

## Circular economy country profile – Austria



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## Introduction

The European Commission requested the EEA to produce EU country profiles that offer an updated view of the following elements:




- circular economy policies being implemented at a national level with a particular focus on elements that go beyond EU mandatory elements; and
- best practice with a focus on policy innovation.

While implementing the EU Circular Economy Action Plan (CEAP 2020), Member States are encouraged to advance circularity at a national level by adopting policies and initiatives that go beyond EU regulations, while preserving the Single Market.

This circular economy country profile is based on information reported by the Eionet network and, in particular, the Eionet Group on Circular Economy and Resource Use in the second quarter of 2022. For Austria, information provided by Environment Agency Austria in co-operation with the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) was reviewed and edited by the European Topic Centre on Circular economy and resource use (ETC CE). A selection of Eurostat data was made to further complement this country profile.

The information is current as of 30 September 2022 (final review), when members of Eionet verified the content of this profile.

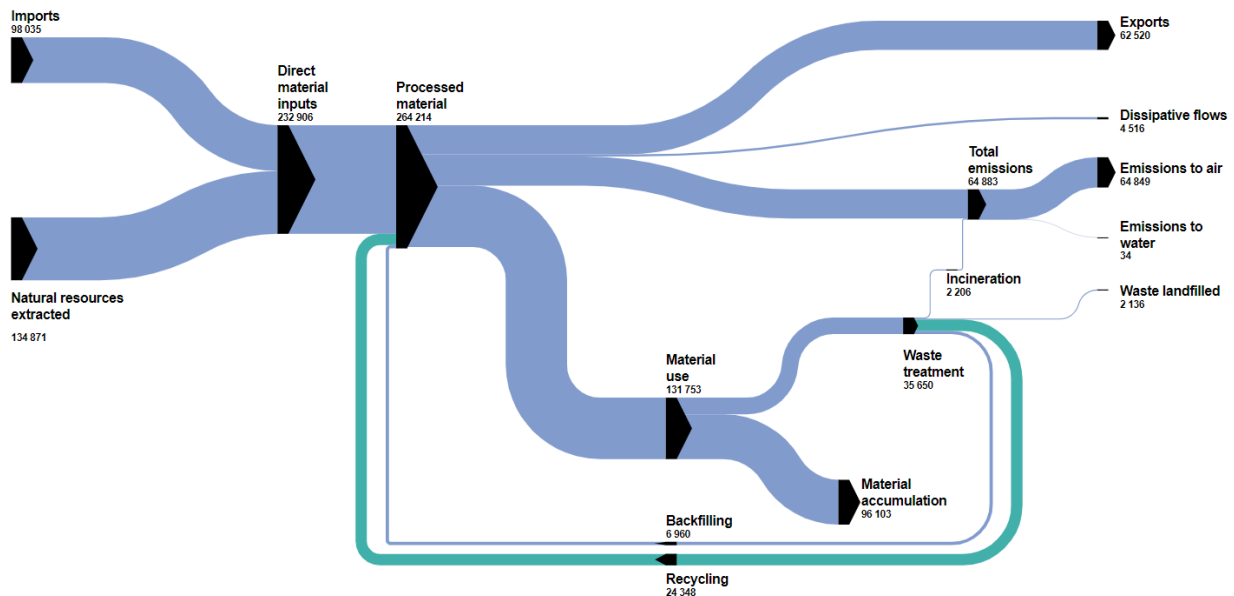
## Austria – facts and figures

  	<p><b>GDP:</b> EUR 379.3 billion (2.8 % of EU27 total in 2020)</p>
	<p><b>GDP per person:</b> EUR 42 540 (purchasing power standard) (124.3 % of EU27 average per person figure in 2020)</p>
	<p><b>Use of materials (domestic material consumption (DMC))</b>            170.4 million tonnes DMC (2.8 % of EU27 total in 2020)            19.1 tonnes DMC per person (141.9 % of EU27 average per person in 2020)</p>
	<p><b>Structure of the economy:</b>            Agriculture: 1.2 %            Industry: 28.4 %            Services: 70.4 %</p>
	<p><b>Employment in circular sectors:</b>            64 799 people are employed in circular economy (CE) sectors (1.8 % of EU total in 2018)            People employed expressed as a percentage of total employment:            1.4 % (EU average 1.7 %)</p>
	<p><b>Surface area:</b> 83 879 square kilometres (1.9 % of EU27 total)</p>
<p><b>Population:</b> 8 901 064 (2.0 % of EU27 total in 2020)</p>	

Note: all definitions and metadata used in this profile are taken, as shown, from Eurostat

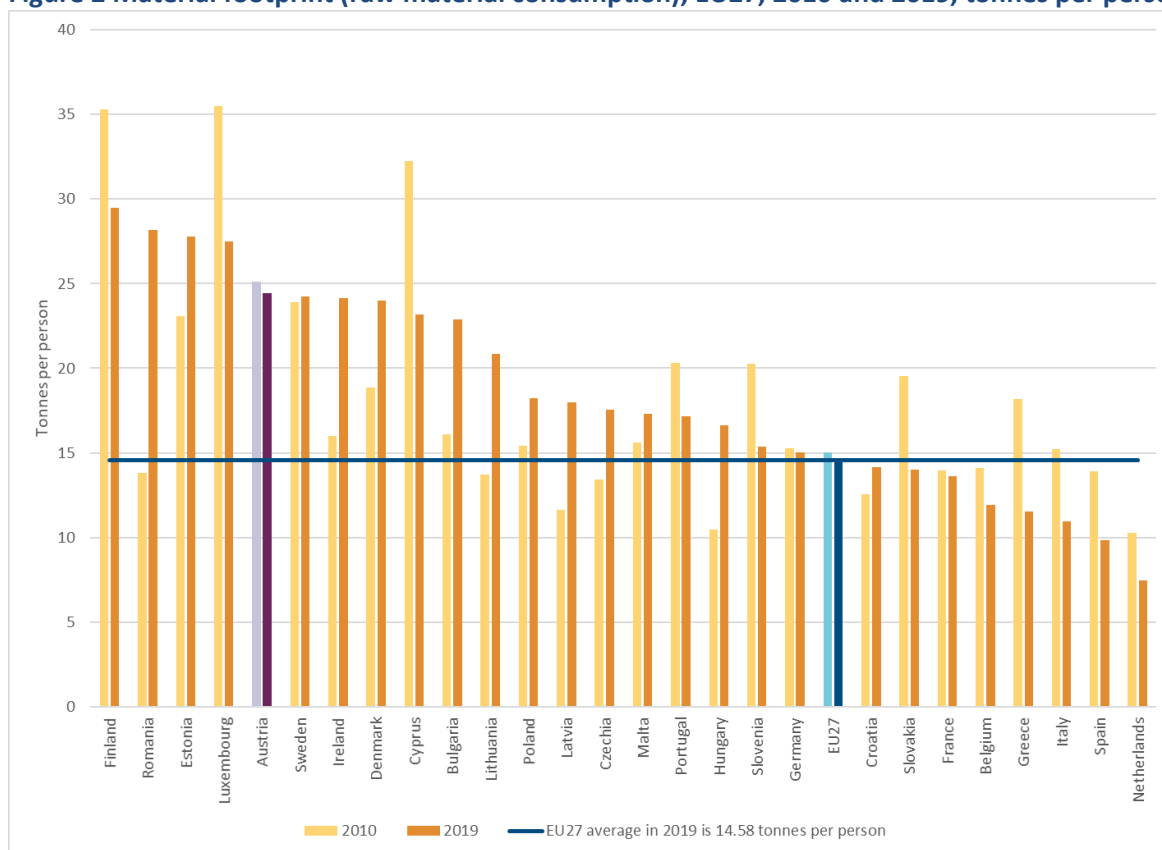
Source: Eurostat datasets, EU27 2020 (accessed 20 June 2022)

Figure 1 Material flow diagram for Austria in 2020, '000 tonnes



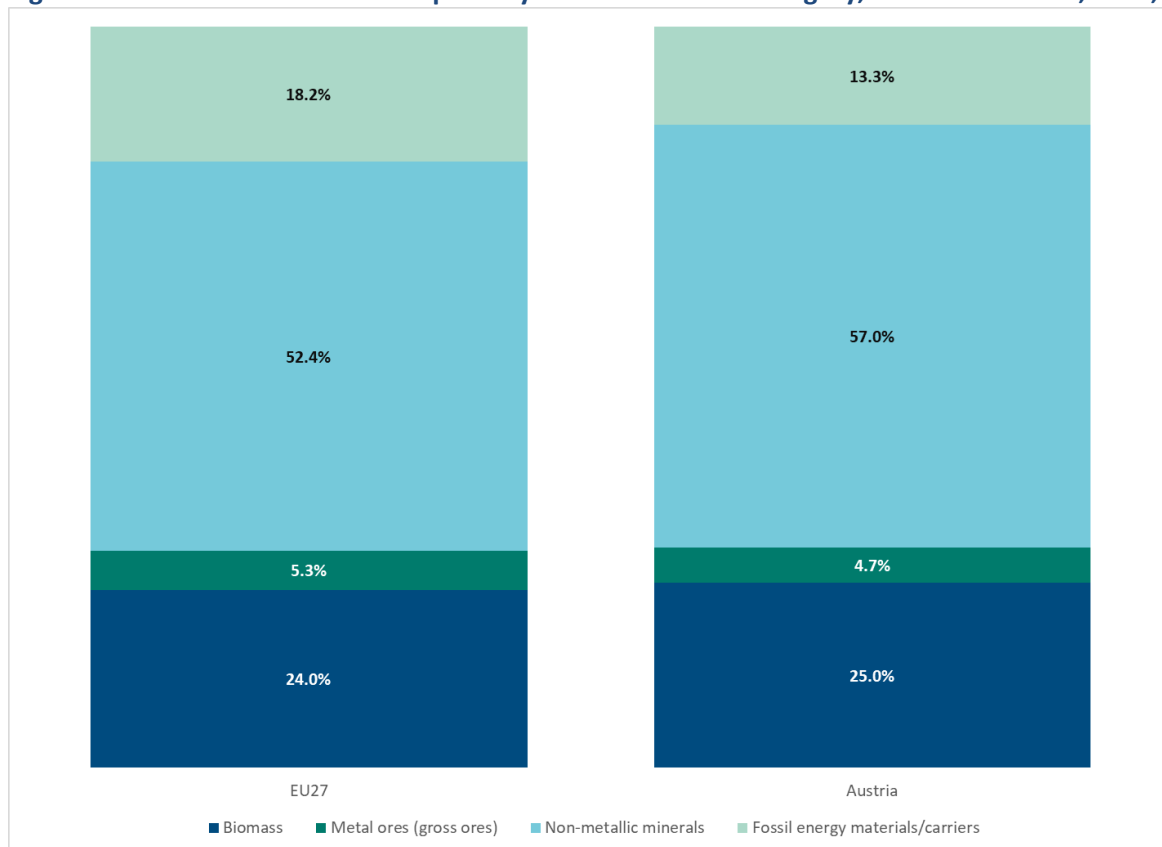
Source: Eurostat (2022) [env\_ac\_mfa], [en\_ac\_sd], [env\_wassd] (accessed 20 June 2022)

**Figure 2 Material footprint (raw material consumption), EU27, 2010 and 2019, tonnes per person**



Source: Eurostat (2020) [env\_ac\_rme] (accessed 4 July 2020)

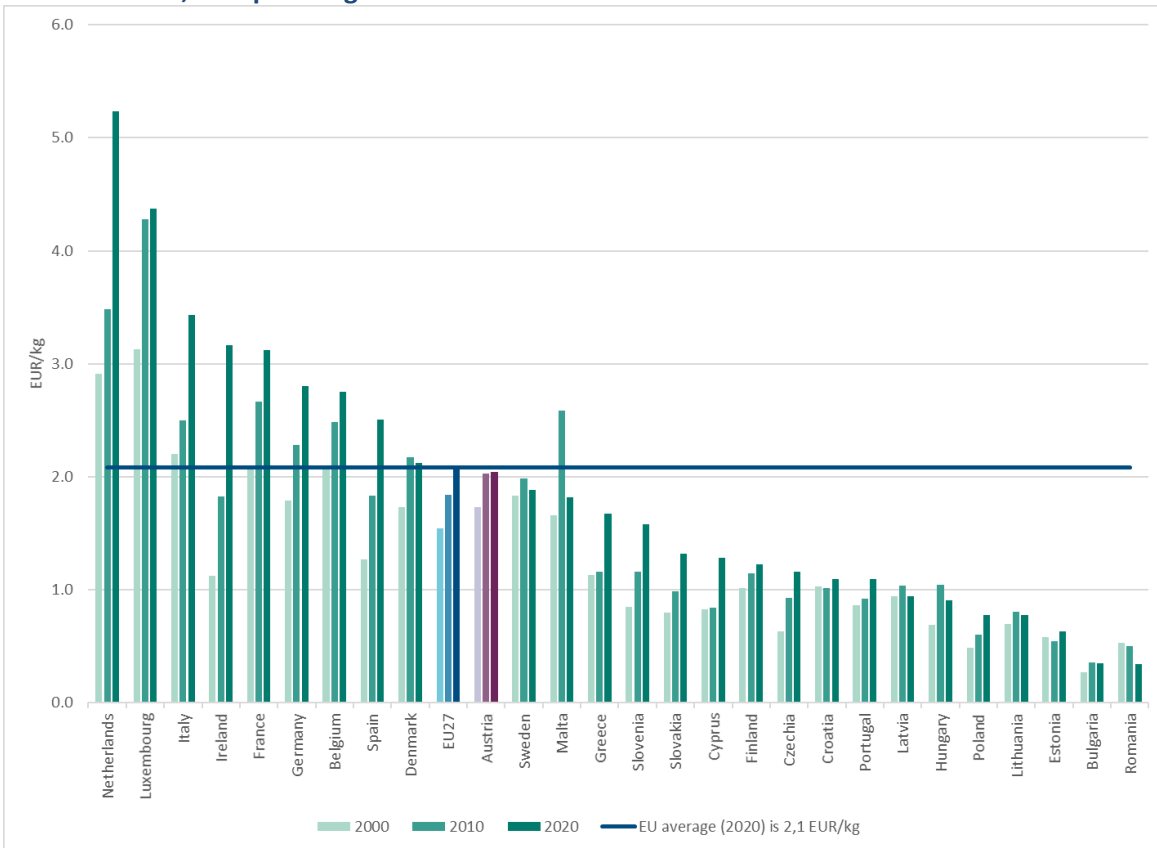
**Figure 3 Domestic material consumption by selected material category, EU27 and Austria, 2020, per cent**



Note: totals may not sum to 100 % due to rounding

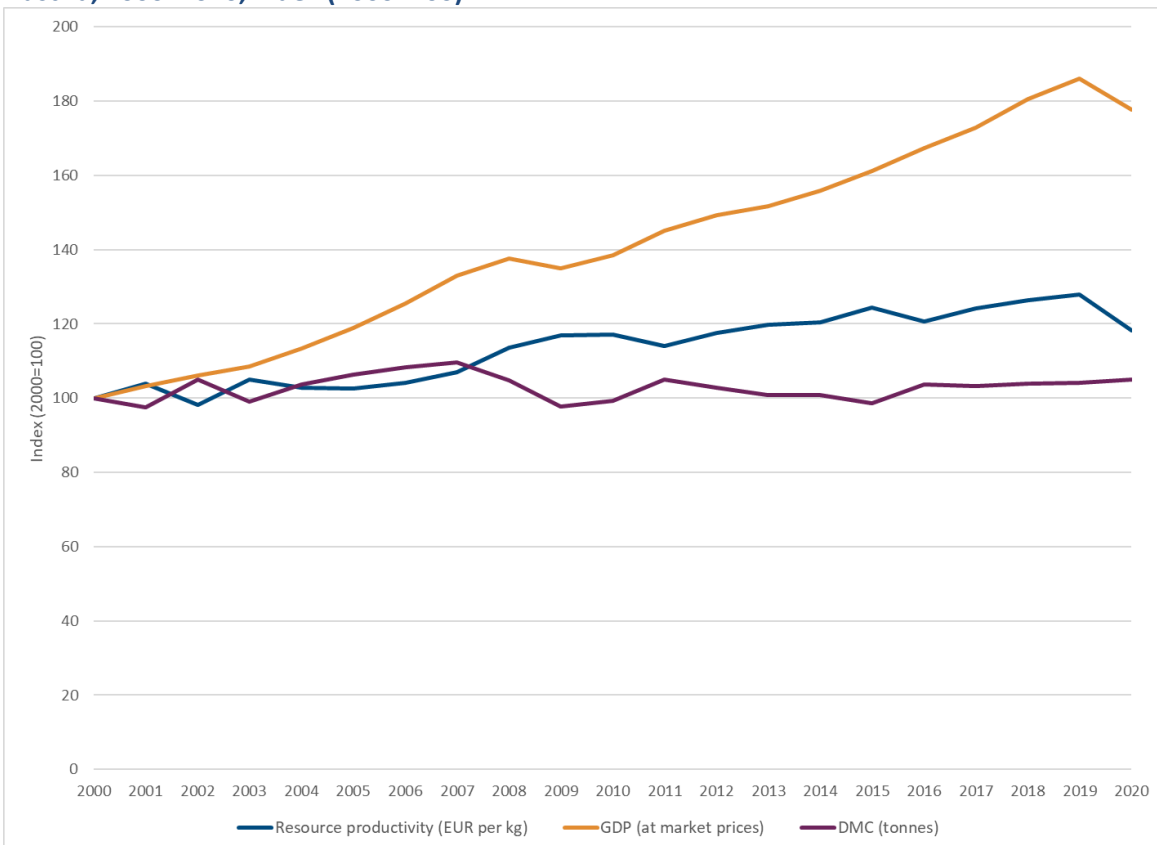
Source: Eurostat (2022) [env\_ac\_mfa] (accessed 20 June 2022)

**Figure 4 Resource productivity (gross domestic product/domestic material consumption), EU27, 2000, 2010 and 2020, EUR per kilogram**



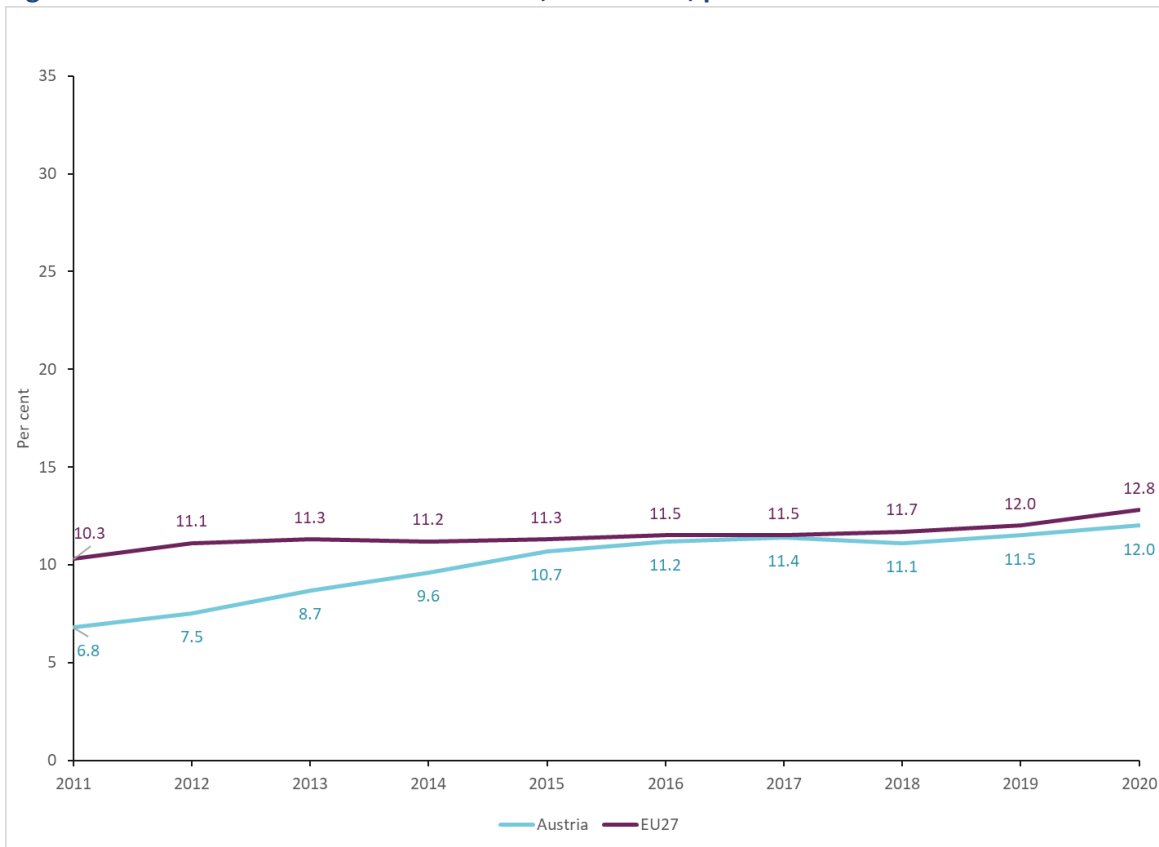
Source: Eurostat (2022) [env\_ac\_rp] (accessed 20 June 2022)

**Figure 5 Gross domestic product, domestic material consumption and resource productivity trends, Austria, 2000–2020, index (2000=100)**



Source: Eurostat [env\_ac\_mfa], [env\_ac\_rp] & [nama\_10\_gdp] (accessed 4 July 2022)

Figure 6 Circular material use rate in Austria, 2011–2020, per cent



Source: Eurostat (2022) [env\_ac\_cur] (accessed 20 June 2022)



## Existing policy framework

### Dedicated strategy, roadmap or action plan for circular economy

The Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) governs the development of a national CE Strategy. Key milestones include the development of a basic document <sup>(1)</sup>, a broad stakeholder participation to identify potential future measures <sup>(2)</sup> and a draft CE Strategy <sup>(3)</sup>. The draft CE Strategy was available for public consultation until end of January 2022 and is currently under revision and in a political coordination phase.

### Circular economy policy elements included in other policies

Circular economy policy element	Included in policy
Defines circular economy criteria (e.g. building products low in harmful substances, a minimum recycling rate for asphalt of 10 %, availability of spare parts for electrical and electronic (EEE) products) in public procurement processes.	<a href="#">Action Plan for Sustainable Public Procurement</a>
The Plan focusses on the management of primary and secondary raw materials. It covers 75 individual measures.	<a href="#">Master Plan for Raw Materials 2030</a> (in German)
Key elements: strengthen cascading usage options, standard characterisation of secondary raw materials, building investment trust.	<a href="#">Bioeconomy - A strategy for Austria</a> (in German)
CE measures (e.g. phosphorus recovery from sewage sludge ash)	<a href="#">Federal Waste Management Plan 2022 -2028 (consultation draft)</a> (in German)
Reduce waste and emissions on the one hand and increase resource efficiency on the other. It covers seven action areas and about 90 individual measures.	<a href="#">Waste prevention programme 2022 - 2028 (consultation draft)</a> (in German)
Reduce microplastic pollution and covers 22 measured grouped by the following five action areas: strengthening data availability, research and innovation; effective implementation and development of legislation, voluntary measures, awareness raising and contributions to global sustainable development.	<a href="#">Action Plan Microplastics</a> (in German)
Digitalisation and CE, synergies between waste legislation and public financial support; support of new business models for collection, sorting and recycling technologies; and development of pilot regions for the CE.	<a href="#">Master Plan Environmental Technologies 2019</a> (in German)
Initiate, support and advance green chemistry projects.	<a href="#">Green Chemistry Platform</a> (in German)
Green refinancing of public expenditure in the CE under the category "environmentally sustainable management of living natural resources and land use". The allocation report for the first Austrian Green Bond.	<a href="#">Green Finance</a> (in German)
Support companies and municipalities/cities in carrying out a profitability calculation for planned projects and in reducing the ancillary costs of placements on the financial market. The programme also applies to CE projects.	<a href="#">Green Finance</a> (in German)

<sup>1</sup> <https://www.umweltbundesamt.at/fileadmin/site/publikationen/rep0782bfz.pdf> (in German)

<sup>2</sup> <http://dx.doi.org/10.13140/RG.2.2.11787.41764> (in German)

<sup>3</sup> [https://www.bmk.gv.at/themen/klima\\_umwelt/abfall/Kreislaufwirtschaft/strategie.html](https://www.bmk.gv.at/themen/klima_umwelt/abfall/Kreislaufwirtschaft/strategie.html) (in German)

Circular economy policy element	Included in policy
Innovative research and development projects that strengthen the long-term competitiveness of Austrian industry support.	<a href="#">Research, Technology and Innovation (RTI) Initiative Circular Economy (1)</a> (in German) <a href="#">Research, Technology and Innovation (RTI) Initiative Circular Economy (2)</a> (in German)
Financial support for: a) investments in take-back systems and measure to increase reusable beverage containers; b) installation and upgrade of sorting plants; c) repair of EEE products (eco-vouchers).	<a href="#">Austria's Recovery and Resilience Plan 2020-2026</a> (in German)
Development of technologies and processes that close material cycles and thereby reduce the use of primary energy and raw materials. Depolymerisation of hard-to-recycle used plastics	<a href="#">Integrated National Energy and Climate Plan for Austria 2021-2030</a>

## Monitoring and targets

### Assessment of circular economy performance

In previous years, trends were observed based on existing indicators that are regularly reported covering the following areas:

- a) household material consumption;
- b) impact on society, economy and environment;
- c) policy, process and behaviour.

The relevant indicators can be found in existing indicator frameworks and knowledge bases, such as, Sustainable Development Goals (SDGs) indicator set, reuse statistics, EU CE Monitoring Framework, waste statistics, material flow accounting, environmental indicators, resource-use indicators, environmental goods and services sector accounts, indicators from the Eco-Management and Audit Scheme (EMAS), and studies that address specific issues in the context of the CE.

### Circular economy monitoring frameworks and their indicators beyond the ones from Eurostat

The draft version of the Austrian CE Strategy (see Question 1) includes the development of a monitoring and evaluation scheme to track the progress towards a CE. The development of such a concept is currently ongoing.

### Circular economy targets

The draft CE strategy was available for public consultation until end of January 2022. After the consideration of the public comments, the following targets were set <sup>(4)</sup>:

1. reduction of domestic material consumption (DMC) to 14 tonnes per person and year- by 2030,
2. reduction of material footprint to 7 tonnes per person and year <sup>(5)</sup> by 2050;
3. increase of resource efficiency by 50 % by 2030 (reference year 2015);
4. increase of the material use rate from 12 % currently to 18 %;
5. reduction of material consumption in private households by 10 % by 2030.

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<sup>4</sup> It is noted that the CE strategy is currently in a political coordination phase.

<sup>5</sup> Based on research findings, the 7 t/cap/yr are considered as sustainable level of raw material consumption (BMK 2020: Resource Use in Austria 2020, Vienna. [https://www.bmk.gv.at/dam/jcr:f64d9e92-fb8f-4ea2-836f-62924d3d47eb/RENU20\\_LF\\_EN\\_web.pdf](https://www.bmk.gv.at/dam/jcr:f64d9e92-fb8f-4ea2-836f-62924d3d47eb/RENU20_LF_EN_web.pdf))

## Innovative approaches and good practice

### Examples of public policy initiatives (national, regional or local)

→ *Good practice example: financial support programme, education (consultancy and training), innovative business models*

#### **Repair: Repair bonus – eco vouchers for repair services** <sup>(6)</sup>

The repair bonus is a funding programme of the Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology for the **repair of electrical and electronic devices** commonly used in households. The total budget of the programme is EUR 130 million, which is financed by the EU Recovery Fund – Next Generation EU 2022–2026. The first funding phase runs from 26 April 2022 to 31 December 2023 and has a budget of EUR 60 million.

The target group of the funding programme is private people living in Austria. They can receive the funding by applying for a so-called repair voucher on the funding information website <sup>(7)</sup>. The voucher can be directly redeemed in participating repair businesses for repairs and/or for cost estimates and provides a 50 % discount to a maximum of EUR 200 Euro per repair and a maximum of EUR 30 Euro for estimates. By 20 June 2022 more than 78 000 repair vouchers had been issued and 63 400 were cashed in 2 300 participating repair businesses. The most frequently repaired products were smartphones, laptops and typical household appliances such as washing machines, dishwashers and coffee machines.

#### **Packaging: deposit-return scheme for beverage packaging and a legally binding measure for reusable beverage packing in shops** <sup>(8)</sup>

More than 900 000 tonnes of plastic waste are generated in Austria every year, of which around 50 000 tonnes are beverage packaging. The amendment to the new Waste Management Act in 2021 introduced a deposit-return scheme for non-reusable plastic bottles and cans and made it mandatory for shops to offer refillable beverage packaging. Almost 2.5 billion<sup>9</sup> bottles and cans are sold every year in Austria.

The deposit for non-reusable plastic bottles and cans will start in 2025. From then onwards, consumers will pay a deposit and get the money back if the beverage packaging is returned to the shop. This measure is intended to increase the separate collection of plastic beverage packaging from today's rate of 70 % to 90 % by 2029 (Directive (EU) 2019/904). Separate collection will improve the quality of recyclables in Austria and decrease import dependence of food-grade recycling material.

The mandatory offer of refillable beverage packaging in grocery stores larger than 400 square metres will begin in 2024. Then, every third shop of a company will have to offer multi-use packaging. The regulation covers almost all types of packing, including beer and mixed beer drinks, mineral water, non-alcoholic soft drinks, juice and milk. Alternatively, the obligation can be met by selling 25 % of the volume of all beverages in returnable packaging. The overall aim is, that by 2030, 30 % of all drinks are sold in refillable beverage packaging. This measure is intended to give consumers a freedom of choice in selecting beverage packaging on the one hand and helping to reduce waste on the other.

→ *Good practice example: change in consumption patterns and consumer behaviour, education (awareness-raising and training), spatial planning and urban policy*

#### **Research, Technology and Innovation: Circular Economy Initiative** <sup>(10)</sup>

<sup>6</sup> <https://www.reparaturbonus.at/> (in German)

<sup>7</sup> <https://bonus.reparaturbonus.at/>

<sup>8</sup> [https://www.bmk.gv.at/service/presse/gewessler/20211013\\_plastikpfand.html](https://www.bmk.gv.at/service/presse/gewessler/20211013_plastikpfand.html) (in German)

<sup>9</sup> billion = 10<sup>9</sup>

<sup>10</sup> <https://www.ffg.at/FTI-kreislaufwirtschaft> (in German)

The Research, Technology and Innovation (RTI) CE Initiative supports innovative research and development projects that strengthen the long-term competitiveness of Austrian industry. It makes a significant contribution to the implementation of national and European strategies in the field of the CE and bioeconomy as well as the United Nation's SDGs. It facilitates expanding technology leadership and solving pressing social challenges such as the climate crisis and scarcity of resources. The initiative aims to intensify the use of goods, optimise resource utilisation and close material loops.

The first call was open of applications from 9 March to 21 June 2021 and had a total budget of EUR 10 million. Details of funded projects are available online<sup>11</sup>. The second call ran from 9 March to 22 June 2022 and has a budget of EUR 12 million.

The RTI CE Initiative is aimed at all research companies, universities, universities of applied sciences and higher technical schools based in Austria and other stakeholders. The participation of foreign partners is possible, depending on the funding instrument.

### Examples of private policy initiatives (sectoral)

#### **Textiles: Lenzing AG** <sup>(12)</sup>

Lenzing AG produces viscose fibres by using cellulose as raw material and has developed unique technology for recycling cotton fibres (brand REFIBRA™). With this technology, cotton off-cuts and old textiles from the textile value chain can be used as raw material. This reduces the use of primary raw materials and energy to a minimum. The fibres are used in the fashion industry. Lenzing is currently working with 30 % recycled fibres but intends to increase to 50 % in the coming two to three years.

For traceability in a transparent supply chain, Lenzing follows a three-pillar approach: A detection system to be able to track the use of REFIBRA, using blockchain technology and a marking system in the fibre, as well as cooperation with stakeholders along the supply chain. This combination ensures a high degree of transparency and verifies the origin of fibers from Lenzing along the entire supply chain, right through to finished clothing items.

#### **Plastics: EREMA Plastic Recycling Systems** <sup>(13)</sup>

EREMA, which is part of the EREMA Group, is the world market and technology leader in plastics recycling systems. The company processes all thermoplastics, such as polyethylene (PE), polypropylene (PP), polyethylene terephthalate (PET), polystyrene (PS), acrylonitrile butadiene styrene (ABS), polyamide (PA) and polycarbonate (PC), biopolymers or compounds in a wide variety of forms such as foils, regrind, hollow bodies, foam, fibres or tapes. Even after years of use, used systems from EREMA are still powerful, robust and durable and many customers ask for their cost-effectiveness. UMAC, a subsidiary of the EREMA Group based in Ansfelden near Linz, specialises in trading in used recycling systems and components. The services include evaluation, processing, purchase and sale as well as the commissioning of used recycling systems. In order to guarantee trouble-free continued operation, UMAC takes on the evaluation and processing as well as the sale and the renewed commissioning of the used systems. Since the company was founded in 2016, more than 60 machines and components have been sold.

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<sup>11</sup> [https://www.ffg.at/en/ffg\\_wegweiser](https://www.ffg.at/en/ffg_wegweiser)

<sup>12</sup> <https://www.lenzing.com/de/> (in German)

<sup>13</sup> <https://www.erema.com/de/home/> (in German)

**Construction and buildings: BauKarussell** <sup>(14)</sup>

BauKarussell is the concept developer and first provider of social urban mining, which aims for extended value creation of components and materials from demolished buildings. It extends the lifetime these, creates regional employment and helps build a market for second-hand components. ROMM ZT, pulswerk GmbH and RepaNet formed the core of BauKarussell in 2015.

Pre-demolition deconstruction work includes removal of reusable components, securing recyclable materials and partial services of pollutant and contaminant removal. The revenues generated from reuse and recycling finance the operational work carried out by local social enterprises. Thus, people with disadvantages in the labour market are employed, trained, and qualified in deconstruction.

BauKarussell has about 20 projects in Austria, seven of which are in Vienna, including sport arenas, hospitals and education centres. Among the clients and promoters of BauKarussell are charitable property developers, the Federal Real Estate Company (*Bundesimmobiliengesellschaft*), the City of Vienna and the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology. BauKarussell acts as a company in the planning and implementation of reuse and recycling-oriented building demolition through social urban mining with the involvement of partners. The company also offers consultancies to building owners and institutions that are involved in the planning and execution of building projects.

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<sup>14</sup> <https://www.baukarussell.at/>

## The way forward

### Addressing barriers and challenges

During the development of the new Austrian CE strategy, the Austrian Society for Environment and Technology (ÖGUT) conducted an **online survey** and received 405 responses from stakeholders along **material value chains and various sectors** <sup>(15)</sup>. Based on the survey results, the following barriers were identified: consumer awareness, international framework conditions, political willingness, business willingness, involvement of stakeholders, and data and information exchange. The key enabling instruments are legislation, enhancement of secondary raw material markets and economic instruments such as taxes. In addition to the online survey, nine thematic workshops with about 250 participants elaborated more the 600 measures to enable CE in the priority areas of waste management, the construction industry, biomass, electrical and electronic equipment (EEE), consumption and use, plastics, mobility, textiles and packaging<sup>16</sup>. Key elements are, for example, an overarching legal framework for the CE, resource efficiency in the production and use phases, secondary raw materials, imports, repair and reuse of goods, information exchange, digitalisation and standardisation. The combination of awareness-raising, governance, standardisation and promotion tools, as well as the involvement of all relevant actors along the value chains, were identified as key success factors.

**The Circular Economy Forum Austria** organised an **online survey on the perspective, knowledge and expectations** of Austrian stakeholder regarding the transition to a CE <sup>(17)</sup>. The organisers received 350 responses between March 2019 and March 2020. The results show the need of organisations to meet CE challenges: knowledge (80 responses), know-how inside the company (69 responses), mutual exchange with stakeholders (58 responses), interdisciplinary expert networking (57 responses), a national political framework (54 responses), European legislations (51 responses) and best-practice examples (51 responses).

### Ranking types of barrier

No information available.

### Future policy plans

The new Austrian CE Strategy is the policy response to overcoming barriers on the way to a CE. The CE includes horizontal measures as well as sector- and value chain-specific measures. These measures are the synthesis of several workshops with experts from industry, universities, government authorities and non-governmental organisations.

The National Recovery Plan includes investment in following CE activities:

- investments in reverse vending systems and measures to increase the quota for multi-use beverage containers;
- construction and retrofitting of sorting systems;
- promotion of the repair of EEE, the repair bonus.

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<sup>15</sup>

[https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjC66zrtMD4AhXYk\\_OHHaAcBAIQFnoECAgQAQ&url=https%3A%2F%2Fwww.umweltbundesamt.at%2Ffileadmin%2Fsite%2Fpublikationen%2Frep0782bfz.pdf&usg=AOvVaw2BazE9PZfd7czvFaZmFYli](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjC66zrtMD4AhXYk_OHHaAcBAIQFnoECAgQAQ&url=https%3A%2F%2Fwww.umweltbundesamt.at%2Ffileadmin%2Fsite%2Fpublikationen%2Frep0782bfz.pdf&usg=AOvVaw2BazE9PZfd7czvFaZmFYli) (in German)

<sup>16</sup>

[https://www.researchgate.net/publication/356852684\\_Ergebnisdokumentation\\_der\\_Themen-Workshops\\_zur\\_Erarbeitung\\_der\\_Osterreichischen\\_Kreislaufwirtschaftsstrategie?channel=doi&linkId=61b07f5168b5ed4ef5f095bb&showFulltext=true](https://www.researchgate.net/publication/356852684_Ergebnisdokumentation_der_Themen-Workshops_zur_Erarbeitung_der_Osterreichischen_Kreislaufwirtschaftsstrategie?channel=doi&linkId=61b07f5168b5ed4ef5f095bb&showFulltext=true)

<sup>17</sup>

[http://circular.bcsss.org/wp-content/uploads/2021/03/Studie-Kreislaufwirtschaft-in-Oesterreich\\_Final-DE-01-03-2021.pdf](http://circular.bcsss.org/wp-content/uploads/2021/03/Studie-Kreislaufwirtschaft-in-Oesterreich_Final-DE-01-03-2021.pdf) (in German)

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