Insights and Experiences from *Circular Cities*

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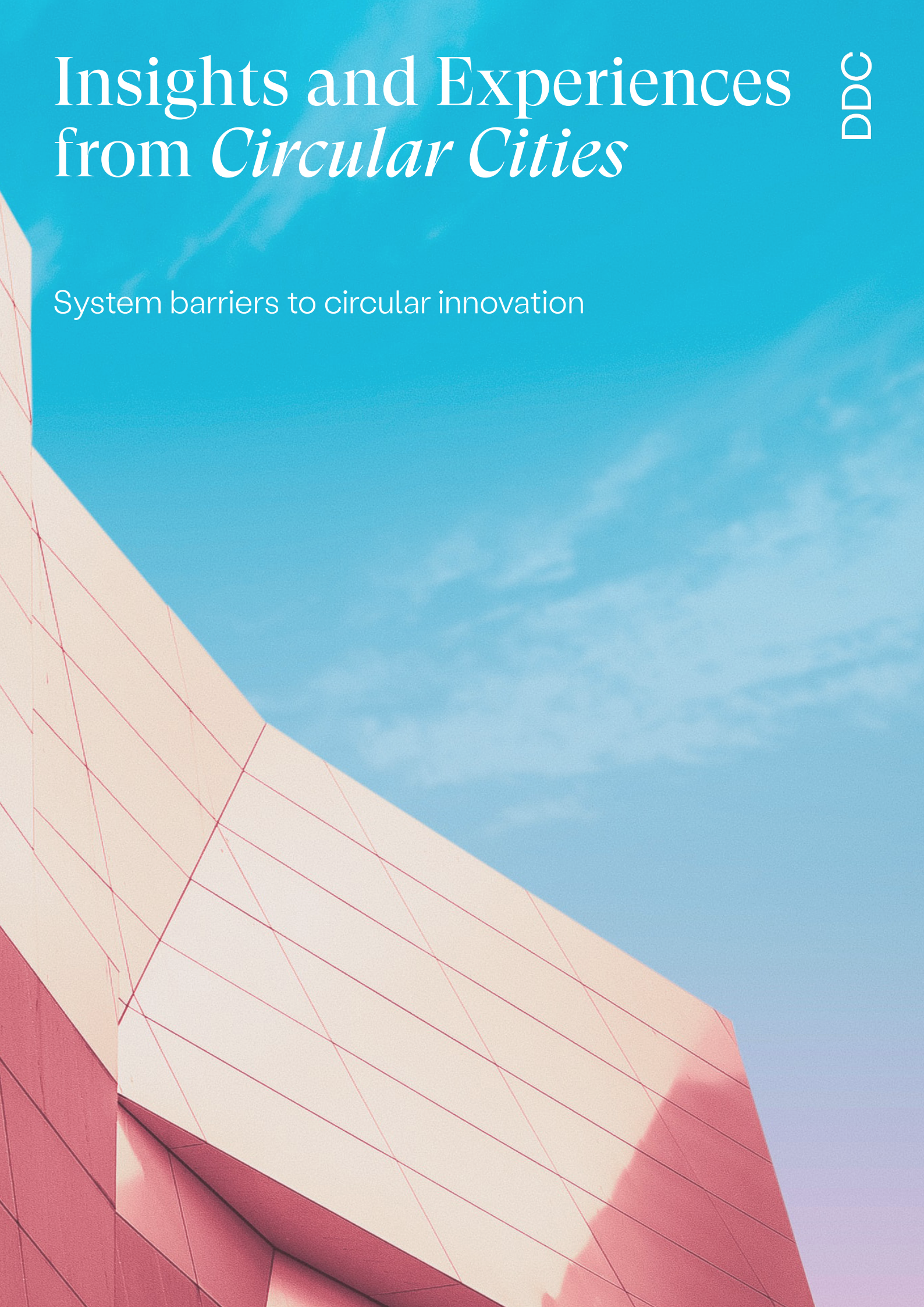
System barriers to circular innovation



The Project

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This report is based on insights and experiences from the two-year innovation project Circular Cities. You'll learn more about the key systemic barriers to circular innovation and our recommended actions to overcome these challenges and take decisive steps toward a better and more sustainable future.

Circular Cities involving Danish municipalities, namely:

- Fredericia
- Aalborg
- Odsherred
- Kolding
- Fredensborg

The project takes a systemic, cross-sectional, and holistic approach to the circular transition.

The collection of systemic barriers is based on a survey with the participating cities, and follow-up 1:1 interviews with a representative from each of the cities.

The survey and analysis is made by twin transition, who have also worked as advisors for three of the cities.

Regulations

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Barriers
The five municipalities share the experience that regulations are hindering circular innovation projects and implementation of circular projects, especially within the construction sector.

Many find it difficult to highlight specific paragraphs, though Bygningsreglement, Planlov, and Udbudslov are examples of so.

Moreover, general uncertainty about upcoming rules, legal regulations, and initiatives from the EU is found among the six municipalities. The uncertainty mentioned is about potential impacts on projects, and whether it will lead to specific demands for the municipalities to comply with.

The five municipalities experience a lack of foundational balance in the legal requirements for public activities (e.g., Styrelsesloven) and the necessity to initiate innovative initiatives and development to ensure a green, circular transition.

The municipality has experience that regulations with data, and data ownership about circular projects are unclear.

Recommendations
1. There is a need for mapping the rules and regulations that hinder/ promote green and circular initiatives - both within the public sector and society in general.

2. There is a need for a general overview and understanding of upcoming rules and regulations - both on the national- and EU level - that will affect the municipalities and other (public/private) stakeholders in the incoming years related to the circular economy and green transition.

3. There is a need to assess whether the municipalities have the correct mandate if they shall run the green transition and CE.

Collaboration *& Organizations*

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Barriers
The work with circularity is interdisciplinary, which requires a clear managerial and political mandate, which often does not exist, as CE is not a municipal main task.

Today CE and sustainability projects are driven by highly committed citizens from each municipality, which does not allow the best possibilities to expand the results widely in the organization.

The smaller municipalities do not have interdisciplinary innovation capacity and specialist know-how, while the larger municipalities are divided into silos, which makes interdisciplinary collaboration complex.

Missing internal capacity and silo organization makes collaborations with external stakeholders difficult.

The municipalities aren't used to work design-driven and iterative. If the innovation process is not maintained and met with political support, the organization is likely to return to business as usual.

Recommendations
1. There is a need for a national, political focus on CE, which makes it legitimate for municipalities to allocate resources and time to CE projects.

2. There should be a cross-municipal focus on and shared understanding of the municipalities' role in relation to CE specifically and sustainability initiatives in general.

3. There is a need for professional acknowledgment and organizational support for the highly committed citizens driving the local change.

4. The municipalities can get an active role as facilitators of circular innovation projects and create collaborative spaces for different stakeholders, but it requires a political mandate and a greater focus on the value of private-public innovation projects.

Risk *& Responsibility*

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Barriers
Public actors and semi-public companies must not take unnecessary risks, but a transition to a circular economy requires that one undertakes risks out of the ordinary.

It is unclear who has the responsibility when we use reused/recycled materials - for example for construction work.

Companies are reluctant to collaborate on CE if the municipalities are not willing to take on a part of the responsibility.

Domain experts, who focus on risks and responsibilities within their own areas are blocking the influx towards CE, internally in the municipalities.

There is a general uncertainty on who is responsible, if something fails.

Recommendations
1. Municipalities and local companies should be set free so that they can take on greater responsibility and lead the transition to a circular economy. This should be done in combination with a national risk fund for CE projects, to ensure that the smaller municipalities/companies are not left with the entire risk themselves.

2. To give municipalities a better foundation for decision-making, a shared systemic review of the risks related to CE projects of different kinds should be performed.

3. There is a need for the public to understand that in CE - and innovation processes - failure is a fundamental part of experimenting, and a step in the transition.

4. The roles and responsibilities of the municipalities when collaborating with private/external stakeholders within CE must be mapped out and specified.

Time *& Economy*

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Barriers
The municipalities do not prioritize a sufficient amount of resources to drive the CE project I municipalities

There is a lack of resources to promote results from the projects between organizations.

There is a lack of resources for establishing CE collaborations with other municipalities and private actors.

Domain experts, who focus on risks and responsibilities within their own areas are blocking the influx towards CE, internally in the municipalities.

Virgin resources are cheaper than reused/recycled resources in almost all sectors - an enormous barrier to a circular economy.

Recommendations
1. CE and green transition should play a key role in the municipalities' actions, with their own resources and political mandate.

2. Learnings from the innovation projects should be expanded systematically inside and across the municipality, as well as between municipalities.

3. Politically, it should be highly prioritized at the European and national levels to create better frameworks for CE through e.g. new structures for incentives combined with taxes, that ensure the burden on the planetary boundaries when using virgin resources is included in the total costs and/or ensure better economic frameworks for trade in recycled resources, regardless of sector.

Knowledge *& Data*

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Barriers
There is a general lack of knowledge about basic terms and definitions of CE in public and especially in municipalities. It makes it difficult to engage citizens, companies, and public actors in CE projects.

There is a lack of specialist knowledge within specific domains. It makes it difficult to support - and challenge - other actors, i.e., private companies.

There is a need for new, digital tools to ensure valid data within different professions, as well as to ensure decision support so that each organization does not have to use resources to collect knowledge within a specific area.

Recommendations
1. A national effort must be initiated to spread awareness of and knowledge about CE and the planetary boundaries, to create a shared understanding of the area the same way we have succeeded in doing it with energy.

2. Experts of the municipalities should be better prepared to understand CE and sustainability, i.e., through courses in KL-regi, so that knowledge is widely embedded in the municipalities.

3. The public sector should actively contribute to digitalizing knowledge and create digital decision support within CE. As an example by highlighting relevant data, and entering public-private partnerships for the development of new tools that support CE.

Key Takeaways

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- There is a general challenge about which rules apply to whom, how, and what the consequences are - both when it comes to specific projects and in relation to what the municipalities are allowed to do.
- CE projects in municipalities are only driven by highly committed people and would benefit from a higher level of organizational support when it comes to expanding knowledge and experiences.
- The risks related to CE projects are unclear for the municipalities, but CE projects almost always include risks.
- Lack of prioritization of resources and economic incentives slow down CE projects.
- There is a need for more knowledge and competencies - both internally in the municipalities and on a national level when it comes to CE.

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