

WASTE MANAGEMENT PLAN of the KARLOVY VARY REGION 2016 - 2025

1.1 The purpose of the binding part of the Karlovy Vary Region's WMP

The binding part contains the principles, objectives and measures for the development of waste management in the territory of the Karlovy Vary Region, which are based on the binding part of the Czech Republic's WMP. The principles determine the framework for the development of waste management and compliance with them is the starting point for measures supporting the objectives of waste management. The objectives establish binding indicators and deadlines or desirable trends or the quality of the situation in and/or the development of waste management in the Region. The measures are the procedures laid down to assist the achievement of the WMP objectives. For each objective, there is at least one indicator of objectives or a descriptive indicator for assessing the objective, and at least one supporting measure. The indicators are divided into Indicators of objectives of the Karlovy Vary Region's WMP, and Descriptive indicators. Descriptive indicators are marked in the tables of objectives with "P" after the number of the indicator.

The indicators of objectives and selected descriptive indicators monitor how the Regional WMP objectives are being achieved in the reference period and enable a comparison of the baseline situation before applying the proposed measures with the target year situation. The baseline and target values are set for the Indicators of objectives, and so it is easily possible to assess whether the WMP objective is being achieved in a given year or not and, where necessary, to subsequently initiate a change in the plan. The descriptive indicators describe the development of the situation in waste management in the region. They may point to certain development trends for given waste flows, i.e., that their values may reflect some of the applied measures, but they may also be influenced by a number of factors which cannot be easily influenced by the Region (economic situation, consumer behaviour, etc.).

1.2 General waste management principles, objectives, targets and measures

1.2.1 Principles

1.2.1.1 General waste management principles

- 1) Apply the waste management hierarchy in waste management. Manage waste according to the following ranking: prevention, preparation for re-use, recycling, other recovery (e.g. energy recovery), and last - disposal (safe disposal), and that in compliance with all requirements, laws, standards and rules to ensure the protection of human health and the environment. In applying the hierarchy, support the options that deliver the best overall result from the environmental perspective. Take into account the entire life cycle of products and materials, and focus on reducing the impact of waste disposal on the environment.

- 2) Support waste management methods, which use waste as a source of raw materials, replacing primary natural resources.
- 3) Support waste management, which leads to an increased economic utilization of waste.
- 4) Support preparing for re-use and recycling.
- 5) Do not support landfilling or incineration of recyclable materials.
- 6) For specific waste streams, a deviation may be allowed from the established hierarchy of waste management, if it is justified by taking into account the total life cycle impact of this waste and its management.
- 7) In applying the hierarchy to reflect the precautionary principle and prevent the adverse impacts of waste management on human health and the environment.
- 8) In applying the hierarchy reflect the principle of sustainability, including technical feasibility and economic sustainability.
- 9) In applying the hierarchy ensure the protection of raw materials resources, the environment, and human health with regard to economic and social impacts.
- 10) The individual types of waste management in the region must create an integral complex which guarantees minimum negative impacts on the environment and high level of protection of human health.
- 11) Ensure proper management of waste deposited outside the specified locations and of waste whose owner is unknown or has expired.

1.2.1.2 Principles of creating facility network

- 12) Support the construction of facilities in accordance with the hierarchy of waste management.
- 13) Create conditions for the completion of the national network of facilities for hazardous waste management.
- 14) Propose new facilities in accordance with the legislative and technical requirements and best available techniques.
- 15) Utilize the existing facilities that comply with the required technical level.
- 16) Support from public funds the construction of facilities with proven economical and technical effectiveness of their operation at the regional and national level, reflecting their adequacy within the existing facility network and in accordance with the Waste management plan of the Karlovy Vary region and Waste management plan of the Czech Republic.
- 17) Within the framework of the evaluation process relating to the public support, assess the waste management facility from the perspective of providing input of the relevant species of waste that will be managed, including the review of documentation demonstrating that in the area there is sufficient waste quantity for the technology or system for waste management, and that the facility is adequate in terms of capacity.
- 18) Within the framework of the evaluation process relating to the public support, evaluate the waste management facility from the perspective of contractual arrangements for facility outputs sales.

- 19) When providing support from public sources for material recovery of biodegradable waste, emphasize compliance with the closed cycle, require proof of sales arrangements for the use of compost on agricultural land or in land reclamation.
- 20) Prefer support from public funds for the construction of facilities where the output is a materially recoverable product.
- 21) When providing support from public sources, recommend the appropriate facility's capacity of regional importance, so that it will be a valid part of the waste management system.
- 22) In order to demonstrate the need for the facility with the proposed capacity in the given region and to support the facility from public sources, it will be necessary to obtain a recommending opinion of the Regional Authority. The statement of the region will be based on the compliance with applicable Regional waste management plan and the supporting documents proving the deficit of such facilities identified in the Regional waste management plan objectives evaluation.
- 23) Incorporate gradually the requirements for the facility network into the spatial planning documents as an important basis for decision-making on the future development (especially of industrial zones).
- 24) Do not support the construction of new landfills from public funds.

1.2.1.3 Waste collection principles

- 25) Intended projects of waste collection yards (or similar) will ensure the collection of paper, metal, plastic, glass, bulky waste, hazardous components of municipal waste and the premises for take-back of electric and electronic equipment.
- 26) Support separate collection of recoverable components of municipal waste, with the inclusion of packaging components, through a sufficiently numerous and accessible network of collection points in communities, at least for paper, metals, plastics, and glass, assuming the use of existing collection systems and waste gathering, and if possible, also the systems for selected end-of-life products which are provided by the liable persons i.e. by the manufacturers, importers, distributors.
- 27) Support separate collection of bio-waste.
- 28) Support separate collection of hazardous components of municipal waste in order to achieve environmentally sound management of waste.
- 29) In the facilities for waste buyout and collection, allow the purchase of waste from citizens only in accordance with applicable legislation.
- 30) In take-back locations of end-of-life products allow free acceptance of these products from citizens.

1.2.2 Objectives, measures and indicators of objectives

1.2.2.1 General waste management objectives

Objective	
number	Objective name

1	Create and maintain a comprehensive, adequate, and effective network of waste management facilities in the territory of the region.
2	Reduce waste deposition outside the specified locations.

1.2.2.2 Measures to meet the objectives

Objective 1 - Create and maintain a comprehensive, adequate, and effective network of waste management facilities in the territory of the region.

Measures to achieve the objective:

- Continuously evaluate the network of facilities for waste management at the regional level.
- On the basis of the current state of compliance with performance objectives of the Regional waste management plans, identify the necessary facilities for waste management in the region.

Objective 2 - Reduce waste deposition outside the specified locations.

Measures to achieve the objective:

- Create effective public awareness and education programmes at the local government level in cities and municipalities, including support, particularly in the form of securing of funding for these programmes.
- Involve the public in programmes and events leading to the formation of a positive attitude to maintain clean environment and practice proper waste management.
- Effectively use penalties for pollution of public spaces.
- Focus the supervision of municipal offices with extended competency on unauthorized use of municipal systems to manage waste from legal entities and natural persons authorized to do business.
- Involve under contract legal entities and natural persons authorized to do business in municipal waste management systems.
- Inform citizens and businesses about the possibilities of fining for activities associated with the deposition of waste outside the specified locations.
- Configure in an optimum way the system and logistics of collection and transport of waste on the municipal level (mixed municipal waste, sorted components of municipal waste, bulky or hazardous waste, waste from rubbish bins in public spaces and cleaning of public areas).
- Establish communication channels at the municipal level through which citizens may report illegal waste disposal in public places or temporary storage of waste in the vicinity of collection areas and containers.
- Utilize the institute of public works or the institute a public service by the local municipality governments to ensure cleaning and public areas services, including activities related to waste disposal deposited outside the specified locations.

1.2.2.3 General waste management indicators

Indicators for general waste management objectives are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary region.

1.3 Waste prevention

1.3.1 Principles

- 1) Prevent waste through the fulfilment of the "Programme for waste prevention" and other measures to promote reduction of waste.

1.3.2 Objectives, measures and indicators of objectives

1.3.2.1 Waste prevention programme objectives

Objective	
number	Objective name
3	Through a co-ordinated and harmonised approach, create conditions conducive to a lower consumption of primary resources and a gradual reduction of the volumes of waste produced.
4	Throughout the entire period of implementation of the Waste prevention programme ensure a comprehensive information support focused on issues of concern including the introduction of the waste prevention topics into school curricula, research programmes, and educational as well as awareness-raising activities relative to the protection and formation of environment.
5	Ensure an effective involvement of the state administration at all its levels in the issues of waste prevention, aiming to gradually reduce the volume of waste produced through the operation of the state administration bodies.
6	Support, promote and disseminate adequate information at all levels on voluntary instruments available (voluntary agreements, environmental management systems, environmental labelling systems, cleaner production systems) aiming to widen their scope.
7	Create conditions for stabilising the production of the various components of municipal waste and for subsequent reductions at all levels of public administration and at the level of the citizen.

1.3.2.2 Measures to meet the objectives

Objective 3 - Through a co-ordinated and harmonised approach, create conditions conducive to a lower consumption of primary resources and a gradual reduction of the volumes of waste produced.

Measures to achieve the objective:

- Create and throughout the whole period of implementation of the Waste prevention programme ensure the continuous operation of a freely accessible information base covering waste prevention at all levels. Develop and freely promote a handbook to show to the people how to prevent waste (with a focus on municipal waste and its individual components).

Objective 4 - Throughout the entire period of implementation of the Waste prevention programme ensure a comprehensive information support focused on issues of concern including the introduction of the waste prevention topics into school curricula, research programmes, and educational as well as awareness-raising activities relative to the protection and formation of environment.

Measures to achieve the objective:

- Create and throughout the whole period of implementation of the Waste prevention programme ensure the continuous operation of a freely accessible information base covering waste prevention at all levels. Develop and freely promote a handbook to show to the people how to prevent waste (with a focus on municipal waste and its individual components).
- Support the dissemination of information and awareness programmes for the purpose of gradually increasing the quantity of collected clothing, textiles, shoes, toys, books, magazines, furniture, carpets, tools, and other reusable products. Publicly promote the activities of non-profit organizations taking back products for re-use and similar organizations, and ensure the creation of interactive publicly accessible network (maps) of these organizations and centres.
- Support the dissemination of information and awareness programmes for the purpose of gradually increasing the quantity of collected electrical and electronic equipment and to reduce waste production of these products. Ensure drawing up of an analysis and support the creation of an information network of service centres for repairs and further use of electrical and electronic equipment for its original purpose, including the preparation of rules for the operation of the service centres and the system for their certification; ensure the drawing up and dissemination of a handbook for citizens informing them on purchase optimization and the use of electrical and electronic equipment in terms of the potential generation of waste.
- Support the dissemination of information and awareness programmes focused at reducing the production of waste from food. Ensure the development and dissemination of a handbook for citizens informing them on food purchase optimization and its subsequent storage in terms of the potential generation of waste; provide a handbook for owners and operators of restaurants, hotels and other catering facilities with a focus on preventing food waste.

Objective 5 - Ensure effective involvement of state administration at all levels in waste prevention agenda to progressively reduce the quantity of waste generated by state administration.

Measures to achieve the objective:

- Provide information and educational support on the subject of waste prevention at all levels of state administration with special focus on local governments of cities and municipalities with regard to the stabilization of production and gradual reduction of municipal waste production.

- Promote the consideration of environmental aspects focusing on waste prevention in public procurement, e.g. take into account the requirements for environmental management systems, environmental labelling of products and services, preference for reusable packaging and others; reflect and prioritize proposals documenting the use of building materials meeting environmental aspects with a focus on waste prevention (environmental management systems, voluntary agreements, environmental labelling); reflect and prioritize proposals by companies documenting in their activities the use of "secondary raw materials" directly related to a specific contract.

Objective 6 - At all levels, to support, promote and sufficiently inform on the available voluntary tools (voluntary agreements, environmental management systems, environmental marking, cleaner production) with a view to their gradual expansion.

Measures to achieve the objective:

- Create and throughout the whole period of implementation of the Waste prevention programme ensure the continuous operation of a freely accessible information base covering waste prevention at all levels. Develop and freely promote a handbook to show to the people how to prevent waste (with a focus on municipal waste and its individual components).

Objective 7 - Create conditions for stabilising the production of the various components of municipal waste and for subsequent reductions at all levels of public administration and at the level of the citizen.

Measures to achieve the objective:

- Create and throughout the whole period of implementation of the Waste prevention programme ensure the continuous operation of a freely accessible information base covering waste prevention at all levels. Develop and freely promote a handbook to show to the people how to prevent waste (with a focus on municipal waste and its individual components).
- Technically support and promote by awareness campaigns household, community, and municipal composting of biodegradable waste for natural persons. . It is recommended to include the programme of support of household, community, and municipal composting and its implementation in collaboration with communities in the Regional waste management plans.

1.3.2.3 Waste prevention programme objective indicators

Indicators for general waste management objectives are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary region.

1.4 Municipal waste

1.4.1 Municipal waste as a whole

1.4.1.1 Municipal waste principles

- 1) Maintain, support and develop an independent separate commodity collection system (paper, plastic, glass, metal, drink cartons) with respect to the targets set for each material, with respect to the higher quality of thus collected waste.
- 2) Maintain and develop the availability of separate collection systems for recoverable waste in the municipalities.
- 3) Ensure (establish) obligatory separate (sorted) collection of recoverable components of municipal waste, at least of paper, plastics, glass, and metals, in the municipalities.
- 4) The collection system of municipal waste in the community is established by municipality with regard to the requirements and the availability of technological waste processing. The collection system is established by the municipality under independent competence by a generally binding regulation.
- 5) The scope and method of separate collection of components of municipal waste in the community is defined by the municipality with regard to technical, environmental, economic, and regional possibilities, and conditions for further processing waste; the separate collection must be sufficient to ensure the objectives of the Waste management plan for municipal waste.
- 6) The municipality is obliged to comply with the waste hierarchy, i.e. preferably offer the waste for recycling, then for other recovery, and only if the waste may not be recovered, transfer it for disposal. The waste management hierarchy may be deviated from only in justified cases in accordance with the applicable legislation and if it does not endanger or harm the environment or human health, and when the procedure is in accordance with waste management plans.
- 7) Prioritize environmentally beneficial, economically and socially sustainable municipal waste treatment technologies.
- 8) Maintain and develop participation and cooperation with producers of packaging and other manufacturers under the principle of "polluter pays" and "extended producer responsibility" for ensuring collection (take-back) and recovery of appropriate components of municipal waste.
- 9) Processing of mixed municipal waste by sorting may be supported as a complementary technology of waste processing prior to material and energy recovery. This processing does not replace the separate collection of recoverable components of municipal waste.

1.4.1.2 Objectives, measures and indicators of objectives for municipal waste

1.4.1.2.1 Municipal waste objectives and targets

Objective	
No	Objective name

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8	Introduce separate collection, at least for paper, plastics, glass, and metals.
9	By the year 2020, increase to at least 50% by weight, the overall level of preparing for re-use and recycling of waste from at least such materials such as paper, plastic, metal, glass, coming from household waste and possibly of other origin, if these waste streams are similar to waste from households.

1.4.1.2.2 Measures to meet the objectives

Objective 8 - Introduce separate collection for at least waste paper, plastics, glass, and metals.

Objective 9 - By the year 2020, increase to at least 50% by weight, the overall level of preparing for re-use and recycling of waste from at least such materials such as paper, plastic, metal, glass, coming from household waste and possibly of other origin, if these waste streams are similar to waste from households.

Measures to achieve the objectives:

- Monitor consistently the function of separate collection of recoverable components of municipal waste, at least for paper, plastics, glass, and metals.
- Consistently monitor compliance with the hierarchy of waste management.
- Continuously evaluate the municipal system for municipal waste management and its capacity and propose measures for its improvement.
- Classify sorted waste, collected by a separate collection in municipalities as municipal waste (containing packaging components), i.e. as group of 20 of the Waste catalogue.
- At the community level, inform once a year the citizens and other participants in the municipal system of municipal waste management, on the manner and extent of separate collection of municipal waste, recovery and disposal of municipal waste, and waste management of other waste in the municipal system. This also includes information about how to prevent and minimize the generation of municipal waste. At least once a year to publish the quantified results of community waste management.
- Regularly evaluate the system of municipal waste management at local and regional level.

1.4.1.2.3 Indicators for municipal waste objectives

Indicators for municipal waste management objectives are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary region.

1.4.2 Mixed municipal waste

1.4.2.1 Mixed municipal waste principles

- 1) Processing of mixed municipal waste by sorting may be supported as a complementary technology of waste processing prior to material and energy recovery. This processing does not replace the separate collection of recoverable components of municipal waste.
- 2) Significantly reduce landfilling of municipal waste.

- 3) Reduce the production of mixed municipal waste by the introduction or extension of separate collection systems for recoverable components of municipal waste, including biodegradable waste.

1.4.2.2 Objectives, measures and indicators of objectives for mixed municipal waste

1.4.2.2.1 Mixed municipal waste objectives

Objective	
No.	Objective name
10	Use mixed municipal waste (after sorting of materially recoverable components, hazardous substances and biodegradable waste) especially for energy recovery in facilities designed for this purpose in accordance with effective legislation.

1.4.2.2.2 Measures to meet the objectives

Objective 10 - Use mixed municipal waste (after sorting of materially recoverable components, hazardous substances and biodegradable waste) especially for energy recovery in facilities designed for this purpose in accordance with effective legislation.

Measures to achieve the objective:

- Support the building of a correspondingly effective infrastructure needed to ensure and increase energy recovery of waste (especially mixed municipal waste.)
- On an adequate level recover energy from mixed municipal waste in facilities for energy recovery of waste without its prior treatment, or after its treatment by subsequent incineration/co-incineration, under compliance with applicable laws.
- Continuously evaluate the system of management of mixed municipal waste.

1.4.2.2.3 Indicators for mixed municipal waste objectives

Indicators for mixed municipal waste management objectives are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary region.

1.4.3 Biodegradable municipal waste (BDMW)

1.4.3.1 Principles

- 1) Establish a mandatory system of separate collection of biodegradable waste and its waste management, at least for biodegradable waste of plant origin in the communities
- 2) Support and develop the system for the collection of biodegradable municipal waste.
- 3) Support maximum recovery of biodegradable waste and the products from their processing.
- 4) Support the creation and development of the infrastructure necessary to ensure the recovery of biodegradable waste.

1.4.3.2 Objectives, measures and indicators of objectives for BDMW

1.4.3.2.1 Objectives for BDMW

Objective	
No.	Objective name
11	Reduce the maximum quantity of biodegradable municipal waste deposited at landfills in such a way, so that the share of this component would be in the year 2020 at maximum 35% by weight of the total quantity of biodegradable municipal waste produced in 1995.

1.4.3.2.2 Measures to meet the objectives

Objective 11 - Reduce the maximum quantity of biodegradable municipal waste deposited at landfills in such a way, so that the share of this component would be in the year 2020 at maximum 35% by weight of the total quantity of biodegradable municipal waste produced in 1995.

Measures to achieve the objective:

- Technically support and promote by awareness campaigns household, community, and municipal composting of biodegradable waste for natural persons. It is recommended to incorporate the programme supporting domestic, community and municipal composting and its implementation into the municipal waste management plans.
- Support the building of a correspondingly effective infrastructure needed to ensure and increase energy recovery of waste (especially mixed municipal waste.)
- On an adequate level recover energy from mixed municipal waste in facilities for energy recovery of waste without its prior treatment, or after its treatment by subsequent incineration/co-incineration, under compliance with applicable laws.
- Base the system on the technical possibilities and recovery options of biodegradable waste in the community in relation to the municipal waste management in the region, whereas the mechanical and biological treatment and energy recovery of biodegradable components contained in mixed municipal waste does not replace the obligation of municipalities to establish a system for the separate collection of biodegradable waste and its subsequent recovery.
- Consistently monitor the separate collection of biodegradable waste.
- At the community level, inform once a year the citizens and other stakeholders in the municipal system of municipal waste management on the manner and extent of separate collection of biodegradable waste and its management. This also includes information about the prevention and minimization possibilities of biodegradable waste. At least once a year to publish the quantified results of community waste management.
- Encourage the construction of facilities for aerobic decomposition, anaerobic digestion, energy recovery, and preparation for energy recovery of biodegradable waste. Create an adequate network of these facilities in the regions to manage separately collected biological degradable waste from municipalities and from other producers, including sludge from wastewater treatment plants.

- Promote the use of composts made from biodegradable municipal waste, i.e. the biological waste obtained from separate collection of biodegradable municipal waste, for the application to the soil.
- Support energy recovery of mixed municipal waste in facilities for energy recovery of waste without prior treatment, or after its treatment by subsequent incineration/coincineration complying with applicable laws.
- Thoroughly inspect the operation of the facilities for the processing and recovery of biologically degradable waste operated in the area of waste landfills to avoid landfilling of this waste, which is banned from landfilling.
- Carefully supervise the waste management of catering waste and of animal by-products in accordance with the Regulation of the European Parliament and Council (EC) no. 1069/2009.
- Regularly evaluate the management system of biodegradable waste at the regional level.

1.4.3.2.3 Indicators for BDMW objectives

Indicators for municipal biodegradable waste (BDMW) management objectives are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary region.

1.4.4 Waste from small enterprises

1.4.4.1 Waste management principles for waste from small enterprises

- 1) Provide to the small enterprise producers of waste, i.e. legal entities and natural persons authorized to business, producing municipal waste in the municipality (small enterprises, non-industrial manufacturing sector entities, administration, services, and trade) an opportunity to participate in the municipal waste management within the municipality, if the municipality has established a system of municipal waste management which includes waste from small enterprises.
- 2) In communities, within the framework of municipal waste management system, establish also waste management for waste produced by legal entities and natural persons authorized to do business participating in the municipal system of municipal waste management. Establish a method for collecting the individual types of waste, but at minimum for a separate collection of paper, plastic, glass, metal, biodegradable waste, and mixed municipal waste produced by legal entities and natural persons authorized to do business participating in the municipal system of municipal waste management.
- 3) Impose a charge on entrepreneuring legal entities and natural persons authorized to do business for the participation in the municipal system of municipal waste management.
- 4) In municipal waste management, the participating legal entities and natural persons authorized to do business will apply principles in accordance with the hierarchy of waste management to municipal waste management.
- 5) Allow the municipalities to engage in their systems of waste management the legal entities and natural persons authorized to do business according to the possibilities and capacity of the system.

- 6) Continuously evaluate the municipal system for municipal waste management in connection with the possibility to engage in the municipal system of municipal waste management the legal entities and natural persons authorized to do business involving municipal waste which they produce.
- 7) At the community level allow the setting of criteria, whose fulfilment will enable natural persons and natural persons authorized to do business to participate in the local municipal waste management system in the community by municipal waste they produce.
- 8) At the community level, inform in an appropriate form at least once a year the legal entities and natural persons authorized to do business and participants in the municipal system of municipal waste management on the arrangements and scope of separate waste collection and management.

The objectives and measures for waste from small enterprises were not established at the national or the regional level, the measures for management of waste from small enterprises from the national WMP have been included in the above principles.

1.5 Other priority waste streams

1.5.1 Construction and demolition waste

1.5.1.1 Construction and demolition waste management principles

- 1) Implement maximum recovery of processed construction and demolition waste and recycled materials from construction and demolition waste.

1.5.1.2 Objectives, measures and indicators of objectives for construction and demolition waste

1.5.1.2.1 Construction and demolition waste objectives

Objective	
No.	Objective name
12	Increase by the year 2020, to at least 70% by weight, the rate of preparing for re-use and the rate of recycling of construction and demolition waste and other types of their material recovery, including backfilling, in which materials are replaced in accordance with the applicable legislation by construction and demolition waste of the category “other”, excluding the naturally occurring material defined in the Waste Catalogue under the catalogue number 17 05 04 (soil and stones).

1.5.1.2.2 Measures to meet the objectives

Objective 12 - Increase by the year 2020, to at least 70% by weight, the rate of preparing for re-use and the rate of recycling of construction and demolition waste and other types of their material recovery, including backfilling, in which materials are replaced in accordance with the applicable legislation by construction and demolition waste of the category “other”, excluding the naturally occurring material defined in the Waste Catalogue under the catalogue number 17 05 04 (soil and stones).

Measures to achieve the objective:

- Prevent the use of unprocessed construction and demolition waste, with the exception of excavated soil and spoil material without dangerous properties.

1.5.1.2.3 Indicators for construction and demolition waste objectives

Indicators for construction waste management objectives are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary region.

1.5.2 Packaging and packaging waste

1.5.2.1 Objectives, measures and indicators of objectives for packaging and packaging waste

1.5.2.1.1 Objectives for packaging waste

Objective	
No.	Objective name
13	Increase the overall packaging recycling to the level of 70% by the year 2020.
14	Increase the overall recovery of packaging waste to the level of 80% by the year 2020.
15	Increase the recycling of plastic packaging to the level of 50% by the year 2020.
16	Increase the recycling of metal packaging to the level of 55% by the year 2020.
17	Achieve 55% overall recovery of consumer sale packaging by the year 2020.
18	Achieve 50% recycling of consumer sales packaging by the year 2020.

1.5.2.1.2 Measures to meet the objectives

Objective 13 - Increase the overall packaging recycling to the level of 70 % by the year 2020.

Objective 14 - Increase the overall recovery of packaging waste to the level of 80% by the year 2020.

Objective 15 - Increase the recycling of plastic packaging to the level of 50% by the year 2020.

Objective 16 - Increase the recycling of metal packaging to the level of 55% by the year 2020.

Objective 17 - Achieve 55% overall recovery of consumer sale packaging by the year 2020.

Objective 18 - Achieve 50% recycling of consumer sales packaging by the year 2020.

Measures to achieve the objectives:

- Maintain and develop the existing integrated system of separation of municipal waste, including its packaging component and promote further development of this system.
- Support the management of packaging waste according to the waste hierarchy.
- Monitor rigorously the compliance with waste hierarchy.
- Continuously evaluate the management of packaging within the system of the municipality for municipal waste management, the capacity of the system and support measures for its improvement.
- Monitor rigorously the provision of separate waste collection in municipalities for recoverable components of municipal waste, at least for the commodities such as paper, plastics, glass and metals.
- Continuously evaluate the system of municipal waste management at the regional level.

1.5.2.1.3 Indicators for packaging waste objectives

Indicators for packaging waste objectives have not been defined at the regional level due to the structure of the packaging waste collection system.

1.5.3 End-of life products and selected waste referred to in Part 4 of the Waste Act

1.5.3.1 Objectives for waste electrical and electronic equipment (WEEE)

1.5.3.1.1 Objectives for WEEE

Objective	
No.	Objective name
19	Achieve high level of separate collection of waste electrical and electronic equipment.
20	Ensure high level of recovery, recycling and preparing for re-use of electric and electronic waste:

1.5.3.1.2 Measures to meet the objectives

Objective 19 - Achieve high level of separate collection of waste electrical and electronic equipment.

Objective 20 - Ensure high level of recovery, recycling and preparing for re-use of electric and electronic waste.

Measures to achieve the objectives:

- Promote cooperation of liable persons across the system of collection, e.g. with regard to quality control and checking of recorded data, collection network availability for consumers or the implementation of awareness and information campaigns to increase the amount of separately collected electric and electronic equipment.
- Accept the set standards for collecting, transporting, and processing of waste electrical and electronic equipment and consistently enforce them by the individual bodies of state administration and local governments.
- Secure in a better manner the existing collection infrastructure from theft and illegal removal.
- Consistently monitor and evaluate the functioning of scrap metal traders premises and facilities.
- Enhance the cooperation of liable persons with municipalities and strengthen the link between collection network and the municipal systems of municipal waste management.
- Increase the availability and number of collection network locations for electrical and electronic equipment, especially the small ones, and publish these collection points at public administration webs in the register of take-back points.
- Intensify awareness campaigns.
- Comply with the waste hierarchy, with preference for re-use by the state and private institutions.
- Thoroughly monitor compliance with the waste management hierarchy.

1.5.3.2 Objectives and measures for waste batteries and accumulators

1.5.3.2.1 Objectives for waste batteries and accumulators

Objective	
No.	Objective name
21	Increase the level of separate collection of waste portable batteries and accumulators.
22	Achieve high recycling efficiency of the recycling processes of waste batteries and accumulators.

1.5.3.2.2 Measures to meet the objectives

Objective 21 - Increase the level of separate collection of waste portable batteries and accumulators.

Objective 22 - Achieve high recycling efficiency of the recycling processes of waste batteries and accumulators.

Measures to achieve the objectives:

- Strengthen the link between the collection network and the municipal systems of municipal waste management and publish the collection points at the website of the region through the link to the register of take-back points.

- Comply with the waste hierarchy.
- Intensify awareness campaigns.

1.5.3.3 Objectives and measures for end-of-life vehicles (wrecked cars)

1.5.3.3.1 Objectives for end-of-life vehicles (wrecked cars)

Objective	
No.	Objective name
23	Achieve a high rate of recovery when processing end-of-life vehicles (wrecked cars).

1.5.3.3.2 Measures to meet the objectives

Objective 23 - Achieve a high rate of recovery when processing end-of-life vehicles (wrecked cars).

Measures to achieve the objectives:

- Comply with the waste hierarchy.
- Publish the collection points at public administration webs in the register of take-back points.

1.5.3.4 Objectives and measures for waste tyres

1.5.3.4.1 Objectives for waste tyres

Objective	
No.	Objective name
24	Increase the level of separate collection of waste tyres:
25	Achieve high recovery rate in the processing of waste tyres.

1.5.3.4.2 Measures to meet the objectives

Objective 24 - Increase the level of separate collection of waste tyres.

Objective 25 - Achieve high recovery rate in the processing of waste tyres.

Measures to achieve the objectives:

- Strengthen the link between the collection network and the municipal systems of municipal waste management so that the collection network parameters will be set in order to minimize the cost of waste tyre management for municipalities, publish the collection points at public administration webs in the register of take-back points.
- Intensify awareness campaigns.

- Observe the waste management hierarchy.
- Rigorously monitor compliance with the waste management hierarchy.

1.5.3.5 The objectives and measures for sludge from municipal wastewater treatment plants

1.5.3.5.1 Objectives for the sludge from municipal WWTP

Objective	
No.	Objective name
26	Support technologies for the recovery of sludge from municipal wastewater treatment plants.

1.5.3.5.2 Measures to meet the objectives

Objective 26 - Support technologies for the recovery of sludge from municipal wastewater treatment plants.

Measures to achieve the objective:

- Support from public funds investments associated with energy recovery of sludge from municipal wastewater treatment plants with adequate sludge production.
- e) In cooperation with the central authorities of the state administration, promote by awareness campaigns, focused primarily on the citizens, to provide guidance for the disposal of pharmaceuticals, chemicals and waste in accordance with the legislation in this area, i.e. disposal outside the sewerage network.

Apply the sludge from municipal wastewater treatment plants on agricultural land only if the sludge is treated and with regard to the nutritional needs of plants under the conditions laid down by Act No 185/2001 Coll., on waste, as amended, Decree No 382/2001 Coll., on the conditions of applying treated sludge on agricultural land, as amended, and in accordance with the programme of sludge use, established by the producer of the sludge, so that the use of sludge does not aggravate soil quality and the quality of surface water and groundwater. Ensure technologies for hygienisation of sludge.

1.5.3.6 Objectives and measures for waste oils

1.5.3.6.1 Objectives for waste oils

Objective	
No.	Objective name
27	Increase the material and energy recovery of waste oils.

1.5.3.6.2 Measures to meet the objectives

Objective 27 - Increase the material and energy recovery of waste oils.

Measures to achieve the objective:

- Avoid mixing oils in their places of origin, accumulation, and storage in view of their subsequent recovery.
- Use waste oils unfit for material recovery preferably for energy recovery in accordance with applicable legislation.
- Comply with the waste hierarchy.
- Rigorously monitor compliance with the management hierarchy of waste oils.

Further, in the disposal of waste oils, i.e. in the temporary storage and subsequent handling of waste oils, it is necessary to collect the oils separately and to ensure that they are not subsequently contaminated by other substances, to observe safety and health at work.

1.5.3.7 Indicators for objectives for end-of life products and selected waste referred to in Part 4 of the Waste Act

Indicators for objectives for end-of life products and selected waste listed in Part 4 of the Waste Act have not been defined at the regional level due to the structure of the collection system of such products.

1.5.4 Hazardous waste

1.5.4.1 Principles of hazardous waste management

- 1) Dispose of hazardous waste in accordance with the hierarchy of waste management.
- 2) Promote technologies for recycling and recovery of hazardous waste and technologies for reducing hazardous waste properties.
- 3) Rigorously investigate whether the processed hazardous waste actually lost hazardous properties, so that these properties are not manifested.
- 4) Do not use hazardous waste and hazardous waste, which ceased to be waste, on ground surface.
- 5) Reduce the amount of hazardous waste in mixed municipal waste.

1.5.4.2 Objectives, measures and indicators for hazardous waste

1.5.4.2.1 Objectives for hazardous waste

Objective	
No.	Objective name
28	Reduce the specific production of hazardous waste.
29	Increase the share of materially recovered hazardous waste.
30	Minimize the negative effects of hazardous of waste management on human health and the environment.

31	Remediate contaminated sites with hazardous waste presence.
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1.5.4.2.2 Measures to meet the objectives

Objective 28 - Reduce the specific production of hazardous waste.

Objective 29 - Increase the share of materially recovered hazardous waste.

Objective 30 - Minimize the negative effects of hazardous of waste management on human health and the environment.

Objective 31 - Remediate contaminated sites with hazardous waste presence.

Measures to achieve the objective:

- Continuously evaluate the system of hazardous waste management at the regional level.
- Increase, if necessary, the number of facilities for the recovery of hazardous waste and waste treatment facilities for the reduction and elimination of hazardous properties.
- Rigorously monitor the quantity of hazardous waste used as technological material for landfill closure.
- In cooperation with relevant authorities carry out effective public awareness campaigns on the impact of hazardous properties of waste on human health and the environment, including drawing up of methodologies.
- Support safe remediation of environmental liabilities.

1.5.4.2.3 Indicators for hazardous waste objectives

Indicators for hazardous waste management objectives are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary region.

1.6 Other waste streams

1.6.1 Animal by-products and biodegradable waste (BDW) from kitchens and canteens

1.6.1.1 Principles for disposal of animal by-products and BDW

Principles for disposal of animal by-products and BDW have not been defined at the regional level.

1.6.1.2 Objectives, measures and indicators for disposal of animal by-products and BDW

1.6.1.2.1 Objectives for animal by-products and BDW

Objective

No.	Objective name
32	Reduce the quantity of biodegradable waste from kitchens and canteens and animal by-products in mixed municipal waste, which are originally from public catering establishments (restaurants, snacks) and central kitchens (hospitals, schools and other similar facilities.)
33	Properly manage biodegradable waste from kitchens and canteens and animal by-products and reduce the negative effects associated with the management of waste on human health and the environment.

1.6.1.2.2 Measures to meet the objectives

Objective 32 - Reduce the quantity of biodegradable waste from kitchens and canteens and animal by-products in mixed municipal waste, which are originally from public catering establishments (restaurants, snacks) and central kitchens (hospitals, schools and other similar facilities.)

Objective 33 - Properly manage biodegradable waste from kitchens and canteens and animal by-products and reduce the negative effects associated with the management of waste on human health and the environment.

Measures to achieve the objectives:

- Ensure conditions for the collection of used cooking oil and fat originating from public catering establishments, central kitchens and households.
- Support the establishment of a system of regular collection and transport of biodegradable waste from kitchens and canteens and animal by-products into approved processing facilities, especially biogas plants and composting plants.
- Support the collection of used cooking oil and fat originating from public catering establishments, central kitchens and households.
- Support the development of a system of collecting and collection of used cooking oil and grease from the originators and households.
- Thoroughly monitor the management of biodegradable waste from kitchens and canteens and of animal by-products in accordance with Regulation of the European Parliament and Council Regulation (EC) no. 1069/2009.
- Support the development of facilities for the processing of waste oils and fats, especially facilities used to produce energy (biogas plants, processing into biodiesel or other products for industrial use).
- Monitor and evaluate developments in the management of biodegradable waste from kitchens and canteens and animal by-products, design and adopt appropriate measures.

1.6.1.2.3 Indicators of objectives for disposal of animal by-products and BDW

Indicators for objectives for disposal of animal by-products and BDW have not been defined at the regional level.

1.6.2 Waste of ferrous and non-ferrous metals

1.6.2.1 Principles for the management of ferrous and non-ferrous metals

- 1) Perceive the metal waste of ferrous and nonferrous metals and waste of precious metals as strategic raw materials for the industry of the Czech Republic in accordance with the Raw material policy of the Czech Republic.
- 2) Manage iron and aluminium scrap waste outside of the waste management regime solely on the basis of Council Regulation (EU) No. 333/2011 laying down criteria determining when certain types of scrap metal cease to be waste.
- 3) Manage scrap copper outside of the waste management regime solely on the basis of Commission Regulation (EU) no. 715/2013 laying down the criteria for determining when copper scrap cease to be waste.

1.6.2.2 Objectives, measures and indicators for ferrous and non-ferrous metals

1.6.2.2.1 Objectives for ferrous and non-ferrous metals waste management

Objective	
No.	Objective name
34	Process metal waste and end-of-life products into materials replacing primary raw materials.

1.6.2.2.2 Measures to meet the objectives

Objective 34 - Process metal waste and end-of-life products into materials replacing primary raw materials.

Measures to achieve the objective:

- Expand the number of locations for end-of-life product take-back in the context of take-back systems and extended producer responsibility in order to obtain larger quantities of raw materials of strategic precious metals.
- Support the development of modern high-quality technologies for the processing of end-of-life products in the Czech Republic.
- Increase the level of supervisory activities in metal scrap trading.

1.6.2.2.3 Indicators for metal waste management objectives

Indicators for metal waste management objectives have not been determined at the regional level.

1.6.3 Waste from medical and veterinary care

1.6.3.1 Principles for the management of waste from medical and veterinary care

Waste from medical and veterinary establishments is considered in general to be mainly waste in health care and health services facilities (stationary facilities) and waste from the care and services provided to a patient or client in their home (home care), where similar types of waste are produced. In order to minimize the adverse effects of waste and its waste management on human health and the environment, an objective was determined in WMP KVR, in accordance with the WMP CR.

Principles for the management of waste from medical and veterinary facilities have not been established at the regional level.

1.6.3.2 Objectives, measures and indicators for the management of medical and veterinary care waste

1.6.3.2.1 Objectives for waste from medical and veterinary care

Objective	
No.	Objective name
35	Minimize the negative effects of waste management from medical and veterinary care on human health and the environment.

1.6.3.2.2 Measures to meet the objectives

Objective 35 - Minimize the negative effects of waste management from medical and veterinary care on human health and the environment.

Measures to achieve the objective:

- Manage the waste from medical and veterinary care with hazardous properties according to the waste management hierarchy and according to available technologies, with preference for the best available techniques.
- Establish cooperation with stakeholders in the area of education relating to the management of waste from medical, veterinary, and similar facilities, in order to ensure waste management from these facilities in accordance with the applicable legislation with a particular focus on consistent separation from municipal waste and on classifying waste into categories according to its actual properties.

1.6.3.2.3 Indicators for objectives for the management of waste from medical and veterinary care

Indicators for objectives for medical and veterinary care waste have not been determined at the regional level.

1.6.4 Specific groups of hazardous waste

1.6.4.1 Objectives and measures for waste and equipment containing polychlorinated biphenyls

1.6.4.1.1 Objectives for waste and facilities containing polychlorinated biphenyls

Objective	
No.	Objective name
36	Forward all equipment and waste containing polychlorinated biphenyls by the end of the year 2025 to authorized persons, or decontaminate by this time the facilities and waste containing polychlorinated biphenyls.
37	Dispose of waste containing polychlorinated biphenyls held by persons authorized for waste management by the end of the year 2028.

1.6.4.1.2 Measures to meet the objectives

Objective 36 - Forward all equipment and waste containing polychlorinated biphenyls by the end of 2020 to authorized persons, or by this time decontaminate facilities and waste containing polychlorinated biphenyls.

Objective 37 - Dispose of waste containing polychlorinated biphenyls held by persons authorized for waste management by the end of the year 2028.

Measures to achieve the objectives:

- Lightly contaminated equipment and equipment containing polychlorinated biphenyls and with a volume of less than 5 l, transfer to persons authorized to manage this type of waste, or decontaminated it by the end of the year 2025.

1.6.4.2 Objectives and measures for wastes containing persistent organic pollutants

1.6.4.2.1 Objectives for waste containing persistent organic pollutants

Objective	
No.	Objective name
38	To raise awareness of persistent organic pollutants and their effects on human health and the environment.
39	Monitor the occurrence of persistent organic pollutants especially in waste listed in Annex V of the European Parliament and Council Regulation (EC) no. 850/2004 on Persistent Organic Pollutants, as amended by Commission Regulation (EU) no. 756/2010.

1.6.4.2.2 Measures to meet the objectives

Objective 38 - To raise awareness of persistent organic pollutants and their effects on human health and the environment.

Objective 39 - Monitor the occurrence of persistent organic pollutants especially in waste listed in Annex V of the European Parliament and Council Regulation (EC) no. 39 on Persistent Organic Pollutants, as amended by Commission Regulation (EU) no. 850/2004.

Measures to achieve the objectives:

- Implement information campaigns focused on the possible occurrence of persistent organic pollutants in waste.

1.6.4.3 Objectives and measures for wastes containing asbestos

1.6.4.3.1 Objectives for wastes containing asbestos

Objective	
No.	Objective name
40	Minimize the potential negative effects in the management of waste containing asbestos on human health and the environment.

1.6.4.3.2 Measures to meet the objectives

Objective 40 - Minimize the potential negative effects in the management of waste containing asbestos on human health and the environment.

Measures to achieve the objectives:

- Carry out permanent education and monitoring of safe management and hygiene when managing asbestos. The Ministry of the Environment (hereinafter the "Ministry") in cooperation with the Ministry of Health will carry out a campaign to inform the inhabitants and ensure the implementation of supervision by the competent supervisory authorities.

1.6.4.4 Objectives and measures for waste containing natural radionuclides

1.6.4.4.1 Objectives for waste containing natural radionuclides

Objective	
No.	Objective name
41.	Minimize the potential negative effects in the management of waste containing natural radionuclides on human health and the environment.

1.6.4.4.2 Measures to meet the objectives

Objective 41 - Minimize the potential negative effects in the management of waste containing natural radionuclides on human health and the environment.

Measures to achieve the objectives:

- Encourage cooperation with the State Office for Nuclear Safety in developing a guideline for managing this type of waste under the Waste Act.

1.6.4.5 Indicators for objectives for specific groups of hazardous waste

Indicators for objectives for specific groups of hazardous waste have not been determined at the regional level.

1.7 Preparation for re-use, recycling, recovery and disposal to minimize the adverse impact on the environment

1.7.1 Guidelines for the preparation of waste

- 1) Apply the waste management hierarchy in waste management. Manage waste according to the following ranking: prevention, preparation for re-use, recycling, other recovery (e.g. energy recovery), and last - disposal (safe disposal), and that in compliance with all requirements, laws, standards and rules to ensure the protection of human health and the environment. In applying the hierarchy, support the options that deliver the best overall result from the environmental perspective. Take into account the entire life cycle of products and materials, and focus on reducing the impact of waste disposal on the environment.
- 2) Support preparing for re-use and recycling.

1.7.2 Objectives, measures and indicators for waste preparation

1.7.2.1.1 Objectives, measures and indicators of objectives for waste preparation

The objectives and measures for the preparation of waste for re-use, recycling, recovery and disposal have not been established; however, measures for preparation were included in the measures to support the objectives laid down for municipal waste and general waste management and so can contribute to the objective for the preparation of waste for reuse, recycling, recovery and disposal at the national level.

1.7.2.1.2 Indicators for the preparation of waste for re-use, recycling, recovery and disposal

Indicators for objectives for the preparation of waste for re-use, recycling, recovery and disposal are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary Region.

1.8 Reducing the amount of landfilled waste (especially BDW)

1.8.1 Principles for reducing the quantity of landfilled waste

- 1) Apply the waste management hierarchy in waste management. Manage waste according to the following ranking: prevention, preparation for re-use, recycling, other recovery (e.g. energy recovery), and last - disposal (safe disposal), and that in compliance with all requirements, laws, standards and rules to ensure the protection of human health and the environment. In applying the hierarchy, support the options that deliver the best overall result from the environmental perspective. Take into account the entire life cycle of products and materials, and focus on reducing the impact of waste disposal on the environment.
- 2) Significantly reduce landfilling of municipal waste.
- 3) Do not support landfilling or incineration of recyclable materials.
- 4) Do not support the construction of new landfills from public funds.

1.8.2 Objectives, measures and indicators for reducing the landfilling of waste

1.8.2.1.1 Objectives, measures and indicators of objectives

The reduction of the amount of landfilled waste is not specified in any special objective, but the reduction of the amount of landfilled waste is supported by all objectives set for the municipal waste (Objectives 8, 9, 10 and mainly 11 "Reduce the maximum quantity of biodegradable municipal waste deposited at landfills in such a way, so that the share of this component would be in the year 2020 at maximum 35% by weight of the total quantity of biodegradable municipal waste produced in 1995."), and also Objective 1 for general waste management (Objective 1 "Create and maintain a comprehensive, appropriate and effective network of waste management facilities in the territory of the Region ") and hazardous waste management (Objective 28 "Reduce the specific production of hazardous waste" and Objective 29 "Increase the share of materially recovered hazardous waste").

No indicators of objectives for reducing the amount of landfilled BDW have been set at the regional level.

1.8.2.1.2 Indicators for reducing the quantity of landfilled waste

Indicators for objectives for reducing the amount of landfilled waste are located in Annex 1 to the Binding Part of the WMP of the Karlovy Vary Region.

1.9 Reducing the share of biodegradable components in mixed municipal waste (MMW)

1.9.1 Principles for reducing the share of biodegradable components in MMW

- 1) Support separate collection of bio-waste.
- 2) Processing of mixed municipal waste by sorting may be supported as a complementary technology of waste processing prior to material and energy recovery. This processing does not replace the separate collection of recoverable components of municipal waste.
- 3) In communities, within the framework of municipal waste management system, establish also waste management for waste produced by legal entities and natural persons authorized to do business participating in the municipal system of municipal waste management. Establish a method for collecting the individual types of waste, but at minimum for a separate collection of paper, plastic, glass, metal, biodegradable waste, and mixed municipal waste produced by legal entities and natural persons authorized to do business participating in the municipal system of municipal waste management.
- 4) Reduce the quantity of biodegradable waste from kitchens and canteens and animal by-products in mixed municipal waste, which are originally from public catering establishments (restaurants, snacks) and central kitchens (hospitals, schools and other similar facilities.)

1.9.2 Objectives, measures and indicators for reducing the share of biodegradable components in MMW

No specific objective for reducing the share of biodegradable components in MMW is set at the regional level. Reducing the BDW in MMW is supported, however, in Objective 11 set for municipal waste (Objective 11 "To Reduce the maximum quantity of biodegradable municipal waste deposited at landfills in such a way, so that the share of this component would be in the year 2020 at maximum 35% by weight of the total quantity of biodegradable municipal waste produced in 1995."), and also Objective 1 for general waste management ("To create and maintain a comprehensive, adequate, and effective network of waste management facilities in the territory of the Region").

1.10 Preferred ways of waste management

According to the waste hierarchy, which is based on EU Directive No 2008/98/EC on waste, and in EU Directive No 1999/31/EC on the landfill of waste, it is necessary in particular to prevent the generation of waste. Limiting the generation of **municipal waste** (MW) can be achieved through moderate consumption by the inhabitants of the Region (people buy only what they need), lower consumption of consumer packaging (e.g., people carry their shopping in their own bags for multiple use, they prefer to purchase goods without packaging or with packaging in the appropriate size for the product), reducing the food waste (buying food in quantities adequate to the number of members in the household and storing the food correctly – for example in air-tight containers) and last but not least also by composting garden waste and residues from food preparation in compost bins or on domestic compost heaps, etc. Already generated municipal waste should be, as results from the

measures provided for in the WMP of the Karlovy Vary Region, preferably sorted directly at the source by the particular commodities so that they can be more easily reused or materially recovered (at least paper, plastic, glass, Tetra Pak, metals and biological waste).

Concerning the Karlovy Vary Region, the installations for material recovery of sorted municipal waste (including waste from packaging) exist in the territory of the Region, however, their capacity and the emergence of new installments for material recovery of waste works on a purely market principle, therefore, the Regional Authority may influence the capacity of such installments only at a minimum. The extension of the capacity of sorting lines for the final sorting of municipal waste collected from the system of separate collection from municipalities and from the traders involved can be supported by the Karlovy Vary Region, in particular through its recommendations for the construction of new facilities and for increasing the capacity of existing facilities in the Region from the Operational Programme Environment (OPE) (the Region gives its opinion on the proposals for support from the OPE), which then can receive grants from the European structural funds and from the State Environmental Fund. In the same way as the sorting lines, the Region can support the construction of new or increasing the capacity of the existing compost facilities and biogas stations. The Region may also support in the same way the setup of new or upgrade of the existing civic amenity sites in the municipalities in the Region and the introduction of a new or extension of the existing system for the collection and pick-up of separated waste (paper, plastics, glass, cardboard, metals and biological waste).

Mixed municipal waste (MMW), i.e. the "residual" waste, out of which most of the material for recovery has already been sorted, should be preferably used for energy (see Objective 10). Only waste that cannot be used should be deposited on a landfill (up to the total ban on the landfilling of such waste). MMW production is reduced, in particular, by sorting out recoverable components (paper, plastics, glass, Tetra Pack, metals and biological waste) and also by domestic composting of the biodegradable component of the municipal waste or by community composting. The Region can influence the amount of recyclable and combustible waste going to the landfill or the quantity of recyclable waste used in incinerators in particular when approving the operating rules of such installations and when giving them permits - at that point the Region can consult with the investor what waste enters the installation and may be disposed of there.

Biodegradable municipal waste (BDMW) should be, after its prevention, as mentioned above, preferably sorted out, it means that a functioning system should be introduced in the Region for collection and pick-up of BDMW in municipalities, which has the end processing (recovery) ensured for the collected waste. Collected BDMW should be recovered in particular for material at composting plants and/or in biogas stations. BDMW that for various reasons cannot be recovered for material should be used for energy (pellets and chips). Sorted BDMW cannot be stored in landfills. Also, the occurrence of unsorted BDMW should be significantly limited in municipal waste which is currently deposited to landfills in large quantities (see Objective 11).

The generation of **packaging waste** should also be prevented in the first place. Environmental education and awareness raising is also important in causing consumers to lower the production of packaging waste and to increase the share of packaging waste sorted at source. Packaging which cannot be reused should be separated by citizens, traders and companies by commodity (paper, plastics, glass, beverage cartons, metals) and its material recovery should be ensured. The companies producing the packaging perform their duties of take-back and an appropriate recovery of the packaging waste in accordance with the Act on packaging, either individually, or through an authorised packaging company (see the

analytical part of the WMP of the Karlovy Vary Region). The packaging, which cannot be materially recovered for various reasons (contaminated packaging, multi-layer packaging, packaging with traces of dangerous substances, etc.) should preferably be used for energy. Only if there is no possible way of its recovery it should be landfilled.

The generation of **construction waste** can be prevented, in particular, by using materials that would become waste directly at the construction site. If construction waste is generated, it should preferably be recycled or otherwise materially recovered (see Objective 12). The Karlovy Vary Region has sufficient capacity for material recovery of construction waste. The construction waste which has hazardous properties or other properties that make it difficult to recover should preferably be treated so that it can be recovered. The construction waste, which cannot be used in any way, will be landfilled. In the Karlovy Vary Region, landfilling of construction waste is being significantly reduced.

The generation of **hazardous waste** (HW) should be, as well as in the examples above, mainly prevented, especially directly in the production where the production cycle is adjusted. If HW cannot be prevented, it should be treated to eliminate or reduce its dangerous properties, so that these substances can be reused or further materially recovered. If the substances cannot be reused or materially recovered and if conditions permit, they should preferably be used for energy before their disposal. Landfilling of HW should be only the last resort.

Annex 1: Indicators in WMP of the Karlovy Vary Region for each of the objectives

1) General waste management indicators

Objective		Objective/target indicator	
NO	Objective name	NO.	Designation
1	Create and maintain a comprehensive, adequate, and effective network of waste management facilities in the territory of the region.	1P	Capacity of facilities
1	Create and maintain a comprehensive, adequate, and effective network of waste management facilities in the territory of the region.	2P	Number of facilities
2	Reduce waste deposition outside the specified points.	2	Rate of recycling paper, plastic, glass, metals contained in municipal waste.
2	Reduce waste deposition outside the specified points.	4	Recovery rate and material recovery of construction and demolition waste.

For the above objectives for general waste management, for which no indicators of objectives were set at the national level, descriptive indicators have been assigned which indicate the progress towards the set targets.

Descriptive indicators for general waste management

NO	Indicator Type	Indicator definition
1P	Capacity of facilities	The indicator is expressed according to the type of facility in (t) or (m ³)
2P	Number of facilities	The indicator is expressed according to the type of facility in (pieces).
3P	Total waste production	Indicator expressed in (t/year) and in (kg/ inhabitant/ year).
4P	Total waste recovery	Indicator expressed in (t/year, %).
5P	(All) waste material recovery	Indicator expressed in (t/year, %).
6P	Total waste recycling	Indicator expressed in (t/year, %).
7P	(All) waste energy recovery	Indicator expressed in (t/year, %).
8P	Disposal of (all) waste	Indicator expressed in (t/year, %).
9P	Total waste recovery	Indicator expressed in (t/year, %).
10P	Total waste incineration	Indicator expressed in (t/year, %).
11P	Total waste landfilling	Indicator expressed in (t/year, %).

NO	Indicator Type	Indicator definition
39P	Production of other waste	Indicator expressed in (t/year) and in (kg/ inhabitant/ year).
40P	Recovery of other waste	Indicator expressed in (t/year, %).
41P	Material recovery of other waste	Indicator expressed in (t/year, %).
42P	Other waste recycling	Indicator expressed in (t/year, %).
43P	Energy recovery of other waste	Indicator expressed in (t/year, %).
44P	Disposal of other waste	Indicator expressed in (t/year, %).
45P	Other waste recovery	Indicator expressed in (t/year, %).
46P	Other waste incineration	Indicator expressed in (t/year, %).
47P	Landfilling of other waste	Indicator expressed in (t/year, %).

2) Waste prevention programme objective indicators

Objective		Objective/target indicator	
NO.	Objective name	NO.	Designation
3	Through a co-ordinated and harmonised approach, create conditions conducive to a lower consumption of primary resources and a gradual reduction of the volumes of waste produced.	39P	<i>Production of other waste</i>
3	Through a co-ordinated and harmonised approach, create conditions conducive to a lower consumption of primary resources and a gradual reduction of the volumes of waste produced.	48P	<i>Production of hazardous waste</i>
4	Throughout the implementation of the Waste prevention programme provide comprehensive information support on the subject, including the introduction of the waste prevention agenda into school curricula, research and educational programmes, cultural and educational activities related to the protection and formation of the environment.	39P	<i>Production of other waste</i>
4	Throughout the implementation of the Waste prevention programme provide comprehensive information support on the subject, including the introduction of the waste prevention agenda into school curricula, research and educational programmes, cultural and educational activities related to the protection and formation of the environment.	48P	<i>Production of hazardous waste</i>

6	At all levels support, promote, and provide information about the available voluntary instruments (voluntary agreements, systems of environmental management, environmental labelling, and cleaner production) with the aim of their gradual expansion.	39P	<i>Production of other waste</i>
6	At all levels support, promote, and provide information about the available voluntary instruments (voluntary agreements, systems of environmental management, environmental labelling, and cleaner production) with the aim of their gradual expansion.	48P	<i>Production of hazardous waste</i>
7	Create conditions for stabilising the production of the various components of municipal waste and for subsequent reductions at all levels of public administration and at the level of the citizen.	39P	<i>Production of other waste</i>
7	Create conditions for stabilising the production of the various components of municipal waste and for subsequent reductions at all levels of public administration and at the level of the citizen.	48P	<i>Production of hazardous waste</i>

Indicators of objectives for waste prevention are not currently set, both at the national level and the derived at the regional level, therefore descriptive indicators were assigned for the objectives, which can indicate the achievement of the objectives at least in part. For Objective 5 “Ensure effective involvement of state administration at all levels in waste prevention agenda to progressively reduce the quantity of waste generated by state administration.” the indicator has not been set at the regional level.

Descriptive indicators for waste prevention

NO.	Indicator Type	Indicator definition
3P	Total waste production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
13P	Municipal waste production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
12P	Production (yield) of separate collection of municipal waste (4 component collection) originating from communities	Indicator expressed in (t/year).
14P	Production of municipal waste from municipalities	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
23P	MMW production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).

NO.	Indicator Type	Indicator definition
30P	Bulky waste production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
37P	BDW production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
38P	BDWM production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
39P	Production of other waste	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
48P	Production of hazardous waste	Indicator expressed in (t/year) and in (kg/inhabitant/ year).

3) Indicators for municipal waste objectives

Objective		Objective/target indicator	
NO.	Objective name	NO.	Designation
8	Introduce separate collection for at least waste paper, plastics, glass, and metals.	1	Share of municipalities that provide separate collection of four components (glass, paper, plastic, metals) municipal waste.
9	By the year 2020, increase to at least 50% by weight, the overall level of preparing for re-use and recycling of waste from at least such materials such as paper, plastic, metal, glass, coming from household waste and possibly of other origin, if these waste streams are similar to waste from households.	2	Rate of recycling paper, plastic, glass, metals contained in municipal waste.

Descriptive indicators for municipal waste

NO.	Indicator Type	Indicator definition
1P	Capacity of facilities	The indicator is expressed according to the type of facility in (t) or (m ³).
2P	Number of facilities	The indicator is expressed according to the type of facility in (pieces).
12P	Production (yield) of separate collection of municipal waste (4 component collection) originating from communities	Indicator expressed in (t/year).
13P	Municipal waste production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
14P	Production of municipal waste from municipalities	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
15P	Municipal waste recovery	Indicator expressed in (t/year, %).
16P	Material recovery of municipal waste	Indicator expressed in (t/year, %).

NO.	Indicator Type	Indicator definition
17P	Municipal waste recycling	Indicator expressed in (t/year, %).
18P	Energy recovery of municipal waste	Indicator expressed in (t/year, %).
19P	Municipal waste disposal	Indicator expressed in (t/year, %).
30P	Bulky waste production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
31P	Bulky waste recovery	Indicator expressed in (t/year, %).
32P	Energy recovery of bulky waste	Indicator expressed in (t/year, %).
33P	Bulky waste disposal	Indicator expressed in (t/year, %).
34P	Bulky waste processing	Indicator expressed in (t/year, %).
35P	Bulky waste incineration	Indicator expressed in (t/year, %).
36P	Bulky waste landfilling	Indicator expressed in (t/year, %).
37P	BDW production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
38P	BDWM production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).

4) Indicators for mixed municipal waste objectives

Objective		Objective/target indicator	
NO.	Objective name	NO.	Designation
10	Use mixed municipal waste (after sorting of materially recoverable components, hazardous substances and biodegradable waste) especially for energy recovery in facilities designed for this purpose in accordance with effective legislation.	25 P	<i>Energy recovery of mixed municipal waste</i>

The indicator of the objective for the treatment of mixed municipal waste (MMW) is not established at the national level or at the regional level, therefore a descriptive indicator has been created for the objective, which also indicates the achievement of the set objective.

Descriptive indicators for mixed municipal waste

NO.	Indicator Type	Indicator definition
1P	Capacity of facilities	The indicator is expressed according to the type of facility in (t) or (m ³)
2P	Number of facilities	The indicator is expressed according to the type of facility in (pieces).
23P	MMW production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
24P	MMW recovery	Indicator expressed in (t/year, %).

NO.	Indicator Type	Indicator definition
26P	MMW disposal	Indicator expressed in (t/year, %).
25P	MMW energy recovery	Indicator expressed in (t/year, %).
27P	MMW processing	Indicator expressed in (t/year, %).
28P	MMW incineration	Indicator expressed in (t/year, %).
29P	MMW landfilling	Indicator expressed in (t/year, %).

5) Indicators for BDMW objectives

Objective		Objective/target indicator	
N O.	Objective name	NO.	Designation
11	Reduce the maximum quantity of biodegradable municipal waste deposited at landfills in such a way, so that the share of this component would be in the year 2020 at maximum 35% by weight of the total quantity of biodegradable municipal waste produced in 1995.	3	Quantity of BDMW deposited to landfills.

Descriptive indicators for BDMW

NO.	Indicator Type	Indicator definition
1P	Capacity of facilities	The indicator is expressed according to the type of facility in (t) or (m ³).
2P	Number of facilities	The indicator is expressed according to the type of facility in (pieces).
38P	BDWM production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).

6) Indicators for construction waste objectives

Objective		Objective/target indicator	
NO.	Objective name	NO.	Designation
12	Increase by the year 2020, to at least 70% by weight, the rate of preparing for re-use and the rate of recycling of construction and demolition waste and other types of their material recovery, including backfilling, in which materials are replaced in accordance with the applicable legislation by construction and demolition waste of the category "other", excluding the naturally occurring material defined in the Waste Catalogue under the catalogue number 17 05 04 (soil and stones).	4	Recovery rate and material recovery of construction and demolition waste.

7) Indicators for hazardous waste objectives

Objective		Objective/target indicator	
NO.	Objective name	NO.	Designation
28	Reduce the specific production of hazardous waste.	48 P	<i>Production of hazardous waste</i>
29	Increase the share of materially recovered hazardous waste.	50 P	<i>Material recovery of hazardous waste</i>
30	Minimize the negative effects of hazardous waste management on human health and the environment.	48 P	<i>Production of hazardous waste</i>

Indicators of objectives for the management of hazardous waste have not been established at the national (WMP CR) or at the regional level, therefore descriptive indicators have been assigned for the objectives, which also indicate the achievement of the above objectives. For Objective 31 "Reclaim contaminated sites with hazardous waste presence." the indicator of the objective has not been set at the regional level.

Descriptive indicators for hazardous waste

NO.	Indicator Type	Indicator definition
1P	Capacity of facilities	The indicator is expressed according to the type of facility in (t) or (m ³).
2P	Number of facilities	The indicator is expressed according to the type of facility in (pieces).
48P	Production of hazardous waste	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
49P	Hazardous waste recovery	Indicator expressed in (t/year, %).
50P	Material recovery of hazardous waste	Indicator expressed in (t/year, %).
51P	Hazardous waste recycling	Indicator expressed in (t/year, %).
52P	Hazardous waste energy recovery	Indicator expressed in (t/year, %).
53P	Hazardous waste disposal	Indicator expressed in (t/year, %).
54P	Hazardous waste processing	Indicator expressed in (t/year, %).
55P	Hazardous waste incineration	Indicator expressed in (t/year, %).
56P	Hazardous waste landfilling	Indicator expressed in (t/year, %).

For objectives 32 - 41, no indicators have been set at the regional level.

Annex 2: Overview of the indicators in the Regional WMP

Indicators of WMP KVR objectives		
NO.	Indicator Type	Indicator definition
1	Share of municipalities that provide separate collection of four components (glass, paper, plastic, metals) municipal waste.	Indicator expressed in (% of municipalities) and in (% of population).
2	Rate of recycling paper, plastic, glass, metals contained in municipal waste.	Indicator expressed in (%).
3	Quantity of BDMW deposited to landfills.	Relative to the quantity of BDMW from communities (by conversion by share of BDW in MW). Indicator expressed in (t/year) and (kg/ inhabitant/ year).
4	Recovery rate and material recovery of construction and demolition waste.	Indicator expressed in (%).

Descriptive indicators		
NO.	Indicator Type	Indicator definition
1P	Capacity of facilities	The indicator is expressed according to the type of facility in (t) or (m ³).
2P	Number of facilities	Indicator will be expressed according to the type of facility (units).
3P	Total waste production	Indicator expressed in (t/year) and in (kg/ inhabitant/ year).
4P	Total waste recovery	Indicator expressed in (t/year, %).
5P	(All) waste material recovery	Indicator expressed in (t/year, %).
6P	Total waste recycling	Indicator expressed in (t/year, %).
7P	(All) waste energy recovery	Indicator expressed in (t/year, %).
8P	Disposal of (all) waste	Indicator expressed in (t/year, %).
9P	Total waste recovery	Indicator expressed in (t/year, %).
10P	Total waste incineration	Indicator expressed in (t/year, %).
11P	Total waste landfilling	Indicator expressed in (t/year, %).
12P	Production (yield) of separate collection of municipal waste (4 component collection) originating from communities	Indicator expressed in (t/year).
13P	Municipal waste production	Indicator expressed in (t/year) and in (kg/ inhabitant/ year).
14P	Production of municipal waste from municipalities	Indicator expressed in (t/year) and in (kg/ inhabitant/ year).
15P	Municipal waste recovery	Indicator expressed in (t/year, %).
16P	Material recovery of municipal waste	Indicator expressed in (t/year, %).

Descriptive indicators		
NO.	Indicator Type	Indicator definition
17P	Municipal waste recycling	Indicator expressed in (t/year, %).
18P	Energy recovery of municipal waste	Indicator expressed in (t/year, %).
19P	Municipal waste disposal	Indicator expressed in (t/year, %).
20P	Municipal waste processing	Indicator expressed in (t/year, %).
21P	Municipal waste incineration	Indicator expressed in (t/year, %).
22P	Municipal waste landfilling	Indicator expressed in (t/year, %).
23P	MMW production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
24P	MMW recovery	Indicator expressed in (t/year, %).
25P	MMW energy recovery	Indicator expressed in (t/year, %).
26P	MMW disposal	Indicator expressed in (t/year, %).
27P	MMW processing	Indicator expressed in (t/year, %).
28P	MMW incineration	Indicator expressed in (t/year, %).
29P	MMW landfilling	Indicator expressed in (t/year, %).
30P	Bulky waste production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
31P	Bulky waste recovery	Indicator expressed in (t/year, %).
32P	Energy recovery of bulky waste	Indicator expressed in (t/year, %).
33P	Bulky waste disposal	Indicator expressed in (t/year, %).
34P	Bulky waste processing	Indicator expressed in (t/year, %).
35P	Bulky waste incineration	Indicator expressed in (t/year, %).
36P	Bulky waste landfilling	Indicator expressed in (t/year, %).
37P	BDW production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
38P	BDWM production	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
39P	Production of other waste	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
40P	Recovery of other waste	Indicator expressed in (t/year, %).
41P	Material recovery of other waste	Indicator expressed in (t/year, %).
42P	Other waste recycling	Indicator expressed in (t/year, %).
43P	Energy recovery of other waste	Indicator expressed in (t/year, %).
44P	Disposal of other waste	Indicator expressed in (t/year, %).
45P	Other waste recovery	Indicator expressed in (t/year, %).
46P	Other waste incineration	Indicator expressed in (t/year, %).
47P	Landfilling of other waste	Indicator expressed in (t/year, %).

Descriptive indicators		
NO.	Indicator Type	Indicator definition
48P	Production of hazardous waste	Indicator expressed in (t/year) and in (kg/inhabitant/ year).
49P	Hazardous waste recovery	Indicator expressed in (t/year, %).
50P	Material recovery of hazardous waste	Indicator expressed in (t/year, %).
51P	Hazardous waste recycling	Indicator expressed in (t/year, %).
52P	Hazardous waste energy recovery	Indicator expressed in (t/year, %).
53P	Hazardous waste disposal	Indicator expressed in (t/year, %).
54P	Hazardous waste processing	Indicator expressed in (t/year, %).
55P	Hazardous waste incineration	Indicator expressed in (t/year, %).
56P	Hazardous waste landfilling	Indicator expressed in (t/year, %).