

Circular (City) Ports

**Working Session 4
18th November 2019**

Lessons learned from the 4th working session

On the 18th of November 2019 the fourth working session of the trajectory of 'Circular (City) Ports' took place in Brussels. This report represents the main findings of that day. It focuses on three insights of this trajectory of 'Circular (City) Ports' at this point. Firstly, from the valuable exchange of knowledge, thoughts, possibilities and difficulties, we derive some main lessons learned. Secondly, specific crucial arguments at the working tables, fed with the findings in the overall research process and the various exchanges taken place, are investigated. Thirdly, this report presents the elements of a preliminary framework which makes it possible to start envisioning the next steps to accelerate the circular transition of ports and city-port areas.

Overall, the conclusions in this report make way to start thinking beyond the explorative and valorisation trajectory, towards building a more structured approach towards a circular port economy.



Image: Circular City Ports: Opening presentation at the 4th Working session, 18th of November 2019 © Lies Engelen

Circularity is not one concept, applicable like a recipe, but it is a practice of learning by doing.

The development of a structured approach needs a solid framework, to guide circular actions and to further ambitions.

It has been clear, quite quickly after the research of the 'Circular (City) Ports' trajectory started in October 2018, that circularity touches upon many different fields of competences, actors, actions and strategies. The research, interviews and working sessions soon pointed to the conclusion that there is no single way of being circular: it stretches from industrial symbiosis to job creation to resource efficiency to ecological balance and so on. Circular Economy is all-encompassing, it is complex, and it raises questions on what is actually meant with 'circularity'. The change that circularity announces needs a systemic upheaval of our modern industrial system. In fact, circularity is brought about by learning by doing and practices that progressively shape the circular transition.

We need to move beyond single experiments towards a more structured approach through strategical thinking and communication.

Many practices take place at different spatial scales in the Dutch-Flemish Delta, governed by diverse instances, innovating in different ways, using different products, processes and technologies and having different business models... Within this variety of dynamics and innovative constellation of practices, it is clear that there is the necessity to go beyond the experimentation of circular actions towards a more structured approach. By putting in relation the knowledge, the different experiences and the many lessons learned, a strategical thinking can be enhanced in order to initiate new circular dynamics towards this more structured and operational approach. Each actor should take this evolution of the circular transition into consideration, from case-owners to authorities, from experts to overarching platforms.

Nowadays, since large ports work more on a global scale and small ports on a regional and local level, the demand and the transition of circular economy manifests itself in different ways. Small and medium ports are often closer to the urban environments, and the interrelation with it is starting to be crucial for a transition toward a circular society. The port needs to re-discover its value for the city, meaning the constitution of a new system and the recognition of different specific chains functioning at the local level, having a positive impact on the city and on the port. These ports have the opportunity to steer faster towards circularity: they can adapt a strategic focus on a port level, having a less complex business model and looking at a smaller territory of implementation. This is different from the larger and more global functioning ports. Here, there is a demand for another kind of approach: currently they focus solely on the energy transition and industrial symbiosis, limiting actions, investments, and strategies towards a univocal, albeit sometimes ambitious, direction. If these differences between ports are considered, it is clear that a solid overarching framework is needed, with a comprehensive vision on the actions and strategies towards circularity. This vision should look at the existing ports ecosystem and focus on the development of circular business models for that specific port and on the building up of a territorial symbiosis.



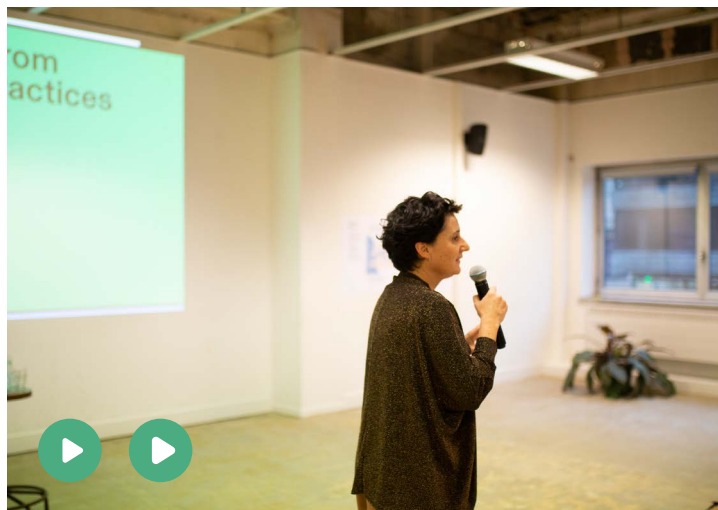
Image: 4th Working Session 'Circular (City) Ports', 18th of November 2019 © Lies Engelen

The plenary part of the working session consisted of three types of presentations. First, the team of AWB and 1010au presented the status of the trajectory. Secondly, Prof. dr. Elvira Haezendonck and Regional Port Commissioner Jan Blomme gave both a presentation exploring, on the one hand, the development of a circular innovative framework for circular (city) ports, and on the other, the changing role of the ports within the transition to more circular systems. Thirdly, four practices were

selected for this fourth working session, as good examples to demonstrate the 'Circular Building Blocks'. Representatives were asked to give a pitch about their project, needs and strategies. All the video-reports of the presentations and pitches are included in this report.

01 Joachim Declerck, partner Architecture Workroom Brussels and Nadia Casabella, partner 1010 architecture urbanism

Joachim Declerck introduced the 'Circular (City) Ports' trajectory with the lessons learned from the explorative trajectory, which can be found in a synthesis document and a workbook. Subsequently Nadia Casabella and Joachim Declerck introduced the framework and content of the 'Circular Building Blocks'. This content was bundled in a small booklet for the participants and visualized on a poster of a fictitious port, which was the base of the working session.



02 Jan Blomme, Regional Port Commissioner (Flemish Region)

Jan Blomme, the Regional Port Commissioner, has a good overview of the Flemish ports and their functioning, visions and agenda, reflecting on the changing role of ports, looking at their evolutions, and envisioning their possibilities for future development and incorporating circular economy in their agendas.



03 Elvira Haezendonck, Professor at Vrije Universiteit Brussel (VUB)

Prof. dr. Elvira Haezendonck introduced the economical point of view in the trajectory and translated the content of the explorative trajectory into a presentation which shows how a circular innovation framework for circular (city) ports can be developed and explored, with the role of the port authorities as first mover.





04 Wim Stubbe, Business Development Manager at the Port of Ostend

As a sea port, the Port of Ostend has made the choice in the past to become a Blue Energy Port, focusing on the construction and maintenance of offshore windparks. In their inner port, they focus nowadays on circular economy companies.

This pitch was chosen as a 'best-practice' demonstrating the Building Block 'Capacity Field'.



05 James Hallworth, Commercial Manager Circular and Renewable Industry at Port of Amsterdam

The Port of Amsterdam focuses on co-creation and makes investments in the needed projects for the future economy inside the port. One of these projects is Prodock, an innovation hub of the Port where ambitious entrepreneurs, both growing and established, can quickly and efficiently develop and roll out their products, processes and proposition.

This pitch was chosen as a 'best-practice' demonstrating the Building Block 'Island of Urbanity'.



06 Muriel Dewilde, Business Development Manager Bio Base Europe Pilot Plant

Bio Base Europe Pilot Plant is an important part inside the biobased economy of North Sea Port and Flanders. Their motto of 'Turning Grams into Tonnes' explains that they look for the scaling-up of small biobased ideas and initiatives, and this with successful projects as proof. They enable the transition to a sustainable bio-based and circular economy.

This pitch was chosen as a 'best-practice' demonstrating the Building Block 'Incubator'.



07 Marie van Breusegem, Account manager of A. Stevens & Co., and Alphonse Stevens, Managing director of A. Stevens & Co.

A. Stevens & Co. is a recycling company in the heart of the city of Brussels at the Vergote Bassin. They are a pioneer in the urban mining of Brussels, closing the loop from scrap metal to new products, and work in a network along the waterways. The connection to the water is crucial in their functioning.

This pitch was chosen as a 'best-practice' demonstrating the Building Block 'Urban Trieur'.

A clear goal with its related steppingstones should be put forward, based on which direct connections can be found within the existing practices.

Port, cities and regions can be considered as part of a comprehensive system, working together and changing together. Nowadays, the distinct parts of this system are facing big transformations, and these metamorphoses are part of a continuous evolving process. Many practices are already active in restructuring their functioning towards a circular system. The presence of these various projects and accompanying visions within this field are progressively increasing, but there is a gap in framing them within a long-term goal and in the overall system. It is clear that many platforms and organizations regarding ports and cities have been developing goals, often in relation to the United

in which the involvement of the port authorities in setting up a main pathway is leading the different actors, initiatives and projects to work in an interrelated modus of circular actions.

Within this action program or vision, the biggest challenge can be identified in the building up of a strategy to facilitate the various interrelations and collaborations, both existing and new. This strategy should try to channel changes toward a specific direction, avoiding working in isolations. Moreover, the facilitation of these interrelations and collaborations should go beyond the mere exchange of information, which is no longer sufficient to strategically change an operational system.

The setting up of a specific common mobilizing pathway, connected to this action program, consists also of rethinking the business model for the overall Delta, setting up priorities



Image: Circular (City) Ports working tables discussion;
4th Working session, 18th of November 2019 © Lies Engelen

Nations Sustainable Development Goals for 2030 (2015). However, the translation of these goals to the local dynamics of (city) ports is a difficult task.

A first step that needs to be taken, is to have a clear idea on the actual dynamics of and behind these projects. To further the transition towards a circular functioning of our ports, an overview is needed to proceed with the envisioning of a potential action program for the future. This new action program or vision could lead, at the local level, to the constitution of a cycle of chain effects,

as guidelines: e.g. looking closely to facilitate the hydrogen-based economy; supporting technological progress with new initiatives; develop a legislative network within the scale of the Delta, related with the European one, etc.

A continuous learning process from the circular practices is needed at the different scales in the Delta.

As mentioned, the field of circular economy is a very wide and varied one, and could also be considered as the “umbrella theme” in which many specific systems are developing and evolving: recycling of goods, green logistics, new ways of energy production, new technologies... In order to steer and multiply the steps in the circular transition, it is an important opportunity to collect knowledge of the constellations of strategies and initiatives active in these fields.

A continuous learning process can be constituted, harvesting new insights, knowledge and strategies from the field. Within this learning process, it should be possible to open up conversations envisioning a more structured approach towards the circular development of ports, cities and regions. This ranges from the ongoing process of experimentation and innovation taking place at the companies' level to the new masterplans of both port and city, incorporating circular ideas. These could be learning tools, showing the reoccurring challenges and the need of specific new measurement models. This specific kind of field observation can help to guide the next steps to be taken within this process of transition.

Port authorities should evolve in light of the circular economy transition, exploring new forms of governance, regulations and circular initiatives.

The transition towards a circular economy conceives a different role of the port authorities. There is a shift from being a landlord to taking a more active role, as possibly co-creators, facilitators and maybe by having also a financial involvement in a series of key initiatives.

This changing role asks for the redefinition of the ports' mission. This is a crucial step to determine the active role the port authorities could have, in building up a circular system, starting from the local level. Here, circularity cannot be conceived and developed as the mere optimization of material flows and commodities that reinforce the logic of the classic profit maximization model of the port dynamics. Ports should go beyond the competition to have the most volumes per year, and look for other kinds of added values. This is a fundamental first step in the redefinition of the port authorities' role. It looks for a strategic focus on the economy of the port. It stipulates, for example, that ports spatially enable new circular initiatives and, simultaneously, initiates interrelated dynamics between the port, city and region. This represents the basis to imagine a new business model for ports, steering the specific territorialities of each ports' environment towards new circular symbiosis, initiatives and systems.



Image: Circular (City) Ports 4th Working session: Pitch presentation on 'Prodock' initiative, by James Hallworth, 18th of November 2019 © Lies Engelen

More circularity makes sense in terms of ecology, but compelling economic arguments must be stated, taking in mind the needed 'period of grace'.

The reason to steer circularity is clear on an ecological level: resources are scarce, climate adaptation asks for CO2 reduction, congested roads question our pattern of mobility... However, the sense of urgency to go circular is still vague on an economical level. It is not clear how the transition towards circular economy fits inside the global economic trends: should we go circular to be able to compete with Asia or should we do it to be able to financially survive? Is circular economy an economic inevitability or is it just an outside demand? Is it deemed relevant for some main parts of the industry? Or is it a licence to grow and to support social and urban areas?

Currently, the mindset is that changing our current economic model seems hard to envision, since we have to shift our present economy to an economy that we don't yet know. Nowadays, circular economy is seen as a cost, since the revenues are not yet clear and the investment costs are currently high. Hence completion between circular models and the fossil-based economy is hard: the linear economy is relatively cheap. Innovative practices ask for higher expenses for new infrastructure and new kind of processes. The knowledge regarding innovative processes and circular procedures is already there, but the integration costs of it are too high, and thus the multiplying or upscaling of the existing innovative practices has not yet happened.

The next step towards more circularity will need therefore, as every other transition in history, a 'period of grace': companies, regulations, policy, cooperation, value chains... are not all ready or adjusted to the new economy, but will need to adapt and improve to fit the new circular economy. This 'period of grace' is needed to make a transition by learning, testing, implementing, revaluating, experimenting... If not, the circular transition will happen in a disruptive way. For example, companies going for (more) circularity have to deal with a systemic series of lock-ins in the chain, as a result of the present-day framework in which they are in. As a company on its own, it is hard to overcome these limitations. In this case, the government can play an important role: it can intervene with subsidies, "direction-setting" policies, as it happened with the transition towards blue energy of the windmills in the North Sea. The

same counts for the port authorities. They have the power and the possibilities to facilitate companies to start working on the circular transition, but it is not clear how these various transformations fit inside the ports' business models. The integration of externalities and environmental values are missing, making the transition a costly thing. To overcome this, there must be a new business model that stimulates these right incentives, understanding the return on investment, activation of the different value chains, new added values... These important evolutions on different levels are exemplary for a period of grace, and make the transition possible in a fluent and less disruptive way.

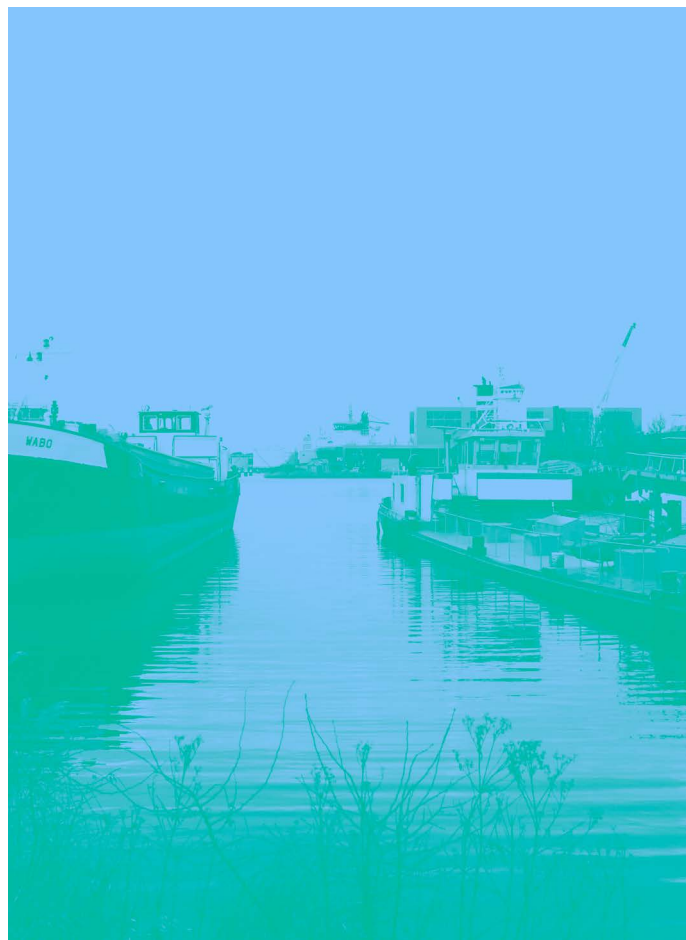


Image: Port of Amsterdam © AWB

A circular economy is more than working with energy, materials and space: it has an impact on socio-economic parameters and job creation.

Circular port activities could represent an added value for cities and regions: they provide jobs, they reuse and upcycle materials, they have a crucial role in the environmental and social development of the cities and regions... First, when envisioning a city port in light of the circular transition, the proximity of the city results in an advantage if you look at the materials flows. These flows could meet each other in the city port, where they can be handled to give added value, but also to create new jobs. Secondly, there are also areas which represent an intermediary zone, where innovation can find its space and which can be easily integrated in an urban context. Thirdly, it is a place where new

asking for. Evidently, there will be a change in the differentiated skills necessary within the transition, but for now they are conceived only in opposition to the one generated by the 'old' industry sector. Therefore, there is a need to clarify what kind of labour will be needed in the future. A deeper understanding of those other values generated by the shift in the production system to a more circular one are crucial in order to form the new economy. An important factor for the gathering of this added value at a social level are demonstration projects, where you can steer a process of learning by doing and, simultaneously, visualize the development of those different value chains and jobs.

To have a clear view on this, there is the necessity of building up an exchange between the city and the port. Today, city and ports do not have a stable vision and especially not a shared one, regarding circular economy, which leads to



Image: Circular (City) Ports working tables discussion;
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jobs can be created for the city, of all kind of skills and levels of knowledge. For example, 20% of the employment in the city consists of low skilled people and those types of jobs are disappearing from the city port areas, but which are still needed in the future.

In this sense, circularity concerns the organization of a new industrial system and its inherent division of labour. The envisioning of a new economy requires new kinds of roles and tasks, but there is still not a clear understanding of which are these new jobs that circular economy is

a constant friction in the functioning and daily operations of the two. A complementary figure to the area could be envisioned, as program director for both city and port. The program director could also represent a mean to implement the transversal clustering of companies, trying to construct a wider system of production.

**Envisioning
the next steps
to go towards
circularity in
(city) ports**

This working session on the 18th of November 2019 was a turning point to go from documenting, collecting and understanding existing circular initiatives and strategies to the exploration of new programmes, stimulating frameworks and concrete projects. This report concludes thus with a perspective on the crucial arguments and aspects to investigate deeper. It envisions the next steps to go towards more circularity in (city) ports, focusing on different actions.

Learning from the field of innovative practices

As mentioned, the definition of shared goals and the constitution of an action program asks for a better overview of what is already happening. In this sense, the constant learning from practices can lead to a renewed status quo which represents on the one hand, the new findings coming directly from the innovative practices, and on the other hand, the new challenges and potentialities to be handled within the transition period. With this, an overview of indicators could possibly be constructed in order to quantify this status quo. This learning in total should be a continuous process, updating regularly the overview of practices in order to bridge the gap between the field and the goals, action programs and visions, old and new.

Building up mutual exchange of knowledge and innovation

The working tables during the session also highlighted the fact that an overview of the ongoing circular initiatives and strategies of the different ports should go hand in hand with the enabling of the field to learn from others. A peer-to-peer system of exchange would make it possible to bundle, distribute and develop knowledge in order to build up a structured approach. The interest and willingness of the different partners and actors involved in the interviews and working sessions of the Circular (City) Ports Trajectory, to learn from each other and to have their eyes opened to new ideas and opportunities, asks for a more tailored approach of this learning. This commitment can represent the potential to establish a pool of knowledge, envisioning a sharing system and working towards the development of new insights in between the various actors. A more structural approach for the transition to circular (city) ports, going beyond isolated circular initiatives, and

beyond 'greenwashing', can thus be initiated, where shared goals are put on the agenda and a cross-pollination between different initiatives, ports and actors can happen.

Interrelation of circular ambitions and spatial strategies

The continuous exchange and acquisition of new knowledge and know-how needs a spatial translation. The different ports in transition are seeing a need in better understanding the spatial dimension of the findings and strategies leading to the circular transition. Each port is looking for their specific and local circular strategies, setting up a specific framework. This would mean that they look into specific area developments, while they envision a differentiated plan of action. This plan of action constitutes a spatial program for new circular sites, building up a series of local circular ecosystems.

Envisioning a future circular program

The constitution of an overarching program around the ports' transition toward circularity is a strong tool representing a 'joined forces' of interested partners, engaged parties and new voices. The will to envision ways to come together in order to exchange, strategize and take action together, starting up new (systemic) projects, was clear during the various discussions. This could represent the possibility of building specific coalitions around design work and program, understanding the specific role of the port authorities and the various actors within the transition toward circular ports. The need of a tool to accelerate this process of transition toward circular economy was widely discussed with the different actors involved during the overall process, imagining a kind of space or platform in which exchange and forces can be reached in order to strategize upon the crucial actions to be taken, combined with pilot projects.

