

start CIRCLES

Policy recommendations

Project Application Goal: (Political) decision makers in the program area should be familiarized with the

- **success factors as well as the obstacles** in the development of new circular business models.
- In this way, they will be better able to respond to the **common challenges** in the program area in the field of sustainable development and **innovation and implement the regional strategies**.
- Creating a bilingual policy recommendation to support the new circular economy business models in Slovenia and Austria.
- KFU-ISIS is responsible for writing the policy recommendation and is supported by partners FB, W3C, FTPO and especially GZS as coordinator of START CIRCLES.
- Target: Number of policy recommendation (**bilingual**)

Document subject

Start Circles aims to support small and medium-sized enterprises (SMEs) in the program area (Austria-Slovenia) with a special focus on the wood and plastics sector in developing and introducing new products or services and designing innovative business models, thus promoting the transition to a circular economy (CE).

This document is intended to serve as a guidance for policy actors by providing information on both barriers and enablers to the adoption of more sustainable (circular) business models in SMEs.

Literature background: Driver to and barrier for transition to a circular economy for SMEs

SMEs differ from larger organizations in terms of their available resources, technologies or research and development capabilities (Rizos et al., 2016). In most European countries they represent the largest share of companies (e.g., Austria 99,6%¹) and they exhibit a highly heterogeneous nature. Consequently, it is essential to gain a better understanding of the factors that enable or hinder the actual implementation of CE in SMEs.

For this reason, recent studies on barriers to and drivers for a transition towards a CE of SMEs have been examined (Table 1). Technical factors in particular are cited as the main internal barriers for SMEs. An immediate added value of the activity may not be recognized or the expertise for implementation of CE practices is not available (Garcés-Ayerbe et al., 2019). In addition, sustainable innovations are associated with high costs (D'Amato et al., 2020) and rarely perceived as an investment (Mura et al., 2020). The internal barriers are coupled with external barriers, such as perceived lack of demand for sustainable products (Rizos et al., 2016) and insufficient financial and political support from public authorities (Ormazabal et al. 2018).

¹ [KMU Forschung Austria](#) [19.02.2021]

According to the results of the Flash Eurobarometer 441² (2016) on European SMEs in a CE, the aforementioned barriers are particularly relevant for companies that have not yet taken a step towards a CE (Garcés-Ayerbe et al., 2019).

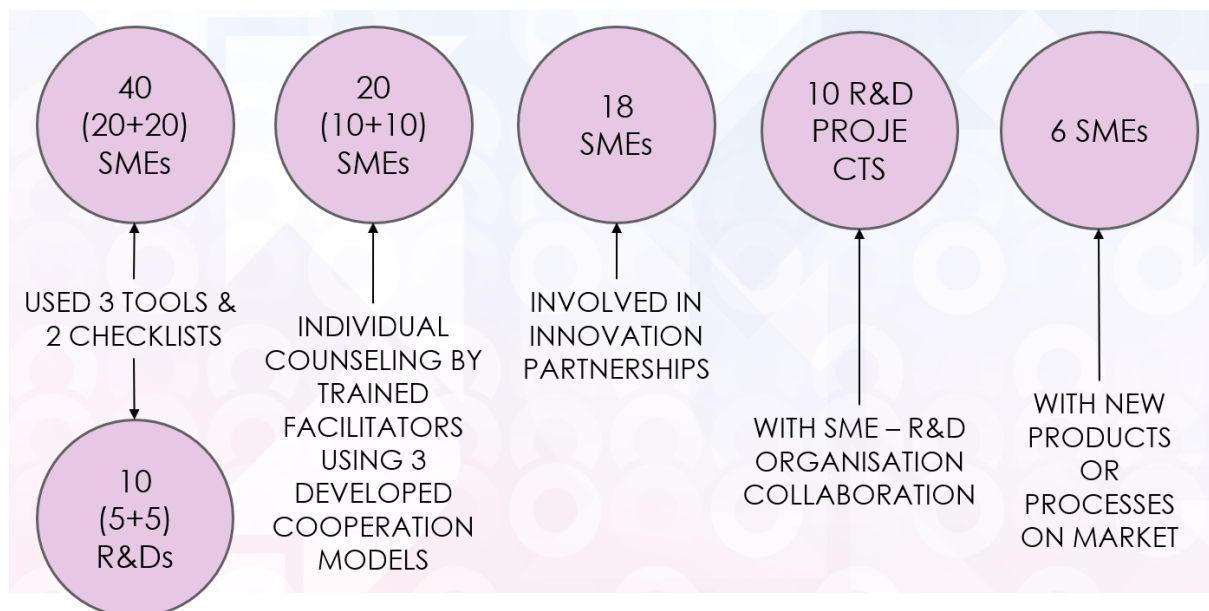
Table 1: Synopsis of studies conducted by Rizos et al., 2016; Ormazabal et al., 2018; D’Amato et al., 2020; Caldera et al., 2019; Garcés-Ayerbe et al., 2019; Mura et al., 2020

	Barriers	Drivers
Internal	<p>Lack of expertise, skills, and awareness</p> <p>High investment costs</p> <p>Lack of employees</p> <p>Administrative burden</p> <p>Company is not interested, no urgency</p>	<p>Company culture & Mindset of staff</p> <p>Cost reduction & job creation</p> <p>Network and recognition (prestige)</p> <p>Education & training of employees</p> <p>Resilience & reduced social and environmental impact</p>
External	<p>Lack of supply and demand network</p> <p>Obtaining financial support</p> <p>Low virgin material prices</p> <p>Lack of governmental support</p> <p>Prevailing linear model/thinking/structure</p>	<p>Decoupling form resource demand</p> <p>Access to new markets</p> <p>Differentiation from competitors</p> <p>Government support</p> <p>Sustainable solutions are demanded by legislations or customers</p>

Kirchherr et al. (2018) identified a chain reaction here, namely that a lack of consumer interest and low virgin material prices reinforce the maintenance of a linear economic system and thus also lead to a hesitant corporate culture. However, Rizos et al. (2016) observed that corporate culture (particularly employee engagement and attitudes) can act as a driver for CE implementation in SMEs, while Mura et al. (2020) noted that access to a sustainable markets and networks serves as a prerequisite for CE. Other CE drivers is the creation of new jobs (D’Amato, 2020) and increasing knowledge (Rizos et al., 2016) through employee education and training (Mura et al., 2020).

² [Flash Eurobarometer 441](#) [19.02.2021]

Foundation of statements: Who did we investigate/collaborated with



As can be seen in figure 1 each partner collaborated with companies within the project area, e.g. conferences (e.g. eNova, 2nd conference on circular packaging, mid-term conference or environment day, final conference), collaborations and workshops with companies (WP3), business model consultations (WP4).

In the following, we address our policy recommendations to the following target groups:

- (Wood) Companies along the wood value chain.
- (Polymer) Companies along the polymer value chain
- (Mixed) Companies along both value chains (wood and polymer)

Concerning:

- **Success factors** perceived in the project on the way towards CE
- **Common obstacles** perceived in the project on the way towards CE
- **Possible solutions** perceived in the project on the way towards CE

Success factors perceived in the project on the way towards CE

Mixed (all kind of SMEs)

- Resource-related motives (resource efficiency and independence from resource supply), followed by competitive advantage, are considered as guiding motives of SMEs for the transition to a circular economy. ([Assessment \(survey\)](#), [Consultation](#))
- Sustainability assessment of products - gather knowledge of the environmental impact of existing and new products. ([Collaborations](#), [Consultation](#))
- Personal Contact, to achieve data input it was necessary to make the meetings in person ([Collaborations](#), [Consultation](#))
- Sadly, in Burgenland no SME was interested in collaborations with R&D departments ([Collaborations](#), [Consultation](#))
- Main interests of SMEs: Resource efficiency, Quality and Market positioning ([Collaborations](#), [Consultation](#))
- Good understanding of the problem and pain ([individual workshops and interviews](#))
- Open communication and clarification with good fit to their culture, vision of company ([individual workshops and interviews](#))
- Good work with core team but problem with progress towards more employees ([individual workshops and interviews](#))

Plastic based value chain

- Economic reasons (n=11) (e.g. Pressure from B2B customers or cost reductions) followed by environmental reasons (n=9) (e.g. protection of the environment) are the main reasons for companies in the Austrian plastics sector to implement circular economy practices. ([Interviews \(n=17\)](#))
- Circularity is about interface, all actors in the value chain cooperating. Value added generated at each step of the cycle (Stephen Laske, Greiner Packaging). ([2nd Circular packaging Conference](#))
- It is about new business models created in circular, regional value chains to allow optimisations in material, product, consumer and waste streams (Duncan Mayes). ([2nd Circular packaging Conference](#))

Wood based value chain

- Economic reasons (n=17) (e.g. cost reduction or image/marketing) followed by environmental reasons (n=11) (e.g. protection of the environment or resource scarcity) are the main reasons for companies in the Austrian wood sector to implement circular economy practices. ([Interviews \(n=17\)](#))
- good cooperation between SMEs and R&Ds ([Collaborations](#), [Consultation](#))
- good communication between SMEs and R&Ds ([Collaboration](#), [interviews](#))
- possibility of collaboration on further projects ([Collaboration](#), [interviews](#))

Common obstacles perceived in the project on the way towards CE

Mixed (all kind of SMEs)

- Collaboration with stakeholders is considered least important compared to the other motives, which contradicts the prevailing literature that considers collaboration (e.g. industrial symbiosis) as a key element. ([Assessment \(survey\), consultation](#))
- Lack of information's, promotions and opportunities to achieve the desired change towards circular economy ([Collaborations, Consultation](#))
- Financial issues, there were concerns about the required investments - especially increased through the pandemic ([Collaborations, Consultation](#))
- Breakout from habits: already deep developed mechanics in regard of production are not easily shifted towards circular economy ([Collaborations, Consultation](#))
- Price and business model of developed "sustainable" products ([individual workshops and interviews](#))
- Other internal problems and issues to confront with when progressing with CE ideas ([individual workshops and interviews](#))
- Understanding what actually is sustainability and where are boundaries ([individual workshops and interviews](#))

Plastic based value chain

- Quality of material was identified as the main challenge by companies in the Austrian plastics sector (n=10). ([Interviews \(n=17\)](#))
- Legislative challenges. No EU internal market, underdeveloped infrastructure for waste collection and recycling, different legislation, investment support for building up regional circular value chains. ([2nd Circular packaging Conference](#))
- It is not about one material against another (Francesca Stevens, European Organization for Packaging and the Environment)). Renewable is not enough. The challenge is easy to collect, sort and recycle. Design for circularity. ([2nd Circular packaging Conference](#))

Wood based value chain

- Market related challenges (e.g. acceptance of customers) were identified as the main challenges by companies in the Austrian wood sector (n=12). ([Interviews \(n=17\)](#))
- Circular economy in wood sector is not important - challenge was, to give SMEs in wood sector another point of view on the circular economy ([Collaborations, Consultation](#))
- Expectations of SMEs, that R&Ds have always an answer and a solution ([Interviews](#))
- Lack of understanding, why is circular economy important ([Interviews](#))

Possible solutions perceived in the project on the way towards CE

Mixed (all kind of SMEs)

- Strengthen collaboration within the supply chain through various activities (projects, trainings - knowledge transfer, documentation of responsibilities). ([Consultations](#), [literature](#))
- Awareness rising: Similar to the climate change and its necessity to shifting towards renewable energy - companies have to be more aware that the move towards CE is not avoidable ([Collaborations](#), [Consultation](#))
- Political (regional) framework: regional government could provide for instance guidelines and promotions ([Collaborations](#), [Consultation](#))
- The value of sustainability does not pay of higher price of products - export orientation or special subsidies for "sustainable" products ([individual workshops and interviews](#))
Insufficient promotion - use of influencers for national campaign towards the use of sustainable products ([individual workshops and interviews](#))
Introduction of SLOWood brand for use of Slovenian wood and decrease the export of Slovenian wood and later import of wooden semi products back ([individual workshops and interviews](#))
- Visual branding of products made of recycled materials - such products have marks but buyer must know for it and find it. "Recycled product" must be visible at first glance. ([individual workshops and interviews](#))
- The promotion of circular economy in all sectors ([Workshops](#), [conference](#))

Plastic based value chain

- Changes in legislation are necessary for a more circular economy in the Austrian plastics sector (n=13). Examples include: Use of recycled inputs in the food packaging sector, introduction of a deposit return scheme, creation of incentives for firms via legislation or changes in legislation regarding the collection of plastics wastes. ([Interviews \(n=17\)](#))
- Act now and not react when it is too late (Rok Štifter, BSH - Home Appliance Group). Redesign of the business strategies. Taking responsibility for the environmental impact of packaging among all stakeholders. Following and adjusting to the trends and needs (Janez Šubelj, LabelProfi). Selling the knowledge and models not only products = high level of flexibility. ([2nd Circular packaging Conference](#))

Wood based value chain

- More collaboration is regarded as necessary for a more circular economy within the Austrian wood sector (n=15). ([Interviews \(n=17\)](#))
- It is necessary to replace non-degradable materials with degradable ones - use of natural materials, natural fibers and to inform end - users that these materials have the same, comparable or even better properties ([Workshops](#), [conference](#))
- strengthen collaboration ([Workshops](#), [interviews](#), [conference](#))