ECN Country Report *2023*

Austria

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1 Introduction on bio-waste management in Austria

Austria has many decentralized plants with lower capacities. In 2020, a total of 404 plants with a processing capacity of at least 1.68 million t were in operation in Austria. Furthermore 159 biogas plants - including 45 plants at wastewater treatment plants that co-treat biogenic waste - were in operation with a minimum capacity of about 1.32 million tons.

The national ordinance regarding the separate collection of bio-waste is since 1995 in force. Especially in urban areas impurities in the bio-waste pose an increasing problem. The prohibition of conventional plastic bags valid from 2020 may help to improve the situation.

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2 National concept/strategy on bio-waste management

2.1 Legal framework

Waste Management Law 2002
Defines the aims and the hierarchy (avoidance, preparation for reuse, recycling, other utilisation, disposal) of the waste management. Furthermore, it explains terms and regulates the principles of waste management.

Ordinance regarding the separate collection of organic waste 1992
Defines organic waste and determines the separate collection of those.

Compost ordinance 2001 (currently under revision)
The Austrian compost ordinance regulates quality requirements of compost from wastes. It lays down nationwide rules concerning the production, marketing and labelling of compost as a product (end of waste). It defines different quality classes of compost and includes detailed rules on the raw materials used.

The ordinance defines three different quality classes for compost based on the heavy metal content ('A+' top quality, 'A' high quality, 'B' minimum quality).

Suitable waste materials and its quality requirements, final product criteria for quality compost, compost, sludge compost are ruled by the Austrian Compost Ordinance.
It includes also requirements regarding:

- Compost designation and specification
- Waste materials (waste codes) with approved origin
- Type and frequency of quality measurements for certain input materials
- Type and schedule of records and documentation
- Receipt control.

The compost ordinance is currently under revision.

2.2 Waste management programs and strategies

Federal waste management plan
Is mandatory through the waste management law. It comprises an evaluation of the waste management situation and an estimation of the prospective developments of the waste fluxes.

Prohibition on plastic bags
From January 2020 on it is prohibited to put conventional plastic bags on the market. The only exception of the prohibition are plastic bags < 15 mikron that consist mainly of renewable raw materials and that are suitable for home composting. The second exception are reusable bags with sewed connections and sewed carrying handles.

Action Plan on Microplastics
The Austrian Government Program 2020-2024 refers to the elaboration of an Austrian Action Plan against Microplastics. The Action Plan is a contribution by Austria to the implementation of the EU Green Deal, in particular the EU Action Plan for the Circular Economy, the EU Plastic Strategy as well as the EU Action Plan on Pollution-free Air, Water and Soil. Measures in the area of microplastics also represent a contribution to the implementation of the 2030 Agenda for Sustainable Development.

2.3 National standards and technical guidelines (collection, treatment and use)

In Austria a series of standards and technical guidelines have been published which establish common requirements for an external quality assurance scheme. These are:

State of the art of composting 2005 (currently under revision)
This guideline describes the minimum requirements regarding the structural and technical features as well as the management of the composting plants for the generation of compost according to the compost ordinance. The guideline comprises the technical requirements for a low-emission process considering a high product quality.

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ÖNORM S 2007 biological waste treatment

ÖNORM S 2020 bio filter materials

ÖNORM S 2201 organic waste for biological treatment - requirements

ÖNORM S 2202 principles for application of composts

ÖNORM S 2204 compost hygienic requirements

ÖNORM S2205 technical requirements for composting plants

ÖNORM S 2206-1: Requirements for a quality assurance scheme for the production of composts – Part 1: Principles for quality assurance of a company and of the internal technical processes

ÖNORM S 2206-1: Requirements for a quality assurance scheme for composts – Part 2: Determination of tasks and conditions for a quality assurance organisation

ÖNORM S 2209 odor and dust emissions of composting plants

ÖNORM S 2210 compost soil and substrates – quality requirements and investigation methods

ÖNORM S 2023 investigation methods and quality monitoring of composts

ONR 192206 Technical Guideline: Implementation of quality assurance on composting plants Up to now two non-profit associations have adopted these standards for granting a compliance certification with the QAS.

ONR 192207 environmental management system for composting plants

2.4 Quality Assurance Scheme (QAS) and National Quality Assurance Organization (NQAO)

In addition to the legal obligations the KBVÖ provides a mandatory comprehensive quality management and quality assurance scheme for its members. It is based on the Austrian standards (ONS2206-1 und -2, and the technical guideline ONR192206).
The legal frame for compost is embodied by the compost ordinance 2001 as well as the Waste Management Law 2002. Moreover, there are different standards which address the composting, as the QA ÖNORM S22006-1 and -2, the ONR192206, but there are also regulations as the minimum standards for open windrow composting and the guideline state of the art of composting. The permitted input materials for composting can be found in the compost ordinance, also the frequency of the external quality monitoring depending on the amount in m^3 of produced compost.
Each compost plant, which is a member of KBVÖ, is controlled on a regular basis depending on the yearly throughput. All plants are controlled with unannounced on-site visits (external audits). Within the external audits also the material fluxes are assessed for their plausibility. The on-site inspection is carried out by a contracted auditor who prepares the inspection report including recommendations for the quality committee (internal Audit) with respect to eventually necessary adaptions, sanctions or approval of the related plant. The quality committee decides on sanctions, awarding or withdrawal of the KBVÖ quality label.
The so-called external quality approval is the regular sampling and analysis of a compost batch by an acknowledged laboratory. A list of acknowledged laboratories, which must participate in compost ring tests on a regular basis, is published on the homepage of the KBVÖ.

Suitable waste materials and its quality requirements, final product criteria for quality compost, compost, sludge compost are ruled by national legislation (above all by the Austrian Compost Ordinance).
It includes also requirements regarding:

- Compost designation and specification
- Waste materials (waste codes) with approved origin
- Type and frequency of quality measurements for certain input materials
- Type and schedule of records and documentation
- Receipt control.

The quality requirements for input materials, the product declaration like “quality compost”, “compost” or “quality sludge compost” are defined and regulated by the compost ordinance. The participation in the QAS of KBVOE helps to fulfil the legal requirements by voluntary audits and consulting in case of problems.

3 Source separated collection of bio-waste

Facts according to the federal waste management plan 2023:

Separately collected biogenic waste can be categorized as follows:

- green waste from gardens and green areas, such as grass clippings, tree and pruning, flowers, leaves,
- waste from the preparation of food, and food waste.

The composition of separately collected biogenic waste and green waste from households and similar establishments depends on the time of the year, the annual annual precipitation, settlement structure, etc.

In 2020, about 1.7 million t of biogenic waste and green waste were generated as municipal waste. Of this, 590,155 t of biogenic waste and 547,255 t of green waste were collected separately from households and similar establishments.

4 Bio-waste treatment (recycling, material/energy recovery)

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Composting plants:
In 2020, a total of 404 plants with a processing capacity of at least of at least 1.68 million t in operation.

Biogas plants:
In 2020, 159 biogas plants were in operation - 45 of them at wastewater treatment plants - were in operation with a minimum capacity of around 1.32 million tons.

Mechanical biological treatment plants:
At the end of 2020, 14 plants for mechanical-biological waste treatment of municipal and other wastes were in operation with an approved MBT capacity of 671,800 tons.

5 Application and market

5.1 Compost

The compost ordinance defines three different quality classes for compost based on the heavy metal content

- Class A+ (top quality; limit values taken from Council Regulation for Organic Farming)
- Class A (high quality; suitable for use in agriculture) for food production areas
- Class B (minimum quality; suitable for non-agricultural use) for non-food areas

Compost, produced by composting plants working according to the compost ordinance, is a product which is determined in the compost ordinance. The possible applications are:

- Hobby gardening (A+, A)
- Plantation (A+, A)
- Agriculture (A+, A), [for organic farming A+ because heavy metal limits are according to EU ordinance 834/2007, class A is possible if permitted through the control station]
- Landscape gardening and maintenance (A+, A, B)
- Reclamation layer on landfill (A+, B)

Basically compost must be labelled as "Compost". In order to mark composts processed from high quality source materials, the ordinance allows the following terms:

- “Quality Compost” class A+ suitable for use in organic farming
- “Quality Compost” class A produced from separately collected organic waste
- “Quality Sewage Sludge Compost” produced from high quality sewage sludge and separately collected organic waste)
- “Bark Compost” (produced exclusively from bark)
- “Municipal Solid Waste Compost” which is compost derived from MSW, non-hazardous household waste and similar commercial waste. It cannot be marketed freely.

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5.2 Digestate

According to the Fertilizer Regulation 2004, digestate from farm derived input material (manure, plants from primary agricultural production, expired animal feed and seeds, fruit and vegetable residues and by-products from food and animal feed production) can be placed on the national market as fertiliser type "biogas slurry". Placing a certain product on the market includes importing, transporting, holding in stock for sale, offering for sale, selling and any other transfer in the ordinary course of business. This also includes (free) distribution in cooperatives or other associations for their members. The use of digestate on owned or leased land does not constitute “placing on the market” within the scope of the Fertilizer Regulation.

According to the Waste Management Act 2002, digestate from organic waste (animal by-products of category 2 and 3, separately collected bio-waste, etc.) is considered as waste until proper recovery on the soil. The Advisory Council for Soil Fertility and Soil Protection has drawn up guidelines and quality requirements for the proper agricultural use of digestate. In addition, the requirements of Regulation (EU) 1069/2009 on animal by-products as well as the laws, ordinances and guidelines for fertilizers must comply. These include, for example, the Water Act 1959, the Nitrate Action Programme Directive and the soil protection laws of the Federal States.

According to the Fertilizer Regulation, producers of fertilizers, can request the competent authority, the Federal Office for Food Safety (BAES), to issue an individual permit for digestate from biogenic waste to be used as fertilizer, if the following conditions are met:

1. Soil fertility or
2. the health of humans and pet animals or
3. the ecosystem balance are endangered
4. and fertilizers are appropriate to
    a) adequately support plant growth or
    b) to improve the quality of the fertilized plants or
    c) to increase the yield of the fertilized plants.

When placed on the market, the digestate must be labelled according to the requirements of the Fertilizer Regulation 2004.

"Biogas slurry", usually dewatered after liquid fermentation, can be used as input material for compost. In case of digestate the waste-input for the biogas plant have to be in the list of input materials for composting to fulfil the requirements as input-material for compost.

6 Expected trends and developments

It is expected that the prohibition of plastic bags will reduce the contaminants in the organic waste. Furthermore it might help to increase the amount of separate collected bio waste (reference to the projects Remscheid, Munich and Berlin).
KBVOE has initiated the "Bio-Cycle-Bag" to convince all retailers that the exclusive use of biodegadable plastic-bags (according to EN 13432) helps to reduce the amount of impurities in compost and increase the amount of separate collected biowaste by double use of the bags. They have to be offered for the purchase of fruits, vegetables, etc. and can be used for the collection of biowaste. KBVOE´s recommendation is to put the content of the bags in the bio-bin and to put the bag to the MSW-bin. Biodegradable plastic has no positive effect on the compost quality, so it is not recommended as input material. Analsyses of the Insitute of Waste Management (ABF-BOKU) in Vienna show that biological degradation of "Bio-Cycle-Bags" really happens through proper composting (no micro-plastic is built) and that there are no negative effects for the compost quality. So there is no problem for the compost producers if people are not willing to empty the bags and throw the whole package to the bio-bin.

Microplastic-free alliance (Bündnis Mikroplastikfrei)
The microplastic-free alliance is based on an initiative of the Austrian Compost and Biogas Association. This may seem surprising at first glance, but it is quite logical: we, too, are confronted with plastic contamination of biowaste or biomass on a daily basis.
With the plastic bag ban since 1.1.2020, we have already taken a big first step towards a microplastic-free future. But after the phase-out of non-compostable bags, there is still a lot of packaging and materials left that can break down into microplastics.
In order to launch environmentally compatible alternatives, the microplastic-free alliance is entering into a broad alliance with responsible partners from committed companies with new approaches as well as from the plastics industry and trade.

7 Contacts and sources of information

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Annexes (Please attach any regulation, directive on bio-waste, fertiliser etc. of your country)
Guideline state of the art of composting
Federal waste management plan 2023

7th International Practitioner Day Composting 2021
8th International Practitioner Day Composting 2023

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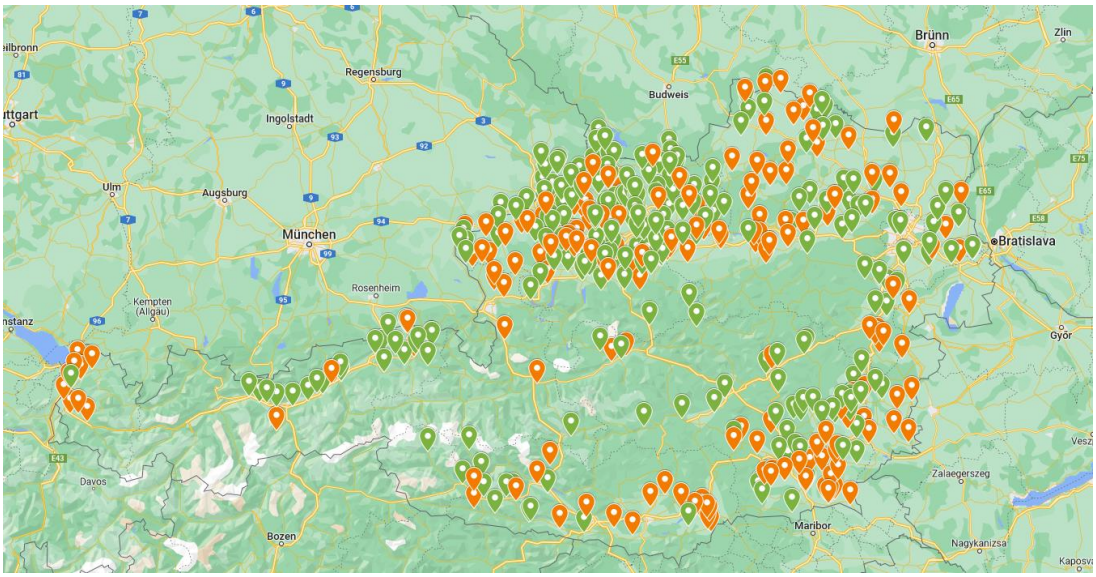
About compost & biogas association Austria

The Austrian Compost & Biogas Association (KBVÖ) is the umbrella organisation of five organisations situated in the federal countries Tyrol, Styria, Upper Austria, Lower Austria and Carinthia, founded in the early 1990ies. From the very beginning, the scope of the country-organisations was to provide competent consulting and operational assistance to the composting business as well as intensive communication with authorities.

The map gives an overview of the members of KBVÖ (green compost, orange biogas).



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