/blog/survey-circular-economy-beneficial/>

⁶⁹ Circular Economy (2019). *Circular Prague*, viewed 3 July 2020, [https://assets.website-files.com/5d26d80e8836af2d12ed1269/5de95a133e0b522c1f9d4ea6_Prague-Final-Report-20190406_MR-compressed%20\(1\).pdf](https://assets.website-files.com/5d26d80e8836af2d12ed1269/5de95a133e0b522c1f9d4ea6_Prague-Final-Report-20190406_MR-compressed%20(1).pdf)

⁷⁰ European Commission – European Resource Efficiency Knowledge Centre (EREK) (2019).

⁷¹ European Commission – European Resource Efficiency Knowledge Centre (EREK) (2019).

platform⁷² which currently covers four main sectors: sustainable construction, water, waste/resources, and sustainable food. In Lucca (Italy), a LIFE Project Eco-Pulplast⁷³ assessed opportunities to recycle pulper waste from local paper production. LRAs have the possibility to support initiatives for industrial solutions, bringing together public bodies, private stakeholders and research institutes. These initiatives could also serve as capacity-building exercises for the public authority, allowing staff to better understand possibilities for other circular actions in local industry.

Opportunities

- The promotion of the CE principles by LRAS can be supported by already-existing clusters (there are at least 250 green clusters in Europe⁷⁴);
- SDGs are at the core of most of these clusters and provide a long-term perspective in favour of the implementation of circular principles⁷⁵;
- Clusters promote a culture of cooperation and create a favourable environment for public authorities and enterprises to work together towards the transition to the CE;
- By creating bridges between public authorities and the private sector, clusters can facilitate options for circular public procurement and provide new opportunities for private suppliers⁷⁶.

Challenges and needs

- LRAs may need to provide a long-term commitment to ensure that partnerships build and remain viable;
- Business and other stakeholders may need both technical and investment support, first to understand circular opportunities and then to take action⁷⁷;

⁷² European Union (2019). *Be Circular Be.Brussels | European Circular Economy Stakeholder Platform.*, viewed 3 July 2020, <https://circulareconomy.europa.eu/platform/en/dialogue/existing-eu-platforms/be-circular-bebrussels>

⁷³ Life Eco-Pulplast (2018). *Local circular EConomy by an innovative approach for recycling paper industry PULper waste into new PLASTic pallets*, viewed 3 July 2020, <http://www.life-ecopulplast.eu/>

⁷⁴ Clusters Collaboration (2019). *Clusters In The Circular Economy Building Partnerships For Sustainable Transition Of Smes*, viewed 3 July 2020, https://www.clustercollaboration.eu/sites/default/files/news_attachment/clusters_in_circular_economy_0.pdf

⁷⁵ Clusters Collaboration (2019).

⁷⁶ Clusters Collaboration (2019). *Clusters In The Circular Economy Building Partnerships For Sustainable Transition Of Smes*, viewed 3 July 2020, https://www.clustercollaboration.eu/sites/default/files/news_attachment/clusters_in_circular_economy_0.pdf

⁷⁷ European Commission – European Resource Efficiency Knowledge Centre (EREK) (2019). *The implementation of the circular economy in Europe. Perspectives of EU industry cluster managers and regional policymakers*. viewed 3 July 2020, https://www.clustercollaboration.eu/sites/default/files/eu_initiatives/report_the_implementation_of_the_circular_economy_in_europe.pdf

- Not all stakeholders may be as interested in participating to the CE: LRAs may need to identify and encourage the key initial participants for a cluster or partnership that trigger the first developments of the CE at local level.

1.11 Circular strategies and coordination bodies

LRAs can develop an overarching direction or roadmap for the development of the CE within their territories. These strategies can bring together initiatives across the previous approaches into a coherent whole.

Strategies can be broad-based looking at all circular opportunities, or focus on specific sectors. The city of Prato (Italy) for instance developed a circular roadmap which identifies the textile industry and construction as priority areas⁷⁸.

Roadmaps and coordination can emerge at all levels of government and can take different forms: LRAs can draw on strategies at higher level, such as national CE plans – and of course the EU’s strategies. Some LRAs such as Amsterdam (the Netherlands) have been ‘pioneers’, establishing advanced strategies that can provide inspiration and lessons elsewhere.

Coordination bodies can foster the participation of a wide range of stakeholders, ensure synergies and cooperation between the different actors concerned. One of the main challenges associated with this approach relates to the fact that strategies need to be goal-oriented, with clear indicators defined. Without this prerequisite, the aspired vision may never be followed by concrete actions. In Belgium, the Circular Flanders initiative brings together government bodies, universities and research organisations and private industry that work together. Circular Flanders identified three strategic themes for its first years – procurement, cities and business – and launched over 200 actions across the three areas⁷⁹.

Opportunities

- Developing a long-term holistic vision regarding the transition towards the CE favours the viability of a circular strategy⁸⁰;

⁷⁸ European Union - European Circular Economy Stakeholder Platform (2019). *Circular City Governance in Prato*, viewed 3 July 2020, <https://circulareconomy.europa.eu/platform/en/good-practices/circular-city-governance-prato>

⁷⁹ Circular Flanders (2020). *Retrospective Report 2017-2019: The First Period*, viewed 3 July 2020, <https://vlaanderen-circulair.be/en/retrospect>

⁸⁰ Vlaanderen Circulair (2020). *Circular City Governance: Opportunities And Challenge*, viewed on 3 July 2020, <https://vlaanderen-circulair.be/circulargovernance/files/IG-opportunities.pdf>

- Promoting multi-stakeholder governance and engagement are essential elements which favour the expansion of circular strategies and the coordination of various public services⁸¹;
- A systemic approach, combined with an effective communication strategy, is key to identifying and supporting circular opportunities in the local and regional economy, ensuring a successful long-term transition to CE.

Challenges and needs

- LRAs may need to develop their leadership and facilitation skills to secure a strong governance model within the circular strategies developed;
- LRAs need to ensure that they have capacity to manage complex strategies involving multiple stakeholders from a wide range of sectors;
- A good overview of the activities and processes existing in the territory is needed to identify opportunities for action⁸².

Common issues across the approaches

The literature review identified a set of **common challenges and needs**. These include, in particular, *capacity building*, for the private sector and also for LRAs themselves. Mechanisms can include knowledge-sharing platform – where there is a cross-cutting need to ensure that the information is well structured – as well as twinning and exchange programmes, under which frontrunners share their experiences and provide lessons to support the replication of LRA initiatives more widely. Thus, capacity building is both an approach and a need that goes from worker skills to LRAs' administration abilities to private and NGO knowledge. At the same time, capacity building works best when LRAs are proactive and seek to improve their capacities to achieve their own circular goals.

Finance is of course a further common need: LRAs need access to resources as well as support on mechanisms to use resources efficiently and effectively. The review of LRAs' approaches has identified several EU funding mechanisms, and these are discussed further in section 2 and in section 4.

Research is needed to find new ways of managing waste efficiently, using more waste streams as resources, and better organising territorial systems. While advanced LRAs are carrying out such research – Flanders (Belgium), for example,

⁸¹ The Be Circular initiative in Brussels stressed the role engagement played in the success of the project which resulted in the multiplication of collaborations across local administrations on budgets and work programmes in favour of circularity: [Municipality-led circular economy case studies – Climate-KIC Circular Cities Project](#)

⁸² Vlaanderen Circulair (2020). *Circular City Governance: Opportunities And Challenge*, viewed on 3 July 2020, <https://vlaanderen-circulair.be/circulargovernance/files/IG-opportunities.pdf>

finances research by university and by VITO, the Flemish Institute for Technological Research – the results need to be shared and also transferred to other LRAs⁸³.

A further need is *leadership* to promote and explore innovative solutions, as LRAs will need to find new ways of working, try pilot actions that may not always succeed and establish new forms of cooperation.

Scale and context-based issues were identified across all of the approaches. The legal competences of LRAs vary across policy areas also among Member States, and these issues need to be considered in designing circular economy approaches. This topic is discussed further in section 2.

The analysis also identified **additional approaches** that are sometimes identified as part of the transition towards the circular economy: circular mobility, in particular mechanisms to share transport means such as bicycles and automobiles⁸⁴; and energy use and energy efficiency in buildings, which can be a key consideration in circular economy aims and in individual projects. The links between the circular economy, energy and greenhouse gas emissions are discussed further in section 2. In addition, some reports call for a broader tax shift to correct current economic models that favour the linear economy⁸⁵. However, putting in place ambitious tax changes is beyond the capacity of LRAs.

Overview of the circular economy initiatives in southern and eastern Europe

The literature review has shown that many reports on circular economy highlight LRAs that are frontrunners in the circular economy. A recent OECD report, for example, identified five ‘pioneer’ regions and cities: Amsterdam, Brussels, Flanders, London and Paris.

While these frontrunners play a key role, the wider adoption of the circular economy will involve LRAs across the EU (the five ‘pioneers’ listed above are all nearby each other). To understand existing circular economy initiatives in parts of the EU less studied, a review was carried out of cases listed in the EU Circular Economy Stakeholder Platform in seven focus Member States in Southern and

⁸³ The lack of technology transfer was highlighted by the Action Plan towards bio-based circular economy in Sud Muntenia Region: http://icechim-calarasi.ro/application/files/7315/7918/8615/BIOREGIO_action_plan_Romania_EN_final_validated.pdf

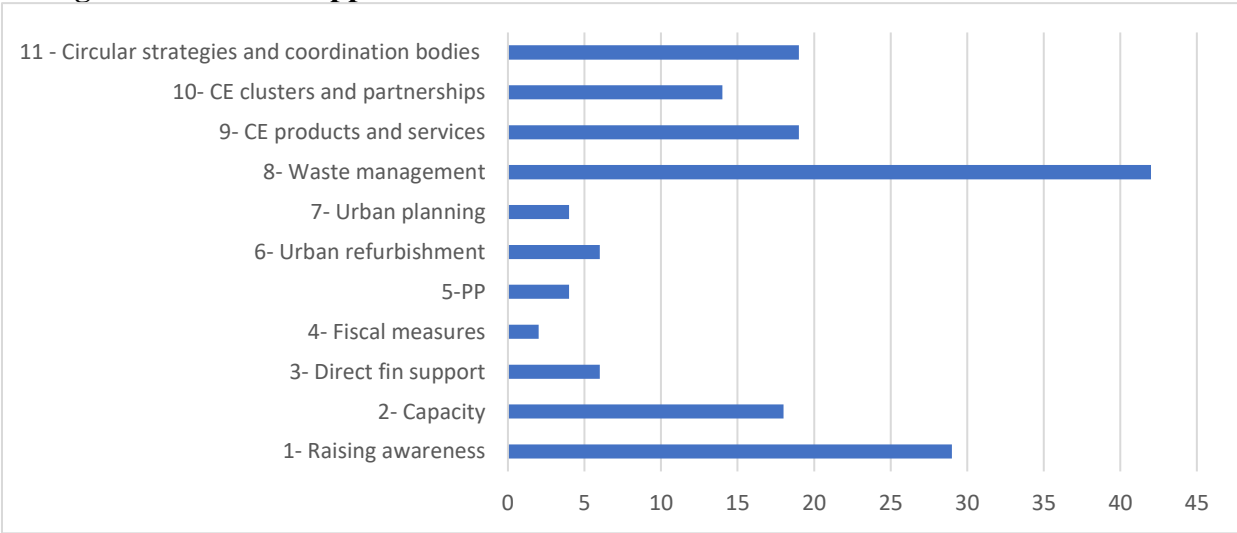
⁸⁴ Interreg Europe (n.d.). *Car-sharing in paid parking zones in Prague*, viewed 3 July 2020, <https://www.interreg-europe.eu/policylearning/good-practices/item/2325/car-sharing-in-paid-parking-zones-in-prague/>

⁸⁵ Circle Economy (n.d.). *Policy Levers for a Low-Carbon Circular Economy*, viewed 3 July, <https://www.circle-economy.com/insights/policy-levers-for-a-low-carbon-circular-economy>

Eastern Europe. On this basis, a total of 89 initiatives were analysed from the seven Member States, i.e. Bulgaria, Czech Republic, Spain, Italy, Poland, Portugal and Slovakia. The figure on the following page presents an overview of the breakdown of these initiatives in terms of the approaches set out above.

The review shows that awareness-raising efforts and waste management are the two most common approaches used by LRAs in the seven Member States. Many initiatives in fact address both of these approaches. Consequently, waste management is a key starting point for LRAs that want to work on the circular economy. The promotion of circular products and services is a developing area of activity, as are capacity raising actions and the creation of circular strategies and coordination bodies.

Figure 1 Use of CE approaches in the initiatives of seven southern and eastern MS



On the other hand, few cases were seen where fiscal measures and direct financial support were identified. In a similar vein, few circular public procurement initiatives were seen: this could be a key opportunity for development, as all government bodies need to procure products and services.

The projects, strategies and initiatives analysed in this sample involved a range of actors, including LRAs (LRAs), sectorial organizations, and private entities. This reinforces a message that is also seen in the approaches described above: while LRAs have a key role to play in building the circular economy – as they manage many of the everyday challenges and needs of citizens and businesses – the transition to the circular economy requires the active participation and engagement of the private sector and of civil society. In some cases, private actors have developed circular initiatives and explored new opportunities without the direct collaboration of LRAs. Some of these initiatives are presented in section 5 of this study with the aim of providing more level of detail through examples of some promising circular initiatives developed by or with LRAs, as well as adding

some more detail on the different challenges and promising solutions encountered.

Key messages

LRAs have undertaken a range of pathways and initiatives for the circular economy. Lessons learned include the following:

- The development of LRAs' circular labels could speed up the development of CE markets as well as increase consumers' awareness of and support for circular initiatives;
- Technical guidance and support should be provided in national languages to ensure that it is used to full potential;
- Public procurement is a key approach that nearly all LRAs can use. Greater capacity building, and where possible the professionalisation of public procurement officers, can bring important potential benefits for CE development;
- LRAs and, in particular, their technical staff dealing with waste, need guidance and training to assess and ensure that recycling, energy and climate goals are in synergy;
- The development of circular clusters or coordination bodies may improve the identification and engagement of key sectors, as well as facilitating investments from the private sector.

Across the different possible approaches, LRAs need support in particular for capacity building, finance and research.

2. The implementation of environmental legislation and the development of a circular approach

2.1 Overview

The previous section shows that, due to its multi-faceted, cross-cutting nature, the transition to the circular economy involves action across a wide range of policy fields. Consequently, a range of EU environmental legislation will have an influence on LRAs' initiatives for the circular economy, from waste management to climate change to chemicals⁸⁶. Furthermore, legislation for sectors such as agriculture and energy are also relevant for circular economy initiatives. This section provides an overview of the links between the most relevant environmental legislation and the circular economy in the EU, focusing on the synergies identified and points where coherence can be improved.

2.2 Links between key environmental legislation and the circular economy

In some areas, EU legislation lays the foundation for LRAs' actions. The EU Waste Framework Directive, for example, sets out the waste hierarchy – which calls for waste reduction, reuse and recycling before energy recovery and landfilling – and the proximity principle, by which waste should be treated close to where it is generated: these principles and the Directive's requirements for increased recycling should support LRAs' work on the waste management approach. Other waste legislation can do so as well: for instance, the circular economy plan of the Brussels Capital Region⁸⁷ (Belgium) makes explicit references to targets in EU legislation such as the Directive on Waste Electrical and Electronic Equipment (WEEE)⁸⁸. In the area of water management, EU legislation has supported water reuse initiatives. Chemicals legislation has reduced hazardous substances used in many products, removing some barriers for recycling or reuse.

Nonetheless, some provisions of EU environmental legislation create issues for

⁸⁶ European Parliament - Environmental Policy of the European Union (n.d.). *Environment policy*, viewed 3 July 2020, <https://www.europarl.europa.eu/factsheets/en/section/193/environment-policy>

⁸⁷ Be Circular (2016). *Programme Régional En Economie Circulaire 2016 – 2020. Mobiliser les ressources et minimiser les richesses perdues : Pour une économie régionale innovante*, viewed 3 July 2020, https://document.environnement.brussels/opac_css/elecfile/PROG_160308_PREC_DEF_FR

⁸⁸ Official Journal of the European Union (2012). *Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE)*, viewed 3 July 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0019>

LRAs implementing circular economy initiatives. Some of these provisions have been identified as topics for reform in the New Circular Economy Action Plan. The table below provides an overview of the key links identified between EU environmental legislation, LRAs needs and challenges and the specific pathways identified in section 1.

Table 1 Key environmental legislation⁸⁹, NCEAP proposals and main challenges LRAs are facing and pathways to CE

Environmental Policy Field	NCEAP Proposal	LRAs Challenges & Opportunities	CE pathways
Waste: key legislation			
Waste Framework Directive (2008/98/EC)	<ul style="list-style-type: none"> Review rules for end-of-waste and by-products (2021) Review of hazardous waste classification and management (no date) Review of rules concerning specific waste streams like electronics, ELVs, batteries, waste oils. High-level exchanges with LRAs and cities to make the best use of EU funds to improve recycling of municipal waste 	<ul style="list-style-type: none"> Difficulties using waste as resources due to end-of-waste rules Lack of waste prevention and reuse targets⁹⁰ Concerns that toxic chemicals in waste streams may limit reuse and recycling 	<ul style="list-style-type: none"> Capacity-building Direct financial support for CE initiatives Fiscal measures Waste management and reduction Promotion of circular products and services
Landfill Directive (1999/31/EC)	<ul style="list-style-type: none"> Introducing economic instruments like landfill taxes 	<ul style="list-style-type: none"> Challenges related to rehabilitation and upgrade of landfills⁹¹ 	<ul style="list-style-type: none"> Circular clusters and partnerships
RoHS Directive WEEE Directive (2012/19/EU)	<ul style="list-style-type: none"> Review of RoHS legislation (2021) Improving the collection and treatment of WEEE, possibly exploring a EU-wide take back scheme 	<ul style="list-style-type: none"> Increasing collection and local treatment of WEEE 	
Waste Packaging Directive (94/62/EC)	<ul style="list-style-type: none"> Review Packaging Waste requirements (2021) 	<ul style="list-style-type: none"> Increasing collection and local treatment of packaging waste 	

⁸⁹ This table focuses on key pieces of legislation but is not exhaustive. For instance, waste legislation in the EU includes many others than presented in the table.

⁹⁰ Contribution to EC stakeholder consultation on the NCEAP

⁹¹ Committee of the Regions (2016). *The growth potential of an integrated EU Urban Agenda*, viewed 3 July 2020, https://kfsk.se/wp-content/uploads/2016/02/Report-Growth_potential_integrated_urban_agenda.pdf

Environmental Policy Field	NCEAP Proposal	LRA Challenges & Opportunities	CE pathways
Water			
Urban Wastewater Directive (98/15/EC of 27)	<ul style="list-style-type: none"> Possible review of legislation Water Reuse Regulation 	<ul style="list-style-type: none"> Further investments in wastewater treatment⁹² Costs associated with removal of microplastics from urban wastewater⁹³ Increase the reuse of wastewater⁹⁴ 	Capacity building Direct financial support for CE initiatives Waste management and reduction
Sewage Sludge Directive (86/278/EEC)	<ul style="list-style-type: none"> Possible review of legislation 	Greater circularity, either by improving the quality of sewage sludge for reuse ⁹⁵ or producing biogas ⁹⁶	Circular clusters and partnerships
Chemicals			
Persistent Organic Pollutants (2006/507/EC)	<ul style="list-style-type: none"> Possible amendments to the Annex of the regulation 	<ul style="list-style-type: none"> Concerns that toxic chemicals in waste streams may limit reuse and recycling 	Fiscal measures Circular clusters and partnerships
REACH	<ul style="list-style-type: none"> Increasing coherence with Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment 	<ul style="list-style-type: none"> Complex interactions between REACH and end-of-waste criteria due to restricted/controlled chemicals in waste can hinder recycling and reuse initiatives 	
Climate Change			
Climate change mitigation	<ul style="list-style-type: none"> Making synergies between CE and climate mitigation 	<ul style="list-style-type: none"> Ensure synergies between circular economy initiatives and energy and climate goals 	Circular clusters and partnerships

⁹² Lipinska D (2018), The Wastewater-sludge sector and the circular economy, Comparative Economic Research, Vol 21:4.

⁹³ Committee of the Regions (2018), *A European Strategy for plastics in circular economy, Local and Regional Dimension*, viewed 3 July 2020, <https://cor.europa.eu/en/engage/studies/Documents/Plastic-Strategy.pdf>

⁹⁴ Lipinska D (2018), The Wastewater-sludge sector and the circular economy, Comparative Economic Research, Vol 21:4.

⁹⁵ Lipinska D (2018), The Wastewater-sludge sector and the circular economy, Comparative Economic Research, Vol 21:4.

⁹⁶ Lipinska D (2018), The Wastewater-sludge sector and the circular economy, Comparative Economic Research, Vol 21:4.

Environmental Policy Field	NCEAP Proposal	LRA Challenges & Opportunities	CE pathways
	<ul style="list-style-type: none"> • Create stronger links with CE in future revisions of National Energy and Climate Plans 		Direct support for CE initiatives Urban refurbishment Urban planning and land use
<i>Industrial Emissions</i>			
Industrial Emissions Directive	<ul style="list-style-type: none"> • Promote circularity in the Industrial Emissions Directive 	<ul style="list-style-type: none"> • Promoting circularity of resources among local and regional industry 	Circular clusters and partnerships
Energy Efficiency			
Energy /Resource Efficiency	<ul style="list-style-type: none"> • Improving energy and resource efficiency of products with a comprehensive set of requirements building on Ecodesign Directive and Strategy for a Sustainable Built Environment 	<ul style="list-style-type: none"> • Incentivising the development of energy and resource efficient services and products through direct support from public administrations (CPP) 	Urban refurbishment Urban planning and land use
Energy Performance of Buildings Directive (2010/31/EU)	<ul style="list-style-type: none"> • Not directly mentioned, but addressed in the construction and buildings sector through the 'Renovation Wave' initiative 	<ul style="list-style-type: none"> • Lack of guidance and innovative means to finance initiatives⁹⁷ 	
<i>Cross-cutting issues</i>			
		<ul style="list-style-type: none"> • Awareness-raising • Financing • Capacity building 	

⁹⁷ Climate Alliance (2015) *Response to the Consultation on the EPBD*, viewed 3 July 2020

http://www.climatealliance.org/fileadmin/Inhalte/7_Downloads/Consultation_Response_201510_Energy_Performance_of_Buildings_Directive_en.pdf

As seen in the table above, the NCEAP proposes revisions to key EU legislation to improve coherence with circular economy objectives. This is an important opportunity to address barriers identified by LRAs and stakeholders. In the area of waste, end-of-waste criteria and by-product rules are key concerns (see the box below); these issues were also identified in a study⁹⁸ commissioned by the Flanders Region of Belgium.

End-of-waste and by-product rules

While there is a principle that waste should no longer be defined as waste if it is fit for recycling, reuse and use, in practice identifying the criteria for the end of waste have been an ongoing challenge. This issue was raised by stakeholders and has been in the agenda of the EU Joint Research Centre⁹⁹ and of IMPEL¹⁰⁰. The criteria have to be developed separately for different waste streams and can be more or less challenging depending on the materials in question. Common EU end-of-waste criteria for ferrous and aluminium scrap, for copper and copper alloy scrap and for waste glass (glass cullet) were adopted based on the work of JRC¹⁰¹. In the absence of common criteria for other waste streams, Member States must set their own rules. One issue raised by stakeholders concerns coherence between bioenergy and waste policies where certain animal by-products are classified as waste rather than a resource, which might create barrier for their recycling or their use in recovery¹⁰².

This issue can create barriers for LRAs seeking to implement circular approaches. For instance, in Romania, efforts to improve the circularity of the construction sector were hampered by the lack of legal definition for waste to product for construction and demolition waste¹⁰³.

A further issue raised by LRAs and stakeholders is the interaction between chemical legislation and circular economy goals. As noted above, more ambitious chemical legislation should reduce the use of hazardous chemicals in products, thereby removing an obstacle for recycling and reuse at the source. However, stakeholders have noted that the current scope of the legislation (for instance REACH) was not designed to address issues related to recycling¹⁰⁴, and an NGO

⁹⁸ Rubens W. et al, *Juridische knelpunten bij circulaire economie projecten* (prepared for OVAM, Flanders), June 2019. Available at: <https://vlaanderen-circulair.be/nl/blog/detail/juridische-knelpunten-bij-circulaire-economie-projecten-onderzocht>

⁹⁹ An overview of JRC's work on the end of waste criteria is available here: <https://susproc.jrc.ec.europa.eu/activities/waste/index.html>

¹⁰⁰ IMPEL has developed a guidance document in relation to end-of-waste criteria which can be accessed here: <https://www.impel.eu/guidance-making-the-circular-economy-work-launched/>

¹⁰¹ European Commission (2019). *Waste And Circular Economy*. EU Science Hub - European Commission, viewed 6 July 2020, <https://ec.europa.eu/jrc/en/research-topic/waste-and-recycling>

¹⁰² Acceleratio (2015). *Barriers and Drivers Towards Circular Economy*, Literature Review.

¹⁰³ European Commission (2020). *VAL-C&DW - Recovery Of Construction And Demolition Waste In Buzau County*. Ec.europa.eu., viewed 6 July 2020, https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=4009

¹⁰⁴ European Environmental Bureau (EEB) (2018), *Position paper of NGOs in reaction to Circular Economy Package*, viewed 6 July 2020, https://www.chemtrust.org/wp-content/uploads/Position-Paper-interface-CPW_-_final-003.pdf

report concludes that the current EU legal framework regarding chemicals fails to ensure proper transmission of information on products throughout material cycle, thus creating challenges for reuse¹⁰⁵. These shortcomings create challenges for LRAs in terms of understanding how to manage hazardous substances in waste streams for recycling.

In addition to these and other specific issues, the table also lists two key cross-cutting challenges for LRAs: capacity building and finance. For example, LRAs face challenges in the implementation of waste policies, arising from the need to effectively manage a complex system and also to meet the costs of investments for recycling facilities and other infrastructure. Both were noted as common challenges in section 1 and are addressed further in section 4.

EU environmental legislation clearly affects LRAs' work on waste management. The results in Table 1 show that it affects a broad range of pathways, from circular clusters and partnerships to urban planning. Indeed, several pathways are identified as cross-cutting, as they were identified across all the legislation reviewed: awareness raising, capacity building and finance.

2.3 The need for a holistic approach

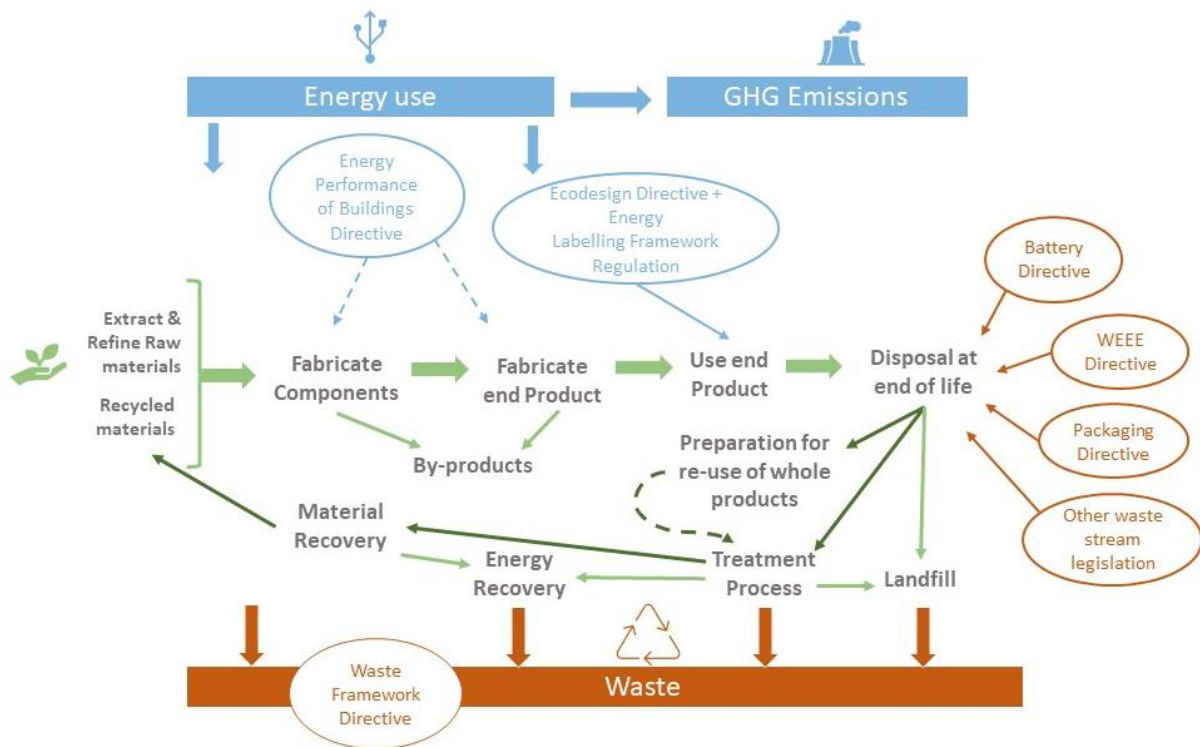
While Table 1 refers to individual pieces of environmental legislation, their interactions as well as the potential synergies and conflicts among environmental objectives can create further challenges for LRAs. Figure 2 below provides a schematic overview of the interactions between waste, energy performance and ecodesign legislation in terms of the circular economy.

The figure also highlights the important relationships between climate mitigation and circular economy. In principle, circular economy initiatives should create opportunities for the reduction of GHG emissions; in reality, this will depend on how the initiatives are designed and implemented. Some recycling methods could increase GHG emissions overall. Furthermore, there are strong connections between waste management and improvement of air quality¹⁰⁶.

¹⁰⁵ EEB (2017), Keeping it Clean: How to protect the circular economy from hazardous substances.

¹⁰⁶ Urban Wins (2020). *Urbanwins Toolkit*, viewed 6 July 2020, <https://www.urbanwins.eu/toolkit/>

Figure 2 Key links between legislation relevant for circular economy



Source: adapted from Hughes R, *The EU Circular Economy Package: life cycle thinking to life cycle law?* Procedia CIRP 61 (2017)10-16.

Spatial considerations raise further issues. While EU waste legislation sets out the proximity principle, it does not set specific requirements for its implementation. If waste recycling is not handled locally but sent abroad, transport emissions of both greenhouse gas and air pollutants will increase. Moreover, EU policy and legislation (including the NCEAP) do not put forward clear guidelines for balancing local compared to distant opportunities to increase the circularity of materials.

The circular economy necessitates holistic approaches to create systemic change in all relevant policy fields. A review of local and regional initiatives in OECD countries (and thus including most EU Member States) found that the lack of regulatory framework was identified as the most important barrier in transition to circular economy¹⁰⁷. Consequently, a key need is that the revision of EU legislation under the New Circular Economy Action Plan goes beyond addressing individual issues and takes a global approach to ensuring that there is a stronger legal framework for the circular economy.

¹⁰⁷ Organisation for Economic Co-operation and Development (OECD) (2019), *Regional, rural and urban development*, viewed 6 July 2020, <http://www.oecd.org/cfe/regional-policy/Circular-economy-brochure.pdf>

2.4 Other areas of EU legislation

This holistic approach should go beyond environmental legislation, as other EU legislative frameworks are important in supporting the circular economy. Legislation for **products** is a key area. The NCEAP recognises the importance of Ecodesign Directive in this regard and proposes important changes, widening its scope to cover non-energy products in 2021 and, in doing so, including requirements on recycled content. Priority areas include textile, ICT, electronics, furniture and high-impact intermediary products such as cement, steel and chemicals. EU legislation on products will affect LRAs' work in the pathway for circular products and services.

A key policy tool for LRAs' activities on the circular economy is **public procurement**. The EU currently has a voluntary framework for green public procurement; however, the NCEAP proposes mandatory criteria. These can boost LRAs' work in this pathway, and in particular support the development of common criteria and methods for circular procurement. For LRAs (and other government bodies), it will be important to balance current rules on competition, non-discrimination and transparency with circular economy goals¹⁰⁸.

In parallel, the NCEAP also signals possible improvements to policy frameworks regarding specific sectors such as construction and buildings and manufacturing sector. The recently proposed New Industrial Strategy for Europe and a forthcoming Strategy for Built Environment can be important tools addressing these ambitions. These will influence LRAs' work on urban refurbishment and urban planning. EU agricultural legislation for the Common Agricultural Policy sets rules and provides funding that can support circular initiatives: for example, the EU Farm-to-fork strategy refers to opportunities for a circular bio-based economy¹⁰⁹.

2.5 The need for multi-level governance

The legal competence of LRAs across key policy areas for the circular economy varies widely. The table below provides an overview for five Member States, showing the competence across four policy areas¹¹⁰. The information in the portal is in summary form. In Italy, for example, waste policy is set at national level; regions develop waste management plans and determine how waste management

¹⁰⁸ Ferrer, J N (2020), European Parliament Briefing, The EU Public Procurement Framework.

¹⁰⁹ ¹⁰⁹ European Commission, DG Agriculture and Rural Development (n.d.). *Farm to Fork Strategy – for a fair, healthy and environmentally-friendly food system*, viewed 2 July 2020, https://ec.europa.eu/food/farm2fork_en

¹¹⁰ This information is taken from the portal on the division of powers, developed by the Committee of the Regions, <https://portal.cor.europa.eu/divisionpowers/Pages/default.aspx>, supplemented by expert knowledge

is implemented; and local governments (either alone, or by province or by waste management area, depending on the region) then manage municipal waste collection and treatment. While Italy’s national government has legislative powers, the regions have a subordinate legislative role¹¹¹. In Italy as well as in other Member States, rules set at different levels of government will influence circular opportunities and actions: for example, rules of materials that can be used in construction could hinder the reuse of construction and demolition waste and other circular solutions. Consequently, regional and local governments will need to coordinate on circular economy initiatives that involve waste approaches.

Table 2 Competence across different levels of government in selected Member States

	Waste management	Industrial emissions	Water management	Urban infrastructure
Spain	Local Regional National	Local Regional	Local Regional River basins	Local Regional
Slovakia	Local National	Local	Local National	Local Regional
Italy	Local Regional National	Local Regional National	Local Regional River basins National	Local Regional
Czechia	Local National	Local Regional	Local National	Local Regional
Bulgaria	Local National	Local	Local River basins	Local

This overview shows that the transition to the circular economy requires multi-level governance, as many of the policy fields that link to the circular economy also do. Consequently, EU initiatives will need to consider, on the one hand, the central role of LRAs in many key aspects of the transition to the circular economy; and, on the other hand, the need for coordination to ensure effective multi-level governance.

¹¹¹ Greereport.it (2019), *Economia circolare, per superare lo stallo End of waste si punta sulle Regioni (ma è un flop)*, viewed 6 July 2020 <https://www.greenreport.it/news/economia-ecologica/economia-circolare-per-superare-lo-stallo-end-of-waste-si-punta-sulle-regioni-flop/>

Key messages

Several potential gaps have been identified:

- Waste legislation is a key element, in particular for LRAs taking their first steps in CE initiatives: the LRAs' perspective will need to be adequately addressed in upcoming reviews and revisions of EU waste legislation;
- Public procurement is a key approach for LRAs: EU requirements and guidelines should more clearly include circularity as a criterion for green public procurement, together with the support for local sourcing.

Overall, this section has shown the importance of EU legislation for LRAs' initiatives for the circular economy. It has also highlighted several key issues to be addressed in EU legislation, such as end-of-waste criteria in waste legislation and the development of circular, green public procurement methods and requirements. It can be noted that these issues are not LRA-specific, as they are also relevant for the circular work of national governments and stakeholders.

Finally, the New Circular Economy Action Plan and other EU initiatives for the circular economy should highlight the key role of LRAs in pioneering circular approaches and their importance in implementing initiatives more widely. The EU level should also recognise the importance of multi-level governance in the transition to the circular economy.

3. Targets and commitments

This section presents some alternatives that can support LRAs in understanding their starting points on the CE, in developing sets of indicators to measure the performance of their CE initiatives, and in establishing ambitious targets and commitments. The focus is on indicators and targets for environmental objectives, though other important aspects, such as job creation, are included when detailed in the sources analysed.

One important aspect when developing targets on the CE is to look at their consistency with the objectives established in the framework of other environmental policies, such as climate change or energy. As noted in section 2, a holistic approach is needed in order to ensure that circular initiatives are aligned with the work carried out under other environmental policies. In a broader context, it is important that targets and commitments in the CE are also aligned with the Sustainable Development Goals established at LRA-level, as these provide a long-term perspective that may facilitate the development of roadmaps or strategies for the development of the CE at local level.

In terms of coherence of CE targets across EU Member States, some stakeholders¹¹² advocate for establishing a single ambition level or set of targets at EU-level, using the same objectives and figures for all MS and only adjusting the timeframes for their achievement according to their level of readiness.

The Green Deal and the NCEAP represent the opportunity for LRAs to establish not only binding targets, but also the roadmap to meet them, ensuring that no region or city are left behind. At the moment, however, the establishment of ambitious targets without roadmaps has led to a fragmented map of circular capacities across the EU, as 50% of the MS are at risk of not complying with the 2020 target of recycling 50% of their municipal waste¹¹³.

3.1 Quantifying LRAs' contribution to the Circular Economy

Quantifying the economic potential and the environmental benefits of the initiatives of the CE at LRAs' level is an essential step for improving decision-making processes and managing this transition. Furthermore, these figures also

¹¹² ACER contribution to (the CoR's Stakeholder consultation on the NCEAP)

¹¹³ European Commission (2020). *New Circular Economy Action Plan - For a cleaner and more competitive Europe*, viewed 6 July 2020, https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf

have the capacity for encouraging other actors to engage in the transition to the CE.

In the case of LRAs, the first step is assessing the nature and production chains of their local economy and identifying key areas for action. The monitoring of the performance and results of these actions is essential to ensure an adequate performance. Defining and assessing the achievement of environmental targets is an important step to keep progressing and updating the ambition level as the circular capacities evolve. Annex I presents examples how the assessment and monitoring of the circularity of their economy has been carried out by some LRAs, illustrating some of the tools available.

3.2 Indicators to monitoring progress

The development of a monitoring system is an integral part of the management of the Circular Economy, allowing a close follow-up of the initiatives developed and becoming an early-warning system for any potential malfunctions. When applied to LRAs, this framework needs to be capable of gathering data from very different approaches.

With the aim of providing a dynamic and accurate representation of the CE at LRAs' level, a diverse set of indicators needs to be defined in order to cover the different competencies managed at each governance level.

In order to facilitate capacity-building efforts, at the moment of developing a monitoring system it is important to think on whether the chosen indicators are reusable in similar contexts. The replicability of initiatives allows not only upscaling the transition to the CE, but also learning from other's mistakes and their solutions. Establishing comparable monitoring systems is thus a cornerstone of the broad EU capacity-building framework on the CE.

Indicators can focus on outputs that measure immediate work carried out, such as the number of training sessions held or the number of enterprises participating in a partnership; or on results and impacts, whether in terms of environmental objectives (such as reducing waste) or economic objectives (creating new CE businesses and value-added). This section focuses on result and impact indicators; however, for some CE approaches such as raising awareness, few result and impact indicators have been found as yet.

The EU's official set of indicators for the CE¹¹⁴ may not be fully applicable at

¹¹⁴ European Commission (n.d.). *Indicators - Eurostat.*, viewed 6 July 2020, <https://ec.europa.eu/eurostat/web/circular-economy/indicators>

local level, therefore, it is important that LRAs take active part in the coordination of this work. Active coordination bodies provide an essential support for these capacity-building efforts could allow LRAs to profit from opportunities and synergies thanks to the coordination of strategies and roadmaps in their vicinity. One good example on the coordination of CE efforts at LRAs' level is the Network of European Zero Waste Municipalities¹¹⁵ organised by Zero Waste Europe.

LRA-focused monitoring of the CE is still under development, some promising solutions such as the use of composite indicators¹¹⁶, with some pilot experiences at national scale, showed potential for drawing high-level conclusions.

Table 3 below presents examples of indicators that are currently being used to monitor circular economy efforts in LRAs. In order to improve the management and decision-making on the transition to the CE, it is important that these sets of indicators are further refined in order to address the particularities of a circular flow of materials in a production chain, such as creating secondary raw material markets or services, rather than reflecting mainly resource efficiency efforts as it is the case for the moment.

Table 3 Indicators for the circular economy

CE Approach	Indicators
Raising awareness	<ul style="list-style-type: none"> - Number of dissemination events and activities for CE - Share of population separating waste - Share of household waste separately collected - Visits organized to WWTP and other waste-sorting facilities - Volume of food waste from households or SMEs - Number of SMEs participating in circular programmes
Capacity building	<ul style="list-style-type: none"> - Participation in CE ‘Study tours’¹¹⁷ - Workshops and seminars for workers and professionals: no. hosted and attendance - Workers trained in circular professions - Participation in the development of pilot initiatives in the CE
Direct financial support	<ul style="list-style-type: none"> - Research and development investments - Total budget allocated to CE initiatives - Low-interest loans for CE initiatives
Fiscal measures	<ul style="list-style-type: none"> - Taxes on landfilling and incineration

¹¹⁵ Zero Waste Europe (2020). *European Zero Waste Cities*, viewed 6 July 2020, <http://zerowasteurope.eu/zerowastecities.eu/>

¹¹⁶ Mitrovic, D. and Veselinov, M. (2018). *Measuring Countries Competitiveness in Circular Economy - Composite Index Approach*. In: Beograd : University of Belgrade, Faculty of Economics Publishing Centre, ed., *Quantitative Models in Economics*. pp.417-436., viewed 6 July 2020, https://www.researchgate.net/publication/328759704_Measuring_Countries_Competitiveness_in_Circular_Economy_-_Composite_Index_Approach

¹¹⁷ Zero Waste Cities (2020). *Study Tours*, viewed 6 July 2020 https://zerowastecities.eu/take-action/#the_study_tours

CE Approach	Indicators
	<ul style="list-style-type: none"> - Tax reductions for products using reused material - Tax reductions for circular services (e.g. repair) - Taxes on raw materials extraction and use
Circular Public Procurement	<ul style="list-style-type: none"> - Share of public contracts dedicated to circular solutions - Use of recycled goods in municipal administration (e.g. as a share of goods purchases) - Training of civil servants in charge of public procurement processes - Integration of Life-Cycle Assessment principles to CPP decision-making¹¹⁸
Urban Refurbishment	<ul style="list-style-type: none"> - Urban facilities dedicated to circular initiatives - Share of construction projects using circular solutions - Share of construction and demolition waste recycled and reused - Volumes of water reuse in urban facilities¹¹⁹
Urban planning and land use	<ul style="list-style-type: none"> - Volumes of compost re-used in local agriculture - Degraded rural spaces recovered through circular initiatives - Degraded urban spaces recovered in circular initiatives
Waste management and reduction	<ul style="list-style-type: none"> - Recycling rate of municipal waste - Composting rate of municipal waste - Volume of the separated waste streams (recovery and treatment of waste generated in city) - Reduction of toxic substances in municipal waste¹²⁰ - Waste volumes going to landfill - Share of household waste reused
Promotion of circular products and services	<ul style="list-style-type: none"> - Use of recycled goods in industrial production - Amount of recycled goods produced or sold in the local or regional economy - Synergies between industries: volumes of secondary raw materials locally produced and reused - Number of workers participating in circular businesses and initiatives
Developing Circular Economy clusters and partnerships	<ul style="list-style-type: none"> - Value of secondary raw materials market created - Input in production processes from reused materials - Output from production processes from recycled Materials - Enterprise participation in labelling schemes - Total revenues of circular markets - Number of workers participating in CE initiatives¹²¹
Circular strategies and coordination bodies	<ul style="list-style-type: none"> - SMEs engagement and participation rates - Size of the CE initiatives

¹¹⁸ Région Normandie (2020). *Stratégie Pour Une Économie Circulaire En Normandie - Vue D'Ensemble*, viewed 6 July, https://www.normandie.fr/sites/default/files/2020-06/strategie_ec_vue_densemble.pdf

¹¹⁹ European Commission (2020). *Green City tool: Good Practices - Waste Water Management*, viewed 6 July, https://webgate.ec.europa.eu/greencitytool/resources/docs/best_practices/Wastewater_Management_A01.pdf

¹²⁰ The Pécs (HU) waste management plan aims at reducing the chloride content on the combustible fraction of waste through optical sorting of PVC plastics.

¹²¹ Be Circular, Be.Brussels (2019), *Dans quelle mesure l'économie bruxelloise est-elle circulaire?*, viewed 6 July, <https://www.circulareconomy.brussels/dans-quelle-mesure-leconomie-bruxelloise-est-elle-circulaire/>

CE Approach	Indicators
	<ul style="list-style-type: none"> - Job creation in the framework of circular businesses - Share of projects / initiatives completed over strategy timeframe - Overall reduction in materials use in LRA territory

3.3 Practical suggestions for the development of targets and commitments at LRAs' level

LRAs have used a broad range of indicators and targets to measure and specify their circular economy commitments. The following overview seeks to identify some targets and commitments that can be proposed for LRAs across Europe. It is to be noted that any exercise of presenting some examples in this field will necessarily miss sectors and actions that are important in other specific areas. Moreover, it is difficult to identify common, numerical targets, given the wide differences in the starting points and capacities of LRAs.

Raising awareness

- Output indicators can include the number of events, citizens estimated to have been reached via public awareness campaigns and more. While these can depend on the local context, LRAs can make commitments to raise the awareness of citizens and of a broad range of stakeholders.
- Key outcomes can include higher levels of household and business waste separation and thus the reduction of residual waste levels. For example:
 - In Salacea (Romania), almost 100% of local citizens separate their waste: reaching 100% can be a target for LRAs across the EU;
 - In Umeå (Sweden), the city government has a goal to reach 70% separate collection of municipal waste, and 50% separation for food waste, in 2020¹²²;
 - Flanders (Belgium) found that half of residual waste was recyclable in 2013: for many LRAs, reducing residual waste by 50% would be a realistic target.
- LRAs can also work with citizens to reduce waste: for example, Capannori (Italy) shifted in 2007 from a proposal for waste incineration facility to

¹²² OCDE (2020). *The Circular Economy In Umeå, Sweden* / En / OECD / OCDE, viewed 6 July 2020, <https://www.oecd.org/fr/publications/the-circular-economy-in-umea-sweden-4ec5dbcd-en.htm>

creating the first Zero Waste Research Centre in Europe¹²³. One achievement has been a 40% reduction in municipal waste generation.

Capacity building

- LRAs need to build their own capacities for supporting the circular economy. LRAs could commit to training their technical staff dealing with waste and SMEs, including in particular their public procurement services, with the aim of identifying and seizing circular opportunities in their local production chains.

Circular public procurement

- All LRAs can commit to adopting green public procurement in the short term and to ensure that circular criteria are used throughout their green public procurement in the longer term.
- These goals are feasible: already in 2013, Sardinia (Italy) committed to using GPP criteria in half of the region's goods and services tenders and to ensuring that at least half of the region's municipalities adopt GPP criteria.
- A realistic long-term goal is to have 100% green, circular public procurement where possible.

Financial support and fiscal measures

- In these areas in particular, LRAs' competences vary across Member States.
- All LRAs with the competence to put in place landfill and incineration taxes should consider commitments to do so, at levels that lead to reductions in these waste treatment methods.
- All LRAs should consider setting up effective and efficient financial instruments – where possible, drawing on existing models and external expertise such as EIB.

Urban refurbishment

- High levels of construction and demolition waste can be recycled. In Hungary, Ireland and Luxembourg, for example, close to 100% is prepared

¹²³ Zero Waste Cities (n.d.). *The Story Of Capannori*, viewed 6 July <https://zerowastecities.eu/bestpractice/best-practice-the-story-of-capannori/>

for material recovery¹²⁴ – and reaching 100% is be a realistic target for most LRAs (for some in the long term), with the possible exception of those in remote areas.

- Much of construction and demolition recycling at present is ‘downcycling’: waste is used for low-value purposes such as road foundations and backfilling. LRAs should make commitments to increase the value of their recycled and reused construction and demolition waste.

Waste management and reduction

- Targets can the increase of waste separation and the reduction of residual waste (see above under raising awareness).
- Several Member States, including Austria and Germany, have achieved nearly zero landfilling; Slovenia has achieved over 70% recycling and composting. LRAs have also done so: Grenoble’s Waste Prevention Strategy calls for halving the amount of waste to landfill by 2025.
- Consequently, LRAs should adopt ambitious targets to reduce and then end landfilling and to achieve high levels of recycling and composting.
- Many LRAs’ circular economy initiatives call for increasing reuse of municipal waste, in particular furniture and appliances. Numerical targets will depend on the levels of consumption and waste in the territory; LRAs can commit to putting in place programmes for waste reuse, where possible promoting social businesses and employment.

Circular clusters and partnerships

- LRAs should commit to working with stakeholders and sectors in their territories to develop shared programmes and goals.
- Specific goals and commitments will depend on the initiative. Gipuzkoa (Spain) increased waste management jobs, reduced transport emissions and doubled recycling rates by promoting local waste recycling capacity¹²⁵.

¹²⁴ European Commission (2020). *Recovery Rate Of Construction And Demolition Waste*, viewed 6 July 2020, https://ec.europa.eu/eurostat/databrowser/view/cei_wm040/default/table?lang=en

¹²⁵ Zero Waste Cities (2019). *The Story of Gipuzkoa*, viewed 6 July, https://zerowastecities.eu/wp-content/uploads/2019/07/zero_waste_europe_cs6_gipuzkoa_en.pdf

- One strategic opportunity is establishing common food waste reduction commitments involving retailers, restaurants and organisations with large canteens: the city of Bruges in Belgium worked with the main local hospital to reduce its food waste by 43%¹²⁶, strengthening food security and reducing the volumes of organic waste entering the waste management infrastructure.
- Another key pathway is to agree with building developers and the construction sector on targets to reduce construction and demolition waste and reuse materials where possible.

Circular strategies and coordination bodies

- LRAs across the EU have undertaken circular economy actions. As LRAs are key actors for the circular economy, a potential goal is that LRAs' circular strategies should cover all EU citizens and territories. The specific level for the strategies will vary across Member States – some territories will be covered by linked strategies across more than one level, others by a single LRA's strategy. Similarly, the scope and ambition of the strategies will vary depending on LRAs' capacities.
- LRAs should commit to link their circular economy strategies with climate goals, to ensure that circular initiatives contribute to climate adaptation or mitigation – and vice versa.

LRAs can seek further inspiration for establishing targets and commitments from EU-level platforms such as Zero Waste Municipalities. This example is presented in Annex II.

3.4 Suggestions for EU targets and commitments

The establishment of broad-level targets is fundamental in EU policy making, as they pave the way for the development of long-term strategies and roadmaps, which enable the planning of concrete actions that ultimately will trigger the necessary changes in our economy.

This report has highlighted the key roles that LRAs play in supporting the transition to a circular economy. Based on the sample of LRAs' targets and commitments set out above, it is clear that additional EU-level objectives could be considered to raise the ambition level in the New Circular Economy Action

¹²⁶ Zero Waste Cities (n.d.). *The Story of Bruges*, viewed 6 July <https://zerowastecities.eu/bestpractice/the-story-of-bruges/>

Plan. These additional EU targets and commitments can include:

- Reaching 100% municipal waste separation across the EU;
- Expanding capacity building initiatives for circular economy for national governments, LRAs and for stakeholders including the private sector, NGOs and social enterprises;
- The use of green and circular public procurement should reach all public bodies in the EU;
- Increasing LRAs' access and use of EU funds for the circular economy – for example, increasing the number of LRAs using these funds at least four times in the coming multiannual financial framework;
- A long-term goal to reach zero landfilling and zero waste incineration;
- Calling on LRAs across the EU to establish circular economy strategies.

These targets and commitments would highlight the role of LRAs in this transition and can help to advance LRAs' work on the circular economy. At the same time, EU support in these key areas will be valuable in terms of supporting the work of many LRAs.

It can also be valuable for the EU to set a long-term goal for the circular economy, similar to its long-term goals to reduce greenhouse gas emissions. A group of environmental NGOs¹²⁷ has called for the NCEAP's links to the ecological limits of the planet to be further emphasised by the inclusion two EU-wide targets:

- Setting a headline target to halve Europe's domestic material consumption and associated environmental impact by 2030;
- Setting a cap on absolute waste generation per capita, both industrial and urban, including specific sectoral targets in key areas such as for packaging waste, construction waste, electronic waste and hazardous waste.

¹²⁷ Friends of the Earth Europe, Ecological Economics and European Environmental Bureau (2020). *A Circular Economy Within Ecological Limits: Why We Need To Set Targets To Reduce EU Resource Consumption And Waste Generation In The New Circular Economy Action Plan*, viewed 6 July 2020, <https://mk0eeborgicuytuf7e.kinstacdn.com/wp-content/uploads/2020/02/A-circular-economy-within-ecological-limits.pdf>

The Netherlands, as the EU's frontrunner in the CE¹²⁸, already committed to this ambition level at national scale, giving the signal to other MS that these figures are not only possible, but also necessary.

While the 2030 date for halving Europe's material footprint may not be achievable, such a headline target should be considered, perhaps for a longer timeframe such as 2050.

Key messages

- The monitoring of citizen engagement through awareness-raising campaigns is a key element for establishing the basis for high recycling rates and enabling strong secondary raw material markets.
- Transitioning from incineration to intensive waste management facilities allows for faster and higher recycling rates, generates more jobs and strengthening secondary raw material markets with substantially lower environmental impacts.
- Technical training of LRAs' staff is regarded as a key aspect in the identification of circular solutions for public procurement or the development of strategic infrastructure (e.g. wastewater treatment).
- LRAs' partnerships with the private sector for the development of pilot circular initiatives shows good potential for replicating best-performing solutions and stepping up the transition to the CE.
- Compensation schemes for circular businesses appear as a direct and transparent way of supporting the development of these markets.
- Ambitious and quick transitions from low recycling rates to 70% in only 10 years have been proven to be feasible at LRAs' level, making it realistic for the EU to set recycling targets of 70% for 2030.

¹²⁸ Government of the Netherlands (2016). *Circular Economy in the Netherlands*, viewed 6 July 2020, <https://www.government.nl/documents/policy-notes/2016/09/14/a-circular-economy-in-the-netherlands-by-2050>

4. Supporting circular transition in LRAs: policies, initiatives and tools

The first section of this report showed that LRAs have played key roles in the transition to the circular economy across a range of pathways. Pioneering LRAs have led the way, and now many others can follow these pathways. The second section reviewed EU legislation linked to the transition: it identified several issues in specific legislation and highlighted the need to recognise not only LRAs' roles but also the fact that the transition to a circular economy will depend on both inter-sectoral coordination as well as multi-level governance. There are vital opportunities if the EU, national governments and LRAs work together to pursue ambitious targets (highlighted in section 3).

The EU can go further in supporting and catalysing the circular economy work of LRAs. The European Commission's new Circular Economy Action Plan describes (in its section 5) a set of EU programmes and initiatives that can support the work of regions and cities; this Plan does not, however, acknowledge the key role that LRAs have had in pioneering circular initiatives, and can have across the activities and pathways for circular economy.

The following pages highlight the links between the approaches that LRAs have undertaken for the transition to the circular economy and the main areas of action in the Commission's plan. This section then discusses the key areas where the EU can support LRAs' work, focusing on three key areas of EU action: legislation, funding and capacity building.

4.1 LRAs' action across the main initiatives of the NCEAP

As the previous sections have shown, LRAs hold a range of competences that are relevant for the circular economy – while all can take action, some have broader institutional roles and greater financial and human resources that allow more extensive initiatives. Nonetheless, LRAs are able to act across all the areas set out in the Commission's NCEAP: Table 4 below provides an overview, highlighting specific challenges and opportunities for LRAs.

Table 4 Linking the NCEAP with the main LRAs' approaches: key issues identified

NCEAP: areas of action	Main LRAs' approaches that are relevant	Challenges and needs	Opportunities
Designing sustainable products	<ul style="list-style-type: none"> • Developing Circular Economy clusters and partnerships • Public procurement 	<ul style="list-style-type: none"> • Product policies are often led at national level 	<ul style="list-style-type: none"> • LRAs can work with local clusters to link procurement with the development of local, sustainable products and services
Empowering: <ul style="list-style-type: none"> • Consumers • Public buyers 	<ul style="list-style-type: none"> • Raising awareness, empowering and partnering citizens • Public procurement 	<ul style="list-style-type: none"> • Overcoming 'consumer culture' and actively engaging citizens in this transition • Existing methods and laws may restrict circular innovations in procurement 	<ul style="list-style-type: none"> • LRAs can encourage citizen and NGO participation, support social employment and local reuse markets • LRAs can use public procurement to promote local circularity
<ul style="list-style-type: none"> • Circularity in production processes 	<ul style="list-style-type: none"> • Promotion of circular products, services and business models • Developing Circular Economy clusters and partnerships 	<ul style="list-style-type: none"> • LRAs' roles will depend on the structure of manufacturing in their territories 	<ul style="list-style-type: none"> • LRAs can build partnerships with local producers and encourage short, circular supply chains • New production methods (e.g. 3D printing) can allow efficient, small-scale production
Key product value chains <ul style="list-style-type: none"> • Electronics and ICT • Batteries and vehicles • Packaging • Plastics • Textiles • Construction and buildings • Food, water and nutrients 	LRAs can play a role in particular via: <ul style="list-style-type: none"> • Waste management and reduction • Public procurement • Urban refurbishment • Developing Circular Economy clusters and partnerships 	<ul style="list-style-type: none"> • LRAs' roles for key production sectors will depend on the structure of manufacturing (and recycling/reuse) in their territories 	LRAs can take strong roles in particular for: <ul style="list-style-type: none"> • Construction and buildings – both construction and demolition waste and materials for new construction and refurbishment • Food, water and nutrients (especially water management, as many LRAs manage water services) • Plastics and textiles in waste streams (e.g. separate collection and recycling)

NCEAP: areas of action	Main LRAs' approaches that are relevant	Challenges and needs	Opportunities
	<ul style="list-style-type: none"> Fiscal measures (tax incentives) 		
Enhanced waste policy	<ul style="list-style-type: none"> Waste management and reduction 		<ul style="list-style-type: none"> LRA competence for waste varies; many have key roles
Circularity in a toxic-free environment	<ul style="list-style-type: none"> Public procurement 	<ul style="list-style-type: none"> Chemicals policy is often managed at national level 	
EU market for secondary raw materials	<ul style="list-style-type: none"> Public procurement Developing Circular Economy clusters and partnerships 	<ul style="list-style-type: none"> End-of-waste criteria vary across Member States 	<ul style="list-style-type: none"> LRAs can encourage local and regional markets for secondary materials
Addressing waste exports from the EU	<ul style="list-style-type: none"> Waste management and reduction 	<ul style="list-style-type: none"> Waste export rules are set at EU level (and also via OECD) 	<ul style="list-style-type: none"> Where they have the competence, LRAs can set requirements and promote partnerships for local waste recycling and reuse, supporting the proximity principle
Circularity and climate neutrality	<ul style="list-style-type: none"> Circular roadmaps and strategies 	<ul style="list-style-type: none"> LRAs may lack tools and methods to measure climate impacts of their circular economy actions, as well as circular opportunities in climate action 	<ul style="list-style-type: none"> LRAs can link their climate¹²⁹ and circular economy strategies to ensure that they support each other
Getting the economics right	<ul style="list-style-type: none"> Fiscal measures (tax incentives) Direct financial support 	<ul style="list-style-type: none"> LRAs' competences vary Some LRAs have restricted budgets 	<ul style="list-style-type: none"> EU funds can support LRAs' work when they access
Research, innovation, digitalisation	<ul style="list-style-type: none"> Developing Circular Economy clusters and partnerships 	<ul style="list-style-type: none"> Research and innovation policies are led at national level in many countries 	<ul style="list-style-type: none"> Partnerships can bring together business and universities in LRAs' territories
Leading efforts at global level	<ul style="list-style-type: none"> <i>International cooperation</i> 		<ul style="list-style-type: none"> <i>Some LRAs are involved in international exchanges</i>¹³⁰

¹²⁹ For example, the Covenant of Mayors has provided a forum for EU local action on climate. See: <https://www.covenantofmayors.eu/en/>

¹³⁰ Brussels, for example, is one of UN Environment's 'pilot' cities for circular economy

NCEAP: areas of action	Main LRAs' approaches that are relevant	Challenges and needs	Opportunities
Monitoring progress	<ul style="list-style-type: none"> • Circular roadmaps and strategies 	<ul style="list-style-type: none"> • Gathering data on circular can be resource intensive • Coordination needed across levels of government 	<ul style="list-style-type: none"> • LRAs' strategies can identify targets and indicators to monitor their progress

4.2 EU support: policy and legislation

Section 2 above highlights several areas where EU legislative action will be important in terms of supporting work on the circular economy. Regarding waste legislation, for example, reports as well as LRAs' and stakeholders' inputs to the consultation organised by the European Committee of the Regions have noted the need for revised and more uniform end-of-waste criteria. More generally, these sources have highlighted the importance of ensuring synergies and coherence across EU policy and legislation: for example, between product policy and recycling/reuse legislation, or between climate and circular economy policies. Many of these issues are noted in the European Commission's NCEAP.

The table above highlights the important role that LRAs have taken and can take across the topic areas in the NCEAP. As noted in section 2, key policy areas for the CE cut across levels of government in many Member States. Consequently, the implementation of the NCEAP should recognise the role of LRAs, the opportunities for strengthening their actions, and also the need for multi-level governance.

4.3 EU support: funding

Section 1 highlighted financing as a key cross-cutting need for LRAs' initiatives on the circular economy. Cohesion Policy has been a key source of financing for LRAs' work on the circular economy. The European Social Fund has supported training related to the circular economy: for example, the Social Seeds project in the Czech Republic has supported a social enterprise for the reuse of furniture¹³¹. The NCEAP cites the proposed European Social Fund Plus as a key source for funding in the next financial period.

¹³¹ Interreg Europe. (2019). *Two Projects For Supporting Social Entrepreneurship*, viewed 7 July 2020, from <https://www.interregeurope.eu/socialseeds/news/news-article/6505/two-projects-for-supporting-social-entrepreneurship/>

European research programmes such as Horizon 2020 have financed circular economy projects such as SCREEN¹³², for a systemic approach to the circular economy in EU regions, and DigiPrime, to develop a digital model for circular business¹³³.

The European Regional Development (ERDF) has supported numerous infrastructure projects, often at regional and local level, such as investments in waste recycling across the EU¹³⁴. The Interreg Programme supports cross-border projects, such as GPP4Growth, which brings together partners in nine Member States to work on GPP methods for eco-innovation¹³⁵.

The EU's funding for rural development (managed by national and regional Rural Development Programmes that are financed under the Agricultural Fund for Rural Development, EAFRD) has supported bio-economy projects¹³⁶.

The Just Transition Mechanism, also noted in the NCEAP, supports regions and sectors affected by green policies and legislation. This Mechanism could play an important role as many of these regions are located in southern and eastern European countries where (as noted in section 1 above) there has been less progress on the circular economy.

One concern identified by LRAs is their direct access to EU funding. For some funding programmes – such as LIFE and Horizon 2020 as well as the Urban Innovative Actions¹³⁷ under Cohesion Policy – LRAs can apply directly. In some Member States, regions manage Operational Programmes and Rural Development Programmes that directly disperse funding. For other funds and programmes, however, local governments in particular may not be able to apply directly for EU funding.

Consequently, the EU could provide greater volume and resources for the circular economy, and moreover a greater share of these resources that are directly available to LRAs.

¹³² Screen Lab. (2020). *SCREEN Laboratory*, viewed 7 July 2020, from <http://www.screen-lab.eu/index2.html>

¹³³ CORDIS | European Commission. (n.d.). *Digital Platform for Circular Economy in Cross-sectorial Sustainable Value Networks*, viewed 7 July 2020, <https://cordis.europa.eu/project/id/873111>

¹³⁴ European Commission (2016). *Cohesion Policy support for the circular economy*, viewed 7 July 2020, https://ec.europa.eu/regional_policy/sources/docgener/guides/cohesion_policy_circular_economy.pdf

¹³⁵ Interreg Europe (n.d.). *Green public procurement for resource-efficient regional growth*, viewed 7 July 2020, <https://www.interregeurope.eu/gpp4growth/>

¹³⁶ European Network for Rural Development (2019). *The European Agricultural Fund for Rural Development: Bioeconomy*, viewed 7 July 2020, https://enrd.ec.europa.eu/sites/enrd/files/enrd_publications/publi-eafrd-brochure-09-en_2019.pdf

¹³⁷ See: <https://uia-initiative.eu/en>. The related Urbact has, for example, recently financed an action network for circular buildings, bringing together local governments in eight Member States: <https://urbact.eu/urge>.

4.4 EU support: capacity building and knowledge exchange

Capacity building is another key area where LRAs could use greater support for their circular economy initiatives. The EU currently provides a range of knowledge sharing to support LRAs in their work on the circular economy. Key examples include:

- The European Commission's Urban Agenda for the EU brings together stakeholders, including city governments for work on a range of themes, one of which is circular economy¹³⁸;
- The Circular City Funding Guide¹³⁹, supported by the Urban Agenda for the EU and the European Investment Advisory Hub, is a website providing advice on funding methods and opportunities;
- The European Circular Economy Stakeholder Platform¹⁴⁰, created by the European Commission and the European Economic and Social Committee, shares information among businesses, LRAs and other actors.

As noted above, EU Cohesion Policy and other funding sources provide capacity building and knowledge exchange, and many of these can be used for capacity building.

The sources reviewed for this report identify a range of important areas for further action on capacity building, including:

- Incorporating circularity into green public procurement methods and criteria;
- Developing financing mechanisms appropriate for different circular economy stakeholders;
- Supporting the reproduction of successful models and experiences more widely across the EU;
- Identifying and disseminating lessons learned from experiments and pilots that were not successful.

One key area for support is to provide knowledge in more EU languages. At

¹³⁸ European Commission (n.d.). *Circular Economy – FUTURIUM.*, viewed 7 July 2020, <https://ec.europa.eu/futurium/en/circular-economy>

¹³⁹ Circular City Funding Guide (n.d). *Circular City Funding Guide*, viewed 3 July 2020, <https://www.circularcityfundingguide.eu/case-studies/brussels-broad-support-from-a-well-developed-framework/>

¹⁴⁰ Circulareconomy.europa. (2019). *European Circular Economy Stakeholder Platform.*, viewed 7 July 2020, <https://circulareconomy.europa.eu/platform/en>

present, a broad range of case studies and advice is available. At EU level, however, much of this information is provided only in English or in English and one or two other languages: for example, the European Circular Economy Stakeholder Platform is available in English and French, and the Circular City Funding Guide only in English. Targeted information in other languages can help to disseminate information more broadly to LRAs across the EU. For example, when LRAs request technical support via the Zero Waste Cities platform¹⁴¹, Zero Waste Europe draws on its country-level partners to prepare documents and prepare and deliver training in the LRAs' national languages.

Key messages

The preliminary analysis suggests several areas where LRAs can play a particularly strong role: empowering consumers and public buyers, enhanced waste policy, getting economics right and monitoring.

- The NCEAP refers to legal actions to empower consumers, such as establishing a 'right to repair'. As LRAs are close to citizens, they can go further in raising awareness of the circular economy, as well as putting in place concrete initiatives such as encouraging local repair and reuse of household appliances and furniture.
- LRAs have a key role to play via public procurement – indeed, as public buyers they can influence a broad range of circular economy activities, such as the design of the products they buy, including toxic-free requirements.
- Many LRAs can build on their roles in setting or implementing waste policy to support the transition to a circular economy. The competence of LRAs to set economic instruments such as taxes and charges varies greatly: this is linked in part to their role on waste policy.
- LRAs are key players across the specific areas set out in the Commission's Action Plan. In preparing CE roadmaps and strategies, LRAs can bring together work across these areas.
- LRAs are at different stages in their work on the circular economy, as seen in the previous sections of this report; all, however, can take steps to go further.
- LRAs need to be proactive to develop their CE and become frontrunners in a national or regional scope.

¹⁴¹ Zero Waste Cities (n.d.). *Workshops and study trips.*, viewed 7 July 2020, <https://zerowastecities.eu/zero-waste-workshops/>

5. Practical examples of the potential for LRAs' engagement in CE initiatives

The success of the CE across the EU will be linked to the dissemination and replication of successful initiatives. This section presents key initiatives found during the preparation of this study, focusing on initiatives identified in Southern and Eastern Europe, as there has been less dissemination of experiences in these countries than in other Member States.

The initiatives showcased represent a broad coverage the geographic scope of this study, also considering the different levels of governance existing in LRAs.

5.1 Bulgaria

Promotion of circular products in Bulgaria: waste from silk production

The Bio Company Lopyanko's Agri_Gaya 18 project aims at promoting circular products through an industrial symbiosis approach¹⁴². Sericulture usually produces a high volume of waste to obtain raw silk. The project seeks to use this waste as a resource that could be transformed, manufactured and commercialised in various sectors, from the textile industry to food or cosmetics. The project, which is located in one of the least developed regions of Europe¹⁴³, also aims at supporting sustainable growth in Northwest Bulgaria, creating green jobs across the value chain and new opportunities in the region through an agroforestry model.

The company developed a 'Circular Economy Silk Processing'¹⁴⁴ cycle to exploit the *Bombyx Mori* cocoon (from the extraction to the manufacturing of the final products), seeking to provide both organic silk production and the further transformation of waste into valuable by-products and biomass (thanks to the Mulberry plantations in which silkworms grow).

Lopyanko encountered challenges related to legislation, with a lack of EU regulation for silkworm protein powder and the officially permitted food list, and complex certification procedures. Furthermore, the company faced difficulties to

¹⁴² Lopyanko (n.d.). *Circular Economy Silk Processing.*, viewed 7 July 2020, <http://lopyanko.eu/product-portfolio/>

¹⁴³ EU Startups, Bio company Lopyanko, available at: <https://www.eu-startups.com/directory/bio-company-lopyanko-ltd/>

¹⁴⁴ Lopyanko (n.d.).

secure sufficient funding for its project, which entailed risk capital due to the complexity of the process¹⁴⁵.

Lopyanko developed a business model relying on academic and investment partnerships to promote cooperation and synergies, to overcome these obstacles¹⁴⁶. It also cooperated with the municipality of Valchedram to obtain land to establish its agroforestry model. Given the potentially promising outcomes in terms of employment and economic development of the region, the local authority could deepen its partnership to help the company find sufficient resources and act as an intermediary with the local population to provide experienced workers. Actions of capacity building and financial support could help the Danube region become an innovation hub in the Member State.

5.2 Czechia

Raising awareness and reducing food waste in school canteens

As part of the STREFOWA Interreg project, targeting food waste in Central Europe, a Czech think tank, Glopolis, conducted a pilot action in 2018 in 12 primary schools to address food waste in canteens¹⁴⁷. As primary education and management of primary schools in the Czech Republic fall under the competences of municipalities, this project involved cooperation with municipal authorities¹⁴⁸.

The project focused on raising awareness of children through workshops and recreational activities on the theme of food waste. In addition, detailed research was undertaken to understand the reasons behind food waste in canteens and develop solutions for food waste prevention¹⁴⁹. As part of the project, for example, the school canteens weighed food waste produced each day for one month and presented the information to the pupils¹⁵⁰.

The project was successful as it resulted in the development of recommendations on how to prevent food waste in schools¹⁵¹. It also produced educational materials and activity ideas which have the potential to be reused in other European schools.

¹⁴⁵ Bio Company Lopyanko Ltd. (2019). Lopyanko's AGRY_GAYA'18 project for sustainable bio silk., viewed 7 July 2020, <http://www.circulary.eu/project/lopyanko-agry-gaya-18/>

¹⁴⁶ Lopyanko (n.d.). *Partnership and Investment Opportunities*, viewed 7 July 2020, <http://lopyanko.eu/partnership/>

¹⁴⁷ Strefowa (2019a), 'Pilot action 10: Reduce food waste in schools in the Czech Republic', *Interreg Central Europe*, viewed 7 July 2020, <http://www.reducefoodwaste.eu/pa-10-reduce-food-waste-in-school-canteens.html>

¹⁴⁸ OECD (2016), *Regional Policy profile: Czech Republic*, viewed 7 July 2020, <https://www.oecd.org/regional/regional-policy/profile-Czech-Republic.pdf>

¹⁴⁹ Strefowa (2019a).

¹⁵⁰ Strefowa (2019a).

¹⁵¹ Strefowa (2019a).

A challenge, however, was the difficulty in quantifying food waste and the amount of food waste prevented, as food waste is generally collected and mixed with other types of waste¹⁵².

5.3 Italy

Sardinia's Regional Action Plan for Green Public Procurement

Sardinia was a pioneer in the sector of Green Public Procurement in Italy. The regional government started to raise interest in GPP in 2007 following a Regional Council Resolution. In 2009, a Regional Action Plan for Green Public Procurement (PAPERS) was launched, along with a communication campaign (Sardinia Buy Green) to raise awareness on GPP.

The PAPERS Action Plan defined several targets which aimed at embedding GPP in the practices of Sardinian public authorities, such as developing ecological criteria for the regional requirements for the purchase phase of goods and services supplies; the project moreover promoted energy efficiency in the regional administration and in at least half of the municipalities¹⁵³.

A major challenge the region had to face to implement this initiative was to convince other public authorities to change their behaviour. The main barriers identified were the fact that GPP was not compulsory, a lack of awareness and understanding of its benefits, and a concern on the part of some authorities that green purchases would entail higher spending on goods and services¹⁵⁴. As a result, the region put a strong emphasis on raising awareness, organising training and targeted actions, and preparing technical guidelines to support public bodies in their transition.

¹⁵² Gruber, I. et al (2016), *Report on status quo of food waste prevention and management*, viewed 7 July, <https://www.interreg-central.eu/Content.Node/STREFOWA/D.T1.1.1-SQ-Report-final-2.pdf>

¹⁵³ See *Plan for Green Public Procurement in the Region of Sardinia (PAPERS 2017_2020)* (Green Public Procurement available at <https://www.gppbest.eu/?p=588&lang=en>).

¹⁵⁴ European Commission (2015). *Sardinia's Regional Action Plan for GP.*, viewed 7 July 2020, https://ec.europa.eu/environment/gpp/pdf/news_alert/Issue53_Case_Study109_sardinia_regional_action_plan.pdf

The Action Plan, which lasted until 2013, was generally successful. All eight provincial governments and 67% of regional public bodies carried out at least one green tender in Sardinia. Half of the municipalities in the region participated in the training sessions and workshops organised through the Action Plan¹⁵⁵. The positive outcome of the programme moreover continued until 2020 within the framework of a LIFE project, GPPbest, which has aimed at promoting GPP good practices¹⁵⁶.

5.4 Greece

Tax incentives to encourage waste prevention in Greece: the implementation of the ‘Pay As You Throw’ principle in the municipality of Elefsina

The ‘Pay-As-You-Throw’ method (PAYT) seeks to create a tax incentive to reduce waste. Households pay a variable amount depending on the quantity of waste they produce. The municipality of Elefsina was chosen to implement the PAYT principle in a pilot initiative with the Hellenic Recovery Recycling Corporation (HERRCO), as part as the LIFE-funded ‘HEC PAYT’ project, spanning across Greece, Cyprus and Estonia¹⁵⁷.

The main challenges the municipality had to face related especially to a potential resistance to behavioural change, as implementing a tax incentive could lead to parallel practices such as illegal dumping, open burning, or waste tourism (disposing waste in another community). As a new concept, another challenge related to the need to coordinate local public services. To face these obstacles, the municipality benefitted from its existing relationship with HERRCO for management and it relied on active stakeholder engagement to raise awareness.

In the end, the programme resulted in over 25% of waste diverted from landfill, 56% of packaging waste recycled as well as 4.6kg of WEEE per household¹⁵⁸. Greek legislation was also amended to facilitate the implementation of the PAYT principle: municipal landfill fees are now assessed on the basis of the weight of the waste deposited rather than as a set percentage of the budget¹⁵⁹.

¹⁵⁵ European Commission (2015).

¹⁵⁶ Green Public Procurement (GPP) (2018). *The Region of Sardinia approves the 2017-2020 Action Plan for Green Public Procurement*, viewed 7 July 2020, <https://www.gppbest.eu/?p=597&lang=en>

¹⁵⁷ Makri E. (n.d.). *HEC PAYT - The Development of Pay as You Throw Systems in Hellas, Estonia and Cyprus*, viewed 7 July 2020, https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=3258&docType=pdf

¹⁵⁸ Makri E. (n.d.).

¹⁵⁹ Makri E. (n.d.).

5.5 Portugal

eCO2Block: CO₂-absorbing construction materials

The eCO2Block¹⁶⁰ project tackles the two of the main environmental challenges addressed in the Green Deal: climate change and Circular Economy. Through this pilot initiative, the developers aim at becoming an international reference in the design and use of sustainable construction materials. In particular, this project has developed CO₂-absorbing blocks made with 100% recycled pavement, industrial waste, non-potable water and CO₂. Currently, eCO2Blocks use Portuguese steel slag from the National Steel Industry. The project aims to recycle this industrial waste and reduce CO₂ emissions by replacing Portland cement-based/concrete pavers with eCO2Pavers in an industrial scale production. This initiative uses 'rates of material reuse' and 'CO₂ emissions avoided' as indicators to monitor its environmental effects.

This initiative won the Climate Launchpad's Sustainable Production Systems Award in 2018¹⁶¹, and is at the moment seeking industrial partners to produce the material on a royalty basis. In order to prepare mass production, the eCO2Block team are working on the obtention of safety-related certifications, which are mandatory for all materials used in the construction sector.

The use of sustainable materials in the construction sector is a major opportunity for LRAs due to large scale of public construction projects. Integrating materials such as the one presented here in Public Procurement contracts would support circularity in the construction sector. The engagement of LRAs in these types of initiatives would allow public staff to increase their technical knowledge of sectors, supporting the overall outcome of the transition to CE.

5.6 Slovakia

Nitra's Regional Plan for Circular Economy

The Self-Governing Region of Nitra in Slovakia funds small-scale projects in rural areas on an annual basis through its EU-funded Programme to Support Integrated Rural Development (LEADER NSK)¹⁶². The beneficiaries of this fund

¹⁶⁰ eCO2Blocks (n.d.). *Construindo o Futuro*, viewed 7 July 2020, <http://eco2blocks.com/>

¹⁶¹ Climate Launchpad (2018). *We have our winners. The Global Grand Final 2018 was a blast*, viewed July 2020, <https://climatelaunchpad.org/winners-climatelaunchpad-2018-global-grand-final/>

¹⁶² Leader NSK (n.d.). *Leader NSK – Úvod*, viewed 7 July 2020, <https://www.leadersk.sk/>

are Local Action Groups (LAGs), and the final users can be municipalities, civic associations, NGOs or business entities, which present their project proposals to the LAG management¹⁶³. In 2017, the region expanded the eligibility of the fund to include activities related to circular economy, with a key focus on designing bio-waste energy strategies and supporting bio-waste processing technologies¹⁶⁴. Although no figures are available, according to the fund managers, the LAGs funded have helped achieved better separation of waste and higher environmental awareness of citizens in the region¹⁶⁵.

A key challenge faced by the region is a lack of citizen awareness of the CE and a lack of motivation for this type of project, resulting in fewer proposals put forward¹⁶⁶. The Nitra Region made efforts to provide information via manuals, glossaries and examples of good practices on the project's website¹⁶⁷. It is currently the only region in Slovakia which provides this type of grant system¹⁶⁸. This bottom-up initiative can serve as an inspiration for other Slovak regions to allocate funds for better waste management and awareness raising.

5.7 Spain

SaltGae Project

The treatment of saline wastewater in presence of organic content represents a challenge for many industrial sectors. SaltGae project¹⁶⁹ developed a technically and economically viable solution. For industries generating vast amounts of waste water, such as the food and beverage (F&B) industries, this management of their residues required to comply with the EU directives implies direct costs which can be very high. The project successfully established three pilot sites to demonstrate the long-term performance of the approach for these aforementioned industries.

The modular SaltGae technological components enable ease of operation, significant cost reductions, compliance with European Directives with minimal environmental impact, recycling of water and recovery of nutrient and energy resources. As a main by-product, the SaltGae solutions generate a diversity of

¹⁶³ Interreg Europe (n.d.). *Good practice: Programme to Support Integrated Rural Development LEADER NSK*. Viewed 7 July 2020 <https://www.interregeurope.eu/policylearning/good-practices/item/1556/programme-to-support-integrated-rural-development-leleader-nskader-nsk/>

¹⁶⁴ Interreg Europe (n.d.).

¹⁶⁵ Interreg Europe (n.d.).

¹⁶⁶ Interreg Europe (n.d.).

¹⁶⁷ *Leader Podporujeme rozvoj videika*. Viewed 7 July 2020, <https://www.leadernsk.sk/prirucky.html>

¹⁶⁸ Interreg Europe (n.d.).

¹⁶⁹ Salt Gae (n.d.). *Related Projects*, viewed 7 July 2020, <https://saltgae.eu/networking/related-projects/>

biomass¹⁷⁰, creating new opportunities for suppliers of this material, such as the cosmetics industry, enabling downstream users to develop new product streams.

The project is potentially relevant for LRAs, as they often have among their competences the management of waste water treatment plants and can also work with local industrial facilities on pollution reduction, including waste water. While this initiative is still at an early stage of development, it shows potential for becoming a building block in the development of circular value chains. LRAs, making use of their competences on waste water management, could stimulate the local CE by implementing these solutions where there is a potential for a secondary raw material market based on the reuse of the by-products generated. The development of the industrial ecosystem for reuse of this material could be further strengthened by the consideration of related circular initiatives in the development of strategies and roadmaps. The engagement of LRAs' staff in the implementation of these solutions may allow a faster uptake of the opportunities in relation to secondary raw material markets, in this case, suppliers of algae biomass which enable downstream users to develop new product streams. Also, if LRAs engage in these projects from a horizontal perspective, side aspects include energy recovery, allowing for reductions in energy demand of 50-60% in comparison with existing waste water treatment technologies, could be taken up and included as part of the energy efficiency efforts of the public authority.

¹⁷⁰ Salt Gae (2016). *Algae to treat saline wastewater*, viewed 7 July 2020, <https://ec.europa.eu/easme/sites/easme-site/files/saltgae.pdf>

6. Conclusions and recommendations

This section presents conclusions from the study and identifies areas where further EU action to support LRAs in the development of the CE could be recommended.

6.1 The role of LRAs in the transition to the circular economy

The examples and literature reviewed show that LRAs are key actors for the development and implementation of CE initiatives on the ground; consequently, they have an important role to play in ensuring the success of the NCEAP. The goals established at EU and national levels depend ultimately on their implementation at LRAs' level and on the engagement of the local industry, citizens and SMEs.

Some LRAs have been pioneers in the transition to the CE for several years, while others are only now starting to develop their first circular initiatives. The success of the NCEAP and of CE initiatives in general will depend on a widespread uptake of initiatives: consequently, a bottom-up approach, including the replication of successful initiatives and operating models, will be a key element in achieving large-scale changes.

The different levels of governance – local, regional, national and EU-wide – each can hold competences that are important for CE initiatives. Consequently, LRAs' strategies and actions will need to be coordinated with those across levels of governance. This includes identifying and resolving administrative and regulatory issues which may hinder the development of circular initiatives.

Key areas where support is needed

The success of the NCEAP will depend on the widespread development of circular approaches and initiatives on the part of LRAs. For this to happen, LRAs need support, in particular for capacity building and finance.

Capacity is needed in a number of areas, from boosting the knowledge of public procurement officers to increasing the availability of tools and methods to assess coherence between circular economy and climate goals. Public procurement is a key tool of LRAs, so common definitions of and guidelines for circular public procurement, including suggested ambition levels and key elements that address the most relevant environmental aspects, can support these efforts.

Regarding finance, LRAs could use greater direct access to EU funds, as well as additional assistance to set up finance mechanisms.

Strengthening environmental legislation

This study has identified several areas where EU legislation can be improved. One is to address key issues such as end-of-waste criteria. In many cases, these key issues are noted in the NCEAP itself. In addition, the implementation of the NCEAP should clearly highlight the important roles of LRAs in developing and implementing circular economy initiatives, together with the need for multi-level governance to ensure coordination among actions at different levels of government.

6.2 Setting targets and commitments, and monitoring progress

In the framework of the Paris Agreement, the main ambition mechanism is based on the Nationally Determined Contributions, which represent the efforts that each country commits to take to reduce and adapt to the impacts of climate change. In that process, the CoR aimed at giving a greater role to LRAs by developing the concept of Regionally and Locally Determined Contributions, in order to allow regions and cities to outperform their own Member States and play an active role in raising the ambition level. In the context of the transition to the circular economy, LRAs have an even more prominent role and therefore it is necessary that their needs and concerns are addressed more urgently.

Ambitious EU targets for the NCEAP can provide a catalyst for circular initiatives across Europe. It would be valuable to identify long-term goals to ensure high levels of ambition: for example, reducing the EU's footprint by 50% over the long term.

In this context, LRAs should be encouraged to set ambitious targets and commitments for their own CE approaches. These targets and commitments could include the long-term reduction of their own material footprints, following pathways that are compatible with their own and EU climate goals.

Defining goals is an essential step when planning the development of the CE. The information gathered in the initial assessment phase, and the indicators developed in the monitoring phase could allow LRA to establish an ambition level according to their capacity and to translate this into specific targets and commitments. The establishment of accurate monitoring programmes based on EU level indicators

and transparent accounting methodologies is seen by several stakeholders¹⁷¹ as a key step to unlock LRAs' potential in the CE.

The engagement of LRAs' staff in pilot initiatives is seen as a key opportunity for capacity-building purposes. The degree to which LRAs are able to take active part in the promotion of these private initiatives, and to integrate some of their technical components – such as detailed indicators that can be adopted for the monitoring of the local CE – could imply a technical step up for decision-making processes.

The holistic, capacity-building potential of engaging LRAs in the development of pilot initiatives for the CE would allow their technical staff to have a better understanding of their city's or region's CE potential, enabling the establishment of accurate ambition levels in their key productive sectors and the progressive improvement of existing productive processes.

The comparison and sharing of best practices of similar initiatives across Member States would serve as a catalyst to trigger a larger-scale transition to the CE, connecting nearby secondary raw material markets and ensuring a progressive reduction of waste across surrounding cities and regions.

6.3 How can the EU better support LRAs in the development of their Circular Economies?

The following are among the opportunities for EU action that can be proposed:

- A Toolbox for LRAs' action, which could facilitate LRAs' work via:
 - Diagnosis tools for assessing the status of the CE;
 - Guidance on CE monitoring, facilitating the integration and comparison of results across Member States, regions and cities;
 - Coordinated CE targets, establishing different ambition levels according to context.

¹⁷¹ This is for example included in Eurocities' position paper on the NCEAP, July 2020, http://nws.eurocities.eu/MediaShell/media/EUROCITIES_policy_statement_CEAP_FINAL.pdf

➤ Capacity-building

- Strengthen cooperation for developing standardized monitoring systems, in order to facilitate collaborative learning and profit from synergies in the development of CE strategies and roadmaps;
- Develop more accurate LRAs' Circular Footprints by integrating more technical and project-related indicators into their monitoring system;
- A more extended use of Life-Cycle Assessment tools at local and regional level could serve to promote the CE in more efficient ways, identifying the 'low-hanging fruit' that allow a large impact by addressing the key material chains;
- Sectorial frontrunners could establish dedicated bodies for coordinating the transition to the CE in related industries, managing the replicability of successful initiatives and developing a circular strategy for the sector.

➤ Urban refurbishment:

- The scarcity of initiatives encountered on this field could imply that LRAs in Southern and Eastern Member States may not be making full use of the possibilities of public spaces and assets for the CE. Further research should clarify whether there are more initiatives in this field and whether some lessons can be drawn from them.

➤ Public procurement

- The implementation of the Circular Public Procurement guidelines³¹ appears to be a solid starting point for LRAs to support the development of circular services in their territories. The EU could speed up this implementation by promoting and coordinating collaboration between frontrunners and those LRAs that are still at an early stage of the transition to the CE.
- Innovation Partnerships actively engage with the private sector to seek circular solutions to existing environmental and management challenges. The replication of these partnerships could be fostered through existing CE platforms¹⁷², which could serve to set priorities and steer the transition to the CE by focusing on the sectors where greater environmental or economic benefits are to be expected.

¹⁷² For instance, the European Circular Economy Stakeholder Platform, <https://circulareconomy.europa.eu/platform/>

➤ Promotion of circular products and services

- Developing Circular Labelling Schemes may strengthen citizens' engagement and facilitate the identification of business opportunities for the private sector, serving as a catalyst for larger-scale changes. A strong CE will require an EU-wide supply chain; thus, ensuring the coordination of these labelling schemes would reduce waste and strengthen secondary raw material markets.

6.4 The impact of COVID-19 crisis on the NCEAP

The Covid-19 crisis has shown the entire world, and Europe in particular, the importance of building resilient societies¹⁷³ that allow for a quick reaction in times of need. Decades of externalising European manufacturing capacity to third countries have led to a situation in which in theoretically rich and resourceful countries had to rely on imports for the supply of essential medical materials.

There are concerns¹⁷⁴ that the cost and instability brought by this crisis could be used to delay key policies, such as the Sustainable Products Initiative, to strengthen the circular economy. From the LRAs' perspective, this crisis could become an opportunity for recycling the jobs that have been lost into circular and more sustainable professions. LRAs, by means of an efficient use of the EU Skills Agenda and the Covid recovery funds, can seize the opportunity to rebuild their economies into a more sustainable and resilient fashion, thus being better prepared to face difficulties in the future while reducing waste generation and improving their technical capacities.

¹⁷³ Ellen McArthur Foundation (2020). *The Covid-19 recovery requires a resilient circular economy*, viewed 7 July 2020 <https://medium.com/circulatenews/the-covid-19-recovery-requires-a-resilient-circular-economy-e385a3690037>

¹⁷⁴ European Environmental Bureau (EEB) (2020). *Letter on sustainable products in the aftermath of COVID-19 crisis*, viewed 7 July 2020, <https://eeb.org/library/letter-on-sustainable-products-in-the-aftermath-of-covid-19-crisis/>

Annex I: Assessing the CE at LRA-level

Initial assessment 'How circular is our regional or local economy'?

A valuable preliminary step for LRAs is to determine their starting point in terms of the transition to CE, assessing how circular their economy is and understanding the potential of the existing supply chains. An initial assessment can identify priority areas for effective CE actions.

An assessment of *urban* (or regional) *metabolism*¹⁷⁵ can provide an overview of the inputs of materials and the outputs of waste, including potentially valuable resources in waste streams. This approach, however, requires reasonably good data on inputs and outputs. The City of Rotterdam was among the pioneering LRAs to carry out an assessment of its metabolism¹⁷⁶.

When looking at a major production activity within an LRA's territory, or a key waste stream, *Life Cycle Assessment* can support the identification of CE opportunities and actions¹⁷⁷.

Many of these methods can require expert input and good data. Local authorities can also benefit from quick assessment tools for the CE. In the framework of the European Green Capitals, the European Commission developed a 'Green City tool'¹⁷⁸ to facilitate a first self-assessment for cities wanting to learn more about their potential role in the transition to a greener economy. This tool focuses in 12 key areas for sustainability, including waste and water among the most relevant ones for CE. Based on the self-assessment made by LRA, the tool provides recommendations for improvement and also allows local authorities to plan, share and compare their sustainability goals with other cities.

LRAs can also use tools such as simple questionnaires that can be carried out by their staff (see the box below for a CE-focused tool developed in Spain). This type of tool also presents a good potential for awareness-raising effects, as individually guiding LRAs' staff through the different CE opportunities, allowing them to quickly understand the main areas where action is needed and why.

¹⁷⁵ See for example: <https://resourceefficientcities.org/resources/onlinecourse/>

¹⁷⁶ <https://www.fabrications.nl/portfolio-item/rotterdammetabolism/>

¹⁷⁷ Fabrications (2017) *Urban Metabolism-Rotterdam*, viewed 7 July 2020, <https://www.fabrications.nl/portfolio-item/rotterdammetabolism/>

¹⁷⁸ European Commission (2020). *Green City Tool*, viewed 7 July, <https://webgate.ec.europa.eu/greencitytool/home/>

Tool: Self-diagnosis of CE implementation at local scale

The objective of the diagnosis through this tool is to offer a quick overview of the state of development of the CE in the scope of a Local Authority (LA). Thus, the exercise includes a series of proposed actions through which the implementation of key measures for developing a CE is assessed.

The diagnosis is carried out through a simple qualitative evaluation methodology based on self-assessment using a "check-list" technique, through which the LA confirms the presence or absence of each of different individual actions that lead to the different measures that conform the strategic axes that conform a CE strategy.

Under each measure seven questions are presented, which in total reflect their degree of implementation of this measure by the LA. Often, questions are accompanied by explanatory texts in order to facilitate the reader's comprehension. By gathering the results of each of the measures of the different axes, a representation of the state of implementation of the economy is obtained for that particular axis.

Afterwards, as a following step in identifying the aspects of circularity and to facilitate a quick visualization of the degree of implantation in the local entity, a quantitative analysis is made. In this case, the aim is to quantify the aspects of circularity that covers each measure. For This is in addition to the affirmative answers present in each of them and the following is established scale of values, based on the number of actions, plans or projects that organisations they carry out.

Finally, the results of each different axis are represented in a single table that provides a graphic representation for the state of development of the CE in the LA assessed.

RESUMEN DE AUTODIAGNÓSTICO DE LA ENTIDAD LOCAL		GRADO DE IMPLANTACIÓN			
MEDIDA DE CIRCULARIDAD		Bajo	Moderado	Alto	Muy Alto
Planificación de la prevención y gestión de residuos generados en el ámbito municipal o supramunicipal					
Planificación de la prevención y gestión de residuos generados por la institución					
Incentivos para la prevención en la generación de residuos					
Fomento de la reutilización y la reparación					
Promoción de la segregación en origen y la recogida separada de residuos					
Promoción de la segregación en origen y la recogida separada de residuos fuera del hogar					
Reciclaje de los residuos de limpieza viaria					
Promoción de la segregación en origen y el tratamiento de los residuos orgánicos					
Optimización de la gestión de los residuos de construcción y demolición					
Optimización de la gestión de los puntos limpios					
Fomento de la circularidad del tejido empresarial					
Optimización de la red de abastecimiento y saneamiento					
Incremento de la eficacia y el ahorro del consumo de agua					
Fomento de la reutilización del agua					
Promoción de la gestión sostenible del agua pluvial					
Fomento de la reutilización de residuos derivados de la gestión del agua					
Planificación de la compactad, la regeneración y la resiliencia urbana					
Promoción de la eficiencia y el ahorro energético en el parque inmobiliario					
Ordenación del espacio urbano para fomentar la movilidad sostenible					
Fomento del transporte sostenible					
Fomento del desarrollo rural sostenible					
Promoción del urbanismo para la salud					
Fomento de los hábitos saludables					
Fomento del consumo responsable					
Minimizar el desperdicio alimentario					
Fomento de la compra pública sostenible e innovadora					
Fomento de la implantación de nuevas tecnologías					
Fomento de la participación de la ciudadanía y del acceso a la información pública					
Fomento de la divulgación y la sensibilización en los aspectos relacionados con la economía circular					
Total número					

Source: [Local strategy for Circular Economy – Spanish Federation of Municipalities](#)

Annex II: Zero Waste Commitments as a starting point for the CE

The Zero Waste Municipality programme, a broad number of commitments¹⁷⁹ in the framework of CE is presented. These are divided in two categories, based on the capacities for developing the CE that LRAs may have depending on its starting point:

- ***1st Category – Cities working towards Zero Waste***

- *Define quantitative targets for the mid-term (within 10 years) and long-term (within 20 years). These could include a residual waste reduction target (e.g. less than 50 kgs per person by 2020) or reduction by a further amount within 10 years (e.g. reduce by 80% remaining discards), or adoption of “darn close to zero”.*

- *Implement local actions for waste prevention/reduction which are in the jurisdictional capacity of the community (e.g. promote home composting; support in possible and appropriate ways local packaging free businesses and shops; promote the use of tap water whenever appropriate; support the use of cloth nappies; define local regulations for sustainable management of Events, etc.).*

- *Publicly report progress annually towards the Zero Waste Plan milestones to Zero Waste Europe national affiliate or the Zero Waste Europe office so that any citizen can monitor the progress made. Plan for a subsequent Implementation of a pay-as-you-throw rate structure or other financial incentives for residents (if allowed by state/provincial or national regulations) to encourage them to waste less and recycle more percentagewise.*

- *Establish a Zero Waste Advisory Board (ZWAB) or multi-stakeholder process (involving residents, businesses, staff or elected officials, Zero Waste experts, and non-governmental organisations) to participate in the development, implementation, monitoring and adaptation of a Zero Waste Plan or Strategy. The tasks of the ZWAB may include checking achievements against commitments, assess critical steps, define workarounds or re-tabling of deadlines and development of similar key policy, program and facility implementation decisions.*

- *Conduct audits of discarded materials at least every 5 years (and preferably more frequently, e.g. yearly or biennially) in order to: analyse the progress of the*

¹⁷⁹ Zero Waste Cities (2019). *The Zero Waste commitment in practice*, viewed 7 July 2020, https://zerowastecities.eu/wp-content/uploads/2019/07/zero_waste_cities_commitment.pdf

Zero Waste Plan, assess what is left in the discarded materials and consider strategies and campaigns to achieve further improvements such as providing feedback to manufacturers and working with them to redesign materials, products and packaging that are barely or not reusable, recyclable, or compostable

- Move away from rigid residual waste management facilities that do not allow for constant improvement of waste prevention and recycling rates (eg. Incinerators, RDF-producing MBT, pyrolysis and other types of non-conventional thermal treatment). See footnote for clarification about acceptable technologies and strategies to define or renew local plans accordingly

- ***2nd - Category - Best practice Cities***

In order to qualify as best practice the city will need to generate a maximum of 75kg of residual waste – per person per year– i.e. what is left after efforts for reduction, reuse and separate collection.

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