

Construction and Demolition Waste management in

ROMANIA

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Screening factsheet

1. Summary

Construction and Demolition Waste (CDW) management national performance

Year	2007	2008	2009	2010	2011	2012
Generated CDW (tons)	-	Not available	-	952 668	-	1 330 069
Collected CDW (tons)	733 720	812 820	673 940	497 510	531 780	In progress
Recovered (tons)	6820	23 150	84 150	145 900	253 550	In progress
Recycled CDW (tons)	NA	NA	NA	NA	NA	NA
Backfilled CDW (tons)	NA	NA	NA	NA	NA	NA
Landfilled CDW (tons)	NA	NA	NA	NA	NA	NA
Energy recovery if any (tons)	NA	NA	NA	NA	NA	NA

As illustrated in the table above, data availability regarding Construction and Demolition Waste (CDW) is a big issue in Romania. The Romanian Environmental Agency (ANPM) consolidates the data from local Environmental Agencies and sends it to EUROSTAT. The reported data is nonetheless not available online. The ANPM publishes an Annual Report¹ where the total quantity of municipal waste collected is included. However the report does not include available data on the total waste generated.

The generated tones included in the table above represent the quantity of CDW reported by ANPM to EUROSTAT. The collected quantities of CDW were identified in ANPM's most recent Annual Report. The recovered data corresponds also to what was declared in the ANPM 2013 Annual Report. This data does not include backfilling, although it is one of the most used treatment operation in Romania.

In 2011, a new legislation was published² imposing on all waste operators (waste producers, waste owners, waste management operators, public authorities, brokers etc.) to report to their local Environmental Agencies the generated, collected or treated volume of waste. Latest available data refer to 2011. Data for 2012 is not available yet on ANPM's website.

According to the interviewed experts³, the data reported by ANPM to EUROSTAT is highly uncertain, including estimations of generated quantities. The LIFE ENV/RO/00727 project "**Recovery of Construction**

¹ Agentia Nationala pentru Protectia Mediului, (2013), Raport national privind starea mediului, available at: <http://www.anpm.ro/documents/12220/2209838/R+S+M+2013+engleza.pdf/daba6dd0-a84b-4973-a14d-e0964d4a0076>

² Law nr. 211/2011 regarding waste management, available at: http://www.dreptonline.ro/legislatie/legea_211_2011_regimul_deseurilor.php

³ Dumitru Ungureanu, Environmental Consultant, Asroserv, 24 April 2015 si Mihai Toniuc, Environmental Expert, Natura Management, 30 April 2015

and Demolition Waste in Buzău County”⁴ also concluded that the estimated amounts of CDW are underestimated and do not reflect the actual situation in Romania.

CDW management practices

CDW management is poorly handled in Romania. There are countless instances of improper CDW management, the majority consisting of abandonment or uncontrolled landfilling in and outside the cities. The main practice currently employed for the recovery of CDW is backfilling or landscaping mainly using inert waste (non-hazardous, such as sand, gravel, concrete, bricks, tiles, etc.) that is usually crushed.

Responsibilities for CDW management depend on the type of constructions: individual households, public works, large construction projects and large-scale infrastructures. For individual households, Local Public Authorities (LPA) takes full responsibility of the CDW management through delegated Operators (part of the sanitation service). For public works and large construction projects, the waste holder is the sole responsible for CDW management. LPAs can only establish standards of good practices and information management, but cannot impose specific treatment/recovery solutions. CDW recovery is a voluntary act in Romania.

Despite the difficulties identified in managing CDW, forecasts are not as bleak as they seem. The LIFE ENV/RO/00727 project has drafted a “Code of Best Practices on the management of CDW”⁵ that addresses both small and big generators of waste, as well as the Local Public Authorities. A pilot project was implemented in the Buzău County, where a plant for mechanical treatment of CDW was installed in order to contribute to the proper management of CDW. Such initiative, supported by administrative measures, contributed to the reduction, and finally elimination of illegal dumping of CDW in the area.

Main obstacles to sustainable CDW management

- Lack of infrastructure and facilities
 - All interviewed stakeholders pointed out that the lack of infrastructure to store, treat and recycle CDW is a huge problem. Construction sites are not equipped with containers or treatment units in order to be able to ensure a proper waste management. Transport is not cost-effective due to lack of treatment plants and infrastructure for storage.
- Low landfill taxes
 - Stakeholders mentioned that the storage tax is very small and it does not incentivise stakeholders to engage in recovery operations. In the Buzău County, the tax to deposit CDW is of approximately 5.6 EUR up until 100m³, 4.55 EUR in between 101 and 300m³ and 3.3 EUR for more than 300 m³ of CDW deposited.
- Poor market conditions for recycled aggregates
 - Romania is very rich in mineral aggregates, and no incentives are created to prefer recycled (and more expensive) aggregates to natural (and less expensive) aggregates. According to the interviewed stakeholders, there is no market for recycled aggregates at the moment.
- Lack of C&D Legislation
 - There is no specific law defining recovery and treatment obligations for all stakeholders involved in the management of CDW. Interviewed experts have pointed out that the lack of legislation might deter stakeholders to recover CDW.
 - There is also no legislation specifying under what conditions certain categories of CDW cease to be waste and obtain the status of “products”.
- Poor reporting and statistical data
 - Interviewed stakeholders outlined that definition of CDW is not the same for all actors reporting the data. Waste holders are very difficult to identify by the public authorities and they do not report the generated or the recovered CDW. This is why the data gathered by ANPM is still very poor and highly underestimated.

⁴ LIFE10ENV/RO/000727 “Recovery of Construction and Demolition Waste in Buzău County” ran between 2011 and June 2014 and was financed by LIFE+ Programme of the European Commission and implemented by the Buzău County Council and SC Natura Management SRL.

⁵ LIFE ENV/RO/00727 (2014), Cod de bune practici, available at : <http://life-dcd.ro/documente/?did=13>

Main drivers to sustainable CDW management

The following recommendations summarise the main suggestions of the interviewed stakeholders in order to address the above mentioned obstacles:

- Increase of the landfill taxation system
 - Experts underlined that an increase in the storage taxation system might deter waste holders to send the CDW straight to storage facilities. However the public authorities should ensure that such tax increase would not incentivise even more the practice of illegal dumping.
- Incentives for economic operators to choose recycled over natural aggregates
 - Interviewed stakeholders pointed out that economic operators need incentives to choose recycled aggregates of natural ones, as the price of natural aggregates is very low. As stakeholders associate recycled aggregates to less qualitative products, certifications or standards should be created in order to change their mentalities.
- Binding legislation
 - Some experts underlined that a binding legislation defining the recovery and treatment obligations for all stakeholders involved in the management of CDW is necessary in Romania. It is less likely that without binding legislation the 70% recovery target will be reached by 2020.
 - The EoW status of CDW should be clarified using the methodology proposed by the LIFE ENV/RO/00727 project⁶ and transposed in national legislation.
- Development of infrastructure
 - The Romanian Ministry of the Environment, Waters and Forest should allocate funds to build recovery and storage infrastructures.

⁶ Mihai Toniuc, Alina Oberdorf, Vasile Musuroaea... (2012) Metodologie privind EoW pentru anumite tipuri de deseuri din constructii si demolari, LIFE ENV/RO/00727 available at: <http://life-dcd.ro/documente/?did=19>

2. Definitions concerning construction and demolition waste (CDW) and management

2.1 Definition of waste

Waste is defined in the **Law nr. 211/2011 regarding waste management**⁷ as “any substance or object which the holder discards or intends or is required to discard”. This is the same definition as in the **Waste Framework Directive**.

2.2 Definition of construction and demolition waste (CDW)

The European definition of CDW is transposed in the **Government Decision nr. 856/2002 on waste management** which approves waste categories and in the recent **Law nr. 211/2013** transposing the Waste Framework Directive. Romania uses exactly the lists illustrated in the European List of Waste and the European Waste Catalogue. It therefore includes soil (including excavated soil from contaminated sites), stones and dredging spoil. The Guide defines CDW as “waste from construction, renovation, rehabilitation, repair, building, demolition of civil engineering, industrial constructions, structures, utilities, transport infrastructure and dredging and desalting activities”⁸.

2.3 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.

2.4 Definitions of waste treatment operations

Waste treatment operations are also defined in **the Law nr. 211/2011**. The definitions follow the categorisation in Annex II of the Waste Framework Directive as follows:

⁷ Law nr. 211/2011 regarding waste management available at:

http://www.dreptonline.ro/legislatie/legea_211_2011_regimul_deseurilor.php

⁸ Daniela Leopold, Marioara Goga, Rudolf Meissner., (2011), Ghid privind deseurile din constructii si demolari, available at <http://www.gestiunedeseuri.ro/activitati-proiect/activitatea-6.2.-elaborarea-unui-ghid-de-bune-practici-privind-deeurile-din-construcii-i-demolri-35.html>

⁹Project LIFE ENV/RO000727, available at: <http://life-dcd.ro/proiect/>

¹⁰Mihai Toniuc, Alina Oberdorfer, Vasile Musuroaea...(2012) Metodologie privind EoW pentru anumite tipuri de deseuri din constructii si demolari, LIFE ENV/RO/00727 available at: <http://life-dcd.ro/documente/?did=19>

- **Re-use:** any operation by which products or components that are not waste are used again for the same purpose for which they were conceived;
- **Recycling:** any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes reprocessing of organic material but it does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations;
- **Treatment:** means recovery or disposal operations, including preparation prior to recovery or disposal.
- **Backfilling:** its definition is interpreted as guided by the European Commission. Waste replacing other materials (which are not waste) to fulfil a particular function is considered backfilling.

3. Legal Framework – Waste Management Plans and Strategies

In this section the legal framework governing CDW management in Romania is presented.

3.1 Legislation concerning CDW in Romania

First pieces of legislation on waste

- **Government Decision no. 856/2002 on waste management**¹¹, approves waste categories, including hazardous waste
- **Decision no. 349/2005**¹², sets the legal framework for landfilling of waste and establishes criteria of selection procedures, obligations and sanctions.

Waste Framework Directive transposition

- **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.

Other Romanian legislation on waste that impact CDW management

- **Government Decision no.1061/2008 on the transport of hazardous and non-hazardous waste**¹³. Sets the regulatory and control procedures of hazardous and non-hazardous waste transport in Romania.
- **Government Decision 788/2007 on establishing measures for the implementation of the European Parliament and Council Regulation (EC) 1013/2006 on shipments of waste**¹⁴. This law sets the same provisions as the European Regulation in terms of responsibilities, sanctions etc.
- **Law no. 101/2006 regarding the local waste management authorities**¹⁵ sets the legislative framework for waste management operators in terms of objectives, organisation and obligations.
- **Law no. 50/1991 authorising the execution of construction works and some measures for housing, as amended and supplemented**¹⁶. Updated in 2014, this law sets rules for obtaining construction permits. There is no mention of CDW or of waste management in general.

¹¹ Government Decision no. 856/2002 on waste management, available at: <http://www.ecogest.ro/hq-856-2002-hotarare-privind-evidenta-gestiunii-deseurilor/>

¹² Decision no. 349/2005, available at: http://www.mmediu.ro/beta/wp-content/uploads/2012/05/2012-05-17_hg_349_2005.pdf

¹³ Government Decision no.1061/2008 on the transport of hazardous and non-hazardous waste, available at: http://mmediu.ro/beta/wp-content/uploads/2012/05/2012-05-17_hg_1061_2008.pdf

¹⁴ Decision no.788/2007 on establishing measures for the implementation of the European Parliament and Council Regulation (EC) 1013/2006 on shipments of waste, available at: http://www.cdep.ro/pls/legis/legis_pck.http_act?ida=83571

¹⁵ Law no. 101/2006 regarding the local waste management authorities, available at: http://www.xisoft.net/legislatie.php?link=legea_101_2006.htm

¹⁶ Law no. 50/1991 authorizing the execution of construction works and some measures for housing, as amended and supplemented, available at: http://www.avocatnet.ro/content/articles/id_14405

- **Law no. 51/2006 services of public utilities**¹⁷. This law establishes the objectives, duties and instruments required for the creation, organization, management, finance, operation, monitoring and control of public utilities services.

National legislation on CDW management

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.

End of Waste legislation

- The EoW principle is defined in **the Law nr. 211/2013** transposing the Waste Framework Directive. No other legislation was found.

3.2 Waste management plans (WMP) and Strategies

Romania has adopted a **National Waste Management Strategy (2014-2020)** via the **Decision nr. 870 of 06/11/2013**¹⁸ which came into force in January 2014. 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.1470/2004)**¹⁹, 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.

Based on the first National Waste Management Strategy adopted in 2004 and the National Waste Management Plan adopted the same year, **Regional Waste Management Plans** were developed two years later (**Decision nr.1364 / 1499/2006**)²⁰. These plans are developed by each Regional Environmental Agency

¹⁷ Law no. 51/2006 services of public utilities, available at: http://www.dreptonline.ro/legislatie/legea_servicii_comunitare_utilitate.php

¹⁸ Decision nr. 870 of 06/11/2013, National Waste Management Strategy (2014-2020), available at: <http://www.legex.ro/Hotararea-870-2013-130533.aspx>

¹⁹ Decision nr.1470/2004, National Waste Management Plan, available at: <http://www.legex.ro/Hotararea-1470-2004-47115.aspx>

²⁰ Decision nr.1364 / 1499/2006, Regional Waste Management Plans, available at: http://mmediu.ro/file/planuri_regionale.zip

in cooperation with representatives of the local authorities and are being approved by Ministry of Environment and Water and Minister of Integration European no. 1364/1499/2006 every 5 years. Each Regional Plan describes the management strategy for a selection of waste streams, including CDW (17 01, 17 02, 17 04). According to these Plans and to Law 426/2001, the transport and treatment of CDW is the responsibility of those who generate the waste, the construction or demolition company or other actors, based on a contract. The local authority decides where CDW should be transported and its management method.

Last but not least, 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.

3.3 Legal framework for sustainable management of CDW

Description	Level of occurrence (Yes/No) Key Scope/Exemptions	Year established and policy reference	Further detail, information source, related web-site
<i>National/regional obligation for selective demolition?</i>	No	N/A	N/A
<i>National/regional sorting obligation (on-site or in sorting facility)?</i>	No	N/A	N/A
<i>National/regional separate collection obligation for different materials (iron and steel, plastic, glass, etc.)?</i>	No	N/A	N/A
<i>Obligation for separate collection and management of hazardous waste from C&D operations? Please specify</i>	Yes. This is applicable to all waste streams.	2011	Law nr. 211/2011 on waste regime
<i>Related Green public procurement requirements</i>	No	N/A	N/A

3.4 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.

4. Non legislative instruments

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.

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

Key CDW management requirements and standards

Description	Occurrence (Yes/No) Mandatory (Yes/No) Scope & exemptions	Year established	National or regional (specify if regional)	Details of Public sector and Industry enforcement/ involvement/ collaboration	Levels of performance e.g. tonnes recycled,% coverage	Further information/ web-site
Requirement for pre-demolition audits	No	N/A	N/A	N/A	N/A	N/A
Standards for recycled CDW	No	N/A	N/A	N/A	N/A	N/A
Selective demolition/ plan for large demolition sites/demolition standard	No	N/A	N/A	N/A	N/A	N/A
Other CDW planning requirements	None	N/A	N/A	N/A	N/A	N/A

Key CDW management guidance and tools

Description of guidance/ tool	Scope	Year established/ produced	National or regional (specify if regional)	Public sector and/or Industry lead organisation	Levels of use (high/ medium/low) or specify	Further information/ web-site
Guide on CDW Management	Develop best practices for CDW management	2011	Local	Innovation Norway	High	http://www.gestiunedeseuri.ro/activitati-proiect/activitatea-6.2.-elaborarea-unui-ghid-de-bune-practici-privind-deeurile-din-construcii-i-demolri-35.html
Best practices Code for CDW Management	Illustrates best practices of CDW management	2014	Local	EU (Project LIFE ENV/RO000727)	High	http://life-dcd.ro/wp-content/uploads/downloads/2014/06/Cod-de-Bune-Practici-2014.pdf
Guide on temporary storage of dangerous and non-dangerous CDW		2008	National	Ministry of Environment and Sustainable Development	Low	http://www.mdrl.ro/documente/scheme_grant/doc_referinta/deseuri_Ghid2.pdf

Other CDW 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
Acquiring one mobile treatment plant for CDW	Treat and sort C&D on the site level; training staff, raising awareness etc.	2011	Local (Medias)	Public-private	Not available	http://www.gestiunedeseuri.ro/activitati-proiect.html#obiectiv11
Pilot plant for mechanical treatment of CDW	Proper management of waste; creation of jobs.	2014	Local (Buzau)	Public	Not available	http://life-dcd.ro/wp-content/uploads/downloads/2015/01/Layman_Report.pdf
The CDW Exchange database	An interactive web application where supply and demand of CDW, aggregates resulting from C&D inert waste treatment, meet.	2014	Regional (Buzau)	Public	Not available	http://www.deseuri-constructii.ro/

5. CDW management performance – CDW data

In this section the performance of CDW management in Romania is presented. This sections particularly seeks to gather all available data and information about CDW generation and treatment, exports/imports, and treatment facilities in Romania.

5.1 CDW generation data

CDW generation and recovery official statistics (in tonnes)

Year	2007	2008	2009	2010	2011	2012
Generated CDW (tons)	-	Not available	-	952 668	-	1 330 069
Collected CDW (tons)	733 720	812 820	673 940	497 510	531 780	In progress
Recovered (tons)	6820	23 150	84 150	145 900	253 550	In progress
Recycled CDW (tons)	NA	NA	NA	NA	NA	NA
Backfilled CDW (tons)	NA	NA	NA	NA	NA	NA
Landfilled CDW (tons)	NA	NA	NA	NA	NA	NA
Energy recovery if any (tons)	NA	NA	NA	NA	NA	NA

Source: ANPM

- The ANPM does not hold a strict record of the total quantity of CDW, mainly for two reasons: there is no dedicated legislation to CDW and there it is very difficult to identify and trace waste holders.
- Waste management operators report only on the CDW collected (and not generated). There is only national data for collected CDW.
- The generated CDW reported by ANPM correspond to the EUROSTAT data.
- Figures include soil and naturally occurring materials
- Backfilling is not included in the recovered CDW data.

The Project LIFE ENV/RO000727 concluded that the data is underestimated compared to the reality of the CDW in Romania.

5.2 CDW treatment data

Year	2007	2008	2009	2010	2011
Collected CDW (tons)	733 720	812 820	673 940	497 510	531 780
Recovered (tons)	6820	23 150	84 150	145 900	253 550

Backfilling data is not included in the recovery, although it is the most used treatment operation.

5.3 CDW exports/imports data

According to stakeholders interviews, the export or import of the CDW is close to zero. No data is recorded.

5.4 CDW treatment facilities data

Currently, there are very few landfills for inert CDW. The majority of CDW is disposed on municipal landfills or illegally. There are also very few treatment facilities in Romania. Some pilot projects were implemented in Medias and Buzau. According to the interviewed stakeholders, there is an evident lack of infrastructure and treatment facilities in Romania compared to the quantity of CDW generated.

5.5 Future projections of CDW generation and treatment

It is very difficult to obtain future projections. The future treatment depends on the willingness of the public and private actors to invest in infrastructures.

5.6 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.

6. CDW management in practice

In this section the CDW management “on ground” in Romania is explored.

6.1 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, Asroserv, 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.-achiziionarea-unei-instalarii-mobile-pentru-tratarea-deeurilor-din-construcii-i-demolri-pregtirea-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-dcd.ro/documente/?did=21

6.2 Stakeholders' engagement

This subsection is addressed to all contacted parties during the stakeholder consultation of the screening phase in order to incorporate their views, insights and hands-on experience on CDW management initiatives already in place in Romania. The table below aims to gather information on the existing initiatives – identified above – or other initiatives identified by the stakeholders themselves, together with a preliminary assessment of the enabling factors/obstacles, advantages/drawbacks, and other relevant comments.

Description of initiative	Scope, year established, actors involved	Advantages/ Enabling factors	Disadvantages/ Obstacles	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	The initiative was possible thanks to “The Partnership for a clean environment, reduction of waste and sustainable development” financed by Innovation Norway.	It takes time to convince local authorities to introduce new provisions in the C&D authorisations.	Interview with Dumitru Ungureanu, Environmental Consultant, Asroserv, 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	The initiative was possible thanks to “The Partnership for a clean environment, reduction of waste and sustainable development” financed by Innovation Norway.	In order for this initiative to be replicated, financial support will be necessary from private and public actors.	http://www.gestiunedeseuri.ro/activitati-proiect/activitatea-6.3.-achiziționarea-unei-instalații-mobile-pentru-tratarea-deeurilor-din-construcții-i-demolri-pregtirea-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	The initiative was possible thanks to the LIFE Project 10ENV/RO000727 aimed to develop a functional and effective construction and demolition waste management system.	In order for this initiative to be replicated, financial support will be necessary from private and public actors.	http://life-dcd.ro/documente/?did=21

6.3 Waste legislation enforcement

The national and local authorities are responsible for monitoring and enforcing waste regulations. The recovery and treatment of CDW is not regulated by law. No information is available on the means allocated to the enforcement of waste legislation.

Generally, the CDW management does not comply with the waste hierarchy. Backfilling is the main recovery operation in Romania and it is very often misreported or not reported at all.

There is no available data on illegal landfilling.

6.4 Drivers / barriers to increase CDW recycling

Factor / characteristic / element in CDW recycling chain	Drivers	Barriers
Infrastructure	<ul style="list-style-type: none"> Public and private investments Building treatment infrastructures within a maximum of 30 km area from urban area in order to improve cost-effectiveness of recovery. 	<ul style="list-style-type: none"> Lack of infrastructure for waste treatment, recycling Infrastructures are located too far from urban centres making transport very expensive
Landfill tax	<ul style="list-style-type: none"> Increase of the landfill tax 	<ul style="list-style-type: none"> Very low landfill tax does not create incentives for recycling
Market conditions	<ul style="list-style-type: none"> Incentives for economic operators to choose recycled over natural Reduce the over-exploitation of natural aggregates 	<ul style="list-style-type: none"> Natural aggregates are considerably less expensive than recycled aggregates
Legislation	<ul style="list-style-type: none"> Propose and adopt legislation defining recovery and treatment obligations for all stakeholders involved in the management of CDW Define EoW by law 	<ul style="list-style-type: none"> Lack of legislation on the recovery of CDW Lack of specific legislation on EoW
Definitions and statistical data	<ul style="list-style-type: none"> Harmonisation of the data reporting Better traceability of data Involve local and regional authorities in data collection 	<ul style="list-style-type: none"> 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

7. CDW sector characterisation

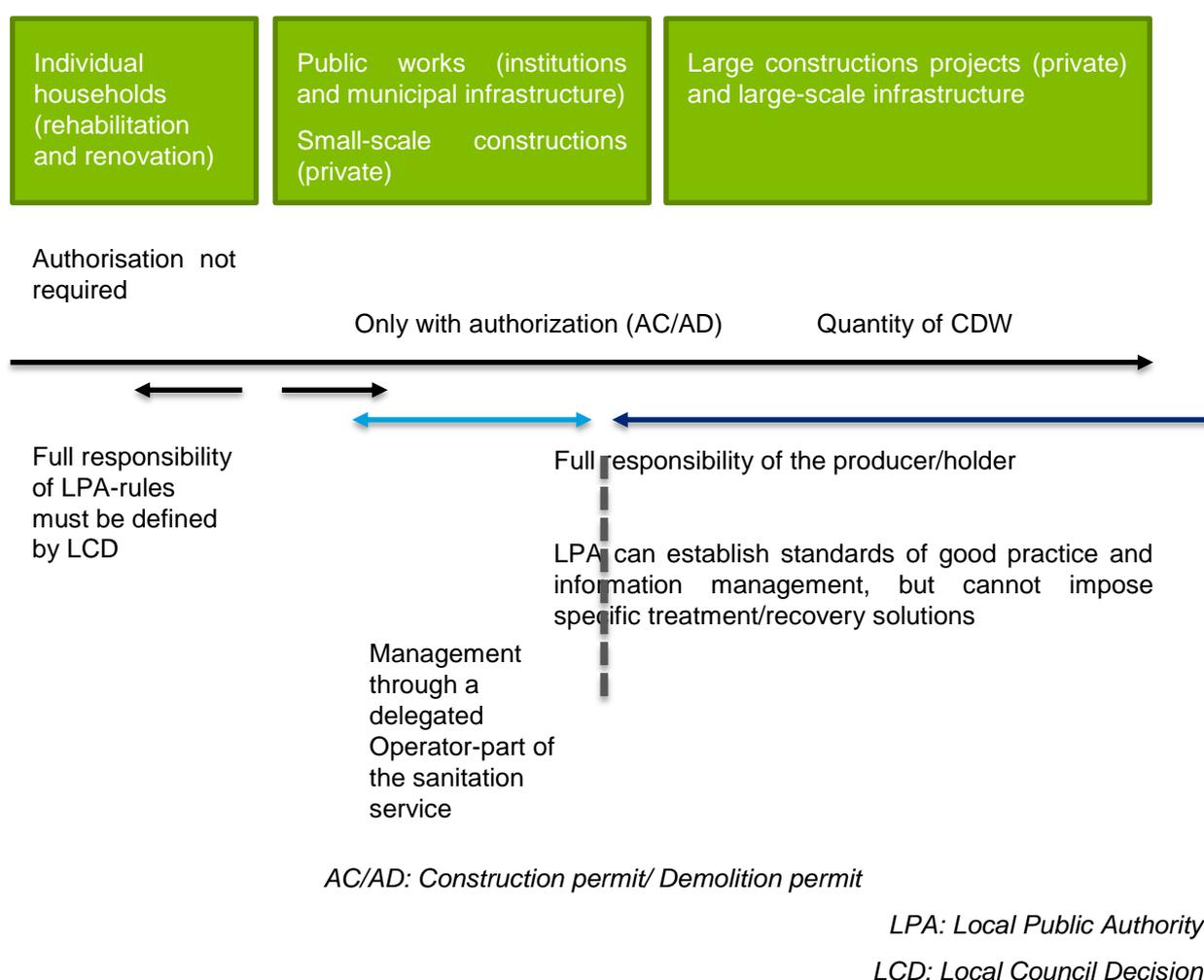
In this section some specific characteristics of the CDW management sector in Romania are presented.

7.1 Sector characteristics

Responsibilities for CDW management

Execution of any construction work is allowed only upon authorisation of construction or demolition by the local public authorities. These documents are issued at the request of a property owner (land and/or buildings) or at the request of the holder of an act entitling construction or demolition, under the rigors of the law. The authorisations do not include waste management requirements but they impose on the waste holder to contact the local sanitation operator in charge of transporting and storing the CDW.

There is an abundance of actors in the CDW management sector: waste holders, construction firms, waste management operators (collectors, recyclers), waste landfilling operators, public authorities, brokers, informal actors etc. CDW actors have different responsibilities when it comes to waste management. Their responsibilities in the CDW management are illustrated below:



Responsibilities for CDW management (Source: Project LIFE ENV/RO000727)

Infrastructure capacity for CDW recovery

According to stakeholder interviews, 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.

Until the establishment of a solid network of recovery/recycling operators for such waste, alternative solutions for its treatment are needed.

The practice currently employed for the recovery of CDW is backfilling or landscaping mainly using inert waste (non-hazardous, such as sand, gravel, concrete, bricks, tiles, etc.) that is usually crushed.

At the national level, there are countless instances of improper CDW management, the majority consisting of abandonment or uncontrolled landfilling of lands, in and outside the cities. Discontinuation of illegal, non-compliant, dumping or unauthorized landfilling will encourage a proactive approach of CDW generators in finding alternatives to landfilling.

Currently, 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.

7.2 Exports / imports of CDW

Interviewed stakeholders pointed out that the recycling capacity is very limited for CDW. Exports or imports for recycling are very low as the neighbouring countries have a similar capacity.

7.3 CDW as landfill cover

According to interviewed stakeholders, using CDW for landfill cover is a common practice in Romania. It is used either for backfilling or as materials for road construction. The quality of the CDW for backfilling is rather uncertain due to bad practices in sorting and separating hazardous waste.

There is no data on the quantities used for backfilling or for materials for road constructions. However, according to the interviewed stakeholders, most of the CDW generated in the rural areas is used for backfilling and for road infrastructure.

7.4 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 analysis²¹ 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.

Year	2004	2005	2006	2007	2008
Sand and gravel	14 547 501	17 030 886	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

Quantity of exploited minerals (in tons)

Source: European mineral statistics, 2004-2008

²¹ LIFE ENV/RO/00727 (2012) Raport analiza LCA privind aggregate minerale natural si reciclate,

7.5 Recycled materials from CDW

The main CDW product is recycled aggregates, used for backfilling and road building.

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.

7.6 Construction sector make up

According to INSEE, in March 2015, the number of constructions has increased by 13.8% compared to March 2014.²² This shows that the Romanian construction sector is recovering gradually from the economic crisis.

Housing construction

In the first trimester of 2015, 9232 housing constructions were built, 962 more than in 2014. 54% of the constructions were built in the urban areas. A considerable increase in the number of housing constructions was registered in developing regions such as Bucharest, the Centre, and the South-East etc.

Non-residential construction

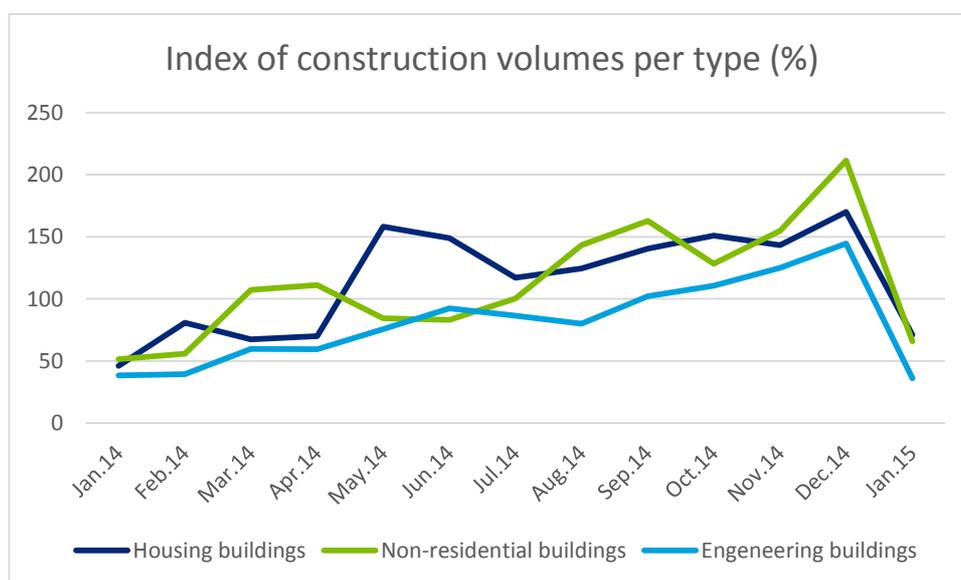
The number of non-residential construction has increased by 27.7% in January 2015 compared to January 2014.

Non-residential buildings include: commercial buildings, logistic buildings, industrial buildings and hotels.

Engineering buildings

Engineering buildings include infrastructure constructions such as roads, railways, water infrastructure etc.

The index of the different types of constructions (housing buildings, non-residential buildings and engineering buildings) is illustrated in the chart below:



According to the National Commission of Forecasting, the construction sector could become the main driver of the national economy in the next three years.²³

²² http://www.insse.ro/cms/files/statistici/comunicate/constructii/a15/indici_constr03r15.pdf

²³ <http://www.agendaconstructiilor.ro/files/actualitatea-interna/cnp-crestere-prognozata-la-53-a-pietei-constructiilor-in-2015.html>

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