Environment and Nature

LEARNING WEEK 2025

7–10 October 2025 | Multifunction Halls 2–3 | ADB Headquarters

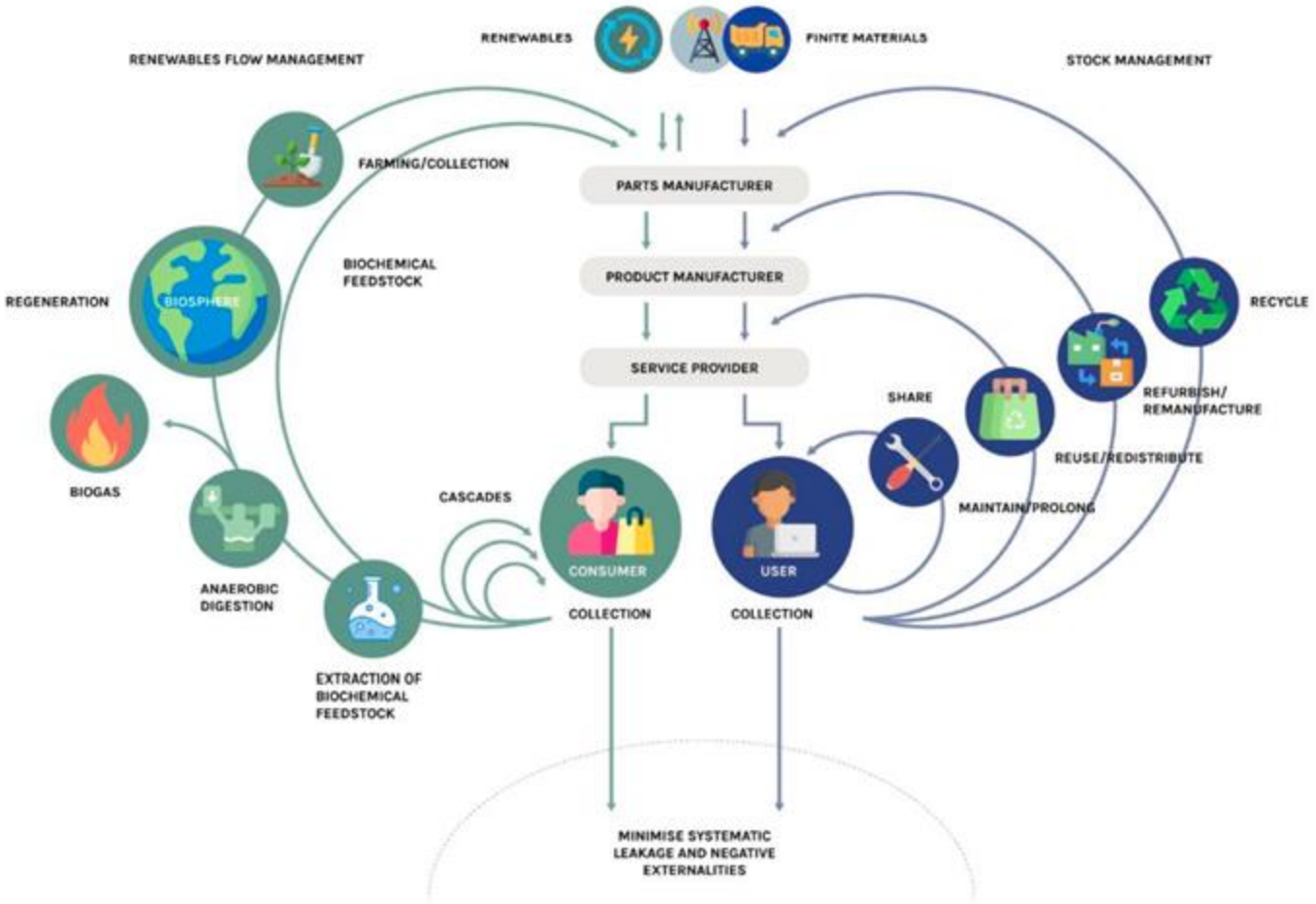
THIS TRAINING IS ORGANIZED BY THE **ENVIRONMENT COMMUNITY OF PRACTICE**

Presentation

Development of a Taxonomy for ADB's Circular Economy Activities and Indicators for Tracking Progress

Dr. Piya Kerdlap
ADB Consultant

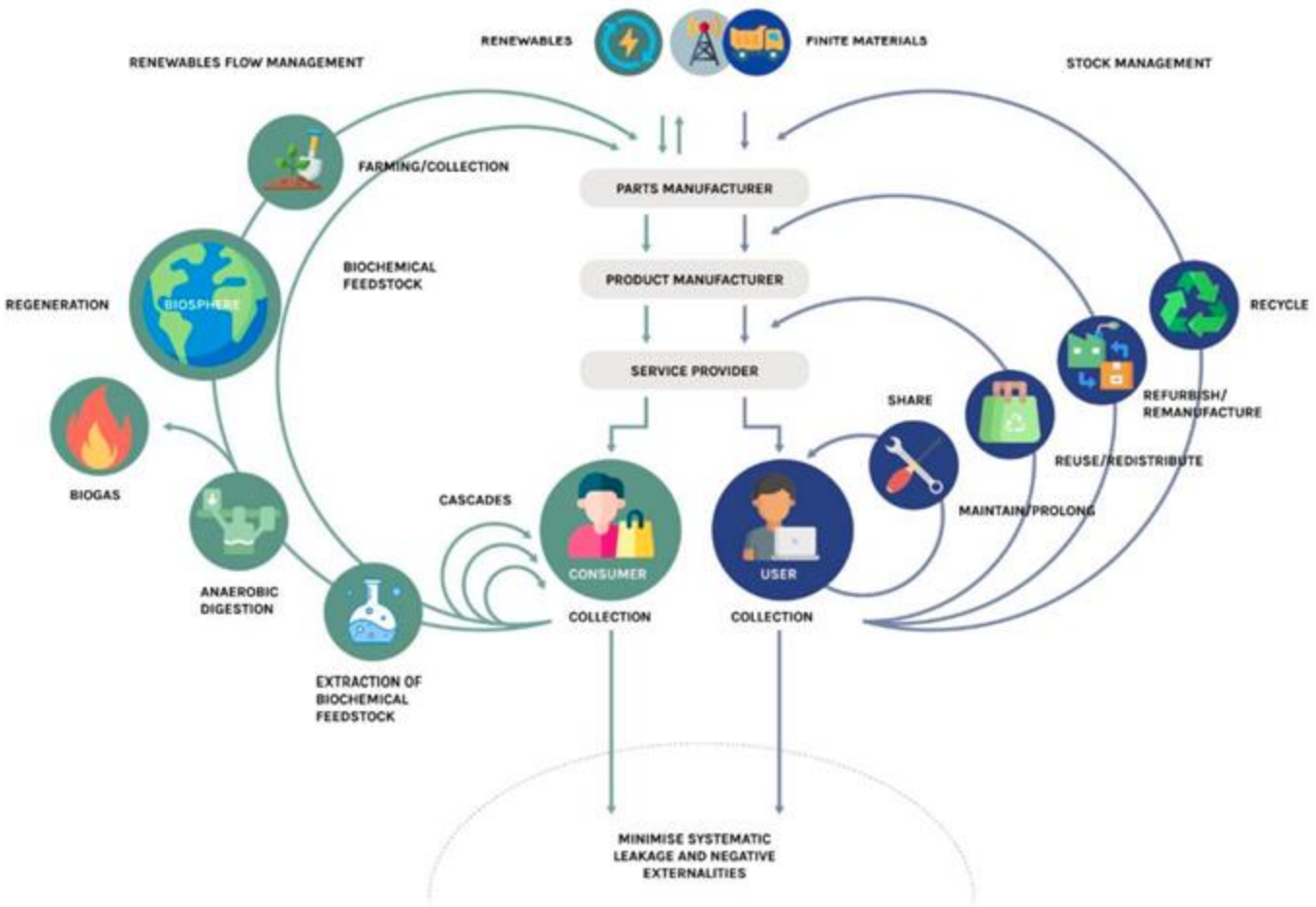
What is Circular Economy?



"A circular economy is where waste is designed out of systems, materials and products are kept in use, and natural systems are regenerated. A circular economy is the logical and necessary replacement for a linear economy or the current model of "take, make, waste" that has led to overconsumption, massive pollution, and degradation of natural ecosystems."

[ADB Brochure: Advancing the Circular Economy]

Imperative for Classifying and Measuring CE



Circular economy is a broad and crosscutting concept

What activities are considered as CE?

How do we track progress for CE?

Common language for everyone to understand to achieve development outcomes related to CE

Development of CE Activities and Indicators

Standards & Frameworks

Original number from the sources		
Standard	Actions	Indicators
UNECE	10	118
EU Monitoring Framework	--	27
ISO 59000	25	24
WBCSD	--	11
OECD	--	474

An Integrated Framework: Taxonomy and M&E

29 Actions

- **Direct Actions (22)**
  - Create added value (5)
  - Contribute to value retention (10)
  - Contribute to value recovery (6)
  - Regenerate ecosystems (1)
- **Enabling Actions (7)**
  - Support a circular economy transition (7)

105 Indicators

- **Direct (54)**
  - Material inputs & Consumption; Waste generation; Circularity of material flows; Water use; Energy use
- **Enabling (30)**
  - Taxes and government support; Innovation - R&D - entrepreneurship; Financial flows; Markets and trade
- **Sustainability impacts (21)**
  - Environmental; Social; Economic

Taxonomy for Circular Economy Activities

Direct		**Actions that create added value**	Design for circularity; Circular sourcing; Circular procurement; Process optimization; Industrial, regional, or urban symbiosis
		**Actions that contribute to value retention**	Reduce; Refuse; Reuse; Repurpose; Maintenance and repair; Performance-based approaches; Sharing; Refurbish; Remanufacture
		**Actions that contribute to value recovery**	Reverse logistics; Cascade; Recycle; Waste management; Material recovery; Energy recovery;
		**Actions to regenerate ecosystems**	Regeneration
Enabling		**Actions that contribute to value retention**	Education and research; Innovation; Collaboration and networks; Helping users change their behavior; Policy and legal system; Financial services; Digitalization

Measuring Circular Economy Outcomes

Category	Subcategories	#
Indicators for Measuring CE Direct Actions	Material inputs; Material consumption and productivity; Material accumulation; Waste generation; Circularity of material flows; Products diverted from the waste stream; Materials diverted from final disposal; Materials leaving the economic cycle; Water use; Energy use	54
Indicators for Measuring CE Enabling Actions	Taxes and government support; Measures encouraging efficient use of materials;; Measures to improve waste management and encourage waste reduction; Innovation, R&D, and entrepreneurship; Financial flows; Markets and trade	30
Indicators for Measuring Sustainability Outcomes of CE (environment, social, economic)	Impacts on natural resource stocks; Impacts on climate; Impacts on air quality; Impacts on water and soil quality; Impacts on biodiversity; Impacts on human health; Market development; Supply security	21

Definitions provided and calculations	1. **Directly** from the standard or framework 2. **Modified** by consultant 3. **Fully provided** by consultant
Scale of indicators	**Micro-level:** Applicable to products, projects, or organizational level; **Macro-level:** Applicable to national or regional level
Level of difficulty	**Beginner:** Calculating requires a few steps (2-3). Data likely readily available **Intermediate:** Calculating requires more than 3 steps and will need to follow a specific methodology or guidelines. Additional data needed. **Expert:** Calculating requires many steps, is likely to require a model (spreadsheet, software). Quality data is likely to be hard to find. The computed indicator is highly subject to different methodological choices.

Linking CE with ADB CRF Indicators

ADB CRF Indicators	Proposed CE-related Indicators	Calculation logic	Challenges and Limitations
Hectares (ha) conserved/restored/enhanced/sustainably managed	• **End-of-life:** Change in landfill area (ha) for final waste management	• Estimate the change in landfill area due to change in waste volume of a CE activity	• Landfill use based on volume, mass needs to be converted to volume by bulk density factor
	• **Natural resource extraction:** Change in area affected by resource extraction	• Estimate the amount of land area affected by the extraction of natural resources	• Subject to errors and assumptions: E.g. Continuous mining within the same land area affected
Investment (USD) that qualifies as nature finance	• Amount of investment (USD) linked to a defined CE activity that results in a reduction of natural resource consumption or waste generation	• Step 1: Identify activities in project that can be classified as CE • Step 2: Determine if the CE classified activity resulted in a change in direct natural resource consumption • Step 3: Calculate the amount of investment linked to CE-classified activity	• Direct versus indirect changes across life cycles and time period • Carefully deciding how much investment is linked to outcomes

Conclusions & Looking Ahead

CE Taxonomy and M&E Indicators	• Implementing CE effectively requires a common language • Developed CE taxonomy of 29 activities and 105 indicators for long-term adoption
Challenges and Limitations	• Many indicators at various levels of difficulty (calculation, data collection). Best for long-term adoption by ADB to be globally aligned. • Hectares-based indicator is good for standardizing environmental outcomes reporting for CRF. Challenge to apply to CE activities since most activities/outcomes are not measured in area-based units.
What's Next?	• ADB Staff Consultation on CE Mainstreaming: Tomorrow, 9 October, 1:30 - 3:30 pm, Room 6D217, All are WELCOME TO JOIN • Work package will end on 10 November 2025

THANK YOU!