



Sheffield
University
Management
School.



Realising the Transition towards the Circular Economy

Transition to a Circular Economy: The Spanish Case

Sergio Rubio
Universidad de Extremadura
Spain

1st ReTraCE Network School

Sheffield, 3-7 June 2019



Outline



1. Introduction
2. Actions developed by public authorities
 - National Strategy on Circular Economy (Draft)
 - Regional Strategies on Circular Economy
 - Local actions on Circular Economy
3. Some initiatives developed by Spanish institutions
4. Conclusions

1. INTRODUCTION

- Goal: To describe the current framework of the Circular Economy (CE) paradigm in Spain, by reviewing different strategies, action plans, and initiatives developed by public institutions, private organisations and companies across Spain

2. ACTIONS DEVELOPED BY PUBLIC AUTHORITIES



- At national level: Spanish Strategy on Circular Economy (SSCE)
- At regional level:
 - Andalusia
 - Catalonia
 - Madrid
 - Extremadura
- At local level: Model for a Local Strategy on CE (LSCE)

2. 1. THE SPANISH STRATEGY ON CIRCULAR ECONOMY



- Spain aspires to become an international reference for the implementation of the CE paradigm, fostering “*green growth*” through business development, the optimal use of raw materials and competitiveness.
- However, according to several studies and indicators Spain is a moderate contributor on CE:
 - [Politico.eu](#)
 - [Environmental Performance Index](#)

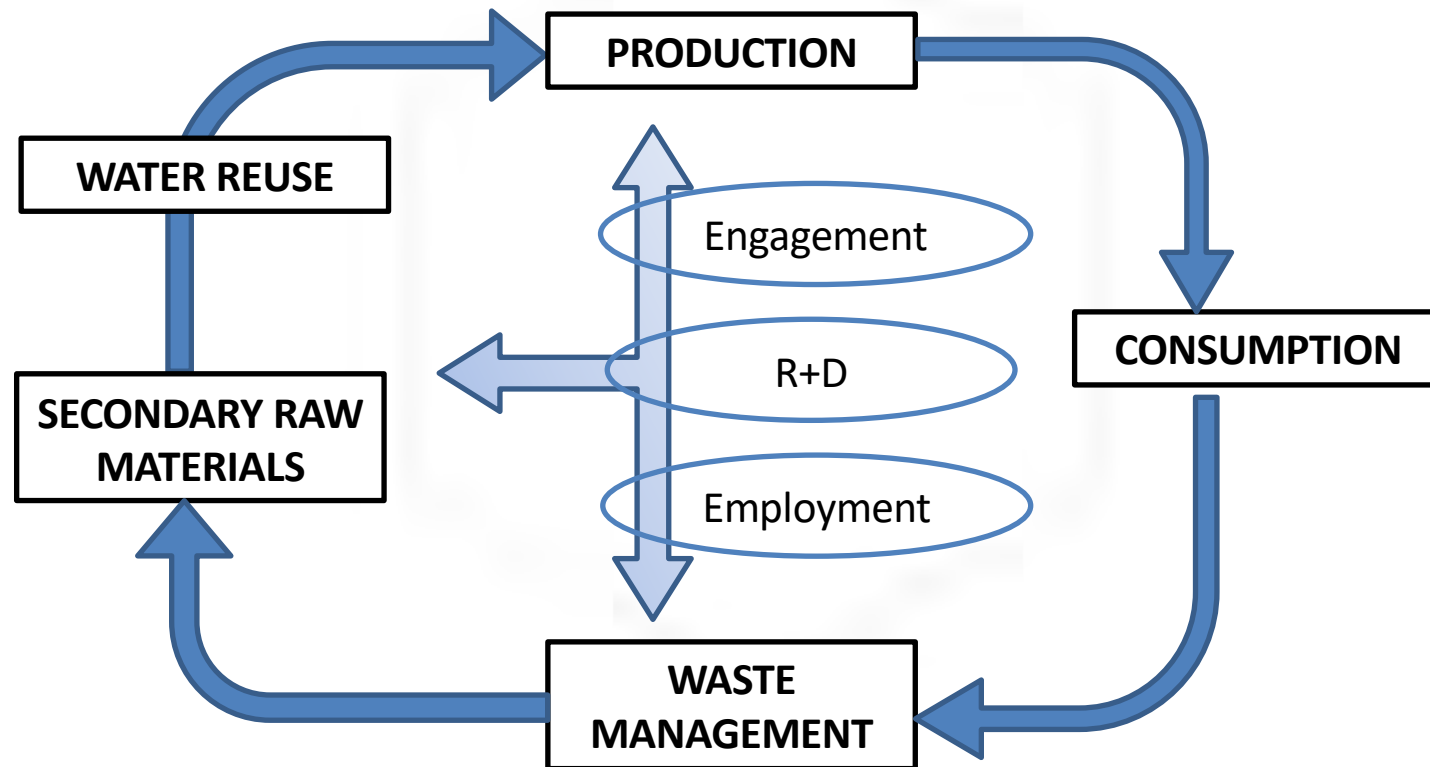
2. 1. THE SPANISH STRATEGY ON CIRCULAR ECONOMY



- The SSCE is based on several initiatives already developed at different levels: national, regional and local.
- The SSCE is directly linked to the Spanish Strategy on Bio-economy (January 2016), extending its scope to include other industrial sectors and considering key elements, such as eco-design and treatment and reuse of waste, under a systematic and holistic point of view.

2. 1. THE SPANISH STRATEGY ON CIRCULAR ECONOMY

- Lines of action: 5 lines and 3 transversal elements



2. 1. THE SPANISH STRATEGY ON CIRCULAR ECONOMY



- Priority sectors (5)
 - Construction
 - Agro-food
 - Industrial manufacturing
 - Consumption goods industry
 - Tourism

2. 1. THE SPANISH STRATEGY ON CIRCULAR ECONOMY



- Strategic Goals (10)

1. To protect the environment
2. To foster LCA and Eco-design
3. Hierarchy waste principle
4. Innovation and global efficiency
5. Channels for cooperation among stakeholders
6. To promote sustainable products and services
7. To promote sustainable consumption
8. Dissemination
9. KPI homogeneous, transparent and accessible
10. To promote employment policies

2. 1. THE SPANISH STRATEGY ON CIRCULAR ECONOMY



- Policies:
 - Environmental policies
 - Competitiveness
 - Social policies
 - Employment
 - Corporate Social Responsibility (Spanish Strategy on CSR)
 - Health and Safety

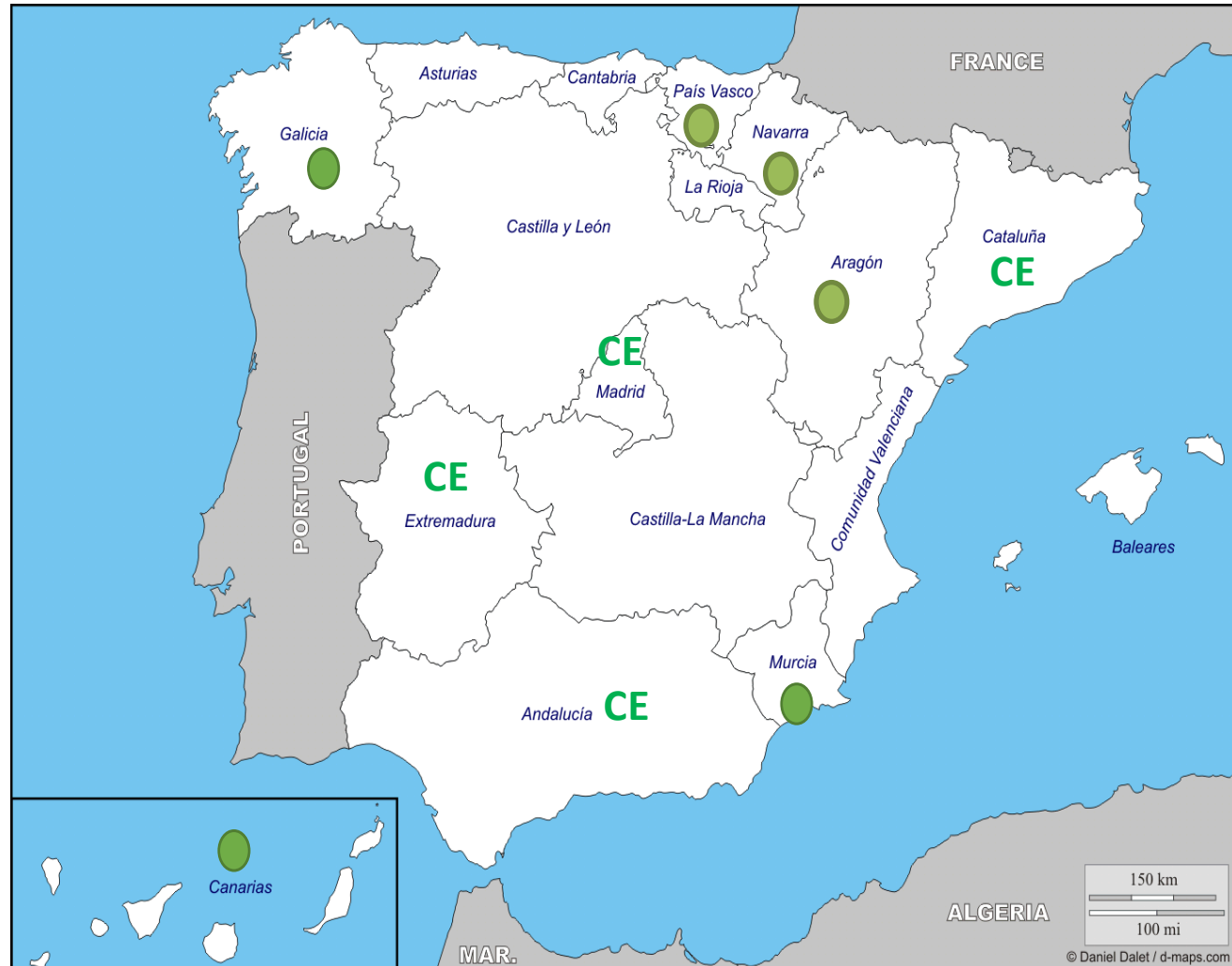
2. 1. THE SPANISH STRATEGY ON CIRCULAR ECONOMY



- Instruments:
 - Regulation: norms, decrees, laws, ...
 - Financial instruments: loans, subsidies, etc.
 - R+D instruments
 - Dissemination, training, and engagement
- Governance
- KPI

2.2. REGIONAL STRATEGIES ON CE

- Andalusia
- Madrid
- Catalonia
- Extremadura



2.2. REGIONAL STRATEGIES ON CE

- Andalusia: Andalusian Strategy on Circular Bio-economy
- Madrid:  MADRID 
ECONOMÍA CIRCULAR
- Catalonia: Catalan Strategy on Green and Circular Economy
- Extremadura



2.2. REGIONAL STRATEGIES ON CE



- Other remarkable initiatives:
 - Basque Country
 - Strategy on CE (draft)
 - IHOBE: Circular thinking. Diagnosis. Indicators. Industrial experiences.
 - Canary Islands:
 - “CE in the outermost regions”. Barriers and drivers. Opportunities.
 - Strategy on Circular and Green Economy (draft)

2.2. REGIONAL STRATEGIES ON CE



- **Extremadura 2030** is the result of the *commitment* among the regional Government of Extremadura, the most prominent trade unions, employers associations, municipalities, political parties, the University, and more than 100 local entities, companies, associations and citizens in their own name, to boost a transition to a circular and green economy model.
- **Extremadura 2030** is a model of *citizen engagement* where programs and activities are constantly evolving from Extremadurian society initiatives

2.2. REGIONAL STRATEGIES ON CE

- The roadmap:
 - Vision, mission, principles
 - Goals
 - Structure
- Boosting Extremadura 2030:
 - Contributors (Promoters)
 - Map and contributions

2.2. REGIONAL STRATEGIES ON CE



- **Mission:** To align the entire Extremadurian society with the goals of the Circular and Green Economy
 - By aligning and coordinating the public policies of the Regional Government of Extremadura, in order to make CE a transversal axis for all its actions and programs.
 - By aligning and coordinating public policies to entrepreneurial actions and social initiatives.
 - Get people trained in CE in order to make the most of our natural resources to create employment and economic wealth

2.2. REGIONAL STRATEGIES ON CE



Principles

1. Ending principles guiding the general goals of the strategy:

Social justice, equal
opportunity,
sustainability

3. Instrumental principles inspiring the formal features goals of the strategy:

Flexibility, transparency,
governance, complementary,
Up-down, Down-up



2. Procedural principles supporting the methodology:

Engagement,
cooperation, leadership,
entrepreneurship,
innovation and
research, talent, gender
equality

2.2. REGIONAL STRATEGIES ON CE

- Objectives:
 - Strategic goals
 - To build a model of sustainable development focused on agricultural, agri-food, construction, industry and service sectors.
 - To develop a system of participation and engagement of citizens across Extremadura
 - To promote a social transformation based on the development of competencies such as entrepreneurship, leadership, and new opportunities management
 - To transform Extremadura into an international lab for R+D on Circular and Green Economy (C&GE), bio-economy, and against climate change.

2.2. REGIONAL STRATEGIES ON CE



- Objectives:
 - Functional goals (I)
 - To place C&GE as a transversal axis into regional policies in line with European, national and local strategies on this regard.
 - To fight against climate change
 - To introduce the concept of environmental accounting into administrative procedures
 - Renewable energy, water reuse, waste management, biodiversity, forestry management, and biomass.
 - Agriculture, dehesa ecosystem, industry transformation, sustainable tourism, R+D on CE, Bio-economy
 - Landscape, rural development, sustainable construction and transport

2.2. REGIONAL STRATEGIES ON CE



- Objectives:
 - Functional goals (II)
 - Green employment and entrepreneurship
 - Internationalisation and investment attraction
 - Sustainable consumption
 - Green culture and education
 - Citizen engagement

2.2. REGIONAL STRATEGIES ON CE

- **Action plan:**
 - Transversal axes
 - Citizen participation and engagement
 - Training and education on C&GE
 - Research and innovation
 - Thematic axes
 - C&GE, sustainability and climate change
 - Energy, water and waste
 - Productive resources and sectors
 - Science, Technology and Innovation
 - Landscape and rural development
 - Job creation, entrepreneurship, and investment
 - Citizenship

2.3. LOCAL STRATEGIES ON CE



- Spanish Federation of Municipalities and Provinces (FEMP, in Spanish acronym)
- Local Strategy on Circular Economy (LSCE)
 - Sustainable Development Agenda (United Nations)
 - Circular Economy Package (European Commission)
 - Spanish Strategy on Circular Economy
 - Urban Spanish Agenda

2.3. LOCAL STRATEGIES ON CE

- LSCE is a set of policies and actions aimed at facilitating the adoption of the CE principles by local entities within their competencies and capacities.
- Think globally, act locally (*Glocalization*)
- Five axes:
 - natural resources minimization,
 - water consumption management,
 - urban sustainability,
 - healthy spaces and behaviours,
 - transversal policies

2.3. LOCAL STRATEGIES ON CE

- “The Statement of Seville”
 - More than 230 local entities
 - Map



3. Some remarkable initiatives



- **Foundation COTEC for innovation** (www.cotec.es) is a non-profit organisation aimed at promoting the innovation for social and economic development
- Innovation is any change (not only technological) based on knowledge (not only scientific) to provide value (not only economic)
- Report “Situation and evolution of Circular Economy in Spain” (COTEC, 2017)

3. Some remarkable initiatives

- **ECOEMBES** (1996) is an Extended Producer Responsibility Collective System that manages the collection, sorting and recycling process of plastic packaging, cans and cartons, and paper and cardboard packaging all over Spain (Rubio et al., 2019)
- Areas of work and research:
 - Pickup, processing and recycling: Optimization and impact analysis
 - Regulatory changes and management models
 - Eco-design and new packaging materials

3. Some remarkable initiatives

- ECOEMBES and the Circular Economy
- TheCircularLab: www.thecircularlab.com



3. Some remarkable initiatives



- **TheCircularLab**, is an innovation centre on CE.
- Founded in 2017 in Logroño (La Rioja), it seeks to enhance the best innovation lines in the field of packaging and subsequent recycling.
- It aims to study, conceive, test and apply best practices in a real environment through all phases of packaging life cycle, from conception to its reintroduction into the consumption cycle through new products.

3. Some remarkable initiatives



- **TheCircularLab** carries out its activity in **4 innovation areas**:
 - **Packaging**: working in the field of Eco-design, identifying new sustainable materials and incorporating recycled components into production processes in an effort to minimize the environmental footprint of packaging.
 - **Awareness**: it has set up a direct, constant and efficient channel of communication that enhances the public's involvement in recycling, optimizing separate collections and reducing the amount of non-recyclables.
 - **Smart waste**: an innovative application of technology to manage the processes of collecting, sorting and recycling packaging.
 - **Entrepreneurship**: devising, incubating and accelerating **entrepreneurial programs**

3. Some remarkable initiatives

- **TheCircularLab** supports 3 initiatives:
 - **Start-up Accelerator:** an open innovation ecosystem is addressed to entrepreneur projects. At this moment 10 business projects are being accelerated.
 - **Circular Talent Lab:** University student teams are encourage to participate in defined challenges on CE within an open innovation ecosystem
 - **Observatory of the Packaging of the Future:** is a platform of knowledge about packaging, which collects and analyses news and trends that appear worldwide, including new materials, eco-design, legislation, management, etc.

3. Some remarkable initiatives

- Project RETOS (TECNUN, University of Navarra. Spain)
- EcoPYME: integration of CE principles in SMEs through a Guide which includes
 - Diagnosis tool
 - Techniques and tools designed for SMEs to integrate the CE principles based on their activity and processes
 - Platform: www.circularmarket.es

3. Some remarkable initiatives



- Master in Green and Circular Economy (SEXPE and Universidad de Extremadura. Spain)
- As the best of our knowledge is the first initiative on this regard in Spain.
- As part of the Extremadura 2030 strategy, it is aimed at training in CE principles to be implemented in companies and organisations across Extremadura.

3. Some remarkable initiatives

- 3rd edition: June - December 2019
- 25 students
- Multidisciplinary event aimed at providing an integral training in the field of Green and Circular Economy, from a business and public management point of view.

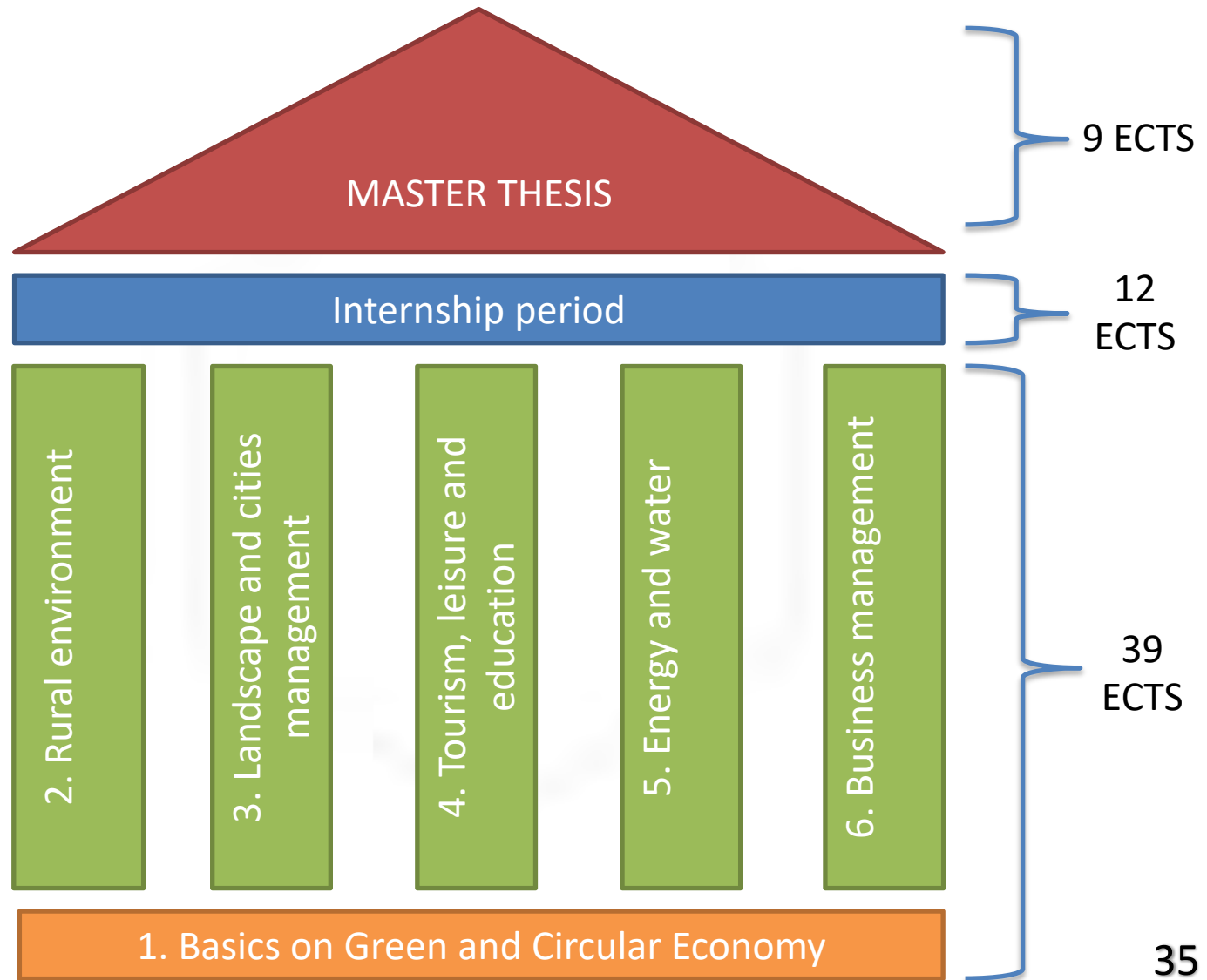


3. Some remarkable initiatives



- Goals:
 - To provide a transforming vision of the economy and traditional productive activities
 - To be able of identify employment opportunities in the field of CE
 - To identify strengths for Extremadura around CE
 - To provide entrepreneurial capabilities and skills in order to promote their own business initiatives
 - To provide useful skills to disseminate the principles of CE among social agents

3. Some remarkable initiatives



3. Some remarkable initiatives



- POCTEP 2014-2020
- LOCALCIR: Promoting entrepreneurship and CE innovation in SMEs
- Partners: 16 entities from EUROACE region, including public authorities, business associations, technological and science parks, and the University of Extremadura
- Goals: to create a support service for promoting entrepreneurship in the field of Circular and Green Economy, through the development of new products and processes based on local sustainability

4. Conclusions

- Several initiatives carried out by public authorities at different levels
- Aimed at realising the transition to a CE model
- At the same time, many organisations, associations, companies and even people are considering CE concept in their daily activity
- Spain (or Extremadura) as an international referent for CE?

- Rubio, S. Ramos, T.R.P., Leitao, M.M.R., Barbosa-Póvoa, A.P. (2019). Effectiveness of extended producer responsibility policies implementation: The case of Portuguese and Spanish packaging waste systems. *Journal of Cleaner Production* 210, 217-230.
- KPMG (2019). Fast forward towards a circular Catalonia. Boosting circular economy amongst SMEs in Europe. European Commission. January 2019.

Transition to a Circular Economy: The Spanish Case



THANK YOU VERY MUCH

srubio@unex.es