



1st OECD Roundtable on the Circular Economy in Cities and Regions

4 July 2019, OECD Headquarters, Paris, France

HIGHLIGHTS



Table of Contents

1. Introduction	3
2. Opening Session	5
3. Session I: The circular economy in cities and regions: a transformative path	6
4. Session II: Cities and regions as a level playing field to engage business in circular economy	12
5. Session III: The circular economy and Inclusive Growth: opportunities at local and regional level	18
6. Session IV: How circular are cities and regions? Towards an OECD indicator framework	24
7. Concluding remarks and next steps	30

1. Introduction

On 4th July 2019, the OECD held the [1st OECD Roundtable on the Circular Economy in Cities and Regions](#) at the OECD Headquarters in Paris. The Roundtable gathered 100+ participants including civil society, academia, business, financial sector and philanthropy to discuss the transition to a circular economy in cities and regions. Hundreds of people followed the event online from Asia, Canada, the United States and many other regions around the world.

Today, cities use almost two-thirds of global energy and produce up to 80% of greenhouse gas emissions and 50% of global waste. The circular economy can provide a policy response to cope with these challenges and be a driver for economic growth, jobs and environmental quality. Yet, there has been little policy research and attention on cities and regions within the circular economy discourse, as compared to national governments. Why so? And what is the potential of cities and regions to help make the transition from a linear to a circular economy happen?

The **1st OECD Roundtable on the Circular Economy in Cities and Regions** sought to:

- Provide a **knowledge sharing platform** across initiatives related to the circular economy in cities and regions, countries, and constituencies including civil society, academia, business, financial sector or philanthropy;
- Advise cities, regions and national governments on **policy-making and implementation** related to the transition from a linear to a circular economy;
- Provide a consultation mechanism to co-produce an **indicator framework** to design, implement and evaluate circular economy strategies in cities and regions;
- Discuss preliminary findings from ongoing OECD **case studies** in Groningen (Netherlands); Valladolid and Granada (Spain) and Umeå (Sweden).

The **OECD Roundtable on the Circular Economy in Cities and Regions** is an initiative of the [OECD Programme on the Economics and Governance of the Circular Economy in Cities and Regions](#). The aim of the Programme is to support cities and regions in their transition towards a circular economy through multi-level dialogues to identify challenges and opportunities; peer-to-peer learning and key indicators.

10 takeaways

- ▶ Cities cannot afford to waste time, the circular economy can be a **driver for sustainable development now**.
- ▶ **The circular economy goes beyond waste**. It requires an upstream approach and a shift in thinking and acting (behavioural; economic; organisational; and legal).
- ▶ **Regions have a key role to play**. It is not always cities that offer the ideal implementation scale for circular economy activities.
- ▶ **Everyone has a role to play, including business**. The private sector will need to adapt to a circular economy transition along with all market stakeholders.
- ▶ **Social and economic factors** play a role. Job creation, access to services, cost savings and collaborative consumption models will all benefit from a circular model. But evidence must be gathered and consolidated.
- ▶ **Efficient public procurements systems** can lead to innovative and collaborative approaches. Public procurement is a powerful tool for cities.
- ▶ It is key to focus on **systems**, and find synergies across sectors.
- ▶ **Costs and benefits** should be better analysed and shared.
- ▶ Conducive fiscal and regulatory frameworks are still to be developed at different levels of government, although **cities can be pioneers and implement their own measures**.
- ▶ **Measurement matters!** There are no perfect indicators for the circular economy. Before designing the perfect indicator framework, it is necessary to understand the why, what and for whom of measurement.

2. Opening Session

Ms. Lamia Kamal-Chaoui Director, Centre for Entrepreneurship, SMEs, Regions and Cities (CFE), OECD, opened the conference welcoming the participants to the 1st OECD Roundtable on the Circular Economy in Cities and Regions and the Ambassador Mr. Escudero for his presence. Ms. Kamal-Chaoui highlighted that the responses to the main challenges cities and regions are facing in terms of resource availability, greenhouse gas emissions and waste generation lie in the collective capacity to transition to a circular economy, an economic model that uses resources and material rather than using them up. The circular economy represents a new socioeconomic paradigm, which goes beyond waste management and recycling and implies behavioural change, eco-design and integrated planning. Cities have an instrumental role to play to lead the change because they have core competencies for most policy areas underlying the circular economy. This includes water, solid waste, infrastructure, land use or climate change. As such, Ms. Kamal-Chaoui recalled the increasing number of initiatives launched by cities and regions to advance in the transition to a circular economy, but also argued that for the circular economy to take root, the right governance and economic conditions should be in place. This implies adapting regulatory frameworks so they are more conducive to circular economy approaches; creating legal and financial incentives; and stimulating technical, institutional and social innovation.

“The responses to the main challenges cities and regions are facing lie in the collective capacity to transition to a circular economy, an economic model that uses resources and material rather than using them up.”

Ms. Kamal-Chaoui highlighted that the [OECD Principles on Urban Policy](#), adopted by OECD Ministers in charge of regional development in March 2019, call, amongst others, for advancing environmental quality in cities, notably through the circular economy. Ms. Kamal-Chaoui introduced the [OECD Programme on the Circular Economy in Cities and Regions](#), which is a contribution to the OECD strategy on green growth and resource efficiency that aims to promote economic development and job creation through the sustainable use of natural resources, efficiencies in the use of energy, and valuation of ecosystem services. The OECD Programme on the Circular Economy in Cities and Regions, which started in 2018, supports the development and implementation of cities and regions’ circular economy strategies. It aims also at shedding light on the *what*, the *why* and the *how* of the circular economy and it provides a great picture of current and future circular initiatives. As such, Ms. Kamal-Chaoui mentioned the OECD Survey on the Circular Economy in Cities and Regions, still on-going, which collected to date 34 responses from cities and regions of all sizes. She also alluded to the case- studies that are being carried out by the OECD in four pilot cities: Umeå (Sweden), Groningen (Netherlands) and Valladolid and Granada (Spain). Ms. Kamal-Chaoui also introduced the development of the OECD indicator framework to help decision-making and evaluation of local and regional circular economy strategies. The final report is likely to be launched at the World Circular Economic Forum in Canada in 2020.

Mr. Manuel Escudero, Ambassador of Spain to the OECD, pointed out that companies through the Corporate Social Responsibility (CSR) and shared value creation have been put in place zero waste policies, while generating economic savings and rationalising production processes. While these concepts refer to the business sphere and to the voluntary contribution of companies of “doing well by doing good”, the circular economy represents a fertile ground for public action, guiding companies towards the right direction. The circular economy has recently become a very fast-growing field. In Spain, a National Strategy on the Circular Economy has been developed and many local initiatives have flourished. Mr. Escudero warmly welcomed the presence of Spanish cities at the OECD Roundtable (Barcelona, Bilbao, Granada, Valladolid and Vélez-Málaga) that are active in the field. The Ambassador of Spain highlighted that he concept of “transition” in Spain, including the transition from a linear to a circular economy, is intrinsic to the mission of the Ministry of Ecological Transition and that achieving the SDGs (e.g. SDG 12) represents a very important item in the political agenda. The Ambassador stressed the multifaceted dimensions of the

circular economy, including education, procurement and productive transformation processes, in Spain as in many other countries.

“With the circular economy we have found a fertile ground for public action in partnerships with companies. We should proceed in a very systematic way. And that’s why to take the angle of local governments is a very useful one to start with.”

Mr. Escudero recalls the wide range of private initiatives in Spain towards the circular economy as in the glass recycling, electronic waste and retail sectors. He argued that it is needed to proceed in a systemic way and start from the local governments, in charge of managing waste. Waste production per capita in Spain is amongst the highest in Europe. One of the most worrisome issues is related to plastic waste, which should be fought in a similar way it has been done with carbon. Mr. Escudero called upon the OECD to continue its work in facilitating the discussion across countries, sharing good practices and making new standards. The Ambassador concluded by stating that while there is room for improvement in the circular economy, this is the right momentum to make concrete progress towards a circular model in cities and regions.

3. Session I: The circular economy in cities and regions: a transformative path

Ms. Aziza Akhmouch, Head of the Urban Policies and Sustainable Development Division, CFE, OECD, thanked Ms. Kamal-Chaoui and Mr. Escudero for their interventions on setting the scene and welcomed all the participants to the roundtable. She introduced the session on the role of cities and regions in the transition to the circular economy.

3.1. Keynote speech

Prof. Paul Ekins, Bartlett School Environment, Energy & Resources, University College London, United Kingdom, opened his keynote speech by stating that circular economy is not a new concept. In fact, it was introduced in the sixties, with a landmark and celebrated economic paper and the President of the American Association for the Advancement of Science called for zero waste policies. Prof. Ekins defined the process of moving towards a circular economy as a means of slowing depletion of natural resources, reducing environmental damage from the extraction and processing of virgin materials, and reducing pollution from the processing, use and end-of-life of materials. The overall circularity in the global economy has remained below 10% and the total quantities of material used has significantly raised. However, the awareness from citizenship, academia, science and policymakers has considerably increased and it has now become part of the political agenda, especially in the EU, a global leader in this area.

“The circular economy is a doing agenda. Cities are the beating heart of the throwaway society[...] but also reservoirs of resources. If cities are not sustainable, then there is no sustainability”.

Prof. Ekins pointed out that cities are the beating heart of the throwaway society, but also reservoirs of resources, partly embodied in the stock of infrastructure. Over half of the urban infrastructure that will exist in 2050 still has to be built. How this infrastructure is designed and constructed will affect the way people will travel without using fossil fuel, re-purpose materials at the end of their lives within local areas, and construct buildings with low carbon materials in such a way that they do not need heating and cooling depending on the environment. Prof. Ekins highlighted that waste management is still missing in some part of the world, representing a colossal economic opportunity, but also an enormous imperative.

It is not an easy task to match the biological and the technical cycles of cities and the various ways in which resources can be repurposed and reused, from water to energy to mobility. This is a challenge for integrated master plans, reflecting interests and motivations within a very complex urban society. Closing the loops is complex.

Prof. Ekins shared his concerns on the current indicator framework for the circular economy, composed of a broad variety of topics from waste management to the SDGs, which does not provide the necessary tools for evaluation and comparison. He stressed the importance of an adequate set of indicators that can measure effectively the progress made in the field. He concluded his speech by urging for a new regulation that may create new incentives and frameworks that will boost the circular economy in an efficient way. Prof Ekins called upon the “do-ers” attending the OECD Roundtable to generate from each specific experience, a general set of principles and processes that can be widely applied and scaled up.

3.2. Spotlight on a city: Towards the circular economy in the City of Umeå

Ms. Janet Ågren, Deputy Mayor of Umeå (Sweden), shared the experience of the Swedish city towards the circular economy and thanked the OECD for the valuable help in this journey. As a growing city that expects to reach 200 000 inhabitants by 2050, the municipality has defined in its strategic plan, to become a pioneer city in the field of the circular economy.

“Umeå has decided in its strategic plan to become a pioneer city in the circular economy and consequently, growth must be reached in a social, ecological, cultural and economically sustainable way.”

The [Comprehensive Plan for Umeå Municipality](#) builds on six development strategies that are based on the following long-term objectives:

1. To grow in a five-kilometre radio from the city centre: Umeå aims to grow in an organic way in order to make a sustainable mobility easy and effective, which stimulates citizens to use public transport and avoids the use of additional land.
2. To use infill as a vitalising force: The municipality plans to develop new city blocks in addition to existing ones, in order to stimulate investment in the existing property stock, primarily in the city centre.
3. To create high density new city districts to support sustainable services and sharing solutions.
4. To stimulate growth along public transport corridors: A sustainable and high quality transport system is key for the success of the municipality. In 2019, the municipal public transport has become fossil fuel free.
5. To invest in public parks to provide healthy environment to the citizens.
6. To co-create and promote citizen engagement: Umeå wants to offer to its citizen an open, transparent and democratic process, encouraging participation in the planning process.

Ms. Ågren shared three examples of collaboration across the municipality of Umeå, the business sector and non-profit organisations towards more circular approaches:

- The municipal energy company is the first one amongst the Nordic companies to rent solar panels instead of buying them. It has reached new customers and people with lower income, especially women and young people.
- Komatsu Forest is a private company and a world leading producer of forest machineries, headquartered in Umeå that supports the development of a sustainable and climate neutral factory in the city. This is one of the current largest investments in the Swedish industry sector made by a private company.
- The third example is the Fritidsbanken, a non-profit organisation renting sports equipment such as skis, skates, life jackets and snowboards. There are currently nine Fritidsbanken in Sweden, as “leisure banks” aiming to give new life to unused equipment. All items can be used for 14 days free of charge. In 2018, a total of 25 000 units were rent by 12 000 users.

Ms. Ågren mentioned that a first calculation of local carbon footprint based on consumer behaviour was carried out in Umeå. The on-going collaboration with the OECD is expected to raise further awareness on the circular economy and engage with a large number of stakeholders.

3.3. Insights from the OECD Survey on the Circular Economy in Cities and Regions

“The circular economy is not an end in itself. It is a means to an end.”

Ms. Oriana Romano, Coordinator of the OECD Cities and Circular Economy Programme, started her intervention by sharing three main messages on the circular economy in cities and regions:

- It is not a new concept but a new driver: while the economic literature on which the circular economy lies dates back the sixties, technological progress and socio-economic opportunities recently raised the attention on the circular economy as a driver for sustainable development.
- It is not an end in itself but it is a means to an end: the circular economy is meant to create production and consumption models leading to reduce raw material extraction and greenhouse gas emissions, while generating job opportunities and green growth.
- It is transformative and systemic. The circular economy requires a systemic and holistic approach, going beyond the waste sector and making connections across water, energy, transport and land use in an integrated manner. Cities are not isolated ecosystems, and therefore it is necessary to consider the right scale for the circular economy to take place and also the functional interaction across the urban and rural areas.

Ms. Romano also mentioned that the OECD is developing an indicator framework to support decision makers with the transition to the circular economy. More than 1000 indicators have been collected. They are mostly related to waste management. She expressed the importance of clarifying for which purpose, by whom and how indicators will be used.

Ms. Romano reported on the preliminary results of the Survey on the Circular Economy in Cities and Regions, which gathered 34 answers to date (31 cities and 3 regions), mostly from Europe but also from New Zealand (Dunedin), Australia (Melbourne), Japan (Kitakyushu), Chile (Quillota) and the United States (Phoenix and Austin). Responses have been collected from cities in different stages of advancement towards the circular economy, from pioneers to newcomers. According to the preliminary results:

- A total of 15 out of 34 cities/regions have circular economy initiatives in place.
- A total of 12% of respondents consider themselves advanced and pioneers, while a total of 53% of respondents are “emerging”, and the remaining 35% are “in progress”.
- Climate change is the most important driver for cities and regions towards the circular economy (67% of respondents). As such, the circular economy is often integrated within existing agendas on low carbon emission and zero waste.
- Waste (76%) is the sector mostly related to the circular economy, followed by construction and demolition (61%), land use (52%), food (52%), manufacturing industry (45%) and water (42%).
- A total of 76% of surveyed cities and regions are allowing pilots and experimentations. Grants and subsidies are tools to create circular jobs and stimulation.

According to the Survey’s results, while technical solutions are available, major obstacles are represented by governance dimensions: regulatory frameworks should be updated; financial resources are needed; a holistic vision is still missing because of predominant siloed approaches; and cultural barriers still exist. Ms. Romano concluded with the top priorities for the future, as result of the Survey: i) increasing the environmental quality and resource efficiency in cities and regions; ii) adapting, updating and making sure

that policy and regulation are conducive towards the transformation to a circular an economy; iii) favouring behavioural change and awareness raising.

3.4. Discussion and reactions

Participants of the Roundtable highlighted the following:

- Closing the loop in megacities is even more challenging than at other scales in terms of “global input – local output” and complex interactions between stakeholders. There is also great heterogeneity and inequalities across people that affect their behaviour and consumption choices (e.g. example in the global south, of growing of slums alongside elite business districts) [Mr. Liogkas, Expert advisor at the Ministry of Environment and Energy of Greece].
- There is no secondary market for most of collected household waste. Still, virgin materials most often are less expensive. Moreover, circular economy policies are devoting more attention to the downstream process rather than to the upstream one, which focuses on the kind of products that are being put on the market before defining how to manage waste. Well-designed products can avoid waste [Mr. Wijkman, Chairman at Climate-KIC].
- Cities have the opportunity of using green public procurement to specify that materials have to have a certain proportion of recycled materials. However, this is not widely used [Prof. Ekins, University College London].

3.5. Moderated panel

Mr. Pavel Misiga, Head of Unit "Circular Economy and Bio-based Systems", Directorate General for Research and Innovation, European Commission, stated that the European Commission recognises the circular economy as a key transition pathway to carbon neutrality and sustainability. The relevance of the circular economy within the European Commission in the last five years has swiftly increased. The European Commission is very keen to work on this topic horizontally, from not only an environmental point of view, but also economic and social ones. Mr. Misiga pointed out that the circular economy must deliver on both economic and environmental premises and reduce environmental impacts from production and consumption processes. However, not all kinds of circular processes are good for the biosphere. Carefull consideration is needed on this regard.

“The European Commission recognises the circular economy as a key transition pathway to carbon neutrality and sustainability [...] We are at the beginning of transformation process, what we have now is probably low hanging fruit.”

Mr. Misiga discussed the appropriateness of the regional scale for the circular economy for certain products or sectors. This is the case of construction materials, for which the circularity of material flows, product categories, and business models is most suitable at the regional level, than at other scales. On the other hand, the optimal size of certain cycles, such as remanufacturing, airplane engines or magnetic resonance scanner, would be much wider than the regional scale.

Mr. Misiga recognised that the transformation process is still incipient. There is the need to accelerate this transition through systemic solutions, going beyond low hanging fruit. This implies relying not only on technological innovations, but combining them with new business models, governance, and social innovation.

Regarding the barriers, Mr. Misiga pointed out that the lack of economic benefits prevents the circular economy to happen. As such, there is no supply and demand for secondary materials and circular products. A key point consists in enhancing collaboration along a value chain, upstream and downstream. However, in reality, these actors either compete or they do not interact on the market. This collaboration

can be best established at regional and urban scale because local and regional authorities can play a very important role in launching new market interactions.

This is an enormous opportunity but also a responsibility. Mr. Misiga called upon actions now. Local government should not wait for national governments or the EU to set taxes on primary materials. They can stimulate the collaboration by providing economic and financial incentives (e.g. subsidies or fees) that make a circular economy project feasible, viable and bankable.

Mr. Mark Hidson, Global Director, Sustainable Procurement Centre, International Council for Local Environmental Initiatives (ICLEI) highlighted the drivers for cities in the transition towards the circular economy:

- **Society:** There is a concern over the use of natural resources and about the way public funds are spent. Behavioural change is gaining more and more strength among the younger generations. Cities are the places to deal with this problem.
- **Business:** New models business are arising. Cities can lease services rather than buying them and cities can work more closely with entrepreneurs and SMEs.
- **Public sector:** A key tool for cities is green public procurement, through which cities can directly influence material processing.

Mr. Hidson argued that national targets, policies and legislation strongly influence the work on the ground of cities and regions on the circular economy and that an effective governance framework is needed.

“A lot of this happens on the ground: we need pilot projects, specific initiatives, but also the recognition that there is a leadership and commitment from cities and regions [...] So start small, through pilot cases and then scale up quickly.”

Mr. Hidson highlighted that pilots, contrary to long-term strategies and infrastructure, can be a quick source of learning from success and failures that can stimulate circular economy practices now and in the future. Cities have the opportunities to promote circular economy models, moving from buying services rather than products (e.g. lighting rather than lights).

Awareness raising and behavioural change are needed. Mr. Hidson agreed with previous speakers on the existence of a large number of indicators that do not properly measure the progress in the circular economy. He mentioned the need of building capacity and skills and enhancing the collaboration across businesses and public authorities. Finally, Mr. Hidson called for collaborations for supporting cities in developing their circular economy patterns.

Ms. Miranda Schnitger, Cities Project Lead, Ellen MacArthur Foundation, stated that cities are key spots for moving towards demonstrating a circular economy in practice. Physical and structural waste represent a real problem in cities: waste management costs up to 20% of the city budgets, while on the other hand there are several underused resources, from buildings (underused by up to 60%) or cars (usually used by one person instead of five- the number for which they are designed- and for a limited lifespan). These problems can be transformed into opportunities.

“A circular economy model offers the opportunity to rethink how we plan, design, make, use and manage resources in cities”

Moving to a circular economy in cities is a real opportunity for rethinking of the economy. It also represents a way of delivering many of the objectives that are usually set by cities in terms of urban planning, transport, efficient use of resources or greater economic opportunities.

“The idea is to aim towards a system that is more resilient, an environment enjoyable to live in and that provides economic opportunities.”

For example, when looking at some of the impacts of new business models, a range of benefits emerge: refurbishing a thousand tons of electronics would create 13 times more jobs than recycling the same amounts; switching outdoor US lighting to led lighting would have the same impact in carbon emission reduction equivalent than taking 8.5 million cars off the road. The Airport of Amsterdam in the Netherlands purchases light as a service rather than buying light bulbs. This new model incentivises the manufacturer to make items last for as long as possible. Accessing clothing via rental model could result in a 14 times reduction of garments produced or disposed. Inevitably, this requires changing behaviour, which is very difficult. These examples come from research included in the [Circular economy in cities resources suite](#).

Ms. Schnitger highlighted that all actors have a role to play in the transition towards the circular economy, including the business sector. She stated that an upstream thinking is needed for developing new design, business models, collaborations and logistics. Similarly, policymakers can use a number of policy levers noted in the resources suite, ranging from strategy development, capacity building, to economic incentives and regulation amongst other levers. She concluded her intervention saying that cities have a unique opportunity to plan, design and make things in a circular manner.

Mr. Arjan Hassing, Programme Manager Circular Innovation, City of Amsterdam, Netherlands shared the experience of the City of Amsterdam in the field of the circular economy. Starting in 2014, the first two years of work consisted in an exploratory phase to understand the topic, the opportunities and the stakeholders involved.

“We carried out workshops with 20 different internal departments on different levels, from project managers to directors.”

Mr. Hassing referred to the 2016 national programme [“A Circular Economy in the Netherlands by 2050”](#), setting the target of 50% reduction virgin material use by 2030. Following the national initiative, the City of Amsterdam set the target of reaching 50% of circular procurement by 2025 and 100% by 2030. Recently, the Municipality of Amsterdam started a cooperation with Ms. Kate Raworth, author of “Doughnut Economics” to use her theoretical model to build a circular economy system in practice, with a focus on social dimensions and inclusiveness. Several workshops were carried out in 20 different city departments.

“In the coming half year we will be going to the city talking with the Amsterdam people. We like to call them city makers.”

Furthermore, Mr. Hassing presented the recently launched circular economy report of the City of Amsterdam, [“Building blocks for the new strategy Amsterdam Circular 2020-2025”](#), which identifies 17 building blocks to work for the future strategy and 116 projects. The City of Amsterdam will adopt a new circular economy strategy together with an innovation programme and a new resources programme. The new circular vision for the City of Amsterdam will be in line with the national circular economy strategy, thriving on a regenerative and inclusive city for all its citizens.

3.6. Discussion and reactions

Members of the Roundtable participated in the discussion:

- It is important to make the link with the SDGs. Not only the SDG 12, but also SDG 11 on cities. Several studies show that 65% of SDG targets are directly relevant to the local level [Mr. Wright, Secretary-General Emeritus at the Commonwealth Local Government Forum (CLGF)].
- Cities and regions share similar challenges and opportunities around the world. The Council of the Baltic Sea (11 members) collected examples and good practices in the recent publication [Circular Baltic 2030](#) [Ms. Zuin, Programme Coordinator at the Council of the Baltic Sea States (CBSS)].
- There is still a huge gap to be on a track to a 1.5 degree world. [The Future of Urban Consumption in a 1.5°C World](#) report argues that even though some behavioural changes are extremely unpopular, they are very much needed to face the urgency. The circular economy brings

opportunity for job creation, however further investigations are needed [Ms. Breen, Head of the Green Economy and Innovation at C40].

Mr. Rodolfo Lacy, Director, Environment Directorate, OECD, agreed with previous speakers that changes in behaviour are indispensable in order to avoid emissions, fight against the climate change and protect the biodiversity of the ocean. Cities and regions are key in the transition to a circular economy because they have responsibilities over waste management and mayors and governors should be accountable for doing so effectively and efficiently. The current key driver to a systemic approach beyond waste management is [plastics](#), as a main concern for people worldwide.

“In the absence of new policies the use of global materials will almost double.”

Mr. Lacy shared some of the highlights from the [OECD Global Material Resources Outlook to 2060](#) (OECD, 2019), which predicts a quadrupling of the global economy to 2016. The global average per capita income is projected to reach USD 37 000 by 2060, almost as high as the current OECD level. The economic growth and rise in living standards will increase material use. The Outlook projects that in the absence of new policies, the use of global materials will almost double from 89 gigatonnes (Gt) in 2017 to 167 Gt in 2060. Materials extraction, processing and use cause a wide range of environmental impacts including the pollution of local water sources, ecosystem disruption from mining facilities, emissions of gases that contribute to climate change and air pollution, and environmental degradation from waste landfilling and incineration.

“Cities can play an important role given their ability to enable new [business models](#) such as those of the sharing economy and their central role in key infrastructure sectors such as waste prevention, management and recycling, urban transport and water supply and sanitation. However, to achieve circular economy goals, cities need to be supported by an enabling framework that only national governments can establish effectively.”

Mr. Lacy also emphasised the need to increase the recycling rates, creating new markets that support the scale up of circular business models such as repair and reuse products. The sharing economy requires the development of fiscal incentives, national or international labels to certify products quality. Finally, he acknowledged the importance of metrics and indicators for the circular economy, going beyond measuring the recycled and collected waste volumes. He called for a close coordination between national and city levels in policymaking and implementation.

4. Session II: Cities and regions as a level playing field to engage business in circular economy

Ms. Lucia Cusmano, Head of the SME and Entrepreneurship Division, CFE, OECD, introduced the session on “Cities and regions as a level playing field to engage business in circular economy”. She acknowledged that while large enterprises certainly are in the forefront in the transition towards the circular economy, SMEs and entrepreneurs have an important role to play. According to Ms. Cusmano, the circular economy provides a large number of opportunities for the SMEs and can be a very important driver of change, coherently with regional and local level policies. Local authorities can target and take into account specific challenges, needs and barriers of the SME business sector.

4.1. Keynote speech

Ms. Jacqueline Cramer, Sustainability and Innovation Chair, Utrecht University and former Minister of Housing, Spatial Planning and the Environment, Netherlands, illustrated the transition management approach and how this informed business involvement in the [Circular Economy Programme of the Amsterdam Metropolitan Area](#).

The transition management approach takes in to account a multilevel perspective:

- The niche actors, as sources of innovation (mostly represented by SMEs)
- The regime actors, those focusing on established practices (most of the time large players)
- The landscape, as the exogenous environment that shapes regime and niche actors behaviour

Looking at the dynamic interaction between regime and niche actors, some conclusions can be drawn:

- When there is no dynamic interaction, the development of innovative products and services can take place, but there is limited scaling up for niche actors. In this situation, the regime actors tend to focus on incremental improvement unless they are frontrunners.
- With dynamic interaction, niche actors develop innovative products/services with the potential of scaling them up through the support of regime actors. For regime actors, there is a willingness to become more innovative through the influence of niche actors, unless market opportunities and/or societal pressure are lacking.

“The transition to the circular economy is not business as usual, but a system change that lays on behavioural, organisational and non-economics terms.”

In the Circular Economy Programme of the Amsterdam Metropolitan Area, two strategies took into account these dynamics:

- The circular procurement to stimulate circular products: The Amsterdam Economic Board set up communities of practice with 11 participants from the industry, government and knowledge institutes. Participants took part in a working session to share knowledge, exchange lessons learnt and set up joint initiatives. Niche actors are often involved because procurement officers seek innovative ideas. Regime and niche actors interact particularly when their strategies are aligned and need to win a bid to work together.
- Closing the loops through nine priority resource streams: refuse, reduce, redesign, repair, refurbish, remanufacture, re-purpose, recycle and recover. The Amsterdam Economic Board executed a four years programme on these nine priority streams and obtained very innovative results: twenty consortia were built and in all but five of them, regime and niche actors worked together. The Amsterdam Economic Board selected those companies that were willing to make a more fundamental change (either niche or regime actors) and provided them with the necessary conditions to carry out their activities (e.g. volume of supply, logistics, and quality of the recycling).

“The circular economy is a very complex multi-regime change that covers so many sectors and product change, as a very diverse system innovation. And that’s why we have to be very focused on how we tackle the problem, and follow a very structural and systemic approach in order to reach our final goals”.

Ms. Cramer concluded that the practices of the regime and niche actors reinforce each other’s when their activities are complementary. However, if robust enough, niche actors can overthrow regime actors. The circular economy goes beyond the radical technological innovation and requires structural and behavioural innovation.

4.2. Spotlight on a city: Building a circular economy ecosystem in Groningen

Ms. Glimina Chakor, Deputy Mayor of Groningen (Netherlands), presented the actions performed by Groningen in its circular transformation. The City of Groningen is located in the North of the Netherlands. It hosts a population of almost 230 000 inhabitants, it is the 5th city in the Netherlands. Groningen is the “youngest” city of the Netherlands, with 50% of the population being under 35 years old. It attracts every year more than 70 000 students. Innovation and digitalisation investments are attracting an increasing

number of start-ups and business. Cycling is the most common means of transport in the city, which counts with more than 145 kilometres of bicycle lanes along main roads.

Supporting the national goal of becoming 100% circular by 2050, the Council of the Municipality of Groningen decided in 2018 to build an overall vision for the circular economy. Ms. Chakor highlighted that due to the small scale of the city, the joint collaboration between the university, the private sector, government and citizens is a common practice. The Deputy Mayor also shared three examples of activities related to the circular economy and taking place in the City of Groningen:

- **Hydrogen:** Despite the absence of a hydrogen infrastructure in Netherlands, Groningen started by changing the car fleet into zero emissions. Hydrogen is an enabler for the energy transition and Groningen would like to contribute to boost the use of this energy source.
- **Waste:** Groningen reuses 60% of the produced total waste. As it is a densely populated city, with almost 60% of the population living in tower blocks, the Municipality of Groningen decided to separate solid waste after the collection. The target is to reuse 100% of the Groningen's waste by 2025.
- **Public tenders:** At the beginning of 2019, Groningen made a public tender for office furniture. Instead of buying new products, suppliers were asked to develop a circular model for ten years during which reusing refurbished, repaired and recycled furniture.

“Through the cooperation with the OECD we also hope to be an example to other cities in how they can develop their circular economy strategy.”

Ms. Chakor expressed her satisfaction for the collaboration between the City of Groningen and the OECD, within the dedicated Programme on the Circular Economy in Cities and Regions. Groningen expects to be an example to other cities on how to develop their circular economy strategies. Ms. Chakor concluded by illustrating the next steps for the city, consisting in the development of circular value chains for selected sectors, the identification of roles of a wide range of stakeholders and the development of an ecosystem for the circular economy.

4.3. Moderated panel

Dr. André Corrêa d’Almeida, Adjunct Associate Professor, School of International and Public Affairs and the Earth Institute, at Columbia University, stressed the importance of [circular data](#) for the economic development of cities and regions. In particular, he referred to the collection, production, exchange, use, reuse, and sharing of data and business insights amongst actors in cities. He pointed out that in many cities there is a lack of awareness on initiatives put in places by local administrations, leading to a reticence to change, further compounded by the idea of technologically centred innovation. Dr. Corrêa d’Almeida also advocated for a stronger collaboration across regions and between regions and cities.

“Circular city data refer to the collection, production, exchange, use, reuse, and sharing of data and business insights across a number of actors in cities.”

To explain how the circular data can create value for local economic development, he introduced the example of the [New Lab](#), the largest urban technological incubator in New York City. Within the New Lab, three start-ups working on waste collection and mobility and three city agencies working on the same fields took part in a pilot project. The challenge was to create an incentive system whereby city agencies could access data that start-ups collected. One of the start-ups was able to produce a technologically advanced micro level mapping of transportation by taxis and of the garbage collection through real time data. These data can inform policy-makers. As such, even outside of the monetisation framework, it is possible to build value and collaborate with start-ups.

“If we don’t think about innovation beyond technology, if we don’t think of innovation based on the strengths the cities already have, we lose an opportunity of creating regional development”

Dr. Corrêa d'Almeida highlighted seven key innovation drivers (institutional context, leadership and decision, networks and collaboration, organisational structure, results and impact, technology and data) that cities can focus on in order to assess how they are driving their local innovation. The recently published [Smarter New York City How City Agencies Innovate](#) book gathers 12 case studies on local innovation, focusing on four phases: problem identification, design of the solution, implementation and assessment.

Mr. Wayne Hubbard, Chief Executive, London Waste and Recycling Board (LWARB), City of London, United Kingdom, illustrated the [London's Circular Economy Route Map](#) that supports circular economy business in London, run by the London Waste and Recycling Board. It aims at transforming the city in a more resilient, resource-efficient and competitive one and supports businesses in key identified sectors: built environment, food, textiles, electricals and plastics.

“Business support enables start-ups to develop their business plans, to understand their environmental impacts, to generate more publicity and access to markets.”

Mr. Hubbard presented the two main circular programmes that LWARB offers:

- [The Resource London](#) aims at reinvigorating recycling through London's municipalities, by supporting them in the improvement of the recycling process, increasing the capture of unavoidable food waste, managing behaviour change campaigns and fixing residual waste restrictions.
- [The Circular London](#) focuses on the acceleration of the transition to a circular economy. In order to achieve it, the LWARB helps businesses in several areas: investment and business support; networking; collaboration and knowledge sharing; and awareness raising. The programme is designed to support companies during their whole life cycle through each of the phases: start up, seed, growth, expansion and maturity.

Mr. Hubbard also announced the launch of an accelerator in London, United Kingdom, for the built environment that aims at providing companies with subsidised workspace to develop their business models. Access to finance is the main barriers for start-ups, and in order to make it possible, the LWARB has recently invested and launched a venture capital fund with £14 million. For instance, the LWARB has provided support to companies offering advanced technology to reach goals, such as food waste reduction.

Finally, the circular economy business support program called [Advance London](#) provides business support to enable the start-ups to develop their business and plans to understand their environmental impacts, and to generate more publicity and access to markets.

Mr. Kari Poikela, Director, Centre for Circular Economy and Arctic Industry, Regional Council of Lapland, Finland, explained that the circular economy started to flourish in the Region of Lapland (Finland) as an initiative from the business sector in 2012. To spur competitiveness of industry, linked to the resilience of the region, the industrial sector (e.g. bioforest, forestry, mining, and steel among others) sought support from public authorities concerning the reuse of by-products and residues. The request was well received by the local authorities, which started a discussion on the circular economy. The steps followed in the implementation of the circular economy and the bioeconomy in Lapland were: i) prioritisation of tasks ii) internationalisation and cooperation across several actors iii) organisation of workshops for technical assistance iv) expansion to Northern Finland, Northern Sweden and Northern Norway, v) cooperation with the SITRA innovation fund.

“We need to look beyond the city level, making connection with the region, the country and the neighbours. We should build a common circular economy region, involving all Nordic regions.”

Mr. Poikela expressed the need of a common circular economy region involving all the Nordic regions. Due to the small population of Lapland (180 000 inhabitants), it is important to have a good network of cooperation partners at European and global level. Mr. Poikela stressed that the Region of Lapland has

been very active in building bridges for cooperation and that the region can play a leading and proactive role within the circular economy scene.

Ms. Cheryl Robb, Cities & Regions Manager, Zero Waste Scotland, United Kingdom, shared the experience of Zero Waste Scotland in supporting SMEs, within cities and regions, with the transition to the circular economy.

“Working at a certain regional level has been really useful because we are working with stakeholders, understanding the local economy and the challenges they are facing, so for us to tailor our activity to help them meet these challenges.”

In 2016, the Scottish Government adopted its circular economy strategy [Making Things Last](#). The strategy sets out priorities for moving towards a circular economy and it has been built on Scotland’s progress in the zero waste and resource efficiency agendas. The strategy prioritises four main areas: 1) food and drink, and the broader bio-economy; 2) remanufacture; 3) construction and the built environment; and 4) energy infrastructure.

In 2016, Zero Waste Scotland also started to address the circular economy from a regional basis, focusing on opportunities for collaboration and on keeping resources circular in cities and regions. Ms. Robb mentioned five projects that are taking place in Glasgow, Edinburgh, Orkney, North East and Tayside.

Zero Waste Scotland is working on local business engagement with business partners, mostly with chambers of commerce and business confederations. These collaboration frameworks capitalise on the established networks with the business community. Once opportunities have been identified, Zero Waste Scotland provides support to business towards their transition to the circular economy. For example, it provides one-to-one support to companies, market assessment, lifecycle analysis, communications and marketing. Zero Waste Scotland has worked with over 160 business and provided funding to over 30 business through grants. This assistance is complemented by funding that companies make available in case of necessity. Businesses can also be part of the [Scottish Circular Economy Business Network](#). Ms. Robb stated that Zero Waste Scotland is working with an increasing number of local authorities, universities and other stakeholders seeking for opportunities for cooperation.

4.4. Discussion and reactions

Participants were invited to react:

- One third of the European Union budget is dedicated to investments for European regions. For example, cities and regions in Europe benefit from the European Regional Development Fund. The European Commission is now looking for strengthening the work on the sustainability transitions [Mr. Happaerts, Policy Analyst at the DG REGIO of the European Commission].
- The transition to the circular economy can take place by performing hard actions, such as regulatory measures, economic instruments, fiscal measures and soft actions, including stakeholder engagement and promoting collaboration [Mr. Radway, Director at Circulonomy].
- It is important to make the circular economy real and accessible for the society as a whole: sustainability is perceived in the UK as being for those who are better off, who can afford to make ethical purchasing choices, and who have time to spend on activities such as repairing clothes [Ms. Finch, Managing Director at Bristol Pound].
- Scotland and Lapland showed that public authorities have helped identify the local potential and help local business take advantage of it. As SMEs usually lack of all the information, there is the need of integrating and identifying these opportunities, providing the SMEs with the knowledge to act and build business around it. Public authorities at regional scale can facilitate the process of integrating circular economy actors into regional value chains. They have an enormous potential

to become key actors to enable business to participate in the circular economy transition [Mr. Misiga, Head of Unit "Circular Economy and Bio-based Systems" at the European Commission].

- Policy makers should start advocating for a tax shift, otherwise the overall system would continue to be driven to the same direction: short-term profit maximisation, within a system where most producers do not pay the full cost [Mr. Wijkman, Chairman at Climate-KIC].
- The society and the industry should push the message forward, making clear what needs to be changed. Regarding the instruments of the local government, public procurement can steer the market and it should be implemented systematically [Ms. Cramer, Utrecht University, Netherlands].
- Small and large-scale pilots can test the effectiveness of policies at regional level. Typically, SMEs face many risks when building circular economy solutions for bigger companies. The credibility of SMEs to the big companies and cities is important, and a cluster would be a good strategy to solve it [Mr. Poikela, Director at the Centre for Circular Economy and Arctic Industry].
- There is much more attention on the future possibilities of the circular economy, while risks and failures are rarely mentioned. Participation is generally perceived as time consuming and burdensome. However, it can actually be a risk mitigation strategy. The idea of participation can also be used to address risks of change. Policy-makers can distribute the responsibility across larger groups of players [Dr. Corrêa d'Almeida, Columbia University].
- The circular economy is not going to be a mainstream economy unless employees have some minimum working conditions and higher wages. For this purpose, the whole system conditions of the economy need to be adapted. It would be very interesting to see if bottom up initiatives (e.g. London, London, Groningen) will be able to succeed with the support of their respective national governments [Professor Ekins, University College London].
- In order to solve the funding gap, entrepreneurs face in the creation of new business, the LWARB offers support and access to finance. The main concern for the LWARB is how to scale this help up and make a significant impact on business creation. The City of London, United Kingdom, can be a network introducing global corporates to innovative companies, making a city level idea a regional or global one. The LWRB can also help by showing municipalities the way they can save money by reducing waste, and by providing them with a plethora of tools that can help citizens to reduce their waste, including technological tools [Mr. Hubbard, CEO at the London Waste and Recycling Board].
- SMEs and business usually complain about the risk they have to take to meet the transition goals fixed by the local governments. Despite the development of instruments and help provided by public authorities, the private sector continues to bear most of the risks. There is a need for changing regulation, spaces for experimentation (physical spaces with a less strict regulation), process coordination and acting as launching customers. Local authorities usually are not able to understand the problems of entrepreneurs. It is key to provide them with the adequate framework to succeed in scaling up sustainable innovations [Mr. Hassing, Program Manager Circular Innovation at the Municipality of Amsterdam].
- Cities are investing time and resources in supporting SMEs and the creation of the market. However, Inno4 has identified that the creation of circular economies as a service is currently being promoted by knowledge institutions or by business intermediaries, which are non for profit. [Mr. Díaz López, Executive Director at Innovation for Sustainable Development Network (INNO4SD)].
- The Urban Agenda Partnership on the circular economy focuses on barriers on the local and city level for transitioning towards the circular economy. Cities can help small businesses through better regulation. Cities have an important role to play in the identification of barriers and adapt the

existing regulation at local, national and supranational levels [Mr. Jentoft, Senior Executive Officer at the Municipality of Oslo].

Ms. Cristina Tebar Less, Head of Responsible Business Conduct, Directorate for Financial and Enterprise Affairs, OECD, concluded the session and briefly presented the [OECD Guidelines for Multinational Enterprises](#), which are one of the world's leading standards on responsible business conduct.

“Companies should do well while doing no harm”

The OECD helps companies identify the main environmental risks in resource use, waste production, and the emission of dangerous substances. The recommendations included in the OECD guidelines also reflect circular economy principles. Ms. Tebar Less highlighted the importance for companies of connecting different international standards (e.g. OECD guidelines, SDGs, the UN guiding principles of business and human rights, the climate change and biodiversity). In addition, companies that are doing the right thing should be rewarded and recognised through several incentives:

- **Public Procurement** is a key incentive. The OECD is working on a project for the inclusion of responsible business conduct in public procurement. This would show the way the circular economy can be part of public procurement.
- **Finance**: access to finance is often very difficult for companies and municipalities have a role to play in this area. They can provide finance to companies and use resources to bring companies together to enhance knowledge exchange.
- **Taxes** are an important tool to incentivise and disincentivise certain behaviours and actions.

“The circular economy is an excellent opportunity to highlight the benefits and the positive aspects of conducting in a responsible way.”

Ms. Tebar Less concluded by stressing that SMEs also face many challenges and opportunities, and emphasised that they are smaller, more resilient, and often led by younger people who are aware of sustainability needs. Therefore, SMEs are drivers for innovation and not just part of the supply chain.

5. Session III: The circular economy and Inclusive Growth: opportunities at local and regional level

Ms. Karen Maguire, Acting Head of the Local Employment and Social Innovation Division, CFE, OECD, presented the session on the circular economy inclusive growth and its opportunities at local and regional level. When it comes to environmental issues, sometimes different population groups do not feel included due to several reasons: they are not part of policy design and there is a communication effort to be done for their inclusion. It is important to think how the circular economy can help with the reduction of inequalities, enhance inclusive growth and favour sustainable production and consumption patterns. The circular economy involves new forms of collaboration across different levels of government and different sectors.

5.1. Keynote speech

Mr. Anders Wijkman, Climate-KIC Chair and former Co-president of the Club of Rome, reiterated that the concept of the circular economy is not new and highlighted that the human footprint has been growing rapidly over time. Mr. Wijkman pointed out that the main motives for moving towards the circular economy have been primarily linked to resource constraints, increasing pressures on ecosystems and biodiversity, pollution and carbon emissions. But there are serious economic and social aspects to take into account as well.

“As we all seem to agree, linear material flows represent a colossal waste of resources. Huge economic values are being lost when most materials are only used once. Furthermore, insufficient importance has been given so far to the social dimensions of the circular economy. The creation of jobs issues as well as enhanced social cohesion are opportunities not to be missed.”

To move from a linear to a circular production model will not happen by itself. It will require important changes at the macro-level. Policy frameworks will have to be reformed; a tax reform, shifting the tax burden from labour to resource use, is very much needed. Products put in the market have to be designed so that they are easy to reuse and recycle, emphasising the role of proper design criteria. Public procurement will also be key. Here the main problem is risk aversion and the lack of proper knowledge about the circular economy and its implications among public procurement officials.

“The whole system is really in need of change. If we are about to change the economy, it is not only about how we manage energy and materials. It is also about people, very much about people.”

Mr. Wijkman emphasised the enormous opportunities of the circular economy to address current social challenges (e.g. inequalities, uncertainties about jobs, increased social tensions). Furthermore, social cohesion is also likely to benefit from a move towards the circular economy. The sharing economy (e.g. leasing centres, repair cafes, tools for reuse, bikes for rent, mobility services) as well as going from selling more “stuff” to offering high-quality services is likely to lead to a higher interaction between individuals. Furthermore, low-income households are likely to benefit from low-cost and more affordable new services (leasing, renting, mobility services, etc.). The circular economy will not be favourable only for high-income groups.

On the effect of the circular economy on jobs, Mr. Wijkman suggested that activities like recycling, reuse, refurbishment and remanufacturing are by definition more labour-intensive than increasingly automated manufacturing. The current labour market will no doubt experience an increasing share of automation and robotisation. This can be partly counteracted by a more service-oriented economy.

While many of the new jobs will arise from the service sector, some will be related to waste management. Here we do find many low skilled and low-paid jobs. Efforts must be made to enhance the quality over time. Furthermore, the informal sector of recyclers must also be taken into consideration in the new scenario (i.e. to offer them a chance to be part of the transition). Therefore, it is crucial to be prudent about the way the transition is managed.

Mr. Wijkman emphasised the importance of human capital in jobs. He recalled that human employment is a renewable source and highlighted the central role of education as a way to improve skills.

“The contribution of human and human capital is crucial and we should really put that at the centre of the agenda.”

Mr. Wijkman concluded his intervention by stating that the circular economy should be seen as an instrument to both deliver decoupling and as part of the bigger picture of societal and cultural transformation. It is very much needed to marry the environmental and climate-related objectives with the economic and social objectives.

5.2. Spotlight on a city: Creating job opportunities through the circular economy in Valladolid (Spain)

Ms. Rosa Huertas González, Director, Innovation, Economic Development, Employment and Trade, Municipality of Valladolid, Spain, illustrated the transformation the City of Valladolid is undergoing towards the circular economy and the main drivers to achieve it. Ms. Huertas González summarised the circular economy initiatives that have been carried out both at national and local level in Spain, through [The National Circular Economy Strategy 2030](#), which is to be approved and the [Seville Declaration](#) launched in 2017. The Declaration has been signed by Spanish municipalities as a commitment towards the circular

economy. The City of Valladolid also supported the drafting of the Guide to design a strategy for the circular economy, by the Spanish Federation of Municipalities.

“The City of Valladolid is very interested in the opportunities that the circular economy brings in fostering economic growth with new or renewed business.”

Ms. Huertas González pointed out the main drivers for the City of Valladolid to start the transition towards the circular economy:

- **Responsibility:** although the local government can lead the transition to the circular economy, the whole process is a shared responsibility.
- **Challenges:** environmental, economic and social challenges need to be approached both at a global and local level. One of the main challenges of the City of Valladolid is its high unemployment level and the departure of a high number of young jobseekers in search of professional opportunities elsewhere.
- **Opportunities:** The potential of the circular economy to face all these challenges with a crosscutting approach in an integrated and collaborative way represents an opportunity to improve policies, in several areas (e.g. water, waste, mobility, energy, and use of public space). Ms. Huertas González highlighted the opportunities that the circular economy creates in terms of job creation, while it can have a positive impact in both non-qualified and highly qualified jobs.

Ms. Huertas González presented the Valladolid Roadmap towards a Circular Economy, which is based on five pillars: defining an approach; making diagnosis; raising awareness and encouraging participation; and promoting the circular economy among companies and the entrepreneurial ecosystem. As part of the Roadmap, Ms. Huertas González introduced the subsidy programme of the City of Valladolid for the promotion of the circular economy. In 2019, it counted with a budget of 600 000 EUR and it was designated to different beneficiaries such as private companies, non-profit entities or research centres performing their main activities in the City of Valladolid. The programme funded 22 projects in 2017 and 39 in 2018 and created a network involving all the beneficiaries in order to boost synergies among them. The projects work on a broad variety of areas such as waste, water, food, economy, energy and communication.

Ms. Huertas González presented a second programme consisting on the support of local entrepreneurship, which provides entrepreneurs with training, mentoring, financial support and co-working spaces. Additionally, the Agency of Innovation and Economic Development has developed additional actions to help existing companies become more circular. For instance, the Circular Weekend, a national meeting for the circular economy held in 2019, gathered more than 120 participants sharing knowledge and starting collaborations.

Ms. Huertas González concluded her presentation referring to the OECD Programme on the Circular Economy in Cities and Region, in which the City of Valladolid is taking part as case study. Through this programme, the Agency of Innovation and Economic Development of the Municipality of Valladolid is getting advice and expertise as well as a support on the development of a circular economy strategy and action plan. Ms. Huertas González highlighted the importance of monitoring tools and evaluation, while she acknowledged the difficulty in finding appropriate indicators for accurate measures of job creation.

5.3. Moderated panel

Mr. Alexandre Lemille, Co-founder, African Circular Economy Network (ACEN), presented the [African Circular Economy Network](#), a not-for-profit organisation registered in South Africa in 2016 that aims at promoting the circular economy across the continent. Mr. Lemille shared with the audience some of the identified projects in Africa:

- The Western Cape Industrial Platform, financed by the City of Cape Town, is an industrial symbiosis programme that invites most of the companies around the city to share resources.

- Sanergy Kenia works in a sanitation systems under franchise. Once the human residues are collected, this company transforms them into compost and soil fertilisations to provide energy and other materials.
- Umgibe is a small NGO in South Africa, with operations in Uganda, which installed innovation systems to provide food especially in places with limitations for food growth.

Mr. Lemille stated that in African countries, there is no other choice than going for a responsible economy, which involves economic, environmental and social dimensions. He also stressed that the circular economy concept has not been designed around the social dimension. The ACEN follows a model based on circularity of systems that aims at wellbeing for all citizens.

“The social dimension and social impact of the circular economy are not guaranteed in the circular economy concept because are not written in its DNA.”

Mr. Lemille described the system circularity model, considering humans as nature and as energy, and including the *humansphere* in the middle of the *biosphere* and the *technosphere*. From a circular economy perspective, humans are the third stock of resources and flows of energies in the planet. It is a growing and dynamic stock that will reach the 9.7 billion by 2050. According to the model, people need to consider themselves as circular beings to adapt to the environment and at the same time, give value to human labour by dropping taxes on labour and increasing taxes on scarce resources. According to Mr. Lemille, this model could lead to regenerative activities in a well-designed system.

Mr. Nicola Marchesi, Senior Environmental Specialist, Environment, Climate and Social Office (ECSO), European Investment Bank (EIB), described the way the EIB is supporting the transition towards the circular economy in cities through lending, blending (combining loans with grants) and financial and technical advisory services. Between 2013 and 2017, the EIB provided 2 116 million EUR to circular projects.

He shared two examples:

- **The Green Metropole Fund to support businesses in the Amsterdam Metropolitan Area:** The EIB provided a 40 million EUR fund and guidance on what criteria to use for funding projects and which project would be financially eligible. The project was backed by the European Fund for Strategic Investments (EFSI), which is part of a wider scheme for investment in the EU that the EIB is implementing on behalf of the EU. This project represented a new model of leveraging public financing introduced in Netherlands, with private capital providing on average 75% of project cost.
- **Circular Economy Development in Kolding Municipality, Denmark:** Between September 2018 and February 2019, the EIB supported the development of circular solutions in Kolding Municipality. The expected outputs of this project are the review of circular economy solutions applicable to various components of the Marina City urban development project and the drafting of Terms of Reference for the development of a circular economy strategy for Kolding.

Mr. Marchesi presented [The EIB Circular Economy Guide: Supporting the circular transition](#). The Guide provides cities with key steps towards the circular transition and indication on how to get funding for circular economy projects. The main steps are: 1) plan ahead, trying to have full picture of the potential priorities; 2) define the material cycles aimed to tackle; 3) prioritise actions; 4) monitor; and 5) measure what the impact is.

“The EIB come at the end of the pipe, all the work that the different cities are doing and once they become in bigger scale, more viable and more ambitious, we can sit down together and look at what can be financed.”

Mr. Marchesi highlighted the crucial role of the monitoring in the whole process, and stated that to finance a project, the EIB counts with very little means to monitor if a regional plan has been achieved. The EIB

tries to embed into the project a monitoring system. However, it is on the promoter side to assure the existence of a monitoring system logic and show that the system works.

Mr. Vassilis Liogkas, Co-ordinator of the Circular Economy Interministerial Working Group, Expert advisor of the Minister of Environment & Energy of Greece, stated that the circular economy is a need of the society rather than a technical issue. The circular economy is strongly connected with environmental and public health protection, job creation, SMEs investment, collaborative economy, and social inclusiveness.

“Circular economy for Greece is not just an element of the roadmap for exiting the crisis, but a necessity connected with environmental and public health protection and with jobs creation.”

Mr. Liogkas referred to the [Greek National Circular Economy Action Plan 2018-2019](#), which counts with 35 actions, strongly connected with the SDGs and grouped in four main areas:

- **Regulations and legislation:** a Law on recycling, the New Energy Communities Law and the general waste management legislation. In 2018, the New Energy Communities Law generated 60 energy communities producing energy from renewable sources.
- **Financial tools and incentives:** subsidies for entrepreneurs and incentives for local administrations to provide industrial symbiosis.
- **Knowledge, awareness, expertise, good practices:** organisation of events with the support of the European Commission on specific projects.
- **Governance:** coordination of the 35 actions through large dialogue discussion, indicators and ministerial committees for supervision.

Mr Liogkas concluded his intervention by urging for an action not only concerning waste management infrastructure. He highlighted the need for a systemic change and advocated for the development of a new urban science for cities.

Mr. Yann François, Director, Head of climate, energy and circular economy strategies, Urban Ecology Agency, Parks and environment Directorate, City of Paris, France, shared the experience of the City of Paris towards the circular economy. He mentioned the following outcomes: Improving Urban Metabolism in 2014; the [White Paper on the Circular Economy of Greater Paris](#) in 2015; and the [Circular Economy Plan for Paris 2017-2020](#). While the First Roadmap addressed the classic themes of the circular economy, on waste management, public construction, and public procurement, the Second Roadmap also takes into consideration new sectors, such as the cultural one.

“One of the main priorities is how to develop and make more and more companies in our territory involved in the circular economy and specifically to connect social and solidarity economies to the circular economy.”

The City of Paris launched in 2016 a new project called [Les Canaux](#), which runs specific programmes to accelerate circular economy connected to innovative economies and social and solidarity economy.

Mr. François also explained the way circular economy can play a role in the organisation of the Olympic Games that will take place in 2024 in Paris. While usually this type of public works are carried out by big companies, the City of Paris has convened and made advocacy to have circular economy and solidarity in their public procurement process and to connect major companies with small entrepreneur that are experts in specific topics.

Mr. François acknowledged the difficulties to measure the number of jobs created around the circular economy in Paris. The most recent results show that the circular economy in Paris is generating 66 477 direct jobs, representing 3% of total Parisian jobs and around 7 000 million EUR on added value.

5.4. Discussions and reactions

- The City of Vélez-Málaga, Spain, mentioned the [BRICK-BEACH Project](#) as part of the Urban Innovation Action, an EC Programme to stimulate innovative projects. The BRICK-BEACH Project consists in the artificial regeneration of urban beaches using construction and demolition waste. The Municipality of Vélez-Málaga aims to build a construction waste recycling plant and seeks for the participation of citizens' associations, business associations, public administration and collaborations with the University of Malaga. The project is an example of how city councils can develop a project related to the circular economy [Mr. Espina, UIA Project Finance Officer at the Municipality of Vélez-Málaga (Spain)].
- The nature of poverty in cities and regions in the UK is very different to that in Africa. Apart from those in absolute poverty, the issue is less about access to shared clothing, but is about whether relatively poor people are prepared to accept non-ownership. Aspirations created through advertising encourage even the poor people to spend money on prestige items such as fashion goods [Ms. Finch, Manager Director at Bristol Pound].
- When talking about the circular economy, part of the sustainability of the city goes for health and education. Therefore, there should be a bigger focus on the positive consequences on these areas [Ms. Mantel, VP Business Developer at TERRAQTTE INNIATIVE].
- The work being done in the framework of the Urban Agenda for the EU is a new multilevel method to work together with cities, regions, Member states and the European Commission. The aim of the urban agenda is to improve the EU policies and how they are being implemented in Europe [Ms. Axelle Griffon, Policy Adviser at the Council of European Municipalities and Regions, CEMR].
- The society has become increasingly unequal since the eighties'. If circular economy and inequality are misunderstood, it can be dangerous for the design of an effective circular economy policy. The purpose of the circular economy is the reduction of the virgin material extraction and associated environmental impacts. Moreover, it is important to analyse the distributional impacts of all policies in the policy design process and it is necessary to consider the losers when applying a circular economy policy [Prof. Ekins, University College London].
- In the current nationalist and populist political parties in Europe, the tendency is moving against climate mitigation policies. It is necessary to include the social dimension in the circular package. Regarding the impact of the circular economy, construction and building sectors are characterised by 100% linear system and there is no incentive in the business model to care about the post construction phase of buildings. Cities can play a role because they are responsible for 50% of built environment, including purchasing activities [Mr. Wijkman, Chairman at Climate-KIC].

Mr. Žiga Žarnić, Policy Analyst at the Office of the OECD Secretary General, started his intervention by stating that the environmental policies are not a tool per se for addressing distributional consequences, but argued that social consequences should be considered when designing policies:

“Environmental policies are not a tool per se for addressing distributional consequences but it doesn't mean that distributional consequences should not be considered when designing the policies. And that's exactly the spirit of what we do in the inclusive growth framework.”

He referred to the OECD report “[A Framework for Policy Action on Inclusive Growth](#)”, which is centred on people, and presented the key messages of the report: i) before designing any policy, it is important to consider how to create opportunities to which everyone can contribute and which are beneficial to everyone; ii) ensure that markets are sufficiently inclusive so both labour and product markets do not have frictions between them; iii) coordinate all the elements through a good governance model; and iv) factor all the mechanisms in place that can help adjust policy effects.

Mr. Žarnić announced that the OECD is working across all the directorates towards a position paper to tie together the green growth strategy within the inclusive growth strategy. One important element of that is the underpinning monitoring framework, and it is necessary to connect with climate change issues with water related issues and more broadly with the circular economy issues.

Mr. Žarnić mentioned the consequences of climate change on vulnerable group of people, for which action is needed. For example: exposure to risks and hazards as consequence of living in neighbourhoods that are much closed to transport networks; exposure to pollution and natural disasters; less preparedness to respond to damage due to low income levels and spatial disaggregation; less chance to recover from climate related changes.

Mr. Žarnić concluded by reiterating the importance of the social aspects in the design policies for the circular economy, and reminded that the circular economy policies do not necessarily need to address the distributional effects per se.

6. Session IV: How circular are cities and regions? Towards an OECD indicator framework

Mr. Rudiger Ahrend, Head of Economic Analysis, Statistics & Multi-level Governance Section, CFE, OECD, presented the session on measuring the circularity levels of cities and regions and the role of measurement instruments. Indicators are key instruments for evaluation of the progress and for comparison.

6.1. Keynote speech

Ms. Mari Pantsar, Director, Carbon-neutral circular economy, SITRA, Finland, highlighted the importance of the transition to a low carbon circular economy in order to assuring the wellbeing of the nine million world population by 2050.

“The transition towards a low carbon circular economy is imperative”

Avoiding the extraction of additional resources and making a better use of the materials is the only way to meet the targets of the Paris Agreement and the biodiversity goals. The way materials (steel, aluminium, plastics) are consumed or produced in building and infrastructures of cities is decisive.

Ms. Pantsar pointed out the key role cities play in the transition to the circular economy, while she regretted that national governments are not being able to fulfil the Paris Agreement targets of keeping the global warming below 1.5 degrees. Therefore, it is critical that cities take the initiative in this topic. According to Ms. Pantsar, the circular economy is as important as carbon neutrality, taking into account that moving towards the circular economy will also result in the achievement of the carbon neutrality targets.

She noted the lack of global standards for measuring the circular economy and argued that cities, countries and business need real indicators to evaluate their circularity level. The difficulties for the creation of accurate monitoring frameworks partly lies on the lack of a unique definition for the circular economy.

“The circular economy is a new economic model that successes in decoupling the wellbeing from the reuse of natural resources.”

For measuring the circular economy in cities, data on materials and products are need, but there is not enough information yet. As cities play a very important role on the transition towards the circular economy, it is very important to start building a measuring framework.

This framework should consider different level of circularity, measuring the following:

1. Material flows: to learn how much is incinerated, how much is recycled and how much ends up in landfills.
2. The amounts of different material flows, including food, plastic, textiles and other material streams and how they are created.
3. The amount of product procured containing recycled materials and the amount coming from virgin materials.
4. The extent to which procuring products could be replaced by procuring services.
5. The disruption, in terms of new business models, sharing platforms and waste elimination.

Ultimately, in the transition towards the circular economy, the key question is how to move towards a circular economy model in which consumption is based on services like sharing and renting, instead of owning things.

The task for defining this measuring framework for cities is a complex matter and requires initiatives at different levels like macro level, regional level and local levels and across different sectors and time scales.

From the city perspective, metrics can help motivate the transition to the circular economy, measuring carbon neutrality targets, number of jobs created and the increase in the sharing economy and the positive impacts on material flows. As it has been currently tested in Finland, it is key to clearly define a vision and related projects and targets. For example having clear targets on plastic recycling in the metropolitan areas can help framing specific indicators to evaluate the results.

Ms. Pantsar concluded her intervention stressing that climate crisis is running faster and there is no time to waste on the search for perfect indicators. Developing indicators is much needed, however concrete actions should be taken to lower air emissions and use those materials that already exist in our societies instead of using more and more virgin materials.

6.2. Spotlight on a city: The use of smart data for the circular economy in the City of Granada (Spain)

Mr. Gonzalo Jiménez Espinosa, Director of Sustainable Development and Research & Innovation, EMASAGRA, City of Granada, Spain, shared the experience of the City of Granada towards the circular economy. Located in southern Spain, in the Autonomous Region of Andalusia, the City of Granada hosts 230 000 inhabitants and counts with 32 municipalities in its metropolitan area that reaches the number of 530 000 inhabitants. The City of Granada, through the EMASAGRA (the Municipal Water Supply and Sanitation Company), has paid an increasing attention to the role of water within the circular economy. The recent transformation of the wastewater treatment plant into a biofactory allowed the increasing reuse of water and transformation into energy. In particular, the company shifted from being energy consumer to producer, from waste producer to resource producer. Granada's South Biofactory has been recognised by the European Circular Economy Stakeholder Platform¹. It aims at reaching zero waste, zero energy and zero emissions by 2020.

“The most important and representative innovation that we have carried out, is an innovative change of concept.”

In 2017, the City of Granada has been recognised as “City of Science and Innovation” by the Spanish Ministry of Economy, Industry and Competitiveness. For a concrete shift towards the circular economy, technology is not enough. Mr. Jiménez reiterated the need for a cultural and behavioural change for the transition to the circular economy, which will bring social, environmental and economic benefits.

¹ <https://circulareconomy.europa.eu/platform/en/good-practices/granada-biorefinery-100-circular-facility>

According to Mr. Jiménez, the Digital Transformation Strategy of the city can be helpful in the establishment of a solid base for the design and monitoring of indicators and decision-making related to circular economy. Indicators on production and consumption, waste management, secondary raw materials, employment, research, development and innovation are consistent with the future Spanish Circular Economy Strategy and the monitoring framework by the Eurostat. Mr. Jiménez concluded by pointing out that the OECD Programme on the Circular Economy in Cities and Regions represents a very important tool for the city to establish clear objectives and a shared vision towards the circular economy.

6.3. Moderated panel

Mr. Brendan Edgerton, Director, Circular Economy, World Business Council for Sustainable Development (WBCSD), thanked the OECD for the opportunity to share the work of WBCSD on circular metrics and made a short introduction of WBCSD. The World Business Council for Sustainable Development is non-profit business driven organisation with around 200 businesses and multinationals that are committed to achieving a world in which 9 000 million inhabitants live well within the means of the planet.

“It is important to understand and define what to measure, the reasons of doing it and the target audience before establishing an indicator framework.”

In 2018, the WBCSD launched the report [“Circular Metrics Landscape Analysis”](#), funded by Climate-KIC. It clarifies why and what kind of metrics should be established for supporting the business community. Members of the WBCSD resulted to be interested in driving a business strategy and in communicating effectively to top management about the opportunities and risks to move the value chain towards circularity.

Mr. Edgerton announced that the WBCSD has produced a report on [“Circular Transition Indicators | Proposed metrics for business, by business”](#) to identify circular opportunities and linear risks. The WBCSD proposes 12 indicators instead of trying to present a unique circularity indicator, as result of the work carried out with 25 companies. The indicators are built around three categories:

- **Closing the loop:** circular inflow, circular outflow, company circularity, circular water use, renewable energy.
- **Narrowing the loop:** critical minerals and avoided resource use.
- **Valuing the loop:** circular revenue, circular profit, circular Full Time Equivalent, circular personnel costs and circular value added.

Mr. Edgerton reported on the vision of the Netherlands consisting in becoming 100% circular by 2050. This would require an 8.4% improvement every year in circularity. Therefore, he stressed the importance of establishing a common language between the business and the public sectors to make sure the transition to the circular economy is taking place.

Ms. Martina Otto, Head of Cities Unit, United Nation Environment Programme (UNEP), introduced the work of the UN Environment Programme in cities, which focuses on two main activities: integrated urban systems and urban metabolism, which is called the [Global Initiative for Resource Efficient Cities \(GI-REC\)](#). The work consisted on piloting the analysis of resources flows in eight cities: Brussels (Belgium), Cape Town (South Africa), Cusco (Peru), Dongguan (China), Medellin (Colombia), Recife and São Paulo (Brazil), and Sorsogon (Philippines). The UNEP concluded that resource analyses and a powerful narrative on the circular economy are helpful tools for cities to identify the right interventions to solve their problems. From UNEP’s work, two main conclusions can be drawn:

- Data on raw material consumption are available both at the global and the national level. However, it is difficult to delineate what type of consumption occurs within the city’s administrative boundaries. This is particularly important in some developing countries with more limited data capacity.

- There is a lack of emphasis on the social importance and quality of life. Environmental and circular economy indicators have a tendency to focus on materials, solid waste, energy and economic flows and environment, but there is a lack of emphasis on the social dimension. The UNEP has concluded that job creation and health issues should be added to the circular economy narrative, as they represent huge priorities in cities' strategic planning and political concerns.

Ms. Otto referred to the last [UN Environment Assembly](#) (11-15 March 2019, Nairobi, Kenya). During the assembly, the introduction of circularity on the resolution on sustainable consumption and production faced reluctance from some developing countries. There are fears that the circular economy will interfere with development. Consequently, she argued that the argument of job creation would be useful to overcome the negative perception.

Regarding next steps, the UNEP has partnered with the ICLEI to measure the quality and quantity of jobs. A call for cities to share their employment challenges and experiences has been launched. Ms. Otto also stressed that the concept and the knowledge about the circular economy is greater at the macro level than at micro, and highlighted the importance of developing trustful indicators in order to show the real benefits of the circular economy.

Ms. Lieze Cloots, Head, International Policy Unit, Flemish Public Waste Agency (OVAM), Flanders, Belgium, opened her intervention by presenting some achievements by the OVAM. The Waste Agency has supported 135 circular projects and assigned 11 million EUR and is planning to allocate additional 5 million EUR. The OVAM also runs two specific programmes: Green Deal Circular Procurement, which counts 200 projects and the Green Deal Circular Construction with around 300 participants.

Ms. Cloots referred to Ms. Pantsar's intervention on the need to have global or European indicator and a monitoring system. Current measurement tools are mostly oriented towards traditional economic models.

On public procurement, Ms. Cloots highlighted that many organisations lack knowledge and capacity to make their organisation more circular. Consequently, in the context of the Green Deal project, the OVAM tries to identify the main building blocks of an organisation that wish to become circular. Together with the stakeholders that took part in the project, the OVAM identified five main essential features for being circular through the whole value chain: reduction of the total amount of materials; reduction of the amount of virgin inputs; extension of useful lives; maximisation of the reusability of products; and maximisation of the reusability or recyclability of materials. Ms. Cloots argued that these schemes allow organisations to integrate proper criteria in their purchasing policies as they are able to calculate their performance in a quantitative way. Finally, these organisations can benchmark with other peer organisations.

“The circular transition is a disruptive process and therefore, it is necessary to think differently in terms of what and need to measure.”

According to the models developed by OVAM, the monitoring scheme at a macro level is too general and it does not allow policy makers to adopt adequate measures. The OVAM has started to look at “meso level”, focusing on the basic needs of people such as mobility, housing, nutrition and consumption products. This system would enable to capture new trends and new consumer behaviours, and to involve stakeholders across the value chain. For instance, this approach focuses not only on looking into whether a car has been recycled, but it poses the question for what kind of mobility is needed.

Mr. Håkon Jentoft, Senior Executive Officer, Agency for Waste Management, City of Oslo, Norway, and Coordinator of the EU Urban Agenda Partnership on the Circular Economy, expressed the importance of measurement for an efficient management and urged to develop instruments to measure the work being done on the circular economy. The lack of measurement instruments represents an obstacle at a local level for cities.

“If you don't measure, nothing will happen. If you want to have a transition of circular economy in cities, you need to develop instruments to measure what you are doing. Cities need instruments, not the perfect indicator framework.”

In this sense, the Urban Agenda for the EU decided not to develop an indicator framework for all the cities, as the main objective is not to measure which is the most circular city. However, it opted to advance with the monitoring system of the European Commission because if Member states are asked to measure the circular economy, it will be necessarily carried out at a local level. Therefore, it was decided to use the same framework and adapt it as much as possible to the city level. The Urban Agenda for the EU conducted a survey on indicators and found 140 of them, and tried to systemise them into a set of indicators that could be used by cities.

Regarding the next steps, Mr. Jentoft announced that the Urban Agenda for the EU would not go into the different indicators but try to identify cities that now are working with indicators (e.g. Flanders, Paris, and London) and set up a network between cities that are developing different indicators.

Mr. Jentoft wrapped up with his main key messages: i) Indicators should not be a benchmark of circular economy in cities; ii) The framework of the European Commission on the monitoring for Member states should be used; and iii) Cities need useful instruments, not the perfect indicators system.

6.4. Debate with participants

- Creating new jobs in the circular economy is likely to generate a reduction of jobs in other areas. This does not necessarily result in more employment opportunities but in a job distribution. Further and specific analyses are needed [Mr. Ahrend, OECD].
- The European Union is working on the urban agenda with cities, Member states and stakeholders on several topics, and the case of Vélez-Málaga with the Urban Innovative Actions is a good example. Furthermore, the European Commission through [Urban Innovative Actions 5th Call for Proposals](#) is inviting to submit projects on the circular economy. The call is open to cities that want to test initiative projects that have not been tested before in real life [Mr. Happaerts, Policy Analyst at DG REGIO of the European Commission].
- Based on the experience of the Amsterdam Economic Board, job creation takes place particularly in the area of product redesign, and all the other forms of reuse of products, particularly related to ICT applications. In the area of recycling, there may be some extra jobs, but it cannot be assured that there will be trade-offs [Ms. Cramer, Utrecht University].
- There is a lack of detailed analysis of labour market to understand the skills needed for the creation of new jobs. It is important to unpack the jobs issue carefully and to link it with the required skills [Prof. Ekins, University College London].
- The City of Umeå is working together with some Swedish cities and researchers on the [8 ton society](#) project on the consumption patterns of circular economy. It is based on a Finnish study on households raw material use. According to the study, the current level of raw materials in Europe stands in 40 tonnes per capita, while in order to have a sustainable consumption pattern it should be limited to 8 tonnes per capita. The project includes a knowledge overview, material footprints, circular scenarios, workshops on sustainability strategies, as well as dissemination. The initiative aims at looking into how to support this lifestyle and how companies and the society can help in addressing it [Mr. Näslund, Smart City Lead at the Municipality of Umeå].
- It is difficult to provide information on the impact of the circular economy and it will require an effort to do it. Apart from the environmental arguments, it is necessary to show an economic, social and political argument for the circular economy. Adequate metrics would help to move to the circular economy [Dr. Corrêa d'Almeida, Columbia University].

- It is not clear which are the fundamentals of measurement and what cities are able to measure. Cities usually face problems in terms of measurement capacity, growth infrastructure, knowledge on costs, replacement needs and the potential for change in the circular economy. Most of the measurement frameworks look at above the city level, but are not able to explain the situation on the micro level [Mr. Díaz López Executive Director at INNO4 (Innovation for Sustainable Development Network)].
- It is very important to focus on implementation in a modular approach. The way to carry it out is not by looking at replication and copying what pioneer cities are developing. The focus should be on the process and on how to change systems. Cities have a strong commitment and power to make this happen. For example, the Green Public Procurement tool is becoming mainstream because cities applied. The key point is to mainstream what cities of all sizes are doing in the circular economy area [Mr. Hidson, Global Director, Sustainable Procurement Centre, at ICLEI].
- City managers and decision makers are the only actors who are thinking about circular economy measurement. An ongoing work on the taxonomy of the framework for sustainable finance has the primary objective to serve the financial community to be able to incentivise investment in sustainable economic activities and circular projects [Mr. Misiga, European Commission].
- Over the past 70 years, intensive efforts have been made to turn people into consumers. However, if such efforts and resources were to be directed towards the promotion of sustainability and the circular economy, it would be possible to have a circular society. Even though the public sector has much smaller resources for marketing than the private sector, it must be possible to engage talented people and be successful in advertising the circular economy and in showing its benefits [Ms. Rodic-Wiersma, independent researcher].
- It is important to have better indicators and to include the ethical dimension in the narrative with the economic, environmental, social arguments. Not all the reasons should be based on the cost effectiveness and people's values are key for changes in society [Mr. Wijkman, Chairman at Climate-KIC].
- An excessive focus on the economic argument would not make the required urgency to make the needed changes [Mr. Ahrend, OECD].

Mr. Paolo Magina, Head of the Public Procurement Unit in the Public Governance Directorate, OECD concluded the session by sharing some key facts on public procurement: i) as 12% of GDP is channelled through public procurement, and two thirds are spent at subnational level, it is fundamental that public authorities spend money in an efficient way; ii) All OECD countries are using public procurement to achieve policy objectives like green procurement, innovation, support of SMEs, and the social dimension.

“It is fundamental to look at cities and regions and understand how they spend their money. They have to use these resources in a more effective and efficient way in order to achieve sustainability.”

Mr. Magina highlighted the lack of an adequate indicator framework for the circular economy but also for other areas of public policy such as the public procurement. The work of the OECD on public procurement aims to go beyond the economic dimension by linking public procurement to its impact on the wellbeing. The OECD is also developing and expanding an indicator framework that will help countries measuring the impact for procurement and it is working on how to use procurement in a more strategically manner.

Mr. Magina also stressed the importance of embedding risk management from early stages to minimise risk aversion, which is a key factor for innovative projects. Another enabling condition is related to the creation of an objective assessment of quality factors and criteria, an area where many cities, regions and governments are working on. According to Mr. Magina, high-level skills are needed to be able to implement effectively sustainability and circular economy. In order to boost these skills, a collaborative approach

towards technical assistance is required in many areas. Many contracting authorities lack knowledge and need guidance and instruments to be used in their own procurement process.

Finally, Mr. Magina concluded his intervention by stating that the concept of sustainability as related to environmental, social and economic impact is perceived as a need from the governments. He expressed his enthusiasm of seeing representatives from the private sector, which is a fundamental player to deliver public services across all sectors. He highlighted the importance of being able of creating instruments and tools, to guide procurers into better procurement. Consequently, it is important to understand how cities and regions can use these instruments.

7. Concluding remarks and next steps

The OECD concluded that although the circular economy is not clearly defined yet, the roundtable highlighted that the concept is not limited to waste and neither to the optimisation of the linear system: the circular economy requires a rethinking of the system, specifically in cities and regions. It requires a better understanding of the economic and social impacts and proper evaluation frameworks. There is the need to take into consideration the winners and losers from the transition to the circular economy in the designing of the policies. Moreover, further efforts should be made by reaching out to the regions and identify opportunities.

The OECD invited the attending cities and regions to collaborate within the OECD Programme in Circular Economy in Cities and Regions and announced that a new window to complete the survey will be opened until December 2019. Moreover, it was announced the 2nd Roundtable on the Circular Economy in Cities and Regions will take place in March 2020 (tbc).