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Governance challenges to the circular transition

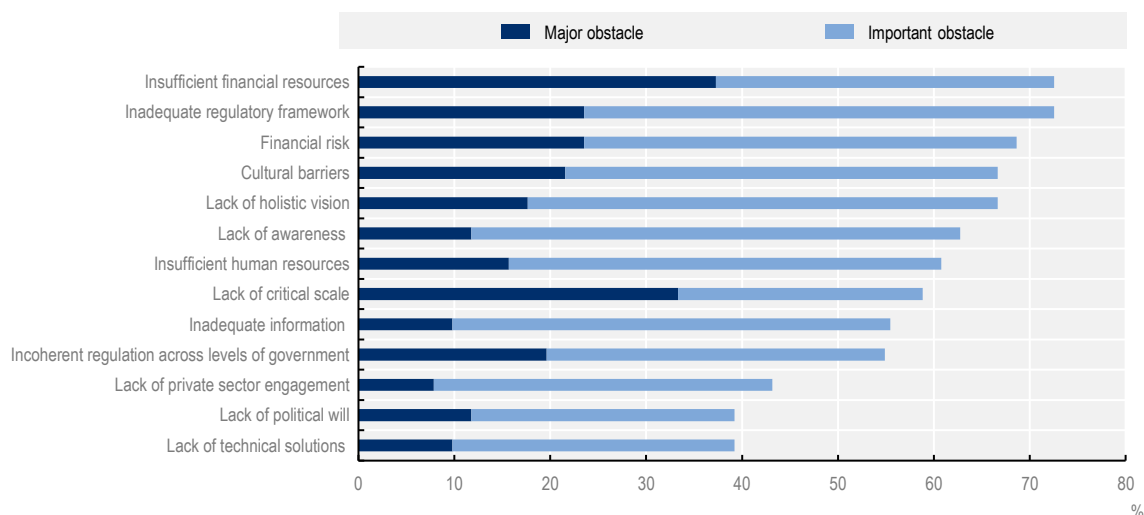
This chapter describes the main challenges that Granada is facing in the transition from a linear to a circular economy. The analysis focuses on five main categories of gaps: policy, awareness, capacity, regulatory and funding. Major issues highlighted in the chapter are related to the weak vertical and horizontal co-ordination, which can inhibit a holistic approach to the circular economy, the need to raise awareness of the circular economy as well as to build capacities across public bodies and the business sector.

Governance gaps in the circular economy in cities

Building on the OECD framework “Mind the Gaps: Bridge the Gaps” (Charbit and Michalun, 2009^[1]) and the OECD report on Water Governance in OECD countries (2011^[2]), the OECD report *The Circular Economy in Cities and Regions* (OECD, 2020^[3]) identified five types of governance gaps cities face when designing and implementing a circular economy (Figure 3.1). In particular, 51 surveyed cities and regions highlighted the following gaps:

- **Funding gap:** Cities and regions face constraints in terms of insufficient financial resources (73%), financial risks (69%), lack of critical scale for business and investments (59%) and lack of private sector engagement (43%).
- **Regulatory gap:** Inadequate regulatory framework and incoherent regulation across levels of government represent a challenge for respectively 73% and 55% of surveyed cities and regions.
- **Policy gap:** A lack of holistic vision is an obstacle for surveyed cities and regions (67%). This can be due to poor leadership and co-ordination. Other policy gaps concern the lack of political will.
- **Awareness gap:** Cultural barriers represent a challenge for 67% of surveyed cities and regions along with a lack of awareness (63%) and inadequate information (55%) for policymakers to take decisions, businesses to innovate and residents to embrace sustainable consumption patterns.
- **Capacity gap:** The lack of human resources is a challenge for 61% of surveyed cities and regions. Technical capacities should not just aim for optimising linear systems but strive towards changing relations across value chains and preventing resource waste.

Figure 3.1. Main obstacles to the circular economy in 51 cities and regions



Note: Results based on a sample of 51 respondents that indicated obstacles as being “Major” and “Important”.

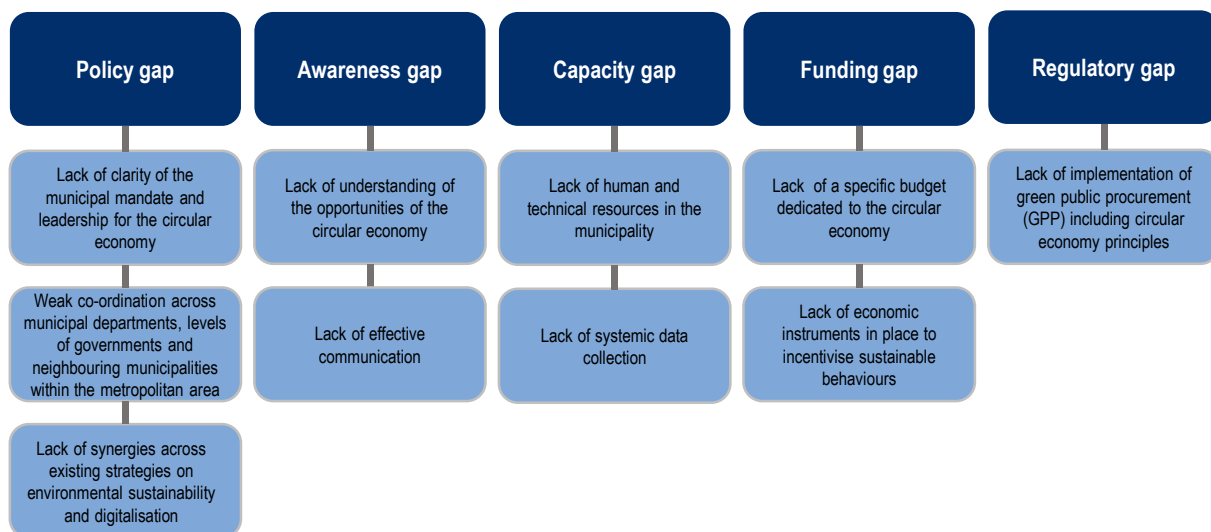
Source: OECD (2020^[3]), *The Circular Economy in Cities and Regions: Synthesis Report*, <https://doi.org/10.1787/10ac6ae4-en>.

Governance gaps in Granada, Spain

In Granada, key governance challenges relate to: weak co-ordination among municipal departments and across levels of government, which may hinder policy coherence; the lack of awareness of policymakers, businesses and citizens on what circular economy entails; the lack of technical and human resources at the municipal level for linking existing strategies to a circular economy vision; the lack of economic instruments to incentivise sustainable behaviours; and the lack of circular economy principles in public

procurement. Figure 3.2 provide a summary of the gaps, identified through ad hoc interviews with more than 70 stakeholders in the city.

Figure 3.2. Governance gaps for a circular economy in Granada



Policy gap

Policy gaps relate to the lack of leadership, co-ordination across municipal departments and levels of government, which in turn undermine policy coherence. As the circular economy is systemic by nature, a cross-sectoral approach is needed to ensure that the city rethinks urban policies and their relation with resource efficiency holistically, beyond the optimisation of the existing policies towards the achievement of targeted environmental goals, such as CO₂ emission reduction.

The mandate in terms of who is the lead institution for the design and implementation of a circular economy strategy in the city administration is yet to be defined. The development of a circular vision in Granada requires a clarification of the role of the municipality in the design and implementation of a circular economy vision, as well as a definition of the roles and responsibilities of the different municipal departments. On the one hand, while Emasagra, the public-private water utility company, initiates a reflection on the transition to the circular economy in the city through the circular biofactory (Granada Sur Biorefinery), the municipality is responsible for raising the profile of the circular economy in the city council's agenda. So far, the departments that have been mostly involved in the dialogue with Emasagra on the circular economy or that are debating on how to transition towards the circular economy in the future, are those linked to public works and urban development, the economy, public-private companies, treasury and innovation and the environment. Strong leadership to accelerate the circular economy transition and horizontal coordination will be needed.

Municipal departments need to strengthen co-ordination to maximise synergies and investments for the circular economy. At present, there are neither incentives for horizontal co-ordination at the technical level, nor specific co-ordination mechanisms or joint programmes across municipal departments. For example, there is little connection between the urban planning and mobility departments (e.g. regarding the functions of managing and planning transport lines or measures aiming to reduce car use in the city that require co-ordinating public transportation policies with the use of parking lots and future car-sharing options). However, aligning these areas is crucial to develop sustainable and integrated urban development plans in a more circular way, for example, to change how city districts are designed, without necessarily creating

additional infrastructure (e.g. by allocating existing parking lots for car-sharing and bicycles instead of private vehicles).

Policy coherence should be fostered in Granada. Recently, the city set up policies and plans to enhance environmental sustainability and digitalisation, such as the Strategy for Sustainable and Integrated Urban Development of Granada (EDUSI) and Granada's Smart City Strategic Plan 2020. However, it is not clear how they are connected and how they would benefit from a certain level of co-ordination, in terms of investments, human and technical resources. Similarly, the Emasagra biofactory through which the overall debate about implementing a circular economy in the city started, could be better connected with the urban fabric. For instance, the compost produced is reused in agricultural activities but there does not seem to be an explicit link with local food production injected into an urban food strategy.

More effective co-ordination across neighbouring municipalities within the metropolitan area is needed. Within the metropolitan area, neighbouring municipalities hold responsibility for joint actions on public transport services, drinking water supply services and maintenance of the sewerage and wastewater treatment network, among others. However, each municipality makes individual decisions without a joint vision or plan. For example, in the case of transport, a Metropolitan Transport Consortium is in place to serve the metropolitan area but the city of Granada is not part of it. This implies that the transport policy and its tariff system does not necessarily facilitate multi-modality, which in turn is important given that, every day, 300 000 cars from the metropolitan area commute to the city of Granada for work, while there only 90 000 commute from the capital to the surrounding area (Granada City Council, 2013^[4]). Regarding the waste sector, each municipality can hire its own waste collection service, which can hamper co-ordination for joint initiatives and economy of scale, while treatment is carried out within the provincial waste treatment plant located at Alhendin. In the water sector, Aguasvira and Emasagra are the main providers of water services in Granada and its metropolitan area. Aguasvira serves 22 of the 33 municipalities located north of Granada that are part of the Public Consortium for the Development of the Vega-Sierra Elvira (*Consortio para el Desarrollo de la Vega-Sierra Elvira*). The consortium is responsible for the economic, social and environmental development of its member municipalities and for providing essential public services like water (Vega Sierra Elvira Consortium, 2021^[5]).

Co-ordination with the national, regional and provincial governments is also needed to align goals and actions. The province of Granada set up the Municipal Waste Management Programme for the Province of Granada 2014-24; the regional government issued the Andalusian Circular Bioeconomy Strategy, the Strategy for Sustainable Development 2030 and the Andalusian Autonomous Region Integrated Waste Strategy. The national government set the National Circular Economy Strategy (*España Circular 2030*). As such, while initiatives on the circular economy are starting to flourish, further co-ordination would be needed to reach common goals and optimise financial resources. There are networks that can provide room for dialogue across levels of government and municipalities within the province. This is the case of the network of municipalities towards sustainability (Red GRAMAS) bringing together 128 municipalities in the province of Granada. The network carries out its activities through six workgroups focusing on water, energy, waste, urban environment, health, biodiversity, citizen participation and environmental education. However, the municipality of Granada is not part of it. The network's goal is to provide a space where the member municipalities can exchange experiences and design policy solutions that can foster sustainability in their jurisdictions.

Awareness gap

In Granada, the circular economy is an incipient concept that lacks full understanding from local authorities, the business sector and citizens. The university set up courses on the circular economy and carries out research on related topics, such as water and waste management, eco-friendly construction, sustainable materials, and plastics. However, beyond specific academic environments, there is a generalised lack of understanding of what the circular economy entails. Through the biofactory, the water operator Emasagra

is considered the only example of existing circular economy activity in the city. The municipality focuses on green policies especially in regard to sustainable mobility since it represents an important priority for residents' well-being. Still, the large potential concerning closing loops in the touristic and hospitality sector, for example, which represents one of the most important economic sources of the city, is not integrated into local planning. The private sector shows some initiatives in relation to waste recycling, but there are no forms of collaboration across the value chain to close loops.

Communication about opportunities related to the circular economy is lacking. By 2021, the city of Granada will set up a newsletter on the circular economy, which is a first step to raise awareness amongst citizens and engage them in public policymaking and implementation. As agents who can make a real change in the city, they must be empowered. Also, if the city of Granada is to develop a long-term vision of the circular economy, clear communication to the business sector, in terms of how the city is supporting circular economy-related activities, would be needed. A more fluid and structured communication channel across companies, universities and public administration is required to move beyond personal connection. There is room to improve collaboration between the University of Granada, the Granada Health Technology Park and the municipality of Granada as part of the Bureau for Science created by the municipality of Granada to promote dialogue and research on science and innovation.

Capacity gap

The lack of understanding of the opportunities that the circular economy can provide is linked to the lack of human and technical capacities within the municipality. While the city has recently applied to international calls mainly on culture and digitalisation (e.g. European Capital of Culture 2031 and the Digital Transformation Challenge), less attention is given to major “green” initiatives and none on the circular economy. The transition towards the circular economy can be led and supported by a dynamic, competent and motivated team within the municipality.

There is room for systemic data collection that could improve the decision-making process of circular economy-related initiatives. The city has been recently working on developing a data system to incorporate environmental, mobility and energy consumption indicators. However, problems related to implementation are delaying its operability, mainly due to difficulties in reaching a high level of detail of some variables (e.g. noise, air quality level). When available, the platform should be able to show records of noise and air pollution levels, real-time traffic information, among others. Having an adequate information system that would facilitate measuring the progress made could help raise awareness towards more sustainable production and consumption patterns). A harmonised data platform could be used for taking decisions within the circular economy transition. The circular economy strategy in Spain uses an indicator system based on the European monitoring framework for the circular economy (Box 3.1).

Box 3.1. Measuring the circular economy in Spain

The circular economy strategy in Spain measures progress based on the monitoring framework for the circular economy by the European Commission (EC). Within this framework, the indicators to assess the implementation of the Spanish strategy, mainly based on Eurostat, are as follows:

Area	Suggested indicators
Production and consumption	• Domestic Materials Consumption (Million tonnes)
	• Self-sufficiency in the production of critical raw materials in the EU (%)
	• Green public procurement (Number, EUR)
	• Municipal waste generation per person (kg/inhabitant)
	• Waste generation (excluding waste from mineral waste) as a share of gross domestic product (GDP) (kg/EUR)
	• Waste generation (excluding waste from mineral waste) relative to household consumption of materials (%)
	• Food waste (tonnes)
Waste management	• Preparing for reuse (%)
	• Municipal waste recycling rate (% (tonnes))
	• Recycling rate of waste excluding mineral waste (% (tonnes))
	• Packaging waste recycling rate (% (tonnes))
	• Plastic packaging waste recycling rate (% (tonnes))
	• Recycling rate of wood packaging waste (% (tonnes))
	• Electric and electronic equipment waste recycling rate (%)
	• Organic waste recycling rate (kg/inhabitant)
• Construction and demolition waste recycling rate (NA)	
Secondary raw materials	• End-of-life product waste recycling rates (%)
	• Circular material rate (%)
	• Imports from third countries (NA)
	• Exports from third countries (NA)
	• Intra-EU imports (NA)
	• Intra-EU exports (NA)
Competitiveness and Innovation	• Gross investment in tangible goods (%)
	• Number of jobs (%)
	• Value-added at factor cost (%)
	• Patents related to recycling and secondary raw materials as a proxy for innovation (Number)
Climate change	• Greenhouse gas contribution in the waste sector (CO ₂ eq (kt))

In 2017, the Cotec Foundation, a Spanish organisation to promote innovation, presented the report *The Circular Economy in Spain*, which analyses the state of the art and evaluates the circular transition in the country. The document proposes the following indicators:

Area	Suggested indicators
Input material	• Resource productivity: Relationship between GDP and material consumption (EUR/t)
	• Raw materials consumption: Domestic consumption of raw materials (NA)
	• Domestic material consumption: Materials used in direct domestic extraction and direct consumption activities in an

	economy (Million tonnes)
	<ul style="list-style-type: none"> National materials requirement: Accumulated mass of primary materials extracted from the natural environment by economic activities (Million tonnes) National extraction of materials: Material flows extracted from the territory for further processing or consumption (Million tonnes)
Ecodesign	<ul style="list-style-type: none"> Life cycle durability: The period of time from the manufacture of a product to its last effective use (Months, years)
Production	<ul style="list-style-type: none"> Waste generation by sector: Share of waste generated by each productive sector ((Tonnes/total), %) By-product exchange: Share of waste generated by each production sector, by-product groups ((Tonnes/total), %)
Consumption	<ul style="list-style-type: none"> Consumer waste generation: Share of waste generated for each unit of materials consumed ((Tonnes/total), %)
Recycling	<ul style="list-style-type: none"> Recycling rate by waste category: Percentage of waste recycled ((Tonnes/total), %)
Energy	<ul style="list-style-type: none"> Energy intensity: Ratio of energy consumption to the volume of economic activity (E/EUR) Renewable energy: Share of renewable energy use in total energy mix
Climate	<ul style="list-style-type: none"> Carbon intensity: Total carbon emissions to GDP (tCO₂/EUR)
Water	<ul style="list-style-type: none"> Reused water resources: Share of water reused (m³, (%))
Land	<ul style="list-style-type: none"> Built-up area: Total urbanised area (km²)
Food	<ul style="list-style-type: none"> Reduction of food waste (NA)
Built environment	<ul style="list-style-type: none"> Energy efficiency in buildings (NA)
Innovation	<ul style="list-style-type: none"> Research and development (R&D) in the circular economy (NA)
Taxation and pricing	<ul style="list-style-type: none"> Tax on waste (NA) Tax incentives for by-products (NA)
Tourism	<ul style="list-style-type: none"> Waste flows generated as a result of tourism (NA)

Source: Cotec Foundation (2017^[6]), *The Circular Economy in Spain*, <https://cotec.es/proyecto/informe-economia-circular-en-espana-2017/>; Government of Spain (2020^[7]), *España Circular 2030, Estrategia Española de Economía Circular*; EC (2018^[8]), *Monitoring Framework for the Circular Economy*, <https://ec.europa.eu/environment/circular-economy/pdf/monitoring-framework.pdf>.

Funding gap

There is neither a specific budget allocated for the transition towards a circular economy, nor specific funds dedicated to the promotion of a circular economy. Following the example of many other cities, Granada could explore opportunities for funding options to enable the transition towards the circular economy. For example, the city of Valladolid, Spain, subsidised 61 projects between 2017 and 2018, related to the circular economy (whether concerning a new design for more durable products, use of secondary materials in production processes or transformation of waste into resources). The grants helped companies start their businesses, although further measures would be needed to scale up the activities and their financial sustainability over time.

There are no economic instruments in place to incentivise sustainable behaviours. For example, the waste fee is not exclusively based on criteria to reduce waste production, since households pay according to the category of street in which they are located, with a total of seven different grades (Granada City Council, 2020^[9]). Some cities have put in place discounts, environmental taxes and differentiated tariffs. For instance, with the aim of stimulating the separate disposal of food waste, the city of San Sebastian, Spain, provided households with a specific organic waste bin located in the street and unlockable through a personal magnetic card. The use of this special bin is associated with a 15% bonus on the fee to be paid for the provision of the garbage collection service. In order to get the discount, users have to use this container at least 4 times a month for 10 out of 12 months of the year. In Kitakyushu, Japan, the city applies the “environmental tax” imposed on the landfill of industrial waste. Since the tax is not levied on intermediate treatments, it is also expected to promote company recycling activities and reduce any waste generated by them. Moreover, the Dutch government implements the DIFTAR system, a collecting scheme

based on differentiated tariffs, which provides incentives to improve waste separation at source. This scheme enables authorities to charge for the amount of waste generated while rewarding the effort of people who minimise waste and maximise separate collection (OECD, 2020^[3]).

Regulatory gap

Green public procurement (GPP) in Granada, including circular economy principles, is not implemented. While the guidelines for municipal procurement of the municipality of Granada incorporate some specific environmental objectives (e.g. emission of noise, gases or other pollutants, energy consumption, disposal, decommissioning or recycling costs, etc.), there is no mandatory minimum threshold for environmental criteria in public procurement processes (Granada City Council, n.d.^[10]). In 2017, the Ministry of Agriculture, Livestock, Fisheries and Sustainable Development of the Autonomous Region of Andalusia joined other eight partner countries from Europe on the project Green Public Procurement for Resource-Efficient Regional Growth – GPP4GROWTH. By 2021, the government of the Autonomous Region of Andalusia will have to prioritise GPP, increase by 7% the number of companies that integrate environmental factors and costs in the production of goods, supplies, services and works and raise awareness of the benefits of GPP in the adoption of sustainable consumption and production models (Interreg Europe, 2019^[11]).

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