



**PACE**

Platform for Accelerating  
the Circular Economy

# Circular Indicators for Governments

July 21, 2022



# Circular Indicators for Governments

Accelerating action in the circular economy

October 2020

# CIRCULAR METRICS FOR BUSINESS

Finding opportunities in the  
circular economy

<https://pacecircular.org/circular-economy-indicators-coalition>

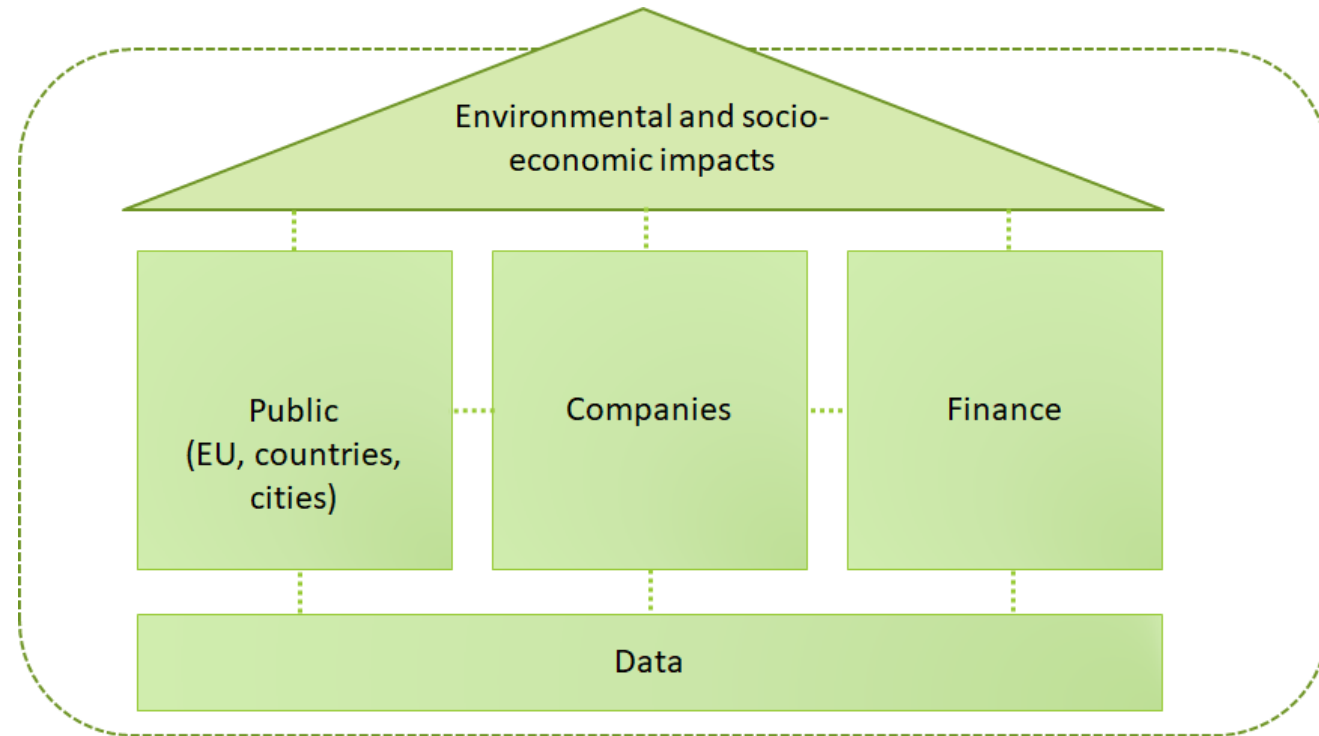
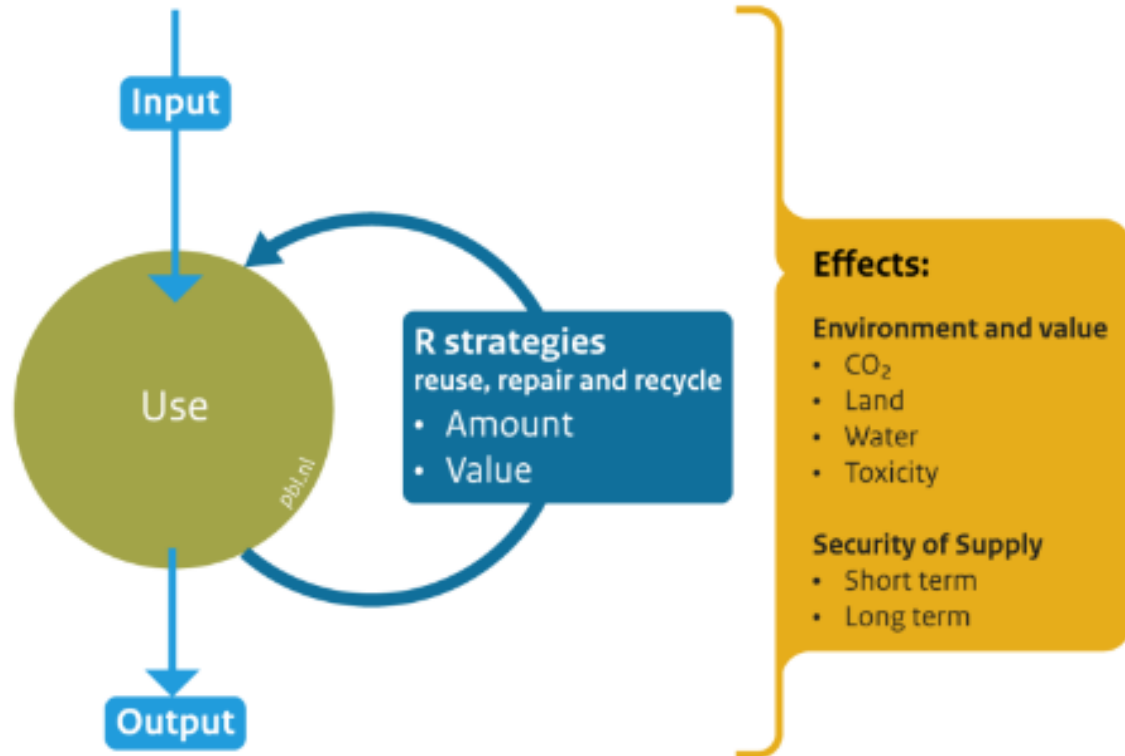


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# Areas of CE indicator development

## Main issues for circular-economy target



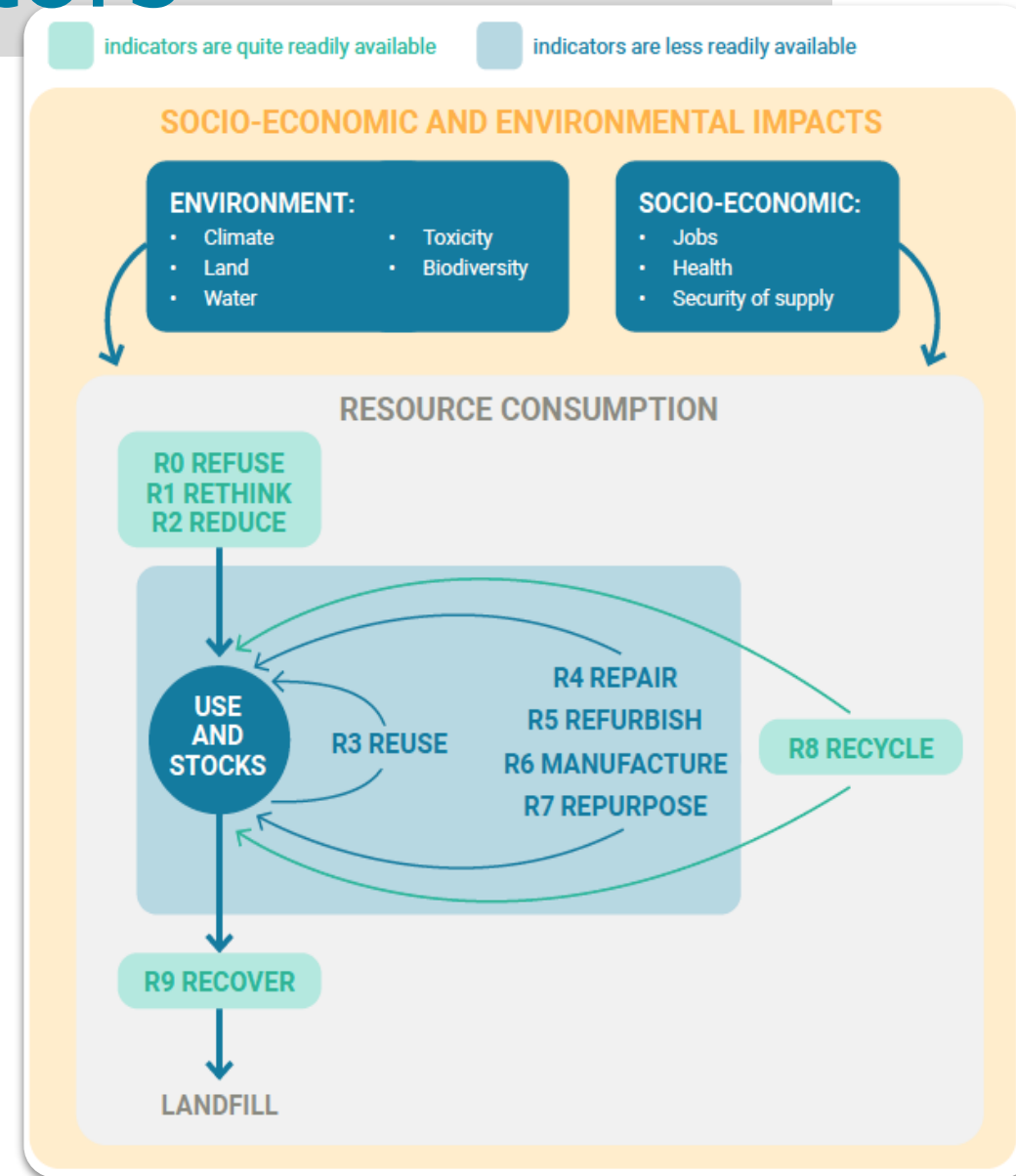
Source: PBL

# Availability of CE indicators

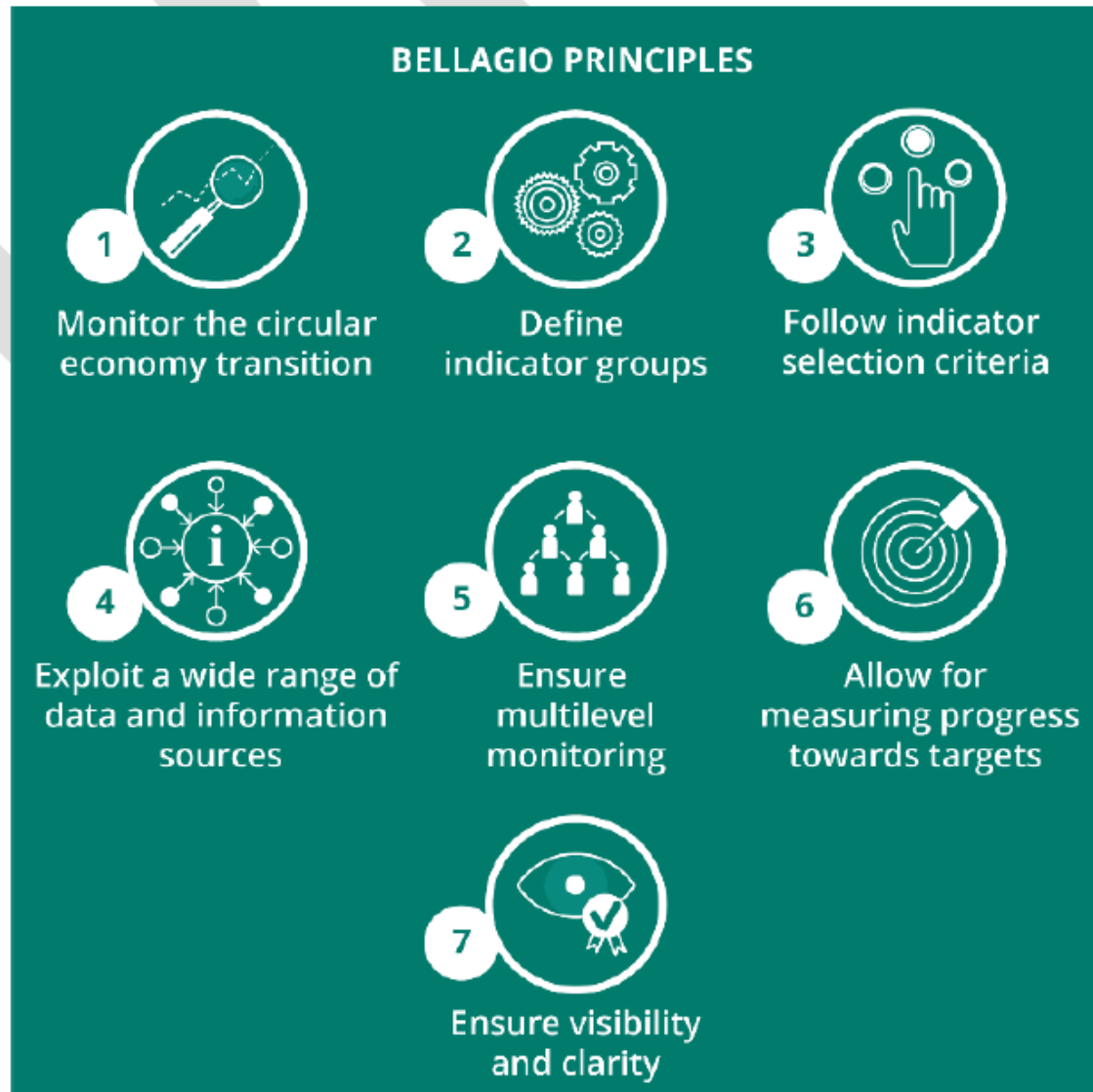
**TABLE 1** • The “R-ladder”, showing the hierarchy of nine R-strategies in order of priority

Produce and use in a smart way	R0 REFUSE	Make existing products obsolete by doing without or introducing alternatives
	R1 RETHINK	Intensify the use of products through shared use or multipurpose products
	R2 REDUCE	Produce and use more efficiently, with smaller quantities of (raw) materials
Prolong the lifespan of parts and products	R3 REUSE	Further use of the same product by another user
	R4 REPAIR	Repair and maintain for continued use by the same user
	R5 REFURBISH	Update an old product to meet today’s demand
	R6 REMANUFACTURE	Take parts of an old product to make a new product with the same specification
	R7 REPURPOSE	Take parts of an old product to make another product
Make good use of materials	R8 RECYCLE	Take materials from waste for another use (higher or lower value)
	R9 RECOVER	Take materials from waste to generate energy

Source: Netherlands Environmental Assessment Agency, 2019; European Environment Agency, 2019.



# EU Bellagio Principles



**FIGURE 9 •** The Bellagio Principles, encompassing seven principles for monitoring circular economy transition



1  
Monitor the circular economy transition

## 1. Monitor the circular economy transition

Monitoring the transition towards a circular economy needs to holistically consider all relevant initiatives—public and private—across the economy. It should capture the full extent of changes happening to the material and waste flows, products over their lifecycles, business models, and consumer behavior, including the economic, environmental, and social dimensions of these changes.



2  
Define indicator groups

## 2. Define indicator groups

A robust monitoring system for the circular economy transition should include:

- Material and waste flow indicators to monitor changes throughout the material lifecycle, including resource efficiency dimensions
- Environmental footprint indicators to capture the impact across the full lifecycle of products and materials, so that spill-over effects are assessed, and planetary boundaries are respected
- Economic and social impact indicators to capture positive as well as negative impacts that may occur during structural changes of the circular economy transition
- Policy, process, and behavior indicators to capture the implementation of specific circular economy policy measures and initiatives, in particular for key sectors



3  
Follow indicator selection criteria

## 3. Follow indicator selection criteria (RACER)

Indicators included in a transparent monitoring framework for the circular economy transition should follow RACER criteria: Relevant, Accepted, Credible, Easy to monitor, and Robust

However, development of innovative, experimental indicators should also be encouraged, even if not all RACER criteria may initially be fulfilled



4  
Exploit a range of data/information sources

## 4. Exploit a wide range of data and information sources

The data underpinning a monitoring framework for the circular economy transition may consist of:

- Official statistics from the European statistical system or national statistical offices, other data produced by EU institutions, national or local authorities, as well as from international organizations—exploiting and integrating official information sources
- Policy information—tracking policy developments and implementation including qualitative assessments
- New data sources—exploiting new information sources beyond official statistics, such as data from the private sector and trade associations, research models, or from new applications of digital technologies



5  
Ensure multilevel monitoring

## 5. Ensure multi-level monitoring

Monitoring should capture changes happening across all levels of the economy. It should address both public and private sector stakeholders, and different governance levels from global to local. A well-defined monitoring and governance structure is required to promote the development of coherent metrics that capture the multiple dimensions of the circular economy transition



6  
Measure progress towards targets

## 6. Allow for measuring progress towards targets

Monitoring circular economy implementation should help assess progress to relevant policy targets and objectives, thus helping inform if the right policies are in place and well implemented, or if corrections or new policies are needed



7  
Ensure visibility and clarity

## 7. Ensure visibility and clarity

A well-designed circular economy monitoring framework will inform policymakers, stakeholders and citizens. Appropriate indicators as well as user-friendly methods of communication, such as dashboards, should therefore be identified.

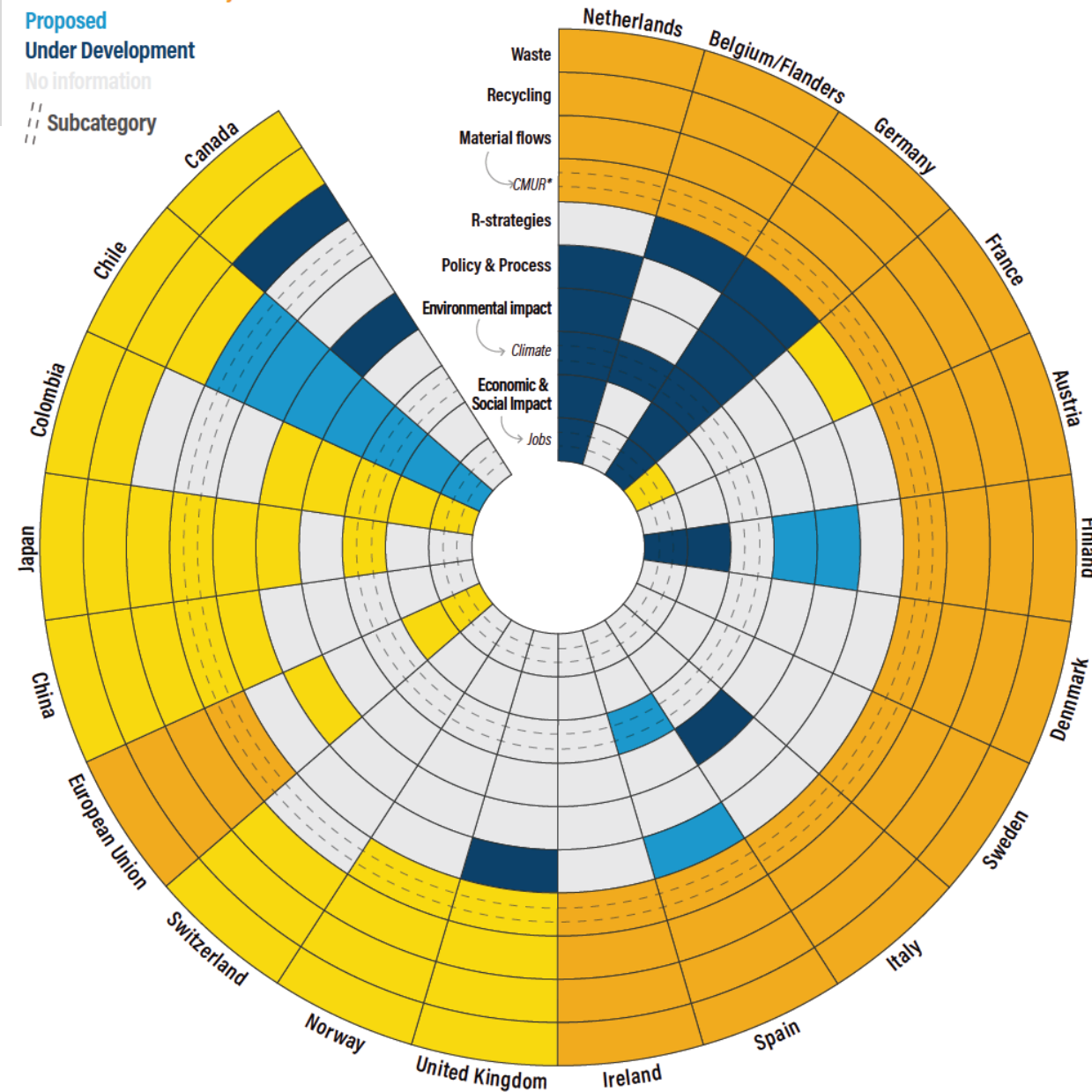
Where possible, open data principles should be followed, with data being made fully and freely available.



# CE indicators scope

- Waste indicators
- Recycling indicators
- Material flow indicators
- R-strategy indicators
- Policy & process indicators
- Environmental impact indicators
- Economic & social impact indicators

Available  
Available and Mandatory  
Proposed  
Under Development  
No information  
Subcategory



\*Cyclical Material Use Rate

# Data challenges



applies to certain indicators or geographies



applies to certain indicators or geographies

	Indicators							
Data needs	Waste	Recycling	Material flows		R-strategies	Policy and process	Environmental impact	Economic and social impact
			(other)	Of which CMUR	(beyond recycling)			
Regularly collected by statistical agencies								
Potential to be collected by statistical agencies, but to date not commonly done								
May require access to multiple data sets, that can be combined and/or interlinked								
May require access to external data that are not publicly available (e.g. businesses, supply chains etc.)								
More likely to suffer from data quality or consistency issues								



## Areas for immediate action

1. Common framework for measuring the circular economy
2. Exchange mechanism for developers of circular economy indicators
3. Harmonization and standardization
4. Circular economy indicators coverage and data gathering and availability

## Areas for further evaluation

5. Broad agreement on definition and taxonomy of the circular economy
6. Links between circular economy indicators across economic levels
7. Setting circular economy targets underpinned by appropriate indicators

# Areas for improvement