

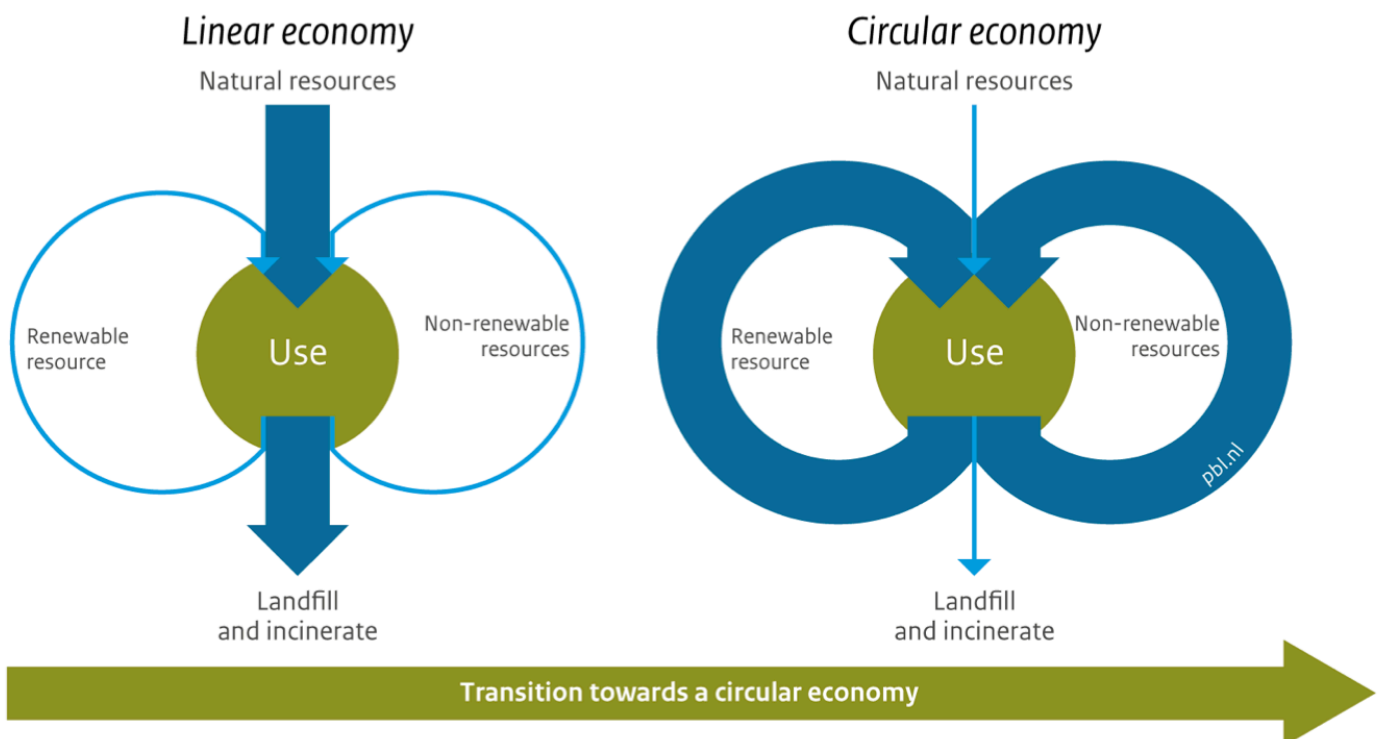
MODULE 3 GUIDANCE NOTE: SUPPORTING THE CIRCULAR ECONOMY THROUGH VLRS

What is the circular economy and why is it important?

The circular economy is “an economic system in which the value of products and raw materials contained in them are optimally preserved at the end of their use phase”. This includes the “recovery of raw materials, the extension of the use phase as well as the establishment of circular business models based on sharing and leasing”. The circular economy “offers an alternative to the current linear system in which products are basically produced, used and in the end, disposed”. - The United Nations Issue-based Coalition on Environment and Climate Change for Europe and Central Asia ([UN IBC, 2023](#)).

According to the 2023 Circularity Gap Report, the global economy is only 7.2% circular and is trending worse, owing to increased material extraction and use ([Circle Economy, 2023](#)). In absolute terms, this implies that of approximately 93 Gt of materials extracted from the earth and used as material inputs, only 7 Gt cycles back into the economy for reuse, with 35 Gt disappearing as waste and 15 Gt as emissions and the remainder locked into stocks of infrastructure, vehicles, machinery, and appliances (representing 38% of total material input).

Figure 1.1
From a linear to a circular economy



[Source: PLB 2016](#)

Crucially, the 2023 Circularity Gap Report highlights that the global society now lives in the “overshoot era” in which five of the nine so-called “planetary boundaries” have already been overshoot ([Circle Economy, 2023](#)). To reverse this overshoot, the authors of the report estimate that global material extraction and consumption would have to be reduced by one-third its current level, and that a more circular economy can achieve that goal through four key actions: (1) Use less; (2) Use longer; (3) Use again; and (4) Make clean ([Circle Economy, 2023](#)).

How can local governments help achieve circularity at the local level?

Local governments can play a key role in “building thriving, liveable, resilient cities that are regenerative by design ([MacArthur Foundation, 2019](#)). Specifically, “city governments see, experience, and often manage the negative consequences of the current ‘take make- waste’ linear economy, be it through the public funds spent on solid waste management, the costs incurred from structural waste such as the cost of underutilised buildings, economic costs due to congestion, or health costs due to air and noise pollution” ([MacArthur Foundation, 2019](#)).

This module takes a closer look at four means and approaches that a community can consider to participate in the circular economy:

1. **The Circular Cities Action Framework**
2. **Advancing the 10Rs**
3. **Integrated Solid Waste Management**
4. **Sustainable Consumption and Production**

How can a VLR help?

A Voluntary Local Review (VLR) can help a community achieve circularity by providing information that is relevant for local government planning & policy, budgeting & finance, and reporting & assessment. A VLR can also help mainstream and catalyze efforts within local government toward measuring the extent of circularity in the local economy. More insight into how VLRs can help achieve circularity at the local level is provided at the end of this document.

The concept of a circular economy was more or less introduced as Sustainable Development Goal #12 on Responsible Consumption and Production which, among its many targets, calls for countries to substantially reduce waste generation through prevention, reduction, recycling,

and reuse, as well as to implement the 10-year Framework of Programmes on Sustainable Consumption and Production Patterns, achieve the sustainable management and efficient use of natural resources, halve per capita global food waste, and achieve environmentally sound management of chemicals and all wastes throughout their life cycle, among other targets ([UN, nd.](#)).

A first practical step, as officials or experts providing assistance to prepare a VLR, is for you to have a general understanding of all the potential leverage points for achieving circularity at the local level. Such is the purpose of the sections that follow.

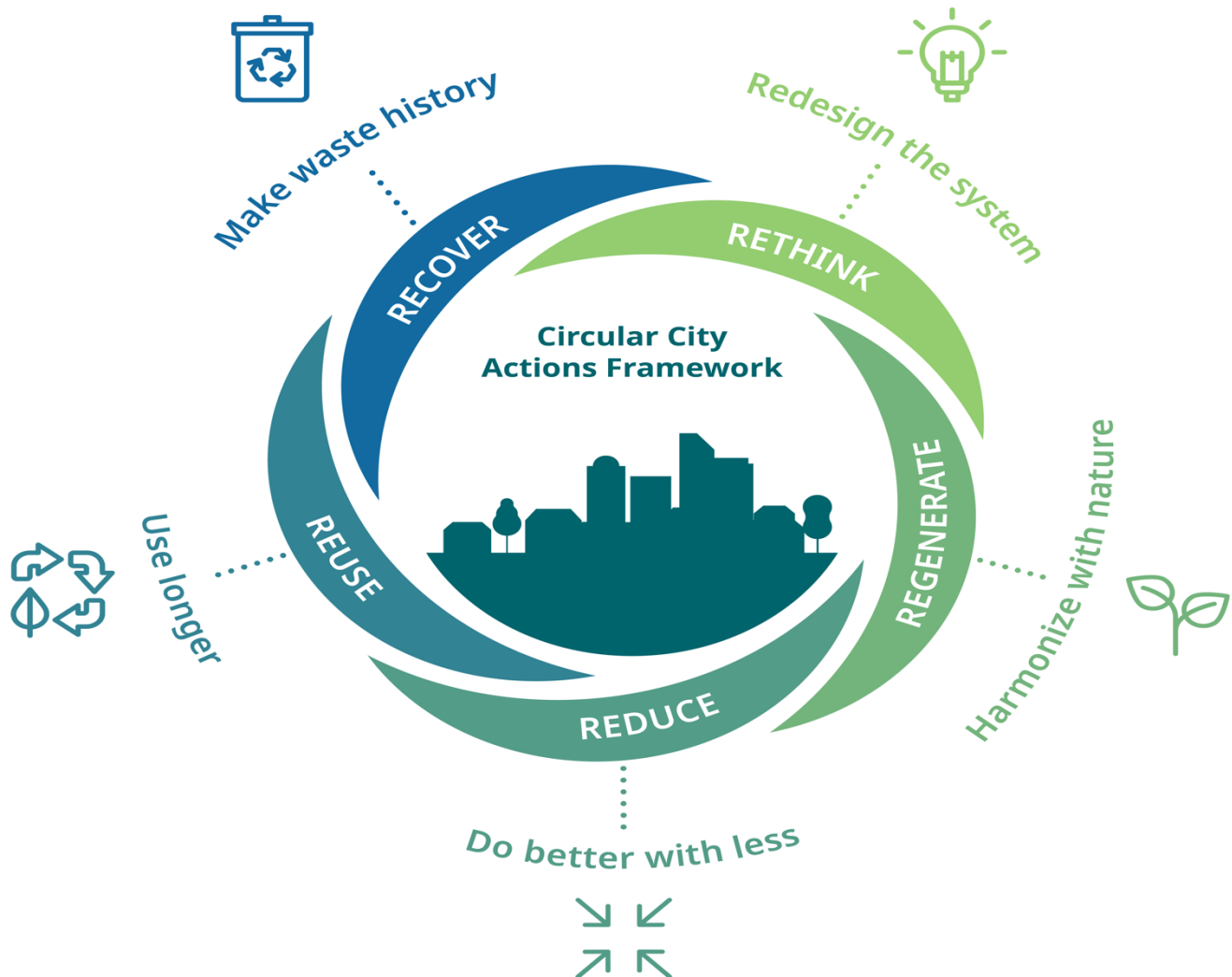
The Circular Cities Action Framework

In today's world, the vast majority of economies are linear. Linear economies follow a "take, make, waste" model: resources are extracted from the environment (take), used as inputs for infrastructure, buildings and production (make), then discarded after their use period (waste) (ICLEI, 2021).

Funded by MAVA Foundation and implemented by Circle Economy, ICLEI – Local Governments for Sustainability, Metabolic, and the Ellen MacArthur Foundation, the Circular Cities Action Framework was created to help local governments and practitioners to advance systemic approaches toward a more sustainable and circular economy ([ICLEI, 2021](#)). It is emphasized by the founding partners of the Action Framework that "linear economies are linked to a range of negative impacts in cities, including rising carbon emissions, biodiversity loss and waste management challenges". Furthermore, a circular city economy supports "resilience, climate action and biodiversity conservation, while also offering cities the tools to support social equity, local job creation, public health and community wealth" ([ICLEI, 2021](#)).

Local Leverage Points

The Circular City Action Framework consists of four main leverage points ([ICLEI, 2021](#)):



- **Rethink:** Redesign systems to lay the foundation for circular activities and enable the transition to a circular economy
- **Regenerate:** Harmonize with nature by promoting infrastructure, production systems and sourcing that allows natural ecosystems to thrive
- **Reduce:** Do better with less by using and supporting infrastructure, processes and products that are designed to minimize material, water and energy use and waste generation from production to end of use
- **Reuse:** Use longer and more often by extending and intensifying use of existing resources, products, spaces and infrastructure

- **Recover:** Eliminate waste by maximizing the recovery of resources at the end of the use phase so that they can be reintroduced into production processes

Good practice example:

The Circular Cities Action Framework in Action

Rethink

The Free Water Refill project by ReThink gathers about 50 restaurants, cafes and co-workings in the central (most pedestrian) part of the city of Kyiv (Ukraine), which agreed to refill any cup or bottle with drinking water for free. On the website of the project, there's a map in which you can see all the locations in the city where they offer drinking water cost and plastic free. In addition, these locations have a visible 'Free Water Refill' sticker at the entrance saying that you will not be denied. In this way, the non-profit organisation continues their 'pre-cycling' strategy and hope to reduce the amount of small single use PET bottles that are often bought when people are just thirsty.

Regenerate

Volunteers in the Slovenian city of Ljubljana remove invasive Japanese knotweed plants, which are processed into paper on a semi-industrial level. The city used the resulting paper for the production of paper bags and notebooks.

Reduce

The energy Efficiency Plan of the City of Zagreb is a one-year planning document for the implementation of energy efficiency improvement policies. The design and implementation of the annual plan is an obligation under the Energy Efficiency Act (NN 127/2014). The annual plan consists of two main segments, an analysis of the measures implemented for the previous year and the calculation of the savings achieved, and the calculation and the proposed activity for the current year with the aim of achieving the planned savings and realization of the anticipated activities in accordance with the current strategic guidelines and documents of the City of Zagreb.

Reuse

Slovenia has adopted a national circularity roadmap aiming to use circular economics to improve the life quality of its citizens until 2050. The city of Ljubljana has used this national roadmap as the basis for its own circular actions, focused on three main areas: Urban properties such as old bus seats or traffic signs are being refurbished and reused; new platforms and infrastructure should lead to more recycling of household waste; and the public cleaning firm is transitioning towards using recycled water for cleaning city pavements. The Ljubljana roadmap serves as an example of how national strategies can be translated into specific local action.

Recover

Prague became the first Czech city to implement household food waste collection. To use its food waste as a resource, Prague set the ambitious goal of separating 70% of municipal waste at the source by 2035; current separation rates stand at 31%. The collected food waste is converted into biogas and used to power waste management trucks. Excess energy will be pumped back into the grid and excess waste transformed into fertiliser for local agricultural projects. The city also targets minimising consumer food waste habits: waste prevention is touted by city billboards, urging residents to “buy only what you eat”.

Source: the [Circular Cities Knowledge Hub](#)

Advancing the 10Rs for Local Production Chains

Smarter product use and manufacture	R0 Refuse	Make product redundant by abandoning its function or by offering the same function with a radically different product
	R1 Rethink	Make product use more intensive (through sharing products or by putting multi-functional productions on the market)
	R2 Reduce	Increase efficiency in product manufacturer or use by consuming fewer natural resources and materials
Extend lifespan of product and its parts	R3 Re-use	Re-use by another consumer of discarded product which is still in good condition and fulfils its original function
	R4 Repair	Repair and maintenance of defective product so it can be used with its original function
	R5 Refurbish	Restore an old product and bring it up to date
	R6 Remanufacture	Use parts of discarded product in a new product with the same function
Useful application of materials	R7 Repurpose	Use discarded product or its parts in a new product with a different function
	R8 Recycle	Process materials to obtain the same (high grade) or (low grade) quality
	R9 Recover	Incineration of materials with energy recovery

The United Nations Issue-based Coalition for Environment and Climate change describes that the traditional linear pattern of production and consumption has led to an enormous increase

in waste generation, citing data from the World Bank showing that the total amount of waste is already at 2 billion tons per year and will increase to 3,4 billion tons in 2050 ([UN IBC, 2023](#)).

The UN IBC concludes that the current linear economic system is now viewed as a dead end, “eventually putting the long-term survival of mankind at risk” by exceeding critical planetary boundaries ([UN IBC, 2023](#)). Even from an economic perspective, many countries have started to increase circularity as a means to “reduce reliance on raw material imports, to increase the overall resilience of supply chains in their industries and to create new job opportunities” ([UN IBC, 2023](#)). As an example, in the recycling, repair and reuse sector, the European Commission expects 700,000 new jobs by implementing the measures included in its Circular Economy Action Plan.

Local Leverage Points

The Netherland Environment Agency (PBL) describes several circularity strategies for reducing consumption of natural resources and materials while minimizing waste ([PBL, 2017](#)). These strategies have varying levels of circularity: a higher level of circularity means that materials in a product chain remain in use longer and can be applied again after the product is discarded.

Specifically, there exist three main leverage points as listed below and articulated in the adjacent figure ([PBL, 2017](#)):

- **Smarter product use and manufacture:** Refuse (R0), rethinking (R1), and Reducing (R2) represents a higher level of circularity compared to extending the lifetime of products, because smarter product use and manufacturing results in either less product needed or product sharing with more users being served by one product.
- **Extend lifespan of products and its parts:** Reusing (R3), Repairing (R4), Refurbishing (R5), Remanufacturing (R6), and Repurposing (R7) each help to extend the lifespan of products.
- **Useful application of materials** (R8-Recycle, R9-Recover). Recovery and co-generation, from which energy is recovered in the process of incineration, has the lowest priority in a circular economy, because it means the materials are no longer available to be applied in other products.

Good practice example:

Circular Strategies for Plastic Bottles and Foils

Examples of circularity strategies for plastic bottles include:

Refuse: No bottles required. Consumer prepares drinks at home from concentrate (e.g. cola from concentrated soft drink flavours and CO2 cartridges)

Reuse: Consumer cleans bottle and refills at the retailer

Reuse: Consumer returns bottle to retailer who sends it to manufacturer for cleaning and refilling

Recycle (high-grade, mechanical): Harmonisation of plastics. Consumer takes bottle to central collection point

Recycle (low-grade, mechanical): Consumer takes bottle to central collection point.

Recover: Energy recovery from incineration.

Examples of circularity strategies for plastic foils include:

Refuse: Where possible avoid plastic foil (e.g. no shrink wrap for cucumbers; no use of foil for mailings)

Recycle (high-grade, mechanical): Harmonisation of plastics in foils. Consumer takes foil to central collection point

Recycle (low-grade, mechanical): Mix of different plastics. Consumer takes foil to central collection point.

Recover: Energy recovery from incineration.

Sources: ([PBL, 2017](#))

Integrated Solid Waste Management

Integrated solid waste management (ISWM) is a local government approach whereby the amount of waste diverted for material and resource recovery is maximized to substantially reduce the final volume of waste while at the same time generating revenue to fund waste management ([UNEP, 2009](#)).

ISWM is described as an “internationally recognized and favoured principle and approach to handle the whole life cycle of municipal waste”, encouraging local governments to “consider all practices, sources, streams, technologies, financial flows and actors involved or impacting on the generation, collection, transport, sorting, storage, treatment, recovery and disposal of solid waste” ([Beall et al., 2022](#)). However, it is further acknowledged that despite the practice of ISWM being well understood, many cities still struggle with its implementation. Experts believe that accelerating the implementation of ISWM will need to go beyond policy and technology, to include governance solutions that “connect the various actors and acknowledge their traditions and expectations” ([Beall et al., 2022](#)).

Local Leverage Points

In its Scorecard for ISWM, [UNEP \(2005\)](#) notes that municipalities are ultimately responsible for ensuring that solid waste management is undertaken, either directly by the local government or contracting companies to deliver these services. The scorecard emphasizes six leverage points for municipal governments to pay special attention to for the successful implementation of ISWM, including:

Institutional framework. A local government's institution framework should ideally consist of regulations and policies (consistent with regional and national standards), the establishment of an environmental department (including a division responsible for solid waste management), and research and development of solid waste management issues.

Waste reduction/avoidance. As waste generation rates are generally a function of economic prosperity, local governments should undertake initiatives to incentivise the reduction or avoidance of waste generation within the community.

Storage and collection. Manual, semi-automated and automated methods of collection can be implemented in a community, with as much of the community serviced as possible once per week.

Resource recovery. Recycling, composting, and combustion (with heat recovery) are methods of resource recovery in ISWM, with varying levels of technology available for implementation. As much of the waste stream as possible should be managed through recovery programs and facilities.

Disposal. As much of the total waste stream as possible should be managed at modern disposal facilities, with old disposal sites being properly closed.

Public awareness. The general public should be made aware of the relationship between managing municipal solid waste and the protection of human health and the environment, including emphasis on the importance of eliminating littering and illegal disposal. These messages should be conveyed using a variety of methods including TV, radio, newspapers, Internet, and social media.

Good practice example:

Integrated Solid Waste Management in Maseru Lesotho

Maseru, the capital of the Kingdom of Lesotho, developed its ISWM action plan based on past experience, independent advice, baseline studies, and engagement with relevant stakeholders. The plan is built on four fundamental pillars and an awareness platform.

Pillar 1: Capacity to prevent wasteful use at source. Addresses what is consumed (sustainable consumption), how it is produced (cleaner production), where resources are routed once used (source separation), and what is the source's value addition (re-use, composting, etc.).

Pillar 2: Strong, diversified and appropriate collection systems. Actions include establishment of a Ward-specific and material-specific collection systems, systematic infrastructure and route planning, and optimisation of collection services by public and private recyclers.

Pillar 3: A healthy recycling industry. Actions include developing the local recycling economy, establishing a regulatory framework for recycling, coordinating local recycling activities, and capacity building for implementing take-back levies.

Pillar 4: An environmentally safe disposal site for real waste. Actions include integration of planning activities for the sanitary landfill site, amending environmental impact assessment, and developing the thermal capacity for using non-recycled paper.

Awareness Platform: Education, built upon real and up-to-date information.

Sources: ([UNEP, 2005](#))

Mainstreaming the 10-year Programme on Sustainable Consumption and Production

Sustainable consumption and production is viewed as a primary vehicle for addressing the triple planetary crises of climate change, biodiversity loss, and pollution ([UN ECOSOC, 2023](#)). Since 2012, the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns (10YP) adopted by Heads of State has served as a universal framework to accelerate a green transition at regional and national levels. The Programme is reflected as the first target of SDG 12 and provides a framework for “decoupling economic growth from environmental degradation” ([UN ECOSOC, 2023](#)).

Local Leverage Points

The Framework of Programmes on Sustainable Consumption and Production Patterns places attention on six core areas of action, and thus, provides a useful guide for the sustainable development efforts of local governments. The six areas include ([One Planet Network, n.d.](#)):

1. **[Sustainable public procurement](#):** The share of public procurement in GDP globally averages between 10 and 15% and can go up to 30% in developing countries. By using their purchasing power to choose goods, services and works with a reduced environmental impact and positive socio-economic results, public authorities can make

an important contribution towards local, regional, national and international sustainability goals

2. [Sustainable tourism](#): The COVID-19 global pandemic caused unprecedented socio-economic impacts. Tourism was one of the hardest hit sectors. The One Planet Vision for a Responsible Recovery of the Tourism Sector recommends six lines of action including public health, social inclusion, biodiversity conservation, climate action, circular economy, and governance & finance. This augments the Framework of Programmes three main areas of action, namely: building a circular economy for plastics in the tourism sector; including sustainable consumption and production in tourism food value chains; and accelerating climate action in tourism.
3. [Sustainable lifestyles and education](#): Today, our global footprint is about one and half times the Earth's total capacity to provide renewable and non-renewable resources. If nothing changes, in 35 years, humanity will need almost three planets to sustain our ways of living. Rethinking the ways we produce, consume and exchange has become crucial to move towards a society where we can all live well within the boundaries of our planet.
4. [Sustainable buildings and construction](#): The aim of this programme of work is to promote resource efficiency, mitigation and adaptation efforts, and the shift to sustainable consumption and production patterns in the buildings and construction sector. Specifically, this involves: Foster enabling frameworks to implement SBC policies; Promoting Sustainable Housing, including affordable and social housing; Enhancing Sustainability in the Building Supply Chain; Reducing climate impact and strengthen climate resilience of the buildings and construction sector; and Promoting knowledge sharing, outreach and awareness raising.
5. [Consumer information on sustainable consumption and production](#): Research indicates that the demand for sustainable goods and services is high and growing, but consumers often remain unable to make informed choices, or simply do not act according to their intentions. The importance of providing reliable information is recognised in target 12.8 of the Sustainable Development Goals: "by 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature".
6. [Sustainable food systems](#): Around 30% of greenhouse gas emissions are generated by how we produce, consume and dispose of food. High demand for animal products in many societies and unsustainable livestock production practices are also among the main drivers of habitat destruction and biodiversity loss, particularly tropical deforestation. In addition, animal husbandry and deforestation are two of the three key drivers of the emergence of zoonotic diseases with pandemic potential. The programme of work on sustainable food systems focuses on five areas, namely: (1) Sustainable diets; (2) Sustainability along all food value chains; (3) Reduction of food losses and waste; (4)

Local, national, regional multi-stakeholder platforms; and (5) Resilient, inclusive, diverse food production systems.

Good practice example:

Circular Procurement and the Procura+ Network

Circular procurement promotes consideration of the whole life-cycle of goods and services, in order to avoid negative environmental impacts and waste creation, and achieve an overall reduction in the amount of energy and materials consumed. Including circular principles in procurement can help procurers take a more holistic approach to sustainability throughout the procurement cycle - while also achieving potential savings.

Initiated and co-ordinated by ICLEI, Procura+ is a network of European public authorities and regions that connect, exchange and act on sustainable and innovation procurement.

Public procurement which incorporates sustainability and innovation can:

- Address greenhouse gas emissions, energy and water efficiency, local air and water quality, waste generation, the use of hazardous substances and chemicals, the efficient use and sustainable management of natural resources as well as support circular economy;
- Encourage a diverse base of suppliers, promote fair employment and decent work practices,, responsible business conduct and ethical sourcing, and foster training opportunities and community benefits;
- nCreate new jobs and opportunities for small and medium sized enterprises.

Sources: <https://www.oneplanetnetwork.org/programmes/sustainable-public-procurement/circular-procurement>

Tips for Supporting Climate Neutrality through Strengthened VLRs

As an official of a local government or organization tasked with preparing a Voluntary Local Review (VLR), or as an expert assigned to assist a local official prepare a VLR, being aware of all the potential ways in which a community can participate in the circular economy is the first and most important step in supporting local recovery and transitions that are green, sustainable, and resilient.

Your next steps are to find practical ways to use the content and process of a VLR to support local government planning, budgeting and reporting, and the means of local implementation, as well as to inform your country's Voluntary National Review (VNR) when it is submitted and

presented to the United Nations High-level Political Forum. In this regard, below is a listing of the top strategies to use to enhance your VLR to support circularity at the local level.

1. Informing local government and the means of implementation:

I.Planning & Policy

- A. Identify and communicate local success stories in achieving local circularity
- B. Assess and identify missed local leverage points for advancing a local circular economy
- C. Make coherent policy recommendations for local governments
- D.

II.Budgeting & Finance

- A. Assess public budget expenditures allocated to circularity approaches and report key gaps
- B. Make coherent recommendations for addressing expenditure gaps, including all potential financing sources and instruments
- C. Identify and communicate local success stories in financing circular approaches
- D.

III.Reporting & Assessment

- A. Provide data and stories relevant to key performance indicators (KPIs) reported by local government, including by asset managers
- B. Identify KPI gaps and make recommendations for additional indicators for local government to use

Good practice example:

Urban Policy Levers for Enabling a Circular Economy Transition

The Ellen MacArthur Foundation’s Circular Economy in Cities project has identified a set of “Urban Policy Levers for advancing a circular economy. These levers concentrate in five main areas:

Vision: Roadmaps and strategies can provide overarching direction. By setting strategic goals, circular economy city roadmaps and strategies can set a direction for a city and inform the development of other policy levers, such as urban planning standards or material and waste classifications and regulations. Engaging urban stakeholders in the development of a roadmap can also strengthen its effectiveness and a sense of shared ownership.

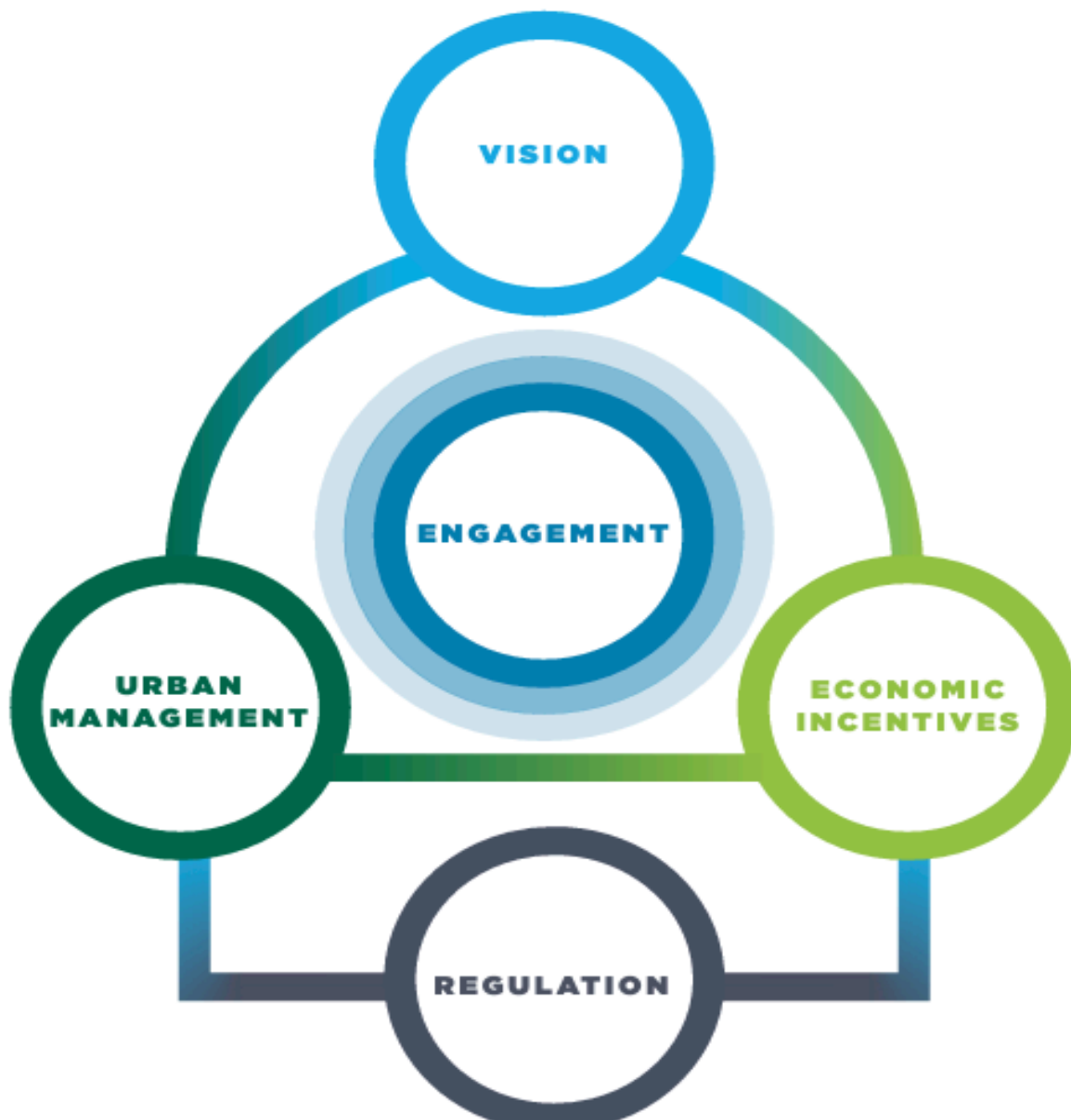
Engagement: Policy levers in this category are Convening and partnering, Awareness raising, and Capacity building. Engagement policy levers can raise awareness of circular economy opportunities, and strengthen the capacity of others to seize them (such as capacity building programmes for SMEs or skills training programmes).

Urban management: Policy levers in this category are Urban planning, Asset management, and Public procurement. Each relates strongly to the choice, design, use, and flow of materials in a city, making them key to the transition to a circular economy.

Economic incentives: City governments can use financial support to help foster innovation and new markets, whilst fiscal measures such as taxes, penalties, and charges, can help incentivise or discourage behaviours.

Regulation: Legislation and regulation is a core domain of government and can play an important role in shaping markets, influencing behaviour, and removing barriers that inhibit progress. In doing so, it can reinforce and support other policy levers (such as regulations regarding housing density or affordability impacting the process of urban planning). Legislation and regulation is frequently developed together with regional or national governments.

Source: ([MacArthur Foundation, 2019](#))



Source: [Ellenmacarthurfoundation.org](https://ellenmacarthurfoundation.org)

2. Informing your country's Voluntary National Review (VNR):

I.Content

- A. Align the structure of your VLR with that of your country's VNR, to the extent possible
- B. Include success stories, barriers to implementation, and lessons learned towards advancing a local circular economy
- C. Include recommendations for how national governments can support local efforts toward circularity
- D. Highlight innovative local sources and instruments of finance for circularity
- E. Promote utilization of local data and provide disaggregated data, aligned with indicators reported in the VNR, to the degree possible
- F.

II.Process

- A. Time your VLR with the preparation cycle of the VNR
- B. Inform your intent to prepare a VLR to the national government's VNR staff
- C. Ask VNR preparers at the national level to review and comment on your VLR
- D. Volunteer to provide local content and indicators to ensure the VNR captures local efforts toward circularity
- E. Volunteer to be part of the VNR presenter's panel at the UN High-level Political Forum.