



D4.1 - Identification of Regional & National policies on Circular Economy in CSR for the Wood and Furniture sector (Short report)

Version - March 25, 2021



This project has been funded with the support of the Erasmus+ programme of the European Union

The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Co-funded by the
Erasmus+ Programme
of the European Union



Table of Contents

| | |
|---|-----------|
| Introduction | 6 |
| 1. Objective of the document | 7 |
| Some information about Corporate Social Responsibility (CSR) | 9 |
| 2. CSR | 10 |
| Policies on the Circular Economy at European level | 14 |
| 3. Legislative Policies summary table | 15 |
| Policies on the Circular Economy at National/Regional level..... | 18 |
| 4. Spain..... | 19 |
| Materials and Methods of the Spanish research | 19 |
| Background research and National/Regional policies | 20 |
| Circular Economy in Catalonia and Region of Murcia | 20 |
| Conclusion | 22 |
| 5. Italy..... | 23 |
| Materials and Methods of the Italian research | 23 |
| Background research and National/Regional policies | 25 |
| Circular Economy in Italy..... | 25 |
| Conclusion | 28 |
| 6. Slovenia | 29 |
| Materials and Methods of the Slovenian research | 29 |
| Background research and National/Regional policies | 30 |
| Circular Economy in Slovenia | 30 |
| Conclusion | 35 |
| 7. Poland | 36 |
| Materials and Methods of the Polish research | 36 |
| Background research and National/Regional policies..... | 36 |
| Circular Economy in Poland..... | 36 |
| Conclusion..... | 38 |
| 8. Germany..... | 39 |



| | |
|--|-----------|
| Materials and Methods of the German research..... | 39 |
| Background research and National/Regional policies | 39 |
| Circular Economy in Germany | 39 |
| Conclusion | 40 |
| 9. Belgium | 41 |
| Materials and Methods of the Belgian research..... | 41 |
| Background research and National/Regional policies | 42 |
| Circular Economy in Belgium..... | 42 |
| Conclusion | 44 |
| Resources..... | 46 |
| 10. Resources | 47 |
| Website..... | 52 |
| 11. Website | 53 |



The ALLVIEW project is a new transnational cooperation platform that connects Centres of Vocational Excellence (CoVEs) within the wood and furniture sector. ALLVIEW has operational objectives on a regional, national and European level which aim at an innovative approach to modernise vocational education and training.

1

Introduction

1. Objective of the document

The objective of this document is to analyse the status of the Corporate Social Responsibility (CSR) in the Furniture and Wood sectors.

In this document, the partner consortium of the project “**ALLVIEW - Alliance of Centres of Vocational Excellence in the Furniture and Wood sector**”, analysed some legislative tools that regulate CSR in the various European countries. The research has been carried out taking into consideration the three pillars on which CSR is based. These three pillars are:

- Sustainability.
- Inclusivity.
- Accessibility.

Through this research the consortium wants to analyse the European, National and Regional policies related to the pillars mentioned above in order to identify the best practices and developing guidelines regarding CSR to spread within the furniture and wood sector.

This document is the basis for future discussions on the potential impact of CSR in:

- Supporting a sustainable management of the resources, increasing the use of the renewables.
- Connecting the enterprises to the idea of circular economy.
- Supporting the employability of specific target group to the addressed enterprises, linked with the national and European policies.
- Supporting the enterprises capacity to hire and involve people with lower opportunity, developing win-win strategies.
- Creating centres of vocational excellence, able to train people with a different starting position (or profile or competencies or ...).
- Identifying the weak points in regional and national policies about inclusion both in the field of job offers and in the environment of VET.
- Identifying the special needs that are not related to the (potential) job-tasks and develop networks for specific target groups through the links with the no-profit sector.

This report is a first part of a more elaborated full report, which consist of 3 specific reports which have CSR as guiding thread.

The first concerns the CSR in relation to waste prevention and the circular economy, the other two documents are based on the themes of migrants and refugees and on the inclusion of people with disabilities in labour market and in training and education.

This is a short version of the final first report that is English languages.

This complete report is based upon a structure composed of the following sections:

- A general overview on CSR.
- Policies on resource Circular Economy and waste prevention.
- Policies on inclusion of migrants and refugees to the labour market and VET system.
- Policies on the accessibility of people with special needs in:
 - Education (VET) system.
 - Labour Market.
 - Work environment.
 - Work tasks.
- Conclusion.

Thanks to this research the partner consortium wants to enhance the awareness regarding the CSR at European level considering not only the aspects regarding sustainable environmental topics but also regarding inclusivity and accessibility, addressed to a wider range of people with fewer opportunities, such as migrants, disabled people and people with social disadvantages in general.

2

**Some information about
Corporate Social Responsibility
(CSR)**

2. CSR

Corporate Social Responsibility (CSR) aims to improve and regulate the implications of an ethical nature within the strategic vision of any company. Specifically, it is an expression of interest in managing the problems inherent to the social and ethical impact in large, small and medium enterprises and in the activities, they carry out.

CSR identifies behaviours and practices that companies voluntarily adopt, to obtain beneficial results both for itself and for the context in which they operate.

Corporate social responsibility is a topic that extends across several policy areas. It has a fundamental role in ensuring sustainable economic growth, while at the same time, mitigating the social and environmental impacts of companies in the European Union and worldwide.

Increasingly aware, consumers are buying products and services from socially responsible companies. Larger companies also cause changes in the operation of smaller companies (in the supply chain). Young people judge future employers by the effects of the organisation on society or on environment: the more socially responsible companies get better staff; the employees of such companies are also more satisfied and do more. Corporate social responsibility contributes to a greater reputation of the organisation. CSR is also considered in a broader and narrower sense. The broader meaning includes the notion of the general responsibility of companies towards the natural and social environment. In general, with the term "social", it is possible to define the responsibility as the obligation of humanity to achieve the common goals of society. Corporate social responsibility is the direction that companies take to have the profits. These affect a positive attitude towards the environment, the company itself and the economic activities that influence it. The main goal of Corporate social responsibility is to create all higher standards of living, while maintaining the company's profits and the benefits of people both outside and within the company's environment.

European system on CSR is based on the "Triple bottom line" theory also known as the 3 pillars theory. This concept was first introduced by the English sociologist and economist John Elkington. The theory is based on the concept that an enterprise to be sustainable should consider and be responsible for three important factors, linked to each other: Profit, Person and Planet. In the specific, an enterprise or organization should be economic, social and environmental responsible. This is an approach based on the threefold dimension of the economic activity of a company that underlies not only the achievement of profit, but also respect for the rights of workers and the community, as well as environmental protection.

The European Commission has defined the ***"Triple Approach" as the "conception according to which the overall performance of a company must be measured according to its combined contribution to prosperity, the quality of the environment and social capital"***¹.

¹https://ec.europa.eu/health/archive/ph_determinants/life_style/tobacco/documents/smoke_free_frep_en.pdf



Figure 1 triple bottom line theory

Focusing on the European level, for the first time, CSR became part of the Agenda of the EU, thanks to the European Council in Lisbon² in March 2000. On this occasion, CSR has been considered as a strategic tool to create a more competitive and socially cohesive society capable of strengthening and modernising the European social model.

In the Green Book of the European Commission³, of 2001, CSR is defined as: ***"The voluntary integration of the social and environmental concerns of companies in their commercial operations and in relations with interested parties"***⁴.

After 10 years, on October, 25th, 2011, the European Commission re-examines and overcomes the notion expressed previously by a new definition of CSR: ***"The responsibility of enterprises for their impacts on society"***⁵.

Thanks to this last definition, there were significant changes to the previous approach that companies adopted about CSR. Specifically, this new definition requires greater adherence by companies to the principles promoted by following international organisations: OCSE⁶, ONU⁷ and ILO⁸.

In this regard, in September 2015, more than 150 international leaders met at the ONU to jointly develop a strategy aimed at contributing to global development, promoting human well-being and protecting the environment.

On that occasion, the 2030 Agenda for sustainable development was approved, consisting of 17 main and strategic goals⁹ (SDGs) for sustainable development and 169 sub-objectives, which aim to end poverty, fight against inequality and social development and cheap.

These SDGs have universal validity, meaning that all countries must contribute to achieve the standards set according to their capabilities.

²https://www.europarl.europa.eu/summits/lis1_en.htm - :~:text=The European Council held a,of a knowledge-based economy

³https://www.jussempier.org/Resources/Corporate%20Activity/Resources/greenpaper_en.pdf

⁴https://www.jussempier.org/Resources/Corporate%20Activity/Resources/greenpaper_en.pdf

⁵[https://eur-](https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF#:~:text=The%20Commission%20puts%20of%20ward%20a,for%20their%20impacts%20on%20society%E2%80%9D.&text=%E2%80%93%20maximising%20the%20creation%20of%20shared,mitigating%20their%20possible%20adverse%20impacts)

[lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF#:~:text=The%20Commission%20puts%20of%20ward%20a,for%20their%20impacts%20on%20society%E2%80%9D.&text=%E2%80%93%20maximising%20the%20creation%20of%20shared,mitigating%20their%20possible%20adverse%20impacts](https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF#:~:text=The%20Commission%20puts%20of%20ward%20a,for%20their%20impacts%20on%20society%E2%80%9D.&text=%E2%80%93%20maximising%20the%20creation%20of%20shared,mitigating%20their%20possible%20adverse%20impacts)

⁶https://www.esteri.it/mae/it/politica_estera/organizzazioni_internazionali/ocse.html

⁷<https://unric.org/it/>

⁸<https://www.ilo.org/global/lang--en/index.htm>

⁹<https://sdgs.un.org/goals>

In particular, the objectives are related to the triple bottom line theory on which the European CSR is based and in detail:

- From the first to the fifth SDG and the sixteenth are related to the factor: People.
- The twelfth to the fifteenth SDG and the sixth are related to the factor: Planet.
- From the seventh to the tenth SDG are related to the factor: Profit.
- The eleventh and seventeenth SDG are related to the factor: Partnerships.

To better understand what these SDGs are about, they are listed below in the pictures:



Figure 2 The 17 Goals

Nowadays, there are, in general, two dimensions of CSR: one internal and one external to the company. The internal dimension has as its focal point on the management of human resources, health, safety at work, environmental organisation, management of environmental resources etc.; the external one, on the other hand, concerns the stakeholders along the entire production chain and environmental problems worldwide.

In addition to and in relation to the definition of CSR, some business management models have been created over the years related to ethics' topic, below a list of them:

- **STANDARD SA 8000¹⁰**

This legislation was issued by the Social Accountability International (SAI) and ensures that companies respect social responsibility, a correct supply of resources and a control process for the protection of workers. This standard is the most widespread worldwide and is applicable to any company in any sector.

¹⁰ http://www.inpa.it/certificazioni/SA8000%202014_ITA_finale.pdf

This standard establishes the minimum requirements in terms of human and social rights and includes eight specific requirements:

- To exclude child labour and forced labour.
- The recognition of working hours.
- Pay decent wages for the worker.
- Guarantee the freedom of trade union association.
- Guarantee the right of workers to be protected by collective bargaining.
- Guarantee safety in the workplace.
- Guarantee the healthiness of the workplace.
- Prevent any discrimination based on sex, race, political, sexual or religious orientation.

This legislation was issued in 1997 and was subsequently amended 4 times in 2001, 2008 and 2014 respectively.

- **STANDARD AA1000¹¹**

This standard has been created in 1999 by the Institute of Social and Ethical Accountability and it aims to evaluate the results that companies have in the field of ethical and social investment and sustainable development. Thanks to this standard, companies can demonstrate their commitment to respect the ethical values through objective, impartial and transparent tools.

- **STANDARD ISO 26000¹²**

In 2005, the second meeting of the ISO¹³ group on CSR took place in Bangkok. On this occasion the structure of the ISO 26000 standard published later in 2010 has been defined. In the definition of this standard, six categories of stakeholders were involved: companies, governments, workers, consumers, non-governmental organisations and others. The ISO 26000 standard is not certifiable; it is not possible to certify the compliance of a management system with the ISO 26000 standard. However, there are certification and responsible labelling schemes that incorporate the principles and recommendations of the standard and use them as a reference to evaluate the implementation of a management system based on social responsibility in any organisation.

¹¹ <https://www.economiamanagement.univr.it/documenti/OccorrenzeIn/mtdid/matdid313627.pdf>

¹² https://iso26000.info/wp-content/uploads/2017/06/ISO-26000_2010_E_OBPpages.pdf

¹³ <https://www.iso.org/home.html>

3

Policies on the Circular Economy at European level

3. Legislative Policies summary table

| EU name policy | Description | Link |
|--|--|-----------------------------|
| Circular Economy Action Plan | <p>The first Circular Economy Action Plan has been drawn up in December 2015 and it consisted of 54 different actions to accelerate Europe towards a Circular Economy. In this plan, the European Commission has established clear objectives by revisiting the issue of waste, its disposal and recycling. In March 2020, the European Commission drafted, updated and adopted a new version of the Circular Economy Action Plan. This new action plan includes a series of initiatives throughout the life cycle of products, targeting and promoting processes of circular economy, sustainable consumption to ensure that the resources used are preserved in the EU economy for as long as possible. As regards sustainable products, the Circular Economy Action Plan certifies that "80% of the environmental impacts of a product are determined in the design phase". Through the Circular Economy Action Plan, 2020, the European Commission focuses on some key products, to verify the success of the actions that will be implemented.</p> | Policy Link |
| WEEE Directive - Waste electrical and electronic equipment | <p>This directive entered into force in 2003 (Directive 2002/96/EC) and was revised in 2012 (Directive 2012/19/EU). It requires the establishment of collection schemes (free for consumers) to increase the WEEEs re-use and/or recycling. Regarding furniture and wood sectors, containing electrical or electronic components, there is an open discussion about the scope described in Article 2 of the WEEE Directive, which determines that from 15th of August 2018, all EEE shall be classified within the categories set out in the Annex III of the Directive.</p> | Policy link |
| RoHS Directive – Restriction of hazardous substance in EEE | <p>The Directive entered into force in 2003 (Directive 2002/95/EC), and it has been reviewed in 2011 (Directive 2011/65/EU). It has amended by the Directive (EU) 2017/2102, reviewing the scope for some group of products and facilitating to promote a circular economy in the Union by promoting the secondary market operations for EEE, which involve repair, replacement of spare parts, refurbishment and reuse, and retrofitting. The RoHS directive is applied not only to products manufactured in Europe but also to imported ones.</p> | Policy link |
| Ecodesign Directive | <p>In 2005 the EU ratified the EuP Directive (Energy using Products Directive). In 2009 this has been renamed ErP Directive (Energy related Products Directive) or "Ecodesign". This Directive is mandatory in the states of the European Union and it refers both to materials produced in the EC and to those imported. Companies who want to put products on the EU market should follow this directive regulations (Declaration of Conformity) and they should include the "CE" label on them. The requirements established by the legislation are associated to the energy efficiency and the information to be provided about the product. Sometimes they include also some aspect related to the product's life cycle.</p> | Policy link |
| EPR Scheme | <p>It is "an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle". The EPR scheme ensures that through financial incentives manufacturers and designers are encouraged to design environmentally friendly products, while holding manufacturers responsible for the running costs of their products at the end of</p> | Policy link |



their life cycle. In 2014, DG Environment published the final report on “Development of Guidance on Extended Producer Responsibility (EPR)”, developed by BIO, which analyses the status of different EPR schemes at EU level, and finally define the guiding principles and recommendations.

| | | |
|--|---|-----------------------------|
| REACH – Registration, Evaluation, Authorisation and Restriction of Chemicals - Hazardous substances | <p>It consists of XV Titles divided into 141 articles and 17 technical annexes and, being a regulation and not a directive, it does not require any act of receipt or implementation and it is immediately applied by states with different deadlines.</p> <p>This regulation aims to improve both the human health and the environment protection by identifying better and at an earlier stage the hazardous properties of chemical substances used in EU. The goal of this actions is to substitute chemical substances identified as the most dangerous by once identified suitable alternatives. This process is coordinated by the European Chemicals Agency (ECHA).</p> | Policy link |
| Formaldehyde emissions | <p>Exposure to formaldehyde emissions is an important issue for consumers who are in contact with products and also for workers who come into contact during the production cycle of the product. EN 13986 is the harmonised European standard for the determination of formaldehyde emission from wood-based panels. The reference test method is the EN 717-1 standard. These rules only classify products, but do not restrict the placing on the market of the worst class E2. At the European level there is no common law associated with these classes. Since 2007, members of the European Panel Federation (EPF) have entered into a voluntary agreement to produce panels. This agreement provides to produce class E1 panels only and not E2, so as to limit damage.</p> | Policy link |
| Waste Framework Directive 2008/98/EC | <p>In the Article 6 of the Waste Framework Directive 2008/98/EC there is indicate that some specific waste shall stop to be considered normal waste if it has undergone through a recovery process and if it complies with specific criteria. Regarding the furniture sector, the wood waste stream may be in line with the principles of the aforementioned law, but it is not clear for all cases that their current management in the EU is through recycling, or that recycling is a priority over controlled energy recovery or landfill in suitable facilities.</p> | Policy link |
| Flame retardants | <p>In April 2004, the European Union (EU) published Regulation (EC) 850/2004, a comprehensive piece of legislation for the management of persistent organic pollutants (POPs) listed in the Protocol to the 1979 Convention on Transboundary Air Pollution to great distance on POPs and the Stockholm Convention on POPs. Some of these POPs are used as flame retardants (e.g. PBDE flame retardants). On June, 25th, 2019 the EU published Regulation (EU) 2019/1021, which recast the POP Regulation. This new law contains several important changes. Even today, there is no legislation that regulates the specific use of flame retardants in the furniture sector, and the use of this type of chemicals is associated with the possible requirements set by the REACH Regulation and the POP Regulation.</p> | Policy link |
| Renewable energy directive | <p>As regards renewable energy, Directive 2009/28/EC establishes a comprehensive policy for the production and promotion of energy from renewable sources in the EU. This aims for the EU to meet at least 20% of its total energy needs with renewable energy by 2020. Furthermore, all EU countries must also ensure that at least 10% of their transport fuels come from renewable sources by 2020. To monitor the situation, every two years, the EU countries produce a report highlighting the results obtained.</p> | Policy link |

In addition, all EU countries must draw up ten-year energy and climate plans (NECPs) for the period from 2021 to 2030. In these plans they must outline how they will achieve the new 2030 targets for renewable energy and energy efficiency.

**EUTR - EU
Timber
Regulation**

In 2013, the **EU Timber Regulation** or EUTR enters into force. Regulation (EU) no. 995/2010 of the European Parliament and of the Council of October, 20th, 2010 defines the obligations of operators who sell or distribute timber and wood products. EUTR is applied to a wide leg of lumber and affects operators and traders.

In addition to this law, in 2005 the EU also created and implemented a voluntary programme called the FLEGT action plan to ensure that timber imported into the EU is legally harvested in the countries participating in this programme.

Another scheme is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), signed in 1973. Its goal is to protect and not threaten a variety of more than 30,000 wild animals and plants with varying degrees of protection.

[Policy link](#)

4

Policies on the Circular Economy at National/Regional level

4. Spain

Materials and Methods of the Spanish research



In Spain, in terms of environmental protection, the basic legislation corresponds to the Spanish State. To this end, the main sources of information on the topic are the Ministry for Ecological Transition and the Demographic Challenge¹⁴ and, where necessary, the Official State Bulletin¹⁵, which is the Spanish national official newspaper dedicated to the publication of certain laws, provisions and mandatory insertion acts. The rest is the responsibility of the Autonomous Communities that have it transferred, as is the case of Catalonia and the Region of Murcia. On the one hand, if we want to know how in practice the Circular Economy is being deployed in Catalonia, we must consult the regional legislation, which we will find perfectly ordered and classified on the websites of: i) Department of Territory and Sustainability¹⁶ and ii) Department of Agriculture, Livestock, Fisheries and Food¹⁷.

In Catalonia there are two major strategies currently under development in terms of Circular Economy: 1) Circular Economy Roadmap in Catalonia¹⁸ (in Catalan: Full de Ruta de l'Economia Circular a Catalunya) and 2) Bioeconomy Strategy of Catalonia¹⁹ (in Catalan: Estratègia de Bioeconomia). These two strategies, under development, will mark the future of Catalonia in terms of Circular Economy during the next 10 years. CENFIM, partner of ALLVIEW project, is participating in the definition of both strategies and in both cases, the initial stage has been an analysis of the state-of-the-art of the policies and strategies currently in force in Catalonia in Circular Economy, to consider, include and/or align them with the two new strategies under development. This state-of-the-art investigation has made it possible to identify the policies/strategies currently in force in Catalonia in Circular Economy (specifically, there are 6), which, in addition to the two new strategies under development, have been included in the tables of the following section and show a clear overview of the current and future situation of the Circular Economy in Catalonia.

On the other hand, if we wish to know how in practice the Circular Economy or Waste resources policies are being deployed in the Region of Murcia, we must consult the regional legislation. This legal information can be found in the Electronic site of The Official Newsletter of The Region of Murcia²⁰ or in the Regional Ministry of Tourism, Culture and Environment²¹ whose main areas of work are Information and Environmental Awareness, production of

¹⁴ <https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/legislacion/>

¹⁵ <https://www.boe.es>

¹⁶ <https://territori.gencat.cat/es/inici/index.html>

¹⁷ <http://agricultura.gencat.cat/es/inici/index.html>

¹⁸ https://participa.gencat.cat/uploads/decidim/attachment/file/2216/Document_base_procés_participació.pdf

¹⁹ <https://portaldogc.gencat.cat/utillsEADOP/PDF/8o63/1783616.pdf>

²⁰ <https://www.borm.es/#/home>

²¹ [https://www.carm.es/web/pagina?IDCONTENIDO=64&IDTIPO=140&RASTRO=c\\$m27801](https://www.carm.es/web/pagina?IDCONTENIDO=64&IDTIPO=140&RASTRO=c$m27801)

environmental disclosure materials, environmental education and development of teaching materials.

Furthermore, some reports have been consulted because they are associated with the area reached in this research:

- [Corresponsables Fundación y DKV Salud y Bienestar \(2018\). 20 años de Responsabilidad Social En España. Los acontecimientos y las personas que han impulsado este concepto y modelo de gestión entre 1998 y 2018.](#)
- [Deloitte y S Eres \(2019\). VI Informe del Impacto social de las empresas.](#)

Background research and National/Regional policies

Circular Economy in Catalonia and Region of Murcia

In Catalonia, the current management of wood waste is approximately as follows: 1% reuse, 69% recycled and 30% energy recovery. Although these wastes are no longer deposited in landfills, reuse is not prioritised over other recovery strategies.

The management of this waste is done in accordance with European legislation - transposed into Spanish legislation and adapted to Catalan legislation - and in accordance with the objectives established in the current General Program for the Prevention and Management of Waste (in Catalan: *Programa General de Prevenció i Gestió de Residus*)²².

We can say that there is no outstanding requirement or objective that applies to this waste stream, beyond the general objectives of reduction, separate collection and recovery imposed by Europe.

From the legal perspective, in addition to waste legislation, the provisions of REACH and EUTR apply to the furniture sector. In the voluntary sphere, the administration and the sector promote activities to deploy the following voluntary instruments: GPP, ecodesign, ecolabels, environmental management systems, chain of custody systems and alignment with sustainable building certifications (LEED, BREEAM, WELL).

The sector has been “rumoured” for a long time about the possible implementation in the future of a take-back scheme (EPR) for furniture, without currently having any processes or initiative formally initiated in this matter. The sector also follows with expectation how the deployment of the Green Deal and the new Circular Economy Action Plan and specifically the future “sustainable product policy initiative”, will affect the furniture sector.

²² <https://portaldogc.gencat.cat/utisEADOP/PDF/8063/1783616.pdf>

On the side of the Region of Murcia, the concept of Circular Economy is almost new-born and there are hundreds of opportunities and challenges ahead. Indeed, there are already some initiatives in this regard in the city of Murcia, such as the VALUEWASTE project²³. The initiative is funded by Horizon 2020, and it is aligned with the main objectives of the Green Deal or European Green Pact. Likewise, it is one of the initiatives detected from the diagnosis of the state of the Circular Economy of the municipality of Murcia.

Moreover, this action is framed in the Urban Agenda Murcia 2030, specifically in sustainability that gives special importance to the transition towards a circular Murcia, as well as strategic objective number four on waste management and economy circular of the Spanish Urban Agenda.

Likewise, the town hall is currently immersed in the design of its Circular Economy strategy, a commitment that seeks an innovative and efficient municipality, low in emissions, looking to a prosperous future, but without giving up their roots. It should be remembered that the municipality is currently working on about thirty projects related to the main axes of the strategy, such as mobility, consumption, waste management, water management, the sustainability of urban spaces, mobility and transversality policies.

The policies analysed in Spain to conduct the research are the following:

- [Strategy to Promote the Green Economy and the Circular Economy \(in Catalan: Estratègia d'Impuls a l'economia verda i a l'economia circular\)](#)
- [Catalan ecodesign strategy, for a circular and eco-innovative economy \(in Catalan: Estratègia catalana d'ecodisseny, per a una economia circular i ecoinnovadora\)](#)
- [National Plan for Agenda 2030 \(in Catalan: Pla Nacional per Agenda 2030\)](#)
- [National Pact for Industry \(in Catalan: Pacte Nacional per a la Indústria\)](#)
- [National Pact for the Energy Transition \(in Catalan: Pacte Nacional per a la Transició Energètica\)](#)
- [General Program for the Prevention and Management of Waste \(in Catalan: Programa General de Prevenció i Gestió de Residus\)](#)
- [Bioeconomy Strategy of Catalonia \(in Catalan: Estratègia de Bioeconomia\)](#)
- [Circular Economy Roadmap in Catalonia \(in Catalan: Full de Ruta de l'Economia Circular a Catalunya\)](#)
- [Royal Decree 117/2003 of 31 January 2003 on the limitation of emissions of volatile organic compounds due to the use of solvents in certain activities.](#)
- [Resolution of 20 January 2009, of the Secretary of State for Climate Change, publishing the Agreement of the Council of Ministers approving the National Integrated Waste Plan for the period 2008-2015.](#)
- [Law 26/2007, of 23 October, on Environmental Responsibility.](#)
- [Law 22/2011, of 28 July, on waste and contaminated soils.](#)

²³ <http://valuewaste.eu/>

- [Law 5/2013 of 11 June 2013 amending Law 16/2002 of 1 July 2002 on integrated pollution prevention and control and Law 22/2011 of 28 July 2011 on waste and contaminated soils.](#)
- [State Waste Prevention Programme 2014-2020](#)
- [State Framework Plan for Waste Management \(PEMAR\) 2016-2022](#)
- [The Circular Economy Pact: the commitment of the economic and social partners 2018-2020](#)
- [Order APM/397/2018, of 9 April, determining when polyurethane foam offcuts used in the manufacture of composite foam are considered by-products in accordance with Law 22/2011, of 28 July, on waste and contaminated soils.](#)
- [Spanish Circular Economy Strategy, Circular Spain 2030](#)
- [Spanish Urban Agenda 2030](#)
- [Waste Plan for The Region of Murcia 2016-2020](#)
- [Agreement of the Governing Council approving the preparation of the Circular Economy Strategy of the Region of Murcia and the constitution of the Steering Committee](#)
- [Circular Economy Strategy for The Region of Murcia 2030](#)

All of them have been analysed and collected in detail in the final report and in a more extended version in English.

Conclusion

In Spain, at this stage, there is no doubt that the commitment to a Circular Economy strategy is a necessary opportunity for companies to ensure their survival and future growth, as well as their adaptation to new international regulations and best practices but it is necessary to go a step further in which companies and their shareholders have to prepare and train themselves professionally to implement criteria that consumers and their employees are already demanding.

As has been aforementioned, the first Spanish policies or royal decrees avoiding waste prevention were mainly focused on the reduction of pollution and reuse and upcycling actions. Later, the society in general, opened their mind to other related concepts and the scope of the following policies began to be associated with the term Circular Economy which brings together more options and opportunities, but also more responsibilities.

In Catalonia, the current management of wood waste is approximately as follows: 1% reuse, 69% recycled and 30% energy recovery. The management of this waste is done in accordance with European / Spanish / Catalan legislation and in accordance with the objectives established

in the current General Program for the Prevention and Management of Waste²⁴. There are no notable requirements or objectives that apply to this waste stream.

The sector voluntarily applies different environmental tools (e.g., GPP, ecodesign, ecolabels, EMS, CoC, sustainable building, etc.). The sector has been “rumoured” for a long time about the possible implementation in the future of a take-back scheme (EPR) for furniture, without currently having any processes or initiative formally initiated in this matter.

In Catalonia there are two major strategies currently under development in terms of Circular Economy: 1) Circular Economy Roadmap in Catalonia²⁵ (in Catalan: *Full de Ruta de l'Economia Circular a Catalunya*) and 2) Bioeconomy Strategy of Catalonia²⁶ (in Catalan: *Estratègia de Bioeconomia*), in addition to 6 other initiatives in force and collected in the previous tables.

In the case of the Region of Murcia, the debate began years later if compared with other Spanish regions or territories. It was not until the year 2016 when it was necessary to start the movement to achieve the Circular Economy Strategy of the Region of Murcia (ESECIRM), to establish the essential framework to facilitate and promote the transition towards the circular economy model by all the agents involved. Of course, these responds to previous actions and movement at national level (Circular Spain 2030) and European level (Closing the loop: an EU action plan for the circular economy and the new Gren Deal). Nevertheless, the state of the art of this legislation is still to come and therefore, to be passed and implemented. Without any kind of doubt, the first step has already been taken.

5. Italy

Materials and Methods of the Italian research



Environmental legislation in Italy is mainly managed at national level when it comes to the implementation of the European regulations and the organization of the permit system. At regional level, mainly the planning of the treatment plants and the issuing of authorisations are allocated. In 2006, all environmental legislation was incorporated into a single text which has since then been used as a single text designed to incorporate the transpositions of new European legislation. Attempts to simplify waste management from the point of view of the circular economy often clash against definitions that continue to be precautionary and to focus mainly on fighting illegality than on exploiting waste as a resource. However, the introduction of the definition of by-product, carried by Italy in the European legislation, has been useful, while it is difficult to have a versatile and efficient organisation about End of Waste criteria.

²⁴ <https://portaldogc.gencat.cat/utillsEADOP/PDF/8o63/1783616.pdf>

²⁵ https://participa.gencat.cat/uploads/decidim/attachment/file/2216/Document_base_procés_participació.pdf

²⁶ <https://portaldogc.gencat.cat/utillsEADOP/PDF/8o63/1783616.pdf>

In the recent years many measures have been taken to integrate the circular economy into the Italian regulatory system, both from the point of view of incentives and from the point of view of objectives for sectors affected by extended responsibility. In the specific, on extended responsibility, the transposition of the directives of the “circular economy package” in 2020 has outlined a framework within which the Ministry of the Environment²⁷, which has assumed the name of Ministry of Ecological Transition with the new government in office since February 2021, will be able to define perimeters and targets of new extended responsibility schemes dedicated to products not covered by these tools to date. In general, even the architecture imagined twenty years ago with the establishment of consortia for the recovery and recycling of packaging, which has worked very well especially in the wood sector, is undergoing variations that aim to make the waste market more competitive and competitive by facilitating the establishment of new collective systems in competition with each other.

On the other hand, the new schemes already provide for competition between several collective systems by design.

At regional level, several regulations are in place to facilitate the start-up of a circular economy, particularly from the point of view of financing innovative ideas or reconversion of production processes. From the authorization point of view, the criteria by which it can be defined that a waste ceases to be considered waste and can therefore be defined as a “good” that can enter the production cycles, are defined by the local authorities with the ex-post supervision of the national environmental protection agency ISPRA²⁸ which monitors these measures to ensure uniform treatment on national territory.

A special mention deserves the theme of Green Public Procurement (GPP)²⁹. In Italy, the procurement code has made it compulsory in every public tender to apply the minimum environmental criteria defined by the Ministry of the Environment for different categories, including furniture, buildings and urban furniture. This has led to the need for many companies, such as those in the office furniture sector, to adapt quickly and with great effort to the criteria defined by the Ministry to be able to continue to operate and sell to the public sector. This effort has greatly increased companies’ awareness of the basic concepts of the circular economy and the importance of paying attention to the eco-design of their products. In this situation the research focused on the main national environmental law, plus a couple of in deep analysis on GPP organization and criteria, and regional waste planning.

To complete the view about wood waste, we decided to also include an industry standard, on wood recycling which is now undergoing the technical standardisation route, and a mention to a European guideline on cascading use of biomass, which is crucial to maintain the very efficient sector of wood recycling, which could be endangered by an uncontrolled push towards biomass energy.

²⁷ <https://www.minambiente.it/>

²⁸ <https://www.isprambiente.gov.it/it>

²⁹ <https://www.isprambiente.gov.it/it/attivita/certificazioni/ipp/gpp>

The Italian research was based on three different levels of policies: European, national and regional, taking information not only from official website of the Italian government but also from regional ones. We also consulted some reports listed in the references part of this document.

Background research and National/Regional policies

Circular Economy in Italy

The Circular Economy model is an answer to the crisis of the linear economic system, which relies exclusively on the exploitation of few resources to satisfy the needs of the consumers. Ambitious policies are needed to promote the transition from a linear to a circular model, supported by a clear legislative framework capable of giving the right signals to investors.

The most important document of the Italian environmental legislation is the legislative decree 152/2006³⁰. With this decree, also known as "*Testo Unico Ambientale*", the legislator has collected all the previous environmental legislation trying to give a univocal framework to all the aspects that regulate the protection of the environment, especially regarding the industry and productive part, the one more interested by circular economy. The consolidated environmental text was then updated several times over the years with the transposition of various European directives, including the so-called "circular economy package"³¹ which were implemented in 2020 with decree 116/2020³².

Alongside this regulatory framework, there are also several implementation measures that need specific decrees concerning the various measures envisaged, some of which have not yet been issued. Relevant aspects concerning the issue of the circular economy are certainly Article 178 of Decree 152/2006, which set the rules needed to establish extended producer responsibility systems and then delegates to the Ministry of the Environment the possibility of drawing up criteria and specific decrees for each product affected by extended producer responsibility.

Another article of great importance is 184-bis³³ which reports the definition of by-product, thanks to which many production residues can find a use without having to go through the definition of waste. The definition of end of waste (184-ter) and the related criteria also play a fundamental role in the implementation of a true circular economy but when it comes to End of Waste criteria, Italian legislation is still lagging behind.

The decrees establishing the end of waste criteria for certain waste are still very few, and the general rules through which the individual local authorities were used to issue the

³⁰ https://www.bosettiegatti.eu/info/norme/statali/2006_0152.htm

³¹ <https://ec.europa.eu/environment/circular-economy/>

³² <https://www.gazzettaufficiale.it/eli/id/2020/09/11/20G00135/sg>

³³ <https://www.mondodiritto.it/codici/codice-dell-ambiente/art-184-bis-codice-dell-ambiente-sottoprodotto.html>

authorizations for recycling and recovery have been questioned and suspended between 2018 and 2019 due to an alleged problem about uniformity of treatment. Now the local authorities have once again been allowed to grant end-of-waste authorizations on a case-by-case basis, but a centralised verification and control mechanism has been introduced, run by the national environmental agency ISPRA³⁴.

There are also specific measures that go beyond the consolidated environmental text and which mainly concern the energy sector or the protection of the natural heritage which are not covered by d.lgs 152/2006.

For example, another important regulation on which the Italian legislation declines some principles in the field of circular economy is the "*Collegato Ambientale*"³⁵ (law 28 December 2015, n.221) which contains provisions on environmental legislation to promote green economy and sustainable development. It allowed the principles of the circular economy to become part of the Italian system. The document acts broadly on everything related to the environment, from waste management to sustainable mobility.

This standard also intervenes in the balance between recycling and energy recovery of wood waste by establishing limits on incentives for the combustion of these resources.

In this regard, to establish an approach that respects the hierarchy of use of bio-resources, ensuring compliance with the priority criteria that see human nutrition first, the "Italian strategy for the bioeconomy", updated in 2019, identifies the priorities for the Italian bioeconomy, in all sectors, with the greatest relevance and potential in terms of circularity and regeneration.

At the national level, the 2020 budget law contains some first measures for the "Green new deal", with the establishment of a fund for public investments (4.24 billion euros for the years from 2020 to 2023), intended to support innovative projects and investment programmes with high environmental sustainability. In the context of public policies to support the transition to a circular economy, it is possible to note the redefinition of the Industry 4.0 Plan with greater attention to environmental sustainability and explicitly aimed - as a "Transition Plan 4.0" - also to encourage green investments by companies in the area of the circular economy; the expansion of the Revolving Fund for the support of businesses and investments in research whose resources can be allocated to support investment programmes and operations in the field of decarbonisation of the economy, circular economy, urban regeneration, sustainable tourism, adaptation and mitigation of risks deriving from climate change. Also worth to mention is the MISE (ministry of economic development)³⁶ decree concerning the procedures for the provision of subsidies related to innovative investments by small and medium-sized enterprises in less developed regions to facilitate their transition to the circular economy.

³⁴ <https://www.isprambiente.gov.it/it>

³⁵ <https://www.gazzettaufficiale.it/eli/id/2016/11/18/16G00006/sg>

³⁶ <https://www.mise.gov.it/index.php/it/>

Regarding other tax measures, it should be noted that the conversion law of the "Growth" decree (2019)³⁷ has provided for a series of incentives to encourage both the reuse and recycling of packaging, and the purchase of recycled and reused products.

An aspect to which Italy has devoted much importance is the development of environmental criteria for public procurement. Since 2017, compliance with the so-called minimum environmental criteria for public purchases of any amount is mandatory in Italy³⁸. The furniture supply chain is affected both by the criteria for the purchase or rental of furniture and by criteria for urban outdoor furniture like bench and tables, and children playground toys. In the new edition of the minimum environmental criteria for furniture that will be published in 2021, the Ministry of the Environment wanted to include, alongside the traditional formula of the purchase of furniture and the already tested one of rental, also sets of criteria dedicated specifically to services for extending the useful life of products, such as repairs, and a set of criteria for services related to the end of life of the products which therefore is not limited to sending for recycling but provides for the possibility of assigning them to a new use using also the network of non-profit voluntary associations.

In 2021, the Ministry of the Environment issued a call for the presentation of research and development projects related to products not yet subject to extended liability regimes.

The new government, in office since February 2021, established the Ministry of Ecological Transition which brings together the competences of the Ministry of the Environment and those of energy that were previously attributed to the Ministry of Economic Development and will chair the inter-ministerial committee for the coordination of ecological transition.

One sector in which Italy has distinguished itself over the years about the circularity of the wood furniture supply chain is certainly that of wood recycling. With the establishment of the consortium for the collection and recycling of wooden packaging, "*Rilegno*"³⁹, which took place in 1998, Italy focused on a system of shared responsibility which has allowed for the organisation of a very efficient system of collection and recycling of wooden packaging and bulky wood waste thanks to which it was possible to develop an industrial sector, namely the wood-based panels sector, that completed the transition started a few decades earlier from the use of virgin wood to the exclusive use of waste as raw material. Almost four millions of cubic meters of wood waste are used every year to produce chipboard panels in Italy. Thanks to this availability and to the technologies developed for the cleaning and recycling of wood waste, almost all the particleboard produced in Italy are made up of 100% recycled wood which makes it possible to certify these products with the FSC recycled and PEFC recycled label. The current recycling rate of wood packaging in Italy is already at a level more than double the targets set by the European Union for 2030.

³⁷ <https://www.gazzettaufficiale.it/eli/id/2020/07/11/20A03615/sg>

³⁸ codice degli appalti, d.lgs 50/2016 art. 34

³⁹ <http://www.rilegno.org/>

Italian wood recyclers started in 2021 a process to transpose an industry self-commitment into a standard recognised by the national standardisation body to ensure the proper treatments and controls that need to be in place in order to produce a final product (particleboard) which is fully compliant with the sectorial standards.

The policies analysed in Italy to conduct the research are the following:

- [Testo Unico Ambientale \(d.lgs 152/2006\)](#)
- [Decreto di recepimento Circular Economy Package \(d.lgs 116/2020\)](#)
- [Law 28 December 2015, n.221 \(Collegato Ambientale\)](#)
- [Best Practice on wood recycling \(industry commitment, to be adopted by Italian national standardization body in 2021\)](#)
- [WOOD PACKAGING RECYCLING SYSTEM](#)
- [GPP criteria for furniture \(Decree January 11, 2017, under revision\)](#)
- [REGIONE FRIULI VENEZIA GIULIA - Regional law n.34/2017](#)
- [REGIONE EMILIA ROMAGNA - Regional Law 5 ottobre 2015 n. 16](#)
- [REGIONE UMBRIA - Regional Law 13 maggio 2009, n. 11](#)
- [REGIONE MARCHE - Regional Law 17 luglio 2018, n. 25 "Impresa 4.0: Innovazione, ricerca e formazione"](#)
- [REGIONE BASILICATA - Regional Law 16 novembre 2018, n. 35](#)
- [REGIONE LOMBARDIA - D.G.R. n. 980 del 21/01/2020 Lombardia](#)
- [REGIONE ABRUZZO - L.R. del 01/12/2020 Abruzzo](#)

All of them have been analysed and collected in detail in the final report and in a more extended version in English.

Conclusion

Italy is facing the transition towards circular economy and towards decarbonisation with a regulatory system that was closely linked to the fight against illegality, and which is now moving step by step towards a new paradigm in which every waste must be considered as a new resource.

Italy is a country traditionally devoted to recycling due to the scarcity of raw materials in which, for example, wood recycling has been perhaps the most important training and the most excellent example of an entire industrial sector can be based on waste raw materials.

From the point of view of waste treatment, Italy has a poor equipment of waste-to-energy and this, which has always been considered a limit, at this time could be one less problem because the material valorisation of waste will not damage a sector like waste-to-energy, which in fact is very underdeveloped today. However, this concerns the issue of waste but not the issue of fuels. In fact, on the enhancement of woody biomass, competition can be positive if it pushes

the enhancement of national forest resources but becomes negative if it affects a consolidated waste recovery and recycling system.

About this, Italian regions have a planning role as regards the plant and operational equipment as regards the authorization systems.

From the point of view of the measures taken to help the transition to the circular economy, Italy has invested heavily in green public procurement, including the mandatory compliance with the minimum environmental criteria for public procurement in all tenders and for all sectors for which they have been defined, including furnishings. This tool is now suitable for experimenting with innovative services and business models such as rental, repair, reuse and end-of-life services. All services for which specific criteria have been defined are in the process of publishing.

The use of EU Next Generation resources will also make many resources available that in the coming years will be tied to the development of projects oriented towards the circular economy.

6. Slovenia

Materials and Methods of the Slovenian research



Environmental protection has been one of the most burning topics in the world for many years, even decades. The basic purpose of environmental protection is to maintain long-term conditions for human health, well-being, and quality of life, and to preserve biodiversity. Environmental protection refers to the preservation or protection of natural heritage. While being protected around, it refers to managing natural resources in a way that meets the needs of animals, plants, and populations. For the best environmental assistance, contact the main area, such as waste, pollution, biodiversity loss, settlement of invasive species, use of structures, etc. Environmental protection is an area that is regulated by law (existing and future).

For this purpose, the main sources of information for the Slovenian research on this topic were:

- The Ministry of the Environment and Spatial Planning - gp.mop@gov.si.
- The Agency of the Republic of Slovenia.
- The Environmental Agency of the Republic of Slovenia.
- The Inspectorate of the Republic of Slovenia for the Environment and Spatial Planning.
- The Surveying and Mapping Authority.
- The Nuclear Safety Administration of the Republic of Slovenia.
- The Water Directorate of the Republic of Slovenia.
- The Official Gazette of the Republic of Slovenia, which serves as the official newspaper, and the publication of laws, provisions, directives, and mandatory constitutional acts.

All waste legislations are listed on the website of Ministry of the Environment and Spatial Planning⁴⁰.

Background research and National/Regional policies

Circular Economy in Slovenia

Slovenia is one of the most heavily forested countries in Europe. 1.18 million hectares of predominantly beech, fir/spruce and oak forests cover more than 58% of the country's area. 77% of the forests in Slovenia are privately owned, though the state and the municipalities own 23% of the Slovenian forests. According to the Slovenia Forest Service, the growing stock of Slovenian forests is 357 million m³ or 303 m³ per hectare. The share of coniferous wood stock is 45% and the share of deciduous trees is 55%. In the Slovenian forests, there is an annual increase of 8.8 million m³ or 7.5 m³ per hectare. In the past year, around 5.3 million m³ of trees have been cut down in Slovenian, of which 63% were conifers and 37% were deciduous trees. In Slovenia, the wood and the forest, as the largest natural renewable resource, have a major strategic importance. Wood processing and the furniture sector (NACE Code C16 and C31) is one of the traditional production - and export - oriented activities of Slovenian Industry.

According to the annual financial reports, the 2019 Slovenian wood processing and furniture sector generated total revenue of EUR 1.570 million and employed almost 13.000 people. Currently, the business is showing a growth trend. The products range from biomass, wood-based panels, sawn wood and elements, timber wood, laminated wood and construction timber to wooden prefabricated houses and various furniture, the interior equipment of buildings and engineering. The Slovenian wood processing and furniture sector has traditionally been a net exporter with a significant surplus of exports over imports. Direct exports are around EUR 680 million, while imports are around EUR 330 million. 83% of the exports and 81% of the imports is realised with the EU countries.

Slovenia is a country with 2.1 million inhabitants. The amount of wood waste generated is relatively high compared to the amount of other waste generated. Wood is the only raw material that has been used in its entirety and in several life cycles (as a product, processing residues such as wood biomass, recycling and reuse). Wood is one of the most abundant natural polymers, because it is biodegradable and can be processed into "useful industrial chemicals". Wood waste includes waste bark, remnants of wood panels, chipboard and wool, sawdust, wood dust, construction and furniture wood waste, impregnated wood (poles, sleepers, etc.), and wood packaging waste, contaminated or uncontaminated with hazardous substances.

In general, wood wastes are generated:

⁴⁰ <https://www.gov.si/drzavni-organi/ministrstva/ministrstvo-za-okolje-in-prostor/zakonodaja-ministrstva-za-okolje-in-prostor/>

- in mechanical wood processing: saws
- in wood processing: carpentry and furniture production, wood shops, chipboard production, etc.
- in the manufacture and processing of pulp, paper and paperboard
- in agriculture and forestry: waste vegetable tissues mainly from orchards and vineyards
- green garden cuttings for landscaping
- due to the use of wooden packaging, mainly from the production of goods and trade
- in construction: preparatory construction work, structural and civil engineering works, construction of buildings, and development and construction-related trade
- in the construction of buildings as mixed construction waste and in the demolition of buildings if they do not contain waste hazardous substances
- in the construction of infrastructure, e.g., railways, energy and telecommunications
- in the mechanical treatment of waste, e.g., sorting, crushing, pressing, pelleting, other than listed elsewhere
- in service activities

This waste is submitted to materials processes in the wood industry and in the paper and pulp industry. Sawdust as a by-product of the wood processing industry is used in composting, as a building material, as wood chips or pellets for energy production or as biomass for local and district heating.

The Slovenian law of environmental protection has its starting point in the hierarchically highest legal act - the Constitution of the Republic of Slovenia. Article 72 stipulates that everyone has the right to a healthy living environment. Care for a healthy living environment is left to the State and the local community (municipality).

Slovenian environmental legislation is characterised by heterogeneity, multiplicity and intertwining of regulations. Legislation comprises more than twenty laws and more than five hundred by-laws. The most important is the Environmental Protection Act. The Environmental Protection Act is an umbrella regulation governing environmental protection in Slovenia. The first law was adopted in 1993. It laid the new foundations for environmental protection in Slovenia, when until then the usual way of solving environmental problems by using technical solutions to limit pollution was replaced by the principles of ensuring sustainable development. The first Environmental Protection Act was in force until 2004, when the new Environmental Protection Act (ZVO-1) was adopted, which is still valid today with certain changes.

The ZVO-1⁴¹ deals with the protection of the environment, namely the protection against pollution as a fundamental condition for sustainable development. In this context, it sets out the basic principles and measures for environmental protection and the methods and

⁴¹

<https://www.eui.eu/Projects/InternationalArtHeritageLaw/Documents/NationalLegislation/Slovenia/environmentprotectionact.pdf>

conditions for monitoring the state of the environment. It also sets out economic and financial instruments that contribute to the achievement of environmental protection objectives, as well as public services and other environmental issues.

ZVO-1 is divided into 13 chapters and has more than 200 articles.

The content is as follows:

1. Basic provisions
2. Environmental protection measures
3. Programs and plans in the field of environmental protection
4. Interventions in the environment
5. Monitoring of the state of the environment and information on the environment
6. Responsibility for the prevention or remediation of environmental damage
7. Economic and financial instruments of environmental protection
8. Compulsory public utility services for environmental protection
9. Organizations in the field of environmental protection
10. Inspection supervision
11. Criminal provisions
12. Special provisions and
13. Transitional and final provisions

ZVO-1 sets out the basic principles on which all activities and systems for achieving environmental protection goals are based. There are 13 principles:

The principle of sustainable development is defined as the principle according to which the state and the municipality, when adopting policies and plans, must promote the economic and social development of society, but also ensure the conditions for long-term preservation of the environment.

The principle of integrity derives from the inseparable connection in nature and its integrity. When adopting policies and plans, the State and the municipality must consider their impact on the environment by contributing to the achievement of environmental protection objectives. Human health, well-being and quality of life and survival, protection against environmental disasters and the health and well-being of other living organisms shall be considered as criteria.

The principle of cooperation requires:

- that the State and the municipality enable the participation of all actors, i.e., polluters, public service providers and other persons performing activities of environmental protection and the public, in the adoption of policies and plans related to environmental protection.
- The State must also cooperate with other States in resolving global and interstate issues of environmental protection.

- That municipalities are in solidarity with each other and cooperate in the implementation of environmental protection tasks.

The principle of prevention is that any intervention in the environment must be planned and carried out in such a way as to cause the least possible burden on the environment. The best techniques available on the market are used to implement this principle.

According to **the precautionary principle**, the introduction of new technologies and products is permissible only if considering the state of science and technology and possible protective measures, no unforeseen adverse effects on the environment and human health can be expected.

The principle of liability of the polluter of the environment requires that the polluters be held criminally and compensatory for these acts, and that they must also eliminate the source and consequence of the excessive burden.

The principle of payment for environmental pollution represents the implementation of the principle of "polluter pays principle", which is one of the fundamental pillar of modern environmental protection policy. The polluter shall pay all costs of the prescribed measures for the prevention and reduction of pollution and environmental risks, the use of the environment and the elimination of the consequences of environmental pollution. The State may prescribe an environmental tax.

The principle of subsidiary action of the state or local community in the event of excessive pollution of the environment determines the holder of the action if the cause is unknown. The principle is based on a responsible State. In the case of illegally disposed waste, the responsibility for action is divided according to the type of waste. However, the cost of disposing of this waste must be borne by the landowner.

The principle of promotion follows the recognition that environmental issues cannot be successfully managed by prohibitions and orders alone but that incentive mechanisms must be put in place. The State and the municipality, in accordance with their competencies, promote environmental protection activities that prevent or reduce the burden on the environment and those interventions in it that reduce the consumption of substances and energy and put less burden on the environment. The State and the municipality also promote awareness, information and education on environmental protection.

The principle of publicity provides the public with the opportunity to participate in decision-making procedures in permitting environmental interference and the right to appeal. It is the law that guarantees the right of access to environmental data, which must, with exceptions, be public.

The principle of protection of rights encompasses the rights of the individual to protect his or her constitutional right to a healthy living environment from Article 72 of the Constitution of

the Republic of Slovenia as one of the fundamental human rights by filing complaints and lawsuits.

The principle of the permissibility of interventions means that only those interventions that do not cause excessive burdens on the environment can be allowed. The law introduces a requirement to verify this principle within the framework of an environmental consent and / or an environmental permit.

The principle of the ecological function of property stipulates that the right of ownership is not absolute, but that the owner of the real estate must consider its ecological function when using this real estate. It must not take measures that would prevent the preservation and improvement of the quality of the environment at the same time.

In Slovenia, the comprehensive regulation of environmental protection was implemented in 1999, when the National Assembly of the Republic of Slovenia adopted the Nature Conservation Act. The legal regulation of nature conservation refers to the protection of natural values and the conservation of biological diversity. Nature is part of the environment. Natural values include all-natural heritage in the territory of the Republic of Slovenia. A natural value is, in addition to a rare, valuable or famous natural phenomenon, another valuable phenomenon, a part of living or non-living nature, a natural area or part of a natural area, an ecosystem, a landscape or a formed nature. These are geological phenomena, minerals and fossils and their deposits, surface and underground karst phenomena, underground caves, gorges and narrow and other geomorphological phenomena, glaciers and forms of glacial activity, springs, waterfalls, rapids, lakes, bogs, streams and rivers with banks, seacoast, plant and animal species...

The Act also establishes a minimum of legal standard for the protection of wild species and the protection of endangered and internationally protected species and their habitats and ecosystems by designating ecologically important 2000 sites. The protection of the most valuable parts of nature is ensured by the establishment of protected areas at the state and local level. Protected areas are intended for the protection of natural values, conservation of biodiversity and landscape diversity, and in these areas' sustainable development, spiritual relaxation and human enrichment are possible.

All waste legislation is listed on [website of Ministry of the Environment and Spatial Planning](#).

The policies analysed in Slovenia to conduct the research are the following:

- [Ustava Republike Slovenije - Constitution of the Republic of Slovenia](#)
- [Zakon o varovanju okolja - ZVO 1 - \(Environmental Protection Act\)](#)
- [Zakon o varovanju okolja \(ZVO-2\) - Draft of Environmental Protection Act](#)
- [Zakon o ohranjanju narave ZNO - Nature Conservation Act ZNO](#)
- [Uredba 103/2011 \(Ur. l. RS. št. 103/2011\) - Regulation 103/2011](#)
- [Resolucija o Nacionalnem varstvu okolja za obdobje 2020-2030 \(NPVO 2020-2030\) - Resolution on the national environmental protection program 2020-2030 \(NPVO 2020-2030\)](#)

- [Program ravnanja z odpadki in program preprečevanja odpadkov - Waste Management Program in Prevention program Waste of the Republic of Slovenia](#)

All of them have been analysed and collected in detail in the final report and in a more extended version in English.

Conclusion

Wood is the only raw material that has been used in its entirety and in several life cycles (as a product, processing residues such as wood biomass, recycling and reuse). Wood is one of the most abundant natural polymers, because it is biodegradable and can be processed into “useful industrial chemicals”. Wood waste includes waste bark, remnants of wood panels, chipboard and wool, sawdust, wood dust, construction and furniture wood waste, impregnated wood (poles, sleepers, etc.), and wood packaging waste, contaminated or uncontaminated with hazardous substances.

In 2020, 236,357 tons of waste from wood treatment and processing and production of paper, cardboard, fiber, boards and furniture were generated, which means 121.32 kg of wood waste per resident. Also, in 2020, 120 tons of hazardous waste were generated from the treatment and processing of wood and the production of paper, cardboard, fiber, boards and furniture, which is 0.06 kg per year per resident.

Furniture recycling and wood reuse are key to preserving nature and the environment. Wood is a strategic raw material and, in addition to water, is our only naturally renewable resource. There are a lot of it in Slovenia, so it offers sufficient quantity and quality support for the wood processing industry. Wood scraps and used furniture can be processed into new products. Through reuse and recycling, we reduce deforestation and promote habitat conservation.

Efficient waste management can make an important contribution to resource efficiency and is essential to meet the needs of human society and ensure its further development. Waste management is carried out both in accordance with European/Slovenian legislation and with the objectives set out in the current Waste Management Program and the Waste Prevention Program. They are combined in one document into an operational programme, as a tool of the Government of the Republic of Slovenia for the fulfilment of waste prevention, ensuring prescribed waste management and achieving waste management goals for the period until 2020 or 2030.

The main purpose of the operational programme is that with the implementation of it, Slovenia follows the strategic orientations of European policies, which, while emphasising waste prevention, give priority to preparing waste for re-use and recycling before energy recovery of waste, and recovery of waste takes precedence over its disposal if and where this represents

the best option from the point of view of environmental protection, taking into account technical feasibility and economic feasibility.

7. Poland

Materials and Methods of the Polish research

Materials for the research regarding Corporate Social Responsibility (CSR) and circular economy in Poland have been gathered through various website sources. The overall research began on the website of the Polish Parliament on the issue of waste legislation to obtain a comprehensive overview.

All the policies and standards currently in force in Poland, at the national and regional level, were analysed in-depth.

In particular, the main sources were:

1. Polish National Waste Act [Journal of Laws No. 0, item 21, as amended] from 2012;
2. Polish National Environmental Law [Journal of Laws of 2020, item 1219, as amended] from 2020.

Background research and National/Regional policies

Circular Economy in Poland

There has been intensive progress in Poland for waste management, however, there is a lack of empirical studies which discuss the profitability of adopting CE concepts for waste processing, especially in this part of Europe. One of the reasons for this is the limited access to actual market data used by the waste management companies, which is usually guarded as a business secret.

Polish wood industry is one of the fastest-growing sectors of the Polish economy:

- the sector is growing five times faster than in the rest of the EU;
- it has more than 65 thousand entities;
- it has about 256 thousand employees.

Moreover, Poland belongs to the group of countries characterised by the largest share of forested areas, covering 30% of the country's territory. The position of the wood industry in the national economy is strong (Fig. 3). It is observed:

- 3% of gross domestic product,
- 8% of the sold production of industry,

- 9% of the value of exports.

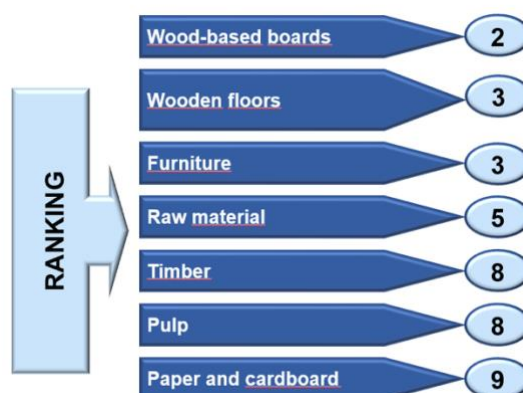


Figure 3 Poland's position in the EU-27 in the production of wood and wood products [GUS, EFP]

No separate legislative acts are in force in Poland or the European Union that would regulate waste wood issues directly. Under Directive 2008/98/EC⁴² of the European Parliament and of the Council of 19 November 2008, "**waste is any substance or object which the holder discards or intends or is required to discard**"⁴³. This definition of waste has remained unchanged in the amended Waste Act in Poland⁴⁴. The classification of waste is based on the European List of Waste⁴⁵ and Annex III to Directive 2008/98/EC.

The priority task in waste management is waste prevention, followed by the preparation of waste for reuse, its recycling and finally other recovery methods, i.e., energy recovery or waste disposal. Given the above, energy recover, as well as the reprocessing of waste into materials to be used as fuel or for backfilling or landfilling operations, is not a form of recycling. Despite of these assumptions, legislative acts are in force that regulates actions aimed at increasing the use of waste wood for energy recovery purposes. Regulations promoting the use of waste wood for energy recovery purposes can also be found in Polish legislation. This situation results in serious difficulties in the rational use of waste wood as one of the main sources of timber. It also leads to problems with estimating the quantity of waste wood and, consequently, prevents the correct assessment of its potential for use by particular sectors of the economy⁴⁶.

The policies analysed in Poland to conduct the research are the following:

- [Waste Act \[Journal of Laws No. 0, item 21, as amended\]](#)
- [Environmental Law \[Journal of Laws of 2020, item 1219, as amended\]](#)

⁴² <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098&from=IT>

⁴³ OJL 312, 22.11.2008

⁴⁴ Journal of Laws No. 0, item 21

⁴⁵ Commission Decision 2000/532/EC

⁴⁶ Kurowska 2015

All of them have been analysed and collected in detail in the final report and in a more extended version in English.

Conclusion

The growing environmental challenges and diminishing resources have led countries around the world to act in moving towards a CE. Polish legislation has been established to facilitate the movement from a linear economy to a CE. Waste management is one of the challenges faced by Poland, both for industrial waste and municipal waste. The basis for all regulations and activities in resource waste prevention and waste management is the Waste Act⁴⁷.

The Waste Act defines the rules for dealing with waste in a way that protects human life and health and the environment following the principle of sustainable development, in particular the rules of preventing waste generation or reducing the amount of waste and its negative impact on the environment, as well as recovery or disposal of waste. According to Polish law, whoever undertakes activities causing or likely to generate waste should plan, design and conduct such activities to:

- 1) Prevent the waste generation or reduce the amount of waste and its negative impact on the environment in the production of products, during and after their use.
- 2) Provide recovery by the principles of environmental protection if it has not been possible to prevent the generation of waste.
- 3) Ensure the disposal of waste, the production of which could not be prevented or recovered by the principles of environmental protection.

Moreover, the following rules are applying:

- The holder of the waste is obliged to handle it in a manner consistent with the principles of waste management, environmental protection requirements and waste management plans.
- The holder of waste is obliged to recycle it in the first place, and if for technological reasons it is impossible or is not justified for ecological reasons or economic, the waste should be disposed of in a manner consistent with the requirements of environmental protection and waste management plans.
- Wastes that have not been recovered should be disposed of in such a way as to store only those waste, the neutralisation of which would otherwise be impossible for technological reasons or unjustified for ecological or economic reasons.

⁴⁷ Journal of Laws No. 0, item 21

8. Germany

Materials and Methods of the German research



The information for the German research has been gathered via various web sources. In the process, the general search began on the website of the Federal Environment Agency⁴⁸ and the Federal Ministry⁴⁹ for the Environment on the topic of waste legislation to obtain a general overview.

Background research and National/Regional policies

Circular Economy in Germany

Resource conservation and the establishment of a sustainable recycling economy has become one of the most important political issues in recent decades. Materials should be reused as often as possible to avoid waste and save resources.

In Germany, the contents of the Waste Framework Directive led to the Recycling Management Act, “*Kreislaufwirtschaftsgesetz*”, (KrWG). This forms the basis for waste law in Germany and was enacted in 2012 and amended in 2020. The aim of this law is to promote the circular economy to conserve natural resources and to ensure the protection of people and the environment in the generation and management of waste.

In June 2012, the Act to Promote Closed Substance Cycle Waste Management and to Ensure Environmentally Sound Waste Management⁵⁰ came into law. The KrWG, promulgated as Article 1 of the Act on the reorganisation of the Circular Economy and Waste Law, replaces the Circular Economy and Waste Law (KrW-/AbfG).

The term waste is also precisely defined in the Circular Economy Act. If a substance fulfills the following criteria, it is no longer to be assessed as waste: passing through a recovery process, specific recovery purpose, market demand exists, fulfillment of certain technical and legal requirements and the further use is harmless.

The Circular Economy Act anchors and establishes in § 6 the five-level waste hierarchy instead of the three-level hierarchy. This is defined as follows and ordered according to waste priority: Avoidance, preparation for reuse, recycling, energy recovery and backfilling and disposal.

The waste management measures to be selected should primarily ensure the protection of the environment and society. The focus is on economic, technical and social priorities.

⁴⁸ <https://www.umweltbundesamt.de/themen/abfall-ressourcen/abfallwirtschaft/abfallrecht>

⁴⁹ <https://www.bmu.de/themen/wasser-abfalloberflaechen/abfallwirtschaft/abfallrecht/national/#c24292>

⁵⁰ [Closed Substance Cycle Waste Management Act, KrWG](#)

Material-specific waste directives are further specified in the Packaging Act (VerpackG), the End-of-Life Vehicles Directive (AltfahrzeugV), the Battery Act (BatterieG) and the Electrical and Electronic Equipment Act (ElektroG) and anchored in national law. In the following list, only the legal directives that specifically affect the furniture and wood industry sector are addressed.

The policies analysed in Germany to conduct the research are the following:

- [Waste prevention programme](#)
- [Resource Efficiency Programme \(ProgRes\)](#)
- [Act on the Promotion of the Circular Economy and Ensuring the Environmentally Sound Management of Waste \(KrWG\)](#)
- [Directive on Requirements for the Recovery and Disposal of Waste Wood \(Waste Wood Directive\)](#)
- [Act on the Placing on the Market, the Taking Back and the High-quality Recycling of Packaging \(VerpackG\)](#)
- [Act on the Placing on the Market, the Taking Back and the Environmentally Sound Disposal of Electrical and Electronic Equipment - Electrical and Electronic Equipment Act - ElektroG\)](#)
- [Electrical and Electronic Equipment Substances Directive – ElektroStoffV](#)
- [Battery Act \(BattG\)](#)
- [Commercial Waste Directive – GewAbfV](#)
- [Dismantling and reuse - Building Guidelines Recycling - \(BFR\)](#)
- [Federal Immission Control Act](#)

All of them have been analysed and collected in detail in the final report and in a more extended version in English.

Conclusion

The listed laws and guidelines set important framework conditions for waste avoidance, implementation of a circular economy and cascade use of wood in the German furniture and wood industry. The material recycling of the respective waste wood is in the foreground, as far as possible. Of the 7 million tonnes of registered waste wood, 30% (2.2 million tonnes) is currently recycled in Germany. A large part of it is used in chipboard production. So, there is still an enormous potential and optimisation potential about sustainable recycling.

European legislation lays the foundation for the legal framework in Germany. Corresponding directives are transposed into national law. In particular, the Waste Framework Directive and its implementation into national law through the Circular Economy Act define the topic of waste prevention in Germany. These are the basis for the legal design of waste management. In addition to the legal requirements, there are many voluntary measures to implement sustainable waste management and circular economy in industry. These include various

environmental management systems (e.i. ISO14001, EMAS, etc.), the use of sustainable and ecological certificates (e.g., FSC) or the sustainable monitoring of the supply chain (chain of custody). The eco-design approach is also becoming an increasingly central issue, especially in the furniture industry.

Especially against the backdrop of the European Union's Green Deal, some legal changes are to be expected in the field of product design. The extended producer responsibility or product responsibility anchored in the KrWG lays the corresponding foundation for this. Like the electronics industry, the introduction of a take-back system or product classification according to criteria of the circular economy and life cycle assessment is to be expected in the medium term.

9. Belgium

Materials and Methods of the Belgian research



The information for the Belgian research was gathered through different sources. In this process, we started investigation the sectoral sources of the Belgian Federation for the Wood- and Furniture industry (Fedustria). Waste is a regionalised theme. For this, we examined the websites and studies of the Flemish Environmental services, "Vlaamse Milieu Maatschappij, VlaRem" and "Navem", for example for the environmental permits that companies and organisations need to exploit their business. This same study was conducted for the Brussels region and the Walloon Region, thanks also the services on Health and Safety of Woodwise, the consortium of partners gathered further information on this specific theme of waste prevention.

There were also studied the different legislations concerning Waste prevention programmes, directives for wood waste and for industrial packaging and the latest initiative concerning mattresses. Finally, we partners included some information of the study on Circular Economy in Belgium.

Following documents were analysed:

- Waste prevention programmes
- Environmental permit (demand formulars and conditions)
- Waste management legislation for the 3 regions (Flanders, Brussels, Wallonia)
- Directives for wood waste for the 3 regions (Flanders, Brussels, Wallonia)
- Directives for industrial packaging (ValuPack)
- Directives for take-back programmes of mattresses (ValuMat)

Background research and National/Regional policies

Circular Economy in Belgium

Belgium does not have a dedicated national resource efficiency or circular economy strategy/action plan, mainly due to its constitutional set-up.

The issue of material resource efficiency and circular economy, as it is typically cross-cutting, involves several domains and policy levels. This means that the Belgian regions (Wallonia, Flanders and Brussels) and the federal level are all concerned, each taking care of its own competences.

The Belgian Federal State is competent for matters whose technical and economic indivisibility requires equal treatment at the national level. For instance, major environmental issues such as water, air quality, biodiversity, climate change, etc. are dealt with mainly by the regions.

The federal government is competent when it comes to acting on these issues through products or services including polluting product emissions, energy consumption, product design, chemical substances in products, labelling, and the provision of information on the product or service, etc. Product policy is therefore an exclusively federal responsibility.

Belgium is strongly dependent on other countries for its raw material supply. This has created supply insecurity and price instability as raw material scarcity increases. The circular economy provides opportunities to maintain and use materials longer, and thus be less dependent on third countries.

There is a long activity in the field of separate collection and recycling of waste. Thus, it continues to see the circular economy as an economic opportunity for the industry.

The critical raw materials, identified by the European Commission in 2017, play an important role within the Belgian industry, not so much in the production of final products, but within refining, recycling and transformation. Several Belgian companies are very active in their sourcing and distribution. Through innovation and research, the circular economy can bring about business opportunities and employment, in several areas such as repair, local activities and remanufacturing.

Economic potential of the circular economy in Belgium

In the study "Potential of circular economy in Belgium" (2019 - only available in French) it is possible to find the following:

"The circular economy is subject to an important attention due to the potential of economic development and growth, that comes with it. Indeed, according to experts and promoters of this new kind of activity, the transformation of our economy from a linear model [i.e. in which resources are exploited and consumed and are in fine transformed to waste] to a circular model, which is more efficient in term of resources [i.e. which aims to maintain manufactured products, their components and the materials as long as possible within the system while

ensuring the quality of their usage] allows to realize some economies, to generate economic activity and employments, while preserving and reducing the environmental impact for the society.”⁵¹

From the economic theory's point of view, two mechanisms can explain the creation of added value and of employment through the circular economy. On the one hand, the circular economy can be a source of cost reductions, as is the case for the procurement of raw materials and other inputs linked to the production, but also for waste management, etc. On the other hand, the circular economy can stimulate the development of new products, goods, and services; for example in the field of repair, recycling, economy of functionality, etc. These dynamic, different sources have put forward some estimations regarding the economic potential of circular economy.

Among others, The MacArthur Foundation evaluates the economies potential worldwide at no less than \$1 billion per year. At European level, it would represent more than one million jobs that could be created by the circular economy. In this context, the assets that Belgium can rely on:

- The quality of its workforce, its technical expertise, its capacity to innovate, its central position in Europe, etc.
- Should allow it to fully participate to the movement, and to create economic activity and jobs in the scope of this new paradigm that is the circular economy.

The study brings a quantitative insight about this matter and considers three scenarios for the development of circular economy.

The first one (S₀) considering a constant evolution in the continuity of the existing circular economy without the undertaking of any specific initiatives or initiatives complementary to existing ones to enhance its development (Business as usual).

The second one (S₁) taking into consideration some (moderate) initiatives to enhance the development of circular economy.

The third one (S₂) taking into consideration voluntarist initiatives, destined to enhance the development of circular economy.

The evaluation and extrapolated results for Belgium could reach between EUR 1 and EUR 7 billion of added value at the horizon of 2030, whether we consider the scenario S₀ or S₂, respectively, and, according to the same scenarios, between 15,000 and around 100,000 jobs at the horizon of 2030. Even if these results should be interpreted with caution, the analysis shows however that circular economy can have a significant impact on the wealth creation (added value) and on the job creation⁵².

⁵¹ Potential of circular economy in Belgium, 2019

⁵² Eionet Report - ETC/MMGE 2019/4 – Belgium

However, the analysis shows that circular economy can have a significant impact on the wealth creation (value added) and on the job creation in a region or a country⁵³.

The policies analysed in Belgium to conduct the research are the following:

- ENVIRONMENTAL PERMIT – Flanders
- ENVIRONMENTAL PERMIT – Brussels
- ENVIRONMENTAL PERMIT - Walloon region
- THREE AUTHORITIES RESPONSIBLE FOR WASTE MANAGEMENT IN BELGIUM - BE regions
- [OWN WOOD WASTE RECOVERY - BE regions](#)
- [PACKAGING WASTE – VALIPAC - BE regions](#)

All of them have been analysed and collected in detail in the final report and in a more extended version in English.

Conclusion

Wood & Furniture Industry - the Belgian wood and furniture industry employs around 17.500 people (2019). The sector comprises five “subsectors”: the furniture industry, panel materials, construction elements, packaging and others (including wooden toys, brushes, coffins, etc...). Wood, trees, forests and the environment are inextricably linked. Forests are vital. Hundreds of millions of people worldwide depend on them for their livelihood. Forests are home to 80% of all plants and animals. Forests are a supplier of wood and paper. Moreover, forests are important for the climate.

(Sustainability) challenges - The challenges of the wood and furniture industry are manifold. **Materials:** The woodworking industries have every interest in obtaining wood from sustainably managed forests. This means that the forests must be managed with respect for the ecological, economic and social pillars. Worldwide, there are two labels that make sustainable forest management demonstrable and transparent: FSC and PEFC. It is important that not only the forests are certified, but also all the links further down the chain (operator, sawmill, trade, etc.).

There is also the challenge of reducing and optimising the use of both raw and auxiliary materials without loss of quality. Think of the use of glues, lacquers, packaging materials, etc.

Recycling: a great asset of the sector is also one of the most important challenges. Wood is a valuable raw material that is used to the highest possible degree and can be reused and recycled. The challenge is to keep wood and wood residues in a closed loop for as long as possible.

⁵³ Eionet Report - ETC/WMGE 2019/4 – Belgium

Energy: rational energy consumption is another important challenge within the subsector. In a first phase, energy must be used as efficiently as possible so that the total energy consumption decreases without loss of production capacity, safety and comfort.

The possibilities for savings are situated, among others, in the areas of compressed air, lighting and heating. In a second phase, we can examine how the energy that is ultimately still consumed can be obtained from renewable sources. A classic example in the sector is the wood combustion plants, in which companies valorise their own wood residues energetically and thus generate their own useful heat.

Emissions: this sector still uses a lot of finishing products that contain solvents. The conversion to low-solvent or solvent-free products is a major challenge due to technical limitations. Another possibility in striving for reduced solvent use is to apply more efficient application techniques.

Products and services: by considering the environmental impact of a product at each stage of its life cycle (production, use, disposal) as early as the design phase, products can be designed according to the principle of life cycle thinking or eco-design.⁵⁴

⁵⁴ Fedustria



5

Resources

10. Resources

1. Lisbon European Council, 23rd and 24th March 2000 - https://www.europarl.europa.eu/summits/lis1_en.htm#:~:text=The%20European%20Council%20held%20a,of%20a%20knowledge%2Dbased%20economy
2. European Commission, 2011, Libro Verde, Il quadro dell'Unione Europea in materia di governo societario - <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0164:FIN:IT:PDF>
3. European Commission, 2011, Communication from The Commission to The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions. A Renewed Eu Strategy 2011-14 For Corporate Social Responsibility - <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF#:~:text=The%20Commission%20puts%20forward%20a,for%20their%20impacts%20on%20society%E2%80%9D.&text=%E2%80%93%20maximising%20the%20creation%20of%20shared,mitigating%20their%20possible%20adverse%20impacts>.
4. SAI, 2014, Social Accountability 8000 - http://www.inpa.it/certificazioni/SA8000%202014_ITA_finale.pdf
5. SCS, 2008, AA1000 Accountability Principles standard - <https://www.economiamanagement.univr.it/documenti/OccorrenzaIns/matdid/matdid313627.pdf>
6. ISO, 2010, Guidance on social responsibility, International standard ISO 26000 - https://iso26000.info/wp-content/uploads/2017/06/ISO-26000_2010_E_OBPpages.pdf
7. European Parliament, 2019, Directive (EU) 2019/771 - https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.136.01.0028.01.ENG&toc=OJ:L:2019:136:TOC
8. Corresponsables Fundación y DKV Salud y Bienestar, 2018, 20 años de Responsabilidad Social En España. Los acontecimientos y las personas que han impulsado este concepto y modelo de gestión entre 1998 y 2018 - https://issuu.com/segurosdkv/docs/dkv_libro_rse
9. Deloitte y SEres, 2019, VI Informe del Impacto social de las empresas - <https://www2.deloitte.com/es/es/pages/about-deloitte/articles/seres-informe-impacto-social-empresas.html>
10. European Parliament, 2009, DIRECTIVE 2009/125/EC - <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32009L0125&from=EN>
11. Bio by Deloitte, 2014, Development of Guidance on Extended Producer Responsibility (EPR) - https://ec.europa.eu/environment/archives/waste/eu_guidance/pdf/Guidance%20on%20EPR%20-%20Final%20Report.pdf
12. Hanisch, C. (2000). Is Extended Producer Responsibility Effective?. Environ Sci Technol, 34 (7), pp.170 A-175 A.

13. The European Parliament and the Council of the European Union, 2008, DIRECTIVE 2008/98/EC - <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32008L0098&from=IT>
14. The European Parliament and the Council of the European Union, 2008, DIRECTIVE 2009/28/EC - <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32009L0028&from=EN>
15. Generalitat de Catalunya, Departament de territori i sostenibilitat, 2020, Full de Ruta de l'Economia Circular a Catalunya - https://participa.gencat.cat/uploads/decidim/attachment/file/2216/Document_base_proces_participacio.pdf
16. Departament d'agricultura, Ramaderia, Pesca i Alimentació, 2020, Diari Oficial De La Generalitat De Catalunya - <https://portaldogc.gencat.cat/utillsEADOP/PDF/8063/1783616.pdf>
17. Generalitat De Catalunya, 2015, Impuls a l'economia Verda i a l'Economia Circular - http://mediambient.gencat.cat/web/.content/home/ambits_dactuacio/empresa_i_produccio_sostenible/economia_verda/impuls/IMPULS-EV_150519.pdf
18. CENFIM, 2019, SAWYER, Skills and safety needs in a circular furniture sector - www.circularfurniture-sawyer.eu
19. Generalitat de Catalunya, Estratègia catalana d'ecodisseny per a una economia circular i ecoinnovadora - http://mediambient.gencat.cat/web/.content/home/ambits_dactuacio/empresa_i_produccio_sostenible/estrategia_ecodisseny/contingut/Estrategia-catalana-ecodisseny_Acord-Govern.pdf
20. Generalitat De Catalunya, Annex al Pla Nacional per a la Implementació de l'agenda 2030 a Catalunya - http://cads.gencat.cat/web/.content/oo_agenda_2030/Memoria-Pla-nacional-Agenda-2030.pdf
21. Direcció General d'Indústria Secretaria d'Empresa i Competitivitat Departament d'Empresa i Coneixement Generalitat de Catalunya, 2017, Pacte nacional per a la indústria - http://empresa.gencat.cat/web/.content/actualitat/documents/arxius/Pacte_Nacional_Industria.pdf
22. Generalitat de Catalunya, 2017, National Agreement for the energy transition of Catalonia, http://icaen.gencat.cat/web/.content/10_ICAEN/17_publicacions_informes/11_altres_publicacions/arxius/20170720_PNTE_ang.pdf
23. Generalitat de Catalunya, Departament de territori i sostenibilitat, of Prevention Programme And Management, Executive Summary of Waste And Resources of Catalonia- http://residus.gencat.cat/web/.content/home/ambits_dactuacio/planificacio/precat_20_resum_executiu_en.pdf
24. BOE, 2007, LEY 26/2007 - <https://www.boe.es/boe/dias/2007/10/24/pdfs/A43229-43250.pdf>
25. BOE, 2011, Ley 22/2011 - <https://www.boe.es/boe/dias/2011/07/29/pdfs/BOE-A-2011-13046.pdf>

26. BOE, 2013, Ley 5/2013 - <https://www.boe.es/boe/dias/2013/06/12/pdfs/BOE-A-2013-6270.pdf>
27. Ministerio de Agricultura, Alimentación y Medio Ambiente, 2013, Programa Estatal de Prevención de Residuos - https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/planes-y-estrategias/Programa%20de%20prevencion%20aprobado%20actualizado%20ANFABRA%2011%2002%202014_tcm30-192127.pdf
28. Ministerio De Agricultura, Alimentación y Medio Ambiente, 2016, Plan Estatal Marco de Gestión de Residuos (Pemar) 2016-2022 - https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/planes-y-estrategias/pemaraprobado6noviembrecondae_tcm30-170428.pdf
29. Pacto Por Una Economía Circular: el Compromiso de los Agentes Económicos y Sociales 2018-2020 - https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/170911pacto_ec_def_tcm30-425902.pdf
30. Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente, 2018, Apm/397/201 - <https://www.boe.es/boe/dias/2018/04/19/pdfs/BOE-A-2018-5331.pdf>
31. Gobierno de España, Estrategia Española de Economía Circular - https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/espanacircular2030_def1_tcm30-509532.PDF
32. Hacer Una Gestión Sostenible de Los Recursos y Favorecer la Economía Circular - https://www.aue.gob.es/recursos_aue/03_oe_04_o.pdf
33. Región de Murcia, 2016, Plan de residuos 2016-2020 - [https://www.carm.es/web/Blob?ARCHIVO=PlnResiduosV4.pdf&TABLA=ARCHIVOS&CAMPOCLAVE=IDARCHIVO&VALORCLAVE=128897&CAMPOIMAGEN=ARCHIVO&IDTIPO=60&RASTRO=c852\\$m1463,53799](https://www.carm.es/web/Blob?ARCHIVO=PlnResiduosV4.pdf&TABLA=ARCHIVOS&CAMPOCLAVE=IDARCHIVO&VALORCLAVE=128897&CAMPOIMAGEN=ARCHIVO&IDTIPO=60&RASTRO=c852$m1463,53799)
34. Región de Murcia - Consejería de Presidencia y Fomento, 2017 - [https://www.carm.es/web/Blob?ARCHIVO=AcuerdoConsejo.pdf&TABLA=ARCHIVOS&CAMPOCLAVE=IDARCHIVO&VALORCLAVE=139933&CAMPOIMAGEN=ARCHIVO&IDTIPO=60&RASTRO=c64\\$m58106](https://www.carm.es/web/Blob?ARCHIVO=AcuerdoConsejo.pdf&TABLA=ARCHIVOS&CAMPOCLAVE=IDARCHIVO&VALORCLAVE=139933&CAMPOIMAGEN=ARCHIVO&IDTIPO=60&RASTRO=c64$m58106)
35. Rušnjak L. 2015. Ravnanje z lesnimi odpadki in njihova predelava – priložnosti za zmanjševanje okoljskih vplivov pristanišč - https://webcache.googleusercontent.com/search?q=cache:vZNhW1QKPPoJ:https://www.famnit.upr.si/sl/studij/zakljucna_dela/download/273+&cd=5&hl=sl&ct=clnk&gl=si
36. Koritnik J. 2010. "Gospodarjenje z odpadki - Gzo'10". Zbornik 11. Strokovnega posveta z mednarodno udeležbo - <http://webcache.googleusercontent.com/search?q=cache:QSZVmxCFABoJ:www.srdit.si/gzo10/zbornikGzO10.pdf+&cd=13&hl=sl&ct=clnk&gl=si>
37. Directive 2008/98/ES - <https://eur-lex.europa.eu/legal-content/SL/TXT/PDF/?uri=CELEX:32008L0098&from=SL>
38. ZVO1 Zakon o varovanju okolja (Environmental Protection Act) - <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO1545>
39. ZVO 2 Zakon o varovanju okolja (Draft of Environmental Protection Act) - [eUprava - Predlog predpisa \(gov.si\)](http://eUprava-Predlog-predpisa.gov.si)

40. Regulation Ur. l. RS. št. 103/2011 - <https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/106484>
41. Leonida Šot Pavlovič, 3P Business counselling – mail communication about Corporate social responsibility for environmental waste - <https://3pps.si/>
42. Hrast Anita, IRDO Institute – Institute for the Development of Social Responsibility – mail communication about Social Responsibility of Companies in Slovenia - <http://www.irdo.si/o-institutu/>
43. Antonija Božič Cerar, director, Environmental Protection Service at Chamber of Commerce and Industry of Slovenia – mail communication about Corporate social responsibility for environmental waste and Environmental protection legislation - https://www.gzs.si/skupne_naloge/varstvo_okolja/vsebina/Kontakt
44. Program ravnanja z odpadki in program preprečavanja nastajanja odpadkov Republike Slovenije - [https://www.gzs.si/Portals/SN-Varstvo-Okolja/Predstavitev PR ODPADKI GZS 15 %2001 2016.pdf](https://www.gzs.si/Portals/SN-Varstvo-Okolja/Predstavitev_PR_ODPADKI_GZS_15_%2001_2016.pdf)
45. Slapnik T., Hrast A., Mulej M. National strategy of social responsibility in Slovenia - conceptual draft - <http://www.irdo.si/irdo2017/referati/plenarna-slapnik-hrast-mulej.pdf>
46. Viler Kovačič A. 2010. Okoljevarstvena zakonodaja. Fit media. Zbirka zelena Slovenija
47. Železnik – Logar K. 2012. Delo in varnost - LVII/2012/št.4. Slovenija naj bi se z novo uredbo o odpadkih bolj približala družbi recikliranja - https://www.zvd.si/media/medialibrary/2016/11/Zavod_za_varstvo_pri_delu_RDV_04_2012_Druzba_recikliranja.pdf
48. Zakon o ohranjanju narave ZON - <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO1600>
49. Program ravnanja z odpadki in program preprečevanja odpadkov Republike Slovenije, v skladu z zahtevami Uredbe o odpadkih, Uredbe o ravnanju z embalažo in odpadno embalažo ter Uredbe o odlagališčih odpadkov - https://www.gov.si/assets/ministrstva/MOP/Operativni-programi/op_odpadki.pdf
50. Zakonodaja EU o ravnanju z odpadki – povzetek - <https://eur-lex.europa.eu/legal-content/SL/TXT/HTML/?uri=LEGISSUM:ev0010>
51. Močnik D., Crnogaj K., Bradač Hojnik B. Slovenska podjetja in družbena odgovornost. Slovenski podjetniški observatorij 2016 - https://www.spiritslovenia.si/resources/files/doc/publikacije/Slovenski_podjetniski_observatorij_2016.pdf
52. Eionet Report - ETC/WMGE 2019/4 – Belgium - July 2019 on Resource efficiency and circular economy in Europe – even more from less
53. IX Report sulla CSR in Italia – Osservatorio Socialis – page 15. <https://www.osservatoriosocialis.it/rapporto-csr/>.
54. Act of Environmental Law dated 27 April 2001, with changes, Journal of Laws of 2020, item 1219
55. Commission Decision of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes according to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste under to Article

- 1(4) of Council Directive 91/689/EEC on hazardous waste (notified under document number C (2000) 1147) (Text with EEA relevance) (2000/532/EC)
56. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. OJ L 312, 22.11.2008.
 57. ISO 9000:2015 Quality management system- Fundaments and vocabulary
 58. ISO 14004:2016 Environmental Management Systems- General Guidelines on Implementation
 59. Kurowska A. 2015: Waste wood under Polish and European Union law. *Sylvan* 159(5): 355-360
 60. Kurowska A. 2016: Waste wood supply structure in Poland. *Sylvan* 160(3): 187-196
 61. Order of the Prime Minister No. 38 on establishing the Team for Corporate Social, dated 8 May 2009
 62. Order of the Minister of Development Funds and Regional Policy on establishing the Team for Sustainable Development and Corporate Social Responsibility, dated 21 January 2020
 63. SA 8000:2008 Social Accountability Standard
 64. Wolska G. 2013: Corporate social responsibility in Poland – theory and practice. *Journal of International Studies*, Vol. 6, No 2, 2013, pp. 45-53. DOI: 10.14254/2071-8330.2013/6-2/4
 65. Waste Act dated 14 December 2012, with changes, *Journal of Laws* No. 0, item 21, of 23 January 2013
 66. Zaleski P., Chawla Y. 2020: Circular Economy in Poland: Profitability Analysis for Two Methods of Waste Processing in Small Municipalities. *Energies*, 13, 5166. <https://doi.org/10.3390/en13195166>

6

Website

11. Website

- https://ec.europa.eu/health/archive/ph_determinants/life_style/tobacco/documents/smo ke_free_frep_en.pdf
- https://www.europarl.europa.eu/summits/lis1_en.htm#:~:text=The%20European%20 Council%20held%20a,of%20a%20knowledge%2Dbased%20economy
- https://www.jussemer.org/Resources/Corporate%20Activity/Resources/greenpaper_en.pdf
- https://www.jussemer.org/Resources/Corporate%20Activity/Resources/greenpaper_en.pdf
- <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF#:~:text=T he%20Commission%20puts%20forward%20a,for%20their%20impacts%20on%20so ciety%E2%80%9D.&text=%E2%80%93%20maximising%20the%20creation%20of%2 0shared,mitigating%20their%20possible%20adverse%20impacts>
- https://www.esteri.it/mae/it/politica_estera/organizzazioni_internazionali/ocse.html
- <https://unric.org/it/>
- <https://www.ilo.org/global/lang--en/index.htm>
- <https://sdgs.un.org/goals>
- http://www.inpa.it/certificazioni/SA8000%202014_ITA_finale.pdf
- <https://www.economiamanagement.univr.it/documenti/OccorrenzaIns/matdid/matdi d313627.pdf>
- https://iso26000.info/wp-content/uploads/2017/06/ISO-26000_2010_E_OBPpages.pdf
- <https://www.iso.org/home.html>
- <https://www.unioncamere.gov.it/>
- <https://www.inail.it/cs/internet/home.html>
- <https://www.symbola.net/approfondimento/green-cosi-lindustria-ribalta-le-proprie-strategie/>
- <https://www.osservatoriosocialis.it/rapporto-csr/>
- <https://iped.pl/index.html>
- <https://www.csr-in-deutschland.de/DE/Was-ist-CSR/Grundlagen/Internationale-Rahmenwerke/internationale-rahmenwerke.html>
- <https://www.bundesregierung.de/resource/blob/975274/318158/c521116c6e6659b26d5ff286ff67408c/2010-12-07-aktionsplan-csr-data.pdf?download=1>
- <https://www.auswaertiges-amt.de/de/aussenpolitik/themen/aussenwirtschaft/wirtschaft-und-menschenrechte>
- <https://www.csr-in-deutschland.de/DE/Wirtschaft-Menschenrechte/Engagement-Bundesregierung/Aktivitaeten-der-Bundesregierung/Berliner-CSR-Konsens/berliner-csr-konsens.html>
- <https://www.csr-in-deutschland.de/DE/Politik/CSR-national/Strategie/strategie.html>
- https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

- https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2019.136.01.0028.01.ENG&toc=OJ:L:2019:136:TOC
- <https://repair.eu/>
- https://ec.europa.eu/environment/waste/weee/index_en.htm
- https://ec.europa.eu/environment/waste/rohs_eee/legis_en.htm
- https://unfccc.int/kyoto_protocol
- https://ec.europa.eu/energy/sites/ener/files/documents/com_2016_773.en_.pdf
- <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32009L0125&from=EN>
- https://ec.europa.eu/environment/archives/waste/eu_guidance/pdf/Guidance%20on%20EPR%20-%20Final%20Report.pdf
- https://ec.europa.eu/environment/chemicals/reach/reach_en.htm
- <https://echa.europa.eu/>
- <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32008L0098&from=IT>
- <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32009L0028&from=EN>
- https://ec.europa.eu/environment/forests/timber_regulation.htm
- <https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/legislacion/>
- <https://www.boe.es>
- <https://territori.gencat.cat/es/inici/index.html>
- <http://agricultura.gencat.cat/es/inici/index.html>
- https://participa.gencat.cat/uploads/decidim/attachment/file/2216/Document_base_procés_participació.pdf
- <https://portaldogc.gencat.cat/utillsEADOP/PDF/8063/1783616.pdf>
- <https://www.borm.es/#/home>
- https://issuu.com/segurosdkv/docs/dkv_libro_rse
- <https://www2.deloitte.com/es/es/pages/about-deloitte/articles/seres-informe-impacto-social-empresas.html>
- [https://www.carm.es/web/pagina?IDCONTENIDO=64&IDTIPO=140&RASTRO=c\\$m27801](https://www.carm.es/web/pagina?IDCONTENIDO=64&IDTIPO=140&RASTRO=c$m27801)
- <https://portaldogc.gencat.cat/utillsEADOP/PDF/8063/1783616.pdf>
- <http://valuewaste.eu/>
- http://mediambient.gencat.cat/web/.content/home/ambits_dactuacio/empresa_i_produccio_sostenible/economia_verda/impuls/IMPULS-EV_150519.pdf
- http://mediambient.gencat.cat/web/.content/home/ambits_dactuacio/empresa_i_produccio_sostenible/estrategia_ecodisseny/contingut/Estrategia-catalana-ecodisseny_Acord-Govern.pdf
- http://cads.gencat.cat/web/.content/oo_agenda_2030/Memoria-Pla-nacional-Agenda-2030.pdf
- http://empresa.gencat.cat/web/.content/actualitat/documents/arxiu/Pacte_Nacional_Industria.pdf

- http://icaen.gencat.cat/web/.content/10_ICAEN/17_publicacions_informes/11_altres_publicacions/arxiu/20170720_PNTE_ang.pdf
- http://residus.gencat.cat/web/.content/home/ambits_dactuacio/planificacio/precatzo_resum_executiu_en.pdf
- <https://portaldogc.gencat.cat/utillsEADOP/PDF/8063/1783616.pdf>
- https://participa.gencat.cat/uploads/decidim/attachment/file/2216/Document_base_procés_participació.pdf
- <https://www.boe.es/buscar/doc.php?id=BOE-A-2003-2515>
- <https://www.boe.es/boe/dias/2007/10/24/pdfs/A43229-43250.pdf>
- <https://www.boe.es/boe/dias/2011/07/29/pdfs/BOE-A-2011-13046.pdf>
- <https://www.boe.es/boe/dias/2013/06/12/pdfs/BOE-A-2013-6270.pdf>
- https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/planes-y-estrategias/Programa%20de%20prevencion%20aprobado%20actualizado%20ANFABRA%2011%2002%202014_tcm30-192127.pdf
- https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/planes-y-estrategias/pemaraprobado6noviembrecondae_tcm30-170428.pdf
- https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/170911pacto_ec_def_tcm30-425902.pdf
- <https://www.boe.es/boe/dias/2018/04/19/pdfs/BOE-A-2018-5331.pdf>
- https://www.miteco.gob.es/es/calidad-y-evaluacion-ambiental/temas/economia-circular/espanacircular2030_def1_tcm30-509532.PDF
- <https://www.aue.gob.es/>
- https://www.aue.gob.es/recursos_aue/03_oe_04_o.pdf
- [https://www.carm.es/web/Blob?ARCHIVO=PInResiduosV4.pdf&TABLA=ARCHIVOS&CAMPOCLAVE=IDARCHIVO&VALORCLAVE=128897&CAMPOIMAGEN=ARCHIVO&IDTIPO=60&RASTRO=c852\\$m1463,53799](https://www.carm.es/web/Blob?ARCHIVO=PInResiduosV4.pdf&TABLA=ARCHIVOS&CAMPOCLAVE=IDARCHIVO&VALORCLAVE=128897&CAMPOIMAGEN=ARCHIVO&IDTIPO=60&RASTRO=c852$m1463,53799)
- <https://www.carm.es/web/Blob?ARCHIVO=AcuerdoConsejo.pdf&TABLA=ARCHIVOS&CAMPOCLAVE=IDARCHIVO&VAL>
- [https://www.carm.es/web/pagina?IDCONTENIDO=45824&IDTIPO=11&RASTRO=c2749\\$m](https://www.carm.es/web/pagina?IDCONTENIDO=45824&IDTIPO=11&RASTRO=c2749$m)
- <https://portaldogc.gencat.cat/utillsEADOP/PDF/8063/1783616.pdf>
- https://participa.gencat.cat/uploads/decidim/attachment/file/2216/Document_base_procés_participació.pdf
- <https://portaldogc.gencat.cat/utillsEADOP/PDF/8063/1783616.pdf>
- <https://www.minambiente.it/>
- <https://www.isprambiente.gov.it/it/attivita/certificazioni/ipp/gpp>
- https://www.bosettiegatti.eu/info/norme/statali/2006_0152.htm
- <https://ec.europa.eu/environment/circular-economy/>
- <https://www.gazzettaufficiale.it/eli/id/2020/09/11/20G00135/sg>
- <https://www.mondodiritto.it/codici/codice-dell-ambiente/art-184-bis-codice-dell-ambiente-sottoprodotto.html>
- <https://www.isprambiente.gov.it/it>
- <https://www.gazzettaufficiale.it/eli/id/2016/1/18/16G00006/sg>

- <https://www.mise.gov.it/index.php/it/>
- <https://www.gazzettaufficiale.it/eli/id/2020/07/11/20A03615/sg>
- <http://www.rilegno.org/>
- <https://www.normattiva.it/atto/caricaDettaglioAtto?atto.dataPubblicazioneGazzetta=2006-04-14&atto.codiceRedazionale=006G0171&atto.articolo.numero=0&qld=c130ab9e-04d3-4daa-8390-171b32beae8&tabID=0.9413203581990297&title=lbl.dettaglioAtto>
- <https://www.normattiva.it/atto/caricaDettaglioAtto?atto.dataPubblicazioneGazzetta=2020-09-11&atto.codiceRedazionale=20G00135&atto.articolo.numero=0&qld=doag9abf7-6aae-4a19-bec2-bc496169d3c8&tabID=0.9482214065966819&title=lbl.dettaglioAtto>
- <https://www.normattiva.it/atto/caricaDettaglioAtto?atto.dataPubblicazioneGazzetta=2016-01-18&atto.codiceRedazionale=16G00006&atto.articolo.numero=0&qld=bd013a33-7725-48c8-95d9-829969f85901&tabID=0.3249619551199032&title=lbl.dettaglioAtto>
- https://www.uni.com/index.php?option=com_content&view=article&id=10376:legno-di-recupero-per-la-produzione-di-pannelli-truciolari-al-via-i-lavori-per-una-prassi-di-riferimento&catid=171&Itemid=2612
- www.rilegno.org
- [www.minambiente.it/sites/default/files/archivio/allegati/GPP/2017/allegato tecnico a rredi 2017.pdf](http://www.minambiente.it/sites/default/files/archivio/allegati/GPP/2017/allegato_tecnico_a_rredi_2017.pdf)
- <https://lexview-int.regione.fvg.it/fontinormative/xml/scarico.aspx?ANN=2017&LEX=0034&tip=0&id=&lang=ita>
- demetra.regione.emilia-romagna.it/al/articolo?urn=er:assemblealegislativa:legge:2015;16&dl_t=text/xml&dl_a,1&anc=art1
- http://leggi.crumbria.it/mostra_atto.php?id=41979&
- https://www.consiglio.marche.it/banche_dati_e_documentazione/leggi/dettaglio.php?idl=2025
- <https://www.gazzettaufficiale.it/eli/id/2019/05/25/18R00488/S3>
- <https://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioRedazionale/servizi-e-informazioni/Enti-e-Operatori/ambiente-ed-energia/Rifiuti/aggiornamento-piano-rifiuti-e-bonifiche-regionale/aggiornamento-piano-rifiuti-e-bonifiche-regionale>
- https://www.regione.abruzzo.it/system/files/dgr/2020/articolato_fg_12mag2020.pdf
- gp.mop@gov.si
- <https://www.gov.si/drzavni-organi/ministrstva/ministrstvo-za-okolje-in-prostor/zakonodaja-ministrstva-za-okolje-in-prostor/>
- <https://www.eui.eu/Projects/InternationalArtHeritageLaw/Documents/NationalLegislation/Slovenia/environmentprotectionact.pdf>
- <http://www.pisrs.si/Pis.web/pregledPredpisa?id=USTA1>
- <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO1545>
- [eUprava - Predlog predpisa \(gov.si\)](http://eUprava - Predlog predpisa (gov.si))

- <http://pisrs.si/Pis.web/pregledPredpisa?id=ZAKO1600>
- <https://www.uradni-list.si/glasilo-uradni-list-rs/vsebina/2011-01-4514/uredba-o-odpadkih>
- <http://www.pisrs.si/Pis.web/pregledPredpisa?id=ODLO1985>
- https://www.gov.si/assets/ministrstva/MOP/Operativni-programi/op_odpadki.pdf
- <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098&from=IT>
- <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20130000021/U/D20130021Lj.pdf>
- <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20200001219>
- <https://www.umweltbundesamt.de/themen/abfall-ressourcen/abfallwirtschaft/abfallrecht>
- <https://www.bmu.de/themen/wasser-abfalboden/abfallwirtschaft/abfallrecht/national/#c24292>
- <https://www.bmu.de/publikation/abfallvermeidungsprogramm-des-bundes-unter-beteiligung-der-laender/>
- <https://www.bmu.de/publikation/deutsches-ressourceneffizienzprogramm-ii-programm-zur-nachhaltigen-nutzung-und-zum-schutz-der-natue/>
- <http://www.gesetze-im-internet.de/altholzv/index.html>
- <http://www.gesetze-im-internet.de/verpackg/VerpackG.pdf>
- http://www.gesetze-im-internet.de/elektrog_2015/index.html
- <http://www.gesetze-im-internet.de/elektrostoffv/index.html>
- <https://eur-lex.europa.eu/legal-content/DE/ALL/?uri=CELEX%3A32006L0066>
- http://www.gesetze-im-internet.de/gewabfv_2017/GewAbfV.pdf
- https://www.bfr-recycling.de/kapitel_4.7.html
- <http://www.gesetze-im-internet.de/bimschg/index.html>
- <https://www.valipac.be/en>
- <https://valumat.be/en>
- <https://eur-lex.europa.eu/legal-content/SL/TXT/PDF/?uri=CELEX:32008L0098&from=SL>
- <https://eur-lex.europa.eu/legal-content/SL/TXT/HTML/?uri=LEGISSUM:ev0010>
- [eUprava - Predlog predpisa \(gov.si\)](http://www.gov.si)
- <https://ec.europa.eu/environment/circular-economy/https://www.gazzettaufficiale.it/eli/id/2020/09/11/20G00135/sg>
- <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20150000478/U/D20150478Lj.pdf>
- <http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=wdu20150000478>
- <http://odpowiedzialnybiznes.pl/baza-wiedzy-o-csr/>
- <https://ksiegowosc.infor.pl/obrot-gospodarczy/dzialalnosc-gospodarcza/2886896,Biznes-bardziej-odpowiedzialny-trendy-i-prognozy-na-2019-r.html>
- <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20130000021>
- <https://www.prawo.pl/akty/m-p-1958-60-341,16812263.html>
- www.vmm.be
- <https://www.efic.eu/best-practices>

- <https://www.efic.eu/circular-economy>
- <https://www.cei-bois.org/sustainability-working-group>
- <https://www.symbola.net/ricerca/greenitaly-2020/>
- <https://op.europa.eu/it/publication-detail/-/publication/9b823034-ebad-11e8-b690-01aa75ed71a1>
- https://www.consiglio.marche.it/banche_dati_e_documentazione/leggi/dettaglio.php?idl=2025
- <https://www.gazzettaufficiale.it/eli/id/2019/05/25/18R00488/S3>
- <https://lexview-int.regione.fvg.it/fontinormative/xml/scarico.aspx?ANN=2017&LEX=0034&tip=0&id=&lang=ita>
- http://leggi.crumbria.it/mostra_atto.php?id=41979&
- https://www.minambiente.it/sites/default/files/archivio/allegati/GPP/2017/allegato_tecnico_arredi_2017.pdf
- <https://op.europa.eu/en/publication-detail/-/publication/9b823034-ebad-11e8-b690-01aa75ed71a1/language-en/format-PDF/source-80148793>
- https://www.uni.com/index.php?option=com_content&view=article&id=10376:legno-di-recupero-per-la-produzione-di-pannelli-truciolari-al-via-i-lavori-per-una-prassi-di-riferimento&catid=171&Itemid=2612
- www.rilegno.org
- <https://przemyslrodowisko.pl/nowe-zasady-w-gospodarce-odpadami-niebezpiecznymi/>
- <http://www.codozasady.pl/en/new-waste-act/>
- <https://klasterodpadowy.com/odpady-niebezpieczne-nowe-zasady/>
- <https://www.drewno.pl/artykuly/1399,zasoby-odpadow-drzewnych-w-polsce.html>
- <https://doi.org/10.3390/en13195166>
- <https://www.parp.gov.pl/csr#csr>
- <https://isap.sejm.gov.pl/isap.nsf/download.xsp/WDU20130000021/U/D20130021Lj.pdf>

av Allview

Co-funded by the
Erasmus+ Programme
of the European Union

