New European Bauhaus Academy

Design Thinking and Green Skills for Common Futures

Module 3 – Green & Circular Skills

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Circular Bio-based Europe Joint Undertaking

Bio-based Industries Consortium

Co-funded by the European Union

This course is part of the **New European Bauhaus Academy South Hub**, designed to empower professionals, students, and young with future-ready knowledge and skills. Through participatory and interdisciplinary methods, the course integrates the core values of the New European Bauhaus: sustainability, inclusivity, and aesthetics.

Organized by:
SocialTech Lab (Coordinator, Cyprus)
SURF Lab (University of Cyprus, Cyprus)
Karma Mixed Reality Lab (Koç University, Turkey)
Ankara Aks Creative Hub (Turkey)

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Lecture 3.1
Introduction to Circular Economy

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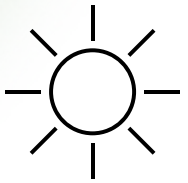
OUTLINE

Why Talk About Circular Economy?
The Linear Economy Model
Problems with the Linear Economy
Circular Economy: A New Model
Benefits of Circular Economy
Global Leadership
Everyday Examples
Reflection & Activity

Why Talk About Circular Economy?

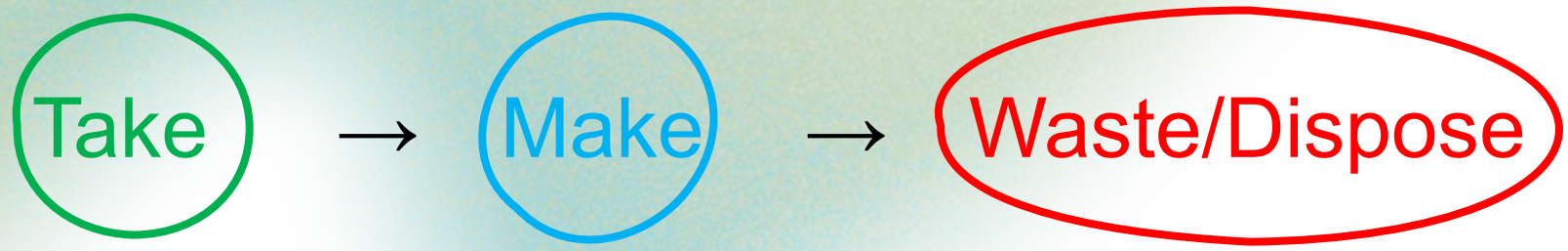
Rising waste volumes

Finite resources



Climate change urgency

Linear Economy Flow



Problems with the Linear Economy

Resource depletion

Waste accumulation

CO_2 emissions

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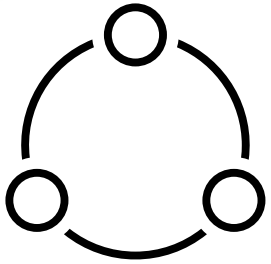
Circular Economy: A New Model

Core principles:

- Design out waste
- Keep materials in use
- Regenerate natural systems



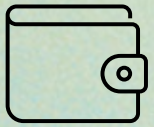
The circular economy model:
less raw material, less waste, fewer emissions

Source: European Parliament Research Service

Benefits of Circular Economy

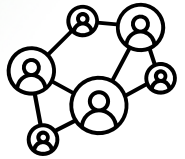
Environmental

less waste,
lower emissions



Economic

jobs, innovation,
efficiency



Social

resilience,
equity, inclusion

Leading the Transition to a circular Economy | Ellen MacArthur Foundation. (n.d.). https://www.ellenmacarthurfoundation.org/
Circular economy. (n.d.). Environment. https://environment.ec.europa.eu/strategy/circular-economy_en

Clothing rental

Repair cafés

Refillable packaging

Créer un Repair Café - Repair Cafés Hauts-de-France. (2025, September 22). Repair Cafés Hauts-de-France. https://repaircafe-hdf.org/creer-un-repair-cafe/

Reflection & Activity

Think of one product you used today — how could it fit into a circular system?

Could it be reused by more people?

Could it be repaired instead of replaced?

Could its parts be recycled or composted?

Lecture 3.2
Urban Sustainability & Green Competences

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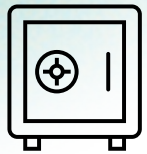
OUTLINE

Why Focus on Cities?
Urban Sustainability Challenges
Urban Sustainability Goals
Energy-Efficient Buildings
Renewable Integration in Cities
Water-Sensitive Urban Design
Nature-Based Solutions
Urban Metabolism Concept
Example: Copenhagen
Green Competences Needed
Reflection & Activity

Why Focus on Cities?

55% of population in cities

~70% of CO_2 emissions



80% GDP generated

World Health Organization: WHO. (2019, August 23). *Urban health*. https://www.who.int/health-topics/urban-health?utm_source=chatgpt.com#tab=tab_1
Seven Transformations for More Equitable and Sustainable Cities. (n.d.). World Resources Institute. https://publications.wri.org/transformations-equitable-sustainable-cities?

Urban Sustainability Challenges

- High energy demand
- Transport emissions
- Waste generation
- Water issues

Urban Sustainability Goals

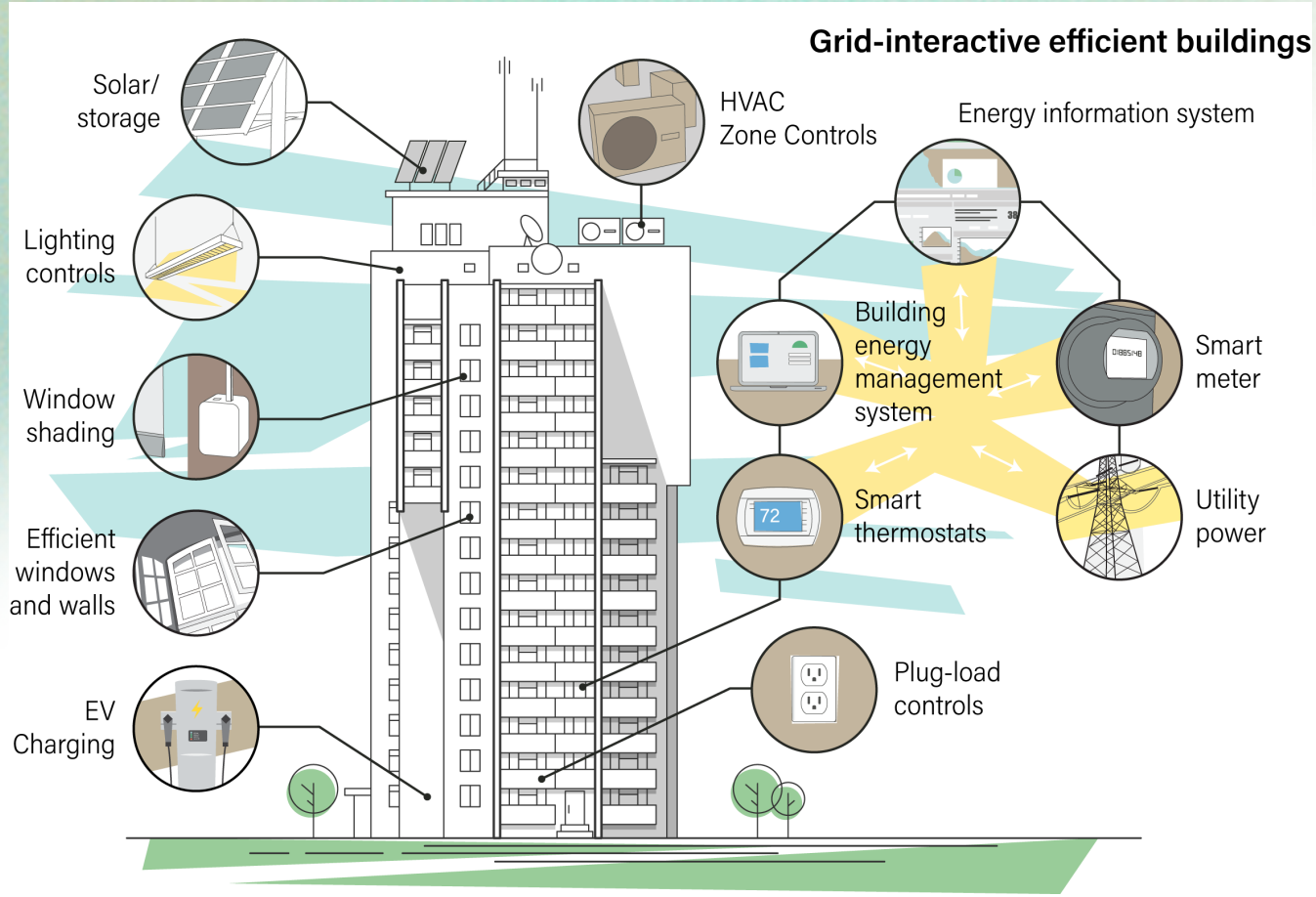
- Reduce emissions
- Improve efficiency
- Increase resilience
- Enhance livability

Energy-Efficient Buildings

Passive design

Insulation & glazing

Smart systems



Grid-Interactive Efficient Buildings (GEBs). (n.d.). ACEEE. https://www.aceee.org/grid-interactive-efficient-buildings-gebs

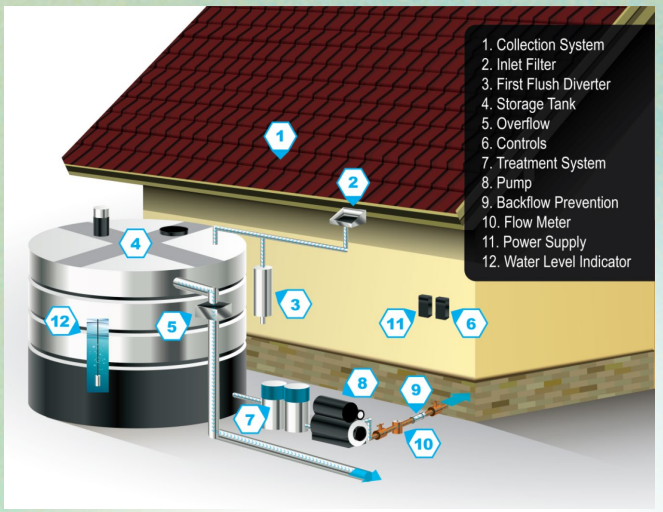
Renewable Integration in Cities

Rooftop solar panels

Urban wind turbines

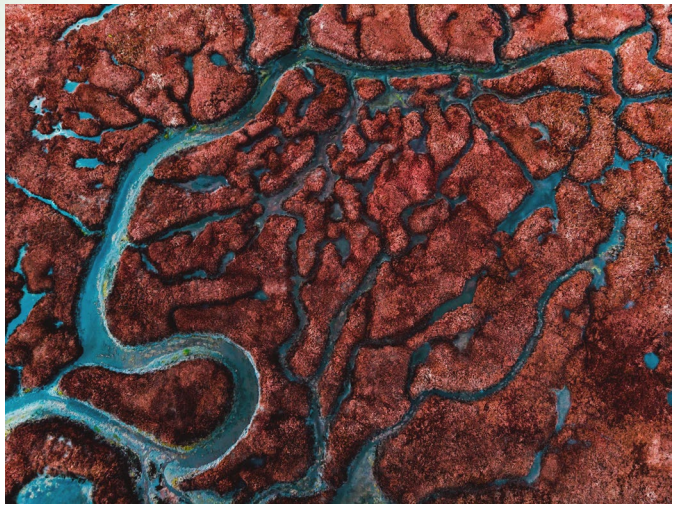
District systems

Water-Sensitive Urban Design



Rainwater harvesting

Permeable pavements



Wetlands

Rainwater Harvesting Systems Technology Review. (n.d.). Energy.gov. https://www.energy.gov/femp/rainwater-harvesting-systems-technology-review

Sustainable Technologies Evaluation Program (STEP). (2021, November 4). *Permeable pavement - Sustainable Technologies Evaluation Program (STEP)*. https://sustainabletechnologies.ca/home/urban-runoff-green-infrastructure/low-impact-development/permeable-pavement/

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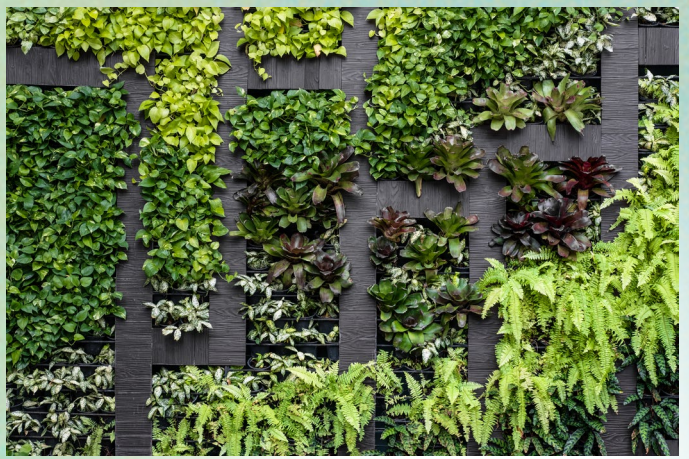
Nature-Based Solutions

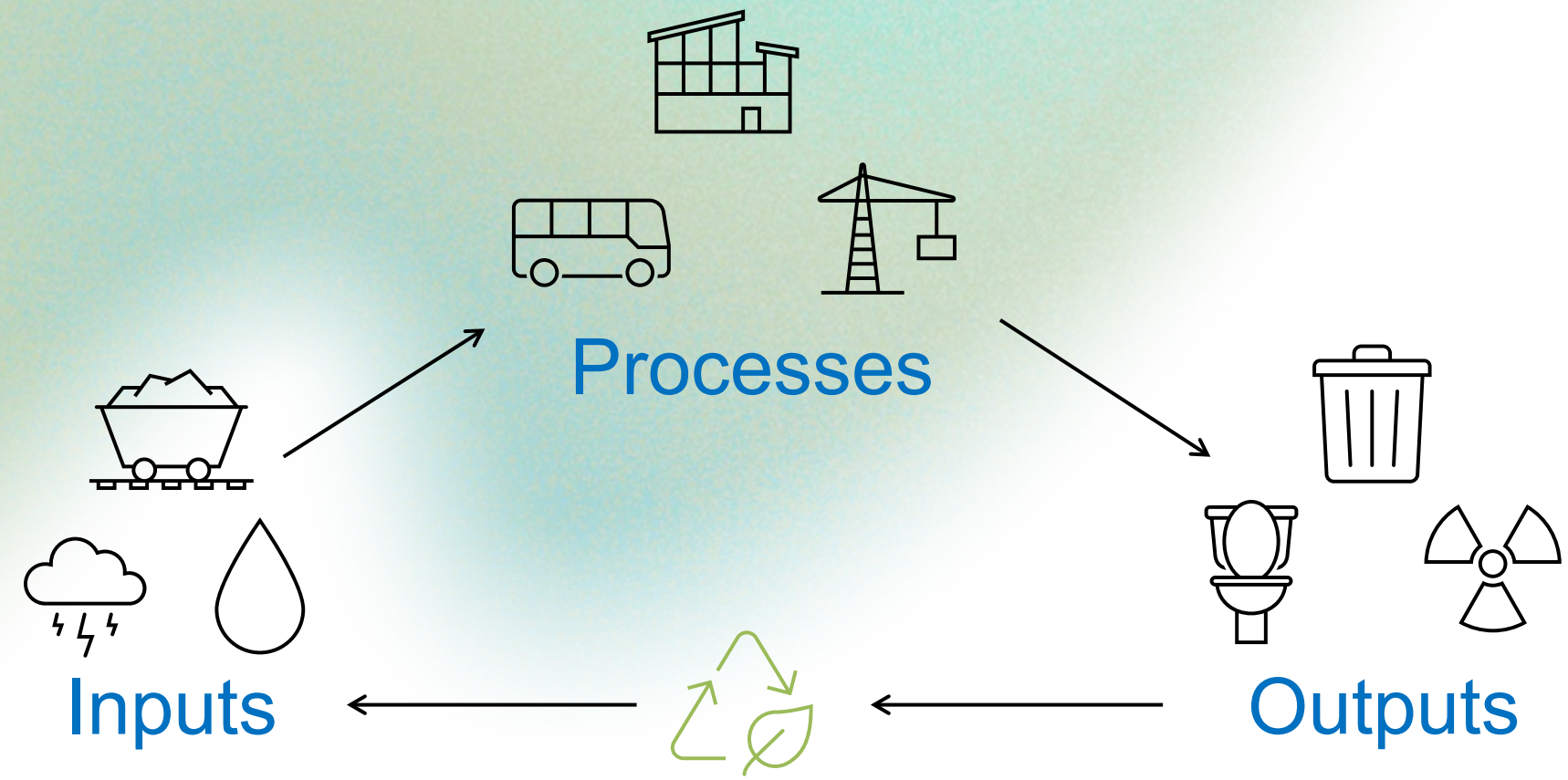


Green roofs & walls

Urban forests

Ecological corridors

Urban Metabolism Concept



Example: Copenhagen

The city has:

- Cycling superhighways
- District heating
- Climate adaptation plan

Reflection & Activity

What three *green skills* are most relevant to your profession?

Lecture 3.3
Systems and Practices of Circularity

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OUTLINE

Core Strategies of Circular Design
Design for Longevity
Design for Disassembly
Business Model Innovation
Life Cycle Assessment (LCA)
Everyday Circular Practices
Reflection & Activity

Core Strategies of Circular Design

Reduce resources

Design for reuse/repair

Close loops

Design for Longevity

Durable materials

Modular design

Timeless aesthetics

Design for Disassembly

Easy separation

Standardized connections

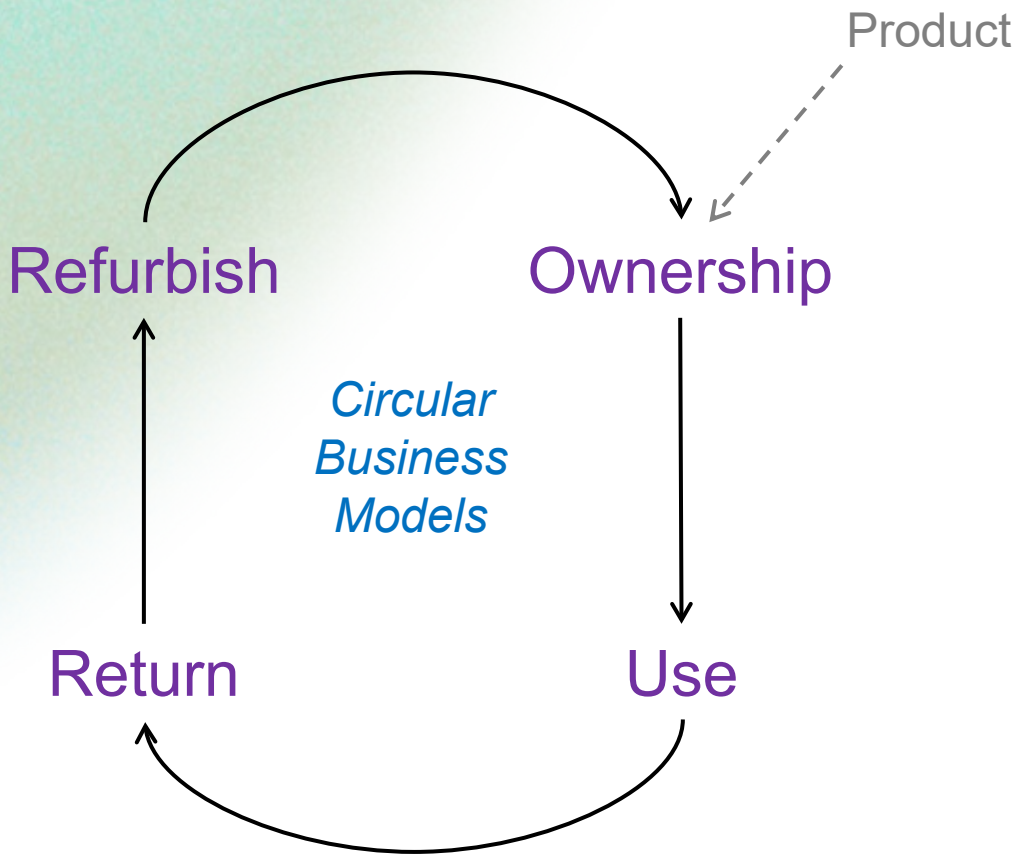
Clear recycling paths

Business Model Innovation

Product-as-a-service

Leasing

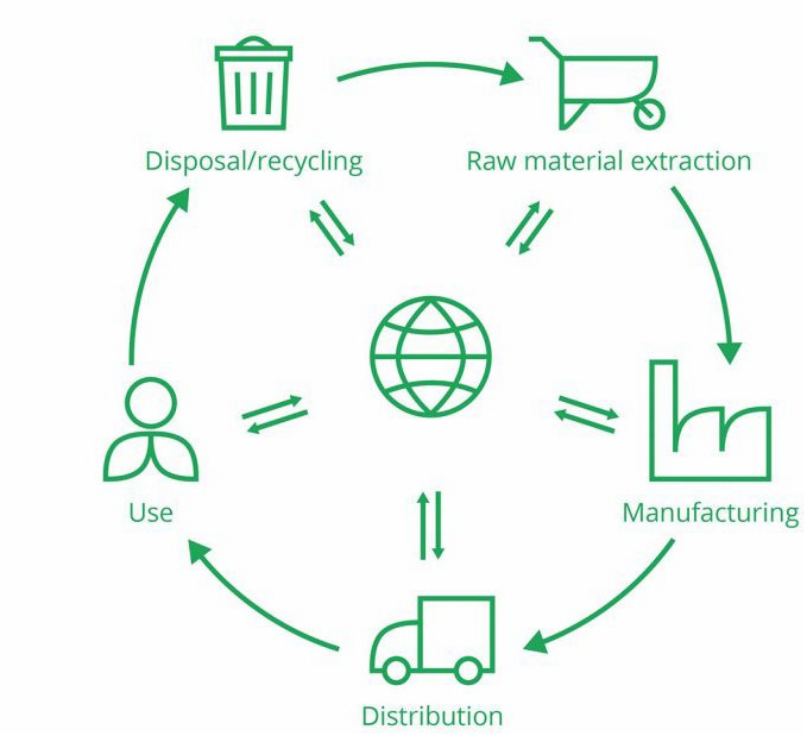
Take-back



Life Cycle Assessment (LCA)

An LCA looks at the full ‘cradle-to-grave’ journey of a product:

- Extraction of raw materials
- Manufacturing and transport
- Use by the customer
- End of life (reuse, recycling, or disposal)



Life Cycle Assessment (LCA) explained - PRé Sustainability. (2025, July 21). PRé Sustainability. https://pre-sustainability.com/articles/life-cycle-assessment-lca-basics/

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Everyday Circular Practices

Repair

Sharing

Composting & recycling

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Reflection & Activity

How can you apply *circular practices* in your current project or workplace?

Lecture 3.4
Green Skills for Professionals

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OUTLINE

What Are Green Skills?
Technical Skills
Creative Skills
Managerial Skills
Social Skills
Green Skills Wheel
Building Your Own Toolkit
Checklist Exercise

What Are Green Skills?

Competences for sustainability

Multi-disciplinary

Lifelong learning

Technical Skills

Energy modeling

Renewable integration

Life Cycle Assessment (LCA)

Creative Skills

Biomimicry

Material innovation

Systems creativity

Managerial Skills

Circular procurement

Systems thinking

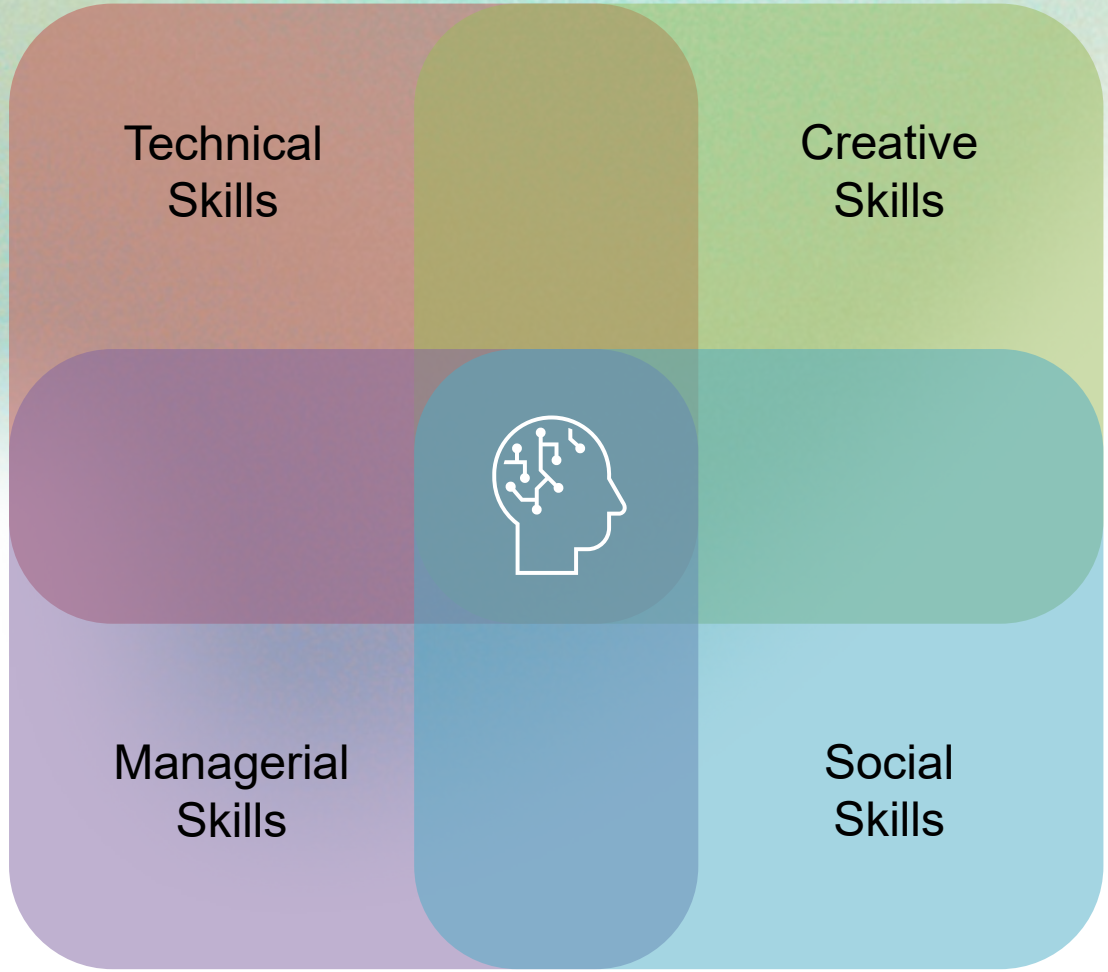
Policy alignment

Social Skills

Stakeholder engagement

Co-design

Communication



Green Skills

Building Your Own Toolkit

Identify strengths

Target gaps

Lifelong learning

Checklist Exercise

Create 5–7 skill checklist.

*Think about your current profession or your future career path. Write down **5–7 skills** that you believe are most important for your role.*

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