



MISSION CITIES' POLICY BRIEF CIRCULAR ECONOMY POLICY LAB

This policy brief presents policy recommendations on circular economy formulated by cities participating in the EU Cities Mission (Mission Cities) for EU decision-makers and European national authorities. These recommendations have arisen from discussions among twenty-one Mission Cities during the Circular Economy Policy Lab, facilitated by NetZeroCities.

NetZeroCities is a consortium consisting of 34 partners from 27 European countries, managing the Mission Platform for the EU Cities Mission “100 Climate-Neutral and Smart Cities by 2030”.



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EXECUTIVE SUMMARY

The following Policy Brief addresses EU decision-makers who are responsible for enabling an EU legislative framework on a clean and circular economy, particularly in circular construction and the reduction of plastics in the waste stream to achieve climate neutrality, embedded under the European Green Deal. This Brief focuses on the regulatory and policy challenges faced in Oslo, Helsinki and Stockholm, supported by the insights of an additional eighteen Mission Cities. **It provides policy recommendations from twenty-one Mission Cities, to EU decision-makers and European national authorities** (see pages 6-8), **to accelerate their transition to climate neutrality by 2030.**

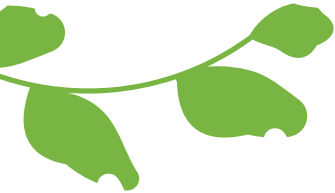
Cities are on the frontline, implementing the EGD legislative provisions, including those on circular economy. Therefore, **the regulatory and policy barriers faced by Mission Cities should be high on the EU policy agenda and need particular attention within the upcoming EU mandate, after the elections in June 2024.**



METHODOLOGY

NetZeroCities Policy Labs at the EU level convene city practitioners from Mission Cities and EU Thematic Policy Experts in a city-centric design to create collective learning on EU public policy by bringing the evidence from real-case city challenges and formulating policy recommendations for EU decision-makers.

The Brief is based on the presentations and findings from the first Policy Lab, focused on Circular Economy issues. The session was led by three challenge owner Mission Cities (Oslo, Helsinki and Stockholm) and approximately eighteen challenge solver Mission Cities from across Europe who discussed and formulated policy recommendations included below.



CHALLENGE OWNERS

THE CASE OF OSLO, HELSINKI AND STOCKHOLM

- 1) Focus on the city's challenge
- 2) What is the city/national level already doing to tackle this, and
- 3) What are the remaining barriers (beyond the city's power to act), to be addressed at national and EU level

OSLO: HOW TO ACCELERATE THE TRANSITION TO ZERO-EMISSION CONSTRUCTION?

In 2015 the city of Oslo set the goal to reduce direct GHG emissions by 95% by 2030. Mobility, waste management and construction represent roughly 90% of these emissions, and a comprehensive policy framework has been developed to virtually

eliminate emissions in each of these sectors this decade.

Building schools, nursing homes, kindergartens and infrastructure, the city commission works representing about 1/5 of the local construction market. **A procurement framework was adopted in 2019 awarding companies that can provide zero-emission services to the city.** In 2022 more than 50% of works were performed with electric machinery, proving the power of public procurement to transform markets. The public procurement framework has also supported the decarbonisation of heavy-duty transport, with almost 30% of the total market for new heavy-duty trucks now covered by biogas and/or e-trucks, surpassing the average levels in Norway.

In 2023 the city government proposed to include requirements on zero-emission construction in the regulatory framework for local planning regulations, with long-term provisions to make zero-emission construction mandatory for all real-estate development in Oslo from 2030¹.

However, despite these efforts, there are structural barriers that need to be tackled through enabling regulatory and policy frameworks at EU and national levels:

Summary of challenges

- Slow market uptake: There is limited demand for and availability of zero-emission construction equipment in the European market, with an urgent need to ramp up demand for product development and high-volume production to make clean energy solutions more competitive
- Energy supply risk: Having the necessary clean energy and grid capacity for the construction sites is critical, and there is a need to increase grid flexibility for example through the use of mobile battery systems to manage energy supply.

¹ Contingent upon final approval by the elected City government and National authorities.

HELSINKI: HOW CAN WE EFFECTIVELY REDUCE EMISSIONS FROM THE CONSTRUCTION SECTOR?

In a similar vein to reducing emissions in the construction sector, the city of Helsinki has set up a new Carbon Neutrality Plan for 2021-2030, with the starting point of understanding the biggest emissions sources and the most impactful emission reduction potential within the city's power to act.

Like the case of its neighbour capital cities in Oslo and Stockholm, Helsinki's main climate mitigation **plans are concentrated around scope 1** (direct emissions from different sectors: industries, cars, public transport, etc.) **and scope 2** (emissions coming from the energy produced within their territory). **However, the city is looking beyond, with a more holistic approach, also covering emissions in scope 3:** which includes emissions of services and goods produced outside the city boundaries but consumed within the city. Those emissions cover the construction materials in the built environment.

After an assessment of lifecycle carbon emissions of 60 buildings, Helsinki identified as the two main emitters the materials and the heating system, and that the highest carbon reduction potential can be gained from energy efficiency, solar energy, fossil-free construction sites and the reuse of materials.

Fortunately, the city is supported by the national regulatory frameworks: having recently set a lifecycle carbon footprint limit for all new residential buildings of 16kg CO₂ in a 50-year timeframe for everything coming from the construction materials through the use period to the demolition phase, from June 2023 onwards. This had a very positive impact in Helsinki, by setting clear regulations and sharing guidance with the built environment industry. It supported the growth of the supply of low-carbon concrete. There is also sustained collaboration on projects related to carbon footprinting (reducing the whole lifecycle emissions of the built environment) between Nordic countries at a national level.

However, despite the city's efforts, there are still some barriers to tackle to support the decarbonisation of built environment materials:

Summary of challenges

- Leverage materials and heating sector by setting a taxonomy for building materials.
- Lack of understanding of clear power to support Helsinki's effort beyond the city's competencies: what can the national and EU levels do?
- Lack of a regulation on limiting carbon footprint for residential buildings.
- Lack of data on the carbon footprint of construction materials.

STOCKHOLM: HOW CAN WE REDUCE PLASTICS IN THE WASTE STREAM?

The recently adopted municipality budget from 2023 established that the city should 1) decrease the emissions from consumption by half by 2030 and 2) become fossil-free by 2040. To achieve this, **the city needs to follow a circular economy approach rather than linear systems.**

Focus is needed to influence the use of materials in the city, including those that are used to make plastics and packaging materials, and increase the circular use of plastics. Most non-packaging plastics in the city come from the building and construction sectors.

Stockholm is already in the process of tackling the reduction of plastics in the waste-stream, through the **following actions:**

- *Recently adopted [Stockholm's plastic strategy on the purchase, use and waste of plastics.](#)*
- *[Action plan for sustainable plastic use: with requirements regarding plastics in construction,](#)*

guidance for sustainable plastic use in healthcare and collection and recycling of packaging and other plastics in the city's operations. The city has the purchasing power to support the upstream work, while also working towards behavioural change and facilitating reuse.

- *Establishment of the [Centre for Circularity \(2023\)](#) with a focus on construction, plastics and purchasing processes.*

However, despite these efforts, the city is still struggling with the following main challenges:

Summary of challenges

- Lack of knowledge of the harmful substances in the materials they want to circulate (both in old and newly produced materials).
- Lack of appropriate product design to be able to repair and recycle materials – skills development is needed for product developers and designers.
- Lack of collection system for many of the material flows.
- Lack of space in the cities for collection, sorting and preparation for recycling.
- Lack of recycling technology for certain materials.
- Insufficient development of sharing economy mindset and infrastructure involving all parts of the value chain: from production to use to waste management, involving residents and business producing/managing waste - need for a behavioural change from residents!

CURRENT POLICY CONTEXT

A remarkable number of EU-level climate and circular policies have a direct impact on Mission Cities' climate neutrality plans. Since being announced in 2019, the European Green Deal (EGD) has been shaping the climate and circular urban agenda of European cities. One of the main building blocks of the EGD is the new [Circular Economy Action Plan](#), adopted in 2020, including legislative and non-legislative measures at the EU level. It includes several existing regulatory frameworks at the EU level supporting circular construction and the reduction of plastics in the waste stream.

Following the Action Plan, [the Circular Cities and Regions Initiative \(CCRI\)](#) was launched in 2022, providing financial support to demonstration projects, project development and technical assistance, as well as advisory services and other non-financial assistance.

On **circular construction**, the recent revision of the **Energy Performance of Buildings Directive** (third revision since 2010) and the **Construction Products Regulation** (CPR), opened a window of opportunity to decarbonise the built environment in cities. Positive outcomes of the revision of the EPBD for Mission Cities include the introduction of requirements and national targets for whole-life carbon calculations for all new buildings at the national level. The agreement of the new CPR includes mandatory declaration of the Global Warming Potential (GWP) of construction products over their life cycle when the standards according to the new CPR will apply (ongoing revision of the full catalogue). The list will be extended to other indicators after 4 years and will cover all life cycle indicators after 6 years.

However, all the requirements for products to showcase the environmental footprint are voluntary in the revised CPR.

In the same vein, as part of the revised EPBD, the Minimum Energy Performance Standards² and the definition of “zero energy building” were

² Minimum Energy Performance Standards are a system to require the renovation of the worst performing buildings in EU Member States, as part of the legislative provisions of the Energy Performance of Buildings Directive: https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/energy-performance-buildings-directive_en

established at the national level rather than at EU level, which could lead to a less harmonized EU market on construction products. Finally, the CPR does not include take-back schemes for unused/surplus products to prevent landfill or destruction of unused construction products.

Along the same lines, there remains room for improvement for EU co-legislators in the EU policy framework on waste management of plastics at the EU level. The EU legislative framework on plastic waste was established decades ago (Waste Framework Directive in 2008) with ambitious preparing for re-use and recycling targets, supported by the Strategy for Plastics in a Circular Economy (2018) and the Single-Use Plastics Directive (2019) and strengthened by the Circular Economy Action Plan (2020) and Zero Pollution Action Plan (2021), as part of the European Green Deal. This has allowed an extension of the scope of the EU's action on plastics: microplastics, mandatory sorting systems for plastics from construction and demolition waste, plastic bags, plastic packaging, bio-based, biodegradable and compostable plastics, plastic waste shipment and global action on plastics.

While some of the legislative provisions related to waste under the EGD are still being negotiated by the EU co-legislators (e.g., Waste Framework Directive, Packaging and Packaging Waste Regulation), before the current mandate comes to an end in 2024, some city-friendly provisions could be found in the finalised revision of the Ecodesign Directive for Sustainable Products. There has been a revision and increase in the scope of sustainability and circularity requirements, including almost all kinds of goods placed on the EU market. However, this will not cover requirements for circularity and carbon footprinting of those products already (un)covered by other legislations (e.g. vehicles, construction products), but it can cover intermediate products highly relevant for circular construction (e.g. iron and steel, non-ferrous metals, plastics, glass).

The EU co-legislators are currently negotiating the delivery on ambitious waste packaging provisions, under the Revision of the **Packaging**

and Packaging Waste Directive (ongoing), with the main objective to prevent waste and overpackaging and promote reuse of packaging. The Commission proposal included several important provisions, including on re-use and recycling as well as mandatory extended producer responsibility schemes; affecting largely the cities' efforts to reduce plastics in the waste stream.

However, the ongoing negotiations between the EU co-legislators (European Parliament and Council) lack the level of ambition that would be beneficial for the Mission Cities for the reuse objectives, reduced list of single-used packaging to be banned and it might include many exemptions.

Important additional regulatory and non-regulatory interventions have been entered into force or are on their way. Most notably, ambitious sustainability and circular criteria for construction have been set out in the **Taxonomy for Sustainable Finance**, which has important implications in directing private and public finance into circular construction. Additionally, the **Level(s) framework** has been recognised as providing a common language for assessing and reporting on the sustainability performance of buildings, moreover providing the basis to have a holistic view on circularity and lifecycle thinking in EU policy, including co-benefits and positive synergies GHG emissions, air quality and noise. Furthermore, the EU provides significant funding to circular construction and R&I related to new technologies. The **EU Construction and Demolition Waste Protocol and Guidelines**, with its important guidance for pre-demolition audits, are currently being updated.

POLICY RECOMMENDATIONS

In this context, Mission Cities that participated in the NetZeroCities Policy Lab formulated the following policy recommendations targeting mainly EU decision-makers but noting the important role of the national level too.

1) Enabling the EU Green Public Procurement Framework

- To give clear market signals to suppliers, cities need to be supported by a clearer EU regulatory framework on Green Public Procurement (for new buildings and renovation of existing ones) while targeted EU financial tools are needed to support circular construction, also leading to better awareness (taxonomy) of building materials. Local staff also need to be trained to be prepared for the implementation of mandatory green public procurement rules in cities.

EU regulation can drive market uptake faster (supply chain management) and address the challenges presented by Oslo and Helsinki on circular construction.

- Integration of plastic reduction in tenders and mainstreaming across sectors by European authorities at all levels.

2) Zero-emission construction sites

- Setting clear emission reduction goals for CO₂ from Non-Road Mobile Machinery (NRMM) towards 2030 and 2040.

- Develop an enabling policy framework that includes economic incentives, future emission regulations and promote flexible energy supply, for example:

- Take into account direct emissions from construction machinery in the ongoing revisions of EPBD.

- Develop green incentives in relevant funding programmes directed towards infrastructure and housing, making it more attractive to use zero-emission technologies.

- Include CO₂ in future [NRMM regulation](#).

- Strengthen research efforts on climate impacts and clean energy solutions for NRMM.

In addition to mitigating CO₂-emissions, zero-

emission construction comes with important co-benefits, such as less noise and air pollution, increased energy-efficiency, and possible long-term cost reductions.

3) Technical support on circularity of building construction

- To support Mission Cities' efforts in targeting emissions stemming from the construction sector, the EU and national level decision-makers should streamline and establish supportive regulatory frameworks related to sustainable construction at local, regional and national levels. Locally operated one-stop-shops will be a key instrument for this and should receive increased support to assist supported and subsidized efficiency retrofits for housing at risk of energy poverty, enhancing direct access to funding by cities, providing autonomy, flexibility and an integrated approach.

4) Extended producer responsibility for waste packaging and construction sectors

- The ongoing negotiations on the revision of the EU Packaging and Packaging Waste Directive should include mandatory extended producer responsibility (EPR) schemes for all packaging, placed on the EU market. Unfortunately, at this stage, several key revisions affecting these waste streams have been finalised (under the Eco-Design Directive for sustainable products) and the negotiations on EU PPWD are far advanced, but extending the producer responsibility to packaging waste should still be addressed in some ways in the EU legislation. This would help reduce packaging waste, landfilling, encourage more sustainable design of packaging products and reduce the financial burden on municipal authorities.

5) Take-back and Extended Producer Responsibility schemes

These schemes should be introduced for the construction sector to ensure the "polluter-pays" principle in the construction of building materials where producers bear the costs of all life-cycle

carbon footprint impacts. While the latest revision of the Construction Products Regulation (CPR) failed to deliver on this, Mission Cities that participated in the lab would like to request the EU legislators to address these requirements in upcoming construction-related legislative initiatives to encourage the circularity of the construction materials.

6) Promoting behavioural change and awareness-raising

- Alongside standards for building materials and new fiscal incentives, national authorities should support Mission Cities by investing in climate education tailoring it to waste and circularity aspects and targeted awareness-raising among citizens, thus aiming to multiply the effects of existing and future actions from municipalities.

- The same applies to the reduction of plastic waste: alongside standards for takeaway packaging, for example, the EU institutions and national authorities should promote further campaigns to raise awareness of single-use plastics and the need for reducing consumption (not only waste-sorting /-management and recycling).

- A starting point for behavioural change would be to calculate consumption-based emissions under scope 3 (voluntarily calculated by some Mission Cities in their Climate City Contract process). These scope 3 emissions from residents to producers are currently not included in the overall emissions strategy. Behavioural change is vital here given consumption patterns of residents. The EU level should provide a calculation methodology to measure scope 3 emissions alongside national support schemes. Mission Cities could then use these standards to target their scope 3 emissions reductions and it will also influence the market.

7) Enabling R&D at EU level

- Targeted research and local demonstrations to support EU policy design. EU funding programmes, notably Horizon Europe, and national funding for circular construction to be tailored and aligned to support the transition in

Mission Cities. Demonstration projects are needed at the local level which engage local industry and construction sector stakeholders, for instance, the Big Buyers Initiative.

CONCLUSION AND REMARKS

The urgent need for action on an EU policy level is highlighted by the three cases discussed above – a transition to climate neutrality requires more flexibility and autonomy for cities to act. **Improving the regulatory enabling framework based on the experience and requests of Mission Cities will help pave the way for thousands of other European cities, large and small, to make significant steps forward towards their climate goals.** It is also clear that by addressing Circular Construction and Waste, cities will also advance on many other environmental, social and governance issues that will bring co-benefits for people and the planet.

NetZeroCities will continue to pursue the aims and recommendations highlighted in this Policy Brief, for example, by engaging with EU policymakers where possible and promoting them at key events/conferences across the EU.

RELATED RESOURCES

[Recommendations for EU and national policy makers to accelerate the circular transition in cities](#)

[Circular construction in Europe](#)

[Delivering the inclusive climate transition](#)

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