Circular Public Procurement

Introductory workshop (WP3.2)

Mervyn Jones, Take Padding

Riga, Latvia 06 March 2018

Circular procurement workshop
Agenda

11.00	Welcome
11.10	Circular economy introduction
11.25	IceBreaker – what is circular?
11.45	Introduction to Circular Procurement
12.15	General Q&A discussions
12.30	*LUNCH*
13.00	Exercise 1 - Priorities & benchmarking
14.15	Discussion
14.30	*coffee break*
14.45	Exercise 2 - Stakeholders & impact
15.30	Discussion
16.00	Summary & Next Steps

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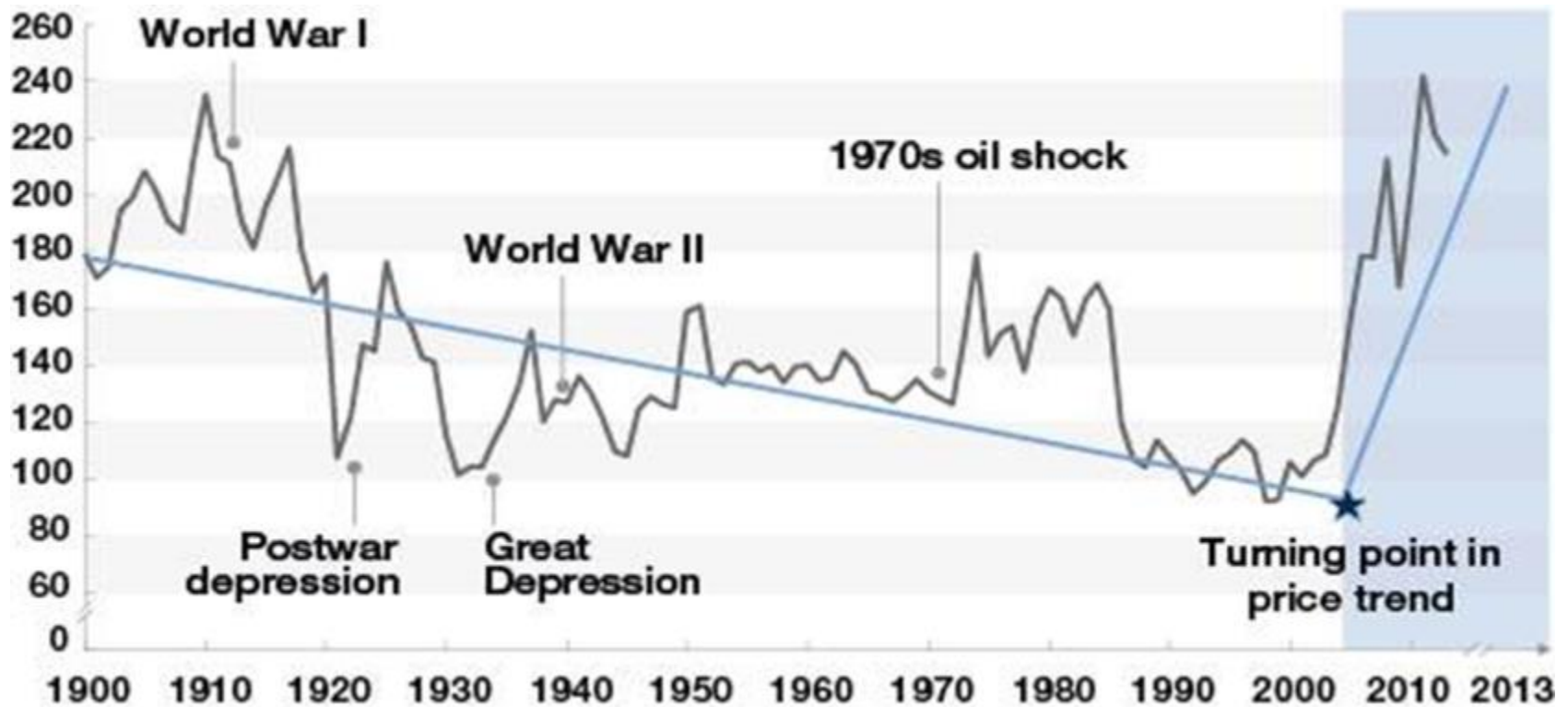Environment

Introduction to circular economy

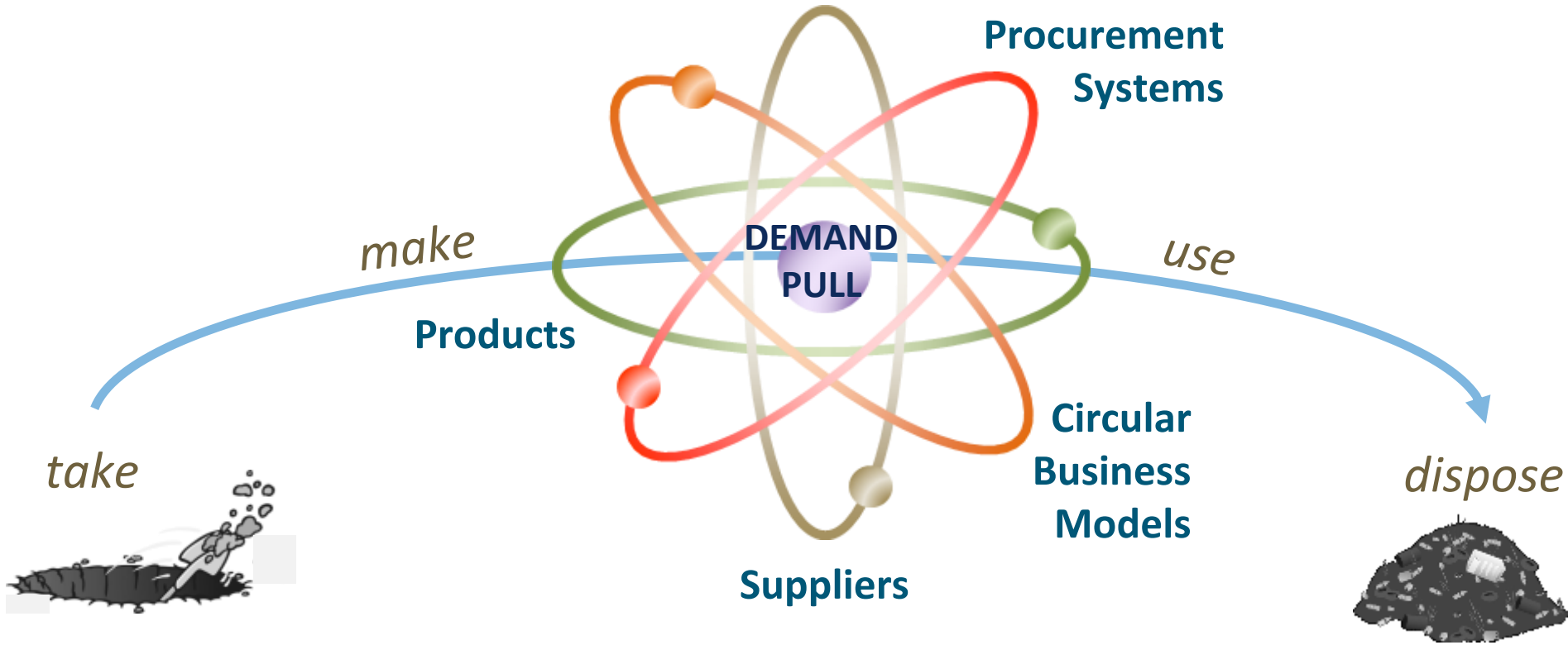## Riga Workshop (WP3.2)

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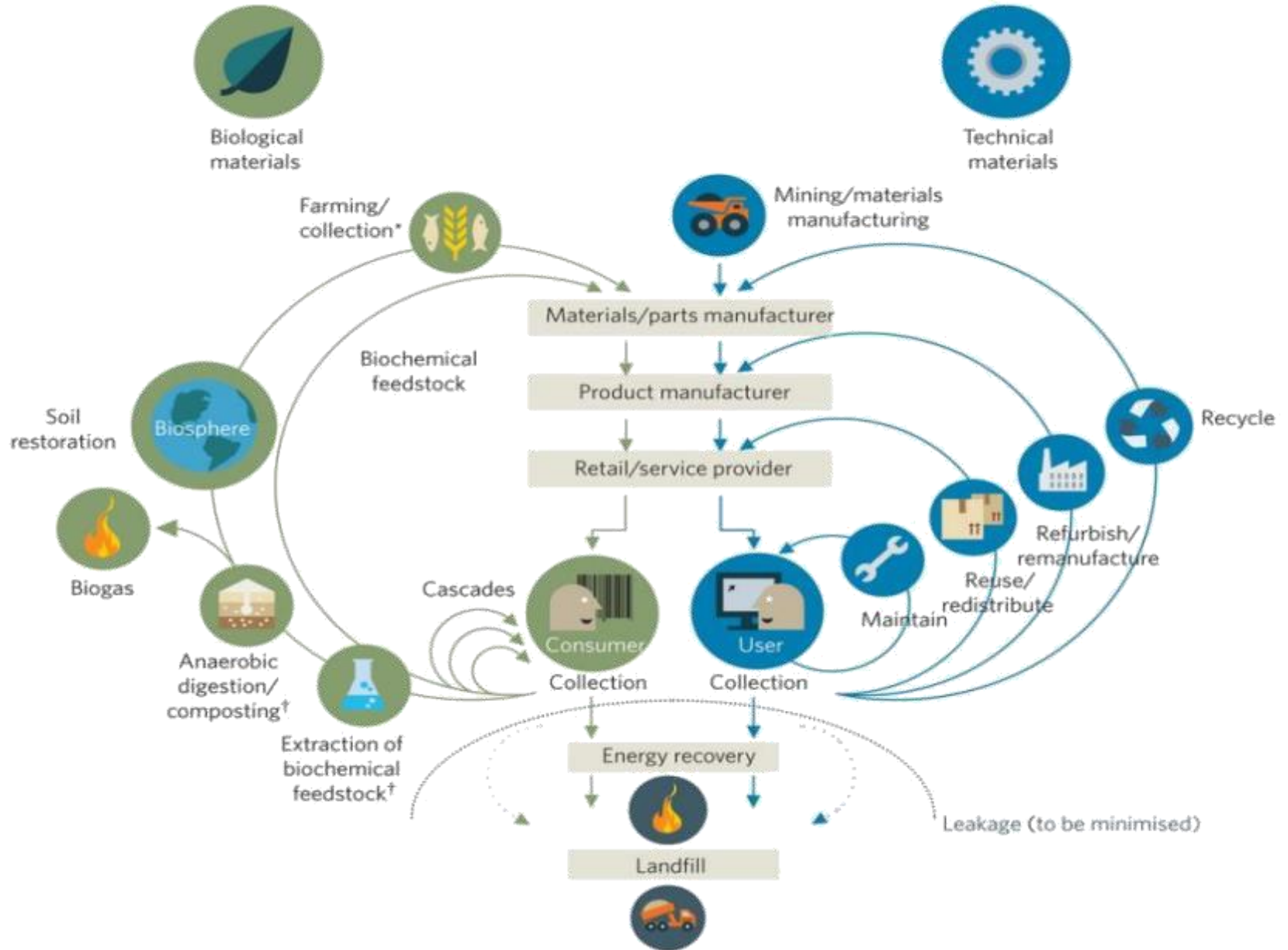15 minutes

NEED FOR A CHANGE

Source: ONS; World Economic Forum (2014) *Towards the Circular Economy: Accelerating the scale-up across global supply chains*
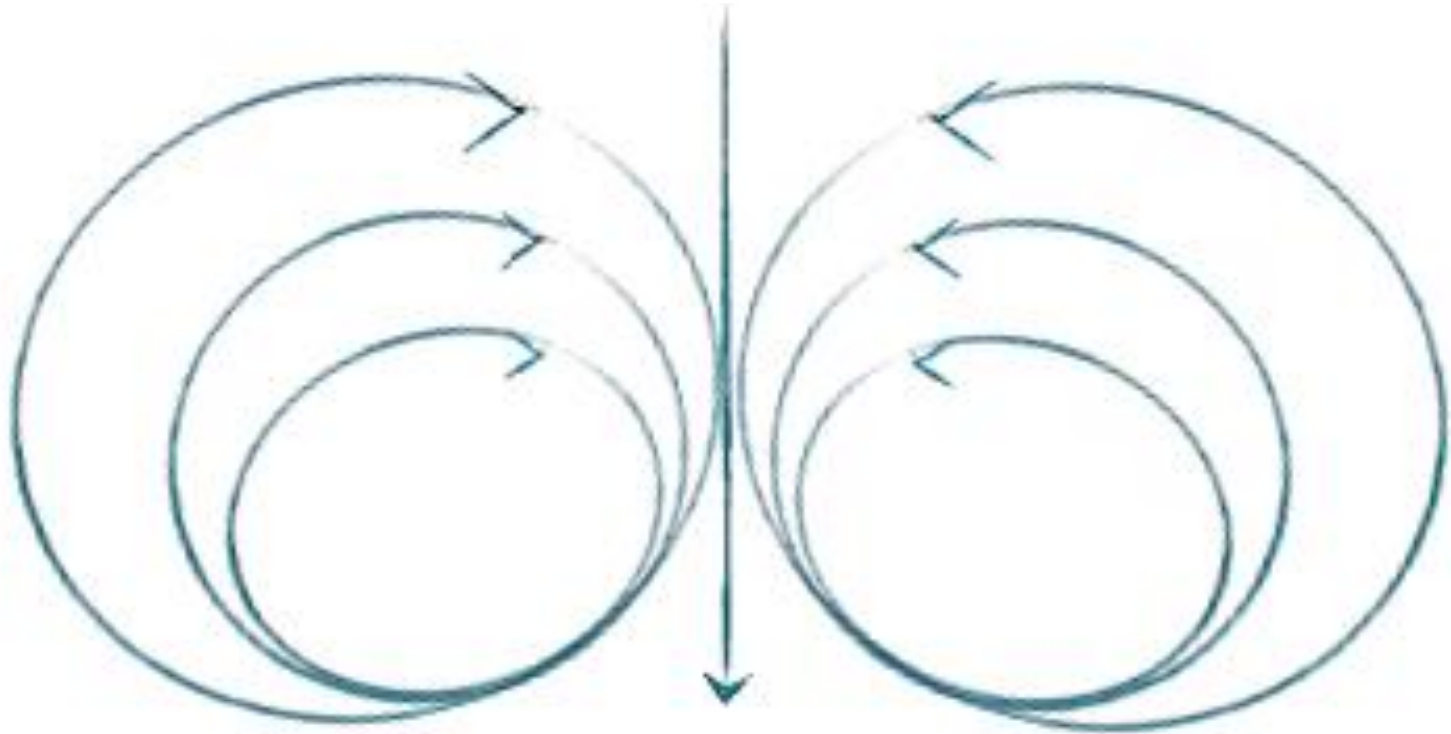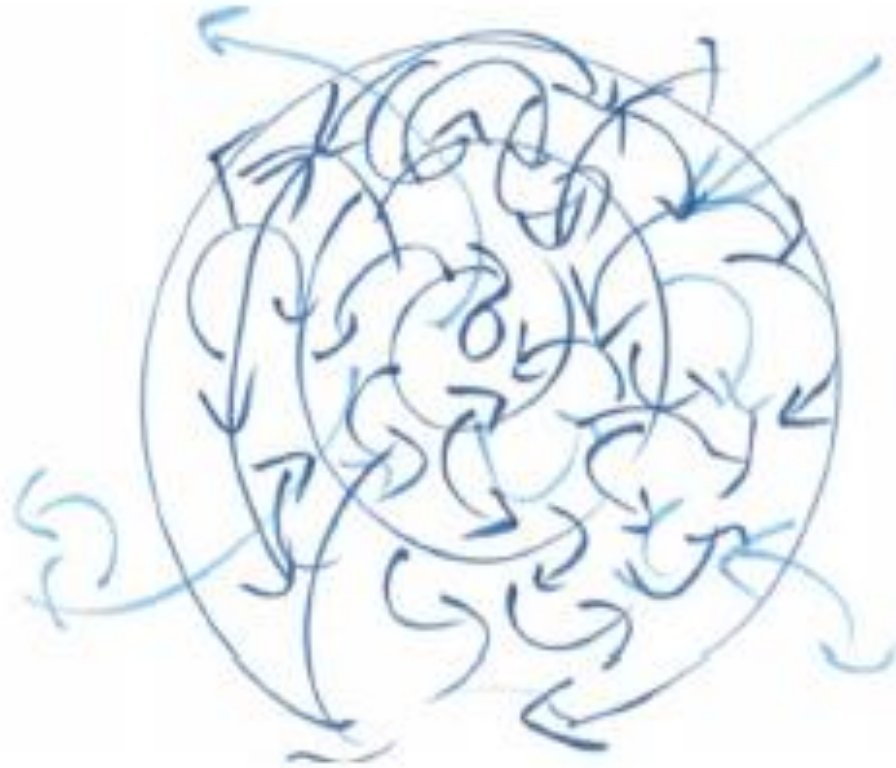
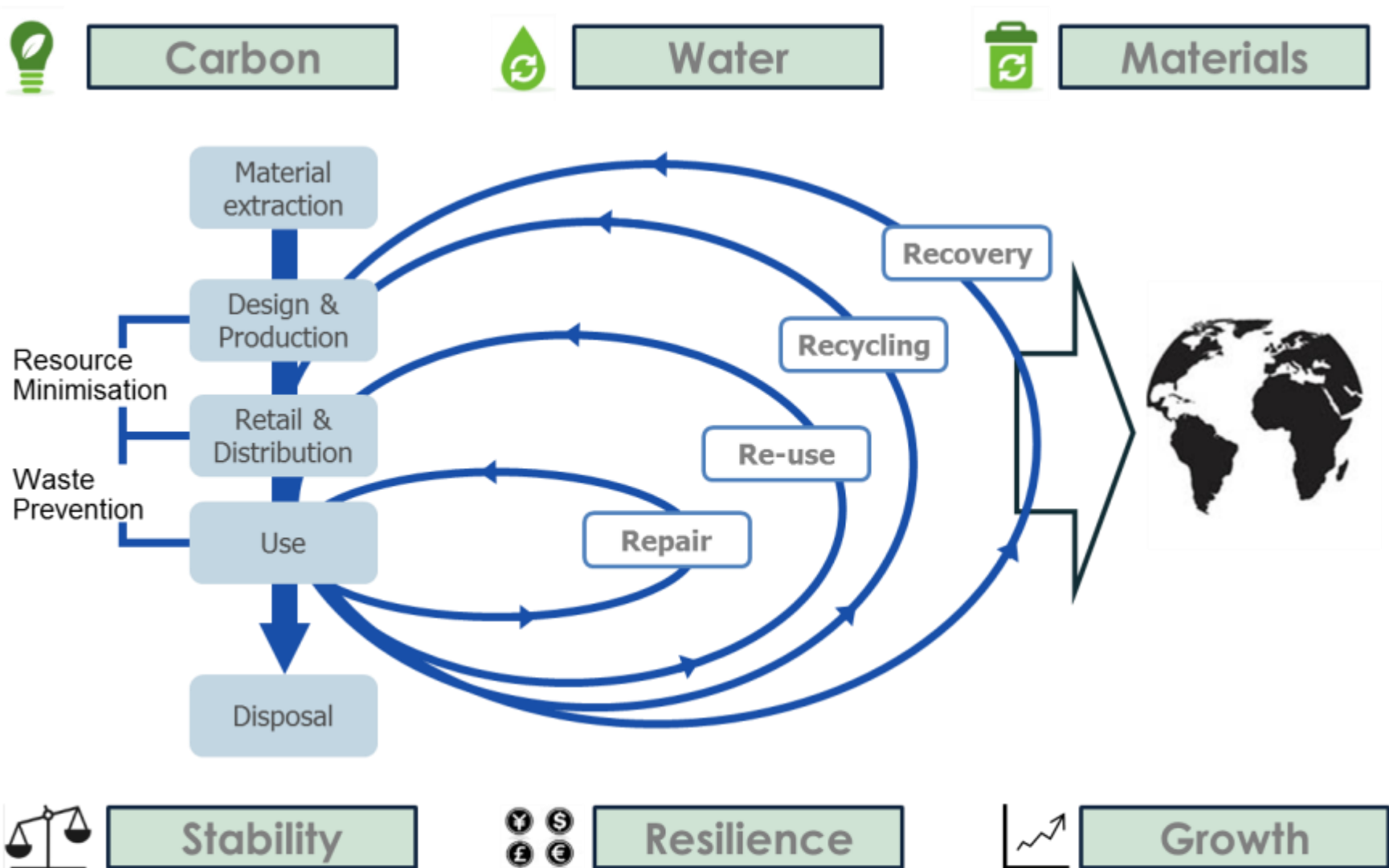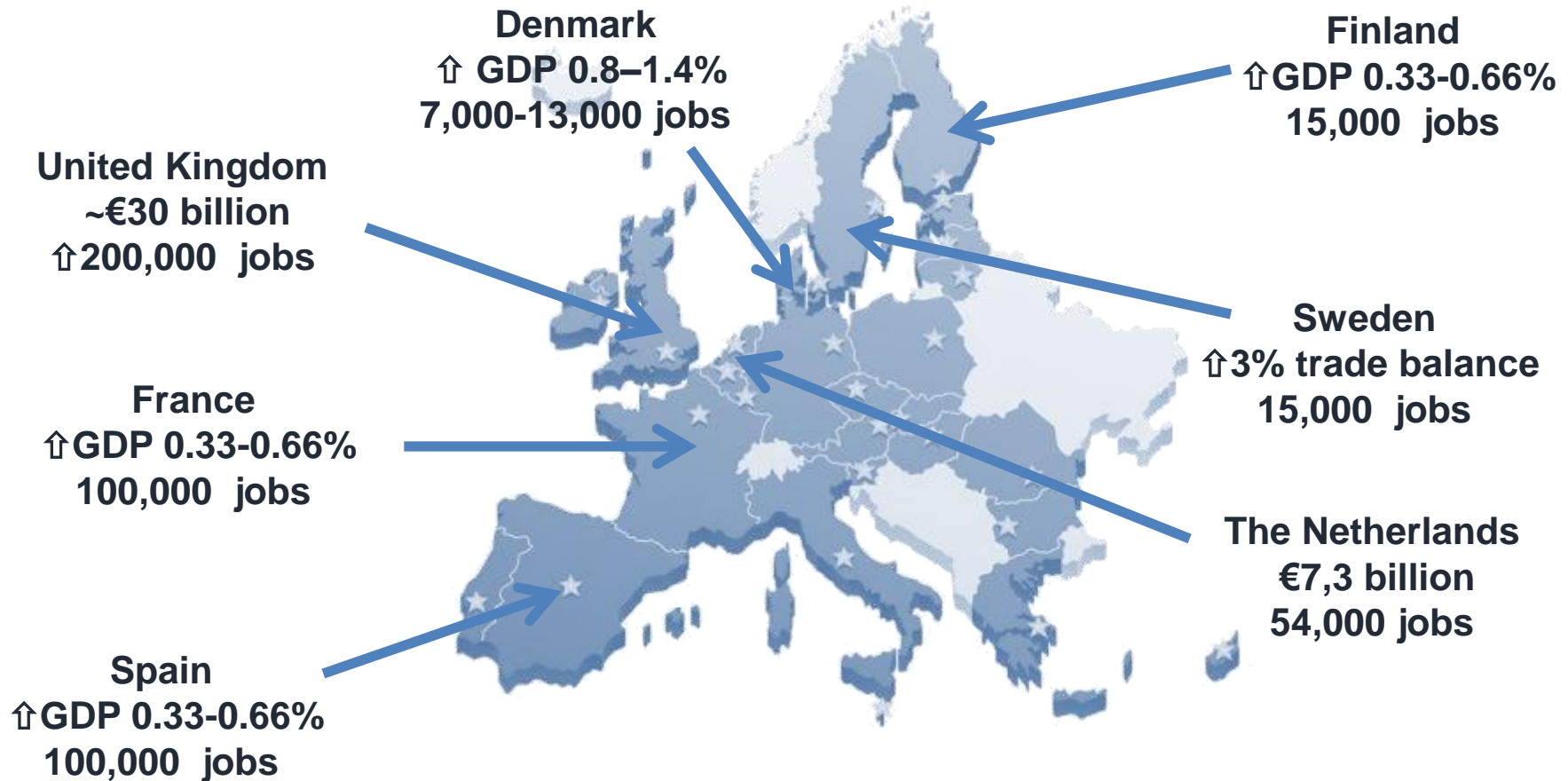# CIRCULAR ECONOMY MODEL

Why a circular economy?

Theory

Source: Tekening Geanne van Arkel - Interface

Practice

Source: Tekening Geanne van Arkel - Interface

Why a circular economy?

EU benefits of CE

European Union € 324 billion
(www.rebus.eu)

Denmark
⇧ **GDP 0.8–1.4%**
7,000-13,000 jobs

Finland
⇧**GDP 0.33-0.66%**
15,000 jobs

United Kingdom
~€30 billion
⇧**200,000 jobs**

France
⇧**GDP 0.33-0.66%**
100,000 jobs

Sweden
⇧**3% trade balance**
15,000 jobs

The Netherlands
€7,3 billion
54,000 jobs

Spain
⇧**GDP 0.33-0.66%**
100,000 jobs

Sources: EU, Ellen McArthur Foundation, Club of Rome, TNO, WRAP

Ice Breaker – What is circular?

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Take Padding

20 minutes

Your views on the circular economy

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'The 'best' circular option

or

C2C   Lifespan

'The 'best' circular option

or

Mushrooms
cultured on local
collected coffee
grounds

Organic/EKO
mushrooms

Rijkswaterstaat
Ministry of Infrastructure and t
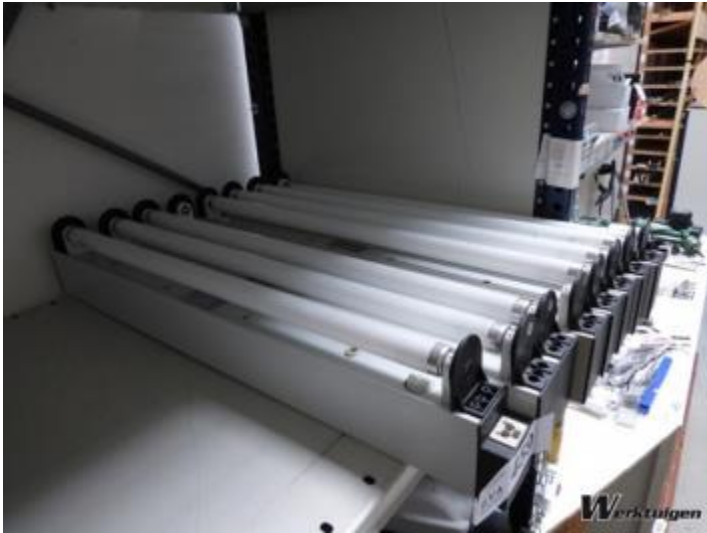Environment

'The 'best' circular option

or

Low Energy Asphalt

Asphalt with high %
recycled materials

'The 'best' circular option

or

2nd hand luminaires

Pay for use: 'light as a service'

The Circular Economy: Scope?

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Introduction to circular procurement

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15 minutes

Output   is the result of input

Circular clients

A circular product is not circular until you make it circular

Circular procurement depends on policy translated

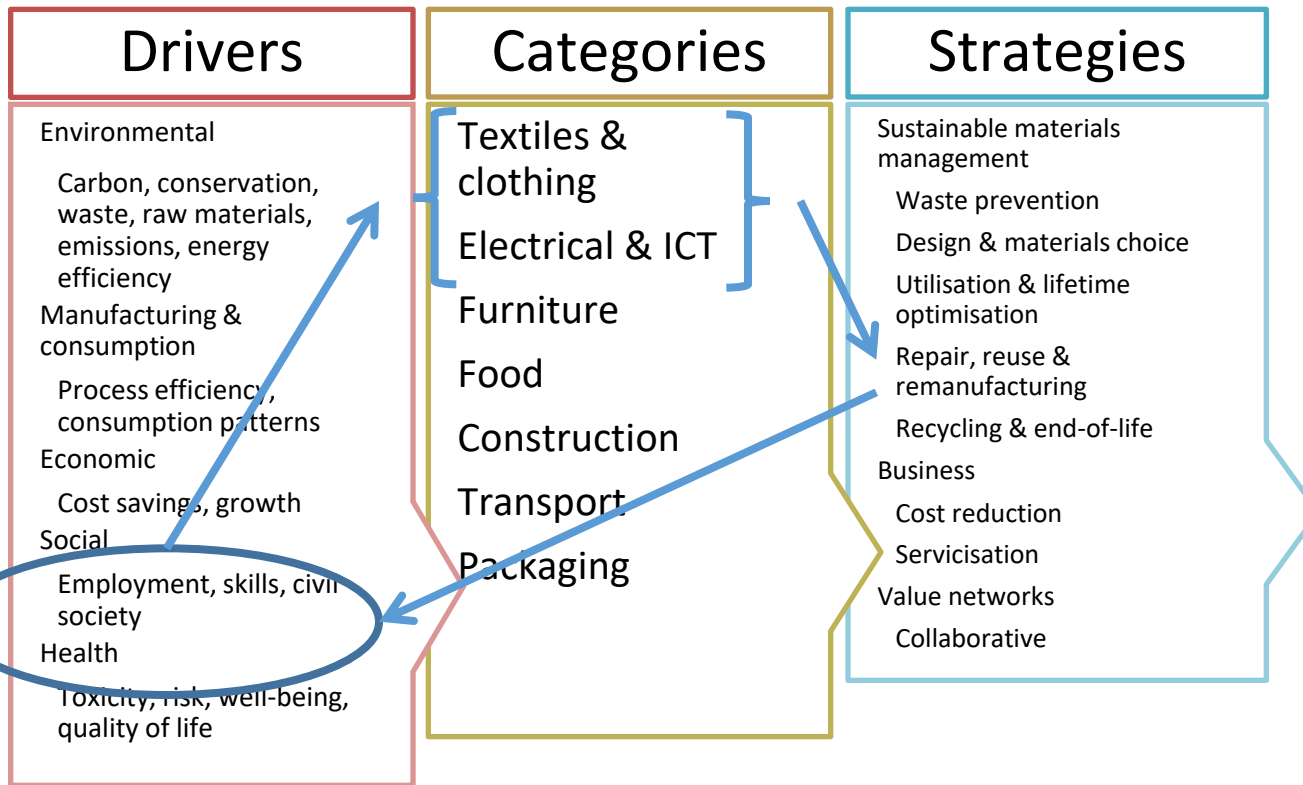into practice through clients and budget holders.

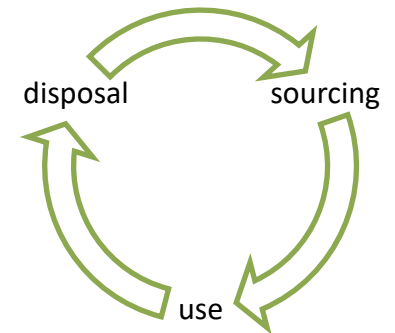**Circular procurement needs circular clients!**

City scale benefits

- High density brings innovation, infrastructure and investment gains along with reducing resource and energy consumption

- Large and varied supply of materials & goods

- High potential market demand for the goods and services

- Local governments can typically have a large and direct influence on implementation

- Knowledge sharing is more direct and turned into practice

- Demonstration and pilot projects at the local level can act as exemplars to engage upstream (national) and downstream (supply chains)

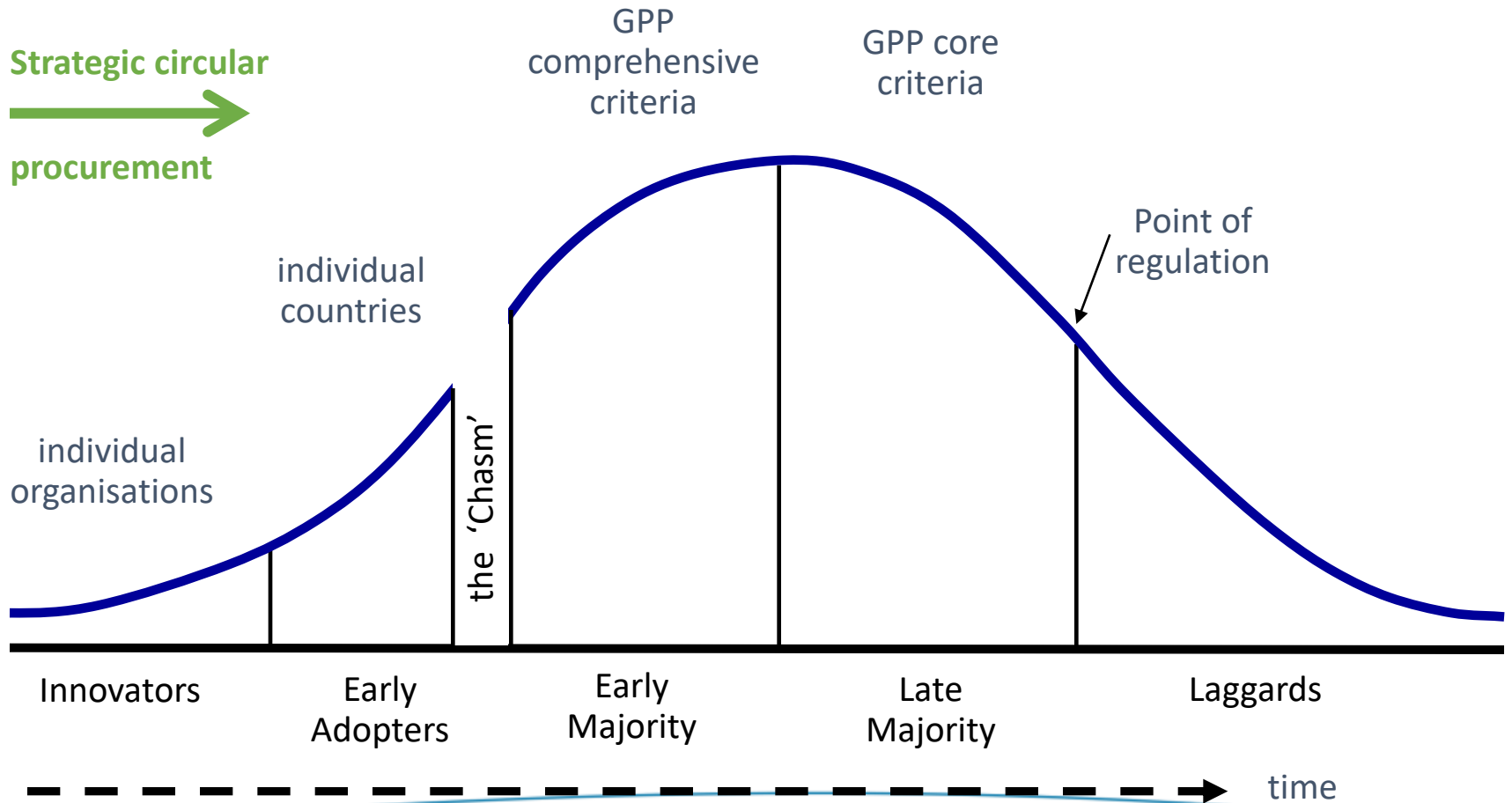- Benefits are easier to evidence and more direct
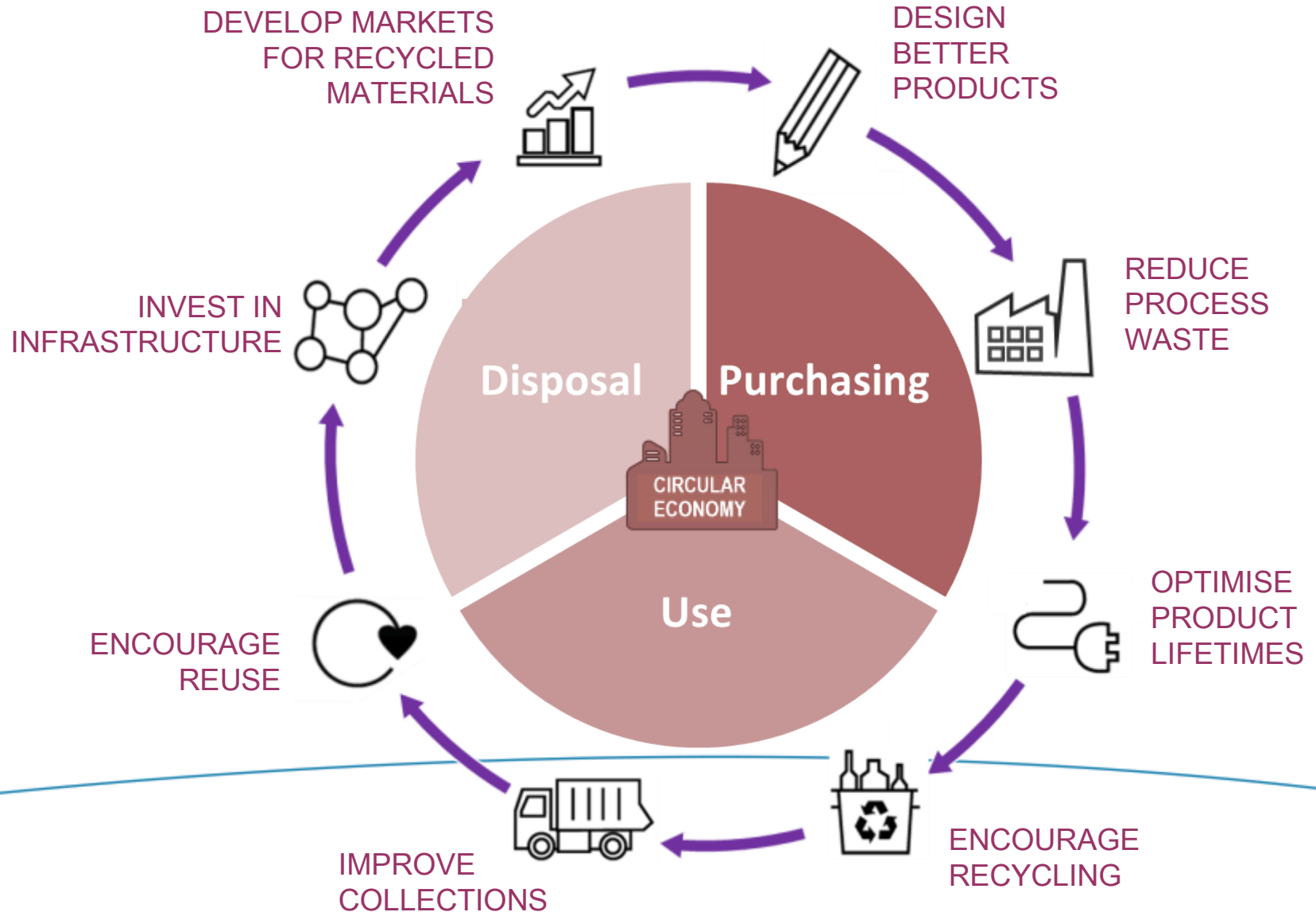
Multiple policy drivers

Drivers

Environmental

Carbon, conservation, waste, raw materials, emissions, energy efficiency

Manufacturing & consumption

Process efficiency, consumption patterns

Economic

Cost savings, growth

Social

Employment, skills, civil society

Health

Toxicity, risk, well-being, quality of life

Categories

Textiles & clothing

Electrical & ICT

Furniture

Food

Construction

Transport

Packaging

Strategies

Sustainable materials management

Waste prevention

Design & materials choice

Utilisation & lifetime optimisation

Repair, reuse & remanufacturing

Recycling & end-of-life

Business

Cost reduction

Servicisation

Value networks

Collaborative

Circular business models

disposal   sourcing

use

Innovation progression

Circular procurement opportunities

Reducing the impacts of procurement

Impact category	Hotspot	% of total impact	Key resource efficiency action in the most significant service
Materials consumed	Site construction	50%	Reduce avoidable waste
Waste produced	Furniture (workspace furniture)	50%	Asset management & reuse
Energy and CO_2 in-use	Heating, ventilation and air conditioning (particularly heating)	70%	Upgrading and refurbishment of equipment
Embodied CO_2 emissions	Fabric Materials	45%	Material substitution
Water use	Washrooms and kitchens	90%	Reducing mains water use (e.g. flow regulators)
Cost	ICT equipment	30%	Extending equipment lifespans

Rethinking our approach
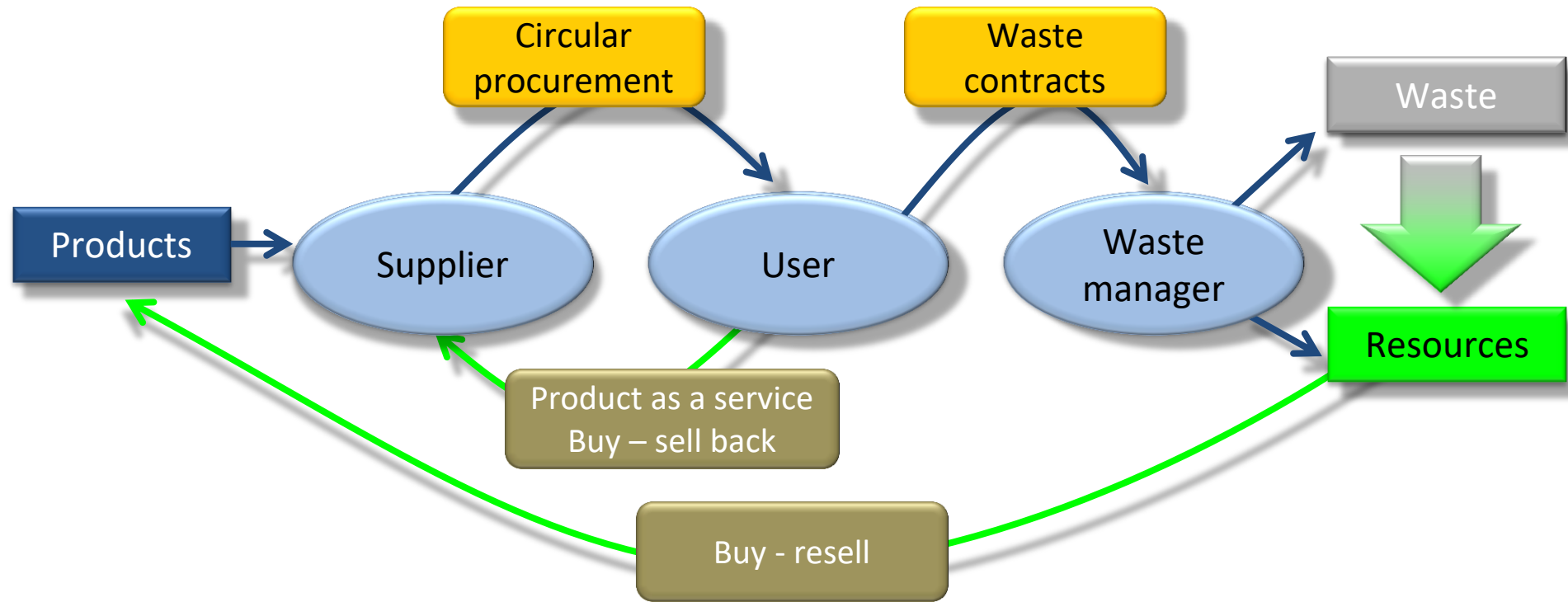
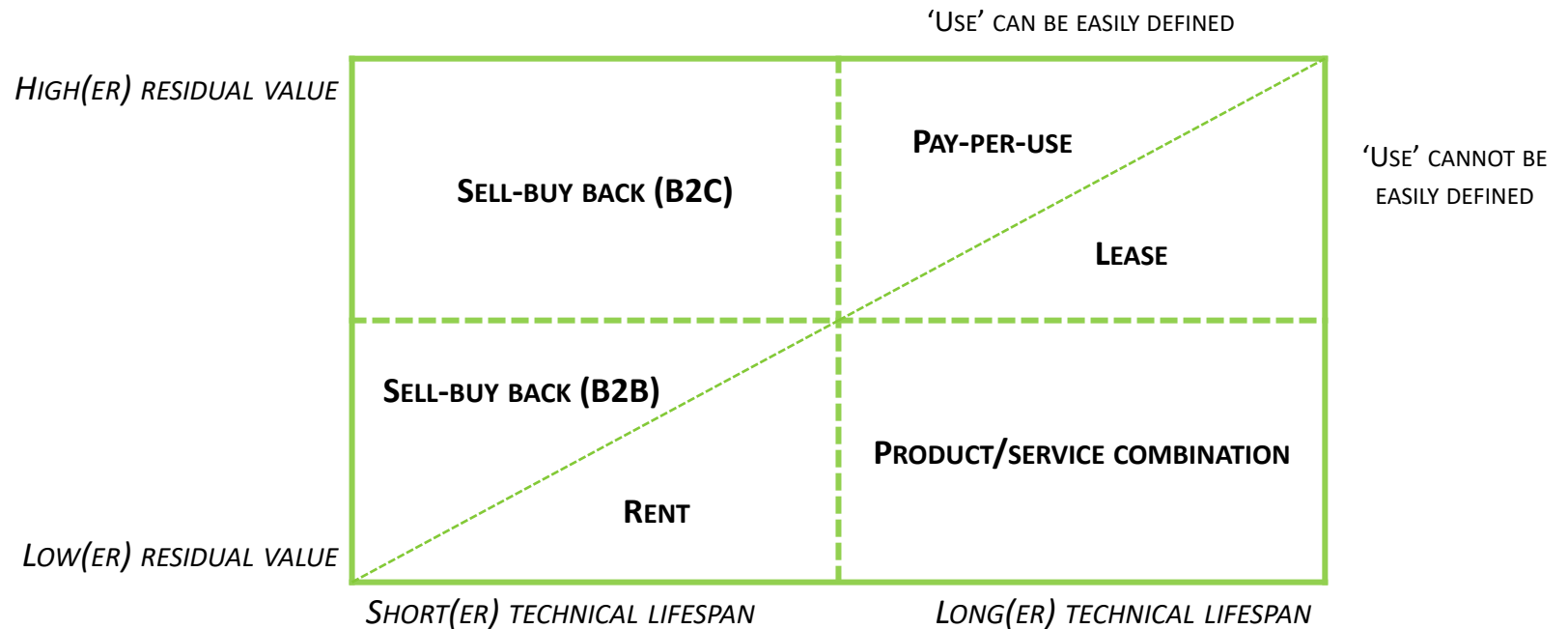# Which revenue models exist?

- Lease
- Rental
- Pay-per-use
- Sell-buy-back
- Product-service combination

+ Risk-benefit sharing

1. Short cycle		
1	Pay per use	One time payment to use product or service
2	Repair	Product life extension by repair services
3	Waste reduction	Waste reduction in the production process
4	Sharing platforms	Products and services are shared among consumers
5	Progressive purchase	Pay periodically small amounts before purchase

2. Long cycle		
6	Performance based contracting	Long term contract and responsibility with producer
7	Take back management	Incentive to ensure product gets back to producer
8	Next life sales	Product gets a next life
9	Refurbish & resell	Product gets a next life after adjustments

3. Cascades		
10	Upcycle	Materials are re-used and its value is upgraded
11	Recycling (waste handling & repurpose)	Materials are cascaded and reused, recycled or disposed
12	Collaborative production	Cooperation in the production value chain leading to closing material loops

4. Pure circles		
13	Cradle to cradle	Product redesign to 100% closed material loops
14	Circular sourcing	Only sourcing circular products or materials

5. Dematerialized services		
15	Physical to virtual	Shifting physical activity to virtual
16	Subscription based rental	Against a low periodic fee consumers can use a product or service

6. Produce on demand		
17	Produce on order	Only producing when demand is present
18	3D printing	Using 3D printing to produce what is needed
19	Customer vote (design)	Making customers vote which product to make

SOURCE: IMSA (2015)

Revenue models

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Five circular revenue models

'USE' CAN BE EASILY DEFINED

HIGH(ER) RESIDUAL VALUE

PAY-PER-USE

'USE' CANNOT BE EASILY DEFINED

SELL-BUY BACK (B2C)

LEASE

SELL-BUY BACK (B2B)

PRODUCT/SERVICE COMBINATION

RENT

LOW(ER) RESIDUAL VALUE

SHORT(ER) TECHNICAL LIFESPAN   LONG(ER) TECHNICAL LIFESPAN

SOURCE: COPPER8 (2017)

Revenue models

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Linking CE and GPP
Addressing the gaps........

21 Groups
30 sub-groups
152 criteria

Product group	Con-tractor	Products, Services, Works					Use Phase	End of life phase
		Recycled content	Designed for recyc-ling	Designed for Longe-vity	Other criteria	Packa-ging		
Copying paper (2)		1						
Food (2)		1			1	2		1
Furniture		2	1	1		3		
CHP								
Wall Panels (2)		4	1		4			3
Cleaning (7)					1	11		
Electricity								
Gardening (6)	1	4	1		4	2		3
Indoor lighting				2	1	1		1
Street lighting (2)				3	1	2		1
Textiles (2)		2		4	1		1	2
Transport (5)		5			5		2	3
Sanit. Tapware				4				
Toilets (2)					2		2	
Waste water	3	1			1			
Health care				1			1	
Imaging equipment					4		1	
Heaters	1		1		1		1	
Buildings	1	2			1			7
Roads	2	3		1				4
Computers			4	8			2	5

Workwear & textiles

- **Encourages innovation in design**
- **Reduces carbon impacts**
- **Reduces toxicity**
- **Increases durability**
- **Increases reuse and recycling at end of life**

- **Rawicz Hospital, Poland – nurses Uniforms**
- **Herning, Denmark – emergency services uniforms**
- **Rijkswaterstaat, Netherlands – lock-keepers uniforms**
- **Nurses uniforms – Wales, UK**

Construction

- **Design for deconstruction**
- **Recycled content**
- **Multiple REBMs**
- **Public private partnerships**
- **CO2 reduction**
- **End of Life - closing material loops**
- **Refurb & maintenance**
- **Cost savings**

- **Brummen, Netherlands - circular Town Hall**
- **Netherlands – DBFM, Rapid circular contracting**
- **BAR HQ, Portsmouth, UK – Whole Life Costing & BIM**
- **Viaduc de Millau, France - BFOT**

Furniture & FM
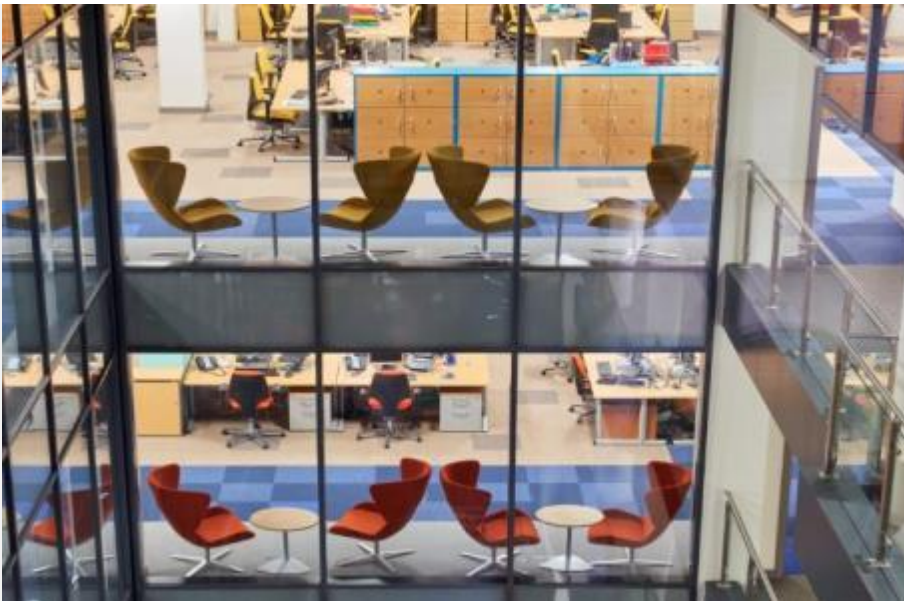
- **REBM – furniture as a service**
- **Resource efficient design**
- **Circular products & C2C**
- **Lifetime optimisation**
- **Reuse opportunities**
- **SME opportunities**
- **Community benefits**

Fire, TfL & City Hall priorities:

- **Cambridge NHT, UK – hospital beds**
- **ProRail, Netherlands – furniture and carpeting**
- **London, UK – office mobile asset management**
- **Public Health Wales, UK – desk reuse & repurposing**

ICT & electricals

- **Design for repair**
- **Recycled content**
- **Multiple REBMs - e-recovery, take-back, pass/sell on**
- **Lifetime optimisation**
- **CO_2 reduction**
- **End of Life – resource security**

- **Utrecht, Netherlands – IT take-back; secure reuse**
- **Schiphol Airport, Netherlands – lighting as a service**
- **BZK, Netherlands – e-recovery, IT-donations**
- **UniGreenScheme, UK - Lab equipment re-sale and re-use**

Food & catering

- **Waste prevention**
- **Storage & preparation**
- **Plate waste**
- **Reuse**
- **Recycling - composting**
- **Nutritional & healthy diets**

- **Ghent, Belgium - catering contracts**
- **Torino, Italy - healthy sourcing**
- **Copenhagen, Denmark - organic**
- **UK Public sector catering, waste prevention, HAFS**
- **Rijkswaterstaat, Netherlands - food waste recycling**

Transport

- **REBM - Mobility as a service**
- **Lower carbon footprint**
- **Improved air quality**
- **Innovation – public-private partnerships**

- **Bremen, Germany - public / private car sharing scheme**
- **Barcelona, Spain - electric vehicles**
- **Dutch Government – car sharing & leasing models**

LUNCH

Return by 13.00 please

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Exercise 1 – Priorities & benchmarking

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30 minutes

Selecting high-potential product groups

Why?

- Helps to select product groups for circular procurement pilots with high opportunities for success
- A successful pilot helps scaling up to more pilots

Various ways

- How to determine high-potential product group:
  - o Based on complexity - lifetime
  - o Based on spent - risk
  - o Based on risk - scope
  - o Based on influence - scope

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Product complexity vs technical lifetime

- Well-suited for circular procurement:
    - ○ Average product complexity
    - ○ Average technical lifetime

THE HIGHER THE **PRODUCT COMPLEXITY,** THE HARDER TO RE-USE EXISTING MATERIALS AND COMPONENTS

THE LONGER THE **TECHNICAL LIFETIME,** THE HARDER TO CLOSE THE CIRCLE AFTER THE PRODUCT LIFETIME

LOW COMPLEXITY AND LOW TECHNICAL LIFETIME? RE-USE ON A **MATERIAL LEVEL**

PRODUCT COMPLEXITY

TECHNICAL LIFETIME

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Product complexity vs technical lifetime

- Well-suited for circular procurement:
  - Average product complexity
  - Average technical lifetime

PRODUCT COMPLEXITY

TECHNICAL LIFETIME

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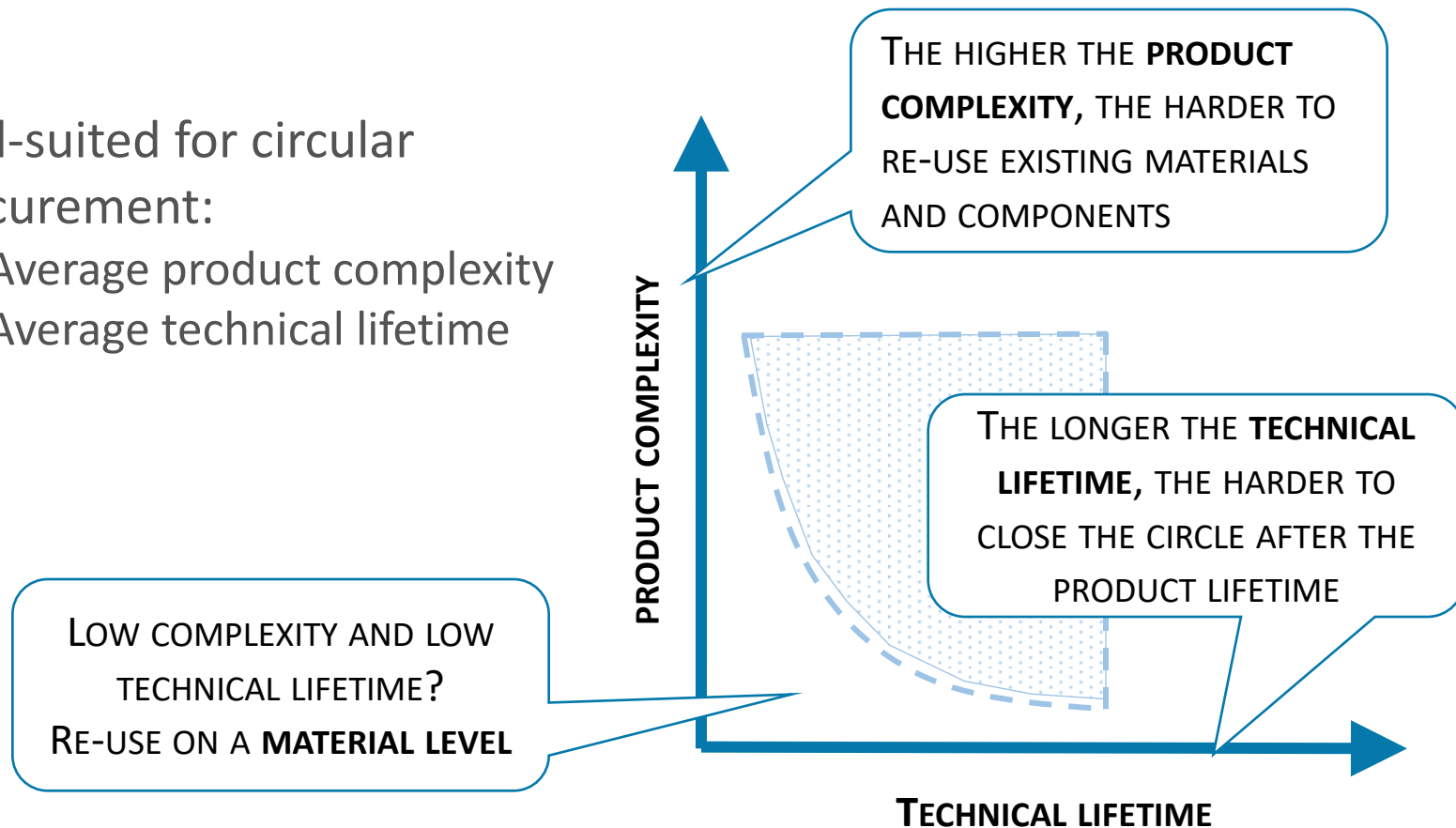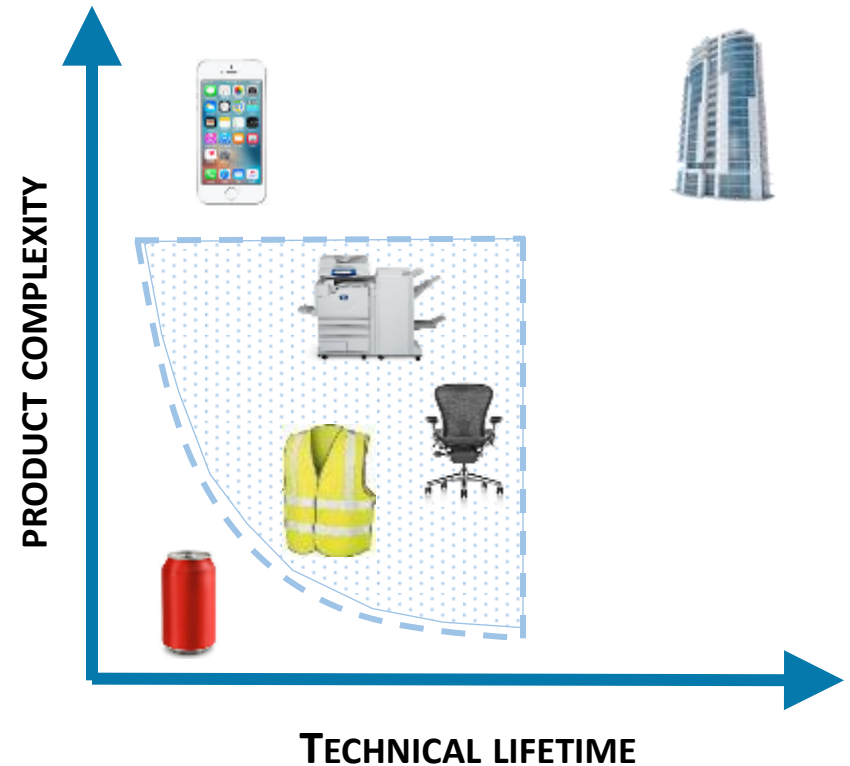
Exercise 1

What are the high-potential product groups for your organisaton?
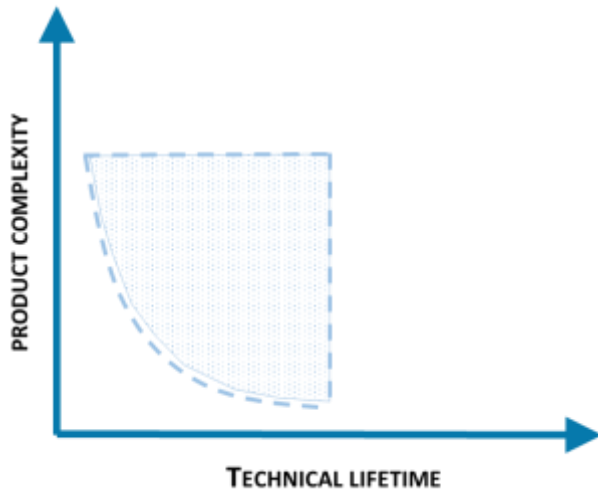
Spend
- How big is the category spend?

Risk
- What level of risk does this category pose?

Scope
- What scope have you to improve sustainability?

Influence
- What influence have over this market and supply chain?

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Benchmarking

Circular procurment is more than just procurement criteria
- 5 themes:
  - Policy, Strategy & Communications
  - Procurement Process
  - People
  - Engaging Suppliers
  - Measurements & Results
- 5 levels:
  - Foundation
  - Embed
  - Practice
  - Enhance
  - Lead

What is your (municipality) current position?

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Coffee break

Return by 14.45 please

Partners Workshop (WP3.1)

Exercise 2 – Stakeholders & Impact

Take Padding

45 minutes

Where is the biggest impact?

Degree to which specifications are fixed

Sustainability gains

| Preparatory stage | Stage 1: Specification | Stage 2: Selection | Stage 3: Contract | Stage 4: Order | Stage 5: Monitor | Stage 6: Aftercare | Utilisation stage |

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Environment
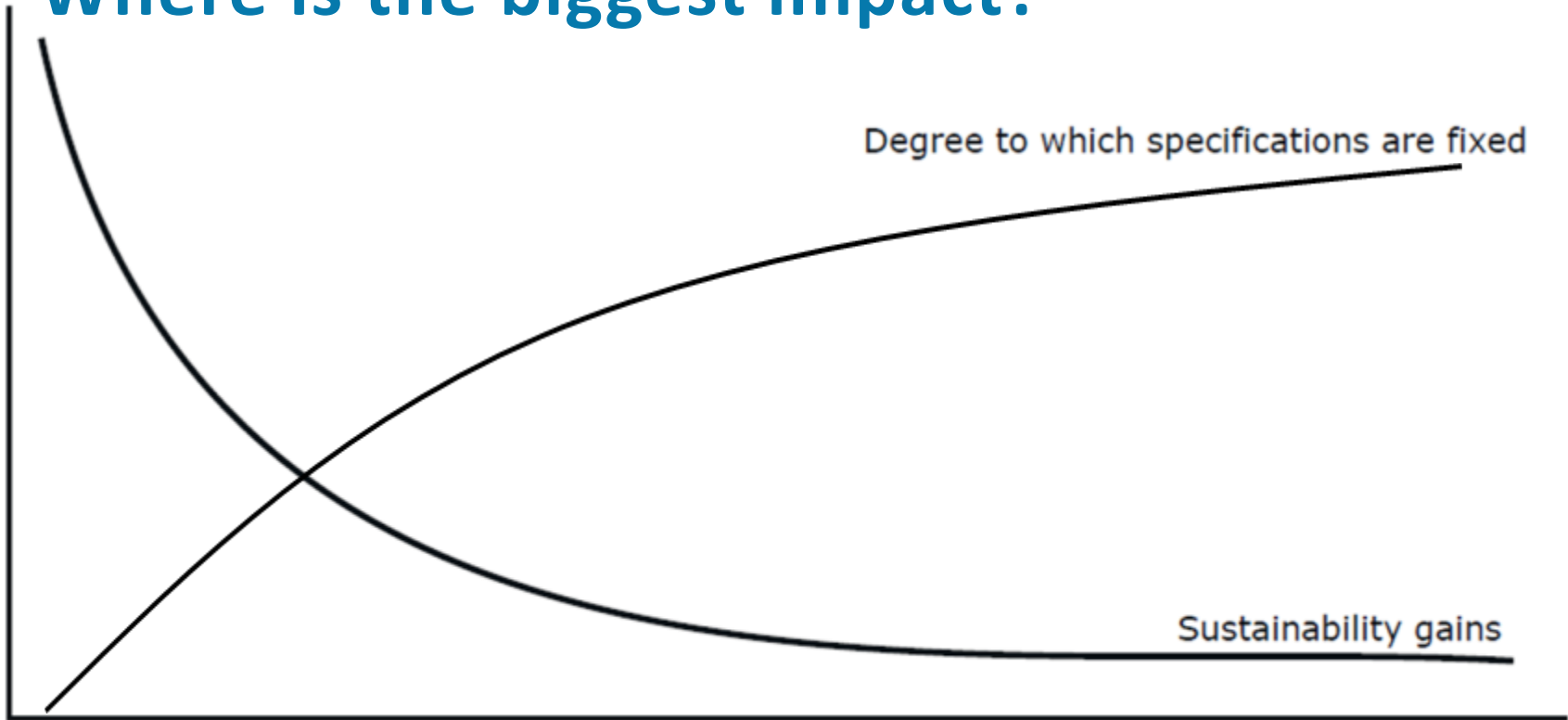
The importance of internal collaboration

EXTERNAL SUPPLY CHAIN

INTERNAL STAKEHOLDERS
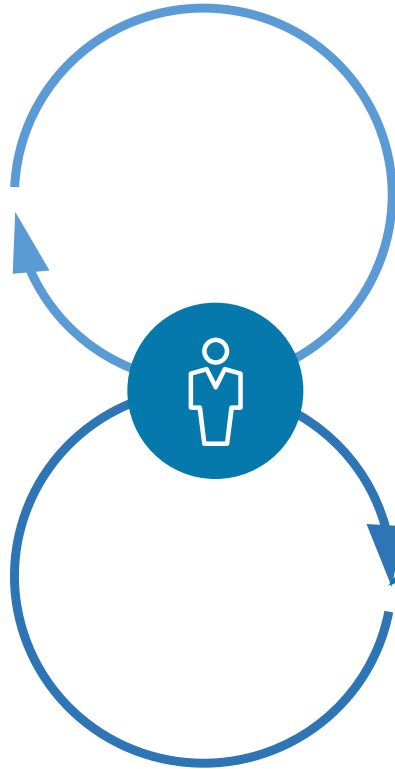
- HOW DO YOU MAKE SURE CIRCULAR PROCUREMENT SUPPORTS THE INTERESTS OF INTERNAL STAKEHOLDERS (OR AT LEAST DON'T CONFLICT WITH THEIR INTERESTS)
- HOW DO YOU MAKE SURE CIRCULARITY IS PART OF THE PROJECT AIMS AS EARLY AS POSSIBLE
- WHO IS GOING TO 'CONNECT 'ALL RELEVANT STAKEHOLDERS
- WHAT ARE THE IMPLICATIONS OF CP FOR THE USE PHASE OF THE PRODUCT?

THIS REQUIRES A ROLE CHANGE FOR THE PROCUREMENT DEPARTMENT

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How do you create internal collaboration?

- Appoint a CP 'champion' / catalyst
- Ambassador on a high management level, who will stand for the project and can help bridge split incentives
- 1-on-1 conversations: people feel themselves heard
  - o Ambitions
  - o Requirements
- Interdisciplinary session on project level ambitions
- Depending on project size: continuous communication
- Involving internal stakeholders in evaluation committee

1	2	3	4
INVENTORYING INTERNAL STAKEHOLDERS	MAPPING STAKEHOLDER INTERESTS	INVOLVING STAKEHOLDERS IN PREPARATION	INVOLVING STAKEHOLDERS IN PROCEDURE

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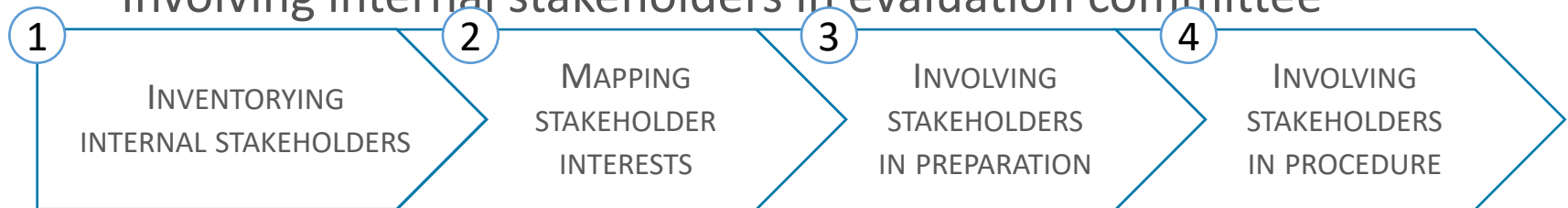
Various ways of involvement

- Different internal stakeholders require different types of involvement
- This depends on their influence (high / small) and their interest (low / high)

	INTEREST LOW	INTEREST HIGH
INFLUENCE HIGH	KEEPING SATISFIED	COLLABORATING
INFLUENCE LOW	MONITORING	INFORMING
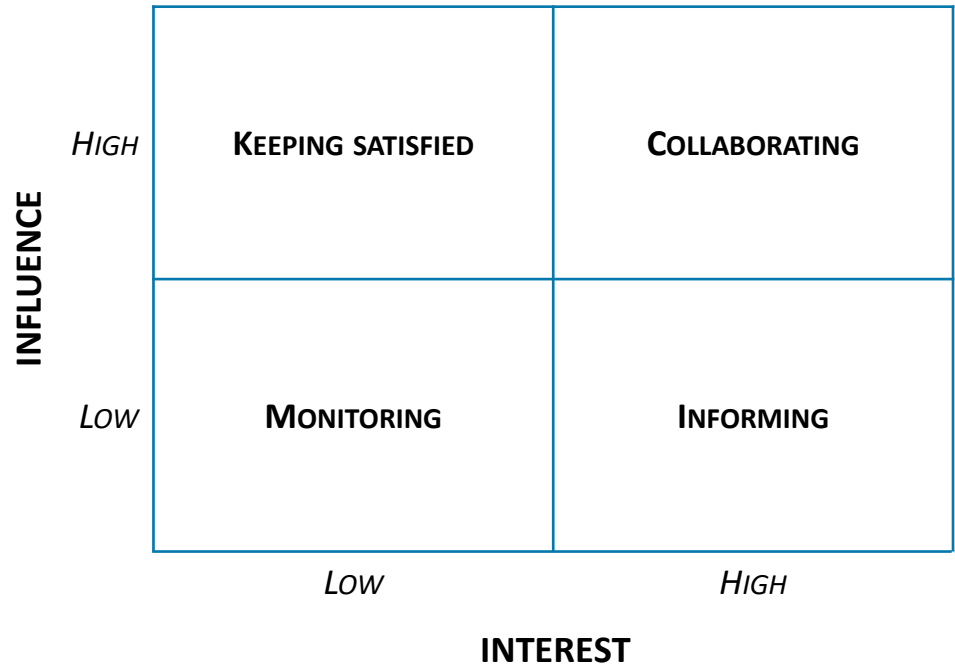
SOURCE: *JOHNSON, WHITTINGTON EN SCHOLES (2011)*

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Exercise 2a

Categorise your internal stakeholders in the matrix

HIGH	KEEPING SATISFIED	COLLABORATING
LOW	MONITORING	INFORMING
	LOW	HIGH

INFLUENCE

INTEREST

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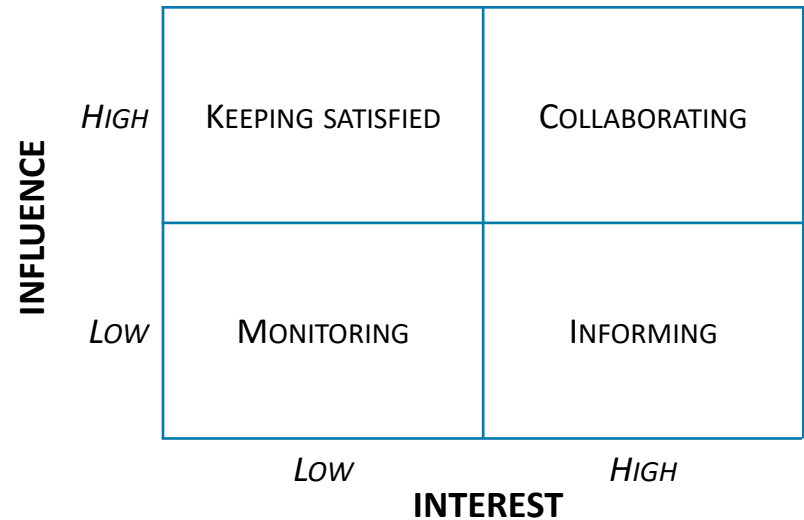
External collaboration: important?
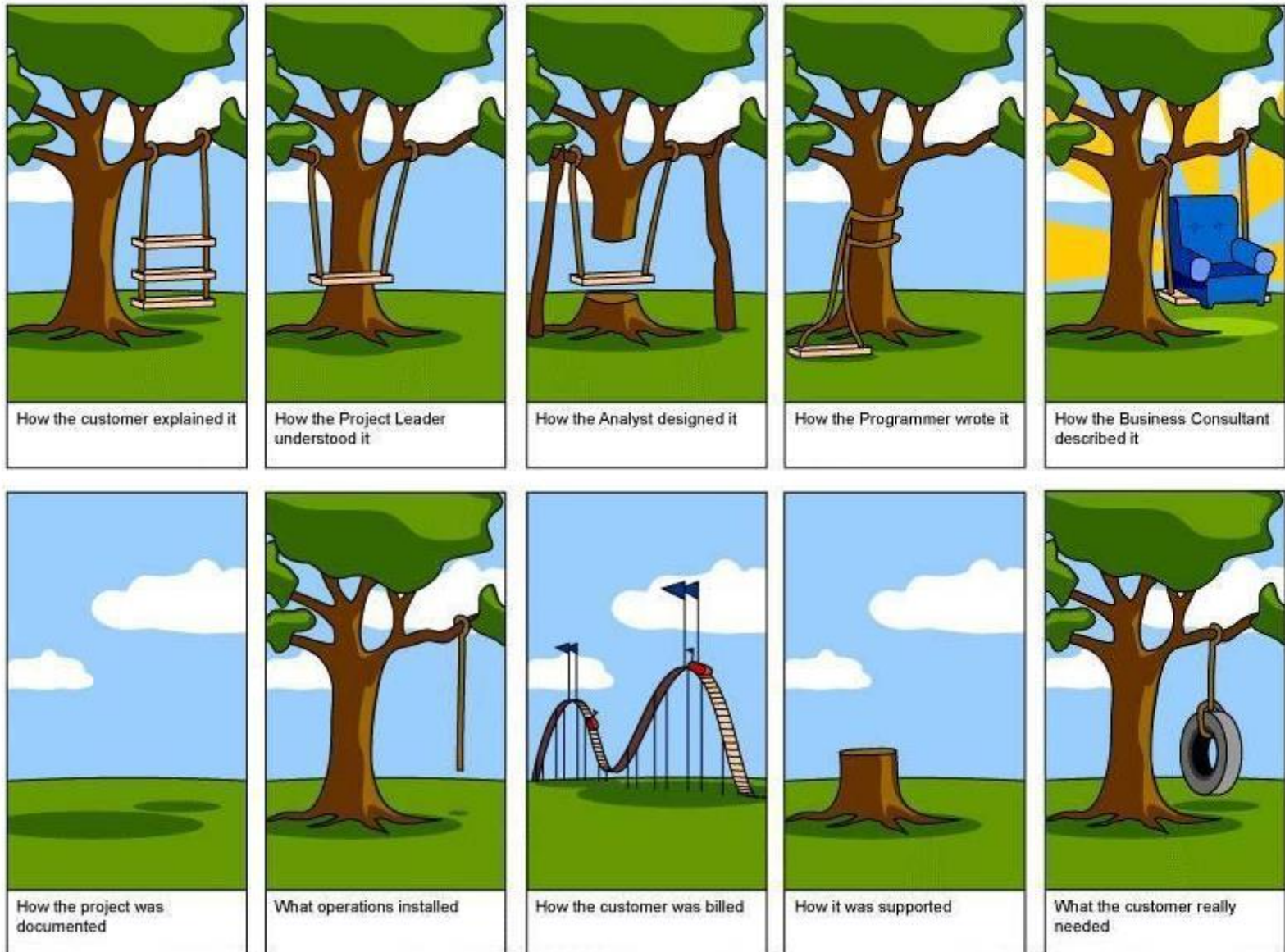
The importance of external collaboration

EXTERNAL SUPPLY CHAIN

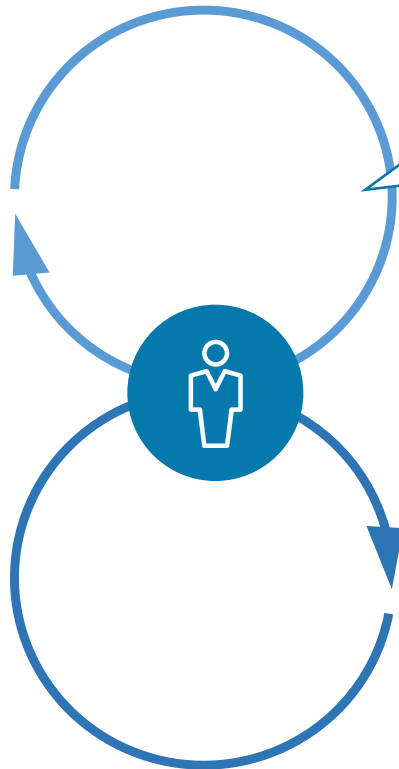INTERNAL STAKEHOLDERS

- WHO ARE RELEVANT EXTERNAL STAKEHOLDERS?
- WHAT ARE THEIR AMBITIONS AND INTERESTS IN THE TRANSITION TO A CIRCULAR ECONOMY?
- HOW TO MAKE OPTIMAL USE OF EXTERNAL KNOWLEDGE, INNOVATIVE IDEAS, OUT-OF-THE-BOX SOLUTIONS ETC DURING THE WHOLE PROJECT?
- HOW TO COME TO A COLLABORATIVE RELATIONSHIP (TRUST)?

THIS REQUIRES AN ANALYSIS OF ALL ACTORS IN THE SUPPLY CHAIN

AN INTENSIVE MARKET DIALOGUE IS A MUST-DO FOR CIRCULAR PROCUREMENT!

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BUILDING CIRCULAR

ROOF STRUCTURE

SAFE LIGHT TRANSPORTABLE

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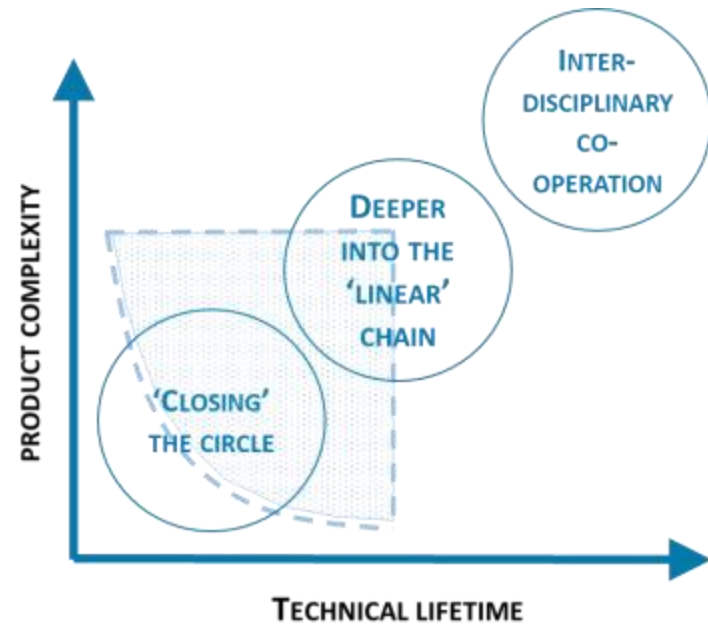
How do you create external collaboration?

Three options

1) Consulting the market, which can be done for various aims:
   - o Inventorying (technical) possibilities
   - o Validating procurement strategy
   - o Stimulating combinations of market organisations
   - o Strengthening internal support

2) Actively promoting combinations of various disciplines

3) Integrating physical contact in the procurement procedure:
   - o Information meeting
   - o Dialogue within procedure
   - o Information notice

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Exercise 2b

Who are your external stakeholders?

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Mentoring next steps (WP3.2)

How do you build circular economy policy?

- Example: national circular economy program of the Netherlands
- Intense stakeholder participation in each step

1

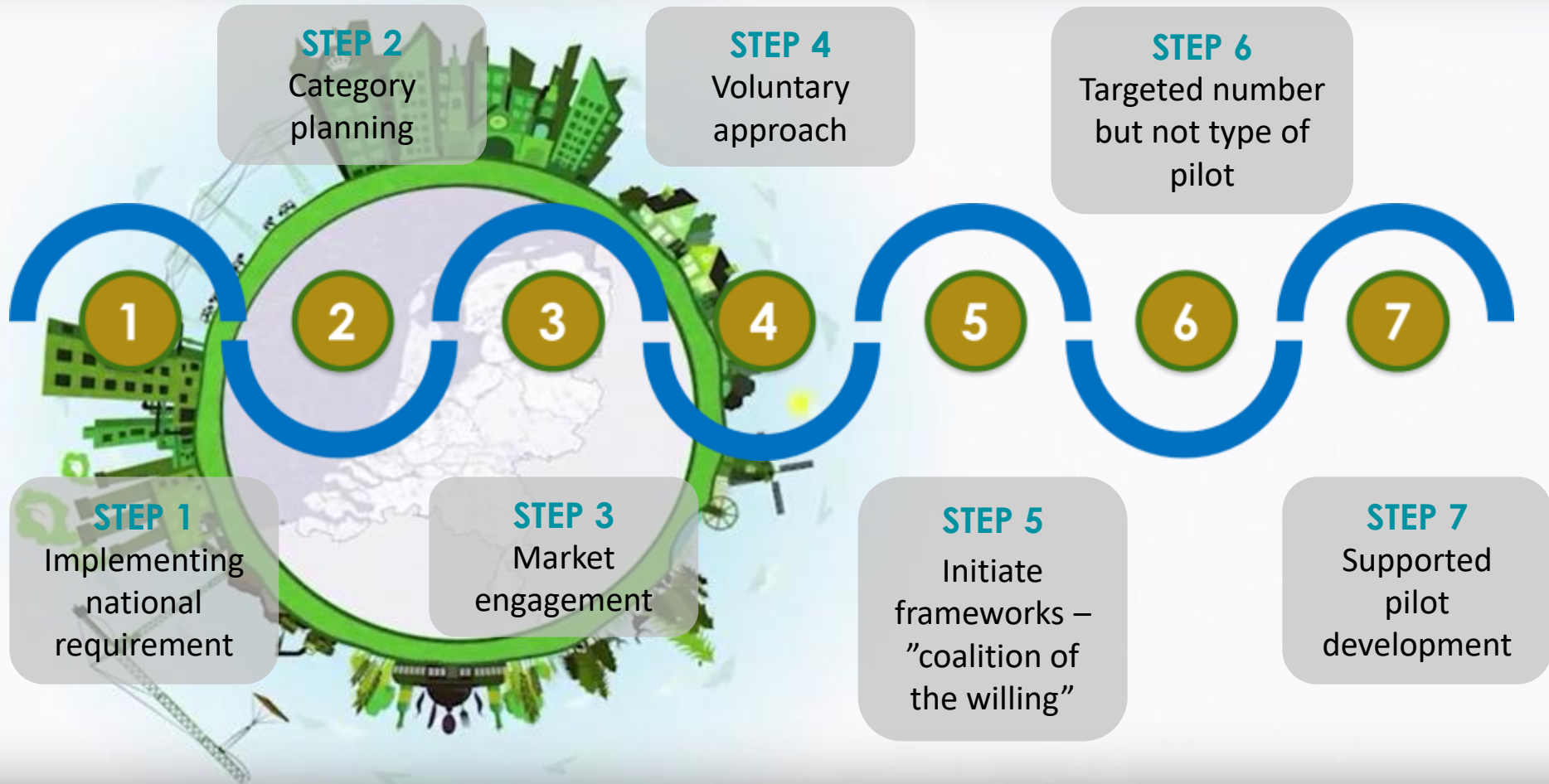**NATIONAL STRATEGY**
TARGETS & SUPPLY CHAINS

2

"RESOURCE AGREEMENT"
STAKEHOLDER OWNERSHIP

3

TRANSITION AGENDAS
PLANS & ACTIONS

Start with *why*

Green Deal approach

STEP 1
Implementing national requirement

STEP 2
Category planning

STEP 3
Market engagement

STEP 4
Voluntary approach

STEP 5
Initiate frameworks – "coalition of the willing"

STEP 6
Targeted number but not type of pilot

STEP 7
Supported pilot development

Green Deal

SUSTAINABLE GLOBAL RESOURCES Ltd

Mentoring timeline

Mervyn Jones | Sustainable Global Resources

mervyn@sustainableglobalresources.co.uk

Take Padding | Rijkswaterstaat

take.padding@pianoo.nl

CircularPP