

# //Circular Economy and Territorial Consequences (ESPON CIRCTER)

ESPON Seminar

New Narratives for Territorial Development

Vienna, 4-6 December 2018

Carlos Tapia



KnowlEdge Srl  
Growing winning ideas out of complexity

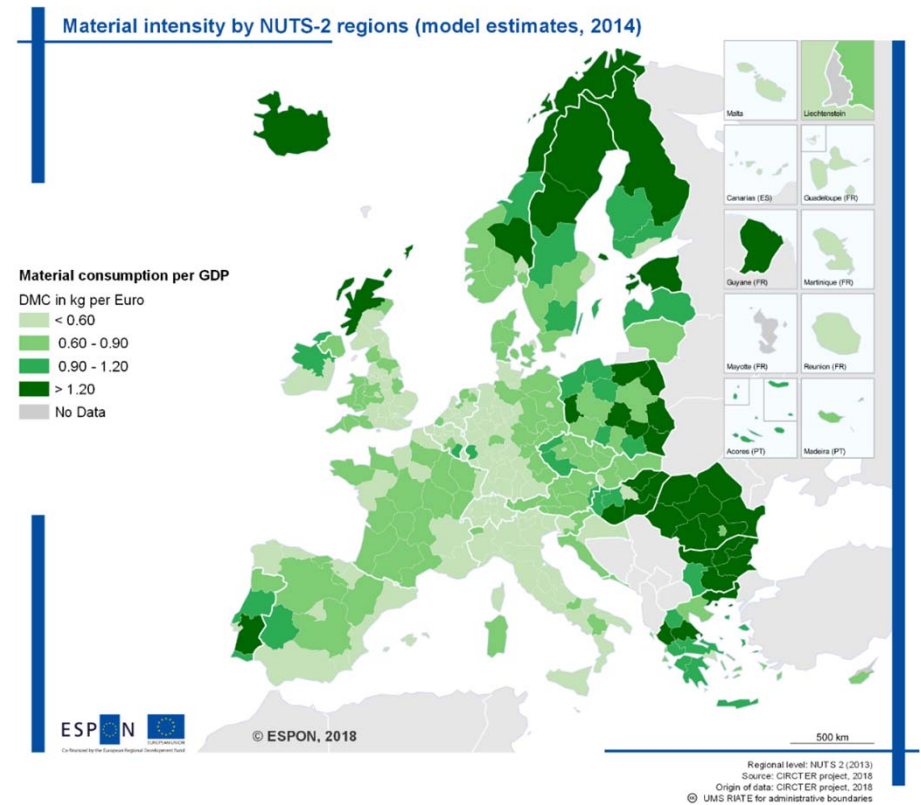
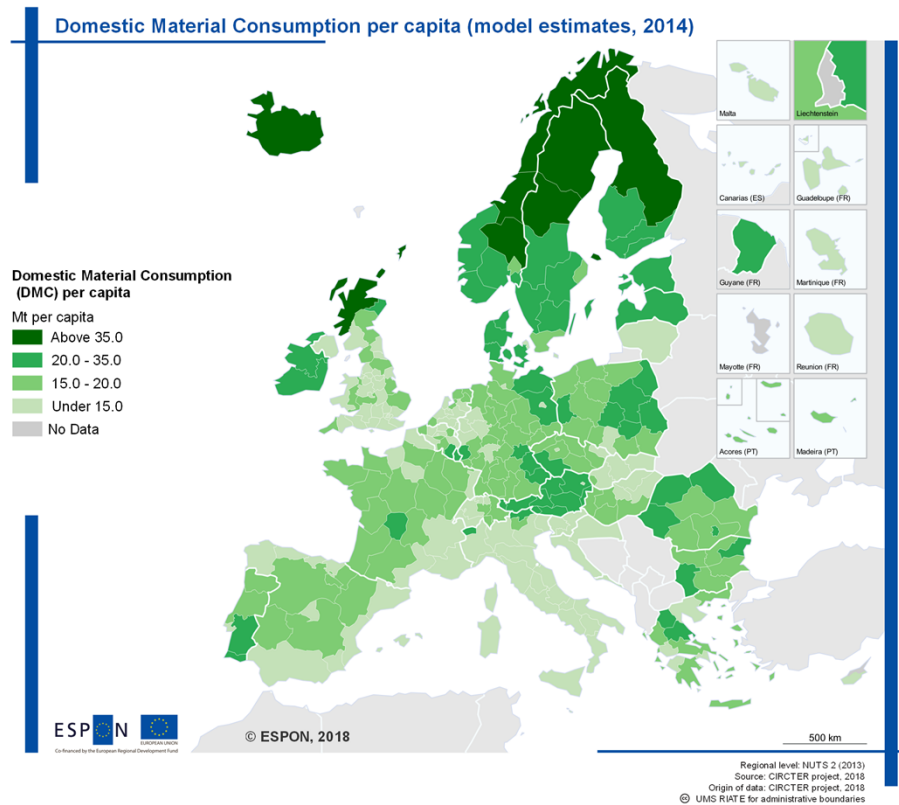
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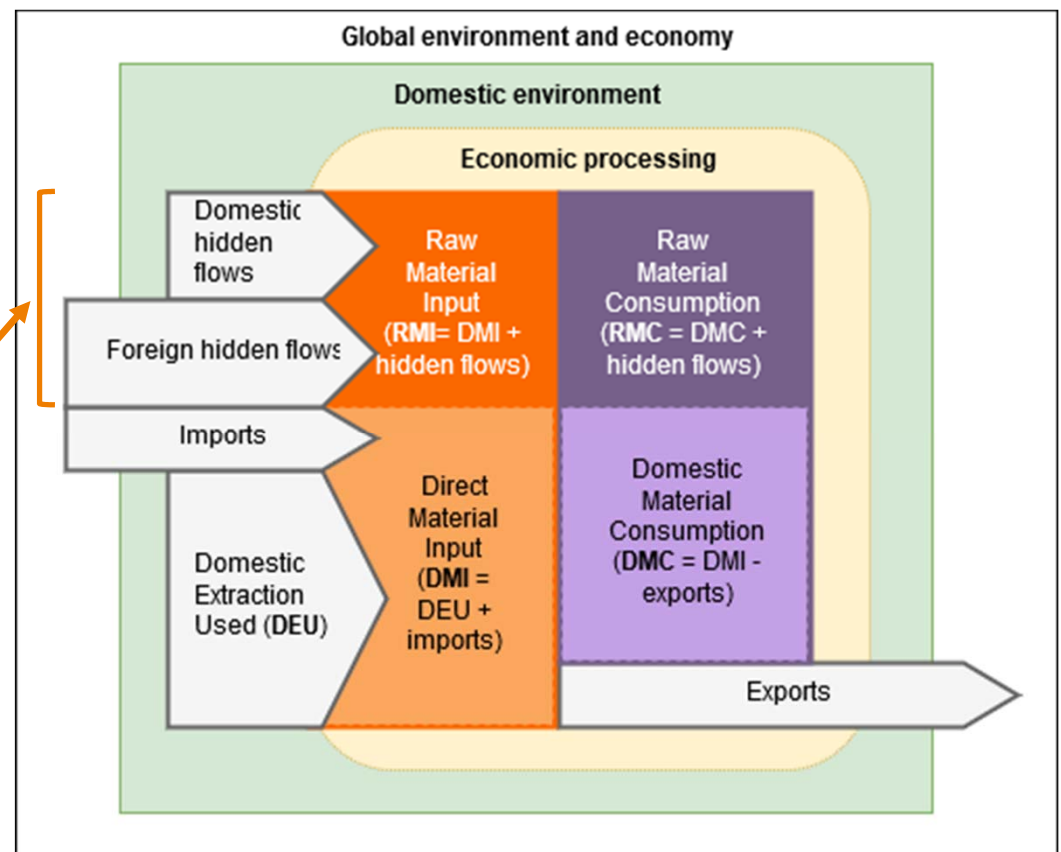
# Measuring the circular economy: Domestic Material Consumption



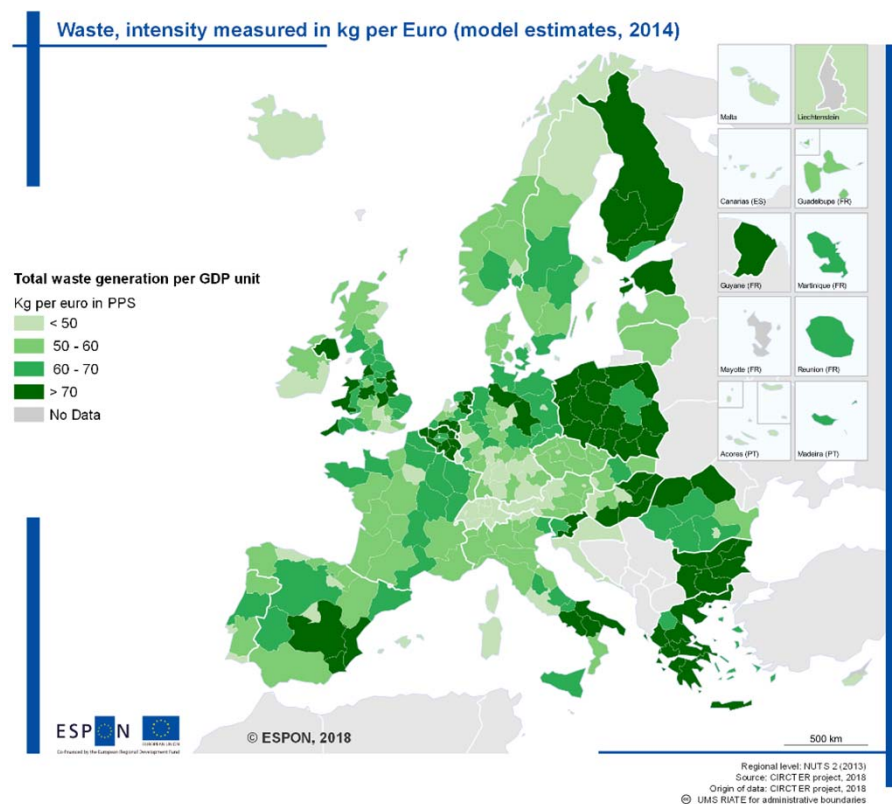
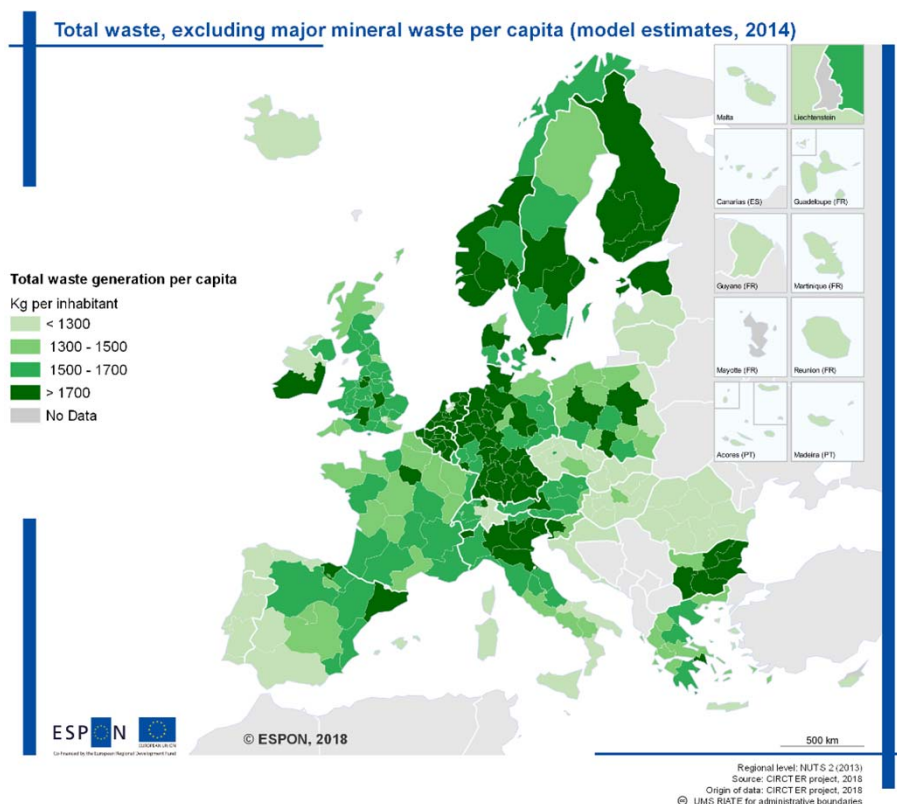
*\*The data represented on these maps have been estimated by the CIRCTER project based on national figures.  
The expected accuracy of the estimated values is **high**.*

# Measuring the circular economy: understanding material consumption indicators

- Domestic Material Input (DMI) and Domestic Material Consumption (DMC) are calculated by means of **simplified mass balances**.
- These indicators **do not** take into account the raw materials originally necessary to produce the traded goods: the **hidden flows**
- More comprehensive indicators based on a **footprint** approach, like RMI (Raw Material Input) or RMC (Raw Material Consumption), are still underdeveloped



# Measuring the circular economy: total waste generation



*\*The data represented on these maps have been estimated by the CIRCTER project based on national figures.  
The expected accuracy of the estimated values is **medium**.*

# Measuring the circular economy: understanding waste statistics

## Waste management in the EU

The Waste Framework Directive (2008/98/EC) and packaging regulations establish a **market-based system** for incentivizing recycling. The system has lead to:

- additional **pre-treatment facilities** (mechanical biological treatment and sorting)
- Increasing **cross-boundary shipments** of waste

**Current waste statistics do not allow to disclose if effective treatment, material recovery and/or recycling actually take place and where**

## UK plastics recycling industry under investigation for fraud and corruption

**Exclusive: Watchdog examining claims plastic waste is not being recycled but left to leak into rivers and oceans**



▲ Household waste imported from Britain that was improperly labeled as recyclable plastic, in Santos, Brazil.  
Photograph: Mauricio Lima/AFP/Getty Images

Source: *The Guardian* Thu 18 Oct 2018 17.00 BST (Sandra Laville)

# Measuring the circular economy: understanding waste statistics *management*

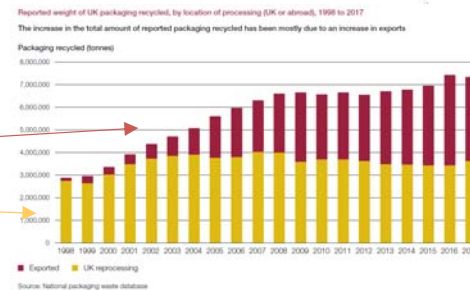
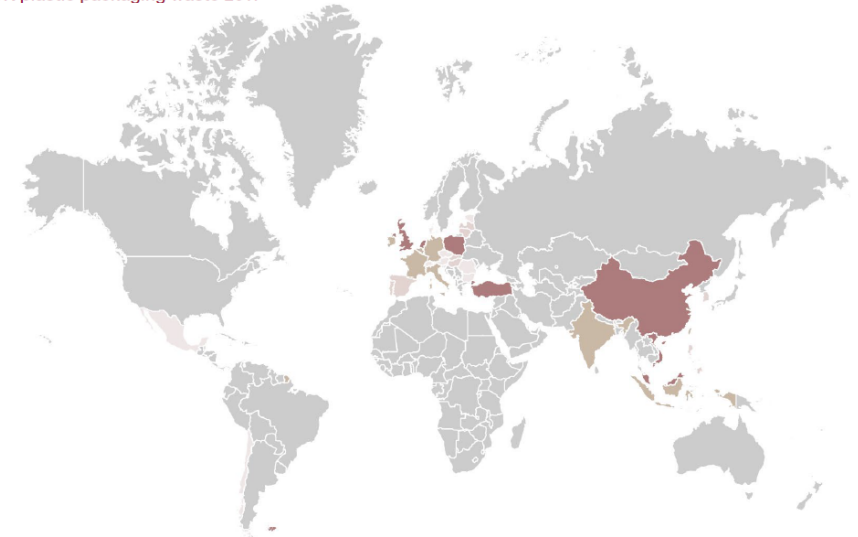
## The example of plastic packaging waste the UK

- In 2017 UK reported that, by weight, 46% of the UK's plastic packaging waste was recycled. The EU target from 2025 being 50%<sup>1</sup>
- This rate of 46% is in fact the amount of plastic packaging waste that is **collected for recycling**<sup>1</sup>
- More than 60% of the plastic that is collected is sent to another country and defined as recycling. Less than half is actually recycled<sup>1</sup>
- Since 2002 the quantity of packaging waste exported for recycling abroad has increased **sixfold** while the quantity recycled in the UK has remained the **same**<sup>1</sup>
- On average, only around 6% of domestic plastic is recycled at facilities in the UK<sup>2</sup>

Recycling destinations of UK plastic packaging waste 2017

UK plastic packaging waste reprocessed (tonnes)

- More than 500,000
- 50,001 to 500,000
- 5,001 to 50,000
- 501 to 5,000
- 0 to 500
- No exports



Source: DEFRA (2018). The packaging recycling obligations. National Audit Office.

***“The system appears to have evolved into a comfortable way for government to meet targets without facing up to the underlying recycling issues”<sup>1</sup>***

# Measuring the circular economy: understanding waste statistics

*“Waste definitions and statistics illustrate how the policy incentive stemming from the Waste Framework Directive has been so far **oriented towards diversion of waste from landfill rather than enabling effective re-use of materials**” (Gregson et al., 2015)*

ACCUEIL > PLANÈTE

## La Chine ferme ses portes aux déchets plastiques, une aubaine pour la France?

**DECHET** Comme promis, la Chine a considérablement durci ses conditions d'exportations de déchets plastiques sur son territoire depuis janvier. Le monde y refourait entre 7 et 9 millions de tonnes chaque année. Quel débouché leur trouver désormais ?...

Fabrice Pouliquen | Publié le 22/01/18 à 17h20 — Mis à jour le 23/01/18 à 12h13

0 COMMENTAIRE 850 PARTAGES



Un ouvrier chinois dans une usine de recyclage des plastiques dans le village de Dong Xiao Kou le 17 septembre 2015. — FRED DUPOUR / AFP

Source: 20 minutes Publié le 22/01/18 à 17h20  
(Fabrice Pouliquen)

## Turkey's plastic waste imports from the UK are booming - but at what cost?

Uncontrolled imports spark 'garbage dump of the world' fears and raise fears over how much is ending up in landfill



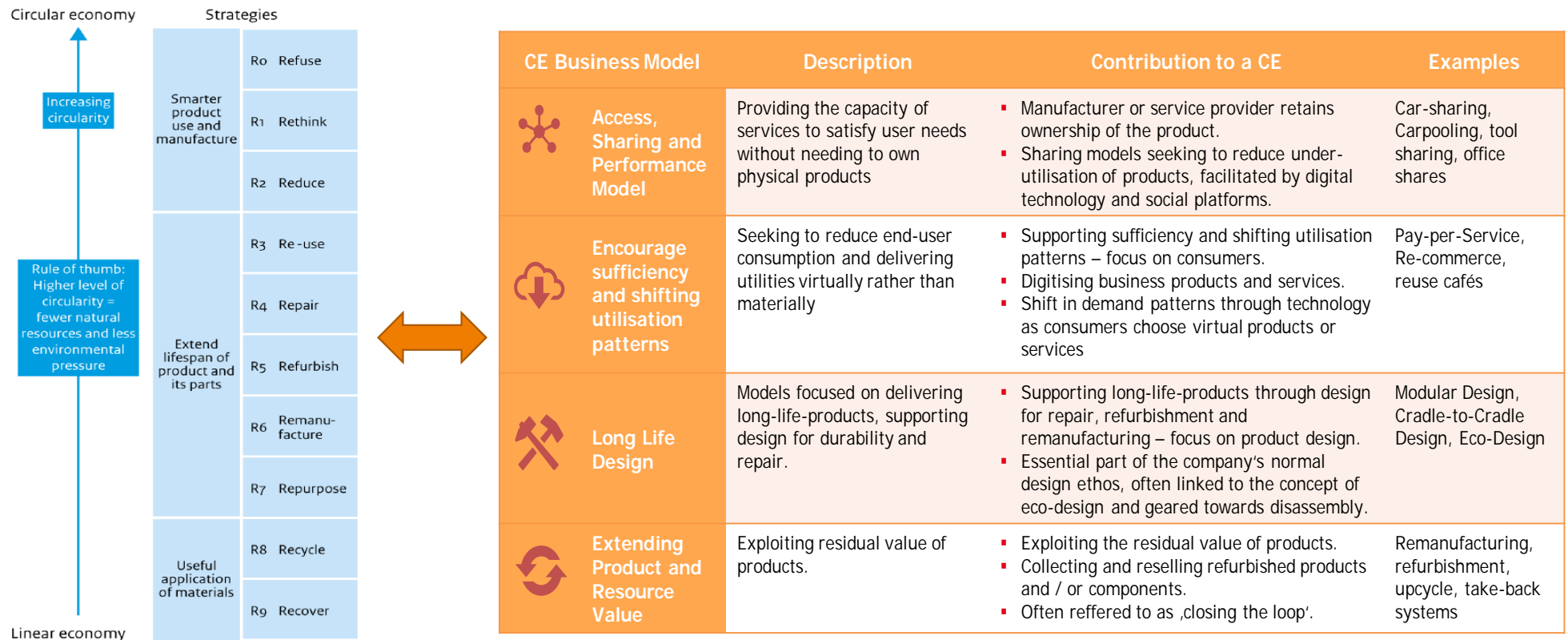
▲ Men search through pieces suitable for recycling at the municipal garbage dump in Diyarbakir, Turkey. Photograph: Sertac Kayar/Reuters

Source: The Guardian Thu 18 Oct 2018 17:00 BST (Gokce Saracoglu in Istanbul and Sandra Laville)

*“The system appears to have evolved into a comfortable way for government to meet targets without facing up to the underlying recycling issues” (DEFRA, 2018)*

# New opportunities in a circular economy:

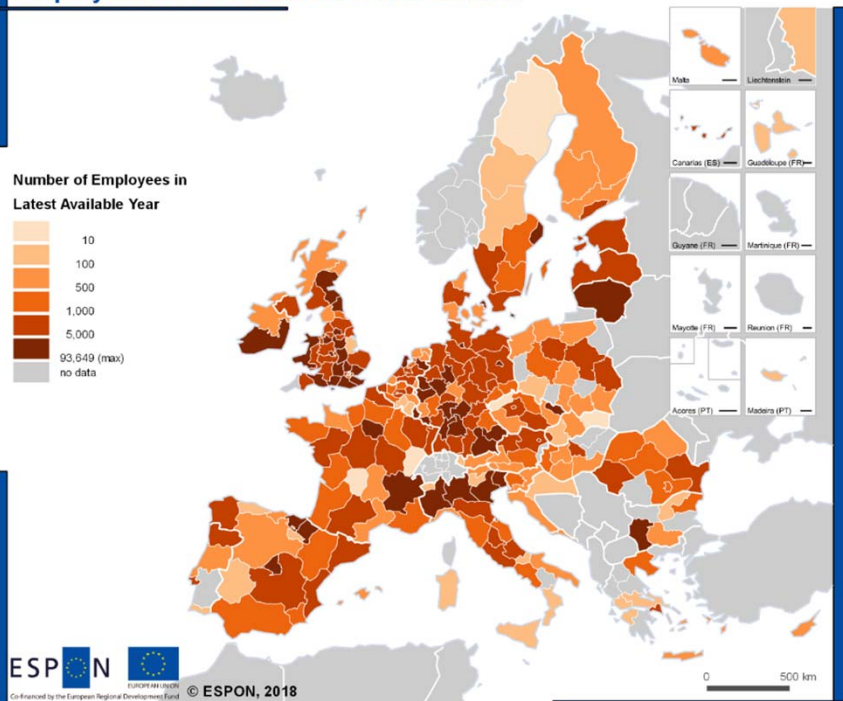
## Circular Business Models



Source: RLI 2015; edited by PBL

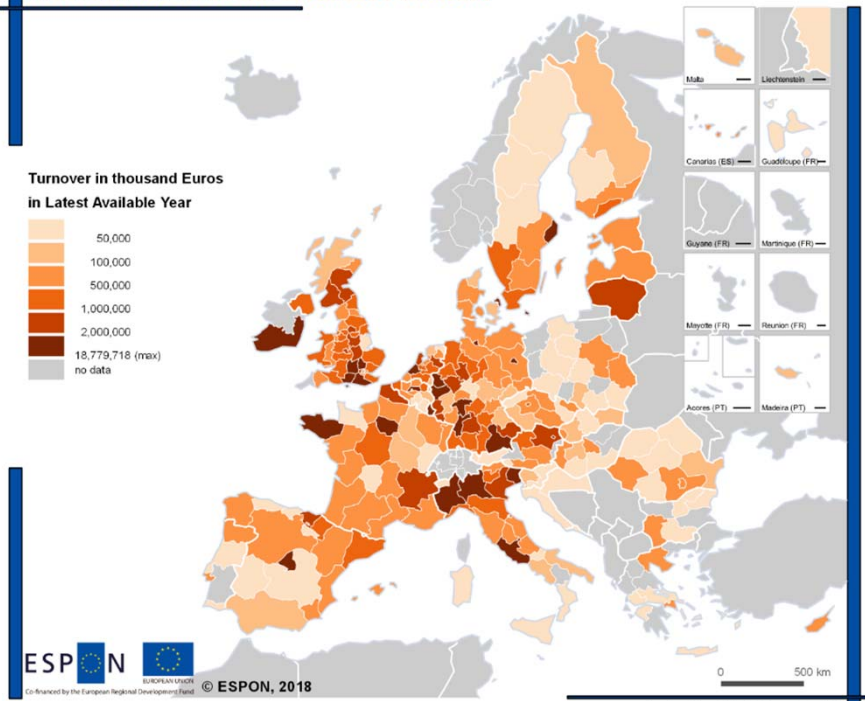
# Circular Business Models: regional pioneers

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  
CC-UMS RIATE for administrative boundaries

Turnover of 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  
CC-UMS RIATE for administrative boundaries

# Some sketchy ideas for a future Territorial Agenda

- Regions and cities should go beyond traditional policies and adopt a holistic approach on resource management. In particular, regions and cities should adopt a consumption-perspective on resource management, increasing awareness on global resource depletion.
- Regions and cities should commit to a responsible management of waste. Waste prevention should be favored over waste treatment and recovery. Local management of waste should be favored over waste shipments.
- Burden shifting and externalization of environmental problems to other regions should be avoided at any cost.
- Regions and cities should adopt supportive policies for circular economy strategies, creating favorable environments for the new circular business models and the elimination of legal barriers for secondary raw materials.

# Thank you

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This presentation will be made available at: [www.espon.eu](http://www.espon.eu)