THE ROLE OF CIRCULAR ECONOMY PRINCIPLES IN NEW PANDEMIC REALITIES[3]

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Abstract. *Many governments recognized the need and opportunity of a sustainable recovery, often using notions like the "Green Recovery" or "Build Back Better" to disseminate the message around the world. This article proposes to analyse some of the practices of implementing circular economy principles in their post Covid recovery plans, as well as domains that need mostly to use circularity practices.*

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JEL Classification: Q54, Q57, Q58

Nearly 90 percent of global economic activity has been totally or partially affected by the coronavirus pandemic. Transnational trade links and supply chains have been disrupted, consumer demand has decreased, and millions of people have become unemployed. These are the realities of the day.

The UN believes that in the process of recovering from the crisis, the focus should be placed on creating a more resilient global economic model, strengthening health and social protection systems, introducing green technologies and combating climate change. Thus, the circular economy becomes an actual concept today to help the world cope with the pandemic [7].

In April 2020, the G20 Finance Ministers agreed to "commit to support an environmentally sustainable and inclusive recovery" [4]. Encouragingly, an international poll covering developed and developing countries also suggests that a majority of citizens see a focus on environmental issues as a continued priority as we emerge from the COVID-19 crisis [2].

At the initiative of the Danish Minister for Climate and Energy, Dan Jørgensen, several countries signed a letter calling on the European Union for a comprehensive program of economic and social transformation in response to the Covid-19 crisis and the resulting economic recession. Thus, the signatories call for this recovery program to integrate the green energy transition and digital transformation and point out that increased investment in sectors such as renewable energy, biodiversity recovery, sustainable mobility, energy efficiency, research and innovation, and the circular economy are essential [3].

On 5 June, the Organization for Economic Co-operation and Development (OECD) published a "Build Back Better" plan to develop a resilient and sustainable post Covid-19 recovery [6].

In April 2020, the Municipality of Amsterdam released a detailed ***2020-2025 Amsterdam Circular Strategy*** with a two-year initial practical action plan. The strategy sets the near-term pathway toward the city's goal of becoming 100% circular and climate neutral by 2050, and an ambitious medium-term goal of a 50% reduction in primary resources by 2030 [1]. Thus, Amsterdam, became the first municipality to adopt the Doughnut Economics model and the Circular 2020-2025 strategy as the basis for its recovery from COVID-19.

The Circular Strategy concentrates on three priority value chains (see figure 1), also, as a strategic policymaking instrument, The Amsterdam City Doughnut, directly supports the design and

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implementation of this Circular Strategy by allowing the officials to examine the city's current resource consumption, impact, and circular progress.

Achieving circular economy principles in Amsterdam will require effort and feedback from many internal and external stakeholders. Residents need to be closely involved in the transition to a circular city, and must be encouraged to make more sustainable choices. The businesses' role is to produce innovations through the development of new business models, design of circular products, and collection, as well as high-quality processing of products after their use. The municipality's role, on the other hand, is to provide a good example by applying circularity in all spheres - maintenance and procurement, stimulate innovation and cooperation between businesses and institutions, set standards and impose rules, and also influence national and regional policies and regulations, for example, by lobbying for a tax movement from labour to raw material use.

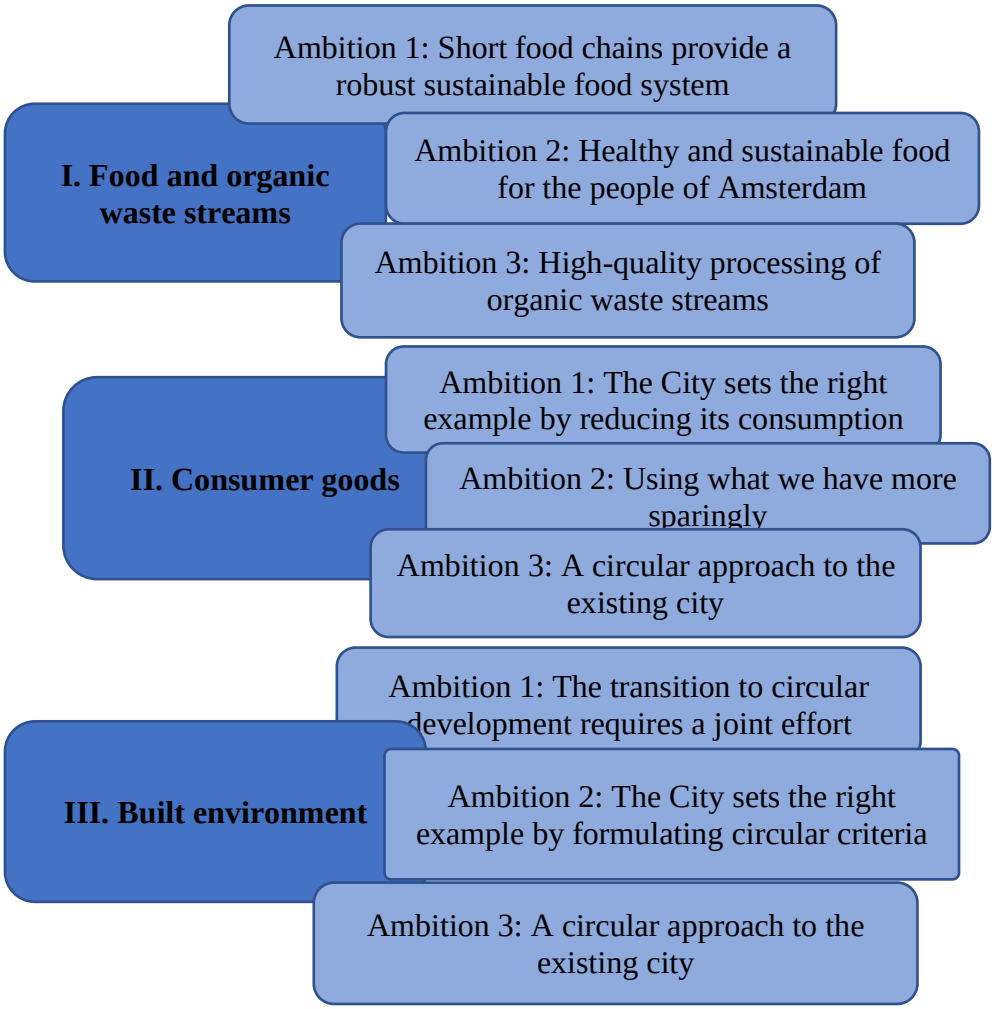

Figure 1. 2020-2025 Amsterdam Circular Strategy: priority value-chains
Source. Adapted by authors in base of [1].

Similarly, the European Union and South Korea adopted Green Deals as central pillars to their economic recoveries, both supporting regenerative models using circular economy principles.

The Korean "K-New Deal" involves 61,9 billion USD targeting the creation of 319 thousand jobs by 2022 and 659 thousand by 2025 and 135 billion USS investment in green and digital technology [5]. The government will also invest in microgrid communities - using renewable energy and energy storage systems in regional areas, and those with many islands, creating decentralised, low-carbon energy systems. Circular economy initiatives will also be implemented in areas that suppose reducing and recycling energy by using advanced computerised power grids in factories. The plan also involves technology to capture and store carbon emitted from industrial processes and re-using industrial materials.

Circularity can be practiced at all levels - from disinfecting face masks that save lives, to deploying SMART regional policies and strategies that maximize resource use, decrease pollution, and create countless business opportunities. Manufacturing and supply-chain shortages within the health sector have, for example, driven circular innovation, for example within the process of using sterilization agents to decontaminate the masks and to give them a second life, as well as spurred fabrication laboratories that are uniting to innovate processes for medical use.

Conclusions. Manufacturing has earned its place as a mainstay of the recovery strategies of the post-COVID-19 economies. The new normal induced by pandemic requires us to rethink the way the economy produces and consumes and to give way to manufacturing in the process of economic recovery. More, a symbiotic relationship between consumption and production cycles will be the key for a sustainable future. A future post-COVID-19 world should centre around innovation and circularity within the resilient and sustainable manufacturing process.

Circular economy principles should reinforce the connection between local, regional and global supply and business models that are directed towards the preservation of the value of resources, by introducing new investment activities such as reuse, repurposing, remanufacturing and recycling. Thus, closer linkages between production and consumption cycles, together with their connection with demand-led innovation, driven by relevant problems and solutions on local level, set the foundation for more sustainable consumption and production.

Public policy is essential in helping to path the recovery in the post-COVID-19 world. The EU has already announced a recovery package that will implement the European Green Deal and digital transformation. Manufacturing process should represent the basis of strategic recovery of post-COVID-19 economies to ensure greater resilience and mobilize research and innovation capacities around the world by empowering local and regional networks in their connections with international supply chains. In this context, the governments should use climate change commitments and circular economy practices as opportunities to expand a new paradigm of industrial production. Thus, shifting from a linear manufacturing system to a circular one requires global policy commitments, as well as new regulations and voluntary agreements that ensure that recovery packages actually transform and create the conditions for a new manufacturing sector.

Post-COVID-19 recovery policy packages may include a combination of the following instruments: a) extended producer responsibility schemes applied for the whole supply chain and which will favour business models centred around the product life extension, remanufacturing and recovery; b) incentives to develop innovation activities and the creation of local R&D capabilities, based on inter-industry collaboration; c) incentives for the introduction of resource-efficient and carbon neutral or carbon positive technologies to reduce environmental impacts; e) promotion of eco-industrial parks and sustainable business areas to promote knowledge experience across activities and the sharing of circular activities.

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