

22. ROMANIA

22.1 Legal Framework – Waste Management Plans and Strategies

22.1.1 National Legislation concerning CDW

The regulations on management of waste are generally similar to those set out by the European Community law. The general framework in this field is ensured by Government Emergency Ordinance No. 78/2000 on the regime of waste, further supplemented by rules on landfills, waste incineration, shipment of waste, waste electrical and electronic equipment, end-of-life vehicles, packaging waste and waste from batteries and accumulators, etc. Transitional periods for implementing certain EU provisions concerning waste have been agreed upon in areas such as shipment of waste, landfills, waste electrical and electronic equipment, incineration of waste and packaging waste [273].

According with Deloitte document [274], current national legislation on waste in generally are:

- **Government Decision no. 856/2002** on waste management, approves waste categories, including hazardous waste
- **Decision no. 349/2005**, sets the legal framework for landfilling of waste and establishes criteria of selection procedures, obligations and sanctions.
- **Law no. 211/2011** on waste regime [republished in 2014]

This law is the transposition of the WFD into the national legislation. It defines waste and extended producer responsibility, it enforces waste hierarchy, waste management and prevention plans at the national, regional and local levels. With respect to the construction and demolition waste, the Law on waste regime establishes that the waste producers and the authorities of the local public administration must reach until 2020 a level of preparation for reuse and recycling of minimum 70% by weight of the quantities of non-hazardous waste from construction and demolition activities.

22.1.2 Waste management plans (WMP) and Strategies

Romania has adopted a National Waste Management Strategy (2014-2020) with the Decision nr. 870 of 06/11/2013. This is the second National Waste Management Strategy Romania adopts, the first one being 3 years before joining the EU. The Strategy sets the national framework for waste management and aims to gear Romania towards a “recycling society” by:

- Prioritising the efforts of waste management according to the waste hierarchy;
- Encouraging waste prevention and reuse for more resource efficiency;
- Developing and extending infrastructure for separate collection of waste in order to improve the quality of the recycling;
- Developing recycling and recovery technology;
- Reducing the quantity of waste on landfills.

The Strategy contains a specific section on CDW where it recalls the recycling objective of 70% and it suggests the implementation of the waste hierarchy. It also requires:

- Strict separation of construction and demolition waste from other waste categories;
- Removal of dangerous content;
- Controlling the actual composition of the waste generation instead so that it can be sent to the treatment plant with an inert material and substances that hinder the recovery process;
- Construction and demolition waste processing in sorting stations (recovery of various recyclable materials);
- Construction and demolition waste processing technologies crushing, grading and / or sorting according to density mobile stations, semi-mobile or stationary;
- Use the fine fraction (8-40 mm) results for various construction work, in particular for the construction of road infrastructure.

In order to achieve the short term objectives of the National Waste Management Strategy, strategic action plans were developed in the National Waste Management Plan (Decision nr.1470/200419), elaborated in the period 2003-2013. This plan contains details regarding the actions necessary to be developed to reach the objectives set in the Strategy, the way to develop these actions, including terms and responsibilities. The Plan contains objectives and measures for waste management and contains specific targets for certain waste flows, including CDW such as: supporting reuse and recycling and developing treatment facilities for dangerous CDW. The National Waste Management Plan is approved through Governmental Decision and it is revised every five years.

Each of the 41 Counties in Romania plus Bucharest have the duty to establish a **Municipal Waste Management Plan**. This plan is based both on the National and Regional Waste Management Plan and it develops strategies applied to only a selection of cities and rural areas identified administratively as belonging to the same County.

22.1.3 Legal framework for sustainable management of CDW

According with Deloitte [274] document there is no specific national legislation on CDW management. There has been an attempt to adopt such piece of legislation in 2014 setting new obligations for waste management actors, but the proposal was rejected.

22.1.4 Targets

Romania has the same re-use, recycling and recovery targets of CDW as the ones outlined in the WFD. Article 17 of **Law nr. 211/2011 on waste regime** set as an objective for waste producers and public authorities to reach until **2020 a level of preparation for reuse and recycling of minimum 70%** by weight of the quantities of non-hazardous waste from construction and demolition activities. Not reaching this target, or the other targets established by the Waste Framework Directive, will allow the European Commission to take the member states to court. The same target is explicitly mentioned in the recently adopted National Waste Management Strategy and in the National, Regional and County Plans [274].

22.1.5 End of Waste (EoW) status

The EoW principle is defined in **Law no. 211/2011** transposing the Waste Framework Directive. One of the objectives of Project LIFE ENV/RO0007279 was to develop a Methodology10 on EoW status of certain construction and demolition waste (class 17 01), which had the purpose to:

- define the criteria for EoW for the aggregates resulting from the treatment of inert CDW from class 17 01;
- to establish the point where aggregates resulting from the treatment of inert CDW, after applying the EoW criteria, cease to be governed by specific waste legislation;
- ensure potential users of aggregates resulting from the treatment of inert CDW that there were produced in accordance with reference standards in the field and can be used with confidence in the areas indicated by the manufacturer;
- provide the information necessary to demonstrate compliance with the provisions of Art.6 of the WFD;
- ensure an adequate degree of environmental protection.

The Methodology also specifies under what conditions certain categories of CDW cease to be waste and obtain the status of “products” while ensuring a high level of environmental protection, in parallel with the achievement of economic environmental benefits. For example, only inert CDW from class 17 01 will be accepted for treatment and processing: 17 01 01, 17 01 02, 17 01 03, 17 01 07. Also, an inspection of the truck transporting this type of waste will be done on the treatment site. A proof of the origin of the CDW transported needs to be kept for a three years period and has to specify the composition and of the waste. The quantity of waste is required to be reported to the national authorities.

22.2 Non legislative instruments (best practices, guidelines, recommendations...)

In this section, any other instruments that may specify how the country is addressing the question of CDW management maybe highlighted, as these instruments might be creating conditions for a sustainable management of CDW.

Table 81. Non legislative instruments.

Description	Level of occurrence (Yes/No) Key Scope/Exemptions	Year established and policy reference	Further detail, information source, related web-site
<i>Sustainability standards that cover CDW (e.g. BREEAM)</i>	Yes BREEAM LEED	2014	Liberty Technology Park Cluj was granted the first BREEAM Major Refurbishment certificate in September 2014. https://rogbc.wordpress.com/2014/09/17/liberty-technology-park-cluj-was-granted-the-first-breeam-major-refurbishment-certificate-with-a-very-good-rating-in-romania/
<i>Extended producer responsibility scheme in operation?</i>	No	N/A	N/A

22.3 CDW management performance – CDW data

22.3.1 CDW generation data

EUROSTAT database reports the data shown in Table 82 for CDW generated between years 2010 and 2014.

Table 82. EUROSTAT CDW generation data.

	2010 [tons]	2012 [tons]	2014 [tons]
Mineral waste for construction	65.862	781.430	----
Metal wastes, ferrous	12.309	4.676	----
Metal wastes, non-ferrous	140	177	----
Glass wastes	26	1	----
Plastic wastes	78	73	----
Wood wastes	17.128	482	----
Total	237.502	1.325.341	----

22.3.2 CDW treatment data

Data published by EUROSTAT deals with different waste categories but becoming from all the economic activities. Therefore, only for the category “Mineral waste from construction”, data can be considered reliable, as in the Table 91.

Table 83. EUROSTAT CDW treatment data

Mineral waste from construction [tons]	2010	2012	2014
Landfill / disposal (D1-D7, D12)	442.116	257.848	
Deposit onto or into land	442.092	257.848	

Land treatment and release into water bodies	24	0	
Incineration / disposal (D10)	54	0	
Incineration / energy recovery (R1)	1.474	10	
Recovery other than energy recovery	260.519	529.522	
Recovery other than energy recovery - backfilling	0	0	
Recovery other than energy recovery - except backfilling	260.519	529.522	
Total waste treatment	704.163	787.380	

22.3.3 CDW exports/imports data

No data found

22.3.4 CDW treatment facilities data

According to EUROSTAT database about “Number and capacity of recovery and disposal facilities by NUTS 2 regions”, in Romania there aren't landfill for inert waste, while there are 103 landfill for non-hazardous waste and 11 landfill for hazardous waste.

Even if those are the official data reported by EUROSTAT, in Romania the majority of CDW is disposed on municipal landfills or illegally.

22.3.5 Future projections of CDW generation and treatment

No data found

22.3.6 Methodology for CDW statistics

According to Art. 49(1) of Law no. 211/2011, all CDW operators are obliged to report the volume of CDW: waste producers, waste owners, waste management operators, public authorities, brokers etc.

The National Environmental Agency (ANPM) collects data on a yearly basis via questionnaires. These questionnaires are sent to all the operators mentioned by Law and the data gathered is consolidated by ANPM. According to ANPM, waste management operators report annually the total volume of collected CDW. County Environmental Agencies (APM) also play a role in consolidating data and sending it to ANPM. ANPM reports the final consolidated data to EUROSTAT.

Monitoring the CDW volumes in Romania is very challenging. Firstly, most of the times, CDW is mixed with the municipal waste and no separate collection containers are provided for CDW. Secondly, a large number of business operators generating CDW, do not report it. Moreover, the local authorities are not involved at all in collecting the data. The ANPM mentions in its 2012 Annual Report that the data gap is also due to the lack of specific legislation on C&D and of the difficulty in identifying those waste holders. The quality of the reported data is globally very uncertain and underestimated.

22.4 C&D waste management in practice

The current practice in Romania on C&DW management follows the trends and technologies in Europe and is presented in the next Figure 18 [275]

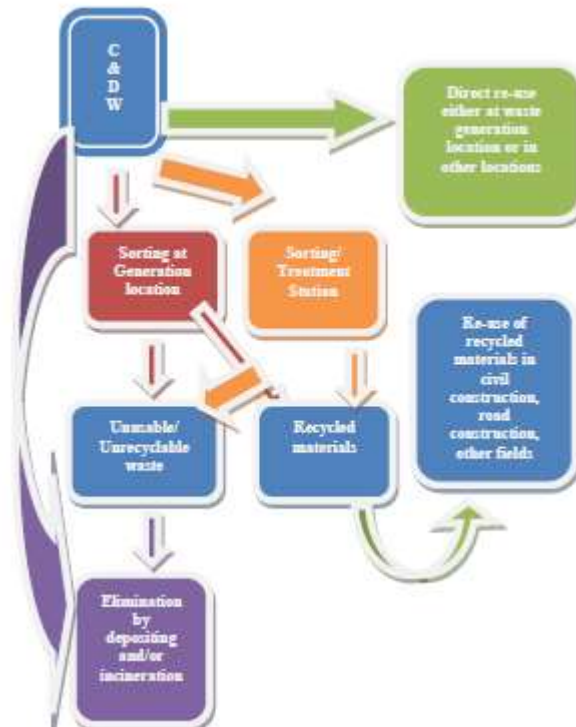


Figure 18. Methods of C&DW management used in Romania

In literature, it is well known the fact that the traditional treatment of construction and demolition waste (further on referred to as C&DW) was landfilling, usually in landfills used for municipal solid waste [275].

The same situation has been frequently encountered in Romania, where, currently, there is no landfill dedicated to CDW. However, as throughout Europe, there is an increase in scarcity of landfill space, as well as increased costs in environmental protection in conformity with European regulations, therefore a like solution is less and less attractive for states. In which concerns Romania, we shall refer to the situation of Bucharest, which, as stated before, accounts for 65% of the construction projects. Currently, Bucharest has 3 municipal solid waste landfills: Glina, Chitila and Vidra. Glina, the largest of landfills, with a surface of 119 ha, out of which 110 are used for waste depositing, and out of these 37 actually belong to the former non-ecological landfill. A recent declaration of the Romanian Ministry for Environment [277] states that approximately 93% of all Romanian landfills are not in conformity with environmental regulations, and according to European requirements, they have to be in conformity by 2010.



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22.4.1 CDW management initiatives

Table 84. CDW management initiatives

Description of initiative	Scope	Year established	National, regional, local (specify which local area/region)	Public sector and/or Industry lead organisation	Levels of performance e.g. tonnes recycled	Further information/ web-site
Introduction of waste management requirements in the construction and demolition authorisations	To urge all C&D actors to collect, sort and treat CDW	2011	Local (Medias)	Public and Private	The levels are not available but according to the interviewed stakeholders the initiative was very successful.	Interview with Dumitru Ungureanu, Environmental Consultant, Asroseriv, 24 April 2015
The acquisition of a mobile installation of pilot plant for mechanical treatment of inert waste	Contribute to proper management of CDW; reduction and elimination of illegal dumping of CDW	2011	Local (Medias)	Public and private	The levels are not available but according to the interviewed stakeholders the initiative was very successful.	http://www.gestiunedeseuri.ro/activitati-proiect/activitatea-6.3-achizitionarea-unei-instalati-mobile-pentru-tratarea-deeurilor-din-construcii-i-demolri-preatirea-personalului-etc-36.html
The acquisition of an onsite installation of pilot plant for mechanical treatment of inert waste	Contribute to proper management of CDW; reduction and elimination of illegal dumping of CDW	2014	Local (Buzau)	Public investment	The levels are not available but according to the interviewed stakeholders the initiative was very successful.	http://life-dod.ro/documente/?did=21

22.4.2 Drivers / barriers to increase CDW recycling

The Table 85 is a brief description of the barriers and driver for Romania. These points are primarily derived from Deloitte's study **Chyba! Nenalezen zdroj odkazů.**

Table 85. Drivers / barriers to increase CDW recycling

Factor/characteristic/element inCDW recycling chain	Drivers	Barriers
Infrastructure	Public and private instruments Building treatment infrastructure within a maximum of 30 km area from urban area in order to improve cost-effectiveness of recovery	Lack of infrastructure for waste treatment , recycling Infrastructure are located too far from urban centres making transport very expensive
Landfill tax	Increase of the landfill tax	Very low landfill tax does not create incentives for recycling
Market conditions	Incentives for economic operators to choose recycled over natural Reduce the over-exploitation of natural aggregates	Natural aggregates are considerably less expensive than recycled aggregates
Legislation	Propose and adopt legislation defining recovery and treatment obligations for all stakeholders involved in the management of CDW ☐ Define EoW by law	Lack of legislation on the recovery of CDW ☐ Lack of specific legislation on EoW
Definition and statistical data	Harmonisation of the data reporting Better traceability of data Involve local and regional authorities in data collection	Data very uncertain; definition of CDW is not the same for all actors reporting the data ☐ Waste holders do not report and are difficult to identify

22.5 CDW sector characterization

According with Deloitte document [274], currently, in Romania, there are not enough facilities for the treatment, recovery and recycling of CDW. There are only few operators or public authorities that recover/recycle this type of waste and that operates crushers, transforming concrete and bricks in materials that have a subsequent use. The lack of

infrastructure increases the transport costs and deters waste holders to recover the generated CDW.

Now, in Romania, involvement in the recovery and recycling of CDW is voluntary. It is not obligatory by law for builders or owners of a construction to achieve performance or recycling targets.

22.5.1 CDW materials (CONCRETE, BRICKS, TILES AND CERAMIC, ASPHALT, WOOD, GYPSUM)

Product description and applications

No data found

Quantitative analysis

No data found

Recovery techniques

No data found

Environmental and economic impacts of CDW waste management

No data found

Drivers / barriers to increase recycling

See section 22.4.2

22.5.2 Recycled materials from CDW

The main CDW product is recycled aggregates, used for backfilling and road building **Chyba! Nenalezen zdroj odkazů.**

The EoW criteria is in place for aggregates and according to stakeholders, it seems to hinder the secondary raw materials market. It is expected that, in the absence of concrete measures, aggregates resulting from the treatment of C&D inert waste and secondary materials to not become a sought commodity. The LIFE project developed in 2012 a methodology for EoW in Romania detailed in section 2.3. Market conditions / costs and benefits

It is currently more expensive in Romania to buy secondary raw materials than primary ones. One of the main reasons is that the large number of pits in Romania leads to an abundance of supply of natural aggregates, and to low prices. For this reason, using recycled CDW for new constructions is not very well perceived in as the actors in the construction sector tend to prefer the use of primary raw material, which they perceive as having higher quality than secondary (recycled CDW) materials. This mentality could be changed if the quality of the secondary raw materials is certified.

Furthermore, the lack of infrastructure and high cost of transportation, combined with the lack of financial incentives to recycle CDW deters consumers to buy recovered materials. The

life cycle analysis performed by the LIFE project has concluded that the purchase of secondary raw materials resulting from CDW treatment is cost-effective only if the treatment plant is situated within a 30km area.

Table 86. Quantity of exploited minerals (in tons) Source: European mineral statistics, 2004-2008

Year	2004	2005	2006	2007	2008
Sand and gravel	14 547 501	17 030 888	21 817 371	26 276 857	31 377 110
Stones	2 585 894	2 328 165	3 373 384	5 905 842	4 635 010