

Executive Summary

Lower Austrian Waste Management Plan

2024



**ENVIRONMENTAL AND
ENERGY MANAGEMENT**

Contents

Foreword	3
Lower Austria on the way to a circular economy	4
Legal framework	5
PROTECTING the environment	6
USE of recyclables	8
SHAPE the future	10
Our plans in a nutshell	12
Waste treatment 2022	14
Facts & Figures 2022	15

Imprint

Owner, Editor, Publisher

Office of the Lower Austrian Federal Government
Division of Spatial Planning, Environment and Traffic
Department of Environmental and Energy Management
3109 St. Pölten, Landhausplatz 1, Haus 16
Tel. 02742/9005-14201, Fax -14350
www.noel.gv.at/abfall
e-mail: post.ru3@noel.gv.at

Project Management DI Johannes Mayerhofer with DI Elisabeth Punesch

Editing wpa Beratende Ingenieure GmbH, Lackierergasse 1/4, 1090 Wien

Graphic Design Andreas Pauleschitz, Hermannsgasse 17/9, 1070 Wien

Cover picture Franz Weingartner

Print Amtsdruckerei, Office of the Lower Austrian Provincial Government – 100% recycled paper

© 2024, St. Pölten

The present update of the 2024 Lower Austrian Waste Management Plan was unanimously approved in the session of the Lower Austrian Federal Government on 01 October 2024.

Foreword



Following the principle of a 'circular economy rather than a linear one', we are implementing numerous measures to strengthen the circular economy in Lower Austria and are striving for the vision of an economy that saves resources. Recyclables are given a second or third life by utilising resources responsibly. In doing so, we ensure that Lower Austria remains a liveable environment for our children and grandchildren.

The Lower Austrian Waste Management Plan 2024 creates the framework for this development and aligns with the principles 'protect – use – shape'. The plan describes the current situation and sets goals and measures until 2030. The top priority is to reduce waste, for example by extending the lifespan of products. Products should be repairable and recyclable, which creates opportunities for new technologies and business areas. There is also an increasing emphasis on sharing, borrowing and repairing. At the same time, the efficient collection and modern recycling of materials remain crucial.

We are fine-tuning many aspects to ensure everything works seamlessly. The plan was developed with the input of many stakeholders from municipal and commercial waste management sectors. I want to extend my heartfelt thanks and wish us all the strength to push this change together. In the field of waste and circular economy management, 'everyone pulling together' is the key to success.

Dr. Stephan Pernkopf
Deputy Governor



Lower Austria on the way to a circular economy

“What we do today determines how the world will look like tomorrow.”

Marie von Ebner-Eschenbach

Let's envision a circular economy in the future: We choose sustainable products and buy only what we truly need. Anything that can be shared, swapped or borrowed is used collectively. Our goods are durable and repairable. Single use and throw-away items are completely out of fashion. Products or their components are reused and materials are efficiently recycled and reintroduced into the cycle as valuable resources.

Important steps have already been taken up until today. The upcoming EU Ecodesign Regulation for Sustainable Products¹ for example defines requirements for the durability, reusability and reparability of many products. Digital product passports provide information on materials, recycled content and recycling requirements and create transparency along the value chain. The top priority is always waste prevention which requires social re-thinking and more efficient production. Everyone can contribute through their daily actions. However, digitalisation and artificial intelligence will also help to save resources and reduce waste in production processes.

Even within a circular economy, waste is generated, and its environmentally friendly disposal largely depends on our behaviour. Information campaigns and incentives are used to encourage proper waste separation in households, offices and businesses. In Lower Austria, the collection of lightweight and metal packaging was standardised in 2023, increasing the collected weight by 23%. The obligatory deposit return scheme for plastic bottles and beverage cans as well as the separate collection of clothing and household textiles will create a strong impact on waste management from 2025 on.

The critical role of the waste management sector as a supplier of raw materials and a reliable partner for proper disposal often goes unnoticed. However, crises such as the Corona pandemic or the war in Ukraine have highlighted these essential functions. Positioned after consumption and before production, waste management plays a pivotal role in a functioning circular economy. In this role, it faces increasing demands concerning the quality and traceability of secondary raw materials. These demands drive innovation within the waste industry and are pushing the use of digitalisation and AI-supported systems.

Our future goals contain the **SHAPING** of a sustainable circular economy, the **USE** of recyclables derived from waste and the responsible **PROTECTION** of the environment – in Lower Austria and beyond!



¹ Council of the European Union, 2022: Proposal for a Regulation of the European Parliament and of the Council establishing a framework for setting ecodesign requirements for sustainable products and repealing Directive 2009/125/EC, doc. ST 7854/22 + ADD 1-8.

Legal framework

European waste legislation

The requirements of the EU Action Plan for the Circular Economy² are laid down in European waste legislation through the EU Waste Framework Directive³, and a number of other directives on specific waste streams such as single-use plastics⁴, waste electrical and electronic equipment⁵, end-of-life vehicles⁶ and increasingly also through directly applicable regulations in the Member States (e.g. Waste Shipment Regulation⁷, Battery Regulation⁸, Packaging Regulation⁹). The Waste Framework Directive standardises the basic orientation of European waste management on a 5-stage hierarchy from waste prevention to reuse, down to recycling and recovery and with disposal at the lowest stage. In addition to specific requirements for the separate collection of biogenic waste and textiles as well as recycling quotas for packaging and municipal waste, the permissible landfilling of municipal waste is also reduced to a minimum. The Member States are called upon to implement measures regarding resource efficiency, reuse and the reduction of food waste in a legally binding form and to report on the degree to which the goals have been achieved.

Austrian Waste Management Act 2002 (AWG 2002) and specific regulations

The AWG 2002¹⁰ is the central legal basis for waste management in Austria. Accordingly, Austrian waste management must be based on the precautionary principle and the principles of sustainability. Harmful effects on humans, animals and plants and the environment must be avoided as much as possible and resources must be conserved. With the amendment of the 'Circular Economy Package' in 2021, the EU legal requirements were implemented, and the Austrian Waste Management Act was adapted to the objectives and requirements of the EU directives. For example, measures to reduce single-use plastic packaging, goals to be achieved concerning the expansion of return systems for beverage packaging, a deposit for single-use beverage packaging and requirements for the reuse and recycling of municipal waste were defined.

Lower Austrian Waste Management Act (NÖ AWG) 1992¹¹

The Lower Austrian Waste Management Act adopts the waste management principles and the 5-stage waste hierarchy from the EU Waste Framework Directive and the Austrian Waste Management Act 2002. In addition, the waste management aspects are regulated within the area of responsibility of the respective federal state. This includes, in particular, the collection of municipal waste from households and similar facilities of municipal associations, the funding of the implementation of waste management goals, details on the provision and collection of waste management fees and charges as well as the contents of the waste management regulation issued by the municipalities.

² COM(2015) 614

³ Directive 2008/98/EC

⁴ Directive (EU) 2019/904

⁵ Directive 2012/19/EU on waste electrical and electronic equipment

⁶ Directive 2000/53/EC

⁷ Regulation (EU) 2024/1157 on waste shipments

⁸ Regulation (EU) 2023/1542 on batteries and waste batteries

⁹ Current proposal: COM/2022/677 final

¹⁰ BGBl. I Nr. 102/2002

¹¹ LGBl. 8240-0



PROTECTING the environment



Protecting the environment and thus protecting our available resources go along with a liveable future. We are making an important contribution with our measures and putting waste prevention on top of our priority list. We are also strengthening a circular economy with a regional focus, which aims to use resources efficiently, for as long as possible, process them regionally and return them to the cycle.

Regional circular economy

The region represents the area of future action, especially when it comes to implementing effective strategies for a circular economy. This saves transport routes and reduces emissions. As local as possible and as centralised as necessary is our motto for a successful regional circular economy. In addition to the established circular economy discussion forum 'waste meets business', network meetings are increasingly being organised in Lower Austria in order to jointly promote successful circular economy projects. Innovative, regional approaches are being supported with pilot projects and existing initiatives are getting integrated.



Regional waste prevention concepts for municipalities and administrative bodies as well as associations will be funded within the next years. Companies will be supported in supplementing their waste management concepts with prevention- and recycling-orientated strategies and measures. In order to motivate start-up companies with waste prevention as their business model, a funding call is to be set up during the planning period.

Reuse instead of dispose

We will continue to organise public events in a sustainable way in the future and thus enhance waste prevention. Since 2007, more than 21 million plastic cups have already been saved through the use of reusable products at 'Sauberhafte Feste' ('Clean Events'). The services offered by Lower Austria's waste management associations such as a mobile rental service for reusable tableware or reusable event equipment make a significant contribution to this. With a future focus on youth, sports and cultural events, the 'Sauberhafte Feste' concept is to be expanded and established as a standard. The goal is to further develop the initiative so that approx. 1,000 events per year are held in accordance with these standards by 2030.



Sanitary products amount to 16% of Lower Austria's residual waste. Reusable products can significantly contribute to waste prevention. An educational campaign addresses the increased use of sustainable alternatives, e.g. reusable diaper systems, menstrual cups, etc.



More than 1,000 Sauberhafte Feste took place in 2023 thanks to the federal funding programme!

Keeping Lower Austria clean

We have been keeping Lower Austria clean for over 20 years with the state's largest environmental campaign. In spring 2023, tens of thousands of Lower Austrians took part in more than 860 cleanup events and cleared the landscape of carelessly discarded waste.



In the future, 'space partnerships' will be offered in cooperation with sports clubs, forestry companies, national parks, etc. A group of people will take responsibility for the cleanliness of a specific public space (e.g. playground, local recreation area, a section of hiking or cycle path, etc.). The accompanying public relations work is organised by the federal state of Lower Austria together with the waste management associations.

The focus remains on households because 35kg per capita of food waste must be reduced by 2030!

Making food waste visible

All over Lower Austria, approx. 230,000 tonnes of food end up as waste every year, this equals 135kg food per capita. This problem concerns the whole EU so ambitious efforts are made for households to reduce the amount of waste by 40% until 2030.



Under the motto 'Making food waste visible', practical demonstrations are organised during campaign weeks to show how much 135kg of food actually is. The travelling exhibition 'GewissensBISS'¹² will also be available for pupils. A particular focus in raising awareness will be placed on residential buildings.

Reuse and repair

In order to reduce our material consumption and conserve valuable resources, we ensure that reusing, repairing and sharing become even more attractive. In doing so, we are relying on a bundle of measures: We promote 'Reuse Corners' at recycling centres. We are working together with the environmental associations and socio-economic companies to expand the collection, processing and sale of reusable goods. We raise awareness among the population and encourage municipalities and regions to implement their own initiatives such as 'Repair Cafés' and special renting schemes.

Our goal is to increase the amount of reusable goods to 1,000 tonnes per year by 2030!



Used items can already be resold, exchanged or given away via the online platform 'sogutwieneu.at'. The successfully established platform will be further developed in the future and its range of services will be expanded. An interactive 'Re4U' map will provide an overview of Lower Austria's reuse infrastructure with repair businesses, reuse shops and repair cafés.

¹² Joint project of University of Natural Resources and Life Sciences, Vienna (BOKU), Wiener Tafel, and the Natural History Museum Vienna

USE of recyclables



Today's consumer habits and the quality of modern products stand in the way of a waste-free society. Intelligent product design and optimised waste management will facilitate the efficient use of the raw material and energy potential of our waste by collecting them separately and recycling them according to a high standard. After the recycling, the secondary raw materials obtained are available for us again in suitable quality.



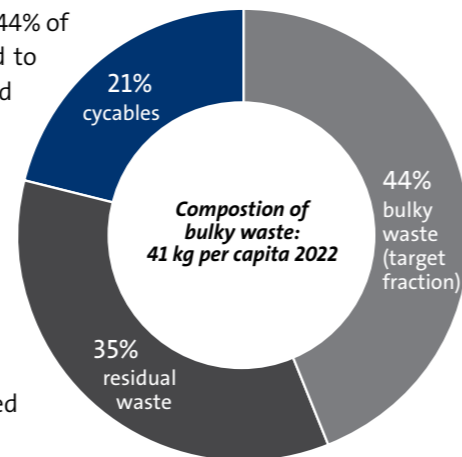
organic waste	38.5kg
plastics	21.8kg
paper	9.4kg
textiles, shoes	7kg
glass	5.9kg
metals	4kg
wood	1.7kg
residual waste	51.7kg

Reducing residual and bulky waste

In 2022, the volume of municipal waste in Lower Austria collected as 'residual waste' was 140kg per capita, of which 39kg consisted of organic waste and 50kg were secondary raw materials. This leads to a loss of recyclable materials and high waste-treatment costs. Particular need for action exists among residential neighbourhoods, as the amount of residual waste disposed incorrectly is high there. Approaches stemming from behavioural economics shall be increasingly incorporated into educational campaigns and the design of collection infrastructure. In selected residential areas, attempts will be made to sensitise residents with participatory measures such as on-site sorting analyses.

More than half of the bulky waste collected in Lower Austria is not actually bulky waste: currently only 44% of the collected bulky waste actually correspond to the target fraction, 35% are residual waste and 21% recyclables.

In order to enable a better separation of reusable materials from bulky waste by 2030, the co-collection of these two fractions is to be terminated. Moreover, the offer to hand in reusable goods in so-called 'Reuse Corners' at recycling centres will be expanded and a bonus system for the delivery of correctly sorted secondary raw materials will be tested.



From waste management concepts to circular economy concepts

Following the slogan 'One man's trash is another man's treasure', companies will be encouraged to consider their waste as recyclable materials – if not for their own company, then at least for another. To this end, we are working with economy representatives to develop sectoral templates for a circular economy concept. We also draw attention to reuse networks and recycling markets.

The goal is the best possible use of 89kg reusable materials per capita from residual waste and of 8kg per capita currently collected with bulky waste.

Multiple use of biowaste

Through the two-stage treatment of separately collected organic waste – fermentation followed by composting of the fermentation residues – it is possible to generate green energy and produce valuable compost at the same time. With improved organic waste collection, up to 100,000 tonnes of biowaste, 150,000 tonnes of green waste as well as 64,000 tonnes of organic waste out of residual waste could be additionally made available in Lower Austria. In order to reduce organic waste disposed incorrectly, the introduction of incentive and control systems should be examined.

The organic waste bin for all households should be part of a comprehensive waste service package and not charged separately. This will increase the amount of waste collected and simultaneously reduce the amount disposed in the residual waste bin, which still contains approximately one-third organic waste.

The biogas produced from 100,000 tonnes of organic waste is able to supply 6,600 households with electricity and 1,400 households with heat for a year!

Potentially available organic waste



Textile waste collected efficiently



Currently, less than 4kg of textile waste is collected separately per capita and year in Lower Austria. At the same time residual and bulky waste contain around 11kg, which is almost three-times more. This compares to 19kg of textiles purchased by each person in a year¹³. Our wardrobes are getting cramped although the amount of textile waste collected as such has increased by more than 25% over the past ten years¹⁴. By 2025, textile waste has to be collected separately¹⁵.

In Lower Austria, the existing structures for bring-in and pick-up collection are to be expanded and designed as simple as possible for citizens. Through the cooperation with non-profit organisations textiles in flawless condition will be increasingly offered in the region. Also, the collection of recyclable textile waste will be promoted at recycling centres.

¹³ BMK, Federal Waste Management Plan 2023 Part 3

¹⁴ Department of the federal state government of Lower Austria, 2023: Waste Management Lower Austria Data 2022

¹⁵ Directive (EU) 2018/851 of the European Parliament and of the Council amending Directive 2008/98/EC on waste

SHAPE the future



Whether its new types of waste, demographic developments or digitalisation and artificial intelligence – many factors influence the necessary measures to make Lower Austria fit for the future and liveable. We provide incentives for sharing concepts, make separate collection at recycling centres more attractive for citizens and adapt the infrastructure to future conditions!

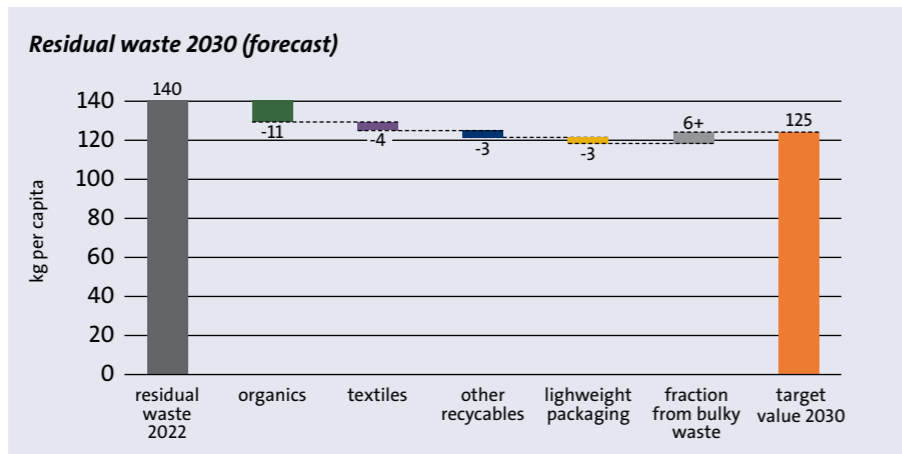
Recognising trends and grabbing opportunities

Lower Austria's population will increase by 2050, particularly in urban centres. The trend towards single-person households¹⁶ will continue, as will the trend towards 'to go' consumption. The change of our eating habits – cue convenience food – is also accompanied by an increased use of throw-away packaging. This also changes the volume and composition of municipal waste. Increasing quantities of single-use tableware¹⁷ are primarily generated outside the home and contribute to the problem of careless littering. Reusable alternatives will be increasingly promoted and supported within the coming planning period. An increased supply of separate collection bins in public areas is intended to support the separate 'to go' collection of recyclables. The thermal renovation of buildings, the replacement of fossil-fuelled heating systems and the use of e-bikes and e-scooters influence the composition of our municipal waste. The municipal collection infrastructure must also be adapted to this development.



New framework conditions such as the deposit-return scheme for beverage packaging, the separate collection of textiles and the EU goals for the reuse and recycling of 65% of municipal waste by 2035 offer the chance to permanently reduce the amount of residual waste. To achieve this ambitious goal, we need commitment from everyone and across all areas – from product design and separate collection to sorting and processing!

By 2023, Lower Austria wants to reduce the amount of residual waste from 140 to 125 kg/capita.



¹⁶ Statistics Austria, Censuses 2011 and 2021, Household Forecast 2023

¹⁷ Estimated 7,000 tonnes per year in Lower Austria; Environment Agency Austria, 2022: Selected Plastic Streams

Creating a culture of sharing

Today, digital platforms enable a very easy sharing economy which reduces the use of materials per capita and the acquisition costs of all those involved. Successful examples such as 'Nextbike', e-car sharing, and coach-pooling platforms indicate how this works in Lower Austria. Within the next years, start-up companies will be promoted and awarded for their innovative sharing business models. The established online second-hand marketplace 'SO GUT WIE NEU'¹⁸ is being expanded by a renting system. The 'Library of Things'¹⁹ concept is to be introduced in Lower Austria. This will make it easier for private households to borrow technology and leisure items.



In order to support innovative brains in the realisation of playful, digital learning approaches, we rely on prize competitions or funding calls!

Experience the FUTURE for a week

Topics such as reusing, repairing, sustainable lifestyle and 'What happens to my waste?' will be used to compile a school programme for a 'Future Week', which will be offered to all schools interested after an initial pilot phase.

Responding to new types of waste

Modern products such as e-bikes²⁰ or mini scooters and new materials, e.g. glass or carbon fibre-reinforced plastic, also generate new types of waste. We are implementing a range of measures to ensure that they are collected and treated in an environmentally friendly manner: public relations work will be stepped up and the ABC

separation will be supplemented with information on potential hazards, correct handling and prevention. In the future, at least one recycling centre per district will be qualified to accept new types of waste from private households.

Digital transformation in waste management

Together with the Lower Austrian environmental associations, digitalisation and AI-supported technology will be used, for example, to optimise waste logistics in sparsely populated regions or to identify areas with high amounts of waste disposed incorrectly and take targeted measures for improvement. Digitalisation simplifies communication with the population. It also enables individual offers such as need-based collection intervals or container volumes, attractive opening hours for collection centres and digital incentive systems.

Recycling centres with added value

The further development of the recycling centres is financially supported by the federal state of Lower Austria. In the future, an additional bonus will be granted for setting up a 'Reuse Corner'. By 2030, up to 100 of these 'Reuse Corners' are to be set up throughout the country. A regular exchange of experience will be organised for recycling centre staff in order to improve the collection quality and user-friendliness.



¹⁸ sogutwieneu.at/, accessed on 2024-03-22


¹⁹ stadtbibliothek.graz.at/?ref-type=dingeborg, accessed on 2024-03-22


²⁰ Estimated e-bike density in Lower Austria: 200,000 bikes <https://www.klimaaktiv.at/mobilitaet/radfahren/fahrrad-verkaufszahlen2022.html>

Our plans in a nutshell

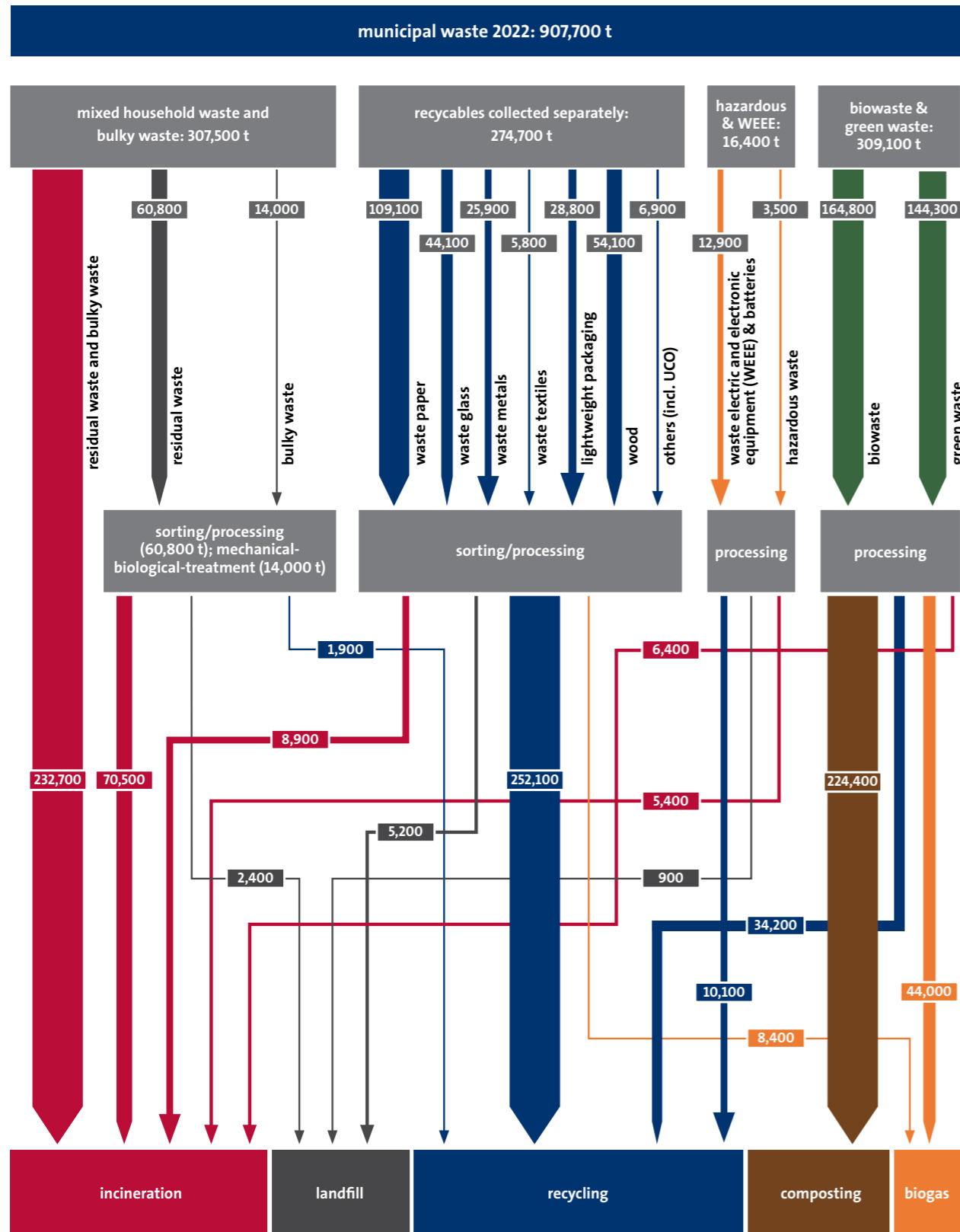


 PROTECT	What we are aiming at by 2030	How we plan to achieve our goals
Regional circular economy	Intensify the exchange of information and networking of stakeholders	Initiate network meetings on the topic of circular economy
	Support model regions and waste prevention concepts	Accompany pilot projects in model regions; support municipalities in the implementation of waste prevention concepts
	Promote innovations in waste prevention	Funding call for start-ups with a 'waste prevention' business model
Reuse instead of dispose	Further develop the 'Sauberhafte Feste' initiative; 1,000 events per year	Expand field of application and create incentives; expand and establish criteria
	Increase the use of reusable products	Raise awareness for reusable products
Keeping Lower Austria clean	Strengthen spring cleanup campaigns (Frühjahrsputz) and reduce littering	Allocation of space partnerships, promotion of public separation containers
Making food waste visible	Reduction of food waste in residual waste by a third (-10,000 tonnes)	'Make food waste visible' campaign week; create educational programmes for schools
Reuse and repair	Expand infrastructure for reuse, repair and sharing	Expand and modernise the 'SO GUT WIE NEU' platform; establish repair cafés and swap meets
	Increase of reusable goods sold per year up to 1,000 tonnes	Promote a collection and sales network for reusable products

 USE	What we are aiming at by 2030	How we plan to achieve our goals
Multiple use of biogenic waste	Increase collection volume for cascading use (energy, nutrients)	Increase the provision of organic waste bins
	Improve the collection quality of organic waste	Examine the introduction of incentive and control systems to improve quality
Reduce residual and bulky waste	Reduce the proportion of waste disposed incorrectly in residual waste	Educational campaign for residential areas
	No recyclables in bulky waste	Adapt collection practice (separate secondary raw materials and residual waste from bulky waste)
Textile waste collected efficiently	Increase the amount of separately collected textile waste	Target group-orientated public relations work and improved cooperation with the social economy
From waste management concepts to circular economy concepts		Expansion of the collection infrastructure (recycling fraction separated from re-use goods)
	Further development of the waste management concept	Initiate and support the development process towards a circular economy concept

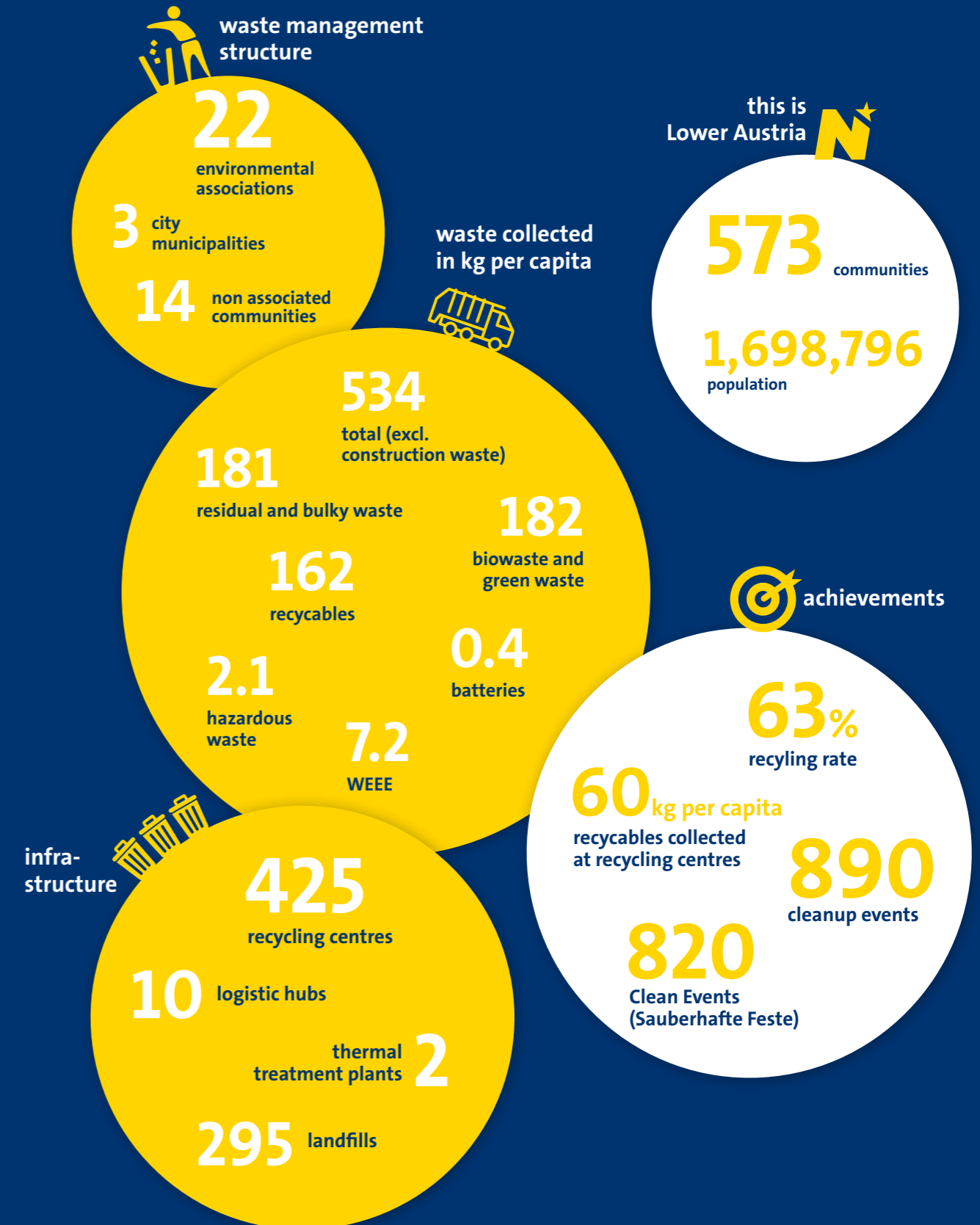
 SHAPE	What we are aiming at by 2030	How we plan to achieve our goals
Recognising trends and grabbing opportunities	Respond to consumer habits and social developments	Enhance municipal waste-collection infrastructure
Creating a culture of sharing	Conserve resources by sharing, borrowing and renting	Support a 'sharing economy' and establish a digital sharing platform
Responding to new types of waste	Service-orientated collection of new waste	Increased public relations work; training programmes for staff; expand ABC of separation
Digital transformation in waste management	Define areas of application for digitalisation and use them in a targeted manner	Test digitalisation and AI tools (scanners, route planning) for practicality in pilot projects
Recycling centres with added value	100 Reuse Corners at recycling centres	Extra bonus for Reuse Corners at recycling centres
	Increase user-friendliness and collection quality	Expand digital access systems; regular exchange of experience for recycling centre staff

Waste treatment 2022



Flowchart based on the study 'Quantity and treatment of municipal waste in Lower Austria' (Environment Agency Austria, 2023)

Facts & Figures 2022



Geprüftes



EMAS
Geprüftes
Umweltmanagement

The Department of Environmental and Energy Management (RU3) of the Office of the Lower Austrian
Federal Government participates on the environmental management system EMAS.



noe.gv.at