RESOURCE MANAGEMENT IN CIRCULAR ECONOMY

SMEs WEBINAR #1

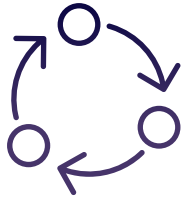
Towards a circular economy: closing the loop in resource management for SMEs in Egypt

environmental & energy services masader

European Bank for Reconstruction and Development

Supported by The European Union

Webinar Outline



Circular Economy - what does it mean and why it matters

Case Studies

Frameworks and Tools

Ensuring compliance - SDGs, ESG , Certification & Standardization

Circularity opportunities for SMEs

Circular Business Model - and what does it take to get there - Financeable circular business

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CIRCULAR ECONOMY
Introductory Quiz

European Bank
for Reconstruction and Development

CIRCULAR ECONOMY
why it matters and where to start?

Linear Approach

Linear Economy Doesn't Work

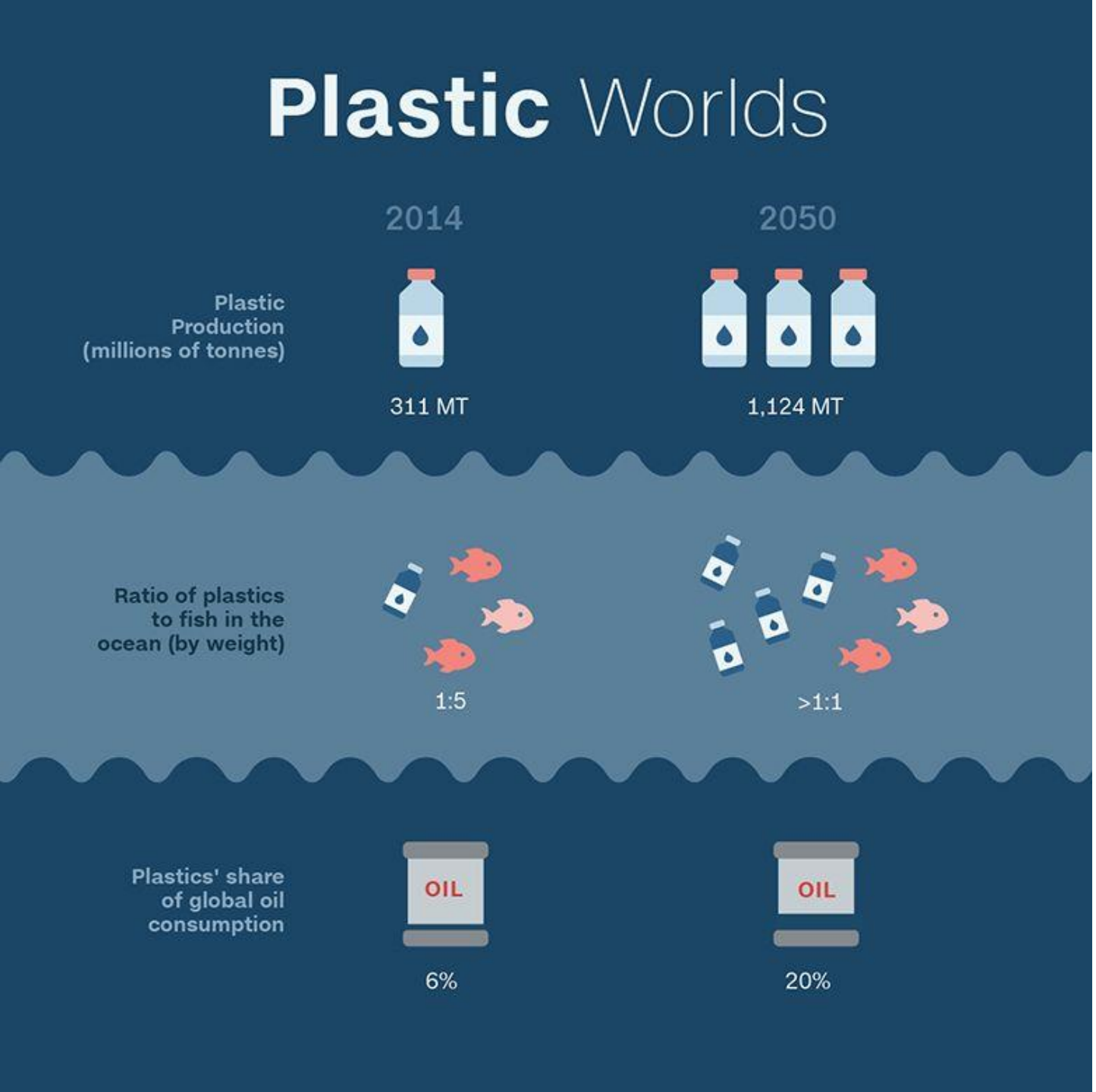
30% of food is wasted globally

Cars are used only 8% of the time

Offices are unused 35-50% of the time

Only 14% of plastic packaging is recycled

EMF, 2020



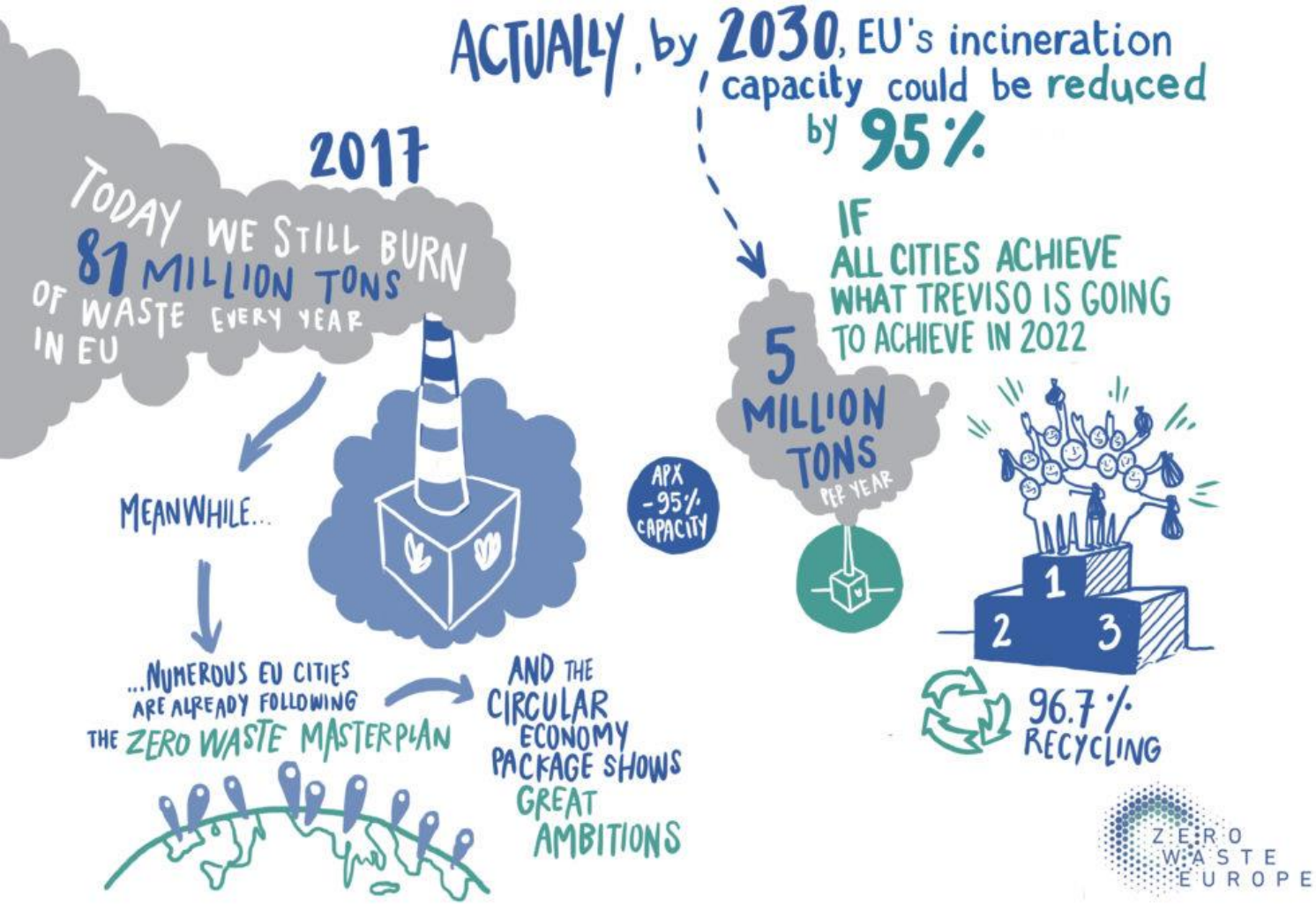
1,124

Million tons of plastics will float in the oceans by 2050

173 of The Great Pyramid of Giza (Khufu) in weight

1333 of The Great Pyramid of Giza (Khufu) as volume (compacted plastic waste)

Waste Incineration Is The Opposite To Circular Economy



Circular economy is not about treating waste…

It is about discovering the true value of materials

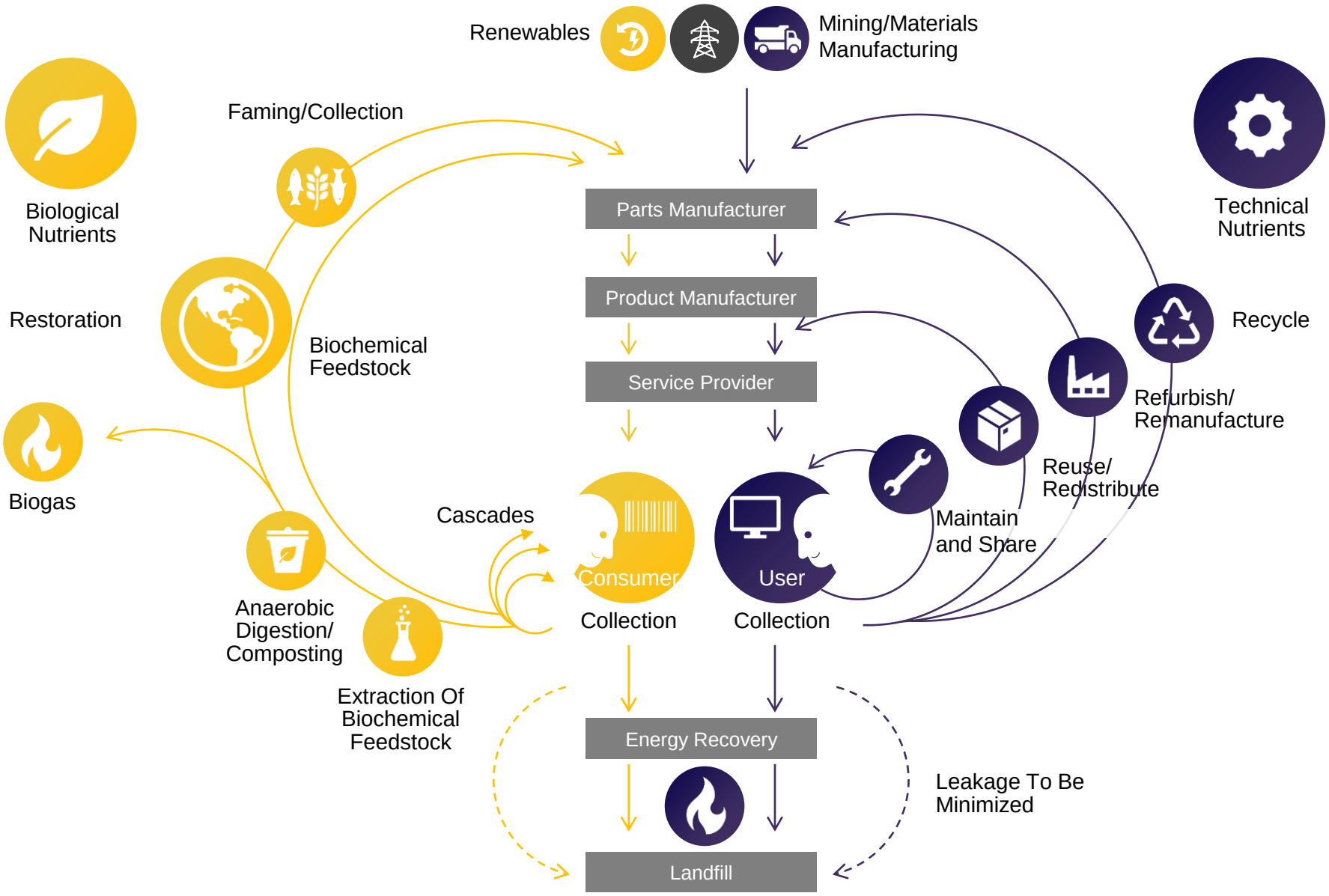
Zero Waste Europe, 2018

Principles of Circular Economy

TAKE - MAKE - USE - DISPOSE - POLLUTE

Simple Circular Economy Concept

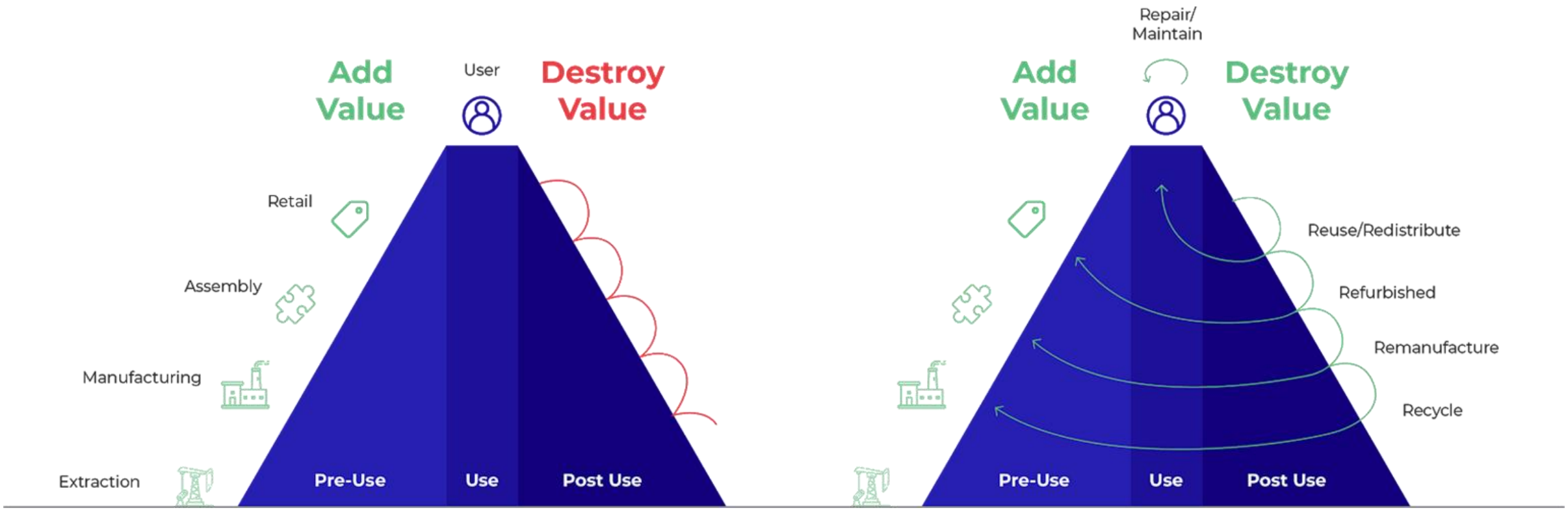
Defining circular economy : Biological and Technical Nutrients



EMF, 2017

The Value Hill

We should strive to keep the products “on the hill” for as long as possible at their highest value



Circle Economy, 2016

CIRCULAR ECONOMY DEFINITION

An economic system which is not linear (Take- Make – Dispose)

that aims to minimize the use of non-renewable resources

cut out waste,

keep products and materials in use, Reuse--Cascade
Refurbish -Remanufacture
Recycle

and regenerate natural systems

Resources For A Circular Economy

Bio-based resources — e.g. sugar-based plastic

Biodegradable resources — e.g. cotton

Compostable resources — e.g. grass clippings

Metals

WBCSD, 2017

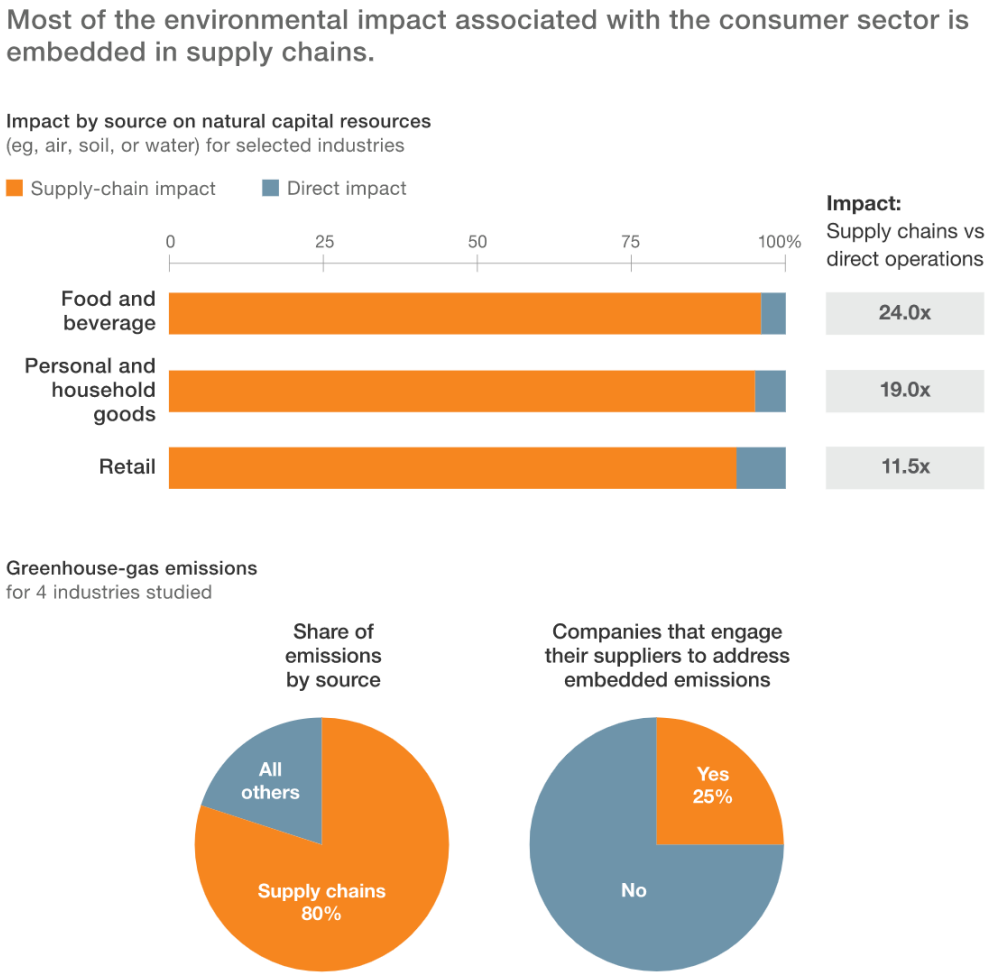
Upcycling, Recycling, and Downcycling

Environmental Impacts

Environmental Impact is any adverse or beneficial change to the environment caused by a facility's activities, products, or services. It is the effect our actions have on the environment.

Circular supply chains can leverage the transition.

Companies know it, yet action is just starting to emerge.



McKinsey & Company, 2017

LCA scope and inventory

Accounting for what comes in, what happens to it, and what goes out.

Inputs

Water

Energy

Land

Recycled materials

Chemicals

Processes

Outputs

Emissions

Solid waste

Wastewater

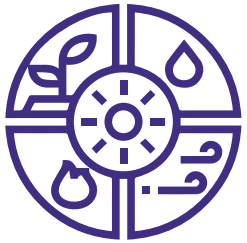
Main product

Co-products

ISO 14040:2006

Lifecycle Analysis

Human Health



Resources

Ecosystem

- Global Warming
- Water Consumption
- Land Use
- Ozone Formation
- Fine Particulate Matter Formation
- Human Carcinogenic Toxicity
- Mineral & Fossil Scarcity

Circular Economy Is An Immense Opportunity

Circular business models make companies more profitable and resilient in the long term, while benefiting society at large. And the transition is already underway.

48% reduction in GHG emissions by 2030

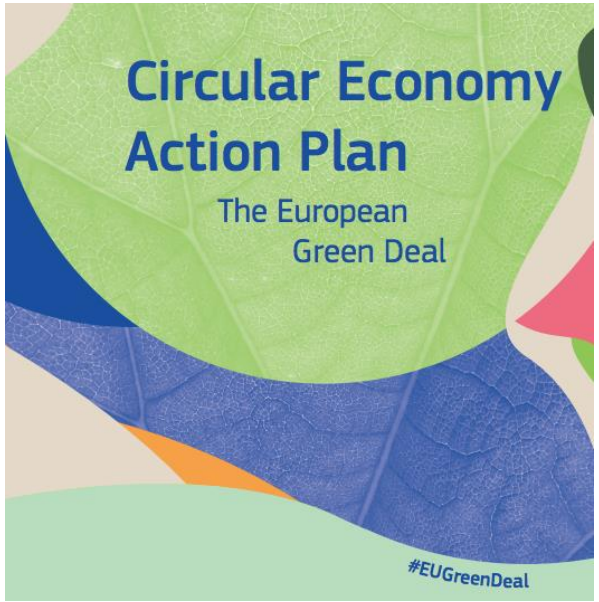
18% growth in household incomes by 2030

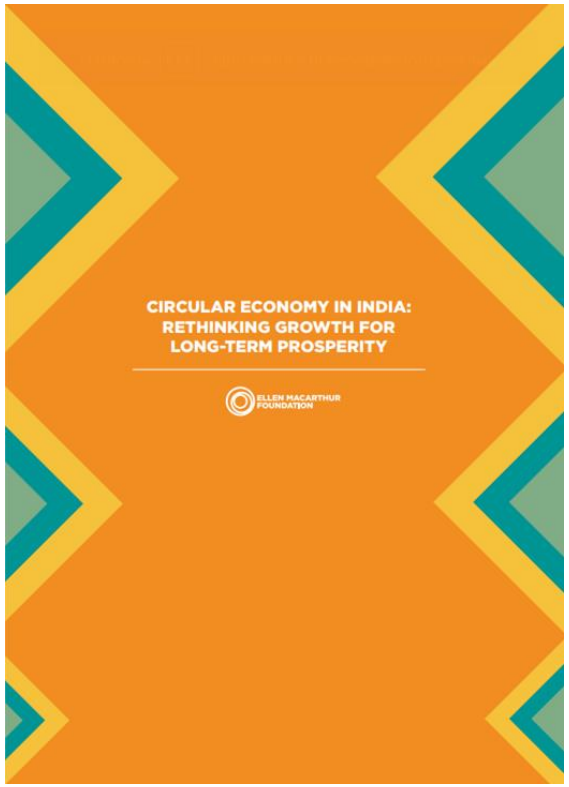
25$ trillion saving by 2050

a thriving economy, aligned with nature

EMF, 2020

Circular economy is gaining prominence globally





EC, 2020 / Godina et al., 2018 / EMF, 2016 / Circle Economy, 2018

Circular economy requires business leadership

From less bad to only good is the new normal

- Microsoft pledged to go carbon-negative by 2030 without offsetting its emissions
- Starbucks to give more than it takes
- "Purpose Beyond Profit" and long term reputation more important than short-term profits – Apple promoting repair even if it limits their growth

More than 7000 organizations report to CDP

They represent over 50% of the value of global capital markets

UNGC, 2019

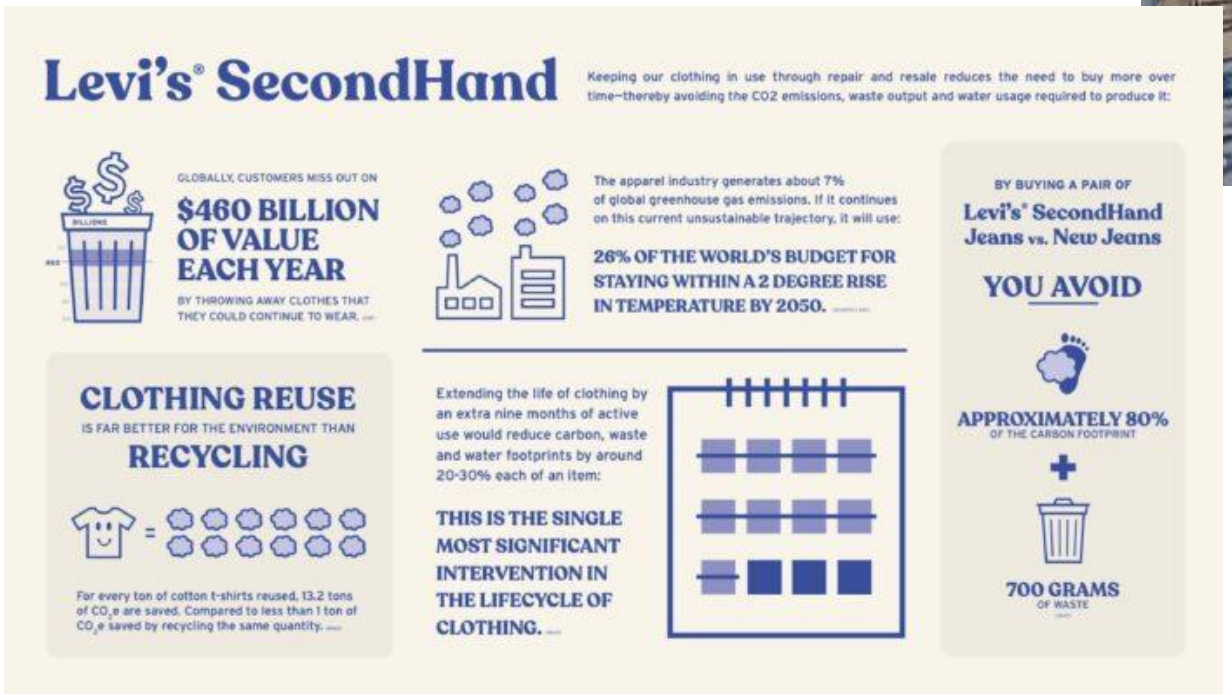
Circular economy gives clean labels a fresh start

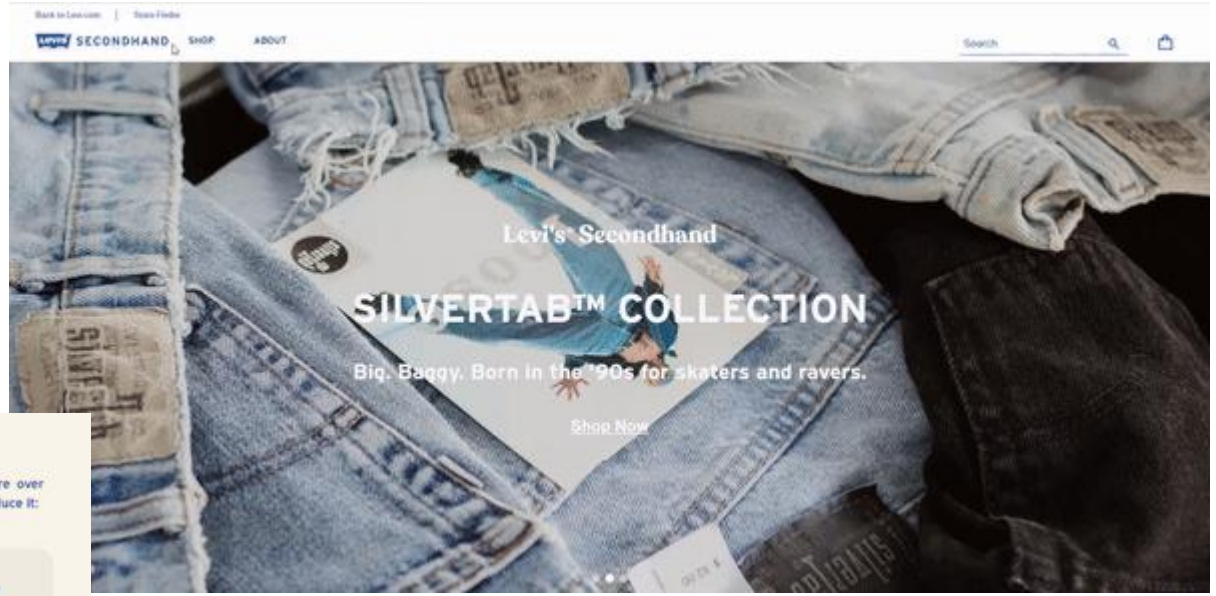
Nestle, 2020

Circular economy gives clean labels a fresh start

Consumers face “clean label overload”

Brands should look beyond clean labels and make sure their brand and reputation resonate with sustainability and circularity. Consumers want the whole company to be good, not a single campaign or a single product.

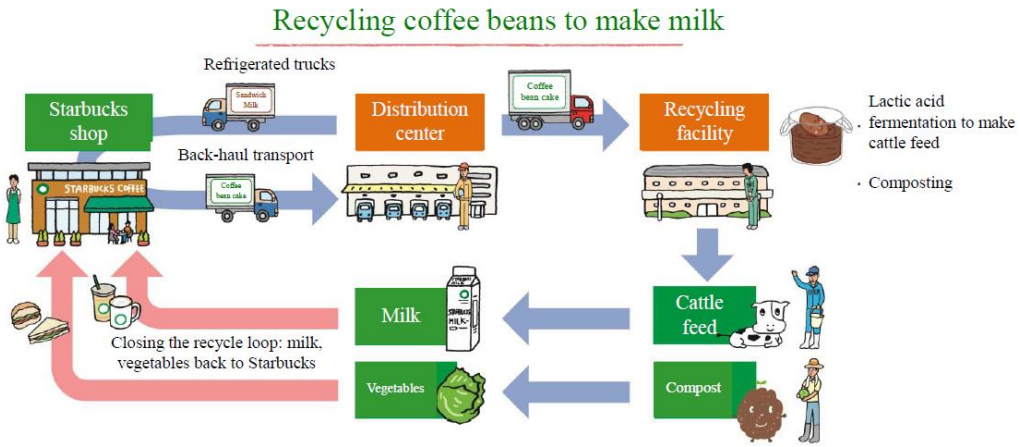




SECONHAND LEVIS, 2020

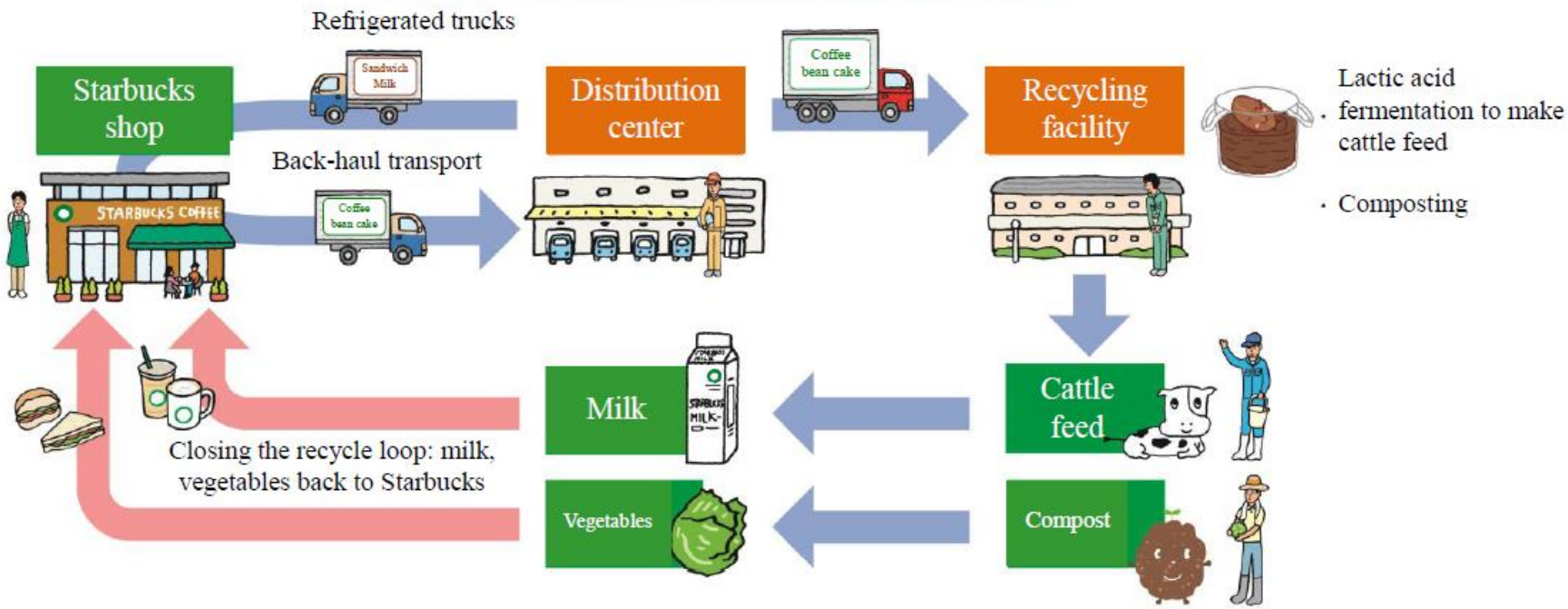
Cascading And Repurposing Coffee Waste

Starbucks has been delivering coffee waste as a free soil enhancer for its customers' gardens since 1995. Coffee grounds have also been used as feed for cows that produce milk for the company.



Lüdeke-Freund, Gold & Bocken, 2018 / GroCycle

Recycling coffee beans to make milk



- Lactic acid fermentation to make cattle feed
- Composting

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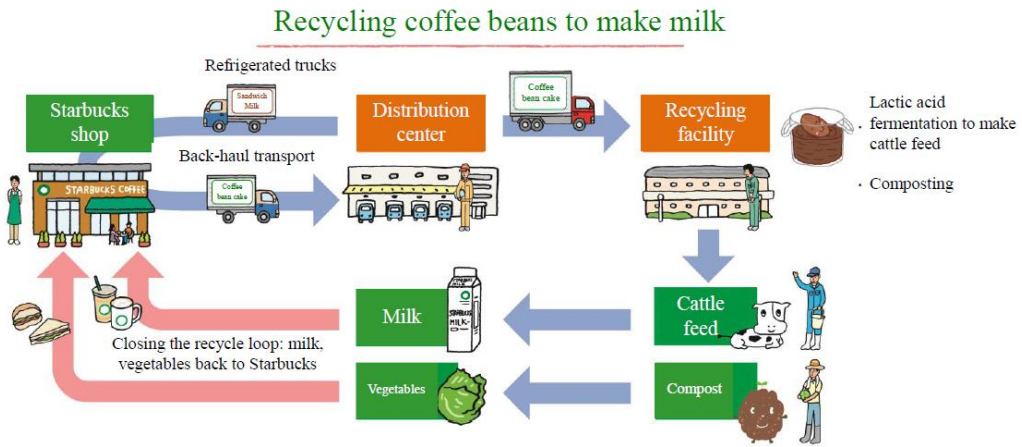


Lüdeke-Freund, Gold & Bocken, 2018 / GroCycle

Ecovative – BIO PACK

“From spore to slab, the entire process only takes around ten days”

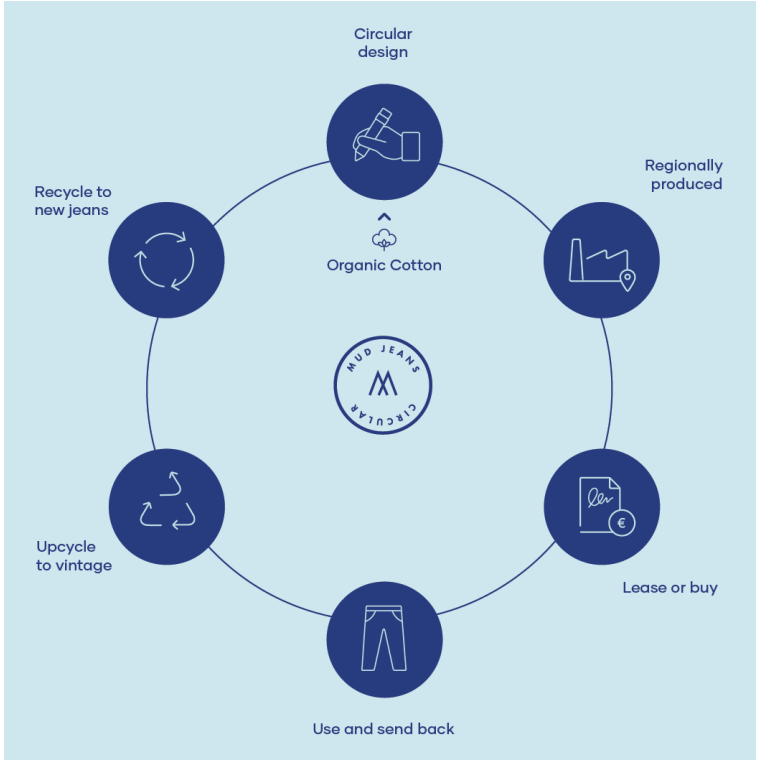
Ecovative grows materials that are compatible with Earth, collaborating with companies to create plant-based meat and biodegradable packaging.

Our MycoComposite™ platform uses mycelium, the root structure of mushrooms, to bind together organic agricultural by products, such as wood chips, to produce durable, bio-based and 100% compostable materials.

MUD Jeans

MUD Jeans, within the fashion industry since 2012, has adopted circular economy to their business.

- MUD Jeans uses **only 581 litres of water** to produce one pair of jeans, compared to the industry standard of 7,000 litres.
- New denim fabrics are made out of collected **post-consumer jeans**.
- Global Organic Textiles Standard (GOTS) certified cotton



SECONHAND LEVIS, 2020

Building circular industrial systems: Kalundborg Symbiosis

Linearity challenge

Resource scarcity, inefficient use of resources, increase in commodity prices.

Circular Solution

Exchange of material, water, and energy streams between 9 public and private companies.

Making it happen

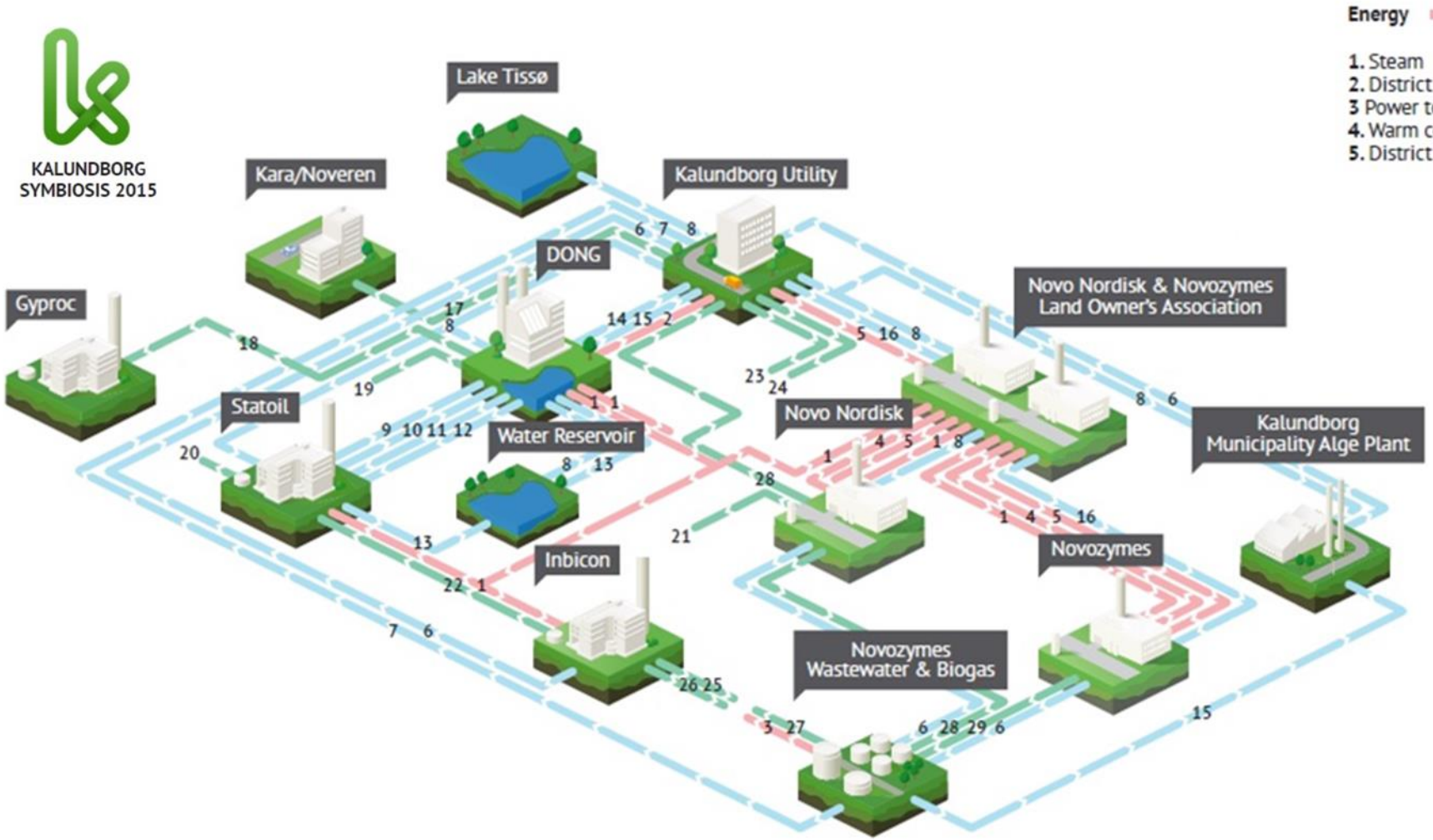
A residue from one company becomes a resource at another through algae production facilities, bio-ethanol production and steam and air conditioning supply.

Outcomes - annual savings

24 mln € bottom-line and 14 mln € socio-economic
635,000 tCO2
3,6 mln m3 water
100 GWh of energy
87,000 tons of materials

Kalundborg Symbiosis, 2020

Building circular industrial systems: Kalundborg Symbiosis



[Kalundborg Symbiosis, 2020]

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FRAMEWORKS AND TOOLS

that make circular economy spin

SUBSTITUTION

Using different materials to achieve the same goal.

DEMATERIALIZATION

Using less of a resource to serve the same economic function in society.

BSI 8001:2017

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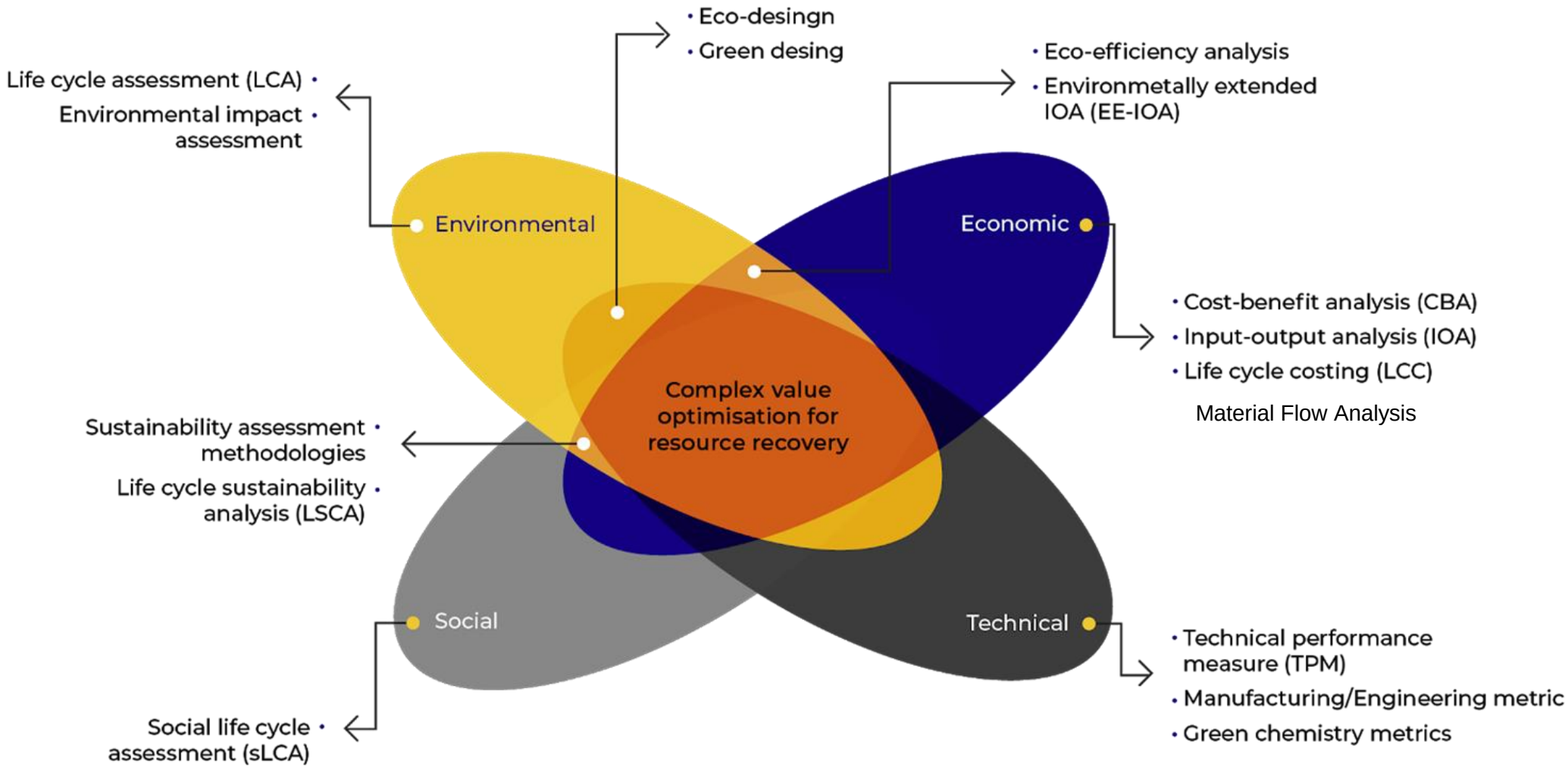
Circularity challenges require tools that don't simply optimize the current system but also allow to rethink it and create a new one

Choosing the right tool is not always easy



Iacovidou et al., 2017

ReSOLVE framework

The framework provides a visual and conceptual approach for understanding opportunities for circular transition

EMF, 2015

European Bank
for Reconstruction and Development

“There is an endemic habit to require virgin materials, but this is often unnecessary: quality and performance should be the leading drivers of material choice and design”

Jan-Paul Kimmel,
CLAUT

Circular Design Approaches

Biomimicry

The design of products and systems that are inspired by and modelled on existing biological processes, which have feedback built in.

Eco-design

Systematic integration of environmental aspects into product design to reduce its impact through its entire life cycle.

Modular design

Enables companies to separate and replace modules that are used intensively from variant introductions and performance upgrades, improving maintenance services and allowing for module return, recovery and reuse.

Bringing Office Furniture Full Circle: Ahrend

Circular Solution

Ahrend makes office furniture products with modularity, disassembly, and life extension in mind. Repair, upgrades, and modifications are easily achieved so that every single product can have multiple lives.

Making it happen

Ahrend offers customers **furniture-as-a-service (FAAS)** where customers pay a monthly fee and return the furniture when they no longer need it.

Outcomes

- ✓ Reduction in material use and carbon emissions
- ✓ Closer relationships with customers
- ✓ Higher profit
- ✓ More secure supply chain
- ✓ Lower office set up costs and
- ✓ More flexibility in a fast-changing business environment.

Ahrend / EMF

Implementing A Circular Transition: Reentry

Interface – changed its business model by applying **DEMATERIALIZATION**

→ Commercial carpet “sold” as a service.

→ Carpet separated into smaller easily replaceable square sections.

→ Carpet square is reused to make a new carpet square.

→ Customer doesn’t own the carpet, customer is benefitting from a carpet service.

Interface, 2020

Take-Back Program: DESSO

DESSO Carpet

→ 100% recyclable within its own production process.

→ 75% made of recyclables from the drinking water industry.

→ Take back programme to collect post-consumer carpet tiles.

→ All non-recyclable components are reused

Circular economy and green buildings: Royal Herbs

Linearity challenge

Buildings produce waste during construction and operation while consuming a significant amount of water and energy.

Circular Solution

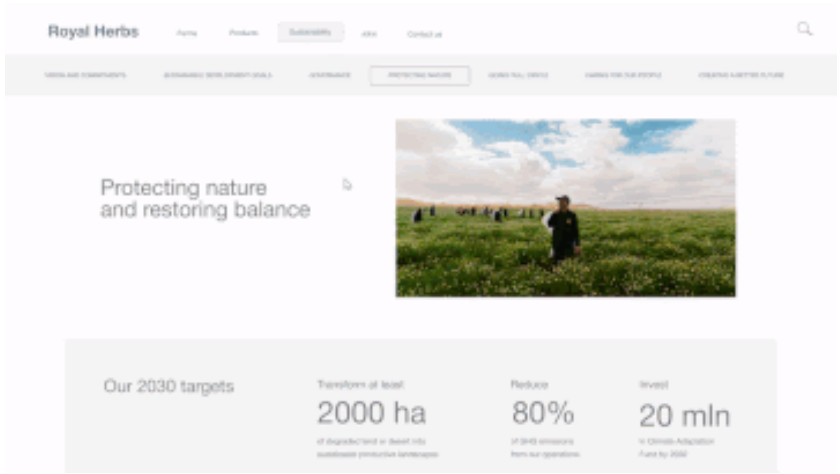
The new factory and administrative building in Sadat city were designed for renewable energy and resource efficiency, using sustainable building materials and managing construction and demolition waste. A similar approach was applied to the construction of residential buildings for workers.

Making it happen

Acquiring own farms allowed the company to reduce supply chain complexity, gain better control over facilities and improve traceability.

Outcomes

Sadat: 20% energy savings, 60% water savings
Residential: 35% energy savings, 25% water savings



Royal Herbs, 2020

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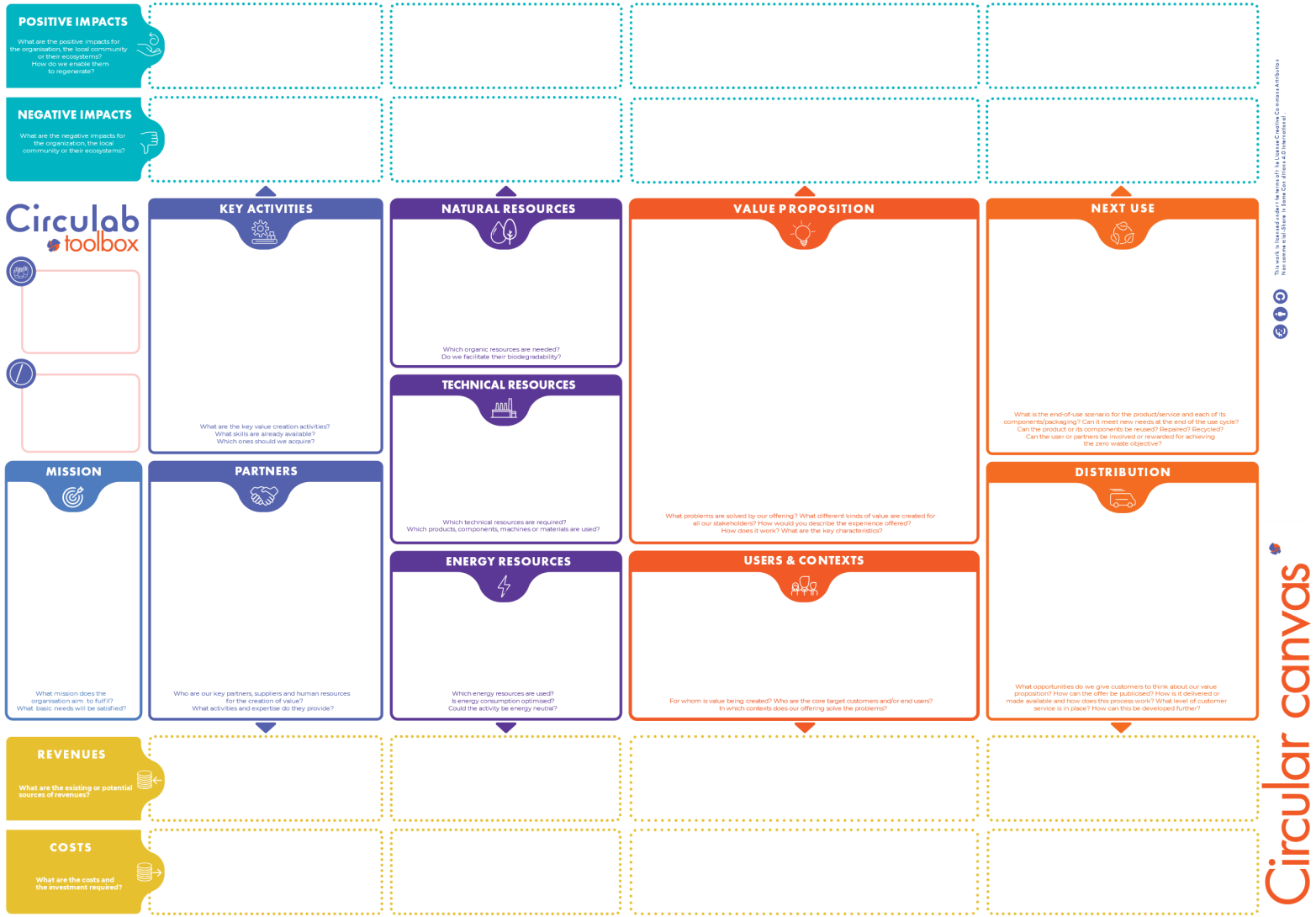
CIRCULAR BUSINESS MODEL

and what does it take to get there

Circular Business Model Canvas

The canvas developed by Osterwalder & Pigneur has been adapted to ask crucial questions and seek productive answers to transform business towards circularity



POSITIVE IMPACTS

What are the positive impacts for the organisation, the local community or their ecosystems? How do we enable them to regenerate?

NEGATIVE IMPACTS

What are the negative impacts for the organization, the local community or their ecosystems?

KEY ACTIVITIES

Circulab

Circulab toolbox

KEY ACTIVITIES

What are the key value creation activities?
What skills are already available?
Which ones should we acquire?

NATURAL RESOURCES

Which organic resources are needed?
Do we facilitate their biodegradability?

TECHNICAL RESOURCES

Which technical resources are required?
Which products, components, machines or materials are used?

ENERGY RESOURCES

Which energy resources are used?
Is energy consumption optimised?
Could the activity be energy neutral?

MISSION

What mission does the organisation aim to fulfil?
What basic needs will be satisfied?

PARTNERS

Who are our key partners, suppliers and human resources for the creation of value?
What activities and expertise do they provide?

NATURAL RESOURCES

Which organic resources are needed?
Do we facilitate their biodegradability?

TECHNICAL RESOURCES

Which technical resources are required?
Which products, components, machines or materials are used?

ENERGY RESOURCES

Which energy resources are used?
Is energy consumption optimised?
Could the activity be energy neutral?

VALUE PROPOSITION

What problems are solved by our offering? What different kinds of value are created for all our stakeholders? How would you describe the experience offered? How does it work? What are the key characteristics?

USERS & CONTEXTS

For whom is value being created? Who are the core target customers and/or end users? In which contexts does our offering solve the problems?

NEXT USE

What is the end-of-use scenario for the product/service and each of its components/packaging? Can it meet new needs at the end of the use cycle? Can the product or its components be reused? Repaired? Recycled? Can the user or partners be involved or rewarded for achieving the zero waste objective?

DISTRIBUTION

What opportunities do we give customers to think about our value proposition? How can the offer be publicised? How is it delivered or made available and how does this process work? What level of customer service is in place? How can this be developed further?

Circular Business Model Canvas

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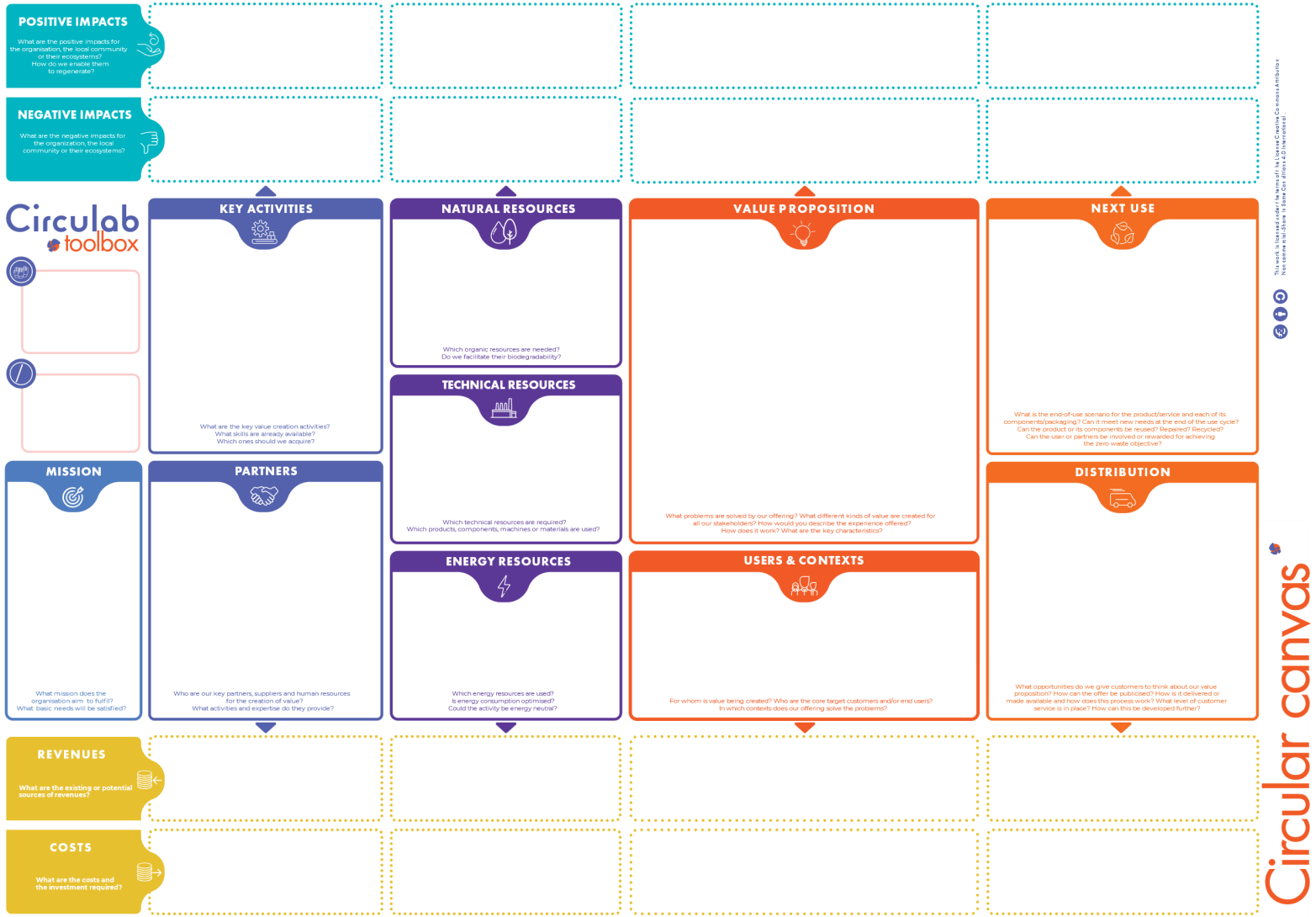


Circular Economy Requires Robust Business Models

Value proposition e.g. Product Design	Value capture e.g.Incentive for return/repair/…	Value creation and delivery e.g. Supply chain	Example Office furniture	Economically sustainable e.g. Profit	Environ-mentally sustainable e.g. CO_2 footprint	Socially sustainable e.g. Jobs created
L	L	L	Traditional office furniture manufacturer	=	=	=
L	L	C	Recycling of returned furniture	-	+	=
L	C	L	Discount for returning old furniture, disposal by retailer	-	=	=
L	C	C	Discount for returning old furniture, recycling of conventionally designed furniture by manufacturer	-	+	+
C	L	L	Product design that uses recycled materials purchased from third parties	=	=	+
C	L	C	Recycling of returned furniture, product design that makes use of recycled materials	+	+	=
C	C	L	Discount for returning furniture, disposal by retailer, third party recycled materials in product design	=	=	=
C	C	C	Discount for returning furniture, in-house recycling, product design that uses recycled materials	+	+	+

+ Positive influence = Little influence - Negative influence

Geissdoerfer et al., 2018

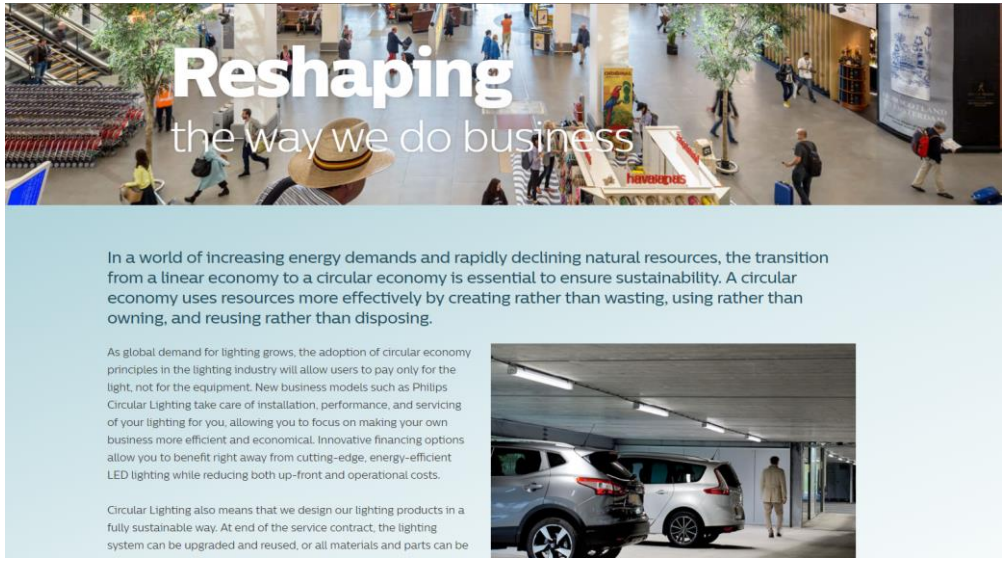
PHILIPS LIGHTING

→ Lighting as a service. (customers pay for the light not the equipment)

→ Philips provides installation, performance, and lighting services.

→ All materials can be repurposed.

→ Designed for easy maintenance and replacement in a way that extends the product's life.



What Philips Circular lighting means for your business

- **Long-term savings**
  Reduce your energy and maintenance costs by up to 60% with higher returns on long-term contracts
- **Hassle-free lighting**
  We'll handle everything for you, from lighting design to guaranteed performance
- **No upfront investment**
  Achieve instant annual savings
- **Upgradability**
  20% more cost-effective upgradability and improved access to energy-efficient products
- **Maintenance**
  12% more effective maintenance and serviceability
- **Modular design**
  for easy disassembly and recycling
- **Support in managing end-of-life lighting installations**
  with minimal environmental impact

PHILIPS

European Bank
for Reconstruction and Development

CREATING BRIDGES AND ENSURING COMPLIANCE

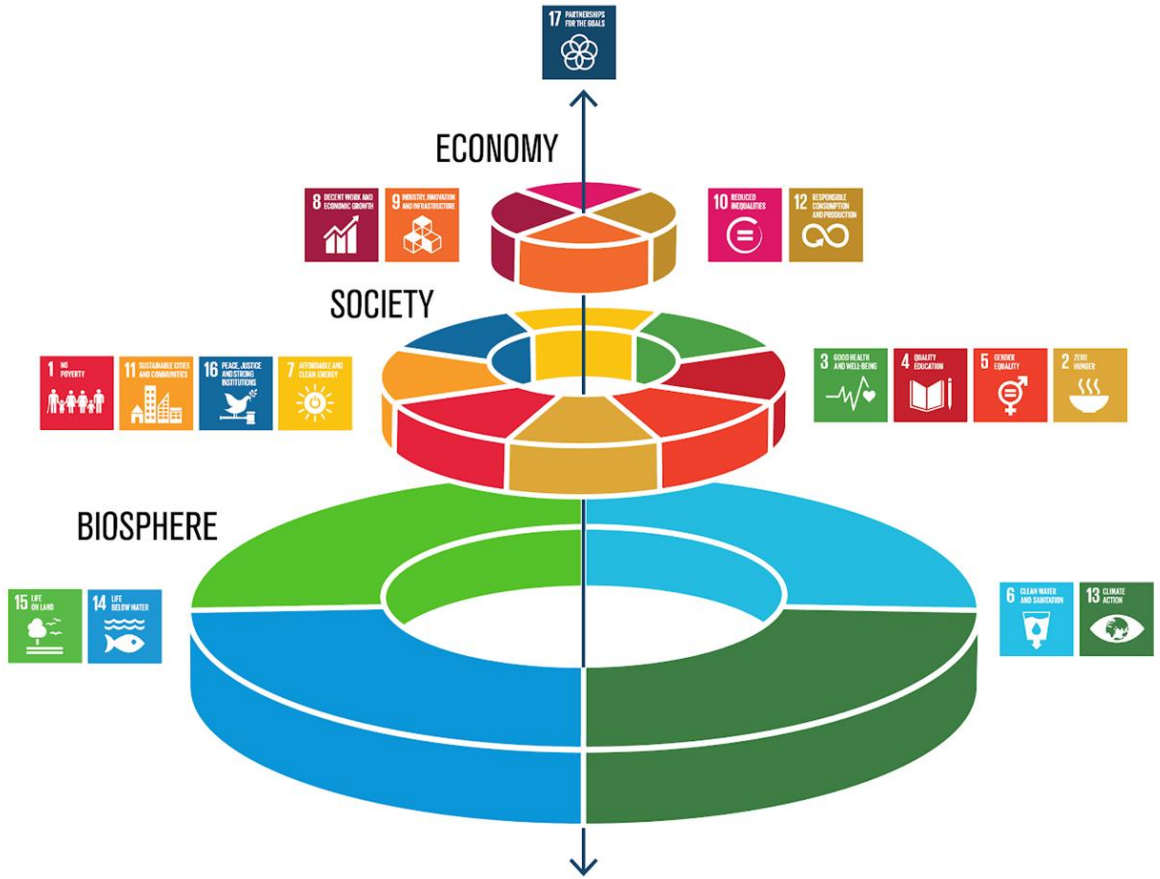
SDGs, ESG topics, certification and standardization

Sustainable Development Goals (SDGs)

The SDGs have been adopted by the UN in 2015 and are the most significant global framework to date setting shared development priorities by 2030.

They form the basis of sustainability efforts across countries and industries and help to strategically address pressing global challenges.

There are 17 goals and 169 specific targets. They are linked in complex ways, often generating synergies and trade-offs.



Stockholm Resilience Centre, 2016

Synergies between SMEs and SDGs

SMEs are the predominant form of business and employment. They are key actors for promoting more inclusive and sustainable development, increasing economic resilience and improving social cohesion.

SME-targeted jobs alleviate poverty

Smallholder farmers are vital for food security

Women-led SMEs improve gender equality

USD 1.2 trillion potential for cleantech SMEs

SMEs drive climate innovation

SMEs enhance local resilience and sustainability

Environmental, governance and social (ESG) topics

ESG topics

encompass non-financial sustainability impacts that influence investment decisions, business performance and social license to operate. Responsible investors and banks check companies out using ESG criteria to screen investments.

Governance	Social	Environmental
Business model	Labour and working conditions	Ecosystems
Strategy	Health and safety	Biodiversity
Integration	Human rights	Climate change
Policies and codes	Employee welbeing	GHG emissions
Supply chains	Diversity and inclusion	Air quality
Investment and finance	Training and education	Pollution
Assessment and monitoring	Indigenous peoples	Land and soil
Standarts and certifications	Career development	Raw materials
Anti-corruption and bribery	Community engagement	Energy use and renewables
Transparency and accountability	Gender equality	Water and wastewater
Freedom of association	Customer safety and relations	Solid and hazardous waste
Reporting	Poverty reduction	Noise levels

Robeco, 2017 / CIB/Masader, 2020

ESG core topics according to World Economic Forum

Transition to a circular business model can improve performance on 19 / 22 ESG metrics

Pillar	Theme	Sub-themes, Core Metrics and Disclosures	Sources
Principles of Governance	Governing Purpose	**Setting purpose** Whether the company has a stated purpose linked to societal benefit and their core business	GRI (102-26), EPIC, Colin Mayer and others
	Quality of Governing Body	**Board composition** Composition of the highest governance body and its committees by: executive or non-executive; independence; tenure on the governance body; number of each individual's other significant positions and commitments, and the nature of the commitments; gender; membership of under-represented social groups; competencies relating to economic, environmental and social topics; stakeholder representation	GRI (102-22), GRI (405-1a)
	Stakeholder Engagement	**Impact of material issues on stakeholders** A list of the material topics identified in the process of defining report content and how they impact stakeholders	GRI 102-47
	Ethical Behaviour	**Anti-corruption** 1. Total percentage of governance body members, employees and business partners who have received training on the organization's anti-corruption policies and procedures, broken down by region 2. Total number and nature of incidents of corruption confirmed during the current year but related to previous years 3. Total number and nature of incidents of corruption confirmed during the current year, related to this year	Adapted from GRI (205-2) and GRI (205-3)
		Protected ethics advice and reporting mechanisms A description of internal and external mechanisms for: 1. seeking advice about ethical and lawful behaviour, and organizational integrity; 2. reporting concerns about unethical or unlawful behaviour, and organizational integrity	GRI (102-17)
	Risk and Opportunity Oversight	**Integrating risk and opportunity into business process** Company risk factor disclosures clearly identify the principal risks facing the company specifically (as opposed to generic sector risks), the Board appetite in respect of these risks, how these risks have moved over time and the response to those changes. These should include discussion of data security and other emerging principal risks and should disclose the number of data breaches in the reporting period	Combination of EPIC and SASB (230a.1 and 2)
Planet	Climate Change	**Greenhouse Gas (GHG) emissions** Report GHG Protocol Scope 1 and 2 emissions in tonnes of carbon dioxide equivalent (tCO2e) and estimate and report upstream and downstream (GHG Protocol Scope 3) emissions where material.	GRI (305-1), CDP (C6, C7), CDSB (R03, R04), SASB (110a.1), GHG Protocol
		TCFD-aligned reporting on material climate risks and opportunities TCFD-aligned reporting on governance and risk management for all. If climate change is material in short, medium or long term, disclose strategy and metrics/targets as well, including whether the company has committed to set a science-based target in line with net zero by 2050.	TCFD, CDSB R01, R02, R03, R05 and R06; SASB 110
	Nature Loss	**Land use and ecological sensitivity** Report for operations and estimate & report for upstream supply chain, where material, on: – overall area of land used or affected – annual change in area of land used or affected – number of IUCN Red List species present in areas used or affected.	Adapted from: GRI (304-1, 304-3, 304-4), CDP (F1)
	Fresh Water Availability	**Fresh water consumption in water stressed areas** Report for operations and estimate & report for upstream and downstream supply chain, where material, on: – mega-litres of fresh water consumed (withdrawals minus discharges of equal quality) in water-stressed areas.	Adapted from: GRI (303-3), CDP (W1), CDSB (R04), SASB (140a.1)

People	Dignity and Equality	**Gender pay equality (%)** Ratio of the basic salary and remuneration of women to men for each employee category, by significant locations of operation.	GRI (405-2)
		Diversity and inclusion (%) Percentage of employees per employee category, by age group, gender and other indicators of diversity	GRI (406-1)
		Wage level (%) Ratios of standard entry-level wage by gender, compared to local minimum wage for specific categories of workers	GRI (202-1)
		Risk for incidents of child, forces or compulsory labor (#, %) Number and percentage of operations and suppliers considered to have significant risk of: a) incidents of child labour, and b) incidents of forced labour, by type of operation and supplier, in terms of countries or geographic areas with operations and suppliers considered at risk.	GRI (408, 409)
	Health and Well Being	**Health and safety (%)** 1. The total recordable injury rate (TRIR) by specific categories of workers 2. The absentee rate (AR) for specific categories of workers	SASB (CN0101-18), GRI (403-2.a4)
	Skills for the Future	**Training provided (#)** 1. Average hours of training per person that the organization's employees have undertaken during the reporting period, by gender and employee category (total number of trainings provided to employees divided by the number of employees) 2. The average training and development expenditure per full time employee	GRI (404-1), SASB (HC0101-15)
Prosperity	Wealth creation and employment	**Net number of jobs created** 1. Total number and rate of new employee hires during the reporting period, by age group, gender and region 2. Total number and rate of employee turnover during the reporting period, by age group, gender and region	GRI (401-1a & b)
		Net Economic Contribution 1. Direct economic value generated and distributed (EVG&D) – on an accruals basis, covering the basic components for the organization's global operations, including revenues, operating costs, employee wages and benefits, payments to providers of capital, payments to government 2. Financial assistance received from the government (e.g. tax breaks, subsidies, investment grants etc.) 3. Net Economic Contribution = (EVG&D) minus (Financial assistance received from the government)	GRI (201-1 and 201-4)
		Net investment – Total capital expenditures (CapEx) – Depreciation – Share buybacks – Dividend payments Calculation: Total CapEx - depreciation) / (Total cost of share buybacks + dividend payments)	International Accounting Standard (IAS) 7 – Cash Flow Statements
	Innovation in better products and services	**R&D spend ratio (%)** Total amount of spending on R&D as a percentage of total sales	2015 edition of the Frascati Manual for measuring R&D (OECD, 2015a)
	Community and social vitality	**Community investment (%)** A percentage breakdown of community investment, including monetary contributions such as charitable gifts and community partnerships; time contributions such as staff volunteering in paid time; in-kind contributions from services or equipment; and management costs, normalized as a percentage of pre-tax profit	GRI (G4-ECI)
		Country by country tax reporting 1. All tax jurisdictions where the entities included in the organization's audited consolidated financial statements, or in the financial information filed on public record, are resident for tax purposes. 2. For each tax jurisdiction reported in Disclosure 207-4-a: – Names of the resident entities – Primary activities of the organization – Number of employees and the basis of calculation of this number – Revenues from third-party sales – Revenues from intra-group transactions with other tax jurisdictions – Profit/loss before tax – Tangible assets other than cash and cash equivalents – Corporate income tax paid on a cash basis – Corporate income tax accrued on profit/loss – Reasons for the difference between corporate income tax accrued on profit/loss and the tax due if the statutory tax rate is applied to profit/loss before tax 3. The time period covered by the information reported in Disclosure 207-4.	GRI (207-4)

World Economic Forum, 2020

Circularity standards are worth the effort

Cradle to Cradle® is a design concept inspired by nature. The Cradle to Cradle Certified standard aims to:

- Ensure that materials are safe for humans and the environment
- Enable a circular economy through product and process design
- Safeguard climate, air, water and soil
- Foster respect for human rights, fair and equitable society

Type of thinking	Outcomes
Cradle to Grave	Minimize negative impacts → Waste management and recycling
Cradle to Cradle	Avoid negative impact and maximise positive ones → Circular Business Models

Cradle to Cradle Certified

Cradle To Cradle: Scoring Products

[Cradle to Cradle Certified]

Cradle-to-Cradle certified products

Cradle to Cradle Certified Product Scorecard	
MATERIAL HEALTH	Platinum
MATERIAL REUTILIZATION	Gold
RENEWABLE ENERGY & CARBON MANAGEMENT	Platinum
WATER STEWARDSHIP	Platinum
SOCIAL FAIRNESS	Gold
OVERALL CERTIFICATION LEVEL	Gold

Tentree

→ For every piece of clothing, 10 trees are planted.

→ Sustainable materials: sustainable cotton, recycled polyester, spun dyed viscose, linen, Tencel.

→ 100% Biodegradable

Garnier Skinactive Facewash

FIRST MASS MARKET SKIN CARE BRAND TO ACHIEVE CRADLE TO CRADLE CERTIFICATION FOR FIVE

- ✓ Facility **powered with 100% renewable electricity +** features optimized vessel cleaning systems that have led to a **reduction in water consumption.**
- ✓ 1 Product made from **50% PCR (post-consumer recycled) plastic**
- ✓ Another 3 of the certified cleansers are made from **30 % PCR plastic**.

Cradle to Cradle Certified Product Scorecard	
MATERIAL HEALTH	Silver
MATERIAL REUTILIZATION	Silver
RENEWABLE ENERGY & CARBON MANAGEMENT	Gold
WATER STEWARDSHIP	Gold
SOCIAL FAIRNESS	Silver
OVERALL CERTIFICATION LEVEL	Silver

What's this?

Stabilo GREENpoint

BS 8001

Published in May 2017, BS 8001 is the world's first standard on circular economy and practical framework for organizations to implement its principles. Some of its benefits include:

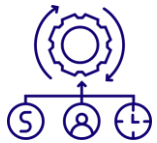
Understand what circular economy is and is not

Discover the relevance of CE for your organization

Use appropriate terminology

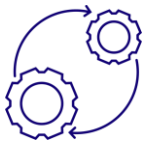
Integrate circularity into core business strategy

Adopt a circular mindset



Identify how material topics link to resource use

Identify new circular opportunities beyond old ways

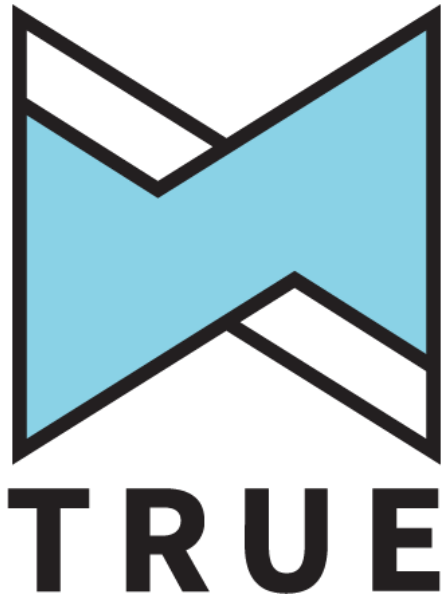


Trigger enabling mechanisms and prioritize wisely

Use a handy improvement checklist

Avoid barriers and stay aware of the pitfalls

TRUE Zero Waste



The TRUE certification program enables facilities to define, pursue and achieve their zero waste goals, cutting their carbon footprint and supporting public health.

TRUE is a whole systems approach aimed at changing how materials flow through society, resulting in no waste.

TRUE encourages the redesign of resource life cycles so that all products are reused. TRUE promotes processes that consider the entire lifecycle of products used within a facility.

TRUE Zero Waste

Getting certified requires 90% diversion from landfill, WTE and the environment during the past 12 months

CERTIFICATION LEVELS

CERTIFIED: 31-37 points **SILVER:** 38-45 points **GOLD:** 46-63 points **PLATINUM:** 64-81 points

OVERVIEW OF CATEGORIES & POINTS

REDESIGN	4	LEADERSHIP	6
REDUCE	7	TRAINING	8
REUSE	7	ZERO WASTE ANALYSIS	5
COMPOST (RE-EARTH)	7	UPSTREAM MANAGEMENT	4
RECYCLE	3	HAZARDOUS WASTE PREVENTION	5
ZERO WASTE REPORTING	4	CLOSED LOOP SYSTEM	4
DIVERSION (MIN 90%)	5	INNOVATION	3
ZERO WASTE PURCHASING	9	TOTAL POINTS	81

ISO 14040:2006 Environmental Management – Life Cycle Analysis

European Bank for Reconstruction and Development

Supported by The European Union

LCA phases

Goal and scope

- Definition of goal and scope
- Intented application audience, publicity etc.
- Boundaries
- Functional unit
- Allocations
- Assumptions and limitations
- Data quality requeriments
- Tyoe of critical review

Life Cycle Inventory LCI

- Inputs and outputs of the system unit proceses
- Energy inputs
- Raw materials inputs
- Other physical inputs
- Products
- Co-products and waste
- Emissions to air
- Discharges to water and soil

Impact assessment LCIA

- Selection of impact assessment method i.e ReCiPe,EcoIndicator 99 etc.
- Selection of impact categories
- Category indicators
- Characterisation models
- LCI-results classification
- Calculation of category indicator resulst i.e characterization
- Grouping and Normalization
- Weighting

Interpretation

- Interpretation of results and usability
- Significance, limitations, comprehensive
- Opportunities to improve
- Strategic decision making
- Selecting indicators
- Product and process development
- Environmental information
- Marketing

ISO 14040:2006

European Bank
for Reconstruction and Development

Zooming In: Sustainability Challenges In Egypt

Zooming In: Sustainability Challenges In Egypt

1.7 mln SMEs

75%
of the workforce

95-98%
of the industrial enterprises

30%
youth unemployment

23.8%
woman participation in the workforce

128 million in 2030

10m↓
less will be living in poverty

x2
the middle-class population

+2…3°C
possible increase in annual temperatures by 2050

Air and water pollution are posing significant risks for human health and increasing pressure on the healthcare system.

Zawya, 2020 / World Bank Group, 2020 / Statista, 2020 / Karaspan & Shah, 2018 / USAID, 2018

Challenges Faced By SMEs

A multitude of challenges constraint SME growth and limit their engagement with sustainability, many of which are closely interrelated.

Challenges to growth

- Less likely to obtain bank loans than large firms
- Information asymmetries in the credit market
- Lack of flexible costs for processing applications
- 50% the formal SMEs can't access formal credit
- Unmet financing need of USD 5.2 trillion every year
- SMEs receive only 8% of loans in MENA region
- Regulations often disregard SME needs and realities

Challenges to implementing circular economy

- Low awareness among SME employees about the importance of sustainability and circularity
- Lack of awareness among business owners about the benefits of sustainability practices
- Lack of access to information on how to implement sustainability, as well as acquire skills and expertise
- The unverified interference of intended sustainability initiatives with other business initiatives
- The misconception that protecting the environment is associated only with technical complexity and cost

Circularity Opportunities For SMEs

Revenue growth and access to markets

→ i.e. sustainable redesign raises product value and opens up new markets

Cost savings and productivity

→ i.e. recycled materials can reduce costs and dependence on raw materials + minimizing inputs and outputs

Access to capital

→ i.e. increases business chances to receive funds and capital

Risk management

→ i.e. circularity lens supports holistic risk management

Human capital

→ i.e. local and responsible supply chains, increased business resilience

Reputation

→ i.e. closing the loops helps to generate new long-term partnerships

Resource Efficiency Optimization

→ i.e. energy efficiency releases resources for other improvements

10 Steps towards financeable circular business

1. Decide on a logical starting point
2. Generate profit through multiple use cycles
3. Align incentives throughout the supply chain
4. Be transparent about the value proposition
5. Redefine the role of retail (i.e digital platforms)
6. Gradually transition to product-service systems by combining revenue models
7. Secure stable cash flows through a robust contract
8. Mitigate debtor risk
9. Match asset value, payback period and contract duration
10. Measure the environmental impact on financial performance.

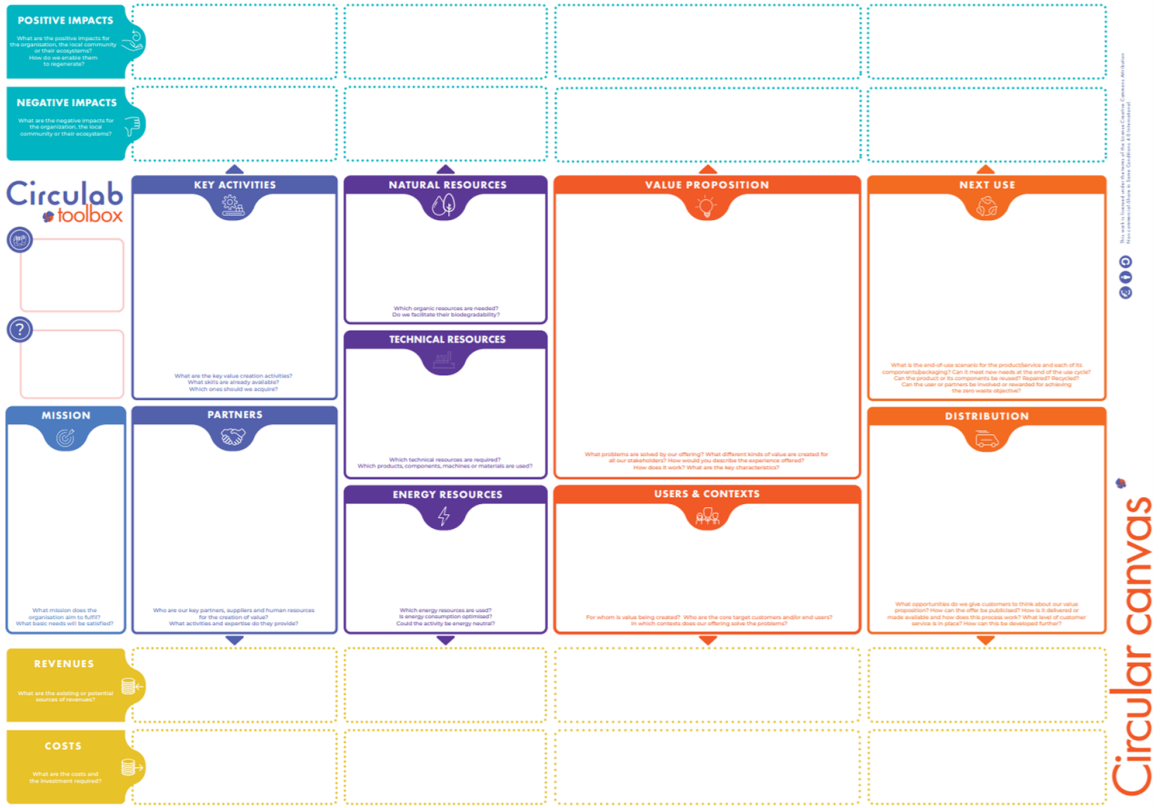
Circle Economy, 2016

Homework: rethink your business for the circular economy

1. What kind of circularity challenge can my business solve?
2. What could be the benefits of the circular economy for my company?
3. What could be the benefits of circular the economy for society at large?

1. What can I do right now to start moving in this direction?

Time to build your circular business model!



European Bank
for Reconstruction and Development

Covid-19 recovery needs to be circular

It requires a resilient, low-carbon and circular economy. Circularity principles offer opportunities to improve stock availability, competitiveness and rediscover value of durable goods and services in the world of disrupted supply chains.

EMF, 2020

Any Questions?

Please feel free to contact me at beshara@be-masader.com or info@be-masader.com

I am available for 1 on 1 zoom meetings on:

Monday

Wednesday

Circular economy – how can EBRD help?

Through integrated sustainability consulting services, we can help SMEs harness the full potential of circular economy based on unique needs of each client.

Linear gaps and risks

Circular opportunities and growth points

Material flow analysis

Life cycle assessment

Circular business model and strategy

Circular products and services

Circular supply chains

Targeted interventions

Cost-effective resource efficiency

Tailored training and capacity building

Building partnerships and networks

Marketing circular economy solutions

Which strategy do you think **Netflix** is adopting?

European Bank
for Reconstruction and Development

"Circular economy is the largest business opportunity seen by our species"

William McDonough,
co-creator of Cradle to Cradle

McDonough, 2016