

White Paper

Circular & Inclusive Cities (CIC)

Written on 13 April 2021 by [working group Circular Society](#)

The challenge

Cities consume over 75% of natural resources and emit between 60-80% of greenhouse gases. At the same time, cities have the highest potential to be the main driver of the circular economy agenda to unlock economic, environmental and social benefits. Cities can also be powerful catalysts of social, economic, and cultural change. Within the circular economy, there is increasing attention to create more sustainable cities with local value (and waste) chains by combining markets, government, and civil society. The concept of 'commons' is increasingly used to reclaim and preserve public urban space for engaged citizens and social entrepreneurs. The urban regeneration agenda highlights the many benefits that natural capital can bring to cities and the potential of resilient, green, and healthy cities.

Recently, the first Dutch Integral Circular Economy Report (ICER 2021) concluded that the total use of materials has hardly changed in the Netherlands since 2010. Up to date national policy has mainly focused on the formation of a broad coalition of stakeholders within society and on facilitating circular initiatives' (ICER 2021). However, as ICER concluded, it will be insufficient to facilitate voluntary and non-committal approaches only. The greatest impact is achieved when socio-economic and technological innovation go hand in hand. Citizens, companies, and governments must be directed and tempted to choose for circular and more sustainable solutions as the default option. This requires ensuring that environmental damage is factored into the prices of services and products (such as true pricing for food) and that legislation and regulations no longer cause disadvantages for circular and sustainable initiatives compared to the already established linear and unsustainable practices (ICER 2021). Taxation and regulation must be adapted to fully support sustainable behaviour and green business models. Accelerating circular economy requires strong forms of network governance (Reflectiegroep Circulaire Economie 2021).

A sustainable and circular city also includes a sustainable lifestyle (for example, avoiding and separating more waste, eating less meat, consuming more plant-based products, wasting less food), sustainable mobility (for example, less car use), sustainable energy use (for example, changing comfort practices), including engagement with renewables, and changes in consumption and use practices (for example, increased repair and maintenance of goods). For a population-wide transition to sustainable behaviour, it is necessary, but not sufficient, to hold individuals accountable for their own responsibility and behaviour. All kinds of technological, design, architectural, financial, and socio-cultural environmental factors influence the extent to which sustainable behaviour is easier for people to realize. By responding to these factors with urban policy and interventions, amongst which research-through-design interventions, an urban environment can be created that makes the transition to sustainable behaviour easier and more attractive for people. The effectiveness and legitimacy of governance interventions to accelerate circular economy can be improved by empirical research focused on analysing and monitoring experiments and sustainable practices, analysing the underlying drivers of transformative change, co-creating field labs etc.

Social sustainability is part of a sustainable city. Social and technological innovations are sides of the same coin. The transition to a circular society cannot be realized and will not work if it is not developed hand in hand with social sustainability. This transition will also know losers. Legitimacy of the transition process requires attention to the inclusion of groups which cannot easily adapt to change. Modern

cities are pre-eminently places where an often very diverse population has to find a mode to deal in a workable and safe way with differences in cultural background, socio-economic status, religion and language. Researchers in the fields of multilingualism, intercultural communication and religious studies and experts in the field of media use, security and terrorism can and do provide valuable knowledge and reflection here, often in collaboration with (urban) governments and other institutions, such as religious organizations and schools. Participatory research and inclusive futuring methods developed in industrial design, architectural design and urban design can help ensure that stakeholders from a variety of backgrounds, citizens, and government, are included in making transitions sustainable, inclusive and just.

A sustainable urban environment cannot do without permanent attention to the quality of the built environment and the cultural and media infrastructure, matters that are essential for the quality of life for the residents, the attractiveness for tourists and the business climate. This also includes attention to historic inner cities, heritage, and the stories behind it.

All kinds of physical, financial, and socio-cultural environmental factors influence the extent to which sustainable choices are made easier for people. By using urban policies and interventions to address these factors, an urban environment can be created that makes the transition to sustainable and green solutions easier and more attractive for people.

Cities do not function in isolation but are embedded. They partly depend on and are linked with the rural region surrounding them. The balance between the urban and rural environment is an important topic to be addressed in developing technical and societal solutions for more sustainable and inclusive cities.

The hub

The hub Circular and Inclusive Cities will focus on shaping the conditions to accelerate the transition to circular and inclusive cities. This concerns changing the market conditions for circular value chains (law, taxation, business models). These conditions should take into account the context of *densification* that leads to scarcity / high opportunity costs of urban space. It should also be aware of the urgency of adapting to *climate change*, which will hit cities exceptionally hard (e.g. urban heat effect, flooding). It includes research on which physical, financial and socio-cultural environmental factors influence the extent to which citizens practise sustainable behaviours (e.g. less car use) and work towards a more sustainable and inclusive urban environment. It is important to explicitly consider equity, and also investigate the needs and interests of vulnerable groups. Implementation and effect evaluations of urban policies should provide insight in how the transition to sustainable and green solutions can be made easier and more attractive for *all* citizens.

Social Sciences and Humanities combined with natural and technological sciences need to come forward with a fundamental new way of research to be able to tackle this challenge. Social science researchers will investigate the social structures and relationships that are at the basis of more circular and sustainable behaviour. Social inequality and cohesion affect behaviour. Social networks are crucial when it comes to develop new actions and new lifestyles.

The research of the hub will be developed in the following 4 themes:

1. Organising synergy between technological innovations, societal and organizational innovation to foster and accelerate the transition to more circular societies. E.g.:

- What circular initiatives already exist and what is needed to upscale or deepen them?

- How can we ensure that circular and sustainable choices become the default option within urban environments?

2. How to integrate circular and inclusive initiatives? E.g.:

- Connecting circular urban systems with circular food systems.
- How can we ensure that the public and stakeholders from across society are engaged in developing future visions, and the transitions to them, inclusively and ethically?

3. Investigate how social inequality affects circular and sustainable solutions and develop ways to mitigate undesirable inequality effects. E.g.:

- Study effects of social cohesion as a mediator for sustainable choices

4. Making space for nature to drive circular, inclusive cities.

Urban space is scarce, and its opportunity costs are high. Nature delivers environmental, social and economic benefits simultaneously and therefore represents a (cost & space) efficient way to realize circular, inclusive cities. This leads to research topics such as:

- What organizational arrangements can (co-)fund the integration of nature in cities between different urban (public and private) stakeholders? How does this differ for real estate and public space?
- How can the risk reduction value of nature, such as reducing costs of climate change and health, be captured (and therefore funded)? What role can the insurance sector play?
- What urban business models can realize nature-based, circular cities (urban nature business models or business models that promote efficient use of urban space, like mobility sharing)?
- What value/marketing propositions can drive behavioural change of citizens (e.g. local stewardship & greening, sustainable, shared and healthy mobility choices)?

The alliance

Within [the alliance](#) there is a huge variety of research groups which are specialized in areas necessary for this research agenda. In parts, these groups can build on already existing collaborations. For example, both UU and Wageningen participate in large research projects on nature-based cities, and they are in regular contact. Additionally, the hub will create opportunities and incentives for new cross-fertilization of research groups which not yet have worked together.

The setting and prospects

There is a growing awareness of the need for not only technological, but also societal and organizational innovations to foster and accelerate the transition to more circular societies. Cities play a vital role in this process. Utrecht both as a city and region has high ambitions to become 'fully circular' in 2050. Cooperation partners like MVO Nederland and NWO have addressed themes like behavioural change (MMIP 3C), enhancing the trust of people in circular products (MMIP 3A), new business models for circular solutions (MMIP 3B) and standardisation and adaption of legal conditions (MMIP 3D) in its KIA 2020-2023. Hence, the new collaborative junctions have lots of possibilities to find transdisciplinary partners and acquire funding. In the years to come substantial European Funding in Horizon Europe and Regional European Programmes will be geared at Cities (e.g. [Mission Climate Neutral and Smart Cities](#), and [Climate, Energy and Mobility](#)).

The EU has just started its 'Circular cities and regions initiative'.

The Budget

This hub will not work with postdoc(s), but with a team of staff members from different units and partners (assistant professors or similar) who spend a substantial extra research time to do collaborative research and manage the hub. There are a number of reasons for this choice. Engaging assistant professors who value developing a sustainable hub as integral part of their (long term) career is a means to ensure a long-term sustainable perspective for the hub. A team of several staff members of the different institutions collaborating within the alliance, each of them being familiar with the strong research groups in their home institutions, fosters real cooperation between all partners of the alliance. Organizationally, the team is supported by the coordinator of the Institute for a Circular Society (i4CS) of which this hub is part of.

*The hub Circular and Inclusive Cities is an initiative of the **working group Circular Society** of the alliance of Eindhoven University of Technology, Wageningen University & Research, Utrecht University, and the University Medical Centre Utrecht. We aim to do groundbreaking research relevant for practical solutions contributing to the circular society.*