



Co-financed by the European Regional Development Fund

Inspire Policy Making with Territorial Evidence

ESPON CIRCTER

Circular Economy and Territorial Consequences

Key Results from the project

ESPON Seminar

State of the European Territory

Digital Innovation Paving the Way for Territorial Cohesion

Session G

Circular Economy

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Table of Contents

1. The CIRCTER project at a glance
2. Policy question #1: What does the circular economy mean from a territorial perspective?
→ Answers and examples from the CIRCTER project
3. Policy question #2: What do material patterns and flows, including resources and waste, look like in European regions and cities and how have they changed over the past 10 years?
→ Answers and examples from the CIRCTER project
4. Policy question #3: What is the potential for implementing the circular economy in European regions and cities?
→ Answers and examples from the CIRCTER project
5. Policy question #4: How do the approaches used to implement a circular economy affect different types of European regions and cities?
→ Answers and examples from the CIRCTER project
6. Take-aways and policy recommendations
7. Policy needs

Circular Economy and Territorial Consequences (CIRCTER)

- A project supported by ESPON Programme (October 2017 - May 2019)



CIRCTER provides guidance for the promotion of **circular economies** at sub-national territorial levels

- CIRCTER provides:
 1. new **territorial and sectoral definitions** of a circular economy;
 2. new set of **regional indicators** on **material consumption** and **waste generation**, as well as sector-specific data on **turnover and jobs**.
 3. six **case studies** on regional and local circular economy initiatives across Europe;
 4. a **Policy Guide** aimed at local and regional policy makers

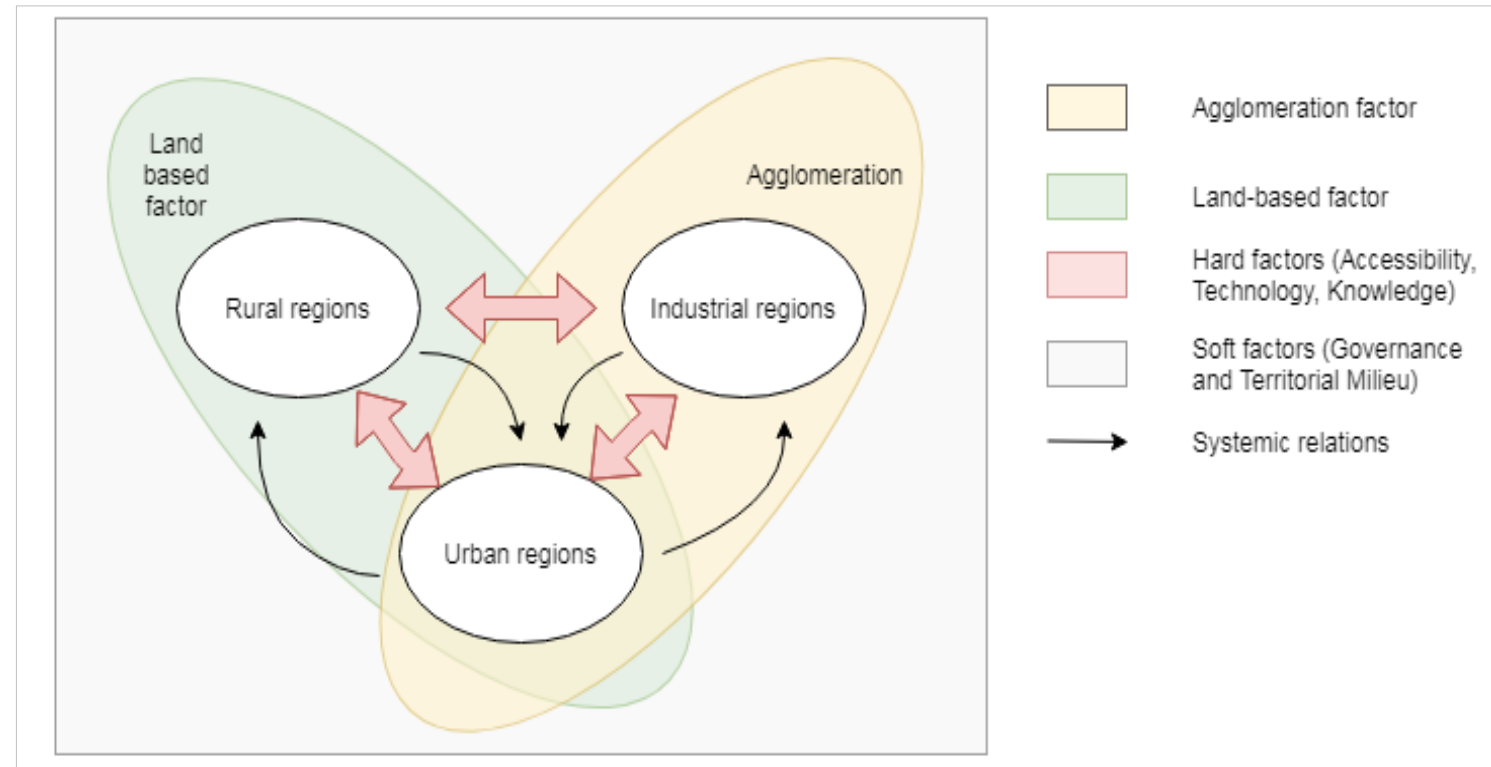
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(1) What does the circular economy mean from a territorial perspective, (2) what territorial factors influence the development towards a circular economy and (3) what territorial characteristics make regions and cities more or less optimal to support the circular economy?

Territorial factors affecting a circular economy

In CIRCTER we have identified and analysed **seven territorial factors conditioning progress to a circular economy**. These include:

- (1) **land-based resources,**
- (2) **agglomeration economies,**
- (3) **accessibility conditions,**
- (4) **knowledge- and**
- (5) **technology-based enablers,**
- (6) **governance and institutional drivers,**
- (7) **territorial milieus**

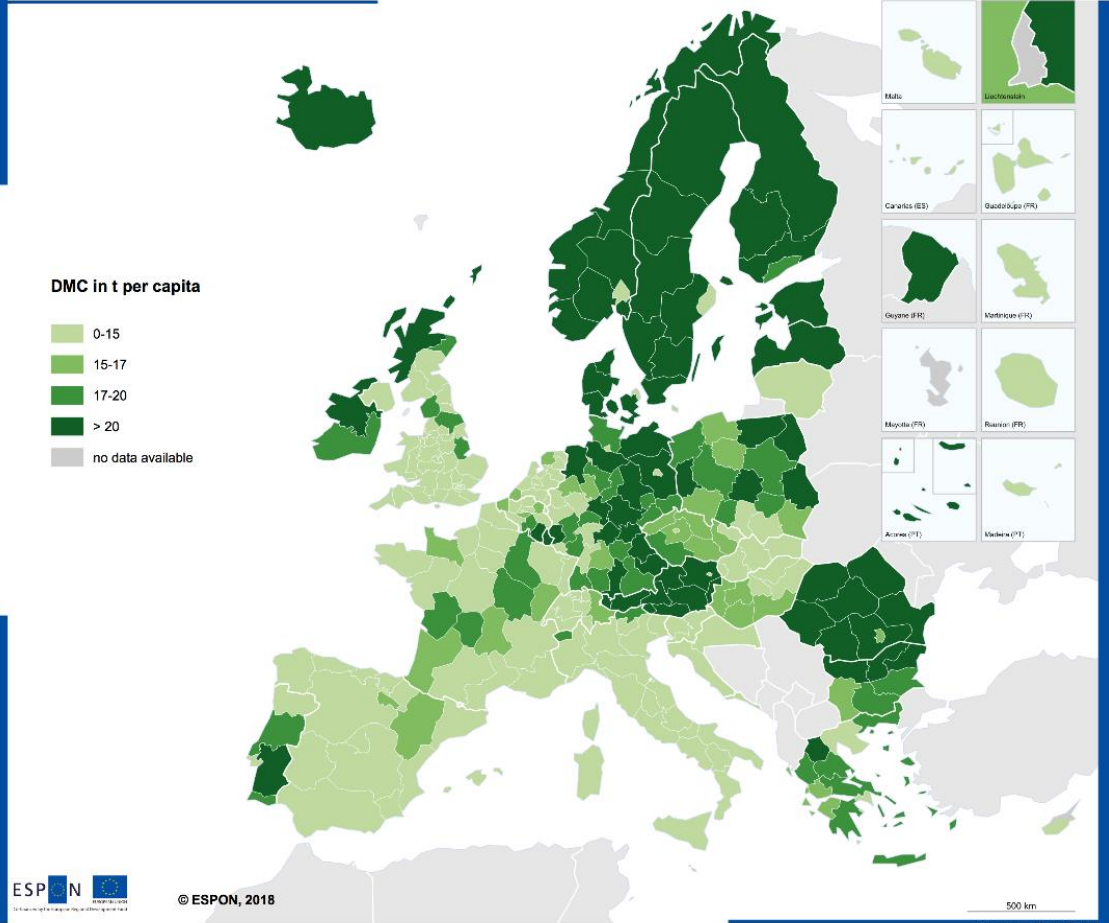


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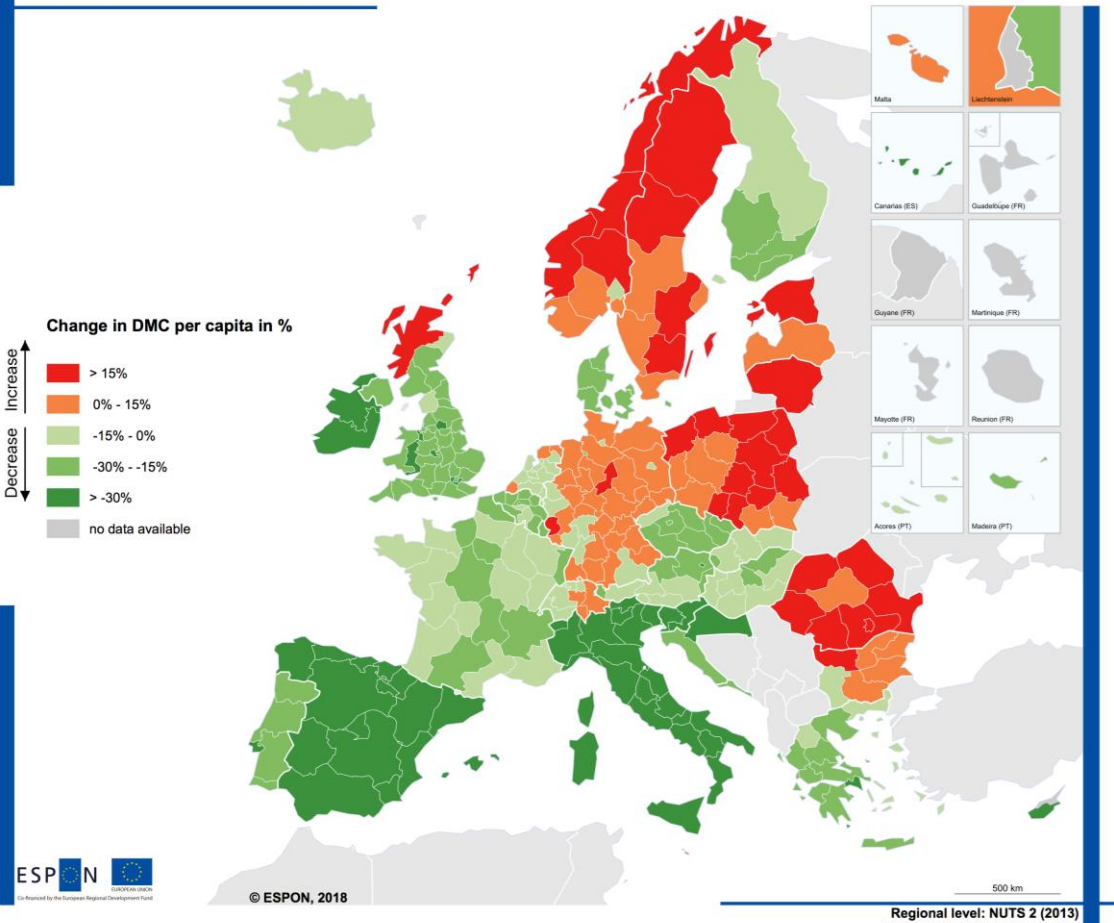
What do material patterns and flows, including resources and waste, look like in European regions and cities and how have they changed over the past 10 years?

Material resource use (L) and evolution (R)

Domestic Material Consumption (DMC) in t per Capita, 2014



Change in Domestic Material Consumption per capita in %, 2006 - 2014

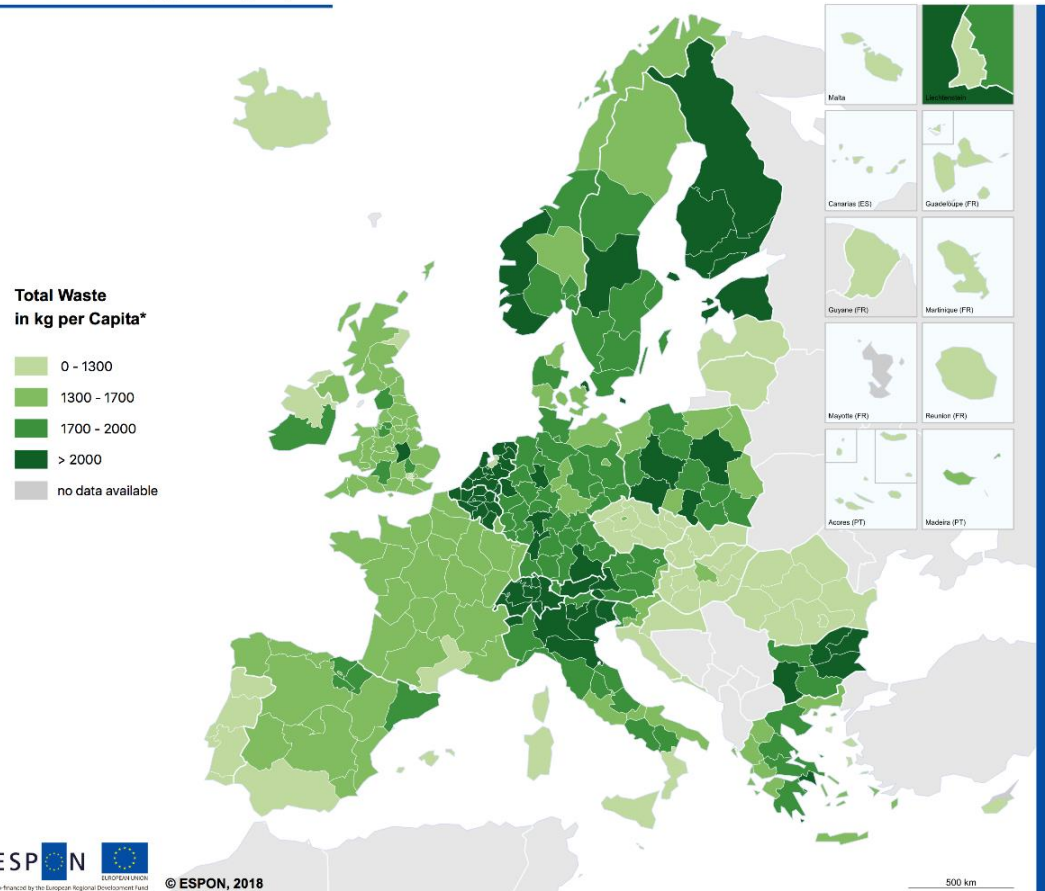


Regional level: NUTS2 (2013)
Source: CIRCTER project, 2018
Origin of data: CIRCTER project, 2018
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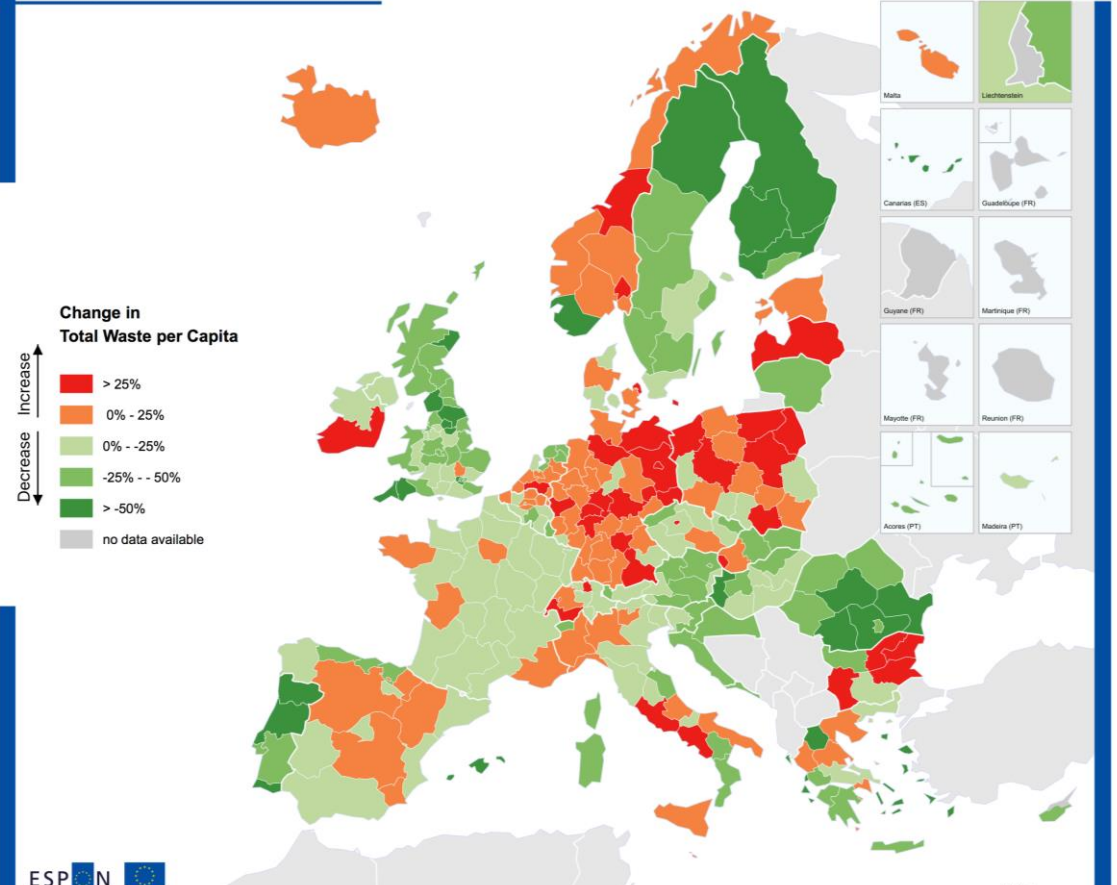
Regional level: NUTS 2 (2013)
Source: CIRCTER project, 2018
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Waste generation per capita (L) and evolution (R)

Total Waste in kg per Capita, 2014



Change in Total Waste* in kg per Capita in %, 2006 - 2014



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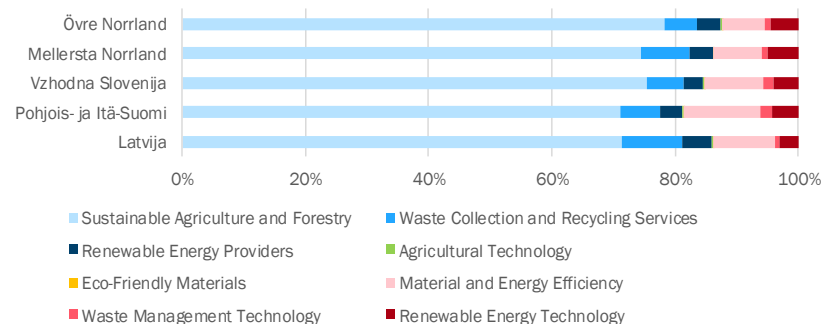
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How do the approaches used to implement a circular economy, such as industrial symbiosis, clustering, territorial connectivity, energy efficiency and smart logistics, but also the sharing economy, affect different types of European regions and cities (i.e. capital cities, secondary growth poles, small and medium sized towns)?

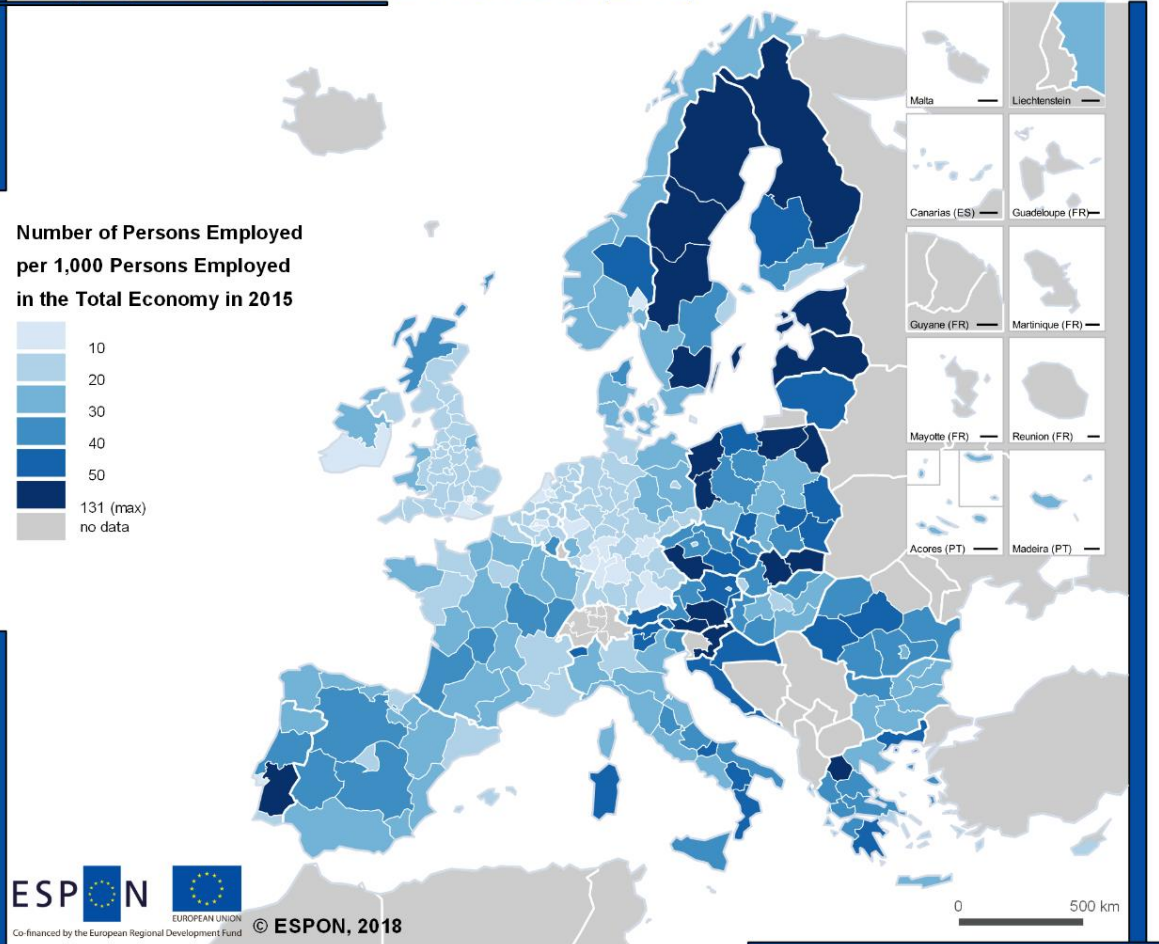
Territorial distribution of employment of Material Providers

- With around **3.3 million employed persons** and **€555 billion in turnover**, CE Material Providers already make a significant and growing contribution to European regional economies (**<1% to >13% percent of jobs**).
- Due to the contribution of **Sustainable Agricultural** and **Forestry**, CE Material Providers tend to be more **concentrated in rural areas**.

Top 5 Regions with highest Material Providers share in Total Economy, distribution of Material and Technology Providers by sector

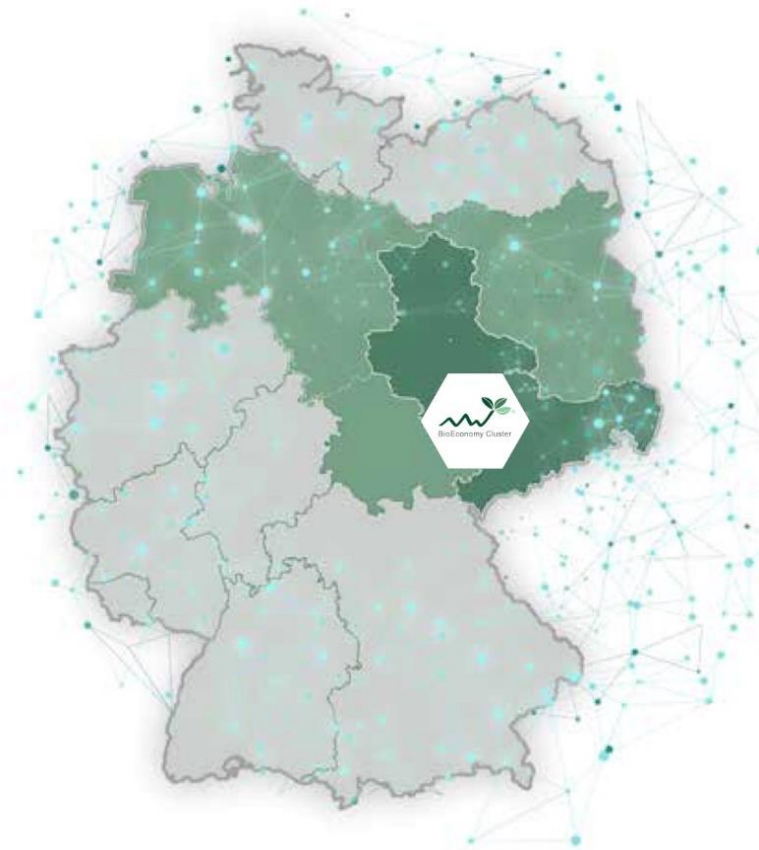


Employment by Material Providers (2015)



Regional level: NUTS 2 (version 2013)
 Source: ESPON CIRCTER, 2018
 Origin of data: Eurostat, accessed 2018, calculated by Prognos AG
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Example: Central Germany – The Bio-economy Cluster



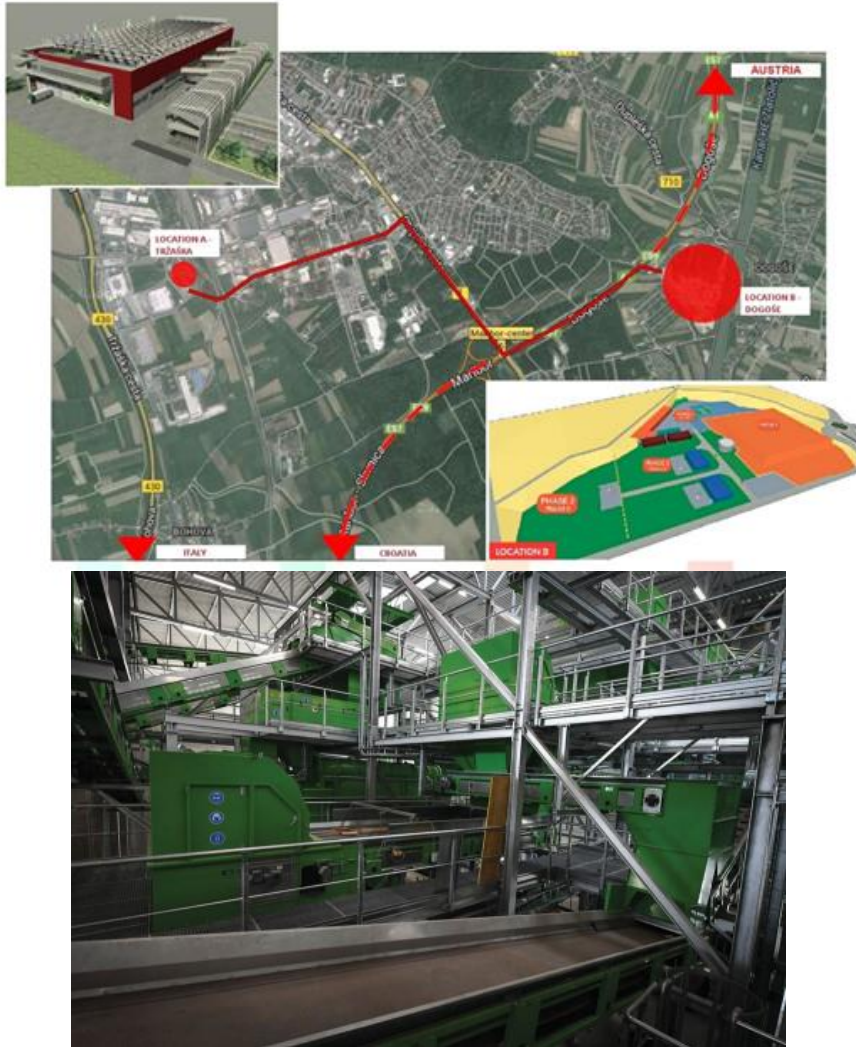
Ambition: To build a bio-economy leading market

Measures: Foster Joint innovation opportunities, share knowledge and support companies and re-search projects

Success factors: Availability of large amount of biomass, rising oil price, financial support, qualified workforce, established value chains, strong policy-approaches, high performance R&D

Barriers & Challenges: Lack of awareness, missing long-term regulatory framework, lack of incentives for large investments, high risk potential

Example: Maribor and the WCYCLE strategy



Ambition: Transform the City of Maribor. Increase the recycling rate in about 30%; Increase the share of reusable waste from 14% to 44%

Measures: Wcycle Institute – to promote collaboration among public utilities; New high-tech waste management plant – sorting and treating 200KT/year

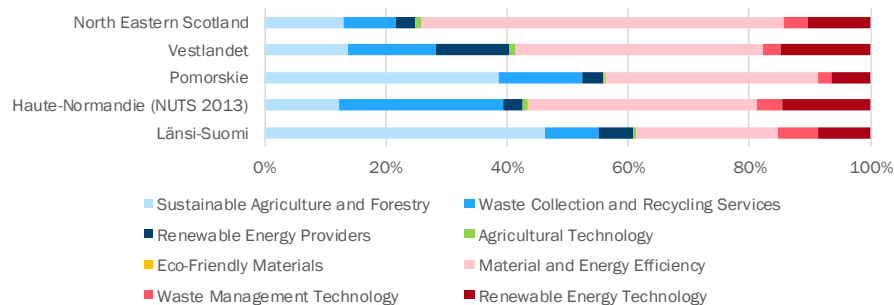
Success factors: Citizens opposition to any landfill or a waste incinerator; Awareness raising among public utility companies; Mayor's ambitious vision of the future in Maribor

Barriers & Challenges: Not enough awareness of the consumers and companies; Not sufficient financial commitment of the private sector; Skill gaps; Regulatory constraints

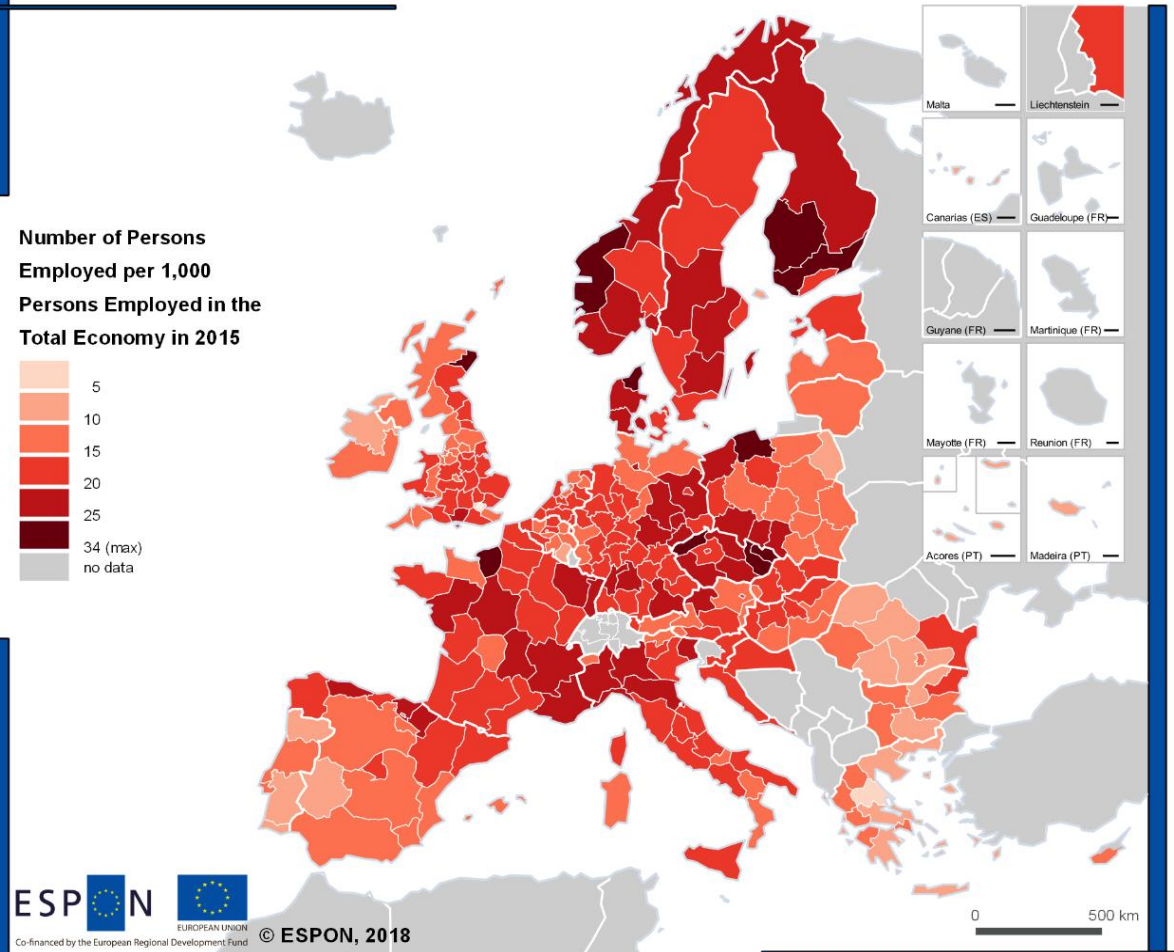
Territorial distribution of employment of Technol. Providers

- With around **2.5 million employed persons** and **€385 billion in turnover**, Technology Providers already make a significant and growing contribution to European regions' economies (**between 1% and 3% of regional economies** in employment terms)
- CE Technology Providers tend to be more concentrated in **urban-industrial areas**.

Top 5 Regions with highest Technology Providers share in Total Economy, distribution of Material and Technology Providers by sector



Employment by Technology Providers (2015)



Example: Basque Country circular economy initiatives



Ambition: CE as competitiveness driver. More industry with less material. Expectations: Decrease 6% the raw material consumption and consequently saving 2,000 million euro.

Measures: Green public/private procurement; Standardisation; Grants for eco-design ecoinnovation and CE demonstration, industry-CE projects; Financial support to equipment and infra-structure; Fiscal deductions

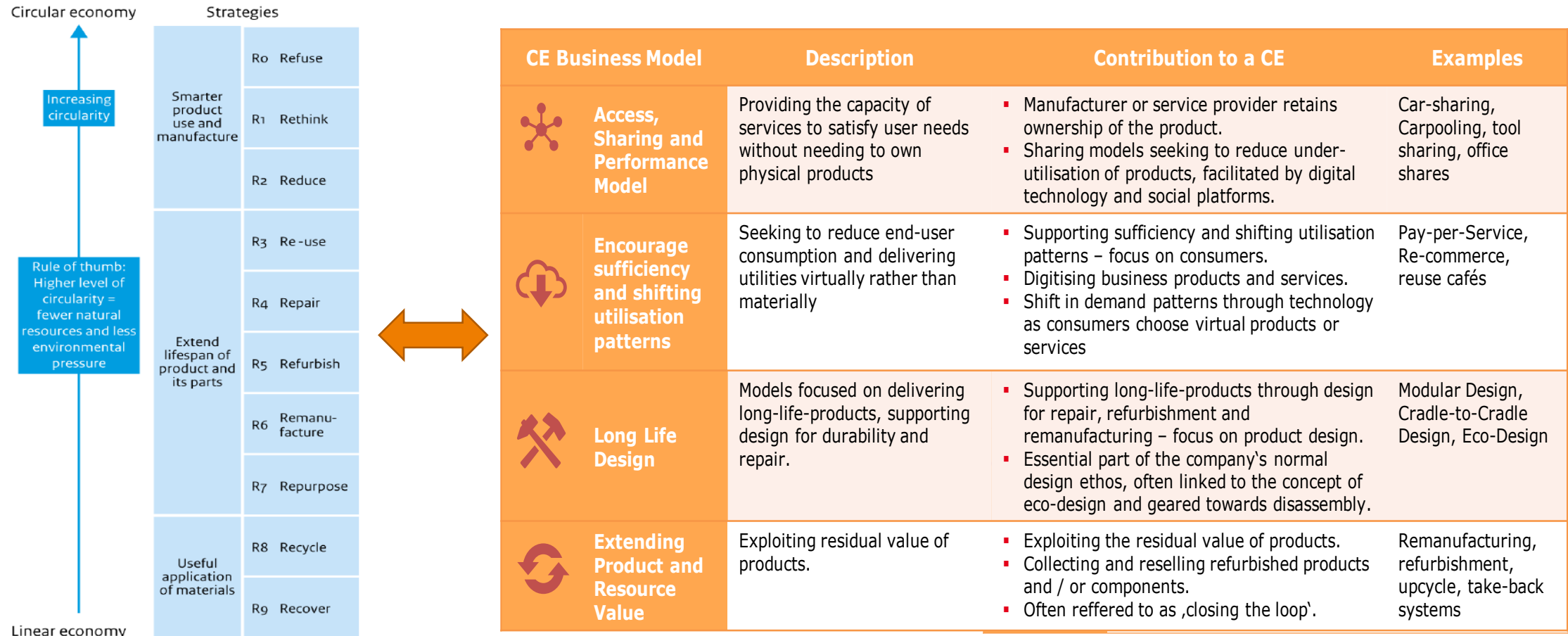
Success factors: A forward looking strategic planning and Public support instruments; Public private collaboration

Barriers & Challenges: Insufficient knowledge of technologies that drive competitiveness; High product and process modification costs; scale-up difficulties

4

**(1) What is the potential for implementing the circular economy in European regions and cities and
(2) what kind of action/policy is needed in what type of region/city to ensure a smooth transition to circular economy/lifestyle?**

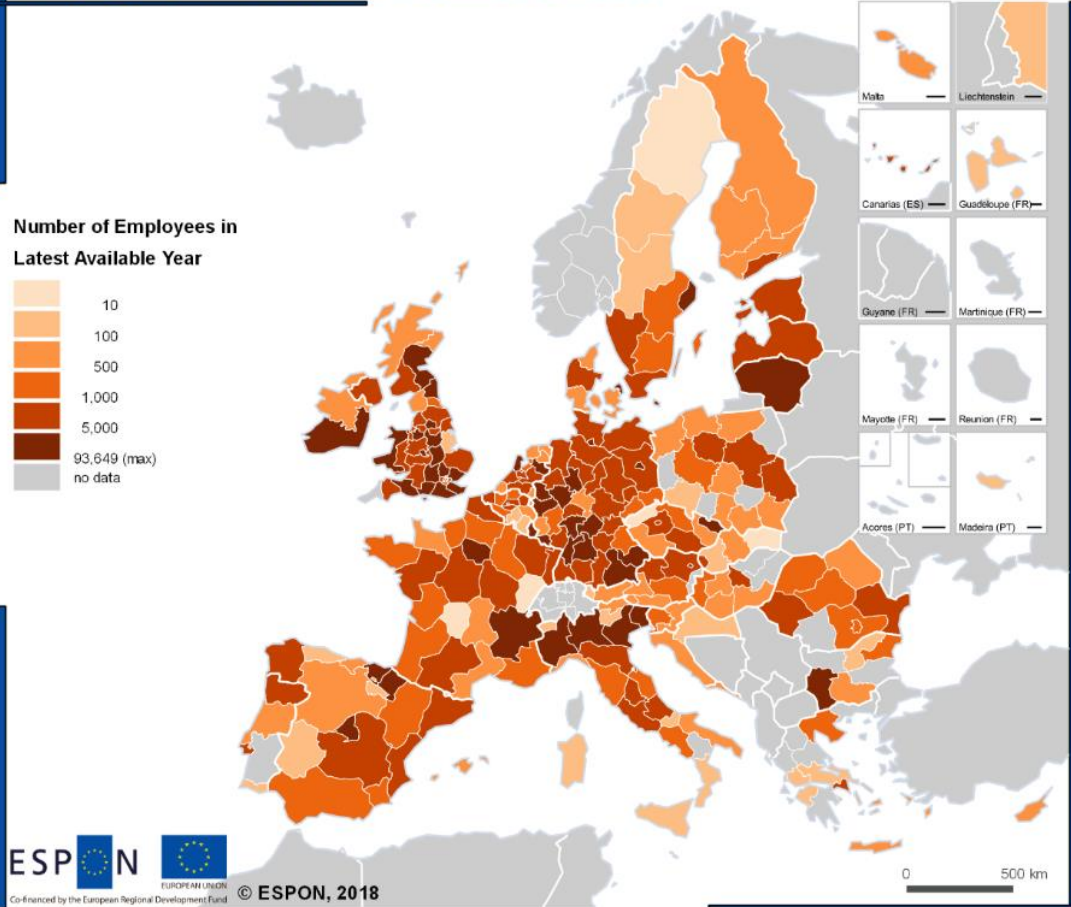
New Circular Business Models



Source: RLI 2015; edited by PBL

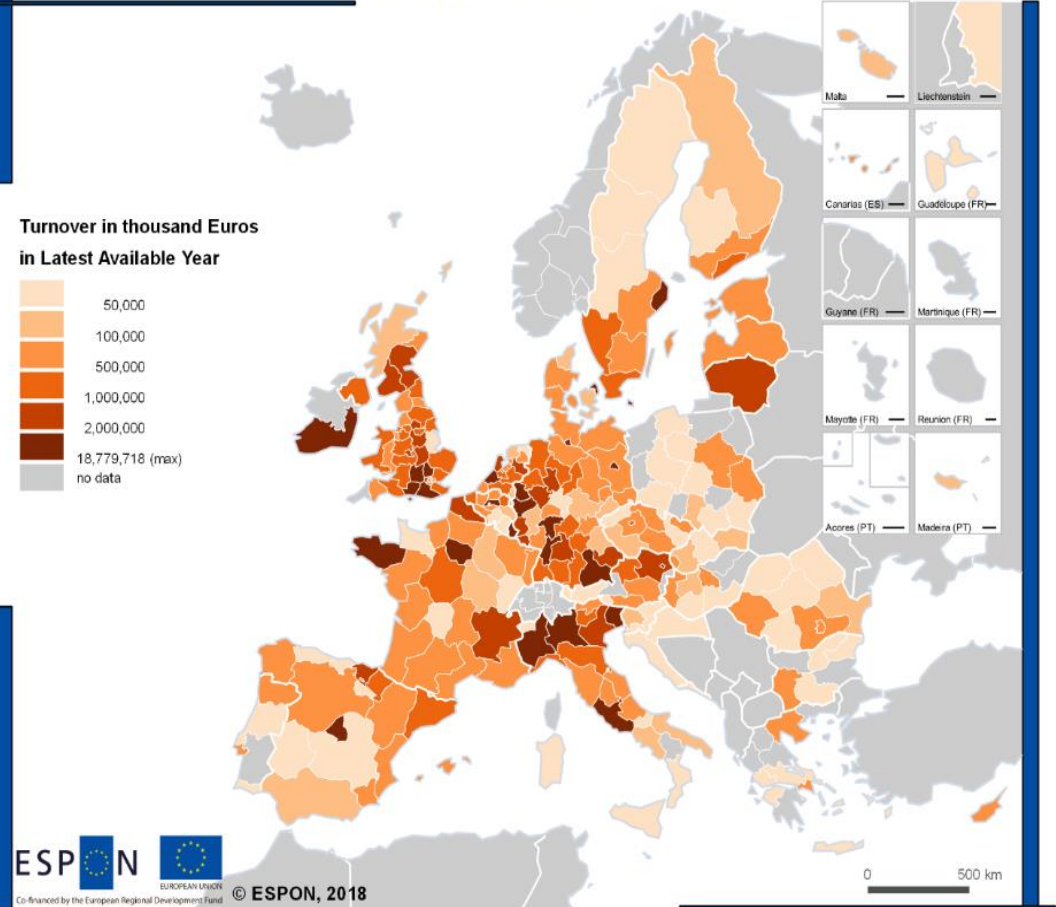
Circular Business Models: regional pioneers

Employment in Circular Business Models



Regional level: NUTS 2 (version 2013)
 Source: ESPON CIRCTER, 2018
 Origin of data: Orbis, Bureau van Dijk, accessed 2018, calculated by Prognos AG
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Turnover of Circular Business Models

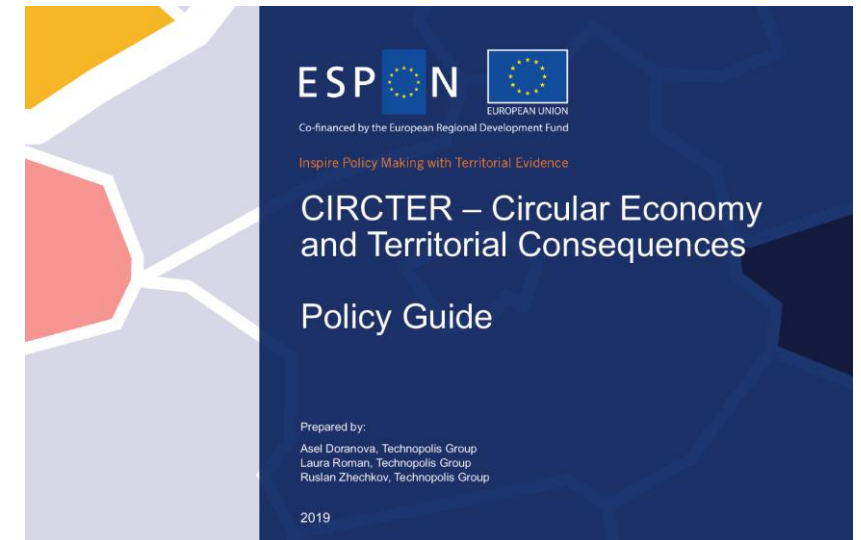


Regional level: NUTS 2 (version 2013)
 Source: ESPON CIRCTER, 2018
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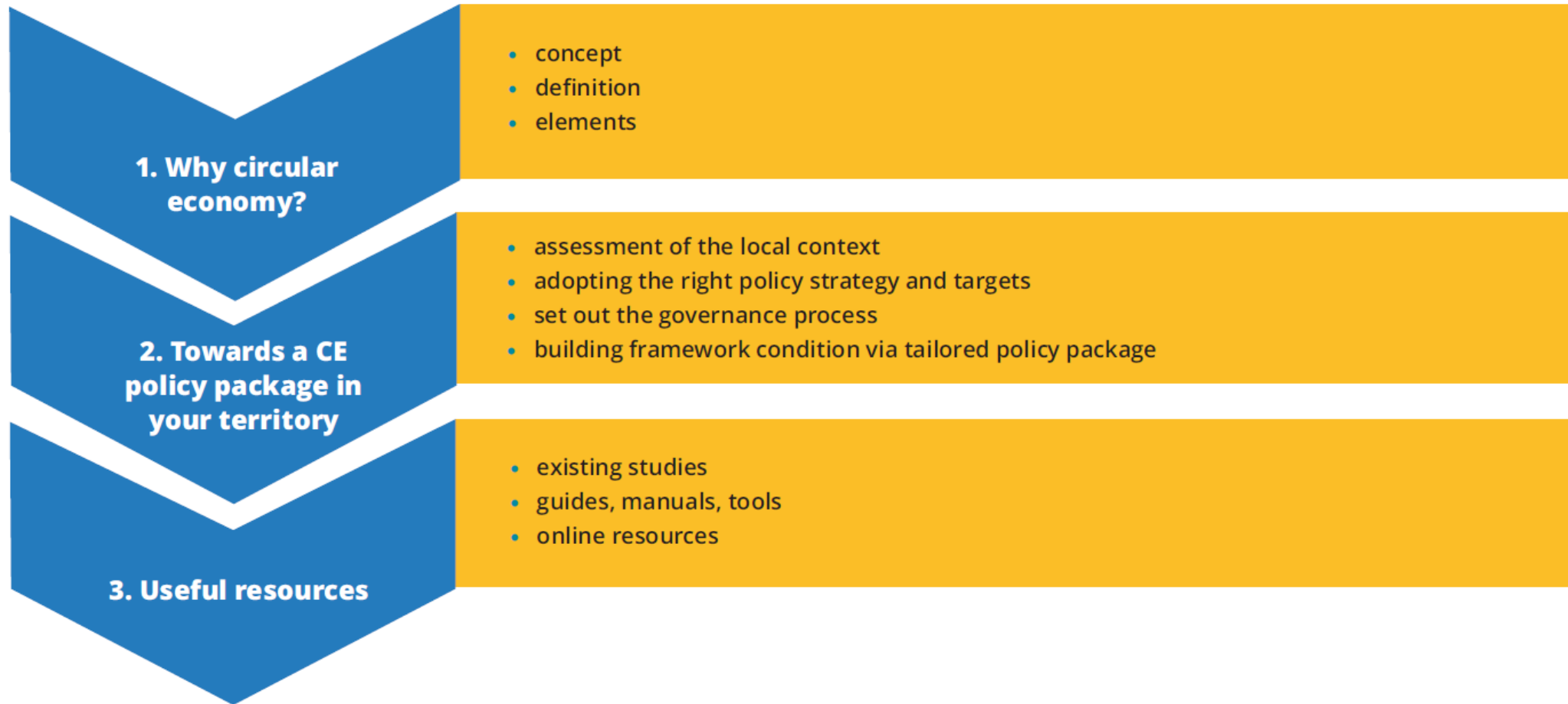
How to support regions in the transition towards a circular economy?

CIRCTER guidance:

1. Assess the local context and potential for circular economy
2. Set the right policy priorities
3. Setting out the right governance and implementation processes:
 - Identify the key partners and stakeholders to work with
 - Mobilise stakeholders to create regional alliances to promote circular economies
 - Organize collaborative action and effective implementation
 - Communicate plans
 - Set up a monitoring and evaluation system for the circular economy
4. Ensuring favourable framework conditions via policy mix:
 - Building policy measures mix
 - Examples of policy measures to support the circular economy



The CIRCTER policy guide: structure



Example: The Circular Economy Strategy of Scotland: “Making things last”



Ambition: Put Scotland at the forefront in the shift towards a more circular economy. Cut food waste by a third until 2025

Measures: Change lifestyles, upskilling - Strategic agenda with the Ellen MacArthur Foundation

Success factors: Strong commitment; ESIF; CE investment Fund; Promotion of specific activities in cities; Renovation of education system; Charter for Household Recycling; Scottish Institute for Remanufacture

Barriers & Challenges: Lack of awareness of business opportunities; Reluctance to innovate; Difficult access to finance, weak incentives for consumers, Low level of trust in remanufactured goods

Brussels Regional Plan for a Circular Economy 2016-2020

Ambition: Transform environmental objectives into economic opportunities, in order to create new jobs and welfare

Measures: Real Estate Agency (business park); Link academic research in CE with the work by public and private actors; Networking platforms; Monitoring scheme

Success factors: Extensive metabolism study as a starting point; Strong, innovative and agile governance structure; Mix of bottom-up and top-down approaches-involvement of a large array of actors; Detailed action plan

Barriers & Challenges: weak integration of European funding; insufficient knowledge on the creation of circular public markets from a legal and animation point of view



JE SOUHAITE



M'INFORMER

sur le concept d'économie circulaire



M'INSPIRER

des initiatives circulaires portées par des entreprises bruxelloises



ÊTRE ACCOMPAGNÉ

pour définir et/ou mettre en oeuvre une démarche d'économie circulaire



UN FINANCEMENT

Découvrir les financements pour soutenir ma démarche d'économie circulaire

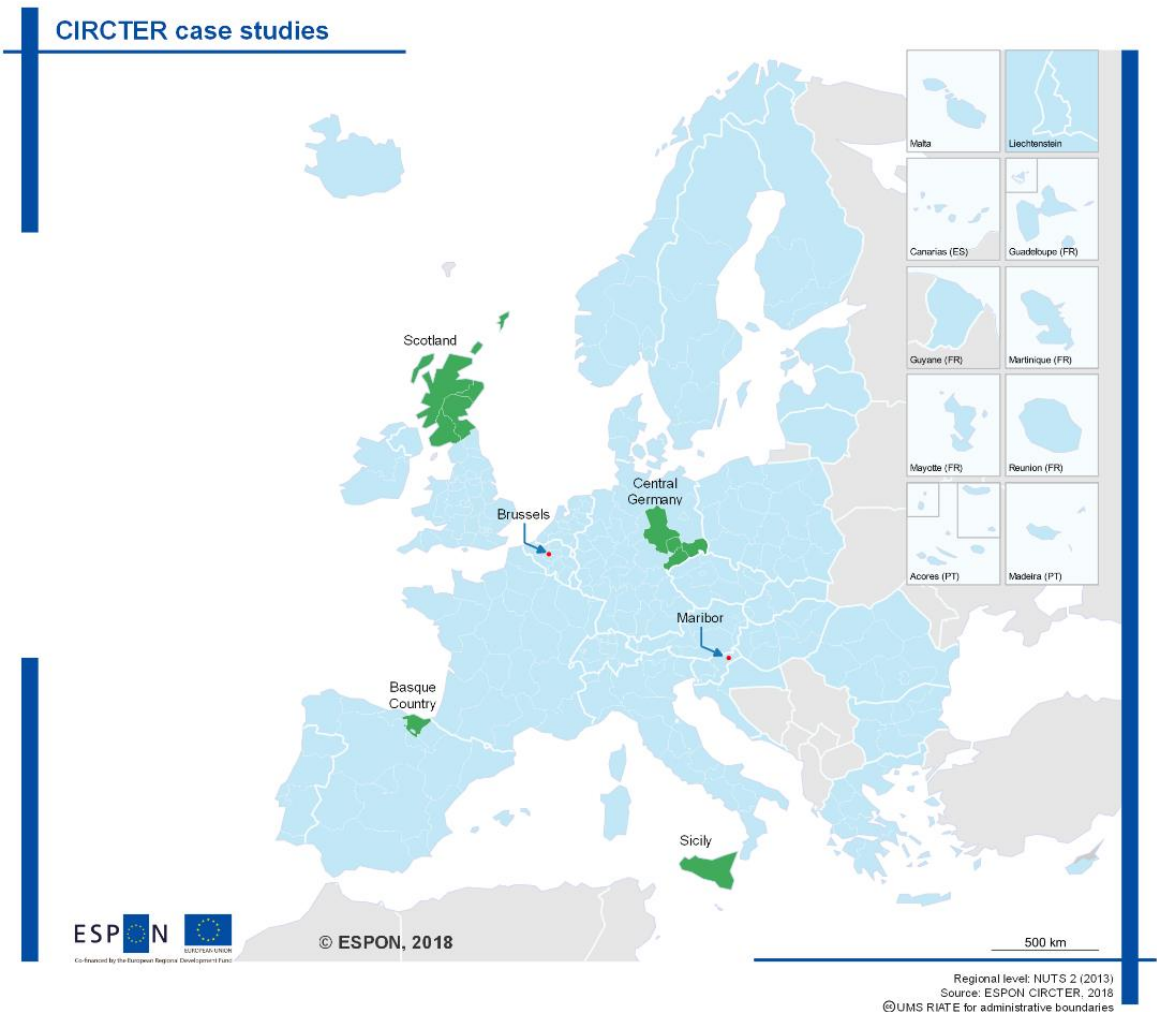


UNE LOCALISATION

Découvrir les offres d'hébergement existantes pour soutenir ma démarche d'économie circulaire

Main lessons from the CIRCTER case studies

- Reaching a **critical mass** is fundamental due to the relevance of agglomeration factors for circular business models.
- **Political leadership** and **participation** of a wide array of actors and stakeholders, are key to keep momentum.
- **Place-based policy approaches** that take account of the installed capacities are crucial to unlock territorial potentials in each setting.
- **Incremental work**: The existence of previous initiatives helps to (re)activate latent capacities.
- **Softer knowledge and awareness factors** seem to make a more significant contribution to circular initiatives than hard factors (e.g. infrastructures, technology).



5

Take-aways and policy recommendations

Key lessons

The **circular economy is relevant for all types of territories**, but it is materialised in very different ways depending on local conditions:

- Tendencies towards the geographical concentration of some circular economy activities are likely to occur in highly **urbanised areas**. > Cohesion policies should prevent this
- Opportunities to revitalize the economies of **rural areas** may emerge from a sustainable bio-economy. > But should be implemented in a **decentralized way**
- **Industrial regions in decline** may find opportunities thanks to the availability of industrial vacant plots, old factories and other facilities

Key messages for local and regional authorities

- Regions and cities can do much in support of a CE, as the CIRCTER **case studies** show
- Regions and cities have a fundamental role in contributing to an **effective recovery of materials** that are consumed locally
- The focus of regional and local circular policies and strategies should be on **responsible resource management** and **waste prevention** through a revised **material hierarchy**:

refuse > rethink > reduce > reuse > repair > refurbish > remanufacture > repurpose > recycle > recover

- Biological feedstocks should be used in **cascades**
- **Incineration should be avoided** as far as possible, particularly in those territories where incineration facilities are not already in place

Key messages for the design of territorial and cohesion policies

- **The 2012-2027 Cohesion Policy** should support the circular economy by investing in transformative projects going well beyond compliance with existing regulations:
 - A **systemic shift throughout the value chain** should be at the heart of circular strategies.
 - **Behavioural change** should be promoted as a fundamental strategy for closing material loops.
 - When possible, circular economy actions should be mainstreamed to the **RIS3 Strategies**
 - **Cohesion Policy funds** directed at **SMEs** should be aligned with the circular economy objectives. **Private-to-private funding** should also be promoted
- The principles of the EU Strategy on circular economy should be integrated with the **Territorial Agenda post-2020**



European Spatial Policy Network
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// Thank you

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