



CIRCULAR USE OF BIO-WASTE
FROM THE HORECA SECTOR
(AS ANIMAL BY-PRODUCTS CAT. 3)
IN SELECTED EUROPEAN COUNTRIES.

RECOMMENDATIONS FOR POLAND

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ABSTRACT

The report analyses the potential for utilising Category 3 animal by-products (ABP cat. 3) from the HoReCa sector as a valuable raw material stream within the circular economy. It indicates that kitchen waste containing animal-derived components can be used to produce biogas, energy, organic fertilisers and digestate, which will reduce the amount of waste sent to landfill and limit greenhouse gas emissions.

In the following sections, the report presents a comparison of solutions applied in Germany, Denmark and the United Kingdom. Based on an analysis of three foreign models for the management of animal by-products cat. 3, four key areas if comparison were identified: legal regulations, monitoring mechanisms, communication and inter-ministerial cooperation.

Germany is characterised by a mature system, with clear waste sorting obligations and consistent regulations. There is a ban on the storage of food waste, food waste, and supervision is robust and effective. As a result, animal by-products cat. 3 are channelled into biogas production.

Denmark has ambitious regulations and a developing control system. However, differences between municipalities and uneven enforcement of regulations are still evident.

The UK has extensive regulations and strong economic incentives, particularly a high landfill tax. However, the system struggles with limited source control and infrastructure.

An analysis of foreign models reveals clear differences in systemic approach, the degree of regulation and the effectiveness of implementation. The conclusions indicate that an effective system for the management of Category 3 ABP requires not only legal regulations but also their enforcement. Consistent communication and close cooperation between public institutions are also of key importance.

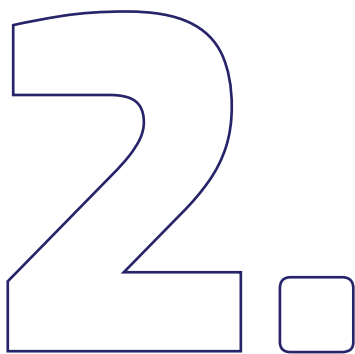
Poland has the potential to implement solutions based on a better interpretation of existing regulations and the use of current administrative structures; however, it is still at an early stage in the develop-

ment of the system for ABP cat. 3 in the HoReCa sector. The greatest barriers are: a lack of unambiguous interpretation of regulations and coordination between public institutions, poor systemic communication and insufficient oversight.

The final section presents recommendations for Poland. They focus

on five areas: a common interpretation of the regulations by the relevant ministries; strengthening controls within existing institutions; conducting an information campaign for the industry; applying economic instruments; and implementing a long-term, systemic approach involving an inter-ministerial group.

Effective management of ABP cat. 3 from the HoReCa sector can improve the efficiency of waste management, support the energy transition and reduce environmental costs in Poland.



ABP cat. 3 in the HoReCa sector cover a wide range of fractions, including meat and fish cut-outs, bones, skins, fats, dairy products, cheese, cream, eggs, as well as unused or expired-date food products of animal origin.

THE SIGNIFICANCE AND BENEFITS OF USING ANIMAL BY-PRODUCTS CAT. 3 FROM THE HORECA SECTOR IN BIO-WASTE MANAGEMENT

According to the current classification, ABP Category 3 represents the lowest level of sanitary risk among food waste streams, which significantly increases the scope for their safe management, provided that specific sanitary requirements are met. From the perspective of bio-waste management, this means that a significant proportion of the waste generated by the catering sector can be treated not as a problem, but as a valuable secondary raw material. This approach is in line with the principles of the circular economy and the developing bio-economy, in which the efficient use of resources is of key importance.

The report clarifies the possibilities for using ABP cat. 3 in the HoReCa sector, building on an previous report issued by Innowo: 'Systemic changes in bio-waste management in Poland.' The initial recommendations envisaged that this category would cover the entire stream of animal-derived waste generated in the catering sector. However, during consultations with representatives of the public administration, priority was given to waste generated directly during food preparation, i.e. in the kitchen back-of-house areas. It is in this area that the greatest potential lies for ensuring full control over the origin, quality and method of segregation of such waste.

Furthermore, solutions implemented in Germany, Denmark and the United Kingdom were analysed. The aim was to identify best practices and determine the conditions for their effective implementation. Based on this analysis, recommendations were made to improve the recovery of animal-derived fractions and increase recycling rates in Poland.

2.1.

POSSIBILITIES FOR THE USE OF ANIMAL BY-PRODUCTS CAT. 3

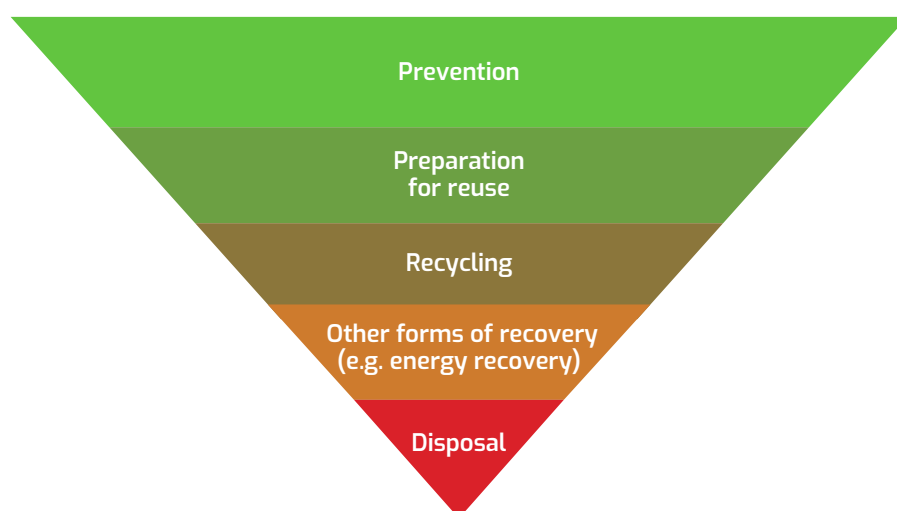
Animal by-products cat. 3 from the HoReCa sector can be effectively utilised in various recovery processes. In particular, they are used in anaerobic digestion, leading to the production of biogas. They can also be used for the production of biofuels and organic fertilisers. Under certain conditions, they may also be used in the animal feed industry, provided that the relevant hygiene requirements are met.

With regard to the organic fraction, the first two steps in the EU waste management hierarchy are obvious. Firstly, waste generation must be prevented and the Zero Waste principle followed. The third step, recycling, does not involve conventional material recycling for food waste or Category 3 animal by-products. However, anaerobic digestion helps to partially close the loop. Once biogas has been produced, digestate is formed, which can be used as a fertiliser to enrich the soil and promote the growth of new plants. The fourth step, energy recovery, plays a key role here.

Such management approaches help to reduce the amount of waste sent to landfill or to incineration plants. This translates into a reduction in greenhouse gas emissions and other environmental pollutants.

In this context, priority should be given to solutions that recover valuable resources, such as anaerobic digestion, while incineration and landfill disposal play a more limited role in supporting circularity. This is because they do not allow for the recovery of valuable raw materials.

The waste management hierarchy.



2.2.

BENEFITS OF MANAGING ANIMAL BY-PRODUCTS CAT. 3

For HoReCa businesses, proper management of Category 3 animal by-products can provide a competitive advantage.

It helps deliver ESG commitments, enhances a company's sustainability image and can increase its chances of success in tenders.

The use of ABP cat. 3 brings a range of environmental, sanitary and systemic benefits. Above all, it helps to reduce the amount of bio-waste sent to landfill. Consequently, it reduces greenhouse gas emissions, particularly methane produced during anaerobic decomposition at landfill sites.

At the same time, proper processing enables organic material to be reused, supporting a circular economy. The organic fertilisers (digestate) produced during the treatment processes help to improve soil quality, increase the organic matter content and reduce the demand for mineral fertilisers and non-renewable raw materials.

Another significant benefit is energy recovery in biogas plants. The production of electricity and heat from ABP cat. 3 helps to reduce CO₂ emissions compared with energy generation from fossil fuels. At the same time, it supports the development of renewable energy sources. Biogas plants, as stable and controllable energy sources, enhance energy security and support the development and modernisation of the national electricity grid.

Another important aspect is the improvement in public health and safety. Diverting the fraction containing animal protein to specialised facilities reduces the risk of environmental degradation, odour nuisance and threats to public health. However, achieving these outcomes requires a properly organised system of selective collection and transport, based on the use of sealed, labelled containers and specialised transport vehicles.

It is also worth emphasising that this approach will reduce the risk of administrative penalties resulting from the improper handling of waste, which is of particular importance in the context of increasing regulatory requirements.

2.3.

THE ROLE IN THE BIO-WASTE MANAGEMENT SYSTEM

Category 3 food waste from the HoReCa sector is a key component of the bio-waste management system. It combines objectives relating to public health, environmental protection and resource efficiency.

Proper sorting, selective collection, tracking and transfer to specialised facilities enable the effective closure of the nutrient and energy cycle within the food chain.

The implementation of coherent solutions in this area can make a significant contribution to achieving national and EU targets in the field of waste management. This applies in particular to increasing recycling rates and reducing landfilling. Consequently, it also helps to reduce the risk of local authorities incurring charges and penalties for failing to meet the required recycling targets.

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ANIMAL BY-PRODUCTS CAT. 3 WASTE MANAGEMENT MODEL IN GERMANY



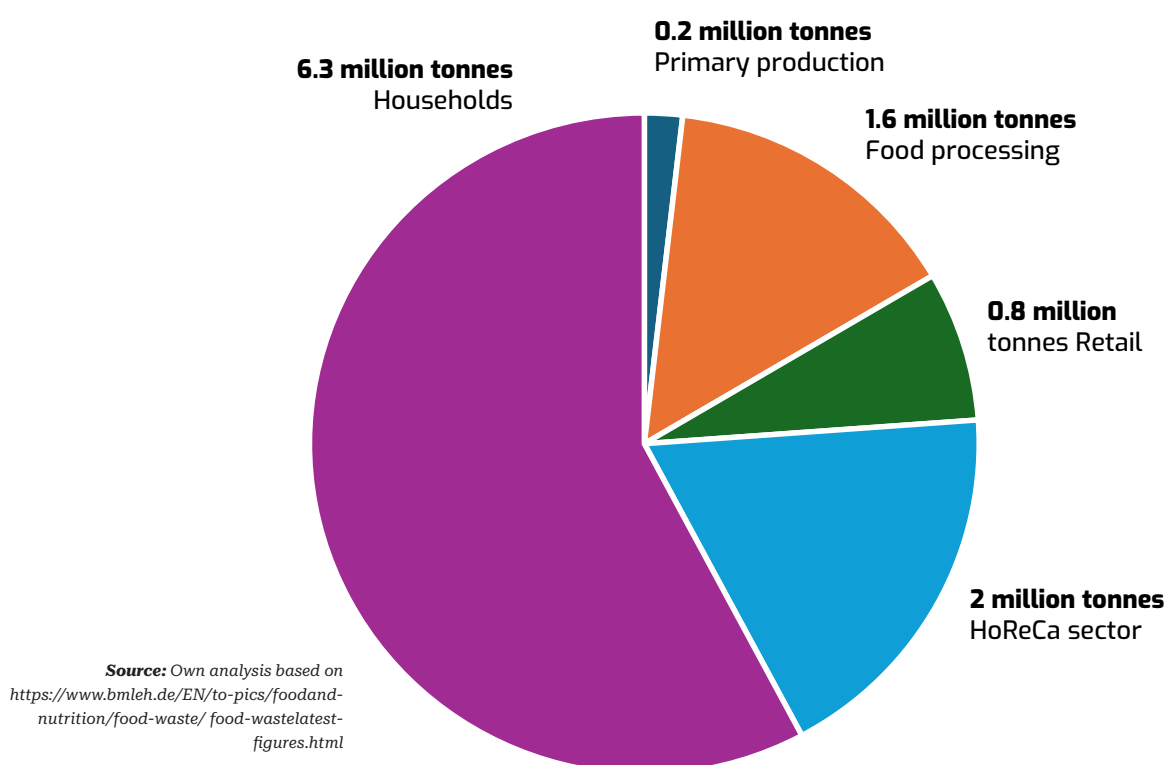
3.1.



REGULATIONS

German legislation recognized the enormous potential of food waste utilisation a long time ago. A significant proportion of this comes from the HoReCa sector, which generated approximately 2 million tonnes of waste in 2022, accounting for as much as 18.3 per cent of the total volume of food waste.

Food waste generated in Germany in 2022



The legal framework governing bio-waste management from the HoReCa sector in Germany has been developed gradually over many years. As early as 2004, in line with EU legislation¹, a ban on feeding food waste to animals² was introduced. The next step was to establish clear rules on the options for waste disposal, which came into force in mid-2005³. These regulations permitted the land-filling of pre-treated waste. **At the same time, specific limits were introduced on the proportion of biomass in waste sent to landfill. In practice, this meant that food waste was no longer sent to landfill.**

¹ <https://eur-lex.europa.eu/eli/reg/2002/1774/oj/eng>

² <https://www.gesetze-im-internet.de/tiernebg/BJ-NR008210004.html>

³ <https://www.bundesumweltministerium.de/gesetz/verord-Regulation-on-the-environmentally-sound-disposal-of-municipal-waste-and-on-biological-waste-treatment-plants>



In addition to regulations covering the entire waste management system, key legislation for the HoReCa sector has also been introduced. This is the Regulation on commercial waste, which has been in force since 2017⁴. It imposes an obligation on all commercial entities generating municipal waste, as well as construction and demolition waste, to sort such waste at source and manage it appropriately. The following fractions are subject to sorting: paper and cardboard, glass, plastics, metals, wood, textiles and bio-waste. This last fraction should also be divided into bio-waste with packaging and bio-waste without packaging.

The regulation also requires waste producers to document how waste is managed. This includes collection invoices, photographs, waste transfer documents and evidence that the waste has been sent for recovery process. As a result, all commercial businesses generating food waste must use the services of specialist waste collection and processing companies.

The commercial waste regulation was pivotal for the recovery of food waste from the HoReCa sector in Germany. Meanwhile, its effective implementation was ensured by the act to promote the circular economy and ensure environmentally sound waste management⁵, which has been in force since mid-2012.

This act requires waste to be processed in a way that ensures the highest possible value is recovered. As a result, the use of food waste for biogas production is considered the preferred waste management option. Composting at certified facilities is also permitted. In practice, however, almost all such waste ends up at biogas plants, as this is the most cost-effective process and meets the sterilisation requirements for ABP cat. 3⁶.

The most recent element of the system is the 2022 Regulation on bio-waste⁷, which, from May 2025, introduces stricter requirements regarding the quality of bio-waste, particularly with regard to the permissible plastic content. However, it is of significantly less relevance to food waste from the HoReCa sector, and affects to a greater extent bio-waste from households, which is characterised by significantly higher levels of contamination⁸. Nevertheless, operators in the catering sector are also obliged to ensure the appropriate quality of the food waste they collect.

⁴ <https://www.buzer.de/s1.htm?g=GewAbfV+2017&f=1>

⁵ <https://www.gesetze-im-internet.de/kwrg/>

⁶ A requirement laid down by the Animal By-products Disposal Act (TierNebG) and the Animal By-products Disposal Regulation (TierNebV).

⁷ <https://www.gesetze-im-internet.de/bioabfv/BJ-NR295500998.html>

⁸ https://zerowasteurope.eu/wp-content/uploads/2025/05/LIFEBIOBEST-webinar_Biowaste-quality_German-Compost-Association_DW.pdf



3.2.

CONTROL SYSTEM

Discrepancies between the number of meals served and the quantity of waste reported may constitute grounds for initiating proceedings and the imposition of sanctions.

The control system for food waste management in the HoReCa sector operates along two lines. Firstly, the requirements of the *Commercial Waste Regulation*⁹ are enforced. This is the sole responsibility of regional governments and, in practice, local waste authorities (German: Untere Abfall-behörden).

In accordance with the regulations¹⁰, the competent local authority identifies entities generating commercial municipal waste within its jurisdiction. Each year, at least ten businesses per 100,000 inhabitants are inspected each year. Inspections are carried out at random, based on a prior risk analysis taking into account the specific nature of the sector, the type and volume of waste generated and any previously identified breaches. The inspections primarily consist of a review of documentation. In at least half of the cases, on-site inspections are also carried out.

A breach of one or more of the requirements of the regulation constitutes an administrative offence punishable by a fine of up to 100,000 EUR and an entry in the central business register. Depending on the nature of the offence, liability lies with the waste producer, the waste management company or the facility operator.

Separate inspections, relating directly to the disposal of catering waste, are carried out by the Veterinary and Food Control Authority (German: Veterinär- und Lebensmittelüberwachungsamt). During routine visits to restaurants, inspectors are entitled to request to see the contract with a certified disposal company, or transport documents and invoices (known as 'Abholscheine'), confirming the quantities of generated waste and the dates of collection. Under the law¹¹ a breach of the obligations regarding the proper disposal of ABP cat. 3 constitutes an administrative offence. The standard maximum fine is up to 25,000 EUR. In practice, the amount of the fine depends on the scale of the offence, the degree of negligence and whether it is a first offence.

In addition to financial penalties, restaurant operators must expect a corresponding entry in the business register, which may make it more difficult to obtain future licences or certificates. It is also possible for a licence to operate to be revoked in the event of serious sanitary and hygiene violations.

⁹ https://www.gesetze-im-internet.de/gewabfv_2017/index.html

¹⁰ <https://dserver.bundestag.de/brd/2025/0060-25.pdf>

¹¹ <https://www.gesetze-im-internet.de/tiernebg/BJ-NR008210004.html>



In specific cases where the improper handling of waste poses a real risk of the spread of an infectious disease, the owner of a catering establishment faces a fine (determined on a case-by-case basis by the court) or a custodial sentence of up to one year.

3.3.



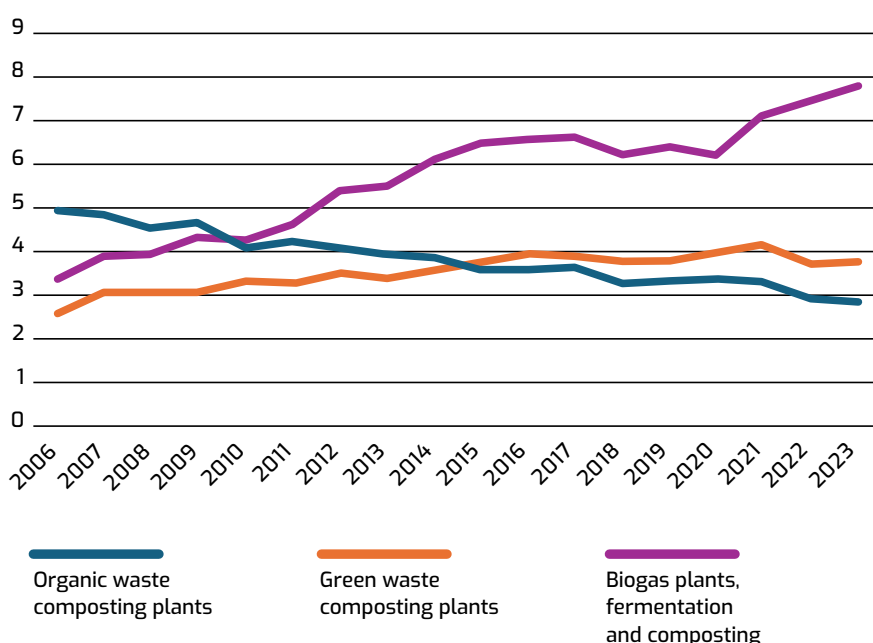
EFFECTIVENESS

The German system is robust, and due to the risk of substantial fines and reputational damage, virtually all entities in the HoReCa sector use the services of professional companies specialising in the collection and treatment of ABP Category 3.

Compliance with regulations concerning the segregation of waste in Germany stems not only from the inspection system and high penalties, but also from cultural factors and a high level of environmental awareness. This is evidenced, for example, by a survey¹² which showed a very high level of support (81 per cent) for the obligation to segregate waste as part of environmental protection.

The effectiveness of the bio-waste collection system is also demonstrated by the fact that, in Germany, since 2022, a greater volume of bio-waste has been sent to biogas plants than to composting facilities. In 2023, 6.6 million tonnes of bio-waste from various sources (including food waste) were processed in dedicated composting facilities. Meanwhile, as much as 7.8 million tonnes were processed in biogas plants or in processes combining fermentation and composting. Their importance is growing year on year, gradually replacing organic waste composting facilities. These changes should be regarded as a direct fulfilment of the so-called waste management hierarchy set out in the EU Waste Directive, as well as in national legislation.

Bio-waste delivered to composting plants, biogas plants and fermentation processes



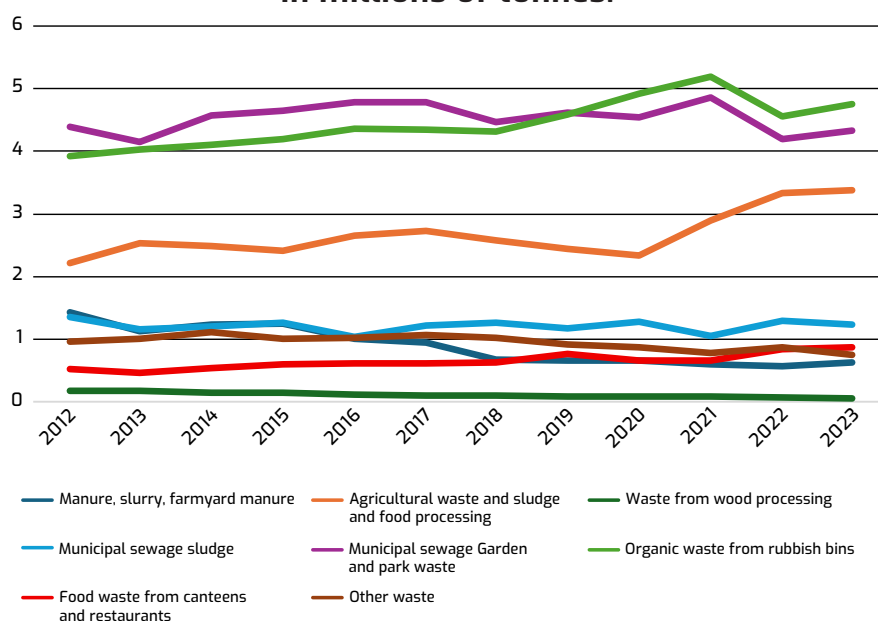
Source: <https://www.umweltbundesamt.de/daten/ressourcen-abfall/verwertung-entsorgung-ausgewaehlter-abfallarten/bioabfaelle#nutzung-der-grreste-und-des-komposts>

¹² https://www.umweltbundesamt.de/system/files/medien/11850/publikationen/104_2025_texte.pdf



It should also be borne in mind that the bio-waste delivered to composting plants, biogas plants and fermentation processes comes from various sources, not just food waste. These include, for example, waste from timber processing, or garden and park waste, which is not suitable for use in biogas plants. Taking this fact into account, along with the high proportion of bio-waste directed towards fermentation processes, it can be stated with a high degree of certainty that the majority of food waste is used for biogas production.

Sources of bio-waste supplied to composting plants, biogas plants and other fermentation facilities in Germany, in millions of tonnes.



Sources: <https://www.umweltbundesamt.de/daten/ressourcen-waste/recycling-disposal-of-selected-waste-types/organicwaste#use-of-residues-and-compost>



4.

ANIMAL BY-PRODUCTS CAT. 3 WASTE MANAGEMENT MODEL IN DENMARK

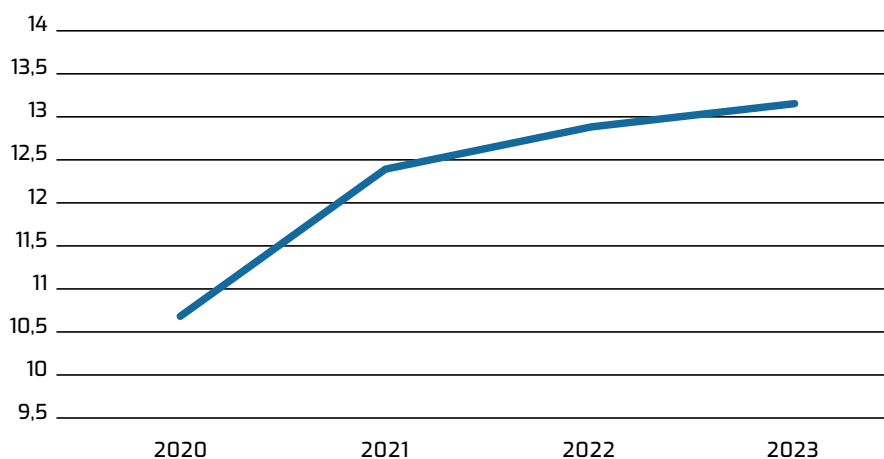


REGULATIONS

Danish law, in line with EU legislation, has long required all businesses, including those in the HoReCa sector, to sort commercial waste. They must also ensure that it is reused or recycled. Under the current regulations¹³ landfilling of food waste has been prohibited for almost 30 years. Its incineration (with the exception of processing residues), however, is not in line with the so-called waste hierarchy set out in the EU Waste Directive. These principles are also reflected in Danish law¹⁴.

However, the regulations in this area – particularly with regard to their enforcement – were not clear-cut. As a result, many operators approached the issue of waste sorting, including bio-waste, carelessly or did not treat it as mandatory. Meanwhile, improving the management of food waste generated in the HoReCa sector is important, as the volume of this type of waste in Denmark is increasing year on year.

Per capita food waste generated in the HoReCa sector in Denmark



Source: Own calculations based on <https://www.statistikbanken.dk/statbank55/SelectVarVal/Define.asp?MainTable=SDG12031> and <https://www.dst.dk/en/Statistik/emner/borgere/befolkning/befolkningstal>

¹³ <https://www.retsinformation.dk/eli/lta/1997/625>

¹⁴ <https://www.retsinformation.dk/eli/lta/2024/1749>



From the beginning of 2023, businesses are required to sort waste into ten categories, just like households. This applies to all food waste, including food leftovers, which in Denmark are treated in their entirety as Category 3 food waste. It is worth noting that food waste in packaging and without packaging should be sorted separately.

In June 2020, a Climate Plan for the Green Waste Sector and the Circular Economy was adopted to improve waste collection, sorting and treatment. New waste management rules for businesses were also introduced.

Pictograms for the 10 basic waste categories used for the sorting of household and commercial waste similar to that generated by households



Source: <https://www.affaldspiktogrammer.dk/>



The climate plan for the green waste and circular economy sector provides that businesses whose waste is similar in nature to that from households and is generated in similar quantities may use municipal collection schemes.

In practice, most businesses generate more waste than households. They must therefore contract a company registered in the Danish Waste Data System (ADS)¹⁷ to collect and manage specific waste fractions.. This applies in particular to restaurants, cafés and canteens, which generate significantly more bio-waste than individual households.

Unfortunately, some businesses – particularly smaller ones – have interpreted these regulations in a way that allows them to avoid signing such contracts.

Although the legislator had provided for monitoring even before mandatory sorting of commercial waste came into force, practical measures were not implemented until the beginning of 2025.¹⁸

Supervision of waste management in businesses has been strengthened and inspection rules have been standardised to increase their effectiveness. The frequency of inspections has also been specified and will gradually increase until 2027. As a result, by that time, virtually the entire HoReCa sector should be using the services of companies specialising in the collection of specific waste streams, including food waste classified as ABP cat. 3.

¹⁷ <https://www.ads.mst.dk/>

¹⁸ <https://www.retsinformation.dk/eli/lta/2024/1221>

4.2.

CONTROL SYSTEM

The scale of monitoring compliance with waste management recommendations by businesses will increase.

According to the Waste Supervision Regulation, from 2025 one in every fifteen businesses must undergo an administrative inspection, and one in every seventy-five to a physical inspection. From 2027, administrative supervision will cover one in every three businesses, and physical inspections one in every fifteen.

The control system, designed to ensure the proper management of commercial waste, came into force at the beginning of 2025.¹⁹ Since then, waste management in Denmark has been monitored through two types of inspections: administrative and on-site.

Administrative inspections are carried out by the Danish Environmental Protection Agency (MST²⁰). These do not involve on-site visits by inspectors to the company's premises. It is the MST, rather than the local authorities, that selects companies for inspection, which ensures a level playing field across the country.

Most waste inspections focusing on the quantities of specific waste fractions generated and how they are transferred for treatment or disposal are carried out on the basis of a risk assessment of potential irregularities. This assessment is based on data from the Waste Data System (ADS), the Central Business Register (CVR²¹) or sector-specific data. Thematic inspections covering selected sectors or geographical areas are also possible, as are inspections based on the analysis of waste samples.

An MST inspection concludes with the drafting of a report, which is sent to the inspected company. It may contain recommendations on improving waste management or refer the company for a physical inspection.

Local authorities are responsible for physical inspections, unless the Danish Environmental Protection Agency decides to carry out the inspection itself. The standard procedure begins with making contact and arranging a visit. A physical waste inspection usually focuses on:

- a review of waste management and sorting,
- inspection of containers, their labelling and hygiene,
- verification of current contracts with waste collection companies, including the range of waste fractions collected and the frequency of collections,
- confirming the accuracy of data from administrative monitoring, including that from the Waste Data System (ADS),
- discussing possible improvements and the potential for enhancing waste management practices. If corrective action is required, the inspection may involve several visits. A fine may be imposed for non-compliance with the law on commercial waste management.

¹⁹ <https://www.retsinformation.dk/eli/lt/2024/1221>

²⁰ <https://mst.dk/erhverv>

²¹ <https://datacvr.virk.dk/>



4.3.

EFFECTIVENESS

Until recently, many HoReCa businesses in municipalities such as Helsingør²² and in Danish city centres used municipal waste collection services, even though businesses are generally required to contract a professional waste collection company. Increased oversight by authorities has since led to wider compliance with these requirements

Until inspections were introduced to monitor compliance with food waste management regulations, the HoReCa sector, like other businesses, took a lax approach to these obligations. These inspections have largely enforced the proper handling of bio-waste generated by businesses. As a result, the stream of bio-waste from restaurants, canteens, etc., although significantly smaller than that from households (13.2 kg compared to 86.8 kg per capita in 2023), has become an incomparably better substrate for biogas plants due to its lower level of contamination.

A monitoring system is essential to ensure proper waste management.

One of the challenges is that waste inspections are carried out differently across Denmark's 98 municipalities. Requirements, inspection practices and enforcement measures can vary from one municipality to another. This makes it difficult for restaurants – particularly those operating as part of nationwide chains – as well as waste collection operators in the HoReCa sector operating in more than one municipality, to comply fully and consistently with the regulations.

This is partly because the regulations are still relatively new. While some municipalities have made faster progress in applying the new requirements, others are continuing to develop their systems.²³ Greater consistency in inspections across the country could make compliance easier for both businesses and waste management operators. In turn, higher fines (currently around 8,000 Danish kroner as standard, i.e. approx. 4,600 PLN) and an increasing number of inspections could encourage businesses to comply more strictly with the regulations.

²² Source: <https://helsingordagblad.dk/erhverv/nye-regler-traeder-snart-i-kraft-og-myndighederne-vil-hoeje-oetje-saadan-undgaar-du-boede-paa-8-000-kr>

²³ <https://migogaalborg.dk/affald-skipper-clements-gade/>



5

ANIMAL BY-PRODUCTS CAT. 3 WASTE MANAGEMENT MODEL IN THE UK





5.1.

The management system for ABP cat. 3 in the UK is based on extensive regulations that have developed gradually over the last two decades. This is based on the regulations concerning animal by-products, which were originally introduced in 2003.²⁴ These regulations imposed an obligation on entities generating more than 25 kg of such waste per month to collect it separately.

REGULATIONS

Currently, the key legal basis is the Animal By-Products (Enforcement) Regulations 2013²⁵, which implement EU Regulations No 1069/2009²⁶ and No 142/2011²⁷ concerning the disposal and use of ABP cat. 3 and derived products. The system is also supplemented by national regulations governing the segregation and collection of bio-waste. These regulations cover the entire waste management chain – from the point of generation, through transport, to its treatment at facilities authorised by the competent authorities.

A distinctive feature of the UK system is its partial regional variation, resulting from differing environmental policies in different parts of the United Kingdom.

Scotland and Wales implemented restrictive regulations relatively early on, limiting the landfilling of biodegradable waste and introducing mandatory food waste separation^{28, 29}. In both cases, an obligation was established to send this waste to anaerobic digestion facilities.

England was the last to implement similar measures as part of the so-called ‘simpler recycling’ scheme³⁰. From 2025, the obligation to collect food waste separately applies to businesses employing more than 10 employees, regardless of the amount of waste generated. In addition, in 2026, a requirement was also introduced for local authorities to ensure the collection of food waste from households. From 2027, this obligation will extend to all businesses.

Regulations are established at central government level and apply nationwide, although their implementation may vary at local level. Local authorities have a certain degree of discretion, particularly regarding the organisation of the waste collection system. They may carry this out themselves or contract it out to private operators, which in practice leads to certain organisational differences.

Economic instruments are also a key element of the regulatory framework. The Landfill Tax plays a crucial role; it has risen steadily since the early 2000s and reached GBP 130.75 per tonne in 2026³¹. This has significantly reduced the economic viability of landfill and contributed to the development of alternative waste management methods, in particular organic recycling and biogas production.

²⁴ <https://www.legislation.gov.uk/uksi/2003/1482/contents/made>

²⁵ <https://www.legislation.gov.uk/uksi/2013/2952/contents>

²⁶ <https://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri=CELEX:32009R1069>

²⁷ <https://sip.lex.pl/akty-prawne/dzienniki-UE/rozporzadzenie-142-2011-w-sprawie-wykonania-rozporzadzenia-parlamentu-68019057>

²⁸ <https://www.legislation.gov.uk/ssi/2012/148>

²⁹ <https://www.legislation.gov.uk/wsi/2004/1490/contents>

³⁰ <https://www.gov.uk/government/publications/simpler-recycling-in-england-policy-update/simpler-recycling-in-england-policy-update>

³¹ <https://www.gov.uk/government/publications/rates-and-allowances-landfill-tax/landfill-tax-rates-from-1-april-2013>

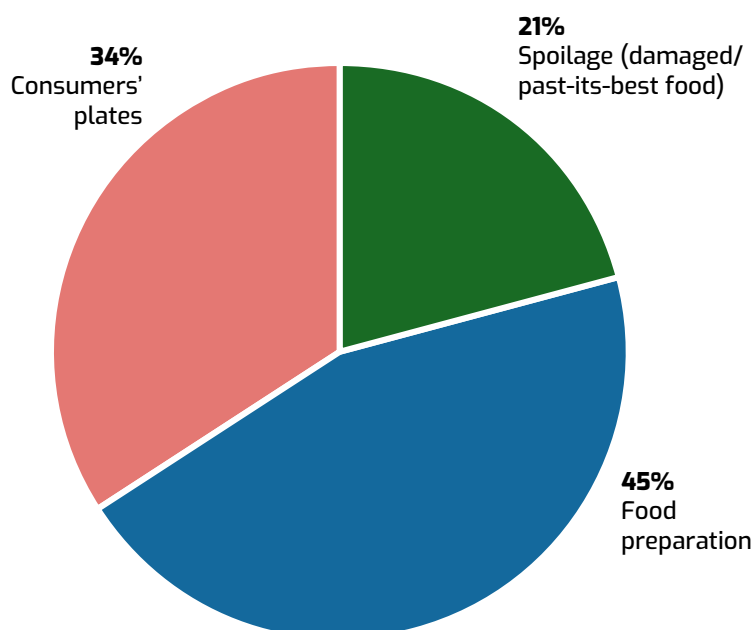


5.2.

CONTROL SYSTEM

The regulatory framework in the UK is characterised by strict oversight of waste collectors and processors (operating at later stages of the waste management chain), whilst oversight of waste producers is limited, particularly in the HoReCa sector.

On average, 18 per cent of food purchased by the gastronomy sector in the UK is wasted, generating costs of £3.2 billion a year. Almost half of this waste is generated during the meal preparation stage. Around one-third comes from consumers' plates, and one-fifth is due to spoilage of food (damaged or out-of-date products)³².



Key public bodies responsible for monitoring compliance by waste treatment companies with environmental and veterinary regulations include:

- the Environment Agency (EA), which oversees compliance by waste processing companies with environmental regulations,
- DEFRA (Department for Environment, Food and Rural Affairs), which is responsible for regulations concerning waste management and the environment,
- The Animal and Plant Health Agency (APHA), which monitors businesses' compliance with veterinary and health regulations.

³² <https://researchbriefings.files.parliament.uk/documents/CBP-7552/CBP-7552.pdf>



The control system in the United Kingdom is largely based on a combination of formal institutional mechanisms with market-based mechanisms and self-regulation. This constitutes both its strength (operational efficiency) and its weakness (limited control at source).

Inspections are carried out both on a scheduled basis, e.g. as part of audits when licences are renewed (approximately every two years), and on an ad hoc basis, in the form of unannounced inspections. In practice, these may take place several times a year and involve a detailed verification of documentation and operational processes.

A key element of the UK system is the principle of full traceability of the waste stream. Every transport of ABP cat. 3 must be accompanied by a consignment note, which must be retained for a period of at least three years and be subject to inspection at any time during that period. In the coming years, this system will be further strengthened through the implementation of a mandatory electronic waste tracking system covering all categories of waste.

Private entities, primarily waste collection companies, play a significant role in the control system. In practice, it is they who carry out ongoing verification of the quality of the waste stream as early as the collection stage. If contamination is detected, they may refuse to provide the service, document the irregularities (e.g. through photographic evidence) and impose additional charges on the waste producer. In this way, some of the control functions have been decentralised and transferred to market participants.

There is no specific system for monitoring waste sorting at source, although the involvement of public health inspectors in this regard is currently being considered. Supervision of waste producers, in particular restaurants and other businesses in the HoReCa sector, remains limited. While businesses are required under the 'duty of care' principle to manage waste responsibly and apply the waste hierarchy, enforcement of these obligations is often insufficient.



5.3.

EFFECTIVENESS

A key factor in strengthening the system has been the rapid growth of the anaerobic digestion sector. The UK is one of the leading European markets in terms of the number of plants and biogas production from organic waste. Every year, 36 million tonnes of organic waste are sent to biogas plants^{34, 35}. In 2022, around half of renewable energy came from biomass³⁶. This development was largely driven by the support scheme for renewable energy sources, which improved the cost-effectiveness of managing ABP cat. 3 and food waste.

The ABP cat. 3 management model in the United Kingdom is one of the most advanced regulatory systems in Europe. At the same time, its operational effectiveness varies and depends largely on the stage of implementation and the maturity of the individual components of the system. The functioning of this model is based on extensive legal regulations and economic instruments aimed at increasing the flow of waste sent for recovery, in particular for anaerobic digestion.

From an environmental perspective, one of the key achievements is the significant reduction in the landfilling of biodegradable waste. High landfill tax rates and the gradual tightening of regulations have led to a significant proportion of the waste stream being diverted to organic recovery processes. As a result, there has been significant growth in the bio-waste treatment market and an increase in the level of bio-waste treatment in anaerobic digestion plants³³.

At the same time, an analysis of how the system operates reveals significant limitations that affect its actual effectiveness. One of the key problems is the insufficient capacity of the processing infrastructure in relation to the growing volume of separately collected waste³⁷. Due to the regulations introduced in 2026 mandating the processing of household bio-waste, local authorities are, in practice, facing a shortfall in processing capacity. This may lead to an increase in waste management costs and even to market destabilisation.

Another significant challenge is the lack of an effective control system at the level of waste producers. In practice, supervision focuses mainly on treatment operators, whilst the collection and transfer stages are less closely monitored. This leads to situations where part of the waste stream operates outside the formal system. Unlicensed operators are emerging offering unrealistically low prices for their services, without any guarantee of proper waste management.

³³ <https://www.gov.uk/government/publications/environmental-impact-of-taxes-study/executive-summary-evaluation-of-the-landfill-tax-on-environmental-outcomes#:~:text=Findings%20related%20to%20MSW%20show%20that%20a,incl%20incineration%2C%20recycling%20and%20other%20recovery%20processes>

³⁴ <https://magazynbiomasa.pl/wielka-brytania-najpierw-dia-gnoza-potrzeb-potem-wsparcie-rynku/#:~:text=W%20Wielkiej%20Brytanii%20funkcjonuje%20oko%20C5%82o%20660%20biogazowni,mocy%20955%20MW%2C%20w%20tym%20103%20biometanownie>

³⁵ <https://www.businesswaste.co.uk/news/why-the-uk-is-facing-a-food-waste-crisis-as-ad-plants-hit-capacity/>

³⁶ https://www.ieabioenergy.com/wp-content/uploads/2024/12/CountryReport2024_UK_final.pdf

³⁷ <https://www.businesswaste.co.uk/news/why-the-uk-is-facing-a-food-waste-crisis-as-ad-plants-hit-capacity/>



Experience in the UK suggests that simply expanding the regulatory framework is not enough. For this to be effective, it is essential to ensure, in parallel, that there is appropriate infrastructure, an effective control system and consistent communication with market participants. The absence of these elements leads to systemic gaps and reduces the actual effectiveness of the measures implemented.

Another limitation is inadequate communication and the lack of consistent implementation guidelines, particularly in the initial phase of introducing new obligations. Despite the extensive regulations, their practical understanding and implementation by businesses remain uneven. The level of preparedness among organisations for the mandatory segregation of food waste varies, and the lack of clear, systematic guidance hinders the effective implementation of the changes.

The challenges also relate to the organisational level, in particular the role of local authorities. Local authorities have been required to implement systems for the separate collection of food waste, including from households, but they often lack the necessary infrastructure or processing facilities, such as access to biogas plants. Furthermore, the scope of these new obligations is not always matched by adequate financial support, which hinders the efficient implementation of the system.

6.

A COMPARISON OF FOOD WASTE MANAGEMENT MODELS IN GERMANY, DENMARK, THE UNITED KINGDOM AND POLAND



The countries referred to in the report classify kitchen waste from the HoReCa sector — both waste generated during food preparation and post-consumer food waste — as ABP cat. 3, applying EU legislation directly.³⁸

As a member of the European Union, Poland is directly subject to the same EU regulations as Denmark and other EU Member States, without the need to transpose these regulations into national law. Therefore, in Poland too, such a classification could be adopted relatively straightforwardly on the basis of EU regulations, in line with the approach taken in the other EU countries referred to above.

An analysis of ABP cat. 3 development models in selected European countries reveals marked differences in systemic approach, the degree of regulation and the effectiveness of implementation. On this basis, four key areas for comparison can be identified: legal regulations, oversight mechanisms, communication and interministerial cooperation.

Germany provides an example of a model approach to the management of ABP cat. 3. The system is based on clear and consistent legal regulations which unambiguously define how this waste stream should be handled. There is a well-developed infrastructure in place, including biogas plants, as well as a ban on landfilling this type of waste, which makes its treatment mandatory. A robust monitoring framework and effective communication also play a key role. Effective inter-ministerial cooperation is also essential. The legislation covers the entire system and clearly assigns responsibilities to individual institutions.

Denmark also has extensive legal regulations and a ban on waste landfill, but the system is not as mature as in Germany. The greatest weakness is the lack of a precisely defined and effective monitoring system. Supervisory mechanisms are still taking shape and remain ambiguous. Furthermore, the system is largely decentralised and relies on the actions of local authorities, which leads to a lack of consistency at national level. Inter-ministerial cooperation is limited, and system-wide communication is not fully developed.

The United Kingdom is characterised by a highly developed regulatory system, which in many aspects is more detailed than in other EU countries. Measures introduced include obligations to sort bio-waste, which also apply to households, and high taxes on landfill. At the same time, however, this system faces serious implementation problems. There is a lack of effective oversight, which encourages the operation of entities operating outside the formal system. Furthermore, there is insufficient infrastructure, which hinders the achievement of the system's objectives, particularly in the context of the obligation to carry out separate collection of waste from households. There is a clear lack of coherent communication regarding systemic changes and insufficient coordination between public institutions.

³⁸ - Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal By-Products Regulation) (OJ EU L 300, 2009, p. 1, as amended);

- Commission Regulation (EU) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption, and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive (OJ EU L 54, 2011, p. 1, as amended).

Poland is at an early stage of developing a food waste management system for the HoReCa sector. The main problem is the lack of clear and consistent interpretations of the regulations. The regulations are dispersed across various institutions, and there is no uniform interpretation of how to apply them in practice.

The control system is inadequate, although it could potentially be strengthened by utilising existing structures (e.g. the Sanitary and Epidemiological Station). System-wide communication is virtually non-existent, and the level of awareness amongst stakeholders is limited. An additional challenge is inter-ministerial cooperation – individual ministries do not coordinate their activities in this area.

Area	GERMANY	DENMARK	UNITED KINGDOM	POLAND
Legal regulations	+ consistent, unambiguous regulations covering the entire system, a ban on storage and support for processing	+ regulations exist, but are less consistent and decentralised	+ extensive and ambitious regulations (obligations for businesses and households, high charges)	— no clear interpretation, regulations dispersed across different institutions
Control element	+ a well-developed system of oversight covering all entities	± differences in how audits are conducted between individual local authorities	± strict monitoring of waste collection operators, but a lack of effective monitoring at source, with some operators operating outside the system	— insufficient monitoring, although this could be strengthened using existing institutions
Communication	+ well-developed communication and high awareness amongst system participants	± Communication is mainly local; there is a lack of strong central coordination	± formally in place but ineffective, lack of clear messaging and information chaos	— lack of systematic communication and low awareness
Interministerial cooperation	+ strong, systematic cooperation, clearly defined roles for institutions	± limited, a system spread across local authorities, with no strong national level	± lack of effective coordination, responsibility is fragmented (e.g. on local authorities without	— lack of cooperation; institutions operate independently
+ full implementation ± partial / limited — none				



7

RECOMMENDATIONS FOR POLAND

Based on the analyses conducted and the experience of market stakeholders with the management of ABP cat. 3 in the HoReCa sector, a set of coherent and feasible recommendations for Poland can be identified. Their common aim is to increase the level of separate collection and proper processing of kitchen waste containing animal protein, whilst reducing administrative and cost barriers.



7.1.

A CLEAR AND CONSISTENT INTERPRETATION OF THE APPLICABLE LAW

A key challenge remains the lack of an unambiguous interpretation of the regulations concerning the classification of waste generated in the HoReCa sector. In view of this, it is recommended that:

- the development of a formal, joint position by the Ministry of Climate and Environment, the Ministry of Agriculture and Rural Development and the Ministry of Health, which clearly states that kitchen waste generated during food preparation and containing animal protein constitutes ABP cat. 3,
- to specify that ABP cat. 3 should be collected, stored and managed in accordance with the regulations already in force,
- a recommendation that ABP cat. 3 from the HoReCa sector should be directed primarily towards energy recovery facilities (biogas plants) in order to increase the independence and resilience of the electricity system,
- the adoption of the above interpretations in the form of recommendations or guidelines, without the need to amend legislation.

Such an approach would enable market practices to be swiftly brought into line and would reduce regulatory uncertainty, which is currently hindering the development of an effective system for managing this fraction of raw material.



7.2.

STRENGTHENING OVERSIGHT THROUGH THE USE OF EXISTING STRUCTURES

Rather than creating new supervisory bodies, it is recommended that the operations of existing bodies be optimised, in particular the State Sanitary Inspectorate. The proposed measures include:

- to amend the guidelines for inspectors to include a requirement to verify whether HoReCa businesses have:
 - > a waste collection contract,
 - > a contract for the management of ABP cat. 3 waste or waste with code 16 03 80,
- the inclusion of this element in standard health and hygiene inspections, without increasing the administrative burden,
- amending the documents of the Chief Sanitary Inspectorate:
 - > adding to the 'Guidelines on the criteria for the assessment of food production/distribution/catering establishments' in section IV.2.1, sub-point 6a: 'Animal by-products – storage and disposal',
 - > adding a corresponding sub-point 6a to the Assessment Sheet for food production/distribution/mass catering establishments, in Part I.

This solution allows for a rapid improvement in the level of enforcement of the regulations at minimal institutional cost.



7.3.

EFFECTIVE COMMUNICATION AND RAISING AWARENESS

The success of regulatory changes depends on effective communication. In this regard, the following is recommended:

- preparing a coordinated information campaign comprising, amongst other things, a press conference, ministerial statements and educational materials,
- engaging key government institutions to lead communication efforts aimed at businesses,
- highlighting the environmental and economic benefits resulting from proper waste management.

International experience shows that effective communication significantly increases compliance with regulations and market acceptance of these changes.



7.4.

SYSTEM OF INCENTIVES AND ECONOMIC INSTRUMENTS

System of incentives and economic instruments to accelerate the transformation of the waste management system, consideration should be given to introducing economic instruments such as:

- a gradual increase in landfill charges (particularly for mixed waste from the business sector, especially the HoReCa sector), modelled on solutions used in Western European countries,
- support for investment in biogas plants, including through grant schemes or preferential financing,
- temporary (e.g. annual) financial incentives for HoReCa businesses that deliver waste to appropriate treatment facilities.

Experience from countries such as Germany, Denmark and the United Kingdom shows that combining restrictions (e.g. landfill limits) with financial incentives effectively changes market practices and promotes the development of effective waste management.



7.5.

LONG-TERM PERSPECTIVE – A SYSTEMIC APPROACH

In the initial phase, a consistent interpretation of the regulations and their enforcement are of key importance. In the longer term, however, it is recommended:

- considering the development of comprehensive regulations concerning bio-waste management and the ABP cat. 3,
- the establishment of an inter-ministerial working group or commission on the development of biogas and the circular economy,
- the integration of waste, agricultural and energy policies in order to maximise environmental and economic benefits.