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Regional ecosystem
Cradle2Cradle maturity analysis
Veneto Region (IT)

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Executive Summary

This deliverable documents the results of the analysis of the ecosystem for the Veneto region with respect to circular economy in general and the cradle to cradle principles in particular.

The analysis has been performed in the 3 dimensions covered by the Cradle-ALP project:

- Policies and business support
- Technologies
- Business models

With the aim to take stock of the status quo, identify gaps and barriers for the circular transformation of the economy, as well as opportunities for fostering this transformation.

In each region, the analysis focused on the industrial sectors to be involved later in the project in industrial transformation pilot activities. In the case of the Veneto region, those sectors are **wood/ furniture and packaging.**

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1. Introduction to the Cradle-Alp project

Cradle-ALP aims for mainstreaming cradle to cradle (C2C) approaches, circular design and circular substitutions (from the alpine region) for linear products in industrial processes, in different industrial sectors. The Alpine Space has many natural resources and the technologies to substitute fossil raw materials and toxic substances from production with circular and environmentally friendly alternatives. This should lead to the fact that materials and products can be led back into a healthy cycle after use. The focus of this project shall be on the substitution of chemical and fossil based/unsustainable materials with more circular, sustainable and bio-degradable ones.

First, the partners will build a broad awareness and understanding in the public, the relevant industries as well as among stakeholders from policy and innovation intermediaries, for the opportunities, barriers and mechanisms of the transformation of industrial products towards higher circularity by means of C2C approaches, circular design and circular substitutions. Business support providers shall be trained to accompany the transformation of businesses along more circular value chains.

In a second step, the partners will explore in details and test opportunities for implementing C2C approaches, circular design and circular substitutions along specific value chains in the chemistry/plastics and wood/forestry sectors supported by digital technologies. Building on a thorough multidimensional (technology, policy, economy, etc.) roadmapping exercise, transnational groupings of stakeholders – including businesses – will be installed, with the aim to transfer the C2C roadmaps into industrial practice along exemplary value chains.

Finally, the partners will work towards ensuring a transnational policy convergence towards transnational S4 strategies in the priority sectors of the project and initiate common cross border funding instruments for the industrial C2C transformation.

2. Objective and scope of the regional ecosystem Cradle2Cradle maturity analysis

The regional ecosystem maturity analysis performed in each project region is part of a larger set of activities, building together a transnational ecosystem Cradle2Cradle maturity analysis. The latter comprises:

- A regional ecosystem maturity analysis, performed in each project region,
- A transnational survey on the consumers' perspective on Cradle2Cradle in the Alpine Space,
- A transnational comparison/benchmarking in the dimensions policies/business support, technologies and business models.

The overarching aim of the transnational ecosystem maturity analysis is to is to understand the relevance of circular economy and more specifically the Cradle 2 Cradle principles in each of the project region within the triangle: policies/business support, technologies/knowledge, and business models/practices.

Practical implementation in the context of the Cradle-ALP project

In order to ensure a high relevance of the regional ecosystem maturity analysis for a successful implementation of the Cradle-ALP activities, the partners decided to focus the analysis on the industrial sectors to be addressed in the roadmaps to Cradle2Cradle transformation. Those sectors are: polymers/plastics, wood/furniture, chemistry/materials, fibres/textiles, packaging.

The results of the analysis shall provide the basis for the development of sectoral Cradle2Cradle industrial transformation roadmaps in the five selected sectors (WP2), thus ensuring a smooth transition between WP1 - Capacity building for Cradle2Cradle transformation and WP2 - Roadmaps to Cradle2Cradle transformation.

Remark: this practical approach represents a deviation from the Application Form, where the analysis was described as more generic and meant to provide input for capacity building activities to performed in WP1.

Scope of the analysis in the Cradle-ALP project

The analysis integrates status quo, gaps and barriers, potentials for transformation, as well as good practices and failures to learn from within the triangle policies/business support, technologies/knowledge, and business models/practices.

It has been performed through a combination of desktop research, building on the knowledge already available among project partners and the previously performed identification of good practices, and interviews/workshops with regional experts and representatives of companies.

- **Status quo and good practices analysis**

The scope of the status quo and good practices/failures analysis in the dimensions policies/business support, technologies/knowledge, and business models/practices was aligned with the topics identified as a result of the identification of good practices and lessons learned (D.1.1.2) and the capitalisation workshops (D.1.1.3).

The following table shows the scope of the status quo analysis for the transnational ecosystem maturity analysis:

Policies and business support	Technologies	Business models and practices
▪ Regional strategies/policies fostering circular economy and more specifically C2C principles (fully closed loops). ▪ European and national/regional strategic documents (e.g. technology roadmaps). ▪ Funding schemes (eg. Chambers of Commerce, Next generation EU) ▪ Further business support measures	▪ Significant technology and knowledge providers (Higher education and research organisations, technical centers, pilot infrastructures, innovation platforms, etc.) located in the project regions	▪ Role model companies ▪ Relevant industrial clusters and industrial networks

The partners performed a mapping for each project region according to the items listed here above.

- **Gaps and barriers – potentials for transformation**

At project level, the identification of gaps and barriers for a better uptake of the cradle to cradle principles in industrial practices, as well as the identification of potentials or opportunities for such a transformation is a core result of the transnational comparison/benchmarking in the dimensions policies/business support, technologies and business models.

The partners collected input for the transformation ecosystem analysis by collecting such gaps and barriers as well as potentials for transformation at the regional level. This was done through a series of direct interaction with regional experts and representatives of companies, either in bilateral discussions (interviews) or in the context of event, such as workshops, group discussions and fairs. The partners in each region organized those activities according to their local context. For example, industrial fairs could be used to interview several companies on the same day, cluster board meetings or awareness could be used to have a group discussion with the participants.

Scope of the regional analysis in the Veneto region

The analysis in the Veneto region focused on the following sectors: wood-furniture, packaging. The results of the analysis are displayed in the following chapters of this deliverable.

3. Policies and business support

Policies

The following relevant policies were identified:

Generic level	▪ Decree no. 257/2012 and n. 1610/2016 of MIUR, established 12 National Technology Clusters (CTN) in line with the priority areas identified by the National Smart Specialization Strategy: intelligent factory, green chemistry, agrifood, technologies for living environments, life sciences, technologies for smart communities , vehicles and systems for land and sea surface mobility, aerospace, energy, maritime economy, cultural heritage, made in Italy and creativity. ▪ Directive 2018/851/Ue ▪ EU Directive 2018/850 30th May 2018 that modifies the directive 1999/31/CE on waste and landfills. ▪ **EU Directive 2018/851 30th May 2018** that modifies the EU directive 2008/98/CE on wastes ▪ **EU Directive 2018/852 30th May 2018 t**hat modifies the

	directive 94/62/CE on packaging and waste from packaging. ▪ D.Lgs. 152/2006 e s.m.i., Testo Unico Ambientale (TUA). It is the responsibility of the "producer" to pursue the objectives of recycling and recovery of endings. It is a shared responsibility, between all economic operators involved in the management of packaging waste, both public and private to recycle.
Sector WOOD	▪ United Nations strategic plan for forests 2017-2030 (UNFF) ▪ Eu Green Infrastructures Strategy ▪ EU Forest Strategy (COM 2013) ▪ Kyoto Protocol- on forest management ▪ Timber Regulation https://environment.ec.europa.eu/topics/forests/deforestation/illegal-logging/timber-regulation_en The Timber Regulation outlined the obligations of operators who place timber and timber products on the market to counter the trade of illegally harvested timber and timber products. ▪ Regulation on deforestation-free products: By promoting the consumption of 'deforestation-free' products and reducing the EU's impact on global deforestation and forest degradation, the regulation is expected to bring down greenhouse gas emissions and biodiversity loss. ▪ The National Italian Forest Strategy encourages the protection and the conscious and responsible use of natural resources, with the involvement of all, in actions oriented by the criteria of sustainability, collaboration and unity of action. NFS provides a long-term (20 year) framework for national and regional forestry policies in line with international and European commitments on climate change, biodiversity protection and socio-economic development. The strategy was approved recently in accordance with the mandate defined by the Legislative Decree No 34 of 3 April 2018. (ref. https://medforest.net/2022/02/23/italian-forestry-strategy-approved-after-long-consultation/) ▪ Whitebook for territorial policies in the fields of wood and furniture- Federlegno presented a regional development policy for wood-furniture supply chain indicating a set of priorities, tools and experiences. This Policy was recognized as an important contribution to the definition of the Regional Strategy for Sustainable Development
Sector 2 PACKAGING	▪ EU Packaging Directive https://environment.ec.europa.eu/topics/waste-and-recycling/packaging-waste_en

National/regional strategic documents

The following relevant European and national/regional strategic documents identified:

Generic level	▪ Strategia Regionale per lo Sviluppo Sostenibile (20.07.2020) https://venetosostenibile.regione.veneto.it/ ▪ Il Veneto verso il 2030 https://programmazione-ue-2021-

	2027.regione.veneto.it/ ▪ BUR n. 34 (10.03.2023)- memorandum of understanding for the definition of operational proposals for implementation of the circular economy in the construction https://bur.regione.veneto.it/BurvServices/pubblica/DettaglioDgr.aspx?id=498273

Funding schemes and further business support measures

The following relevant funding schemes were identified:

Generic level	▪ Regional Funds and PNRR (Next generation EU) ▪ Funding schemes of Chambers of commerce
Sector WOOD	▪ Cluster Made IN ITaly https://www.clusterminit.it/?lang=en ▪ Example 2 ▪ Example n

The following relevant business support measures were identified:

Generic level	▪ PID (Digital Enterprise Point - Chambers of Commerce) ▪ Digital platform for the exchange of by-products

4. Technologies and knowledge providers

Technology and knowledge providers

The following relevant technology and knowledge providers were identified:

Generic level	▪ EU Smart Specialisation Platform https://s3platform.jrc.ec.europa.eu/
Sector WOOD	▪ Cluster MinIT "Made in Italy" https://www.clusterminit.it/?lang=en ▪ Venetian Green Building Cluster https://www.innoveneto.org/venetian-green-building-cluster/ ▪ Federlegno Arredo https://www.federlegnoarredo.it/ It protects and represents the interests of the industrial supply chain which goes from the processing of the raw material wood to the production of furniture. ▪ CNA (Confederazione Nazionale dell'Artigianato e delle Imprese) - CNA Veneto Ovest https://cnavenetovest.it/legno-arredo/
Sector PACKAGING	▪ https://wemakepackaging.it/en/association/ ▪ UCIMA (Italian Packaging Machinery Manufacturers' Association) is the national trade association that represents and supports the Italian packaging machinery manufacturers. It has around 200 member companies from all over the country, including the industry leaders. UCIMA is a member of the Italian Employers' Federation Confindustria, making it an integral part of the Italian industry's representation system. ▪ IPACK-IMA MILANO https://www.ipackima.com/ (Fair) ▪ Galdi Srl - ▪ Example n

https://www.clusterportal-bw.de/clusterdaten/technologiefelder/

5. Business models and practices

Role model companies

The following role model companies were identified:

Generic level	▪ Galileo Visionary District, innovation company managing SID - Italian Design School, competence center for eco-design www.galileovisionarydistrict.it
Sector WOOD	▪ Consorzio Rilegno https://www.rilegno.org/ ▪ ETEX ITALIA S.R.L. (Construction sector) - https://www.equitone.com/it-it/sostenibilita/certificazione-cradle-to-cradle/ ▪ JVP- http://www.c2c-centre.com/product/building-supply-materials/jvp-4x4-access-floor-fully-steel-encased-gypsum-fibre-panels ▪ Example n
Sector PACKAGING	▪ Consorzio Rilegno (wood packaging) ▪ Owens- Illinois San Polo di Piave https://www.trevisotoday.it/economia/oi-san-polo-di-piave-certificazione-cradle-to-cradle-2018.html- Gold Label C2C-food packaging ▪ Example n
Sector 3	▪ Example 1 ▪ Example n

Relevant industrial groupings and networks

The following industrial groupings and networks were identified:

Generic Level	▪ Veneto Green Cluster - a Regional Innovative Network that brings together the best excellence in the field of waste valorisation, involving industrial sectors oriented towards the supply of environmental goods and services (green business) and companies committed to reducing the environmental impact of their production processes and of its products (green production). ▪ Circular economy and bioeconomy are therefore the watchwords and dominant themes that pervade all initiatives. ▪ The Veneto Green Cluster Regional Innovative Network has been recognized by the Veneto Region with DGR n. 54//2017, and is represented by Green Tech Italy – business network. www.https://www.venetogreencluster.it/
Sector WOOD	▪ Federlegno, Association of the Wood Furnitue Companies https://www.federlegnoarredo.it/ ▪ Distretto della Sedia/ Italian Chair District https://clusterarredo.com/numeri-cluster-2/ ▪ Distretto del Mobile Livenza/ Furniture District https://clusterarredo.com/numeri-cluster-2/ ▪ Euteknos https://www.euteknos.it/industria-artistica.aspx

	Regional Innovation Network for artistic manufacturing ▪ Lignum Verona, working group made up of over fifty of the main entrepreneurs in the wood-furniture sector of the territories of Verona, Padua and Rovigo inside the Verona Furniture District.
Sector PACKAGING	▪ Ucima, Association of Italian Packaging Machine Manufacturing Companies https://www.ucima.it/

The following table summarises the gaps and barriers as well as potentials for an industrial transformation towards an economy following the cradle to cradle principles in the relevant sectors for the region Veneto.

Sector	**Gaps and barriers**	**Potentials for transformation**
Wood-furniture and packagin	● Lack of widespread knowledge and culture on the topic. Even project designers do not know what the materials are more in line with the C2C approach. ● Additional parameter to measure among the already numerous ones ● Internal resistance, as it is not perceived as a strategic asset ● Difficulty in choosing the standard or certification reference scheme, as they are numerous and not well normed. ● Too much affection towards traditional processes and difficulty to innovate or try other paths. ● Lack of knowledge and sustainability culture in the final consumers, that usually focus on the product but are not aware of the value/ production chain ● Competitiveness and economic benefits, return on investment are not yet clear while talking about C2C ● Wood and furniture sectors: no one talks about sustainability. Often, wood is seen as the highest recyclable material. However, when it is treated and utilized in building and design sectors, it is not pure. Additives and chemicals are difficult to	● Trainings on the topic ● If communicated well to customers, sustainability can open up many opportunities also in terms of competitive results. ● It is essential to look at circularity from a management and strategic point of view for a company, and not as a plus with an end in itself. ● Industrial symbiosis and recycling of materials among different value chains, till its end of life. ● Importance of product design. ● Accompany the companies in education and raise awareness on the best available certification schemes

	recycle. • Wood and furniture: the life-cycle of the product is really long lasting, therefore the topic of sustainability is not so hot • Everybody is waiting for legislation that regulates the aspects of sustainability or even C2C. There will be a rush to find whatever solution once a law regulates the topic. • High costs of certification, need of steadiness and consistency in parameters measurements and improvements	

6. Conclusions

To conclude, we can state that the current situation creates some tensions as regards the choices that enterprises can and are willing to undertake. On one hand, there are companies that made sustainability one of their assets. Some of them are also certified because the clients request it. Other companies, instead, are not able to include sustainability and circularity in their businesses because the market trends do not require them. Many companies stated that they are not opting for any certification, and they will wait till this becomes mandatory and regulated by a norm. For those companies that opt for a certification, it is not taken for granted that it is internationally recognized, as many of them are private frameworks- like C2C. There are many certification options, however the two trends described above underline a widespread uncertainty. Besides, we must remember that certification usually have high costs and that not all the companies are able to face these expenditures- especially if they are SMEs or family business as often happens in the wood/ furniture sectors. That's why a common roadmap is necessary until there is no unique institutionalized/ normed approach in Europe.

7. Annexes

- **No annexes**