

REPORTING CIRCULAR ECONOMY INITIATIVES AND CREATIVE UPCYCLING APPROACHES IN THE SPANISH FURNITURE SECTOR AND OTHERS.



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The Spanish economy represented in 2016 the 8% of the economy in the European Union. This automatically places Spain at the 5th biggest economy in the EU and the 4th in the Eurozone¹. In terms of population, Spain accounts for 9.1% of the EU².

Regarding this data and the strength of the Spanish economy inside the EU, can be said that Spain has an environment more than suitable to be an international reference in terms of circular economy, but this can only come true taking into consideration the ecological footprint and the biocapacity of the country.

Spain needs almost 2.4 times more land to keep the current standard of living and population. This means that all measures need to be strengthened to improve the efficiency of the use of raw materials and energy. During the last year for which data are available, only 24.32% of waste was recycled in Spain, a few points below the European average (36%)³, which means that Spain is wasting a large part of the resources in a moment in which raw materials are increasingly scarce and expensive.

Not taking advantage of the resources that can be recovered from the waste or developing more efficient transformation processes means, right now, a great economic

¹ Eurostat, Serie de datos sobre Gross Domestic Product (GDP) at market prices, annual data. 2016. From [https://www.miteco.gob.es/images/es/180206economicircular_tcm30-440922.pdf]

² Eurostat, Serie de datos sobre Population on 1 January by age and sex. 2016. From [https://www.miteco.gob.es/images/es/180206economicircular_tcm30-440922.pdf]

³ España circular 2030. From [https://www.miteco.gob.es/images/es/180206economicircular_tcm30-440922.pdf]

and competitive loss for the country as the Circular Economy will generate economic and business opportunities and will create new jobs and occupations.

The scenarios and projections made, indicate that by 2030 the Circular Economy can generate a benefit of 1.8 billion euros in the European Union⁴. That's why the European Commission designed in 2015 the plan Closing the loop - An EU action plan for the Circular Economy.

From this plan, each member of the EU started to develop their own layout for the circular future of the nation. In the case of Spain, they planned the Spanish strategy of the Circular Economy called *España circular 2030* (Circular Spain by 2030) representing essential strategies and actions to get ahead and promote the transition from the traditional linear model to the circular economy, building bridges between the state's administration, regions and citizens.

This economic model seeks to abandon the current linear production system based on extracting, manufacturing, and disposing, since it is obsolete and inefficient for the needs of a globalized and interconnected world, by a circular system in which the value of products and materials is kept for as long as possible, promoting its recycling and reuse.

This plan is focusing mainly in the first steps of the production chain, making changes in the industry -redesigning production methods- and the design process -implementing new methodologies- leaving in a second position the end of the product's lifecycle.

Even though this plan is multidisciplinary, is focusing on the execution of the following sectors:

- Construction and demolition.
- Agri-food.
- Industry.
- Goods.
- Tourism.

Upcycling is not a word taken into consideration, but in this report you can find concepts related to long-lasting goods and better quality of the services to make these products more competitive and boost the Spanish companies and industry more competitive and a reference in terms of sustainability and circularity.

The only paragraph related to upcycling talks about using new technologies of extraction or transformation to transform raw materials from industries like cosmetics, agro-food or bio-products into new goods:

⁴ EMF, Growth economy: a circular economy vision for a competitive Europe. 2015. From [https://www.miteco.gob.es/images/es/180206economicircular_tcm30-440922.pdf]

En la actualidad es frecuente encontrar casos en los que determinados materiales, que hasta hace poco tiempo se gestionaban como residuos, han pasado a ser la materia prima de nuevos productos que se introducen en el mercado en los ámbitos de la cosmética, la agroalimentación o los bioproductos, aprovechando tecnologías novedosas de extracción o transformación para su valorización económica.

Currently the Spanish business tissue is characterized by smaller companies than in the main countries of the EU. This is translated into lower investment capacity, specially in R & D & I, and greater difficulty in undertaking internationalization projects, which explains the importance of their relative contribution in this change into circularity.

The transition from a linear economy to a circular economy requires:

- Coordination between the Administrations, the economic sectors and the whole society. This will only be possible if companies and public administrations work aligned to enter or develop niches of economic specialization, integrate into new value chains and promote certain practices aimed at conserving and recovering natural capital without leaving the consumer aside.
- The development and application of new knowledge that leads to new technological growth, processes, products and innovative services in order to make Spanish companies more competitive generating new business opportunities and new jobs.
- The adoption of organizational and social innovations essential to drive the change in production and consumption models.
- The promotion and development of new markets and the improvement of business positioning and competitiveness in those already existing.
- The adaptation of an intelligent regulatory framework for the achievement of the objectives of the Circular Economy.
- Awareness and participation due to the special importance of citizen involvement in the progress towards a circular economy. On one hand, citizens make decisions about the products they buy and it's only possible through responsible consumption to advance. On the other hand, the separation of domestic waste is everyone's responsibility and the key to involve society as a whole order to achieve the objectives.
- The creation of employment, and the improvement of existing jobs without forgetting about training new people for new professions as a result of the transition to a circular economy.

Taking into account these requirements in order to carry out a circular economy, both the Spanish government and the European Union have promoted public initiatives such as Horizon 2020 for smart, sustainable and inclusive growth.

This initiative is suitable for Spain as it's enhancing the participation of the small and medium companies investing 3.000 million euros for innovation and digital transformation.

On the other hand, the Spanish government promote the "Industry Connected 4.0 initiative", with the topic "the digital transformation of Spanish industry". This proposal aims to articulate the measures that allow the Spanish industrial set to benefit from the intensive use of information and communication technologies in its productive processes and in all areas of its activity.

For this it's necessary to introduce and encourage the intensive use of technologies in companies. Technologies such as, for example, cloud computing, big data, 3D printing, collaborative robotics, augmented reality, cyberphysical systems or the internet of things.

Related to the industrial sector, this initiative says that in the context of the circular economy has to deal with issues related to energy supply and efficiency. Actions aimed at consumer goods have to respond to the problems arising from trade in products at the retail level, emphasizing the need to enhance the repair, re-processing, reuse and recycling of it and their packaging, in order to keep them in the cycle for as long as possible, as well as to re-incorporate them at the end of their useful life.

This statement is really global so we can say the furniture sector is also included even though this part of the industry it's never mentioned in any of the reports and plans. This is directly linked to the Spanish way of living.

84% of the Spanish population owns at least one home and of this percentage 16% have two or more. 78% of the properties are destined to habitual residence and only 7% to the rent. The remaining percentage have their house empty without selling or renting.⁵

The relevance of property in Spain is also reflected in the fact that eight out of ten Spaniards live in a house they own, while two out of ten live in rent, although these data vary according to each region: 88% of the Basques, for example, live on their property, unlike Madrid or Catalonia, where that percentage drops to 74%.⁶

As a consequence of this, the Spanish society is investing money in good quality furniture looking for long-lasting benefits so both the house and the furniture come together along the years.

⁵ <https://www.fotocasa.es/blog/alquiler/mercado-de-la-vivienda-2017/>

⁶ <https://www.libremercado.com/2017-05-23/espana-es-un-pais-de-propietarios-el-84-posee-una-vivienda-y-el-16-dos-o-mas-1276599523/>

There's also a big tradition of antiques and markets where you can buy and sell your old furniture no matter the style. One of the most famous markets for antique furniture is *el rastro* in Madrid, celebrated every Sunday of the year, you can find good quality long lasting old pieces, not for a cheap price, but with a good quality and high value.

The Spanish furnitures and houses pass though the years without getting old fashion thanks to figures like the carpenter and the upholsterer, there's still nowadays a relative number of people developing this jobs and most of the Spanish families are changing the appearance of their sofa/armchair/chairs by upholstering with other fabrics and patters in order to change the look of the house.

Related to furniture in general, carpenters are developing restoration services for all this pieces, that's why you can find nice old pieces in the markets. Also almost everyone has inherited some furniture from their predecessors.

But for sure this is changing from the birth of the big Swedish company, Ikea. Nowadays more and more people are consuming this products because of the relation between the prize and the design, especially talking about new generations and young people who can not afford a large investment in quality furniture.

In spite of that, Ikea has presented an alternative to be able to close the circle taking into account the end of the product's life cycle with its initiative *Salvemos los muebles* (let's save the furniture) where the user who has an Ikea product and gets rid of it can resell it to the company itself and they will put it up for sale in the opportunities section.

Also within this proposal, they give advice on how to implement the useful life of the products with advices on cleaning and caring, implement repair and customization and provide links to find associations that accept donations or do recycling from them.

But there's one movement in Spain that is getting bigger and bigger each day related to upcycling. This is the maker's movement.

The maker's movement is a part of the digital manufacturing process, in which techniques or technologies such as the use of CAD softwares, and the manufacture of the product by equipment such as 3D printing, laser cutting, etc... are used in an artisan way. It's said this is the third industrial revolution where concepts like the maker's movement and the figure of the prosumer come into play.

The maker's movement comes up as a continuation of the DIY (Do it yourself), in which it's promoted the idea that everyone can develop their ideas without having to resort to traditional industry. It begins around the year 2005 with the publication of the magazine *Make*, in San Mateo, California, where there was a group of people who distributed their own products and knowledge through this new form of production. After the appearance

of the magazine, which talks about spaces of co-creation and digital manufacturing, these collective began to be called makers.

From the maker movement were born lots of co-creation spaces around the world where projects could be developed. These workshops are called FabLabs (Fabrication Laboratory), and are places where you can develop projects and products through digital manufacturing, are all interconnected as a network and in their website everyone can check the closest FabLab to him/herself.

The FabLab Foundation describes this network as:

The Fab Lab Network is an open, creative community of fabricators, artists, scientists, engineers, educators, students, amateurs, professionals, of all ages located in more than 78 countries in approximately 1,000 Fab Labs. From community based labs to advanced research centers, Fab Labs share the goal of democratizing access to the tools for technical invention. This community is simultaneously a manufacturing network, a distributed technical education campus, and a distributed research laboratory working to digitize fabrication, inventing the next generation of manufacturing and personal fabrication.



Figure 1: Map with all the FabLabs registered in the world. [<https://www.fablabs.io/labs/map>]

With this, the figure of the prosumer appeared, that type of consumer that focuses not only on consuming but also on producing and taking part in the process.

This kind of production methods started to become more and more famous in Spain during and after the crisis because of several reasons such as the employment office was offering courses in alternative ways of production to unemployed people interested in the field, also, people have been more aware of the value of things and have opted for the

restoration against the purchase of new products that could be arranged. At the same time, people that people who had lost their jobs found a place to go, learn new things and meet new people sharing knowledge and abilities in order to develop something new or fix something.

In Spain there're more than 60 FabLabs known as the traditional definition explained before but, you can also find workshops, or coworking spaces where anyone can develop their on project and became a prosumer.

In addition to the FabLabs, councils such as Barcelona, regarding the popularity of these places has opened in three different districts manufacturing workshops, which work in the same way as the fabLabs and neighbors can fix their things and promote the second life of the products with techniques like upcycling.

Neighbors are aloud to use laser cutters and 3D printers for free to make new peaces and restore stuff but they can also exchange products they no longer want with other people carrying out a collaborative economy and promoting circularity.

In one of this workshops there's also a sewing atelier where people can exchange clothes, customize or make new garments.

Regarding the fashion industry, Spain is a country where upcycling in fashion is really up to date. The government is trying to develop regulations to the waste of the textiles sector due to the population is consuming fast fashion without thinking in the consequences of it using the garments only for one season.

That's why the government in collaboration with the European Fisheries Fund are financing relevant projects such as PESCAL, ECOPUERTOS, MARVIVA and Upcycling the oceans in order to reduce the waste and plastic from the oceans and use this as raw materials for further objects.

Upcycling the oceans is the most important one nowadays and the only one related directly to upcycling (The other initiatives are only cleaning the oceans without and recycling the waste, not upcycling it). It's an initiative from the Ecoalf foundation in colaboración with Ecoembes with the vision of removing the waste from the Mediterranean Sea and find a new utility for it through upcycling or recycling.

Then, Ecoalf is using this plastic to develop fashion garments from bottles, fishing nets and other waste materials with the objective of manufacture fashion products made with recycled materials of the same quality, design and technical properties as the best non-recycled products and proving that it is not necessary to continue abusing from the natural resources of the planet in an indiscriminate way.

Ecoembes in this case, is in charge of recycling all the materials Ecoalf cannot use for their production. This company recycles all the plastic packaging in Spain since 20 years ago and it's trying to make circularity and sustainability an everyday life fact.

As a conclusion, circular economy is a big deal for the Spanish nation but upcycling has almost no representation in terms of furniture. Only small brands and designers are developing some projects inside the sustainability framework but it's not enough to make a study about their characteristics.

The collaborative economy after the crisis was and it's becoming bigger day by day and places like FabLabs and workshops are, by the moment, the most popular alternatives to develop circularity for the consumer.

Regarding the fashion industry, there's one small brand making big things (Ecoalf), that can be an example for others to join the movement into circularity and upcycling thinking entirely in the product's lifecycle.

There're a lot of sustainable brands, a sustainable fashion week in Barcelona and people that are showing up with new techniques, materials and ways of production but. Not working with the upcycling.

This happens also in the Spanish report for the circular economy by 2030, where the country is not taking into consideration the end of the product's lifecycle in a different way than recycling the waste from it if it's not possible to fix it again or the materials are not biodegradable.

It's true that Spain is a country with potential regarding upcycling and circularity but by the moment it's too early to see this environment. Let's see if these willings will come true by 2030.

REFERENCES:

Ateneus de Fabricació. (2018). Retrieved from <https://ajuntament.barcelona.cat/digital/ca/apoderament-digital/educacio-i-capacitacio-digital/ateneus-de-fabricacio>

Ecoalf. (2018). Retrieved from <https://ecoalf.com/es/>

ECONOMÍA CIRCULAR: CONTEXTO E INICIATIVAS - Marcas con Valores. (2018). Retrieved from <http://marcasconvalores.com/economia-circular-contexto-iniciativas/>

Economía industrial. Gobierno de España (2018). Retrieved from <https://www.mincotur.gob.es/Publicaciones/Publicacionesperiodicas/EconomiaIndustrial/RevistaEconomiaIndustrial/355/1PAG%20317-334.pdf>

Fundación para la economía circular. (2018). Retrieved from <http://economiacircular.org>

Horizon 2020 (2018). Retrieved from https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/H2020_ES_KI0213413ESN.pdf

La economía circular en España. (2018). Retrieved from <https://www.ecoembes.com/es/ciudadanos/ecoembes-y-el-medio-ambiente/la-economia-circular-en-espana>

Labs Map | FabLabs. (2018). Retrieved from <https://www.fablabs.io/labs/map>

Ministerio para la transición ecológica (2018). Retrieved from https://www.miteco.gob.es/images/es/180206economiacircular_tcm30-440922.pdf

Maltas, M. (2018). Barcelona reúne a la moda sostenible. Retrieved from https://elpais.com/ccaa/2015/11/26/catalunya/1448556298_849740.html

Nieto, M. (2018). La nueva tendencia tecnológica se llama 'movimiento maker'. Retrieved from https://elpais.com/tecnologia/2016/09/22/actualidad/1474560262_851948.html

Prima expert group. Final Report (2018). Retrieved from <https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-614-EN-F1-1.PDF>

Radiografía del mercado de la vivienda 2016-17 - Fotocasa.es Blog. (2018). Retrieved from <https://www.fotocasa.es/blog/alquiler/mercado-de-la-vivienda-2017/>

Ripa, J. (2018). Marineros a la caza de basura. Retrieved from https://elpais.com/economia/2016/10/28/actualidad/1477668593_917405.html