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# TOWARDS CIRCULAR FOOD SYSTEMS IN BONN





## Publishers

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# EXECUTIVE SUMMARY



This publication aims to:

- Explore how circular food systems could contribute to Bonn's strategic goals including climate action, the localization of the SDGs and public participation
- Showcase Bonn's existing initiatives around circular food systems
- Identify gaps and opportunities for action to support circular food systems in Bonn based on best practices from local governments of the ICLEI network.

Circular food systems:

- Decouple access to healthy food from waste generation, pollution and resource extraction by rethinking how and where food consumed in the city is produced and reaches end-consumers and facilitating sharing practices.
- Secure the long-term health of the ecosystems they rely on (e.g. soils, water bodies) by prioritizing regenerative practices and resources during all stages of food production.
- Are inspired by natural systems in which waste does not exist but is instead feedstock for another cycle, for instance by ensuring the recovery of organic waste and its reentry into production processes.

Circular food systems follow the five strategies of ICLEI's Circular City Actions Framework (Rethink, Regenerate, Reduce, Reuse and Recover), which are described in the section [About circular food systems](#).

The section [How circular food systems contribute to Bonn's strategic goals](#) showcases the central role circular food systems would play in Bonn's **climate neutrality efforts**. Food production and distribution account for 30% of global greenhouse gas (GHG) emissions and 79% of all food produced is designated for consumption in cities. In Bonn, food related activities are likely to generate close to 150 kton of CO<sub>2</sub> per year. With an estimated 15.000 tons of food waste not revalorized in Bonn each year, **circular food systems are central to the municipality's zero waste ambitions**. Food is an entry point to sustainability for many city dwellers and Bonn is rich with community initiatives around food. As such, circular food systems represent an opportunity to strengthen community initiatives around food and public participation **in line with the "Bonn 4 Future – Wir fürs Klima" initiative**. While contributing to all 17 Sustainable Development Goals (SDGs), this publication demonstrates the **direct impacts of circular food systems to reach the targets of 8 SDGs**, which would support Bonn's efforts to localize and monitor progress on the SDGs. Bonn is rich with community initiatives that support circularity in food systems as demonstrated in the [Bonn's Food Landscape](#) section which identifies the different actors to engage in the transition toward circular food systems. The city can build on existing good practices in which the city played a leading role that span the five R-strategies. These are presented in detail in the [Circular food systems practices in Bonn](#) section.

Finally, this publication offers a [gap analysis](#) based on ICLEI's Circular City Actions Framework, which covers circular economy actions that reflect the different roles that Bonn could play in promoting circular food systems, from public service delivery to cooperation with local stakeholders, asset management, urban planning and regulation and address the impacts across the value chain of products and infrastructures. The [recommendations for actions](#) are based on best practices from local governments of the ICLEI network and would support a holistic transition to circular food systems in Bonn while supporting climate neutrality, zero waste, public participation and the localization of the SDGs.



# ABOUT CIRCULAR FOOD SYSTEMS





# Global food supply chains are out of balance

Food supply chains are amongst the largest contributors to climate change, biodiversity loss, ecosystem pollution, freshwater depletion and land degradation. In addition, it is estimated that 30% of the food produced for human consumption globally is lost or wasted somewhere along food supply chains. In urban areas, this portion can be as high as 50%. As a result, food systems as they are currently organized struggle to meet the food demands of a growing population and are vulnerable to external shocks, including resource scarcity, climate change and health crises such as the Covid-19 pandemic.

## The role of cities in food systems transition

Cities are on the frontline of food chain vulnerabilities. By 2050, it is estimated that 80% of all food will be consumed in cities. With less than 2% of nutrients in the food by-products and human waste generated in cities being safely revalorized<sup>1</sup>, food chain wastages are massively stretching local waste management capacities. Finally, greenhouse gas emissions from the food sector are expected to increase 38% by 2050 under a business as usual scenario, thereby threatening local mitigation efforts.

At the same time, from food procurement and catering services in municipal facilities to organic waste and land use management, local governments can influence food systems across the value chain. Cities and regions can also act as testbeds for new policies and public services to then be taken on at a later stage at the national level. The ability for key actors – distributors, processors, and consumers – to come together at the local level creates a breeding ground for innovative solutions and new business models.

The strategic roles cities play in the food systems transition has been recognized internationally. In 2014, the city of Milan launched an international protocol, aimed at tackling food-related issues at the urban level. Since then, 210 cities from all over the world, representing more than 450 million inhabitants, have signed the Milan Urban Food Policy Pact. In 2021, the UN Secretary-General will convene the UN Food Systems Summit as a part of the Decade of Action for delivery on the Sustainable Development Goals by 2030. The aim of the Summit is to deliver progress on all 17 of the SDGs through a food systems approach, leveraging the interconnectedness of food systems to global challenges such as hunger, climate change, poverty and inequality.

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1 Ellen MacArthur Foundation, 2019, Cities and the circular economy for food, <https://ellenmacarthurfoundation.org/cities-and-circular-economy-for-food>



## Why circular food systems?

Circular economy offers practical solutions to shift away from the unsustainable linear food chains of today. As a resource management framework, it can be used to map opportunities to save resources, build synergies and reduce waste along the value chain while also fostering local economic development, resilience and social inclusion. Circular economy encourages decision makers to make interventions as early in the value chain as possible – from the moment resource extraction is planned – and beyond their jurisdictional boundaries.

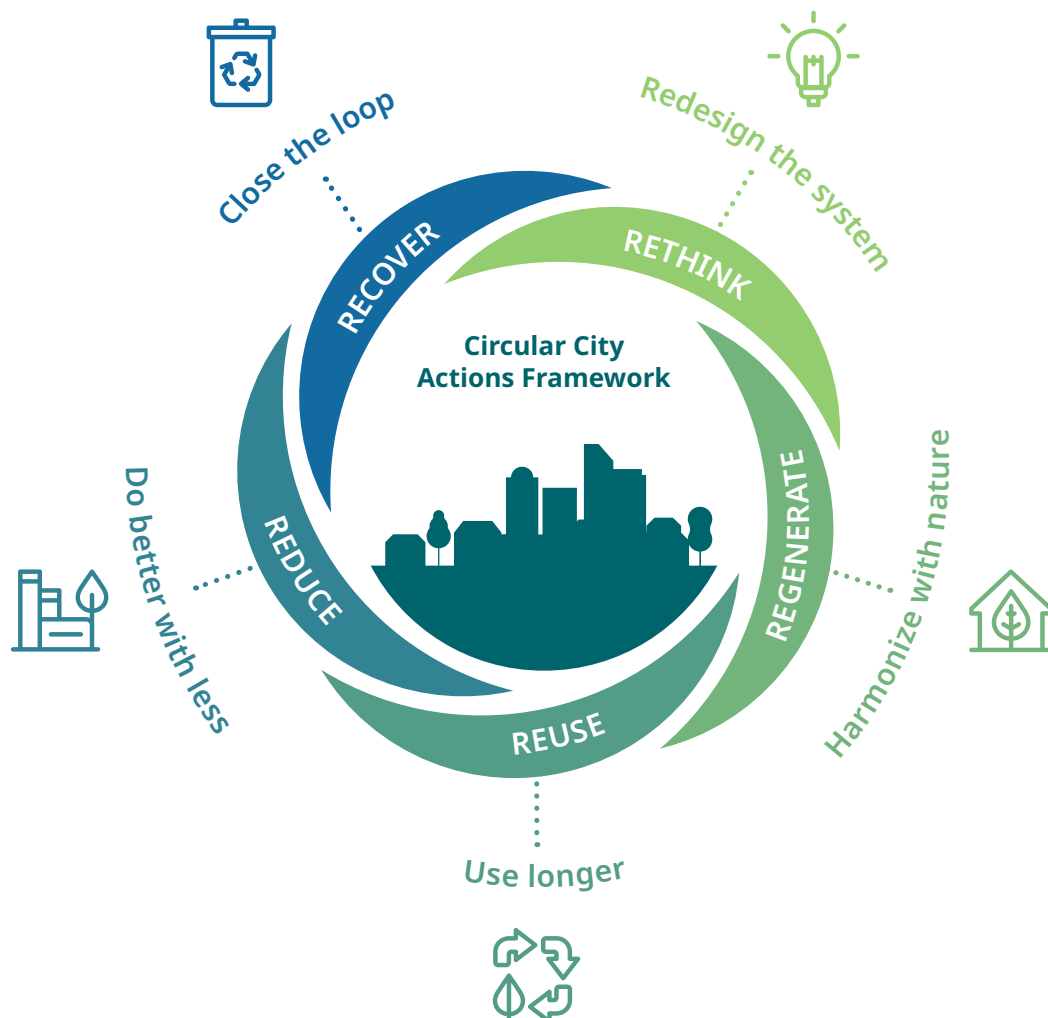
## What is a circular food system?

Circular food systems

- Decouple access to healthy food from waste generation, pollution and resource extraction
- Are inspired by natural systems in which waste does not exist but is instead feedstock for another cycle
- Secure the long-term health of the ecosystems they rely on

They do so by following 5 strategies:

- Rethinking how and where food consumed in the city is produced and reaches end-consumers.
- Regenerating local ecosystems that support or are linked to food systems and ensuring local food activities are powered by renewable resources
- Reducing food waste and loss across resource inputs the lifecycle and supporting more sustainable consumption and production of food
- Reusing food resources through sharing platforms and new business models
- Recovering organic waste and ensuring its reentry into production processes.







# HOW CIRCULAR FOOD SYSTEMS CONTRIBUTE TO BONN'S STRATEGIC GOALS

Circular Food Systems have a strong potential to contribute to the city's strategic goals and can build on existing commitments and local initiatives. By following the five strategies of circular food systems, Bonn can contribute to climate action, public participation, zero waste, and localizing the SDGs. The next sections detail how circular food systems can contribute to Bonn's strategic goals.



# Circular Food Systems for climate action and adaptation

## The central role of food systems in climate action and adaptation

Bonn has committed to become climate neutral by 2035<sup>2</sup>. To achieve this goal, the city is focusing on building climate resilience and ensuring the uptake and further expansion of renewable energy. In addition to these actions, food systems can play a key role in the transition towards climate neutrality: food production and distribution accounts for 30% of global greenhouse gas (GHG) emissions, while 79% of all food produced is designated for consumption in cities<sup>3</sup>. Food waste alone generates about 8% of global GHG emissions<sup>4</sup>. The IPCC Special Report on Climate Change and Land<sup>5</sup> identifies the mitigation and adaptation potential of various food system response options. Food loss reduction is projected to have a 'very high' climate change mitigation potential, and while urban and peri-urban agriculture are estimated to have a 'limited' mitigative effect, the potential for climate adaptation is 'high'. Improved food transport and distribution, as well as improved efficiency and sustainability of food processing, retail and agrifood industries are estimated to hold a high mitigation potential, and an even higher adaptation potential. These mark potential areas where the City of Bonn could take action to support a shift towards circular food systems, while also making progress towards the city's climate ambitions.

## The climate impacts of Bonn's food system

The city of Bonn has taken steps to reduce the climate impacts of its food system by committing to become an Organic city (Bio-Stadt) in 2019, joining 24 other German cities. Thereby, the city reflects the wide availability of organically produced food and the many food-related civil society initiatives in the city, and its aim to achieve a more sustainable, healthy food system. Specifically, the city aims to provide more organic food in public kindergartens, schools as well as care homes. Municipally owned agricultural land will be gradually converted to employ organic farming practices. The city also plans to organize awareness raising actions on organic farming and organic food procurement, as well as conduct public relations campaigns for Bonn's citizens through networking of different actors of the local food system. Furthermore, the 2020 coalition agreement of the city government specifies the aim to increase the proportion of organic and regional produce by 50%, as well as ensuring that at least 20% of food sold on weekly markets is organic and regionally produced<sup>6</sup>.

Regarding food related emissions specifically, currently these are not tracked in Bonn. However, based on scaled down national data, it can be estimated that food related activities generate close to 150 kton of CO<sub>2</sub> in Bonn per year: This number encompasses both agriculture, forestry and fishing activities (accounting for around 100.9 kton CO<sub>2</sub>) and food service activities (46.45 kton CO<sub>2</sub>). These estimates do not account for GHG emissions linked to the transportation of food. The RUAF foundation estimates that in a city of around 350.000 inhabitants like Bonn, 16 million driven kilometers could be avoided if 20% of the food consumed was produced locally.

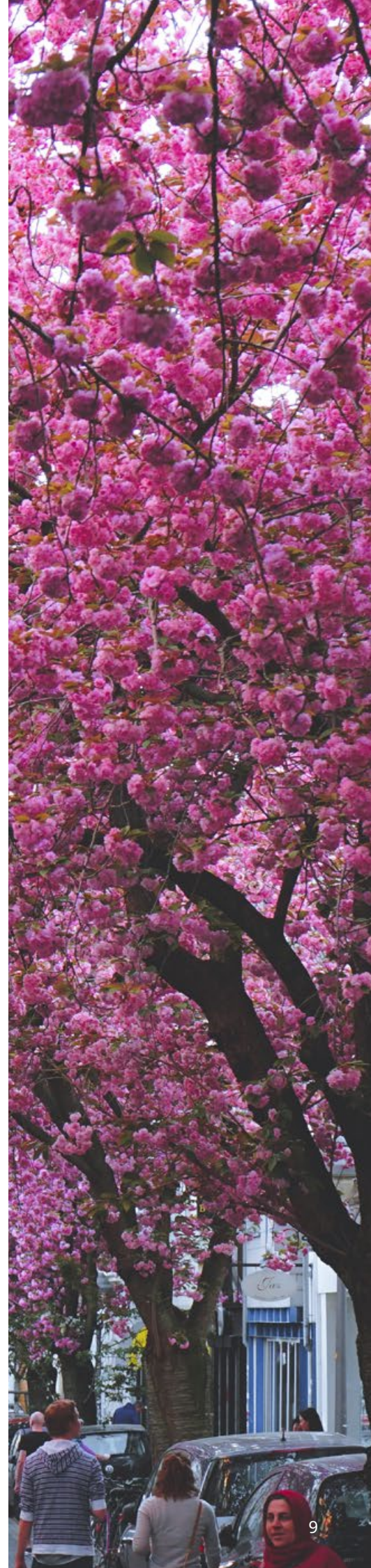
2 Stadtrat Bonn, 2020, Sitzung des Hauptausschusses anstelle des Rates nach § 60 Abs. 1 Satz 2 GO NRW, <https://www.bonn.sitzung-online.de/public/to020?TOLFDNR=11542>

3 FAO, 2019, Framework for the Urban Food Agenda

4 FAO, 2015, Food wastage footprint and climate change, <http://www.fao.org/3/bb144e/bb144e.pdf>

5 IPCC, 2019, Special Report Climate Change and Land, <https://www.ipcc.ch/site/assets/uploads/2019/11/SRCCL-Full-Report-Compiled-191128.pdf>

6 Bonn sozial und klimagerecht. Koalitionsvertrag 2021-2025, [https://www.gruene-bonn.de/partei/wp-content/uploads/sites/3/2021/02/Koalitionsvertrag\\_2020-2025-1.pdf](https://www.gruene-bonn.de/partei/wp-content/uploads/sites/3/2021/02/Koalitionsvertrag_2020-2025-1.pdf)





## How circular food systems support climate action and mitigation



**Rethink:** Building more local food systems is a key way to prevent transport-related emissions, and public procurement of circular food services supports low carbon food consumption.



**Regenerate:** Supporting regenerative agriculture protects land and the soil's ability to act as carbon sinks.



**Reduce:** Minimizing food waste has a high emission reduction potential. Reducing the use of pesticides and fertilizers in urban and peri-urban agriculture avoids emissions caused by their production as well as the release of nitrous oxide and other greenhouse gases with a higher warming potential than CO<sub>2</sub> during the use phase.



**Reuse:** Supporting food sharing initiatives helps reduce food waste.



**Recover:** Measures to support composting and recovery of organic waste to produce organic (non-synthetic) fertilizers or other food items (e.g. mushroom production on coffee grounds) can avert emissions

## Circular Food Systems to become zero waste

### Why food systems are key in zero waste ambitions

In Germany, approximately 11 million tons of food are thrown away yearly<sup>7</sup>, accounting for 75kg of food waste per capita (according to 2019 data<sup>8</sup>). The German federal government aims to halve food waste per capita at retail and consumer level by 2030, as well as to reduce food losses along the production and supply chain<sup>9</sup>.

The European Union also put forward targets that address organic waste and apply to municipal governments alike include<sup>10</sup>:

- Recycling and preparing for re-use of municipal waste (including bio-waste) to be increased to 70% by 2030;
- Phasing out landfilling by 2025 for recyclable (including plastics, paper, metals, glass and bio-waste) waste in non hazardous waste landfills – corresponding to a maximum landfilling rate of 25%;
- Reducing food waste generation by 30 % by 2025;
- Introduction of separate collection of bio-waste.

Moreover, the EU Circular Economy Action Plan<sup>11</sup> set a target to harmonize separate collection of waste streams, including organic waste, in all European countries by 2025. The amount of residual, i.e. non-recycled, municipal waste is aimed to be halved by 2030. The EU Directive on Single-Use Plastics<sup>12</sup> is also relevant for the food sector, as it enshrines market placement restrictions of cutlery, beverage stirrers, and food and beverage containers made of single-use plastics.

7 Zero Waste Berlin Festival, 2021, Sustainable Food Systems: Why It's Not Just About You, <https://zerowasteberlinfestival.com/food-waste-why-it-isnt-just-about-you/>

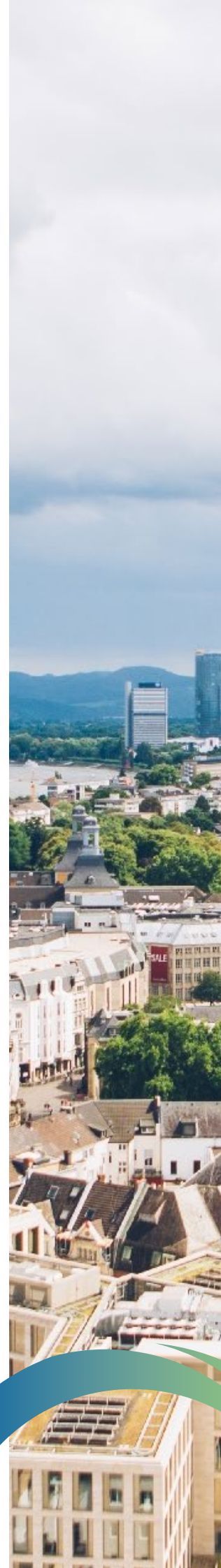
8 UN Environment Programme, 2021, Food Waste Index Report 2021, <https://wedocs.unep.org/bitstream/handle/20.500.11822/35280/FoodWaste.pdf>

9 Umweltbundesamt, 2021, Abfallvermeidung, <https://www.umweltbundesamt.de/themen/abfall-ressourcen/abfall-wirtschaft/abfallvermeidung#vermeidung-von-lebensmittelabfallen>

10 European Commission, n.d., Biodegradable waste, [https://ec.europa.eu/environment/topics/waste-and-recycling/biodegradable-waste\\_en](https://ec.europa.eu/environment/topics/waste-and-recycling/biodegradable-waste_en)

11 European Commission, 2020, Circular Economy Action Plan, [https://ec.europa.eu/environment/pdf/circular-economy/new\\_circular\\_economy\\_action\\_plan.pdf](https://ec.europa.eu/environment/pdf/circular-economy/new_circular_economy_action_plan.pdf)

12 European Commission, DIRECTIVE (EU) 2019/904 on the reduction of the impact of certain plastic products on the environment, <https://eur-lex.europa.eu/eli/dir/2019/904/oj>







## Bonn's path to zero waste

The city of Bonn is striving to significantly reduce the volume of residual waste generated by private households. The long-term goal set by the new city administration is to become a zero-waste municipality. Becoming a zero waste city or significantly reducing waste alleviates resource pressures and environmental pollution and contributes to economic, social and environmental goals. As part of its zero waste ambition<sup>13</sup>, the city of Bonn is focusing on food waste reduction and packaging reduction initiatives, as well as campaigns to encourage sustainable consumption in pursuit of the goal to become a zero-waste city. There is already a lively zero waste community in Bonn, with at least four privately established packaging-free grocery stores in the city<sup>14</sup>. Bonn has shown political commitment to taking a resource-efficient approach to waste management through participating in international waste management networks, such as the [PREVENT Waste Alliance](#) and the [Waste Wise Cities Campaign](#) by UN Habitat.

The municipal waste management service [BonnOrange](#) offers all households in all city districts the opportunity for separate collection of organic, paper and plastic waste, in addition to residual waste<sup>15</sup>. Yet, not all households and housing service providers offer the bins for organic waste collection, which has impacts on the level of organic waste diversion. This is also seen in the data: In 2019, 11.046 tons of organic waste were collected in Bonn, according to BonnOrange. Yet the United Nations Environment Programme Food Waste Index Report 2021<sup>16</sup> estimates that the average per capita food waste estimate for Germany lies at 75 kg in 2019, which would amount to over 25,000 tons of food waste in Bonn per year. This indicates that **around 15.000 tons of organic waste is not revalorized in Bonn.**

## How circular food systems can help achieve zero waste



**Rethink:** Fostering shorter supply chains with less intermediaries can counteract food loss.



**Regenerate:** Minimizing waste reduces pollution of urban agricultural land and urban ecosystems such as green spaces.



**Reduce:** Promoting efficient agro-processing practices reduces wastage.



**Reuse:** Encouraging the use of reusable containers for takeaway of food can decrease packaging waste.



**Recover:** Supporting the development of new purposes for by-product streams decreases waste production.

- 
- 13 Bonn sozial und klimagerecht (p. 26). Koalitionsvertrag 2021-2025, [https://www.gruene-bonn.de/partei/wp-content/uploads/sites/3/2021/02/Koalitionsvertrag\\_2020-2025-1.pdf](https://www.gruene-bonn.de/partei/wp-content/uploads/sites/3/2021/02/Koalitionsvertrag_2020-2025-1.pdf)
- 14 <https://www.lieberunverpackt.de/>, <https://limasfairpacktewelt.de/>
- 15 BonnOrange, 2021, Übersicht - Abfälle, Tonnen & Co. <https://www.bonnorange.de/service/privatpersonen/abfaelle-tonnen-co/uebersicht>
- 16 UN Environment Programme, 2021, Food Waste Index Report 2021, <https://wedocs.unep.org/bitstream/handle/20.500.11822/35280/FoodWaste.pdf>



# Circular Food Systems to facilitate participation and inclusion in climate action and sustainability

## Food systems and public participation

With their close proximity to citizens, cities are well positioned to foster citizen participation in urban sustainability initiatives. Food is an entry point to sustainability for many city dwellers. Innovative approaches to urban food provision, often also serving a social and community-building purpose, are increasingly taken in initiatives by farmers, consumers, start-ups and NGOs, who recognize people's growing need to feel connected to the food they consume by consciously sourcing local food and engaging in small-scale food production on their balconies or gardens.

## Public participation in food systems in Bonn

In the coalition agreement, the new city administration identifies citizen's participation as important to ensure greater satisfaction of citizens, as well as to improve neighborly solidarity and the sense of belonging. The agreement particularly recognizes the need and demand for more citizen participation in climate-related domains by stating that the climate protection center of the city will be staffed accordingly to meet these needs.

Through the initiative „[Bonn 4 Future – Wir fürs Klima](#)“, the city is demonstrating its commitment to co-design climate actions in Bonn with community groups and local residents stemming from civil society efforts. With the view of Bonn becoming climate neutral by 2035, this initiative is developing a platform to connect local climate actors and initiatives. Furthermore, Bonn 4 Future organized the first of four citizen's climate assemblies ('Klimaforum') in September 2021, in which 100 randomly selected citizens of Bonn discussed climate matters with food being one of the five main topics of discussion. These assemblies will provide recommendations to the city council to develop its plan to become climate neutral by 2035.

Bonn 4 Future was initiated by the new city administration as well as the Transition Town initiative [Bonn im Wandel e.V.](#), an organization which has established itself as a central actor for sustainability and transformation in Bonn and has placed inter alia a strong focus on food systems transformation. The organization is well connected with the many community initiatives that already contribute to circular food systems ([see the stakeholders mapping](#)). In addition, a Food Policy Council was initiated in 2017 and the council co-designed a [vision](#) for sustainable food systems by 2030. This envisions participatory, regional and organic food systems, which bring people of different generations and walks of life together. It also foresees the creation of a nutrition plan for the city by 2030, a greater expansion of urban gardening projects and the implementation of a circular economy in the local food system which regenerates the soils while producing organic food.





There are many possibilities for public participation in Bonn's food systems: Classical urban gardening projects such as Stadt-Fruchtchen and the Tannenbuschhaus, for example, provide opportunities for citizens to participate in community gardening activities. Moreover, there are several initiatives that run community-supported agriculture (CSA; Solidarische Landwirtschaft, SoLaWi) programs, through which members support farmers directly by paying a fixed price for weekly produce deliveries. In the greater Bonn region, there are three such programs: the society SoLaWi Bonn Rhein/Sieg e.V., SoLaWi Hanfer Hof and SoLaWi Alfter. More on these initiatives in the section [Circular Food Systems Gap Analysis](#).

## How circular food systems can foster public participation



**Rethink:** As circular food systems look at the full value chain and support systems with more direct interactions, food democracy and direct participation is facilitated, and local food chains are supported.



**Regenerate:** Through community-supported agriculture (CSA) and similar community-based approaches, citizens support farmers directly and help ensure appropriate revenues for those who use regenerative farming practices.



**Reduce:** Citizen participation and civil society initiatives can raise awareness about food waste reduction strategies.



**Reuse:** The city can encourage sharing initiatives, such as food sharing and provide spaces in which food can be deposited and picked up, possibly supported with digital solutions.



**Recover:** Civil society initiatives can be supported for recovery of organic waste streams to be reused in new production.



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# Circular Food Systems to localize the SDGs

## How circular food systems supports the localization of the SDGs

Circular and sustainable food systems contribute to all 17 Sustainable Development Goals (SDGs) of the UN 2030 Agenda for Sustainable Development. While being most closely linked to the SDG 2 "End hunger, achieve food security and promote sustainable agriculture" and SDG 12 "Ensure sustainable consumption and production patterns", the transition towards circular food systems for example advance the goals of Climate action (SDG 13) by mitigating emissions through reduced food waste and ensuring shorter food supply chains, as well as the goal Sustainable cities and communities (SDG 11) through procurement and urban agriculture, and Decent work and economic growth (SDG 8) by ensuring fair wages for farmers.

The SDGs provide a framework for national, regional and local governments alike; the implementation of the SDGs at national level relies on the goals being localized in cities and regions. Cities thus play a key role in achieving the SDGs: the OECD estimates that at least 105 of the total of 169 targets will not be achieved without the efforts of local governments<sup>17</sup>. While there exists no structured reporting process for local governments, in 2018 the first cities submitted their Voluntary Local Reviews (VLRs) of SDG implementation at local level, an example which the city of Bonn followed.

## SDGs Voluntary local review in Bonn

The City of Bonn has shown its commitment to sustainable development and is taking a leading role in localizing the SDGs in the city's strategy. Bonn's first sustainability strategy, guided by the SDGs, was adopted by the city council in February 2019. As one of the first cities in Germany, in October 2020 Bonn submitted a Voluntary Local Review<sup>18</sup> of the state of SDG implementation. The city reports progress along 46 indicators in six domains, namely (1) mobility, (2) climate and energy, (3) natural resources, (4) labor and the economy, (5) social participation and gender equality, and (6) global responsibility. A circular approach to food systems contributes to progress in all domains: By localizing food systems, a circular approach to food in the city can shorten transportation ways and thereby contribute to promoting sustainable commercial traffic (mobility). Circular consumption practices in the food system, such as minimizing food waste, also contribute to the goal of promoting resource-saving lifestyles (Climate and energy). Promoting organic production and protecting urban biodiversity through urban farming practices can increase well-being of citizens and promote sustainable consumption (natural resources). Urban community gardens also encourage an effective culture of participation (Social participation and gender equality). By supporting urban-rural interlinkages through local farmers markets and community-sourced agriculture programs, circular food systems contribute to enabling good and fair work (Labor and the economy). Lastly, through the goals of the Bonn as an Organic city initiative, the city is taking action to make its procurement of food and food services sustainable (Global responsibility).

Beyond the major development domains that Bonn is reporting on, the transition to circular food systems also addresses the following SDGs.

## How circular food systems can help localize the SDGs

A circular approach to food systems contributes to the following SDGs. The transition to circular food systems would support Bonn's sustainability goals in multiple ways and contribute to federal, European and international sustainability goals.



Facilitate access to health and sustainable food e.g. in public schools through **Rethink** strategies



Positive health impacts of seasonal and organic food consumption through **Regenerate** strategies



Decent wages for local farmers Supporting local food innovations through **Rethink** strategies



Facilitate access to health and sustainable food – also in schools through **Rethink** & **Reuse** strategies



Use of city-owned lands for organic agriculture through **Regenerate** strategies



Promote sustainable food related lifestyles (e.g. favouring seasonable plant-based options and limiting food waste) through **Rethink** strategies



Regenerative production of food Urban agriculture contribute to local biodiversity through **Regenerate** strategies



Collaboration across the food value chain Partnership with civil society through **Rethink** strategies

<sup>17</sup> OECD, 2020, A Territorial Approach to the Sustainable Development Goals, <https://doi.org/10.1787/e86fa715-en>

<sup>18</sup> Bundesstadt Bonn, 2020, SDG-Lokalbericht aus Bonn, <https://www.bonn.de/sdg-bericht>





# BONN'S FOOD LANDSCAPE



This section presents the key characteristics and actors of Bonn's food landscape.

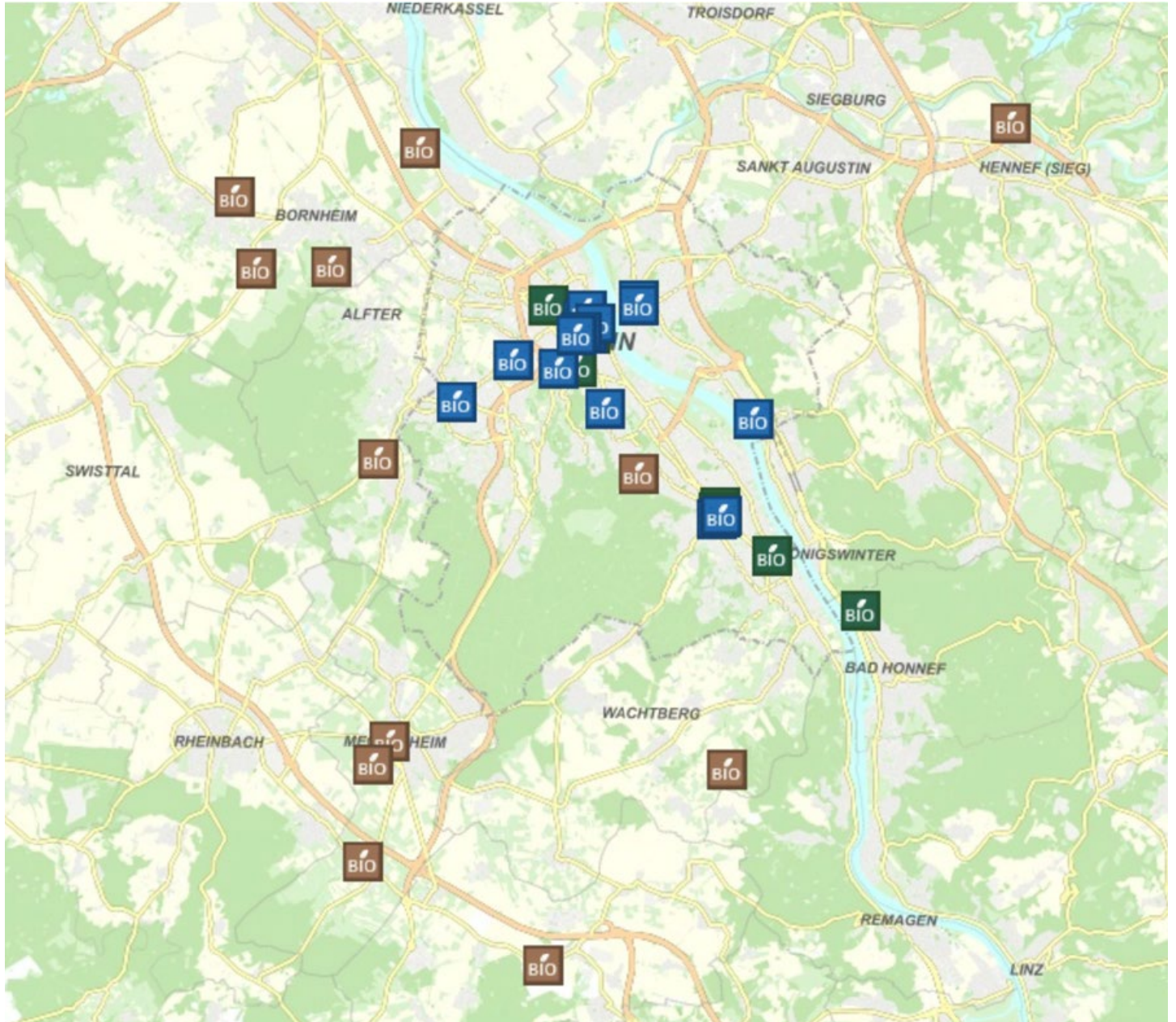




## Spatial assessment of the food landscape in Bonn

Bonn currently hosts 230 hectares of state agricultural land. The city is located in the Jülich-Zülpich Börde, a region of highly fertile lowland in Western Germany<sup>19</sup>. This landscape has been used for agriculture for over 3,000 years and its soils are among the most productive in the world. In the last hundred years, the modernization of agriculture has led to land specialization in single crops (sugar beets, cereals) and an overall decline in the number of farms.

Despite these trends, Bonn is rich with community initiatives that support circularity in food systems. More than ten organic farms are located in the surrounding area of Bonn and are linked to community supported agriculture programs. The city itself hosts close to 15 food markets, including 3 regional farmers markets and 2 organic markets. The city is also home to 20+ community gardens.



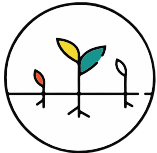




Organic farm stores (in brown), organic stores and supermarkets (in blue) and organic markets (in green) in Bonn and the region.  
© Bundesstadt Bonn: Amt für Bodenmanagement und Geoinformation

<sup>19</sup> Setup Food Strip, <http://www.foodstrip.eu/>



# Stakeholders mapping

The table below maps stakeholders in the food system in Bonn, including both those organizations which are engaging in the local food system directly, as well as those holding leverage and acting as conveners on a broader regional level, such as regional chambers of commerce.

	 Production	 Aggregation and processing	 Markets & distribution	 Consumption	 Resource and waste recovery
Public sector	Federal Organic Farming Program (Bundesprogramm Ökologischer Landbau); City planning department (Stadtplanungsamt)	N/A	Department for regional Development (Wirtschaftsförderung); Department for planning, environment and traffic (Amt für Umwelt und Stadtgrün)	Bonn public food provision (e.g. schools, canteens); Bonn school administration (Schulamt); Bonn's procurement department	Bonn municipal waste service BonnOrange; Rhein-Sieg county waste management service RSAG AöR; consumer protection authority (Verbraucherzentrale)
Private sector	Competence Center for Corporate Social Responsibility Rhineland (CSR Kompetenzzentrum Rheinland); Chamber of Commerce (IHK Bonn/Rhein-Sieg) Regional farms	Competence Center for Corporate Social Responsibility Rhineland (CSR Kompetenzzentrum Rheinland); Chamber of Commerce (IHK Bonn/Rhein-Sieg)	Bonn food vendors (Bonner Lebensmittelhändler); Chamber of Commerce (IHK Bonn/Rhein-Sieg); Marktschwärmer Bonn; Zero waste shops (e.g. Freikost Deinet, Lieber Unverpackt, Oat Rebels, LiMa's fairpackte Welt); Organic produce delivery service Himmel und Ääd	German hotel and gastronomy association (Deutscher Hotel- und Gaststättenverband e.V.); Competence Center for Corporate Social Responsibility Rhineland (CSR Kompetenzzentrum Rheinland); Chamber of Commerce (IHK Bonn/Rhein-Sieg)	Zero waste shops (e.g. Freikost Deinet, Lieber Unverpackt, Oat Rebels, LiMa's fairpackte Welt); Chamber of Commerce (IHK Bonn/Rhein-Sieg)
Research and development	University of Bonn (e.g. Agriculture Faculty / Landwirtschaftliche Fakultät and Institute for Organic Agriculture / Institut für organischen Landbau); Science Shop Bonn (Wissenschaftsladen); International Centre for Sustainable Development (IZNE) – Bonn-Rhine-Sieg University of Applied Sciences	N/A	N/A	Science Shop Bonn (Wissenschaftsladen Bonn); Citizen-Science-Plattform „Bürger schaffen Wissen“	N/A
Community	Community-supported agriculture: Verein SoLaWi Bonn Rhein/sieg e.V., SoLaWi Hanfer Hof, SoLaWi Alfter; Regionalwert AG Rheinland; MeineErnte; Urban gardening projects such as Stadtfrüchtchen	Regionalwert AG Rheinland (as a platform to support organic agro-food processing)	After-work market (Feierabendmarkt), Marktschwärmer, Organic markets (Ökomarkt), Regionalwert AG, FoodCoop Bonn, Community Supported Agriculture (SoLaWis), Green city market	Bonn im Wandel e.V. (Transition Town Initiative Bonn), Foodsharing Bonn, Abenteuer Lernen e.V. (Schule der Zukunft/School of the future), Slow Food Bonn, Regionalwert AG Rheinland	Bonn im Wandel e.V. through CSA Bonn; Zero Waste Bonn; Science Shop Bonn (Wissenschaftsladen Bonn)





# CIRCULAR FOOD SYSTEMS PRACTICES IN BONN

In this section, existing circular food systems practices in Bonn are illustrated through case studies sorted along the 5 R's: Rethink, Regenerate, Reuse, Reduce and Recover.







## Rethink: Urban agriculture plots allocation

The city of Bonn supports urban agricultural initiatives by allocating vacant land throughout the city for use as urban gardens.

The city has set up an easy, streamlined process for gaining access to gardening plots. Interested gardeners can write to the city requesting access to designated urban gardening areas. A map of city-owned land allocated to urban gardening may be viewed on the Bonn municipality [website](#). After a meeting with the Bonn City Office for Green Spaces (Amt für Umwelt und Stadtgrün), residents may lease the land for a small fee.

This land allocation provision has allowed numerous urban garden sites and initiatives to thrive in Bonn. One such initiative is Bonn im Wandel's edible city and urban gardening network (Essbare Stadt & Urbanes Gärtnern), an information and networking platform on sustainable agriculture and urban gardening in the city. The network's [web page](#) provides information about numerous community gardens located city-wide.

Another initiative is Stadtfrüchtchen, which aims to make urban gardening opportunities broadly accessible in Bonn while at the same time building community social networks, supporting urban biodiversity, and raising awareness about the benefits of healthy, organic, seasonal food.

There is something for everyone when it comes to urban agriculture in Bonn. The city's garden-friendly policies provide a variety of options: residents may start their own plots or connect with urban gardening groups and community initiatives working side-by-side with the city to build sustainable, circular food systems.







## Regenerate: Sustainable production - Organic City Bonn

The Bonn City Council decided to join the nationwide network of Organic Cities in February 2019. The network comprises 24 municipalities from all over Germany that cooperate to promote organic farming and processing and stimulate demand for locally produced organic foods with regional added value.

The City of Bonn has already taken its first steps towards ensuring more organic farming and food. Since the beginning of the 2018-2019 school year – and in public kindergartens since the beginning of 2019 – the majority of public schools in Bonn have served meals in which 10 percent of food procured is in certified organic quality. There are plans to gradually increase the quota to 20 percent, in line with the City's Sustainability Strategy. Care homes in Bonn have also been instructed to serve more food from organic and local sources.

The City of Bonn has also assumed responsibility for promoting organic farming on the production side. To aid this process, the Council passed a resolution in February 2019 to prioritise organic farming on leased urban agricultural land in the ownership of the city of Bonn. Proactive expansion of information, education and public relations activities on the topic of organic farming and food, as well as cooperation with ongoing initiatives, has got off to a successful start: the first major agricultural festival was held in September 2019, organised by Organic City Bonn as well as Bonn-based food and sustainability initiatives in the city center. Featuring a large number of booths and an extensive, varied programme, the festival showcased the broad range of local products and initiatives and was well received by the crowds of visitors. The festival has been supplemented with the fairtrade topics and continued as a festival for holistic sustainability in Bonn ('Bonn-Rundum Nachhaltig').

Additionally, Organic City Bonn organised regular organic networking cafés on various aspects of regional organic value chains – from production to processing, hospitality and consumption – are also well attended in their online and offline forms. The aim of these activities funded by the German Agricultural Ministry is to raise the awareness of Bonn's citizens towards organic food and its regional availability.







## Reduce: Promoting packaging-free local food chains

Packaging-free grocery shopping is possible in at least four dedicated packaging-free stores in Bonn: [Freikost Deinet](#) was the first packaging-free grocery store to open in Germany, and other local packaging-free stores include Bönnsche Lädche, Oat Rebels and LiMa's fairpackte Welt. Bonn's weekly markets<sup>20</sup> also offer a packaging-free shopping experience: In spring 2021, following a joint decision between the city of Bonn, the German market cooperative, and local vendors, the use of light-weight plastic bags was banned on Bonn's weekly markets, a step towards the goal of fully plastic free markets in the mid term<sup>21</sup>. Several individual vendors have previously already stopped offering plastic bags, and the measure also follows public support, as many market shoppers were already bringing their own reusable bags. On civil society level, the initiative Zero Waste Bonn and the local network "Plastic bag? No thanks!" ([Plastiktüte? Nein Danke!](#)) are engaged. The latter aims to support Bonn in becoming the first plastic-free city in Germany and offers educational materials to promote responsible resource use through engaging, experimental activities.



20 Bonn.Market, 2020, Neue Stände auf den Bonner Märkten, <https://bonn.market/2020/10/15/neue-staende-auf-den-bonner-maerkten/>

21 Bonn.Market, 2021, Ab 1. April 2021 keine Plastiktüten mehr auf den Bonner Märkten, <https://bonn.market/2021/03/23/ab-1-april-2021-keine-plastiktueten-mehr-auf-den-bonner-maerkten/>





## Reuse: “Bonn geht den Mehrweg” from BonnOrange

In July 2019, the municipal waste management service [BonnOrange](#), together with representatives from the gastronomy association and deposit system providers, launched the campaign “[Werde Cupster: Bonn geht den Mehrweg](#)” (‘Become a Cupster: Bonn goes reusable’). The aim of this initiative is to prevent waste from disposable coffee cups, which add up to 40,000 wasted paper cups in Bonn daily, and frequently are the source of overfilling municipal waste bins and littering in the city. Around 153 participating cafés and restaurants, shown in the city [map](#), offer customers to bring their own refillable cup for their beverages, sometimes with the reward of a discount. Some also offer one of the three reusable deposit systems from the providers Recup, CupForCup or Logicup as an alternative to own personal cups. The reusable cups can be returned for the deposit at any participating café or restaurant. The initiative also aims to reduce the number of single-use bottles by displaying which restaurants and cafés offer free water bottle refills.

The initiative has been embraced by local gastronomy: after launching the map, the number of participating cafés and restaurants doubled. The campaign has also received positive reactions in the local media and has been successful in raising awareness about sustainable take-away in Bonn’s citizens.

Building on the success of this initiative, BonnOrange relaunched the campaign with the new title “Bonn geht den Mehrweg” (‘Bonn goes reusable’) in August 2021. The restart reflects the expansion of the campaign to include reusable food container systems, which have proliferated in spring 2021 in local restaurants and cafés. The map has been updated to include food container deposit systems such as ReBowl (by Recup) and Vytal, and it also indicates where customers can bring their own containers to take away food.







## Recover: Holistic organic waste management

The public waste management company BonnOrange has been a frontrunner in organic waste collection and treatment since 1992.

A garbage bin dedicated to organic waste is made available to all households free of charge. In 2019, Bonn collected 11,046 tons of organic waste and 14,059 tons of garden waste.

The organic waste collected in Bonn is revalorised by the municipal waste management company in the Rhein-Sieg district (Landkreis), which is composed of 19 towns and communities neighboring Bonn. The organic waste is then anaerobically digested in a compost plant and the resulting nutrient-rich digestate is marketed as fertilizers to regional farmers. As garden waste is less expensive to manage and yields compost of better quality, it is collected separately and taken to a private company which turns it into compost.

One challenge is quality control as some substances mistakenly thrown in the organic waste bin need longer to biodegrade than others and threaten the quality of the whole batch. For this reason, BonnOrange has been investing in clear and visual communication on what belongs in the organic waste bin and what does not and how to prevent food waste on its website and during public events organized in partnerships with community initiatives such as ZeroWaste Bonn. Waste education has also been included in the curriculum of local schools and mentors have been selected in local universities to raise awareness on sustainable waste management in student housing.

Another service BonnOrange offers is to support the set up of home composting. Interested garden owners who want to compost themselves are specially trained by compost advisors from BonnOrange and receive a pre-sorting container and a compost guide. They are also able to get a 10% discount on their garbage fee.









# CIRCULAR FOOD SYSTEMS GAP ANALYSIS


The following gap analysis is based on ICLEI's Circular City Actions Framework, which covers circular economy actions that reflect the different roles that local and regional governments play, from public service delivery to cooperation with local stakeholders, asset management, urban planning and regulation and address the impacts across the value chain of products and infrastructures. The recommendations for actions are based on best practices from local governments of the ICLEI network.

STRATEGY	SUB-STRATEGIES	MAIN ACTIONS	ASSETS	Recommendation for actions
 <b>RETHINK</b>	Eliminate linear incentives and incentivize circular practices	<ul style="list-style-type: none"> <li>Targets and roadmaps for a circular food system</li> <li>Circular public procurement of food products and services</li> <li>Phase out landfilling of organic waste</li> </ul>	<b>Public:</b> <ul style="list-style-type: none"> <li>Bonn Organic City (<a href="#">Bio-Stadt Bonn</a>) - organic food procurement in public institutions, kindergartens and schools with the aim to increase the proportion of organic and regional produce by 50%, as well as ensuring that at least 20% of food sold on weekly markets is organic and regionally produced</li> <li>Bonn 4 Future: city is developing a platform to connect citizens, local climate actors and initiatives</li> <li>KlimaForum: The city of Bonn is collaborating with Bonn4Future and Bonn in Wandel e.V. to host a series of four citizen's climate assemblies during 2021-2022 who's recommendations will provide input to the city council in developing their climate neutrality roadmap</li> </ul> <b>Private:</b> N/A <b>Community:</b> Food Policy Council Bonn <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Develop a <a href="#">Circular food systems roadmap</a> for Bonn spanning production, consumption, and disposal such as Ghent's <a href="#">Gent en Garde food policy</a></li> <li>Integrate circular criteria in food services procurement such as in <a href="#">Turku</a> where a GHG monitoring tool has been applied to all 13 food service contracts of the city</li> </ul>
	Support closed-loop systems and cross-sectoral synergies (e.g. industrial symbiosis, closed-loop metabolism)	<ul style="list-style-type: none"> <li>Strengthen urban-rural links within the food system</li> <li>Industrial Symbiosis within the food system</li> <li>Multi-stakeholder engagement across the food value chain</li> </ul>	<b>Public:</b> N/A <b>Private:</b> <a href="#">StadtLandMarkt e.V.</a> organizes a weekly farmer market allowing regional producers to sell their produce in the city directly <b>Community:</b> <ul style="list-style-type: none"> <li>Bonn 4 Future</li> <li>Food Policy Council Bonn</li> <li><a href="#">bonnsustainabilityportal.de</a> (map of local sustainable initiatives and local green job vacancies)</li> <li>Community-supported agriculture:</li> <li>Verein SoLaWi Bonn Rhein/sieg e.V.</li> <li>SoLaWi Hanfer Hof</li> <li>SoLaWi Alfter</li> </ul> <b>Research &amp; Innovation:</b> <ul style="list-style-type: none"> <li>Science Shop Bonn (Wissenschaftsladen Bonn)</li> <li>Bonn-Rhein-Sieg University of Applied Sciences</li> <li><a href="#">SAIN Project</a> (pilot projects on air and soil analysis, material flows in the city and potential for waste to energy recovery)</li> </ul>	<ul style="list-style-type: none"> <li>Create a hub to interconnect the different initiatives</li> <li>Call for tenders/support initiatives to map potential of local industrial symbiosis of food production</li> <li>Facilitate collaboration and alignment across city departments and agencies that impact the food system e.g. through a dedicated interdepartmental taskforce such as Baltimore's <a href="#">Food Policy Action Coalition</a></li> </ul>
	Incentivize the shift towards sustainable lifestyles	<ul style="list-style-type: none"> <li>Promotion of sustainable diets</li> <li>Support of circular food options in food services</li> </ul>		Encourage sustainable diets, e.g. <a href="#">Thursday Veggie Day</a> in Ghent




STRATEGY	SUB-STRATEGIES	MAIN ACTIONS	ASSETS	Recommendation for actions
 <b>REGENERATE</b>	Protect and restore local eco-systems	<ul style="list-style-type: none"> <li>Edible green infra-structures to support biodiversity</li> <li>Unused and city-owned land for regenerative farming</li> </ul>	<p><b>Public:</b></p> <ul style="list-style-type: none"> <li>Das <a href="#">Grüne C</a> - a nature-protected area in Bonn and neighboring cities (in the shape of a 'C'): The aim is to secure, link and develop the open spaces of the region for the purpose of local recreation, nature conservation and agriculture in the long term.</li> <li><a href="#">Open data portal</a> for city owned spaces for urban gardening; <a href="#">map</a> of spaces city provides for urban gardening</li> </ul> <p><b>Private:</b> <a href="#">Meine Ernte</a> - possibility to rent a (pre-planted) produce garden for a fee</p> <p><b>Community:</b> 20+ <a href="#">community gardens</a>, including the initiative <a href="#">StadtFrüchtchen</a> which operates a 615m2 community garden and the <a href="#">Tannenbuschhaus</a> hosting the community garden project 'Gardening for Future'. A number of awareness raising activities to promote urban agriculture have been organized by <a href="#">Bonn im Wandel</a> (Transition Town initiative), including the setup of the Essbare Stadt network (Edible City).</p> <p><b>Research &amp; Innovation:</b> The <a href="#">SAIN project</a> which was run by the Science Shop Bonn, focused on citizens-led local urban agriculture projects through research.</p>	<ul style="list-style-type: none"> <li>Dedicate city-owned land to regenerative agriculture</li> <li>Facilitate urban gardening in vacant spaces, including high beds gardening in vacant buildings e.g. through a streamlined process such as Pittsburgh's <a href="#">Adopt-A-Lot program</a></li> </ul>
	Promote solutions inspired and supported by nature [Processes]	<ul style="list-style-type: none"> <li>Indigenous and nature-based farming practices</li> </ul>	<p><b>Public:</b> N/A</p> <p><b>Private:</b> N/A</p> <p><b>Community:</b> N/A</p> <p><b>Research &amp; Innovation:</b> successful pilots on <a href="#">set up of aquaponics systems</a> using soil and therefore being eligible to organic certification as part of the Emerkeil Initiative and set up of aquaponics systems at the Tannenbuschhouse.</p>	<ul style="list-style-type: none"> <li>Providing space and trainings for experimentation and scaling of nature-based solutions for food production such as in the <a href="#">high-tech aquaponics farm</a> of De Ceudel in Amsterdam.</li> </ul>
	Prioritize renewable resources [Inputs]	<ul style="list-style-type: none"> <li>Renewable energy used in food production</li> <li>Prioritisation of regenerative farming practices and agricultural inputs</li> </ul>	<p><b>Public:</b> N/A</p> <p><b>Private:</b> Regional organic farms such as Biohof Leyenhof, Biohof Bursch, Bio-Bauer Palm - see <a href="#">map</a></p> <p><b>Community:</b> N/A</p> <p><b>Research &amp; Innovation:</b> N/A</p>	<ul style="list-style-type: none"> <li>Information provision about renewable energy possibilities in farming</li> <li>Organic criteria in school food procurement e.g. <a href="#">Malmö</a> and <a href="#">Copenhagen</a> where organic food represents respectively 100% and 88% of all food procurement</li> </ul>




STRATEGY	SUB-STRATEGIES	MAIN ACTIONS	ASSETS	Recommendation for actions
 REDUCE	Design infrastructure and the built environment for resource efficiency	<ul style="list-style-type: none"> <li>Optimised food logistics</li> <li>Resource-efficient food production</li> </ul>	<b>Public:</b> N/A <b>Private:</b> Bolle Lastenrad - for last-mile food goods transportation <b>Community:</b> N/A <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Emissions reduction criteria in food transport procurement such as in <a href="#">Helsinki</a></li> </ul>
	Support circular and resource-efficient business innovations	<ul style="list-style-type: none"> <li>Zero-waste and package-free organisations</li> <li>Sustainable food and agriculture business ecosystems</li> </ul>	<b>Public:</b> Light-weight plastic bags ban at Bonn's weekly markets <b>Private:</b> Zero waste shops such as Freikost Deinet, Bönnsche Lädche, Oat Rebels, LiMa's fairpackte Welt; Zero-waste stands at local weekly markets <b>Community:</b> N/A <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Support and scale up agricultural business ecosystems through providing space and/or funding</li> <li>Hold a 'Sustainathon' to encourage new circular solutions to food systems in the city</li> </ul>
	Support local, low-impact circular economies	<ul style="list-style-type: none"> <li>Organic urban and peri-urban agriculture</li> <li>Shorter food value chains</li> </ul>	<b>Public:</b> N/A <b>Private:</b> <a href="#">Himmel un Ääd</a> - home delivery of regional organic products through delivery bicycles <b>Community:</b> <ul style="list-style-type: none"> <li>Community-supported agriculture:</li> <li>Verein SoLaWi Bonn Rhein/sieg e.V.</li> <li>SoLaWi Hanfer Hof</li> <li>SoLaWi Alfter</li> <li><a href="#">FoodCoop Bonn</a></li> <li>Kitchen for all (Küche für Alle)</li> <li>Lebensmittel-Tauschbörse im Café Frida</li> </ul> <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Supporting programs connecting food producers directly to consumers</li> <li>Supporting access to trainings for local farmers such as in</li> <li><a href="#">Ede and Barneveld</a> (the Netherlands) where farmers have the opportunity to participate in "Short Food Chain Masterclasses" organized by the municipalities.</li> </ul>



STRATEGY	SUB-STRATEGIES	MAIN ACTIONS	ASSETS	Recommendation for actions
 REUSE	Design and regulate for extended use	<ul style="list-style-type: none"> <li>Promote steps that businesses and civil society can take to make food last longer</li> <li>Design food and agricultural equipment to last longer (e.g. fridges)</li> </ul>	<b>Public:</b> N/A <b>Private:</b> N/A <b>Community:</b> N/A <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Organize public awareness-raising activities on measures citizens and organizations can take to make food last longer</li> <li>Support maintenance of farming equipment by providing loans, grants</li> </ul>
	Facilitate second-hand markets, sharing and exchange platforms	<ul style="list-style-type: none"> <li>Sharing schemes for food and farming equipment</li> <li>Redistribute food surplus</li> </ul>	<b>Public:</b> N/A <b>Private:</b> N/A <b>Community:</b> Foodsharing Bonn <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Providing space for food hubs such as Vantaa's surplus food terminal, '<a href="#">Shared Table</a>', connecting food factories, wholesalers and retailers to a large network of food aid distributors</li> <li>Supporting the sharing of food production machinery and equipment by local producers, e.g. in <a href="#">Beijing</a> the Municipal Agricultural and Rural Bureau assists local farmers in connecting with input enterprises through the 'Agricultural Products Supply and Demand Platform' to facilitate joint bulk purchases to lower costs</li> </ul>
	Support reuse, repair, remanufacturing and maintenance of existing resources, products, spaces and infrastructure	<ul style="list-style-type: none"> <li>Ensure maintenance of food logistics infrastructures (storage, cold chain and transport)</li> <li>Reusable food and beverage containers</li> </ul>	<b>Public:</b> BonnOrange's 'Bonn geht den Mehrweg' Initiative to promote reusable deposit coffee cup and takeaway food containers <b>Private:</b> Zero waste shops: Freikost Deinet, Bönnsche Lädche, Oat Rebels; Uptake of restaurants and cafés of deposit food container systems <b>Community:</b> N/A <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Communicate widely about opportunities for zero-waste consumption in Bonn</li> </ul>



STRATEGY	SUB-STRATEGIES	MAIN ACTIONS	ASSETS	Recommendation for actions
 RECOVER	Design and regulate for separation and recovery	<ul style="list-style-type: none"> <li>Community Composting</li> <li>Organic waste separation infrastructure &amp; regulation</li> </ul>	<b>Public:</b> Separate collection of organic waste by BonnOrange <b>Private:</b> N/A <b>Community:</b> Community composting in the StadtFrüchtchen garden <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Enforce separate collection of organic food waste to avoid landfilling (currently on voluntary basis)</li> <li>Consider implementing tax incentives that support organic waste separation such as the pay-as-you-throw system implemented in <a href="#">Seoul</a>)</li> <li>Improve communication to increase separation rates</li> </ul>
	Collect and sort waste to facilitate recovery	<ul style="list-style-type: none"> <li>Organic waste collection</li> </ul>	<b>Public:</b> Separate collection of organic waste by BonnOrange <b>Private:</b> N/A <b>Community:</b> The initiative “Bonn Piccobello” by the municipal waste service BonnOrange regularly organizes trash collection clean ups inviting citizens and civil society organizations to participate. BonnOrange offers the trash collection equipment and pick-up of the trash afterwards.; Rhein Clean-up Bonn <b>Research &amp; Innovation:</b> N/A	<ul style="list-style-type: none"> <li>Improve communication to increase separation rates</li> </ul>
	Process waste and ensure its re-entry into industry at its highest value	<ul style="list-style-type: none"> <li>Organic waste composting</li> <li>Energy recovery from organic waste</li> <li>Organic waste for animal feed</li> </ul>	<b>Public:</b> Separate collection of organic waste by BonnOrange <b>Private:</b> N/A <b>Community:</b> Community composting in the StadtFrüchtchen garden <b>Research &amp; Innovation:</b> Recently concluded SAIN project pilot on <a href="#">mushroom growing</a> with organic waste	<ul style="list-style-type: none"> <li>Support innovative waste-to-resource business models by providing grants and space such as in <a href="#">Glasgow</a></li> </ul>





# RECOMMENDATIONS FOR BONN AND OUTLOOK

Recommendations for actions Bonn can take to increase circularity in its food system, based on best practices from local governments of the ICLEI network.





As outlined so far, the food system in Bonn is characterized by numerous actors and initiatives that already contribute to more circularity across the food value chain. The city has shown its commitment to build a more sustainable food system through its engagement as a Bio-Stadt (Organic city), and is taking steps to develop a platform to connect citizens, climate actors and initiatives through the [‘Bonn 4 Future – Wir fürs Klima’](#) initiative and the citizen’s climate assembly format (‘Klimaforum’) to work on pathways to a climate-neutral Bonn by 2035. The initiatives already ongoing through different actors could be further scaled up with more support by the city. This section outlines recommendations on how the city can drive the transition to circular food systems based on best practices from local governments of the ICLEI network.

To eliminate linear incentives and incentivize circular practices (**Rethink**), the city could facilitate collaboration and alignment across city departments and agencies that impact the food system, for example through a dedicated **interdepartmental task force** such as [Baltimore’s Food Policy Action Coalition](#). Building on the work of Bonn 4 Future, the Food Policy Council and the KlimaForum, this task force could work jointly on a **Circular Food Systems Roadmap** for Bonn as part of the climate neutrality roadmap for the city, with inputs from local communities already engaged in the food systems transformation. Similar to the process which took place in Ghent, the city of Bonn could be supported in this process by the local food policy council (Ernährungsrat).

In addition, as highlighted in the section Circular Food Systems for climate action and adaptation, improving food transport and aiming for food loss reduction are viable action areas through which Bonn can reduce emissions. Progress on this can be monitored by the city through **including food-related emissions in the planned development of greenhouse gas emissions inventories**, such as in [Philipstown](#).

Throughout Bonn, citizens are engaged in urban community gardening, and the city and surrounding region has established nature-protected areas. The city can take further measures to protect and restore local ecosystems, as well as promote nature-based solutions and the use of renewable resources (**Regenerate**) in line with the Edinburgh Declaration signed recently by the city. This can be done by dedicating city-owned arable lands to regenerative agriculture and increasing the share of organic food in food procurement as done in [Malmö](#), where 100% of all food purchased is organic.

Similarly, to support initiatives under **Reduce**, Bonn can support more local food supply chains that reduce food miles and the associated emissions. This can be done by **supporting local and regional food producers** (e.g. Through Short Food Chain Masterclasses as organized by the municipalities of [Ede and Barneveld](#)) and new business models around food. Including **emissions reduction criteria in food transport procurement** such as in [Helsinki](#) is also a relevant way to decrease food related emissions.

To further facilitate sharing schemes for food and farming equipment to extend their use (**Reuse**), the city can **designate space and connect different stakeholders to establish a food hub** similar to Milan’s Food Hubs or Vantaa’s surplus food terminal, [‘Shared Table’](#), which connects food factories, wholesalers and retailers to a large network of food aid distributors. Bonn can also support the sharing of food production machinery and equipment by local producers to facilitate resource efficiency and extended use, for example as in [Beijing](#) where the Municipal Agricultural and Rural Bureau assists local farmers in connecting with input enterprises through the ‘Agricultural Products Supply and Demand Platform’ to facilitate joint bulk purchases to lower costs.

Lastly, to design and regulate for separation and recovery (**Recover**), as shown in the chapter Circular Food Systems to become zero waste, the discrepancy between the amount of food waste collected and food waste produced may indicate that most food waste in Bonn is not collected separately. This is a domain in which the city could step in, both to raise awareness on the benefits of source separation and to mandate the separate collection of organic waste in all neighbourhoods, to ensure segregation and revalorization of food waste ahead of the upcoming mandatory segregation of different waste streams by 2025 under EU law. Through ensuring better separation and recovery, the city also sets the basis to **create a local market for recovered resources**, the emergence of which the city can facilitate by **providing grants, space and economic incentives to support innovative waste-to-resource business models**, similar to Glasgow’s efforts to support business innovations as part of [Circular Glasgow](#).

In sum, the various local initiatives in the Bonn food system can be supported and scaled up by the city, building on the work of various actors at the local level to advance circularity in Bonn’s food system, and thereby positively contribute to Bonn’s climate goals by reducing emissions, advancing the city’s zero waste ambition, further facilitating public participation on circular food systems as well as contributing to the local implementation of the SDGs.

The recommendations outlined above are aligned with the [Milan Urban Food Policy Pact List of Actions](#) and the objectives of the [Glasgow Food and Climate Declaration](#). Through acting on the recommendations above, the city can consider joining these initiatives to take the opportunity to lead on these topics at the global level, sharing good practices and lessons learned with other cities and municipalities and benefiting from international collaboration.





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