Module 3:
Supporting the Circular Economy at the Local Level through VLRs

Enhanced VLR Guidance Portal

for Supporting Green, Sustainable and Resilient Recovery & Transitions at the Local Level

UNITED NATIONS
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS

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Who is this guide for?

- Officials of local governments & organizations who are in the process of preparing a Voluntary Local Review (or considering it)
- UN or other experts who are assisting local governments & organizations in the preparation of a VLR

What will and won't you find in this module?

- You will learn how to enhance VLRs to support climate neutrality in cities, informed by existing guidance from across the UN system

- This is not a detailed guide on how to prepare a VLR

Implementing partners and authors

The implementing partners and authors of the Guidance Portal for Enhanced VLRs are:

- the United Nations Department for Economic and Social Affairs (UNDESA),
- in cooperation with the United Nations Human Settlements Programme (UN-Habitat),
- the United Nations Economic Commission for Europe (UN-ECE), and
- the World Organization of United Cities and Local Governments (UCLG).

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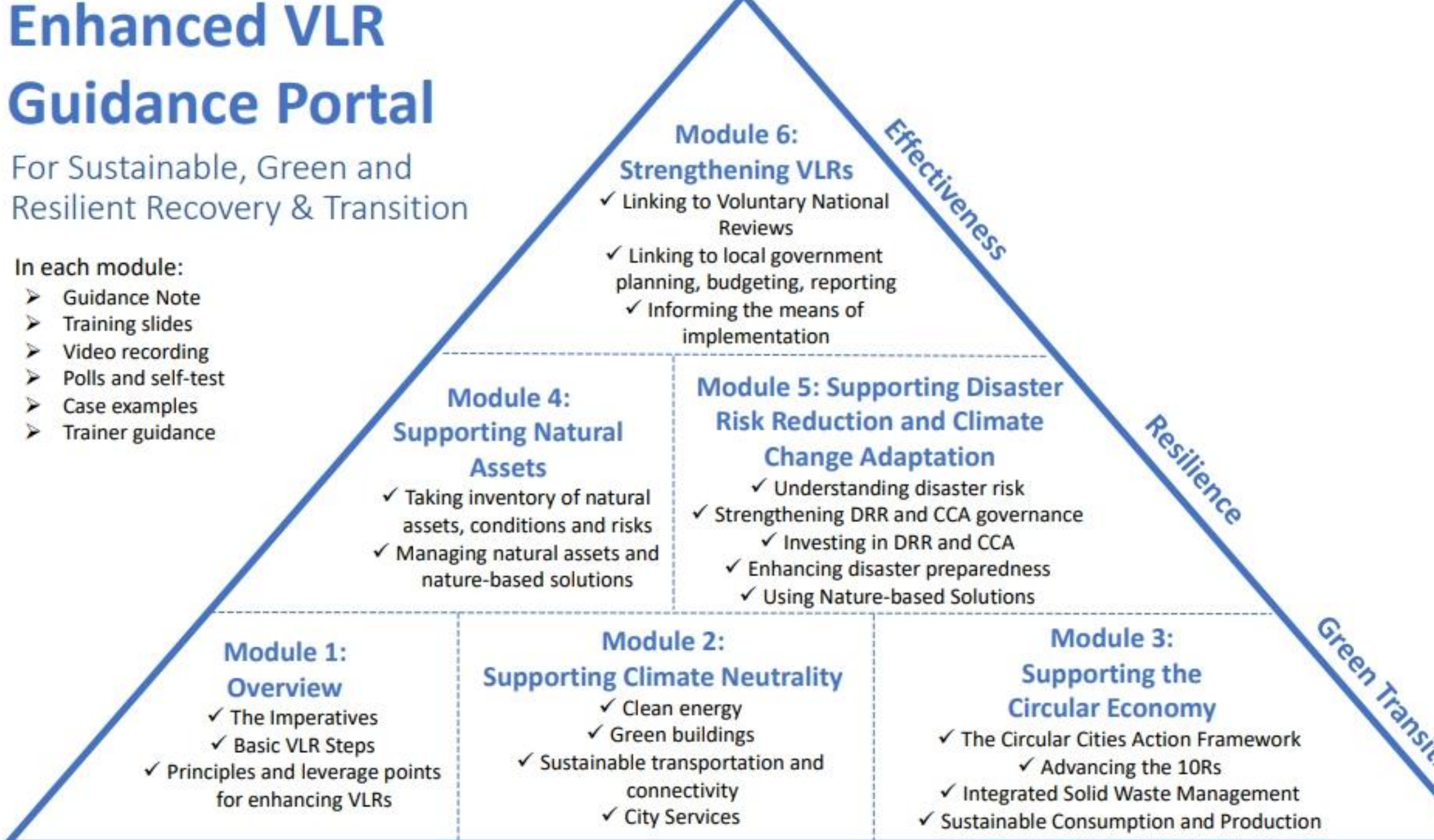
Enhanced VLR Guidance Portal

For Sustainable, Green and Resilient Recovery & Transition

In each module:

- Guidance Note
- Training slides
- Video recording
- Polls and self-test
- Case examples
- Trainer guidance



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For Sustainable, Green, and Resilient Recovery & Transitions

In each module:

- Guidance Note
- Training slides
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- Polls and self-test
- Good practice examples
- Trainer/Facilitator guidance

Module 3:
Supporting the Circular Economy

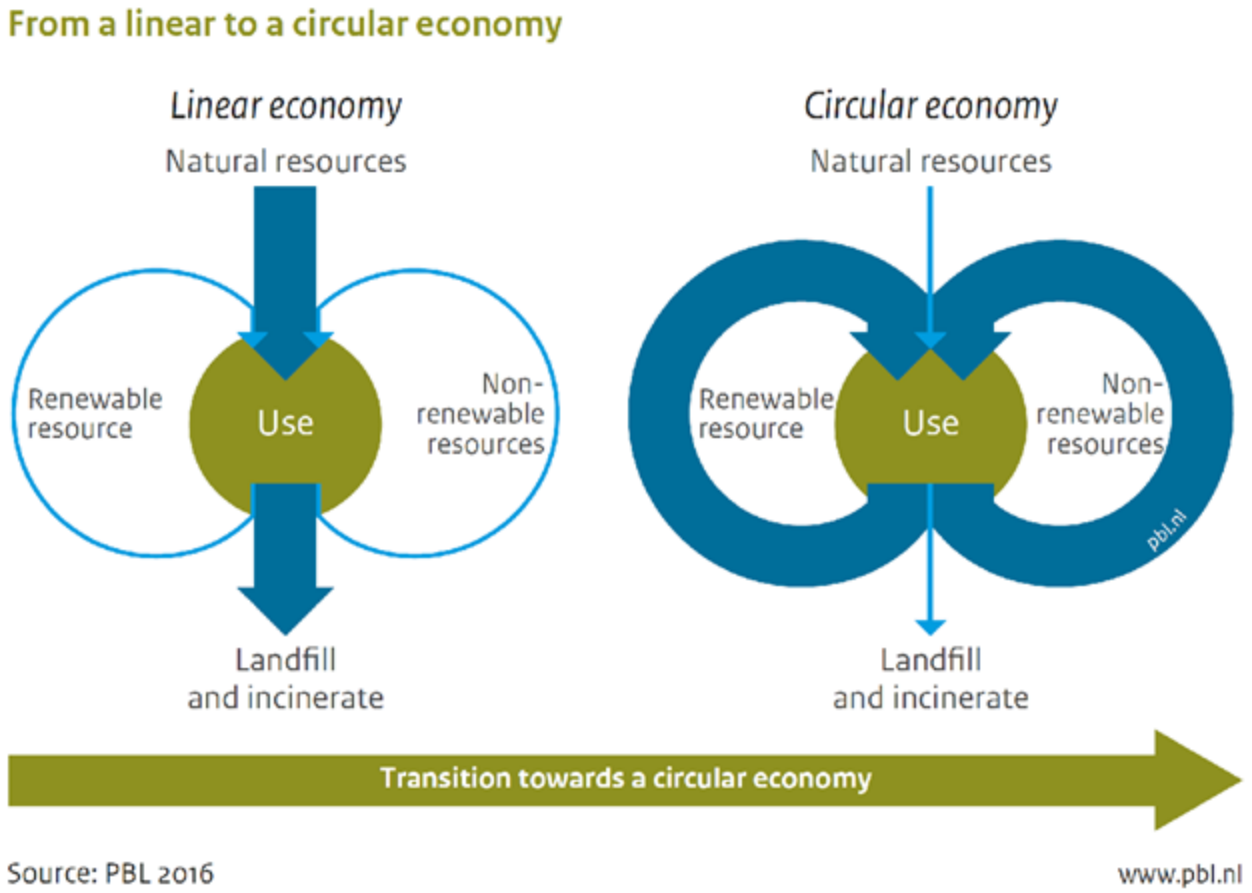
- ✓ The Circular Cities Action Framework
- ✓ Advancing the 10Rs
- ✓ Integrated Solid Waste Management
- ✓ Sustainable Consumption and Production

What is the circular economy?

"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**", including 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"

United Nations Issue-based Coalition on Environment and Climate Change for Europe and Central Asia

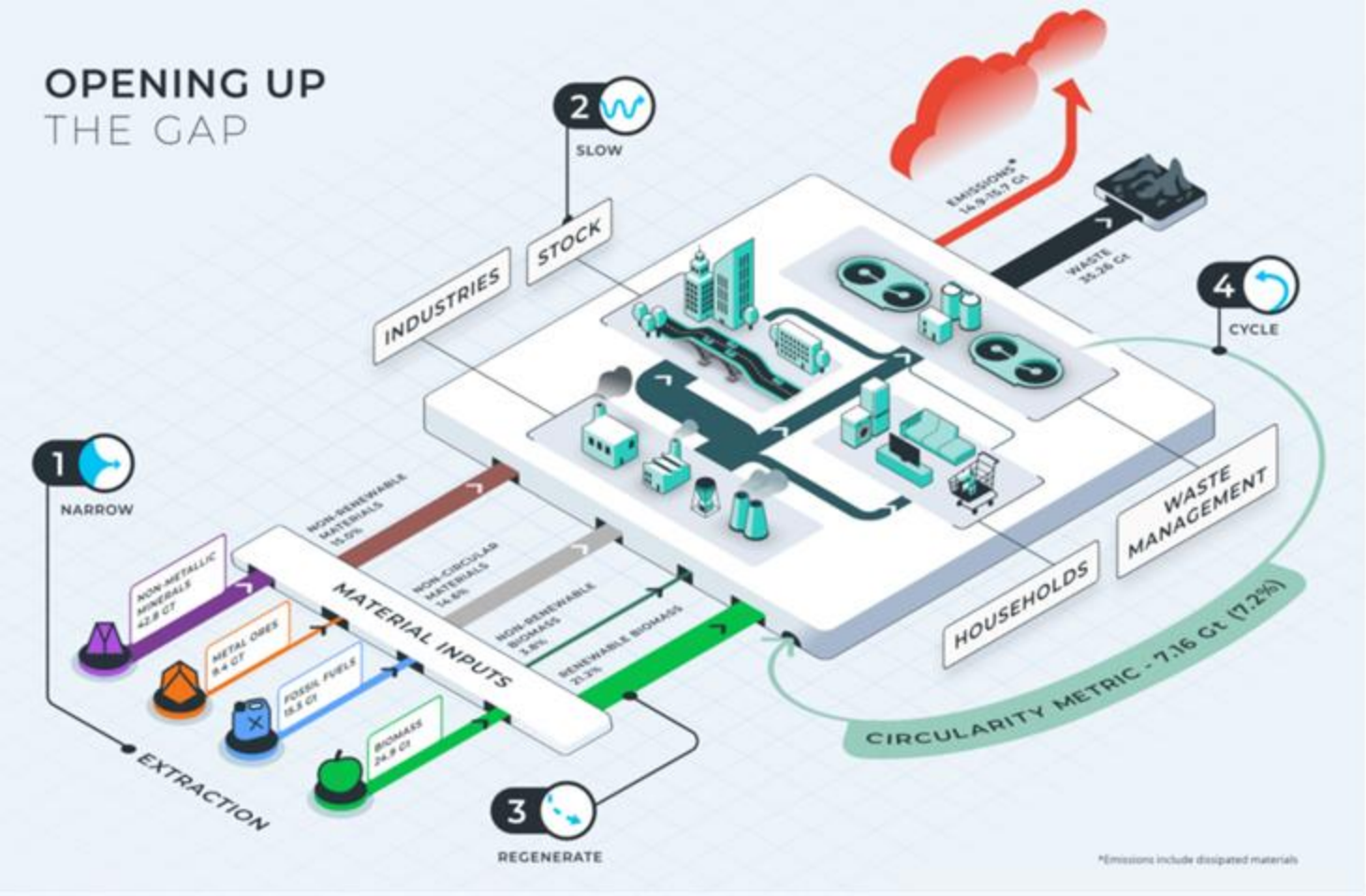
https://uneuropecentralasia.org/en/events/training-programme-green-transitions-workshop-3-circular-economy



https://www.pbl.nl/sites/default/files/downloads/pbl-2016-circular-economy-measuring-innovation-in-product-chains-2544.pdf

Why the urgency?

- 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).
- 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
  - 35 Gt disappears 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).



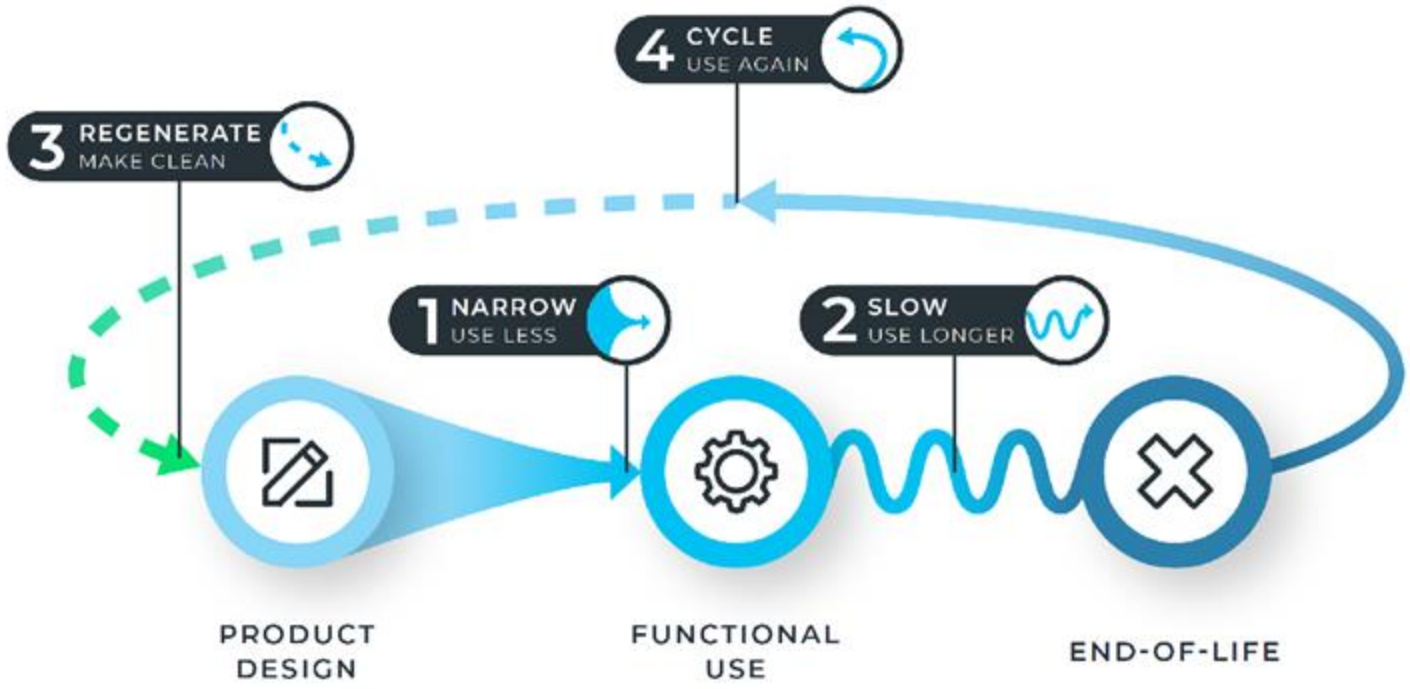
https://www.circularity-gap.world/2023

What are the solutions?

- 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 overshot (Circle Economy, 2023).

- To reverse this overshoot, it is estimated 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**



https://www.circularity-gap.world/2023

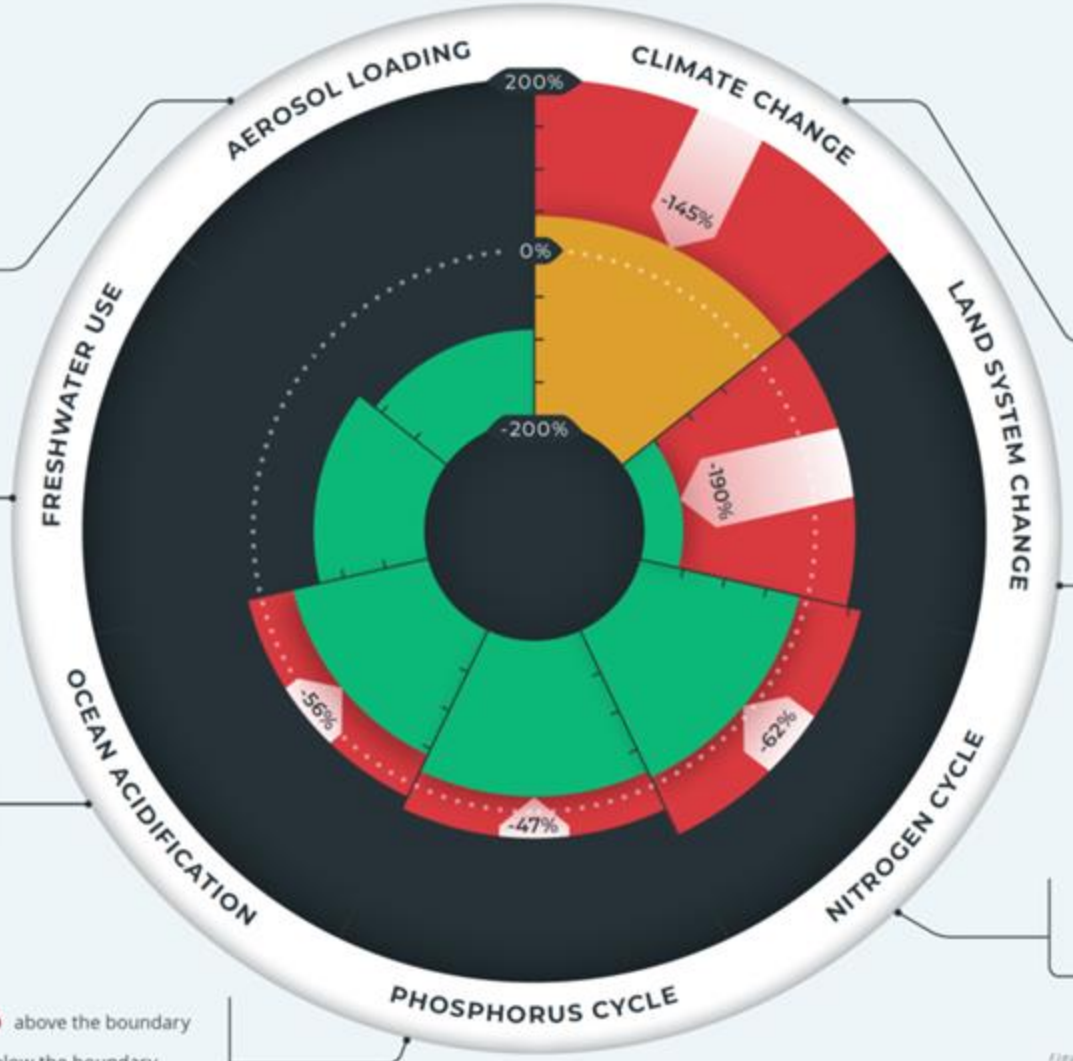
CIRCULAR SOLUTIONS HAVE THE POWER TO REVERSE THE OVERSHOOT

If a circular economy was implemented across these four global systems, virgin material extraction could drop by around one-third (**34%**)—from 92.7 billion tonnes to 61.2 billion tonnes.

GHG emissions could be reduced enough to **limit global temperature rise to 2-degrees.**[52] And crucially, the current overshoot of five planetary boundaries could be reversed.*

Underpinning our entire analysis is an assumption that the global economy **fully transitions to clean energy.** This would involve transforming the electricity mix so that 75% of the electricity currently powered by current fossil fuels (coal, natural gas and petroleum derivatives) is replaced by renewables, phasing out fossil fuel use for industrial purposes (heat and steam)—with the exception of hard to abate industries like steel production and fossil fuels extraction activities. Constraining material inputs, particularly for highly impactful fossil fuels, results in an 8% reduction in the material footprint.[54] In terms of emissions (the climate change planetary boundary), the largest reduction of all circular solutions comes from shifting to renewable electricity: a reduction of 77%. We do not examine this scenario in detail in the report.

Although we were only able to model the transgression of six planetary boundaries (in the framework, phosphorus and nitrogen cycles are both contained within Biogeochemical flows), we added to the eight planetary boundaries known to have been previously quantified. Measuring stratospheric ozone layer depletion was not possible. According to Rockstrom and colleagues, this boundary is transgressed only temporarily in Antarctica each spring. Biodiversity loss and chemical pollution could also not be modelled. For more information, please refer to the methodology document.



From **87%** to **93%** below the boundary.

From **191%** above the boundary to **46%** above the boundary —enough of a decrease to limit temperature rise to 2-degrees.

From **59%** to **62%** below the boundary.

From **47%** above the boundary to **143%** below the boundary.[53]

From **13%** above the boundary to **43%** below the boundary.

From **59%** above the boundary to **3%** below the boundary.

From **33%** above the boundary to **14%** below the boundary.

Figure three shows the impact the 16 circular solutions have on reversing the overshoot of five planetary boundaries.

https://www.circularity-gap.world/2023

How can local governments participate in the circular economy?

Local governments play a key role in creating thriving, liveable, resilient cities that are regenerative by design.

“City governments see, experience, and often manage the negative consequences of the current ‘take make- waste’ linear economy”

Source: (MacArthur Foundation, 2019)

https://ellenmacarthurfoundation.org/circular-economy-in-cities

How can local governments and organizations support circularity through VLRs?

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

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

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

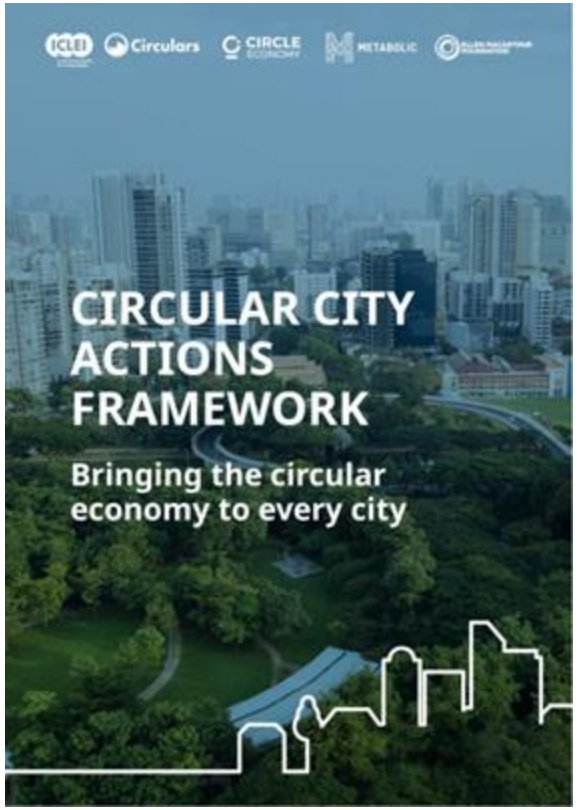
How can local governments participate in the circular economy?

This module takes a closer look at ways that a community can consider to participate in the circular economy.

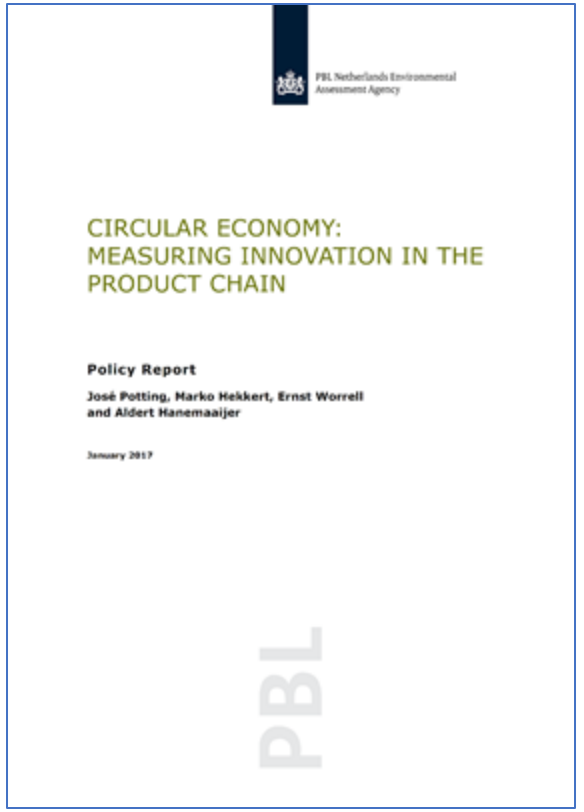
Module 3:
Supporting the Circular Economy

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

The first step is understanding local leverage points for participating in the circular economy



https://circulars.iclei.org/action-framework/



https://www.pbl.nl/sites/default/files/downloads/pbl-2016-circular-economy-measuring-innovation-in-product-chains-2544.pdf

https://sdgs.un.org/goals/goal12

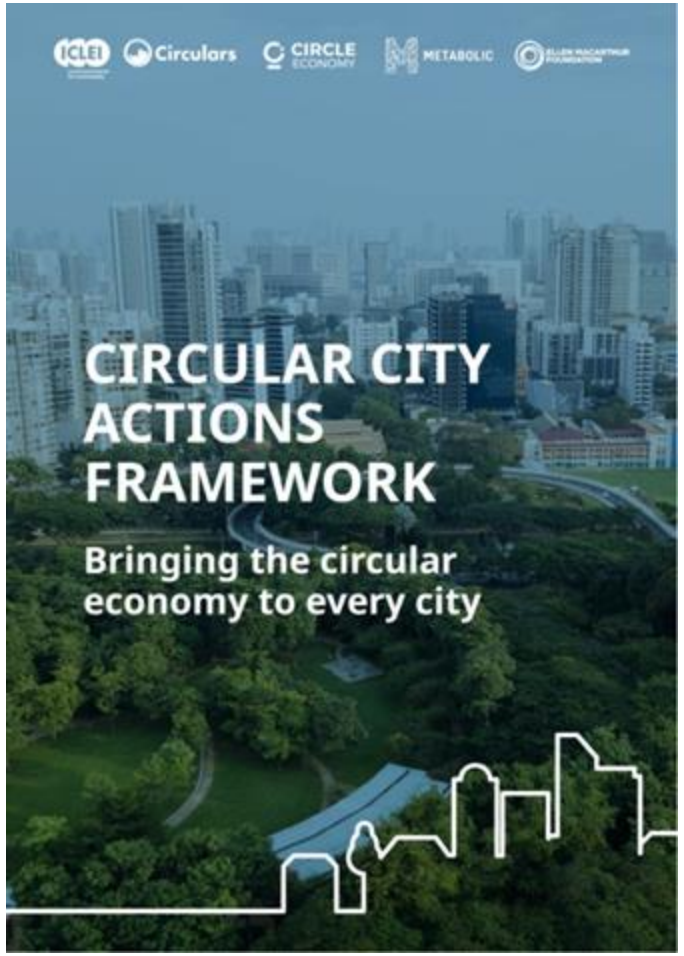
The Circular Cities Action Framework

- 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).

- "Linear economies are linked to a range of negative impacts in cities, including rising carbon emissions, biodiversity loss and waste management challenges" (ICLEI, 2021).

- 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).



https://circulars.iclei.org/action-framework/

Circular Cities Action Framework

The Circular City Action Framework consists of four main leverage points:

- **Rethink**
- **Regenerate**
- **Reduce**
- **Reuse**
- **Recover**

Source: https://circulars.iclei.org/action-framework/

Rethink

Redesign systems to lay the foundation for circular activities and enable the transition to a circular economy

Case Example
ReThink Water Refill Project in Kyiv, Ukraine

- 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.
- Locations have a visible 'Free Water Refill' sticker at the entrance.
- ‘Pre-cycling' strategy to reduce the amount of small single use PET bottles that are often bought when people are just thirsty.

https://knowledge-hub.circle-lab.com/cities
https://rethink.com.ua/uk/free-water-refill

https://circulars.iclei.org/action-framework/

Regenerate

Harmonize with nature by promoting infrastructure, production systems and sourcing that allows natural ecosystems to thrive

https://circulars.iclei.org/action-framework/

Case Example

Knotweed: Turning an invasive species into a valuable product Ljubljana , Slovenia

- 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.

https://knowledge-hub.circle-lab.com/cities
https://circulareconomy.europa.eu/platform/en/good-practices/ljubljana-turned-invasive-plants-recycled-paper

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

https://circulars.iclei.org/action-framework/

Case Example
Energy Efficiency Plan Zagreb, Croatia

- Energy efficiency is part of circular economy and eco-innovation areas the City of Zagreb is working on.
- 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). T
- 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.

https://knowledge-hub.circle-lab.com/cities

Reuse

Use longer and more often by extending and intensifying use of existing resources, products, spaces and infrastructure

https://circulars.iclei.org/action-framework/

Case Example
Circularity Roadmap Ljubljana , Slovenia

- 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.
- Further steps will be taken to employ more circular initiatives, such as wood-based construction and promoting locally sourced food and goods.
- The Ljubljana roadmap serves as an example of how national strategies can be translated into specific local action.

https://knowledge-hub.circle-lab.com/cities
https://www.ljubljana.si/en/ljubljana-for-you/environmental-protection/towards-circular-economy/examples-of-circular-economy/

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

https://circulars.iclei.org/action-framework/

Case Example

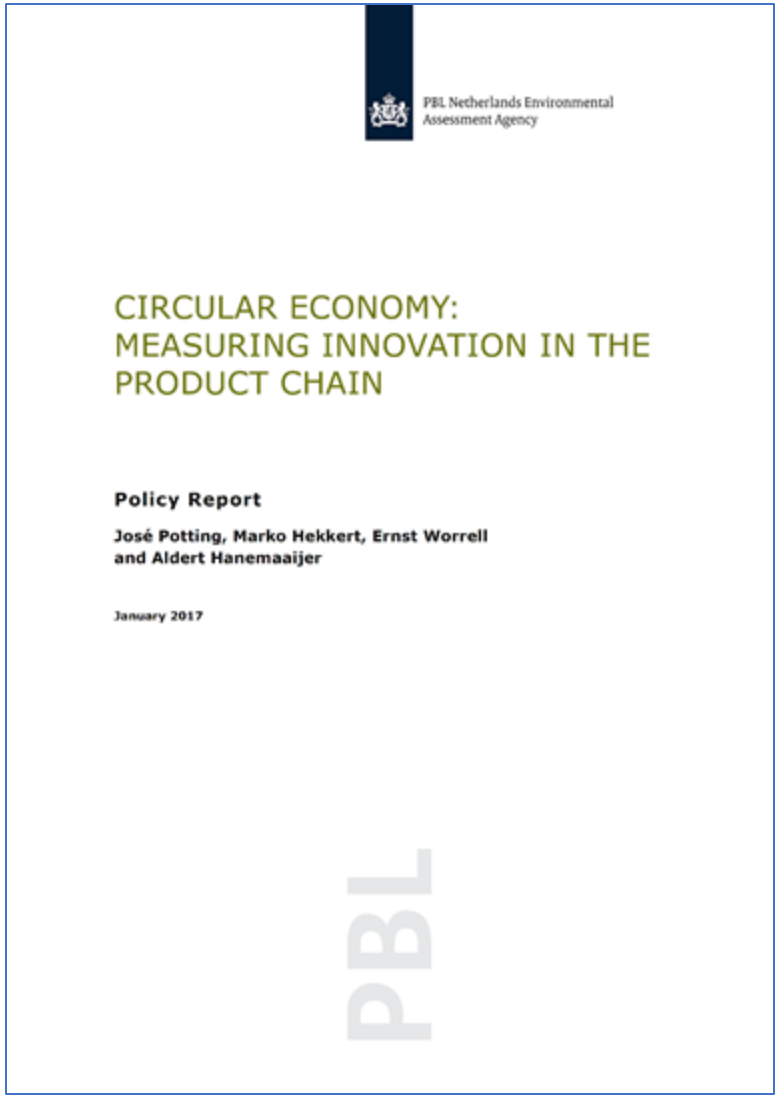
Recovering Food Waste Prague, Czech Republic

- 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 fertilizer for local agricultural projects.
- The city also targets minimizing consumer food waste habits: waste prevention is touted by city billboards, urging residents to “buy only what you eat”, and environmental campaigns are integrated into schools.

https://knowledge-hub.circle-lab.com/cities
https://www.circle-economy.com/resources/circular-prague

Advancing the 10Rs

- 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, can be applied again after the product is discarded.



https://www.pbl.nl/sites/default/files/downloads/pbl-2016-circular-economy-measuring-innovation-in-product-chains-2544.pdf

Advancing the 10Rs

There exist three main leverage points as listed below and articulated in the figure that follows (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 extent 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.

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 (e.g. through sharing products, or by putting multi-functional products on the market)
	R2 Reduce	Increase efficiency in product manufacture 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 Remanu-facture	Use parts of discarded product in a new product with the same function
	R7 Repurpose	Use discarded product or its parts in a new product with a different function
Useful application of materials	R8 Recycle	Process materials to obtain the same (high grade) or lower (low grade) quality
	R9 Recover	Incineration of materials with energy recovery

https://www.pbl.nl/sites/default/files/downloads/pbl-2016-circular-economy-measuring-innovation-in-product-chains-2544.pdf

Advancing the 10Rs

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
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Useful application of materials	R8	Recycle	Process materials to obtain the same (high grade) or lower (low grade) quality
	R9	Recover	Incineration of materials with energy recovery

Case Example

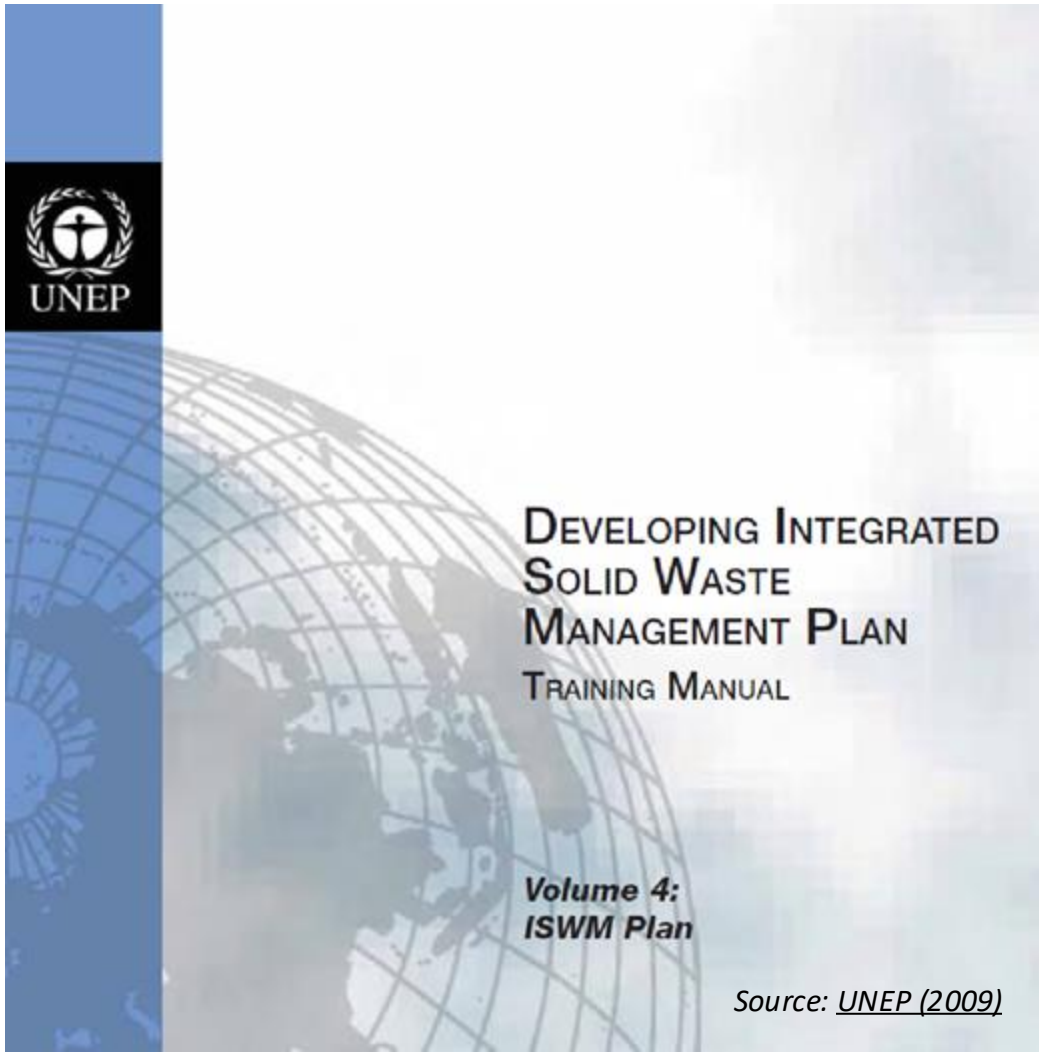
Circularity strategies for plastic bottles

- **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.

https://www.pbl.nl/sites/default/files/downloads/pbl-2016-circular-economy-measuring-innovation-in-product-chains-2544.pdf

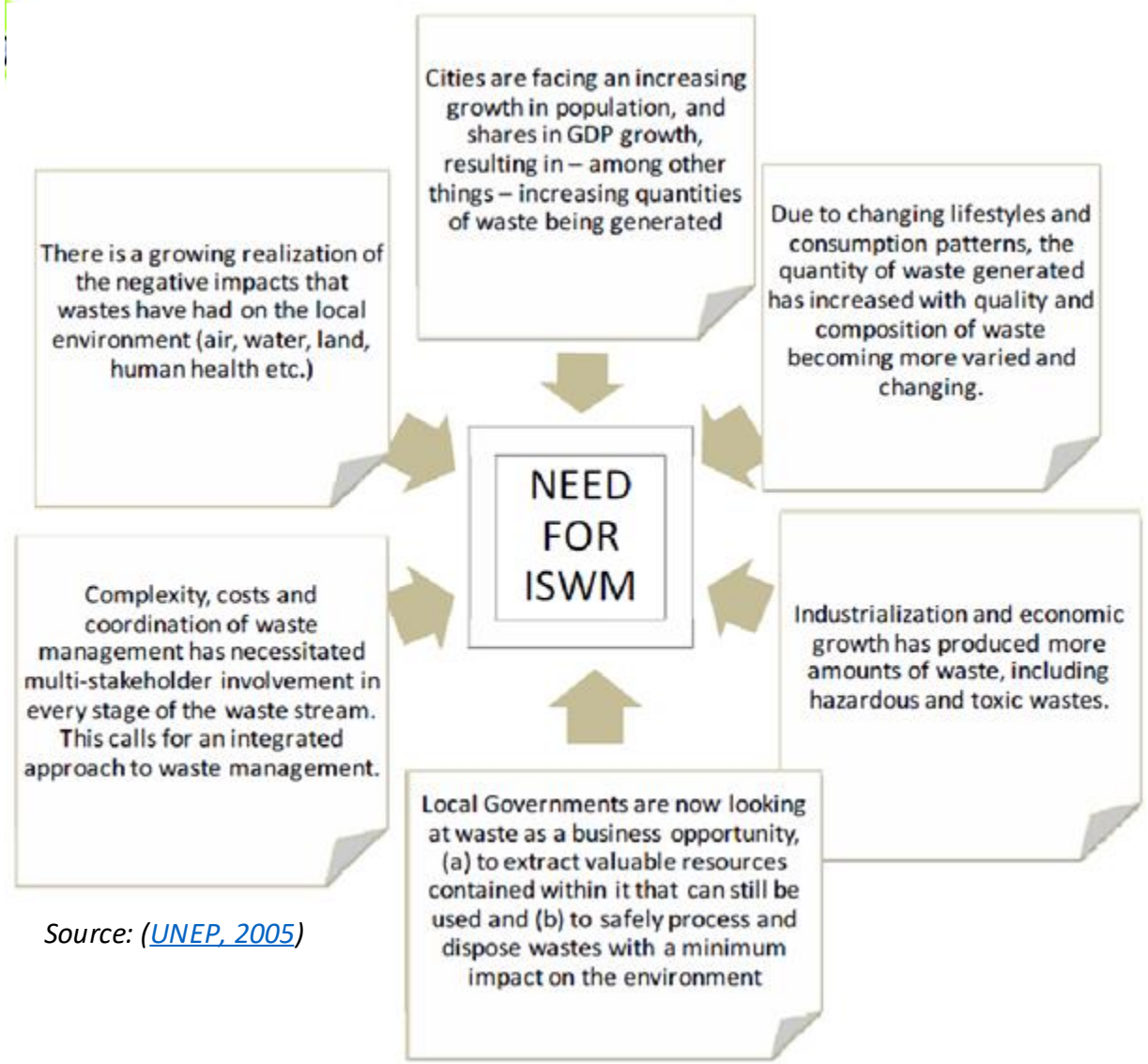
Integrated Solid Waste Management (ISWM)

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).



Source: UNEP (2009)

Needs and challenges



Source: (UNEP, 2005)

- Despite the need and practice of ISWM being well understood, many cities still struggle with its implementation.
- Experts believe that accelerating the implementation of ISWM will required need to go beyond policy and technology, to include governance solutions that “connect the various actors and acknowledging their traditions and expectations”

Source: (Beall et al., 2022)

ISWM Scorecard for Local Governments

- 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:

    1. Institutional framework
    2. Waste reduction and avoidance
    3. Storage and collection
    4. Resource recovery
    5. Disposal
    6. Public awareness

Source: (UNEP, 2005)

ISWM Scorecard for Local Governments

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 government 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

Source: (UNEP, 2005)

ISWM Scorecard for Local Governments

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.

Source: (UNEP, 2005)

Case Example

Integrated Solid Waste Management, 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 at source value addition (re-use, composting …)
- **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.

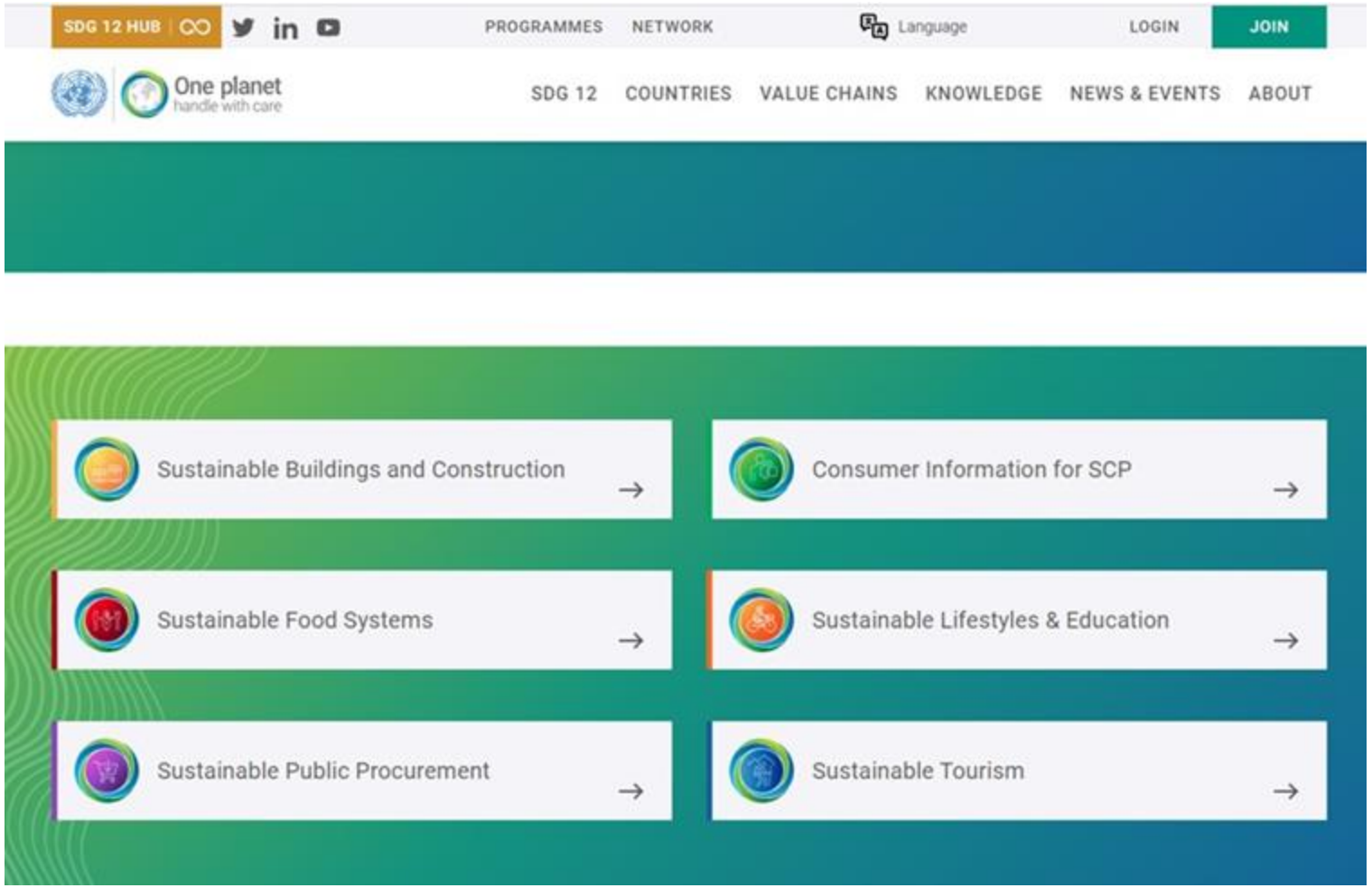
Source: (UNEP, 2005)

10-year Programme on Sustainable Consumption and Production

- Sustainable production and consumption 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).

https://sdgs.un.org/goals/goal12

10-year Programme on Sustainable Production and Consumption



https://www.oneplanetnetwork.org/

The F10-year Framework places attention on six core areas of action, and thus, provides a useful guide for the sustainable development efforts of local governments.

1. Sustainable public procurement
2. Sustainable tourism
3. Sustainable lifestyles
4. Sustainable buildings and construction
5. Consumer information
6. Sustainable food systems

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, local governments can make an important contribution towards local, regional, national and international sustainability goals.

Case Example
Procura+

Initiated and coordinated 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:

1. 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;

2. 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;

3. Create new jobs and opportunities for small and medium sized enterprises.

https://www.oneplanetnetwork.org/programmes/sustainable-public-procurement/about

Sustainable Tourism

Case Example
Responsible Recovery of the Tourism Sector

The 10-yr Framework of Programmes outlines 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;
- accelerating climate action in 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:

1. public health,
2. social inclusion,
3. biodiversity conservation,
4. climate action,
5. circular economy, and
6. governance & finance.

https://www.oneplanetnetwork.org/programmes/sustainable-tourism/about

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.

https://www.oneplanetnetwork.org/programmes/sustainable-lifestyles-education/about

Case Example:
Anatomy of Action for Sustainable Living

https://www.oneplanetnetwork.org/programmes/sustainable-lifestyles-education/anatomy-of-action

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.

The 10-year Framework's Sustainable Buildings and Construction Programme

Specifically, this programme 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.

https://www.oneplanetnetwork.org/programmes/sustainable-buildings-construction/about

Consumer Information for SCP

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 SDG target 12.8:

- "by 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature".

https://www.oneplanetnetwork.org/programmes/consumer-information-scp/about

Knowledge Hub for 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.

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.

https://www.oneplanetnetwork.org/programmes/sustainable-food-systems/about

https://www.oneplanetnetwork.org/approach-knowledge-hub

Relevant Indicators

Sources: https://sdgs.un.org/goals

SDGs

- **Target 12.1**: Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns
  - Indicator 12.1.1: Number of countries developing, adopting or implementing policy instruments aimed at supporting the shift to sustainable consumption and production
- **Target 12.2**: By 2030, achieve the sustainable management and efficient use of natural resources
  - Indicator 12.2.1: Material footprint, material footprint per capita, and material footprint per GDP
  - Indictor 12.2.2: Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP
- **Target 12.3**: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
  - Indicator 12.3.1: (a) Food loss index and (b) food waste index
- **Target 12.4**: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
  - Indicator 12.4.2: (a) Hazardous waste generated per capita; and (b) proportion of hazardous waste treated, by type of treatment

- **Target 12.5**: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
  - Indicator 12.5.1: National recycling rate, tons of material recycled
- **Target 12.7**: Promote public procurement practices that are sustainable, in accordance with national policies and priorities
  - Indicator 12.7.1: Number of countries implementing sustainable public procurement policies and action plans
- **Target 12.b**: Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products
  - Indicator 12.b.1: Implementation of standard accounting tools to monitor the economic and environmental aspects of tourism sustainability

Relevant Indicators

Circular Economy Indicators Coalition

Waste Flows

- Total waste generation
- Non-hazardous/hazardous waste diverted from landfill
- Non-hazardous/hazardous waste prepared for reuse
- Recycling of non-hazardous/hazardous waste
- Non-hazardous/hazardous waste treated through other recovery options
- Non-hazardous/hazardous waste incinerated (with and without energy recovery)
- Actual recovery (total weight and % of outflow materials captured at the end of its initial life cycle)
- Circular outflow (determined by the % recovery potential)

Product Design and Use

- Product durability/longevity
- Product reusability
- Product repairability
- Product disassembly
- Product remanufacturing/refurbishment
- Product recyclability
- Product recirculation into biological cycles
- Outflow recovery potential

Many more categories and indicators at:
https://knowledge-hub.circle-lab.com/indicator

How can local governments and organizations support circularity through VLRs?

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

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

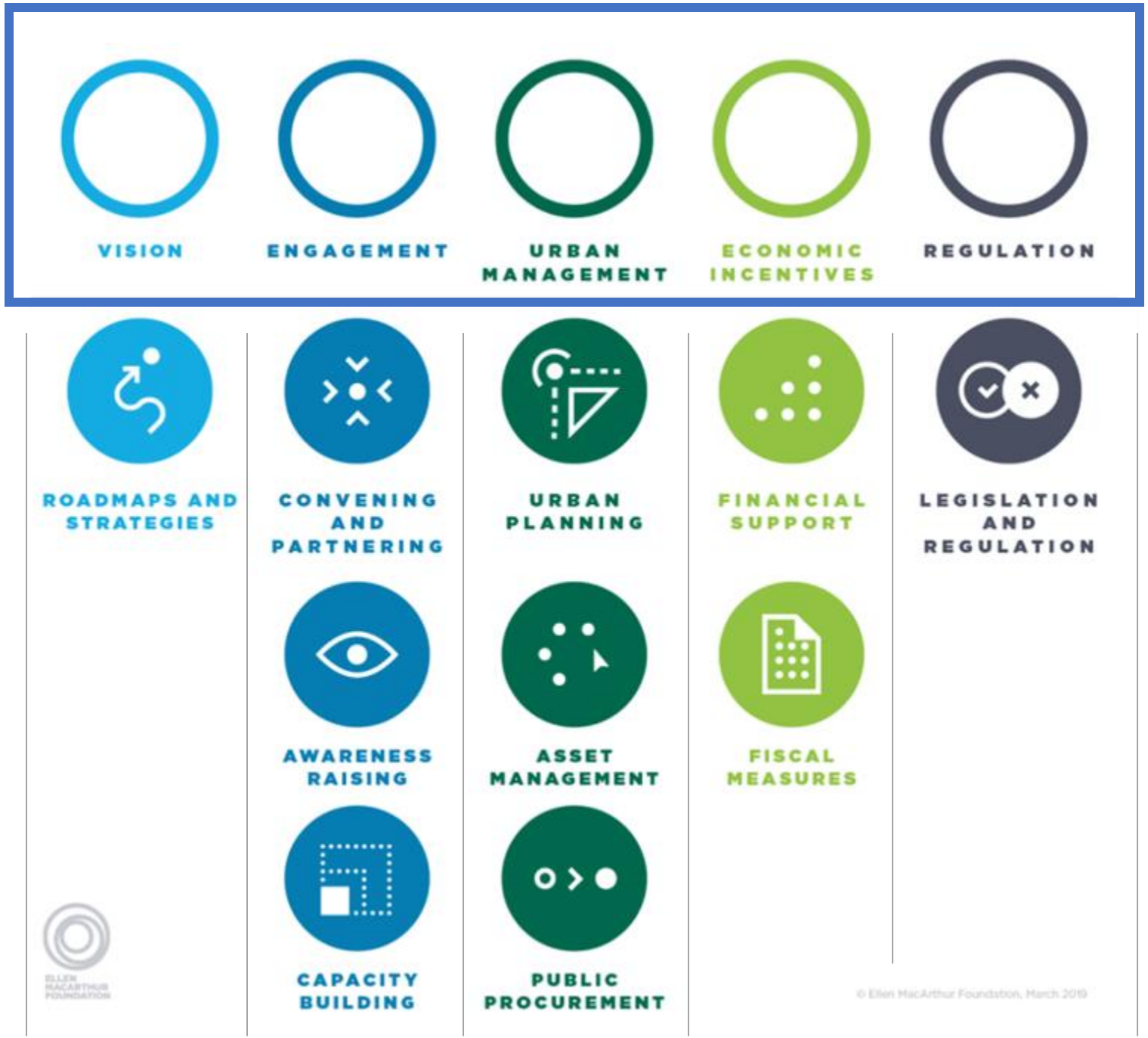
C. Identify and communicate local success stories in financing circular approaches

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

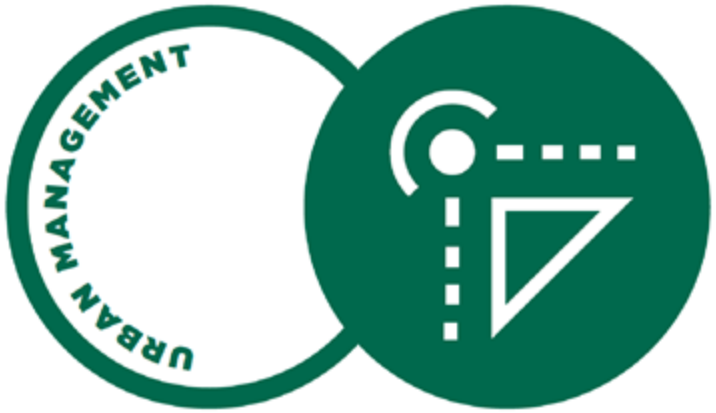
Urban Policy Levers for Enabling a Circular Transition



https://ellenmacarthurfoundation.org/policy-levers#:~:text=Governments%2C%20including%20city%20governments%2C%20can,value)%2C%20and%20regenerate%20nature.

Urban Planning

- Urban planning for compact city development to improve access to services and circulation
- Site planning for circular material use and nutrient flows
- Mobility planning for lower emission and better-connected cities



https://ellenmacarthurfoundation.org/policy-levers#:~:text=Governments%2C%20including%20city%20governments%2C%20can,value)%2C%20and%20regenerate%20nature.

Asset Management

- Using data to identify circular economy opportunities
- Making more productive use of city-owned assets
- Identifying long term resource saving opportunities for the management of city-owned assets
- Managing city-owned land assets for productive use
- Using city-owned assets to facilitate the exchange of materials between construction, renovation, and deconstruction projects

https://ellenmacarthurfoundation.org/policy-levers#:~:text=Governments%2C%20including%20city%20governments%2C%20can,value)%2C%20and%20regenerate%20nature.

Public Procurement

- Using circular economy criteria in the public procurement of products
- Using circular economy public procurement criteria in the renovation and maintenance of city-owned and operated buildings and infrastructure
- Using public procurement to stimulate circular economy building developments on city-owned land
- Using public procurement to encourage the use of circular business models

https://ellenmacarthurfoundation.org/policy-levers#:~:text=Governments%2C%20including%20city%20governments%2C%20can,value)%2C%20and%20regenerate%20nature.