Circularity by Design: Governance landscape of the Metropolitan Region Amsterdam

Deliverable report D1.2

A.G.M. (Anke) de Vrieze MSc; K.V. (Kari) Koppelmäki; O. (Oona) Morrow PhD;
dr C.P.A. (Coen) van Wagenberg

WAGENINGEN
UNIVERSITY & RESEARCH

Circularity by Design: Governance landscape of the Metropolitan Region Amsterdam

Deliverable report D1.2

Authors: A.G.M. (Anke) de Vrieze MSc[1]; K.V. (Kari) Koppelmäki[2]; O. (Oona) Morrow PhD[1]; dr C.P.A. (Coen) van Wagenberg[3]

Institute: 1- Wageningen University – Rural Sociology (RSO); [2-] Wageningen University – Farming Systems Ecology (FSE); 3- Wageningen Economic Research

This study was carried out by Wageningen University & Research, subsidised and funded by Ministry of Agriculture, Nature and Food Quality and commissioned by Investment theme Connected Circularity.

Wageningen University & Research
Wageningen, April 2022

Public

Report 2278
DOI 10.18174/567976

WAGENINGEN
UNIVERSITY & RESEARCH

WFBR Project number: WFBR Project number: 6234182100
BAPS number: KB-40-004-001
Version: Final
Reviewer: Dr H.E.J. (Hilke) Bos-Brouwers
Approved by: Dr.ir H. (Henk) Wensink
Carried out by: Wageningen University & Research
Subsidised and funded by: Ministry of Agriculture, Nature and Food Quality
Commissioned by: Investment theme Connected Circularity
This report is: Public

PO box 17, 6700 AA Wageningen, The Netherlands, T + 31 (0)317 48 00 84, E info.wfbr@wur.nl, www.wur.eu/wfbr.

Contents

Summary

This report is part of the WUR flagship project Circularity by Design, embedded within the strategic investment theme Connected Circularity. The project aims to apply (re)design principles to develop a sustainable agri-food system within the Amsterdam Metropolitan Region.

In our previous report (D1.1 Circularity by Design Framework) we outlined a framework for Circularity by Design (CbD), broadening the vision of what circularity entails by moving beyond the closing of material and energy loops to include the social dimensions, a food systems perspective, and deep leverage points for transformation.

In this report, we build on the framework by taking a closer look at the governance landscape of circularity, specifically in the Amsterdam Metropolitan Region (MRA). The aim of the report is to gain a better understanding of how to govern transitions towards circular agri-food systems on a metropolitan level. As urban policies are embedded within regional, national and supranational (i.e. European) policies, we review the MRA governance landscape within that wider context.

We start by giving a clarification of terms (1.1) and a short literature review of circular city governance in a global context (1.2.1). We then review some of the existing policies to govern circularity at the European level (1.2.2). After sketching this wider context, we map the governance landscape of the Amsterdam Metropolitan Region (1.3 and 1.4). Our report closes with a stakeholder inventory (1.5).

We can conclude that the autonomy and creativity that cities possess to determine bold new circular food strategies is shaped by the multi-scalar governance processes that they are situated in – national circular economy agenda, governing style (hands on or hands off), and by EU Legislation. For this reason, it is critical that cities engage in bottom up participatory processes that help them to articulate a normative vision of circularity that is rooted in local needs, assets, cultures, and desires – rather than copying and pasting from the EU and Ellen MacArthur Foundation (EMF) policy play book. We believe circularity by design can guide such a process and support diverse stakeholders to develop their own roadmaps.

1 Introduction

There is a growing need for circularity in currently disconnected food chains and materials segments (e.g., from agriculture, food processing, consumption, waste, chemicals and materials) and at various aggregation levels. Circularity addresses environmental and sustainability concerns. This requires knowledge on the synergies and trade-offs between individual circular systems to design interconnected circular systems that cross segments and aggregation levels, aiming to ensure optimal use and valorization of renewable biomass resources. 'By design' literally means intentionally and refers to intent, or purpose. The main research question is **how to transition from an urban bioeconomy that is linear to circular by design**? Circularity is an attractive concept for urban areas as it contributes to more resource efficiency (less input and less outputs by better organisation of the system) as well as resilient and sustainable cities that can respond to climate change adaptation and mitigation challenges. Circularity by design adds a governance and decision-making dimension to the leading principles of a circular bioeconomy (Van Zanten et al., 2019), which are currently mainly focussed on resources. It requires a true integrated design to enable the shift from linear (end-of-pipe solutions) to circular (prevention focussed). Circularity by design asks us to think about the social as always intertwined with ecology and economy and includes justice, equity, governance and cultural aspects as well as technology and infrastructure. It follows the flows from the food & non-food biomass resources, the intermediate products (or, side flows / residues) that are removed and need to be (re)allocated for food, feed, biomaterials and soil destinations. CbD has a specific focus on the urban environment. We utilise the case of the City of Amsterdam and its circularity challenges to further refine the circular design approach.

Circularity is not an end in itself, but a means to an end. For the city of Amsterdam circularity is a means of becoming "... a home to thriving people in a thriving place, while respecting the wellbeing of all people and the health of the whole planet". The CbD framework begins with asking stakeholders to clarify why they are implementing circular economy approaches, what **intentions and values** undergird their plans and actions and what do they hope to achieve? The decision to foreground intent and design is informed by **deep leverage points** as "*places within a complex system [...] where a small shift in one thing can produce big changes in everything*" (Meadows 1999). In the next layer, we ask stakeholders to consider the **governance** of their design, to identify who they are designing for or with, who will be impacted, and which stakeholders should be included. In the third and final layer we address in our design process the urban **agri-food system**, where we ask stakeholders to identify which part(s) of the system they are active in and how this effects other parts. At each stage of the design process, we invite stakeholders (the challenge owners) to look beyond their individual challenges, to consider the broader social, governance and food system they are embedded in.

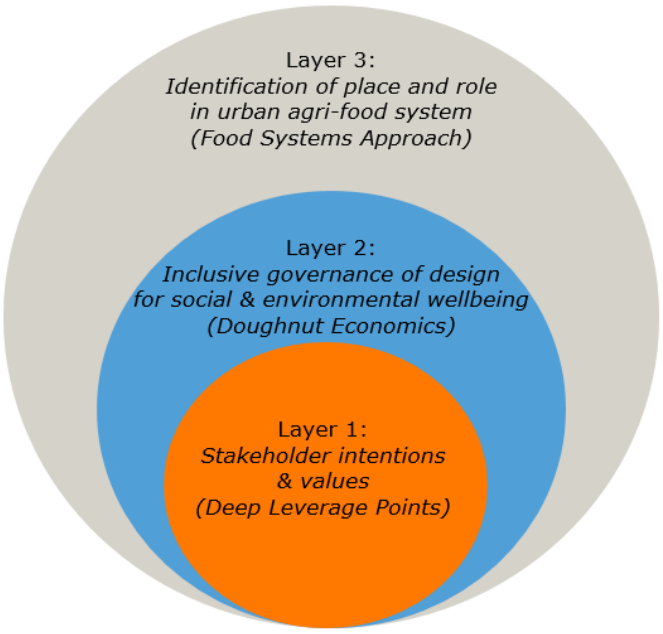

Figure 1 Visualisation of the CbD Framework governance dimension

The objective of work package 1 within the Circularity by Design project, is to develop a conceptual framework for describing, explaining, and visioning transformation towards circular by design economies in urban areas. This report describes the state of the art in circular cities governance and maps the circular economy governance landscape in the MRA region (deliverable 1.2).

1.1 Governance Operationalized

Governance in the context of CbD is operationalized as the public and private instruments that are and can be applied to direct behavior and decisions of stakeholders towards a circular food system. It includes the stakeholders that design and apply these instruments, as well as the stakeholders these instruments target. With urban circular economy governance, we refer to strategies, policies, and tools that are implemented in city-regions to further a circular economy transition. These may be designed by municipalities, regional authorities, national governments, or the EU. They each reflect different "styles" of governing and beliefs about the role of government in a circular economy transition. As our focus is to map the governance landscape for circular agri-food transitions in the Amsterdam Metropolitan Region we have also included the EU agri-food policies that could enable a circular agri-food transition or limit the possible pathways. There are many more governance dimensions that we could have included, such as food safety and environmental regulations that effect how food waste can reused and revalorized. However, our focus in this report is on governance instruments that explicitly identify circular economy as their aim.

2 Literature and Policy Review

Circular economy and food policy are increasingly on the urban governance agenda, and a growing body of research, strategies, and policy tools are emerging to help cities shift their food and waste systems onto more regenerative and circular pathways. At the same time, cities are embedded in much larger food and governance systems and are dependent on a vast global hinterland for linear forms of food production and waste disposal. Before delving deeper into the landscape of circular agri-food policies in the Amsterdam Metropolitan Region, we review the policy actors, strategies, tools and debates that are present in the scientific literature on circular cities and EU policies.

2.1 Circular Cities in a Global Context

The Ellen MacArthur Foundation (EMF) has become a global thought leader in shaping the circular economy discourse and defining the governance strategies and frameworks that are appropriate and imaginable. In their 2017 Cities in the Circular Economy report, they recommend a strategy for circular urban food systems that focuses on

1. Closing nutrient loops and employing regenerative agriculture
2. Recovering value from organic nutrients
3. Urban and peri-urban agriculture

The proposed strategy was developed with a project consortium in which multi-national agri-food business (e.g., Amazon/whole foods, Coca Cola, Ikea, McDonald's, Unilever, Syngenta) are the majority stakeholders, and cities and citizens are absent. The EMF coordinates the global circular cities network, and their hallmark RESOLVE (Regenerate, Share, Optimize, Loop, Virtualize, Exchange) framework informs numerous urban, EU, and national circular economy strategies (see figure 2).

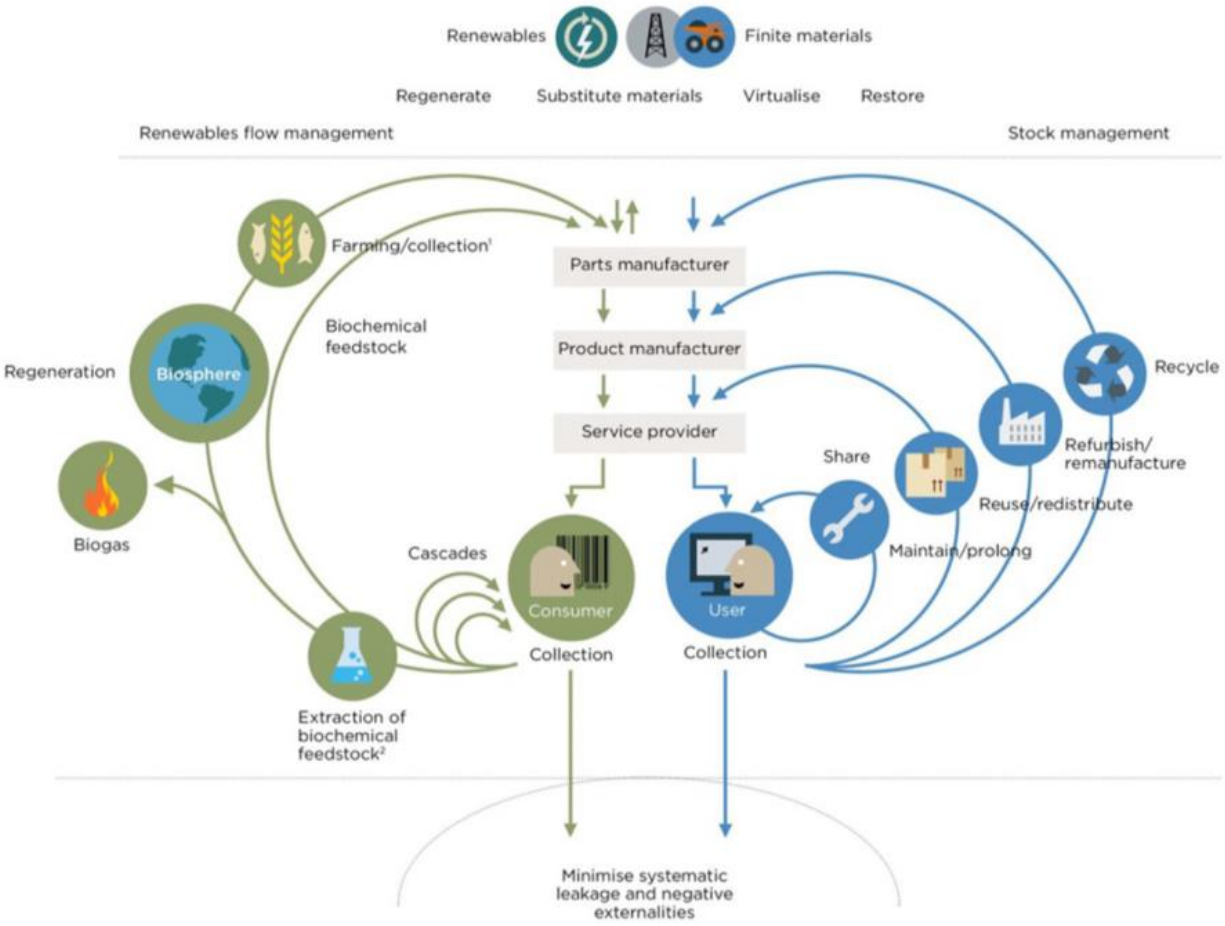

Figure 2 RESOLVE strategy for Circular Economy (Source: Ellen McArthur Foundation, 2017)

The RESOLVE framework describes six actions which will move us towards a circular economy:

1. *Regenerate*: shift to renewable energy and materials; regenerate the health of ecosystems and return recovered biological resources to the biosphere.
2. *Share*: keep product loop speed low and maximise utilisation of products, by sharing them among different users.
3. *Optimise*: increase performance/efficiency of a product; remove waste in production and supply chain; leverage big data.
4. *Loop*: keep components and materials in closed loops (re-use, recycle, recover, remanufacture) and prioritise inner loops.
5. *Virtualise*: dematerialise resource use by delivering utility virtually.
6. *Exchange*: replace products/services for lower resource-consuming options.

The RESOLVE Strategy is building on 3 principles, including:

1. Preserve and enhance natural capital by controlling finite stocks and balancing renewable resource flows. RESOLVE levers: regenerate, virtualize, exchange
2. Optimize resource yields by circulating products, components and materials in use at the highest utility at all times in both technical and biological cycles. RESOLVE levers: regenerate, share, optimize, loop
3. Foster system effectiveness by revealing and designing out negative externalities. RESOLVE levers: all.

However, as Williams (2019) observes RESOLVE has significant limitations when it is extended to cities. This limitation starts with how we conceptualize a city. Rather than comparing cities to eco-industrial parks or profit seeking businesses, Williams argues for an urban ecological perspective on urban systems. From the perspective of urban ecological systems, the economy is just one element in this complex system that metabolizes resources and brings diverse actors into complex interdependent networks, between whom resources flow. Cities are part of global ecosystems. From an urban ecological perspective, cities should focus on living within their local and regional carrying capacity, regulating patterns of consumption, and restoring resources in order to reconnect those living in cities with the consequences of their decisions (Williams 2019, p. 2751). This urban ecological perspective aligns quite well with the doughnut economy (Raworth 2017) that informs Amsterdam's current vision on circular economy.

Williams identifies several blind spots in her critique of the RESOLVE framework, those most relevant to urban agri-food-waste systems are lifestyles, land, infrastructure, and scale and localization. Lifestyles alert us to the complex social practices, routines, consumption habits, and cultural values that reproduce our current linear urban-food system day in and day out. Social practices make our current reality durable, but they also have the potential to change it. As Williams (2019) observes "for a 'circular' society to emerge, consumption patterns produced by lifestyles, social practices and systems of provision will need to be tackled. Thus, we must consider consumption practices in our conceptualization of a circular city." (p. 2752). A more circular agri-food system in Amsterdam will therefore depend on transforming food - consumption, provisioning, eating, and waste practices.

Land values in cities have a direct impact on circular agri-food systems. For example, high land values lead to housing shortages and a lack of affordability, pushing residents further out into the urban fringe where new housing developments eat up and compete with farmland. Living further outside the city affects commuting times and reduces the time residents must dedicate to a more circular lifestyle. High land values combined with speculative real estate practices also threaten the viability of existing circular food economies – such as urban agriculture, community composting, and community gardening. In cities with high land values urban agriculture must compete with housing and is often granted a temporary use status. High land values are a threat to all forms of urban agriculture, but especially non-profit and community-based forms that lack secure forms of land tenure. Amsterdam and a few other Dutch cities are beginning to pass legislation to challenge the speculative real estate practices that undermine the social sustainability of their cities.

Infrastructure governs how resources are supplied, managed, and consumed in cities. Williams argues that "integrated infrastructural systems" can enable the circular flow of resources across sectors, within urban systems, thereby reducing the intensity of resource use in cities while reducing urban waste streams (Williams, 2019). Most cites are built around and fed by linear infrastructure (and logistics) systems, which bring food into the city and push waste out. The disastrous social and environmental effects of this linear waste management system are well documented by environmental justice researchers and advocates, who show the unequal environmental burden that low income and communities of color carry when it comes to

waste infrastructure. Not only are urban infrastructures linear, but they are also segregated. "The segregation of infrastructural systems reinforced by institutions, regulatory frameworks, funding mechanisms, technological capacity and physical urban form can prevent the adoption of integrated, circular resource systems. This in turn locks-in consumption behaviors that reinforce linear waste producing systems" (Williams 2019, p. 2753). This segregation of infrastructure is especially evident when we examine food, waste, water, and energy systems in cities.

The final blind spots that Williams identifies are scale and localization. The sustainability benefits of various circular economy interventions, policies, and innovations are highly dependent on scale. According to Williams "the scale at which resources circulate (within districts, city-regions, nationally, internationally) is ignored by RESOLVE" (2019, p. 2754). At the same time, as we will show in our exploration of the MRA governance landscape, localization (in the form of short food chains) is one of the chief mechanisms for achieving a more circular food system. Yet, based on our review of the EU Circular Economy Package and the the EU Common Agricultural Policy (CAP) – we would like to caution that circular, local, and sustainable are not equivalent or even mutually reinforcing terms. Local agriculture can still be extremely unsustainable and dependent on linear forms of resource extraction. And we should be wary not to fall into the "local trap" (Born and Purcell 2006) which assumes that local food production is by default more just and sustainable. At the same time, as we have documented in our CbD framework report (D1.1.), we believe policy should do well to avoid the circular trap – if closing material loops (or simply following the RESOLVE framework) will yield sustainability benefits.

In response to the limitations of the RESOLVE framework Williams proposes the Circular City framework (see figure 3).

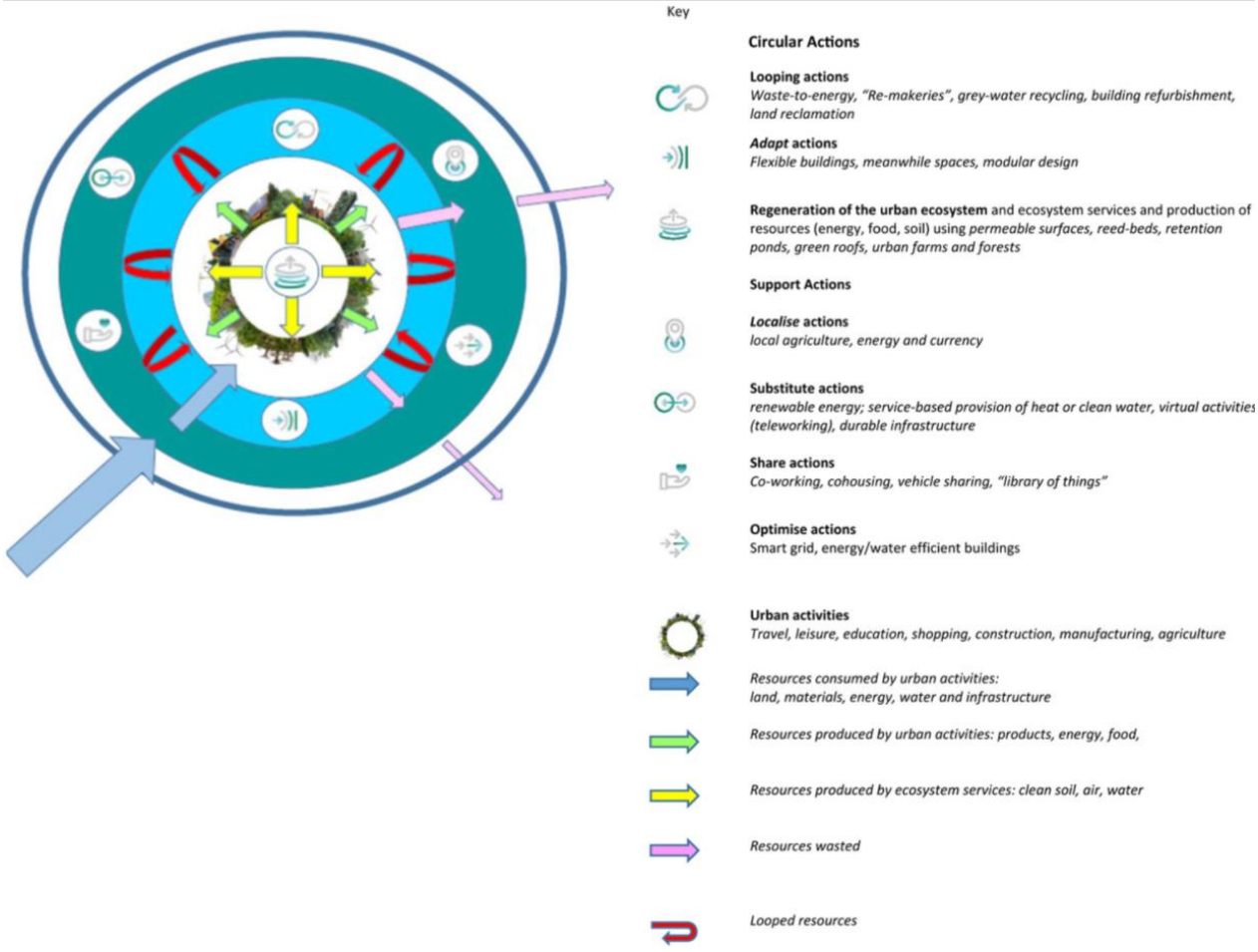

Figure 3 Circular city framework (Source: Williams, 2019)

The framework begins with conceptualizing cities as urban ecosystems that can be guided by the principles of preserving natural capital, optimizing resource use, and designing out negative externalities. The scope of circular city governance includes urban ecosystems; lifestyles and systems of provision; materials, energy, water, land and infrastructure; and diverse actors operating at multiple scales and sectors (ranging from education to agriculture). From this framework seven types of actions are identified:

1. *Loops*: which close loops through recycling, recovery, and reuse
2. *Adapt:* where cities are planned for the adaption and renewal of urban infrastructure
3. *Regenerate*: where natural capital and urban ecosystem services are being actively regenerated
4. *Localize:* where resource flows and activities (including food production and consumption) are localized
5. *Substitution:* where non-renewables are substituted with renewables, resource-based with service-based activities, physical with virtual activities, and no-durable with durable infrastructure
6. *Share*: where resources (e.g., land, housing, mobility, food) are shared in cities
7. *Optimize:* where resource inefficiencies and redundancies are eliminated

Figure 4 below summarizes the differences between RESOLVE and the Circular city framework.

		RESOLVE	Circular City
Principles	Preserve natural capital	The preservation and enhancement of natural capital by controlling finite stocks and balancing renewable resource flows	The ecosystem supporting the city is constantly regenerated, preserving its natural capital and essential ecosystem services.
	Optimise resource use	The optimisation of resource yields by circulating products, components, and materials in use at the highest utility at all times in both technical and biological cycles	Resource consumption is reduced (by sharing, optimising, localising and substitution), and all remaining 'waste' produced by urban activities is looped. Urban infrastructure is also adapted and renewed for new contexts avoiding wastage.
	Design out negative externalities	Fostering system effectiveness by revealing and designing out negative externalities related to resource use	Designing out negative environmental, economic and social externalities related to resource waste in the city
Scope	System	Economic	Urban ecosystem
	Resources	Materials, energy, water	Materials, energy, water, land and infrastructure
	Complexity	Less complex – a single business or industrial sector	Very complex – multiple diverse actors, resources and infra-systems
	Scale	National/international (business or industrial sector)	All scales (with a particular focus on city/local)
	Focus	Focus on systems of production	Focus on lifestyles, social practices and systems of provision
	Sector	Single sector	Multi-sector, cross-sector
	Activities	Manufacturing, supply, transportation and disposal – relating to the production, distribution and disposal of goods/resources	Travel, shopping, leisure, education, manufacturing, construction, agriculture – relating to the consumption, creation and operation of the city
Actions	Loop	Keep components and materials in closed loops (re-use, recycle, recover, remanufacture) and prioritise inner loops	Closing resource loops through recycling, recovery and re-using resources
	Adapt	N/A	Plan and design cities to allow for the adaptation and renewal of urban infrastructure
	Regenerate	Shift to renewable energy and materials; regenerate the health of ecosystems and return recovered biological resources to the biosphere	Regenerating natural capital and urban ecosystem services
	Localise	N/A	Localisation of resource flows and activities (consumption and production) within the city-region to develop local symbiotic capital and encourage pro-environmental behaviour
	Substitution	Virtualise and exchange Dematerialise resource use by delivering utility virtually. Replace products/services for lower resource consuming options	Substitution of non-renewable resources with renewable resources in the supply chain; resource-based activities with service-based activities; and physical with virtual activities, non-durable with durable infrastructure
	Share	To keep product loop speed low and maximise utilisation of products, by sharing them among different users	Sharing resources in cities across a range of activities (e.g. living, working, travel)
	Optimise	Increase performance/efficiency of a product; remove waste in production and supply chain; leverage big data	Optimise the consumption of resources by producers and consumers through the use of efficient technologies and addressing resource redundancies with the urban system

Figure 4 Comparing RESOLVE and circular city conceptualizations (Source: Williams, 2019)

The Circular City framework therefore aligns quite well with our Circularity by Design Framework.

2.2 Circular cities and food in the EU context

At the European level, several policies are in place related to circularity and circular agri-food systems. The strategy with the most direct link is the Circular Economy Action Plan (EC, 2020a) which introduces legislative and non-legislative measures to increase resource use, reduce waste and promote other circular economy processes. With the hopes of making sustainable products and business models the norm and of eliminating waste produced the plan presents a set of initiatives to establish a product policy framework (EC, 2020a). Even though the EU's circular economy action plan states that it will guide the transition of all sectors, the plan itself has mainly focused on the manufacturing industry and waste management. Regarding food systems, Circular Economy (CE) is mentioned to have had a substantial role reducing negative impacts from resource use and to have had a positive impact on restoring biodiversity.

The European Green Deal is one of the European commission's plans for the years 2019-2024. Its aim is to make the European Union's economy sustainable by eliminating net greenhouse gas emissions by 2050 and decoupling economic growth from resource use (EC, 2019). This plan covers several policy areas and includes several initiatives and proposals which are either directly or indirectly linked to circular economy.

Regarding food production the most important initiative is the Farm to Fork strategy, which includes more concrete targets regarding food systems (EC, 2020b). These targets include reducing the use of chemical and more hazardous pesticides by 50%, reducing fertilizer use by at least 20% and converting 25% of total farmland to organic farming by 2030. Even though the goals of the Farm to Fork strategy can be considered ambitious, the actual measures related to food production are implemented through the Common Agriculture Policy (CAP).

The European Commission's proposal for the new CAP has been criticized by NGOs and scholars for failing to make a transition to sustainable food systems and instead directing funding to sustaining the current system (Pe'er et al. 2020). Its weak linkage to circular economy has also been criticized. CAP instruments are considered to have only limited potential to support transformation of food production to the circular economy and CAP is perceived more as a barrier than a catalyst for a circular economy (Wieliczko, 2019).

Another challenge is related to the timelines set forth by these strategies. The Farm to Fork strategy set the target for goals to be met by the year 2030 while CAP is implemented in seven-year periods. One of the main objectives of CAP is to sustain farmer´s incomes which leads easily to short term solutions. In the end, it is member states who are responsible for implementing the strategy which allows them to choose "lighter" measures.

The New Urban Agenda and Horizon 2020 research and innovation framework are a driving force in putting circular economy on the agenda of cities. Municipalities are increasingly dependent on EU funds to complete their budgets and speaking the language of circularity can be critical for accessing necessary resources for infrastructure, research, planning, and innovation. As Keblowski et al. (2020) write, "the CE has come to town. However, the growing interest in the urban dimension of 'circularity' is all but an organic process. Rather, the CE 'buzz' is fueled by key intermediaries such as the Ellen MacArthur Foundation (EMF), global organizations (World Economic Forum, 2018), international institutions (EC, 2018), and national governments (Merli et al., 2018). The CE has further become one of key themes of the European Union's (EU) Urban Agenda and the EU Framework Programme for Research and Innovation, Horizon 2020, which 'has a fallout effect on [urban] strategies of European countries' (Vanolo 2014, p. 889), especially as "financial austerity has made urban authorities increasingly dependent on the EU funding" (p. 142).

There are now numerous case studies of circular economy strategies in European cities, including London, Paris, Amsterdam, Helsinki, and many more. Circular economy strategies in cities encompass visions and policies that are adopted by and implemented in city-regions to stimulate a transition to circular economy, as well as EU and National policies on circularity and agri-food systems. Scholars have categorized these strategies according to the governance instruments they use, the area or sector they target, and the stakeholders they involve. For example, Prendeville et al. (2018) draw on EMF research to map out six common strategies found in circular city policy interventions. These are:

1. Knowledge development
2. Collaboration platforms
3. Business support schemes
4. Regulatory frameworks
5. Procurement and infrastructure
6. Fiscal frameworks

These categories are evident in the various strategies Termeer et al. (2019) identify in the literature. These CE strategies include:

- Eliminating subsidies that favor linear products (Kirchherr et al., 2018)
- Adapting taxation and financial incentives to favor circular investments (Kirchherr et al., 2018; Stahel, 2016)
- Shifting towards circular public procurement (Stahel, 2016; Velenturf et al., 2018)
- Raising awareness through communication programs (Stahel, 2016; Rizos et al., 2015)
- Initiating platforms and information networks (Rizos et al., 2015)
- Enhancing effective university-business-government collaboration (Velenturf et al., 2018)
- Replacing GDP by using 'resource-miser' indicators (Stahel, 2016)
- Investing in education and training (Stahel, 2016)
- Issuing restrictive regulation, such as product bans or waste acts (Cardoso de Oliveira et al., 2019; Velenturf et al., 2018)
- Requiring product standards and labels (Cardoso de Oliveira et al., 2019; Rizos et al., 2015)
- Extending consumer and producer responsibility (Velenturf et al., 2018)

Termeer and Metze (2019) categorize circular economy governance frameworks into three groups of interventions:

1. Setting a provocative ambition
2. Identifying and appreciating small wins
3. Activating mechanisms through which smalls wins can accumulate in transformative change

The literature shows a diversity of policy tools that can stimulate top-down, bottom-up, market-led, and city and citizen-led transitions to a circular economy. Our analysis of the circular economy governance landscape is informed by the categories and types of policy tools that have been identified in previous research.

The most common policy tool we see in European cities is a **strategy**, which is what Termeer et al. might call "setting a provocative ambition". Circular City strategies often begins with a bold vision of becoming 100% circular by X date, identify priority sectors, and then flesh out a detailed road map. For example, in 2012, the city of Amsterdam published "Toward the Amsterdam Circular Economy" which set out a bold and desirable vision for cycling food, phosphate, waste, water, electricity and heat (Amsterdam, Frantini et al., 2019). In 2017, London launched a road map for circular economy that addressed eight cross cutting themes designed to accelerate the circular economy, with recommendations to support these themes. The themes are quite generic, and include:

1. Communications
2. Collaboration
3. Policy
4. Procurement and market development
5. Finance
6. Business support
7. Innovation
8. Demonstration

The normative vision for circular economy in **London** centers on increasing economic growth (creating 12,000 new jobs and adding $10 billion to the economy) and increasing efficiency in the waste and recycling sector (Bonato and Orsini, 2017, Jones and Comfort, 2018). In 2016 Glasgow developed a vision and action plan that began with creating material flow maps to track the major resources that circulated in the city and identify their environmental impacts, in order to identify priority sectors and pursue targeted circular economy interventions that would generate the greatest environmental impact (Jones and Comfort 2018). In 2016, Paris released a white paper on circular economy that articulated a comprehensive strategy on how to address these through 65 circular economy-based initiatives, covering areas such as education and public awareness building, public procurement, as well as fiscal and regulatory measures" (Fratini et al., 2019). The Paris strategy lays out a clear normative vision for transitioning to a circular economy that will "preserve the planet and its inhabitants using a socially centered approach and build a world that is at once more ecological, more equitable and more united (Marie de Paris and ADEME, 2016, Fratini et al., 2019, p. 982).

The **Paris** strategy stands out among urban circular economy strategies for being co-produced through a participatory process that involved a large variety of public and private stakeholders. The result of this participatory process is increased attention to the social dimensions of circular economy – a bold imaginary of circularity that includes "activities supporting low-income actors by promoting a social and solidarity economy, the localization of production systems, educational programmes and opportunities for learning

aimed at the development of common regional identity." (Fratini 2019, p. 982). Paris identified 8 cross cutting sectors (the 'what'):

1. Food (including urban agriculture & biowaste)
2. Food waste (reduction, awareness, and redistribution)
3. Planning for eco-design and green construction,
4. New economies (performance & reuse)
5. Everyday product design,
6. Equipment design
7. Recoverable energy
8. Industrial and regional ecology

It also identifies seven strategic areas (Fratini et al. 2019) (the 'how'):

1. Encourage and support economic players
2. Innovate and experiment
3. Scale up and establish momentum
4. Change attitudes and practices
5. Involve local authorities, businesses and citizens
6. Create a network linking players

The level of detail in these strategies varies considerably as does the process behind them.

The second most common strategy we see is developing a collaborative multi-stakeholder **platform** or network for circular economy. This can be an important starting point for developing, reflecting on, and refining a circular economy strategy and for achieving an integrated circular food policy that can break down the silos between different sectors and different branches of a municipality (for example planning and waste management). These participatory processes can also lend legitimacy to the resulting strategies and policies. In our review of the greater Amsterdam policy landscape, we see an abundance of these platforms, networks and consortium. However, we also see a lack of coordinated efforts across these platforms which often have temporary support. For example, we saw many networks popping up around food policy councils, and then fizzling out. Without real policy changes there is a risk that key stakeholders, especially from more marginalized groups, will suffer from network fatigue and grow wary of participatory processes that demand a lot of time and energy but offer very little in the way of results and policy changes.

The least common circular strategies we see are changes to **legislation, law, and regulation** - the "rules." These more concrete policy changes can take the form of "carrots" e.g., market incentives, subsidies, public procurement. And "sticks" such as organic and food waste bans, requiring all surplus food to be donated to charities. In the Dutch context circular economy policy has a very "hands off" approach that favors de-regulation over increased regulation. The government takes a facilitative role by removing regulatory barriers, convening stakeholders, and providing market incentives, while leaving circular economy strategy and implementation largely in the hands of private stakeholders. In contrast to the French context, where strong national regulations have set the stage for municipal actors to take a more "hands on" approach that is oriented toward involving citizens as the ultimate beneficiaries of circularity and creating enabling policies that include both "carrots" and "sticks" (see Fratini et al 2019).

Fratini et al (2019) explore the different imaginaries that cities use to make circular economy a knowable object of governance and the extent to which these imaginaries can support socially inclusive and environmentally desirable urban transitions. In their comparison of circular economy strategies in London, Paris, and Amsterdam Fratini et al. (2019) observe a distinct approach to circular economy governance in each city. However, among these cities with different visions and approaches there are still some similar tools being used – especially in Paris and Amsterdam. These tools are:

1. Establishing multi-stakeholder networks and platforms
2. Changing regulations, 3.) Changing Waste Fees
3. Creating Markets for local biomass
4. public procurement as market creation

However, Paris again stands out for the suite of enabling policies it has drafted that align with enabling national regulations on biomass and food waste, including the landmark 2015 food waste bill which bans the disposal of still edible food, and requires large supermarkets to donate this food to charities, or transform it into animal feed or compost.

We can conclude that the autonomy and creativity that cities possess to determine bold new circular food strategies is shaped by the multi-scalar governance processes that they are situated in – national circular

economy agenda, governing style (hands on or hands off), and by EU Legislation. For this reason, it is critical that cities engage in bottom-up participatory processes that help them to articulate a normative vision of circularity that is rooted in local needs, assets, cultures, and desires – rather than copying and pasting from the EU and EMF policy play book. We believe circularity by design can guide such a process and support diverse stakeholders to develop their own roadmaps.

2.3 Methods for mapping the MRA Circular Food Governance Landscape

Zooming down from the European level, in this section we delve deeper into the Amsterdam Metropolitan context. To identify the public governance landscape concerning circular economy, specifically related to food, agriculture and biomass, we analyzed public policy documents created by different levels of government in the Netherlands. We specifically looked at government levels with a relation to the MRA, such as the municipalities of Amsterdam and Almere, the provinces of Noord Holland and Flevoland, and the National government of the Netherlands. Annex 1 gives a list of policy documents analyzed. The policy documents were analyzed to see which of the following items they included:

- Strategy or ambition: what is the goal of the circular economy
- Pathways: sectors or topics on which the circular economy strategy focuses
- Actions: projects implemented within each pathway related to food, agriculture or biomass
- Actors: which public and private organizations are involved in the projects
- Instruments: public policy instruments deployed in the implemented projects

To synthesize the diversity of public policy instruments we used the three categories identified in the Amsterdam Circular Strategy document (Gemeente Amsterdam, 2020). By using the categorization of Amsterdam, we aim to describe the governance landscape in the Amsterdam region. The three categories with underlying subcategories are:

1) Regulatory & Legislative Instruments
    a. Regulations (Strategy & objectives; Spatial planning; Environmental assessment & permits; Monitoring & enforcement)
    b. Legislation (Prohibitory provisions; Performance standards; Technical standards; Labels; Other legislation)
2) Economic instruments
    a. Fiscal framework (Positive financial incentives; Negative financial incentives)
    b. Direct financial support (Subsidies; Circular procurement& infrastructure; Debt financing)
    c. Economic frameworks (Tradable permits; Strong producer responsibility; Public-private partnership)
3) Soft instruments
    a. Knowledge, advice & information (Research activities; Educational programmes; Information campaign; Capacity building)
    b. Collaboration platforms & infrastructure (Data and information exchange platforms; Matchmaking platforms; Participation platforms; Living labs)
    c. Governance (Institutional design; Public-private partnerships; Voluntary agreements; lobbying)

Projects identified in the policy documents on municipal level within the pathways related to food, agriculture or biomass were coded against these categories, to identify which policy instruments have been used or are currently being used.

2.4 Findings on MRA Circular Food Governance

The first Amsterdam Circular Economy vision *Circular Amsterdam* developed within the context of the Dutch Green Deal (2011-15) (Government of the Netherlands 2016), which placed a strong emphasis on the role of companies, local and regional governments, and NGOs in stimulating green growth, reducing regulatory barriers, and transitioning to a sustainable economy through innovation, access to networks, and market incentives (Fratini et al 2019, p. 982). The emphasis of circular economy governance in Amsterdam at this time is given to "resource flows, job creation, sectorial transition and innovation through strategic niche

management aimed at re-framing three main socio-technical regimes: waste, energy, and construction" (Fratini 2019, p. 980). In their 2019 paper Fratini et al. describe the role of the government and municipality as "facilitators of circular resource flows".

In 2015, Amsterdam followed the "circular city scan method" developed by the consultancy CIRCLE to commit itself to six principles:

1. No waste
2. Renewable energy
3. Natural resources for financial and non-financial gain
4. System adaptability for flexible product design and supply chains
5. New business models
6. Human activity for ecosystem services and rebuilding natural capital

In line with the broader Dutch Green Deal approach to "green growth" the 2015 Amsterdam approach was largely hands off, market based, and aimed at creating opportunities to pursue circularity for business, NGOs, and citizens by:

1. Removing legal obstacles and regulatory barriers
2. Creating access to networks
3. Creating strategic market incentives

This market driven approach is complemented by a bottom-up approach in the city of Amsterdam that seeks to capture local green identities, emerging from ongoing bottom-up activities already happening at the city/neighborhood level around sharing, sustainability, and reuse. The governance tools that are used to realize this strategy include (Fratini et al. 2019, Gemeente Amsterdam 2015):

- Multi-stakeholder collaborations,
- Regulations to address non-financial barriers (e.g., easing food safety)
- Strategic niche management
- Change in waste fees
- Creating markets for local biomass
- Public procurement for market creation
- Public authorities as facilitators

The present-day Amsterdam Circular Strategy 2020-2025 (Gemeente Amsterdam 2020) has evolved considerably since the 2015 Circular Amsterdam Vision (Gemeente Amsterdam 2015). By adopting the doughnut economy as the guiding compass for a circular economy transition the city of Amsterdam has greatly strengthened its attention to the social dimensions of circularity and identified food as a key focus. We see greater potential and alignment between the current strategy and the Circularity by Design Framework, than in the 2015 Vision.

3 Concluding remarks

Following the methodology described above, we have screened a selection of the documents addressing the development of a circular economy of public bodies in and around the MRA: the municipalities of Amsterdam and Almere, the MRA region, and the provinces of Flevoland and Noord Holland. We focused on the sections that address food, food systems, and biomass. We have documented which policy instruments these institutions use or plan to use to develop a circular economy according to their policy documents. The level of detail differs between the institutions. The results of this assessment from a high strategic level to individual project level have been laid down in an excel document. Both municipalities have developed a strategy to reach a circular economy as well as an implementation plan for the next years. In the implementation plans, multiple projects are presented in which multiple public policy instruments are applied to develop the economy towards circularity in the food system. Most instruments currently applied by the municipalities focus on 1) establishing collaboration between (private) parties and bringing parties together, 2) direct financial support through circular procurement, 3) aiding in public events on sustainable food production and consumption, and 4) doing or supporting research. These are policy instruments that do not require significant capital, negotiation, or the expenditure of political capital. They are low hanging fruits, that might nudge stakeholders to change their behavior and take responsibility for their own actions in this domain. Policy instruments requiring stakeholders to change their behavior are not applied in the current implementation plans.

3.1 Food on the urban and metropolitan agenda

In addition to policies that specifically address circularity, food has been on the Amsterdam (metropolitan) agenda since 2007, and in current efforts to develop the Amsterdam Food Strategy. Since we are interested in governance for circular agri-food systems, we also provide brief overview of food policy efforts from 2007 till now.

Amsterdam's efforts to develop a food strategy started in 2007, when the then alderman for Public Spaces & Green, Marijke Vos, adopted the program 'Proeftuin Amsterdam'. The program ran successfully for three years, mostly supporting urban food initiatives through subsidies and providing an umbrella function. However, when a new City government was installed in 2010, food dropped off the urban agenda. For the next four years little happened at the political level, although civic movements within the city were very active and urban food initiatives proliferated, also facilitated by the economic crisis of 2008, which had resulted in a building stop leaving plots of land, as well as office buildings, empty. Thus, despite the lack of political support, civic engagement with food and urban agriculture was high, resulting in a vibrant, but also competing 'food field' in Amsterdam.

In this period, political support for an urban food agenda mostly came from the Party for the Animals (a green party on the political left, specifically advocating animal rights). In 2011, they submitted a motion to ask the City government to adopt a new Food policy. The motion was accepted and between 2011 and 2014 a new food policy document was developed by the City's Planning department in consultation with a number of civic organizations. The resulting 'vision' document, 'Food and the City', was adopted just before the municipal elections in 2014.

Irony goes that newly installed City government did little to implement the Food Vision. Thus, even though some projects and policies were successfully implemented (such as the creation of a platform bringing initiatives and information together - Van Amsterdamse Bodem – and the implementation of integral approach to combat obesity - Aanpak Gezond Gewicht) in 2015 civic society groups expressed their disappointment with the ability of the policy to achieve anything tangible in the local Amsterdam newspaper 'Het Parool' (Aalst, Levie & Kranstauber, 2015)

During the municipal elections of 2018, GroenLinks (a green party on the political left) received most votes and formed a City government with D66, PvdA and SP – all parties on the political left of the center. The City government adopted an ambitious sustainability agenda, with alderman Marieke van Doornick (GroenLinks) being responsible for Planning and Sustainability. Key ambitions in the sustainability agenda are the energy transition and circular economy. Under the leadership of Marieke van Doornick, together with consultancy CIRCLE an ambitious process to develop a vision for a circular Amsterdam was developed, while the City at

the same time adopted Raworth's Doughnut Economics (2017). Food is one of the key material flows in the Circular Strategy. In 2019, alderman for Green Spaces, Laurens Ivens, urged again for an Amsterdam Food Policy, which is currently under development.

What this brief historical overview shows, is that the presence of food on the urban political agenda has been heavily influenced by the four-year government cycle and the political color and personal preferences of the responsible Aldermen. Food agendas have mostly been placed under the responsibility of Aldermen of Green (Spaces), while sustainability and circular economy have fallen under the Aldermen for Planning & Sustainability. The original ambition of Proeftuin Amsterdam, to achieve an integral Food Vision, encompassing different domains, has not been achieved. However, the 2014 Food Vision does include an important section on health and combatting obesity. In this urban governance landscape, it appears that the food arena must compete for resources with energy, circular economy, and green infrastructure.

Although the lack of continuity at the level of the City government is striking, it is important to stress that behind the scenes there is a level of continuity and 'institutional memory, with food being placed within the Department of Planning & Sustainability, where a committed group of civil servants have continued to work on food since Proeftuin Amsterdam. Also, in the civic field, several organizations continue to be active and advocate for placing food on the urban agenda.

Although attempts to form a Food Policy Council at the City level have so far failed, two initiatives have emerged at the metropolitan level. First, the Food Council MRA, founded in 2016 by two local food players, Arnold van der Valk (emeritus professor Land Use Planning at WUR and advisor for Platform Eetbaar Amsterdam) and Jeffrey Spangenberg (food entrepreneur) and supported by, amongst others, the province of Noord Holland and the Rabobank. Tellingly, the City of Amsterdam did not commit to participate or sign the manifesto 'Food Connects' (Voedsel Verbindt).

The other initiative is Voedsel Verbindt (same name as the aforementioned manifesto, but a seperate initiative), founded by the Province of Noord Holland and including partners such as provincie Flevoland, gemeente Zaanstad en Rabobank, gemeente Almere, gemeente Beemster, gemeente Purmerend, LTO Noord, Greenport Noord-Holland Noord, Food Council MRA, InHolland, VU Amsterdam, Amsterdam Green Campus, Meerlanden Holding N.V., Amsterdam Institute for Advanced Metropolitan Solutions, Hogeschool van Amsterdam, Aeres Hogeschool, Anmec en het Slow Food Youth Network. The Foodcouncil MRA is partner of this network.

While food has been competing on the urban sustainability agenda with energy, circular economy and green infrastructure, on the regional agenda food has mainly featured under the agricultural agenda. While the connection between food and agriculture seems very natural, in policy terms food and agriculture can be considered two separate domains with very different discourses, ambitions, stakeholders and interests (very similar to CAP and Farm to Fork at the EU level). While food has mainly featured on the regional agenda under agriculture, agriculture is almost entirely absent from the urban food agenda. E.g., in the current Circular strategy of Amsterdam, ambition v1, local food chains don't say anything about the type of agriculture that should be involved. This aligns with our previous remark about the conflation between local, sustainable and circular.

When looking at the governance of circular agri-food systems at the metropolitan level, the split between food and agriculture, the prioritization of energy and circular economy (in the narrow definition of closing material loops) over food on the sustainability agendas and the almost complete absence of circular economy on the *economic* agenda, seems to pose serious challenges for governing a transformation to Circular Agri-Food systems *by design.*

With food as a key pillar of the Amsterdam Circular Strategy we see an urgent need for greater synergy and coordination between the long-standing citizen led activities in sustainable food provisioning such as the MRA Food Council and Voedsel Verbindt and national policies which determine the quantity, character, and quality of our food and organic waste streams. Closing this gap could begin with developing a shared normative vision of circular agri-food system for the MRA region. And we are hopeful that this is already happening in ongoing work to develop the Amsterdam Food Strategy.

4 MRA Stakeholder Inventory – next step

Below is a preliminary list of stakeholders in the MRA, that can be interviewed in the next steps of the CbD project, when further developing the governance landscape for circularity by design. We have selected these stakeholders from our review of policy documents, scientific articles, and our own research networks. They include municipalities, regulatory authorities, water, waste collection, and energy providers, civil society organizations, innovation platforms and networks, and research institutes. We believe each of these stakeholders has relevant knowledge and expertise, and a unique perspective on circular agri-food systems in MRA. We stress that this is a preliminary inventory, and any participatory process to develop a shared vision for circularity by design in the MRA region should also involve citizens as well as project partners from the CbD project.

- MRA
- Municipality of Amsterdam
    - Department space & sustainability (Department Ruimte & Duurzaamheid)
    - Department waste & resources (Department Afval & Grondstoffen)
    - Department economic affairs (Department Economische Zaken)
    - CTO Innovation team (CTO innovatieteam)
    - Environmental and building department (dienst milieu en bouwtoezicht, DMB)
    - Department of physical planning (dienst ruimtelijke ordening, DRO)
- Waternet
- Afval Energie Bedrijf
- Municipality of Almere
- Amsterdam Economic Board
- AMS Institute
- Voedsel Verbindt (platform initiated by the Province Noord Holland)
- Food Council MRA
- REPAIR project (tu DELFT)
- CRESTING project (Utrecht University)
- CIRCLE – worker coop/consultancy responsible for Circular Amsterdam
- NVWA, national food safety authority
- Platform Circular Flevoland
- Agro-innovatieMotor Flevoland
- Floriade Werkt

5 Literature

Aalst, S. Levie, S., and Kranstauber, H. (2015) 'Is de Amsterdamse voedselvisie maar beperkt houdbaar?', Het Parool, January 28, retrieved from https://www.parool.nl/columns-opinie/is-de-amsterdamse-voedselvisie-maar-beperkt-houdbaar~b3935329/

Bernhardt, D., Ho, H., Zeller, K. and Diakoulakis, S. (2019) Municipality-led circular economy case studies. In partnership with the Climate-KIC Circular Cities Project. Climate-KIC. https://www.climate-kic.org/wpcontent/uploads/2019/01/Circular-Cities.pdf

Bonato, D., & Orsini, R. (2017). Urban Circular Economy: The New Frontier for European Cities' Sustainable Development. The New Frontier for European Cities' Sustainable Development. In Sustainable Cities and Communities Design Handbook: Green Engineering, Architecture, and Technology. https://doi.org/10.1016/B978-0-12-813964-6.00012-4

Born, B., & Purcell, M. (2006). Avoiding the Local Trap: Scale and Food Systems in Planning Research. Journal of Planning Education and Research, 26(2), 195–207. https://doi.org/10.1177/0739456X06291389

Cardoso de Oliveira, M.C., Cardoso Machoda, M., Chiappetta-Jabbour, C.J., Lopes de Sousa Jabbour, A.B., 2019. Paving the way for the ciruclar economy and more sustainable supply chains: Shedding light on formal and inforal governance instruments used to induce green networks. Management of Evniornemtal Quality: An International Journal. 30 (5), 1095-1113. DOI: 10.1108/MEQ-01-2019-0005

EC, 2018. Circular Economy – Closing the loop: an ambitious EU Circular Economy package. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0614

EC, 2019. The European Green Deal – Communication from the Commission to the European Parliament, the European Council, the Council the European Economic and Social Committee and the Committee of the Regions. Report. 11.12.2019 COM(2019) 640 final, European Commission, Brussels. Retrieved from https://bit.ly/30Vk3EOE

EC, 2020a. A new Circular Economy Action Plan For a cleaner and more competitive Europe. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. https://eur-lex.europa.eu/legalcontent/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN

EC, 2020b "Fact Sheet - From Farm to Fork: Our food, our health, our planet, our future, available online at:" 20 May 2020. [Online]. Available: https://ec.europa.eu/commission/presscorner/detail/en/fs_20_908.

Ellen MacArthur Foundation. (2017). Cities in the Circular Economy: An Initial Exploration. Retrieved from https://tinyurl.com/y8zuqx2r

Fratini, C. F., Georg, S., & Jørgensen, M. S. (2019). Exploring circular economy imaginaries in European cities: A research agenda for the governance of urban sustainability transitions. Journal of Cleaner Production, 228, 974–989. https://doi.org/10.1016/j.jclepro.2019.04.193

Gemeente Amsterdam (2020). Amsterdam Circular Strategy 2020-2025. Retrieved from https://assets.amsterdam.nl/publish/pages/867635/amsterdam-circular-2020-2025_strategy.pdf.

Gemeente Amsterdam (2015) Circular Amsterdam: A Vision and Action Agenda for the metropolitan area https://www.circle-economy.com/resources/developing-a-roadmap-for-the-first-circular-city-amsterdam

Gravagnuolo, A., Angrisano, M., & Girard, L. F. (2019). Circular economy strategies in eight historic port cities: Criteria and indicators towards a circular city assessment framework. Sustainability (Switzerland), 11(13). https://doi.org/10.3390/su11133512

Government of the Netherlands, 2016. The Green Deal, Green Growth Animation. Available at: https://www.greendeals.nl/english. (Accessed 30 November 2018).

Jones, P., & Comfort, D. (2018). Circular City Action Plans. Town and Country Planning.

Kębłowski, W., Lambert, D., & Bassens, D. (2020). Circular economy and the city: an urban political economy agenda. Culture and Organization, 26(2), 142–158. https://doi.org/10.1080/14759551.2020.1718148

Kirchherr, Julian, Denise Reike, and Marko Hekkert. 2017. "Conceptualizing the Circular Economy: An Analysis of 114 Definitions." Resources, Conservation and Recycling 127 (April): 221–32. https://doi.org/10.1016/j.resconrec.2017.09.005.

Mairie de Paris, Ademe, 2016. White paper on the circular economy of Greater Paris. https://api-site.paris.fr/images/77050

Meadows, Donella. 1999. Leverage Points: Places to Intervene in a System. Hartland: The Sustainability Institute. https://doi.org/10.1080/02604020600912897.

Merli, R., Prezioisi, M., Acampora, Al., 2018. How do scholars apporach the circular economy? A systemic literature review. Journal of Cleaner Production (178), 703-722. DOI: 10.1016/j.jclepro.2017.12.112

Obersteg, A., Arlati, A., Acke, A., Berruti, G., Czapiewski, K., Dąbrowski, M., Knieling, J. (2019). Urban regions shifting to circular economy: Understanding challenges for new ways of governance. Urban Planning, 4(3), 19–31. https://doi.org/10.17645/up.v4i3.2158

Paiho, S., Mäki, E., Wessberg, N., Paavola, M., Tuominen, P., Antikainen, M., Jung, N. (2020). Towards circular cities—Conceptualizing core aspects. Sustainable Cities and Society, 59(September 2019), 102143. https://doi.org/10.1016/j.scs.2020.10214

Pe'er, G, Bonn, A, Bruelheide, H, et al. 2020. Action needed for the EU Common Agricultural Policy to address sustainability challenges. People Nat. 2020; 2: 305– 316. https://doi.org/10.1002/pan3.10080

Petit-Boix, A., & Leipold, S. (2018). Circular economy in cities: Reviewing how environmental research aligns with local practices. Journal of Cleaner Production, 195, 1270–1281. https://doi.org/10.1016/j.jclepro.2018.05.281

Prendeville, S., Cherim, E., & Bocken, N. (2018). Circular Cities: Mapping Six Cities in Transition. Environmental Innovation and Societal Transitions, 26, 171–194. https://doi.org/10.1016/j.eist.2017.03.002

Raworth, Kate. 2017. A Doughnut for the Anthropocene: Humanity's Compass in the 21st Century. Lancet Planet Health. Vol. 1. https://doi.org/10.1016/S2542-5196(17)30028-1.

Rizos, V., Abehrens, A., Kafyeke, T., Hirschnitz-Garbers, M., Ioannou, A., 2015. The circular economy: barriers and opportuniities for SMEs. CEPS working document, no. 412. GreenEcoNet EU FP7 project report.

Stahel, W.R., 2016. The circular economy. Nature. 531, 435-438. https://doi.org/10.1038/531435a

Termeer, C. J. A. M., & Metze, T. A. P. (2019). More than peanuts: Transformation towards a circular economy through a small-wins governance framework. Journal of Cleaner Production, 240, 118272. https://doi.org/10.1016/j.jclepro.2019.118272

Vanolo, A., 2013. Smartmentality: the smart city as disciplinary strategy. Urban Studies 51, 5, 883-898

Velenturf, A.P.M., Purnell, P., Tregent, M., Ferguson, J., Holmes, Al., 2018. Co-producing a vision and approach for the transition towards a circular economy: perspectives from government partners. Sustainability, 10, 1401. doi:10.3390/su10051401

Wieliczko, B. 2019. What role for the CAP in making agriculture part of the EU circular economy? Journal of Agribusiness and Rural Development. 53, 279-279

Williams, J. (2013). The role of planning in delivering low-carbon urban infrastructure. Environment and Planning B: Planning and Design, 40(4), 683-706.

Williams, J. (2019). Circular cities. Urban Studies, 56(13), 2746–2762. https://doi.org/10.1177/0042098018806133

World Economic Forum, 2018. Circular economy in cities: evolving a model for a sustainable urban future. White paper. https://www.weforum.org/whitepapers/circular-economy-in-cities-evolving-the-model-for-a-sustainable-urban-future

Zanten, van, Hannah, Van Ittersum, Martin, Boer, Imke. 2019. The role of farm animals in a circular food system. Global Food Security (21): 18-22. https://doi.org/10.1016/j.gfs.2019.06.003

Annex 1 Overview policy documents for analysis

Title	Link
National level: Netherlands	
Nederland circulair in 2050	https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2016/09/ 14/bijlage-1-nederland-circulair-in-2050/bijlage-1-nederland-circulair-in-2050.pdf
Grondstoffenakkoord	https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2017/01/ 24/grondstoffenakkoord-intentieovereenkomst-om-te-komen-tot-transitieagenda-shttps://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2017/01/24/grondstoffenakkoord-intentieovereenkomst-om-te-komen-tot-transitieagenda-s-voor-de-circulaire-economie/grondstoffenakkoord-intentieovereenkomst-om-te-komen-tot-transitieagenda-s-voor-de-circulaire-economie.pdfvoor-de-circulaire-economie/grondstoffenakkoord-intentieovereenkomst-om-tehttps://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2017/01/24/grondstoffenakkoord-intentieovereenkomst-om-te-komen-tot-transitieagenda-s-voor-de-circulaire-economie/grondstoffenakkoord-intentieovereenkomst-om-te-komen-tot-transitieagenda-s-voor-de-circulaire-economie.pdfkomen-tot-transitieagenda-s-voor-de-circulaire-economie.pdf
Transitieagenda circulaire economie	https://www.rijksoverheid.nl/onderwerpen/circulaire-economie/nederland-circulairhttps://www.rijksoverheid.nl/onderwerpen/circulaire-economie/nederland-circulair-in-2050 - timeline-minor-event-152111944-1570179289in-2050#timeline-minor-event-152111944-1570179289
Transitie-agenda circulaire economie Biomassa & Voedsel	https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2018/01/ 15/bijlage-5-transitieagenda-biomassa-en-voedsel/bijlage-5-transitieagendahttps://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2018/01/15/bijlage-5-transitieagenda-biomassa-en-voedsel/bijlage-5-transitieagenda-biomassa-en-voedsel.pdfbiomassa-en-voedsel.pdf
Uitvoeringsprogramma Circulaire Economie 2019 – 2023	https://www.rijksoverheid.nl/onderwerpen/circulaire-economie/nederland-circulairhttps://www.rijksoverheid.nl/onderwerpen/circulaire-economie/nederland-circulair-in-2050 - timeline-minor-event-152111956295153323in-2050#timeline-minor-event-152111956295153323
Municipal level: Amsterdam	
Amsterdam circular 2020-2025: strategy	https://assets.amsterdam.nl/publish/pages/867635/amsterdam-circular-2020-2025_strategy.pdf
Implementation agenda Amsterdam circular 2020-2021	https://www.amsterdam.nl/wonen-leefomgeving/duurzaam-amsterdam/publicatieshttps://www.amsterdam.nl/wonen-leefomgeving/duurzaam-amsterdam/publicaties-duurzaam-groen/amsterdam-circulair-2020-2025-innovatie/?PagClsIdt=15523565 - PagCls_15523565circular duurzaam-groen/amsterdam-circulair-2020-2025-innovatie/?PagClsIdt=15523565#PagCls_15523565
Amsterdam City Doughnut	https://www.amsterdam.nl/en/policy/sustainability/circular-economy/
(concept) Groenvisie 2050	https://www.amsterdam.nl/bestuur-organisatie/werkmap/ons-beleid/ambitieshttps://www.amsterdam.nl/bestuur-organisatie/werkmap/ons-beleid/ambities-uitvoeringsagenda-2019/gezonde-duurzame-stad/groen-amsterdam-2050/inspraak-groenvisie-2050/uitvoeringsagenda-2019/gezonde-duurzame-stad/groen-amsterdam-2050/inspraakhttps://www.amsterdam.nl/bestuur-organisatie/werkmap/ons-beleid/ambities-uitvoeringsagenda-2019/gezonde-duurzame-stad/groen-amsterdam-2050/inspraak-groenvisie-2050/groenvisie-2050/
Municipal level: Almere	

Sustainability agenda Almere	https://www.almere.nl/fileadmin/files/almere/bestuur/beleidsstukken/Beleidsnota_s/53c_BL_Duurzaamheidsagenda_DUURZAAMHEIDSAGENDA.pdf
Uitvoeringsprogramma 2020 Duurzaamheidsagenda Een groene, gezonde stad Almere	https://www.almere.nl/fileadmin/files/almere/bestuur/beleidsstukken/Beleidsnota_s/53d_BL_Duurzaamheidsagenda_UITVOERINGSPROGRAMMA.pdf
Provincial level: Noord-Holland	
Ontwikkelingsperspectief Circulaire Economie	https://www.noord-holland.nl/Onderwerpen/Economie_Werk/Circulaire_economie
Actieagenda Circulaire Economie	https://www.noord-holland.nl/Onderwerpen/Economie_Werk/Circulaire_economie
Agenda Landbouw & Visserij	https://archief13.archiefweb.eu/archives/archiefweb/20160701051226/https://www.noord-holland.nl/web/Projecten/Agenda-Landbouw-en-Visserij-1.htm
Strategisch Beleidskader Economie	https://www.noord-holland.nl/Onderwerpen/Economie_Werk
Uitvoeringsagenda Economie 2016-2019	https://nota.noord-holland.nl/uitvoeringsagenda_economie_2016-2019/
Provincial level: Flevoland	
Omgevingsvisie 'Flevoland Straks'	https://www.omgevingsvisieflevoland.nl/
Uitwerkingsagenda 2020-2025	https://www.omgevingsvisieflevoland.nl/wp-content/uploads/2020/07/Uitwerkingsagenda_2020-2025.pdf
Metropolitan level: MRA	
Ontwikkelplan Circulaire Economie	https://www.metropoolregioamsterdam.nl/wp-content/uploads/2019/10/Ontwikkelplan-Circulaire-Economie-MRA.pdf
Grondstoffenatlas MRA	https://www.metropoolregioamsterdam.nl/wphttps://www.metropoolregioamsterdam.nl/wp-content/uploads/2019/10/Grondstoffenatlas-MRA.pdfcontent/uploads/2019/10/Grondstoffenatlas-MRA.pdf
Metropolitan Landscape; Het metropolitane landschap als strategische opgave	https://www.metropoolregioamsterdam.nl/wp-content/uploads/2019/06/Hethttps://www.metropoolregioamsterdam.nl/wp-content/uploads/2019/06/Het-metropolitane-landschap-als-strategische-opgave.pdfmetropolitane-landschap-als-strategische-opgave.pdf

To explore the potential of nature to improve the quality of life

Wageningen Food & Biobased Research
Bornse Weilanden 9
6708 WG Wageningen
The Netherlands
E info.wfbr@wur.nl
wur.nl/wfbr

Report 2278

The mission of Wageningen University & Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 6,800 employees (6,000 fte) and 12,900 students, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.