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(De)construct for Circular Economy
(Des)construir para a Economia Circular

WP 7 – Information, awareness and training

Activity 7.2 – Participatory actions for municipalities and construction companies

Participatory Workshop – Results from Session B

Construction and demolition waste management by *Baixo Alentejo* municipalities – importance of a common regulation

Final report

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Operador do Programa:



Promotor:



Parceiros:



*Conceptualization, methodological approach, workshop organization,
data treatment, report*

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1. Introduction

The participatory workshop “Construction and demolition waste (CDW) management by *Baixo Alentejo* municipalities – importance of a common regulation” was held on September 7th of 2021. This event is part of the (De)construct for Circular Economy project, promoted by CIMBAL (*Comunidade Intermunicipal do Baixo Alentejo*), part of the work package (WP) 7 – Information, awareness and training, led by FCT NOVA (NOVA School of Science and Technology), more precisely Activity 7.2 – Participatory actions for municipalities and construction companies.

The methodology for WP 7 was developed by FCT NOVA, complemented with contributions from project partners (FCT NOVA, 2021a). Two specific groups were selected, namely *Baixo Alentejo* municipalities and regional micro and small construction companies, because specific constraints for CDW management have been identified, especially in the last decade, for these types of stakeholders (Martinho *et al.*, 2013; European Commission, 2017; Ramos & Martinho, 2017; Ramos *et al.* 2020).

This workshop with *Baixo Alentejo* municipalities is the second (Session B) of three sessions scheduled to present and discuss the following specific themes:

- Session A: about constraints and solutions for CDW management, as well as the training needs identified by the participants (held on April 21st of 2021);
- Session B: in articulation with WP 2 and regarding the common regulation to be developed for *Baixo Alentejo* region, focused on CDW management and the application of the circular economy principles to the construction sector (held on September 7th of 2021; the workshop date was changed from August to the beginning of September, due to the vacation period of municipal technicians);
- Session C: in articulation with WP 6, concerning the creation of a regional strategy to promote circularity principles in the construction sector, scheduled for December of 2021.

This report presents the results of the participatory activities carried out in the scope of the *Baixo Alentejo* municipalities’ workshop (Session B), and is structured in the following chapters:

- Introduction (current chapter);
- Programme, workshop dynamics and participants (chapter 2);
- Results of activities (chapter 3);
- Workshop evaluation (chapter 4);
- Conclusions (chapter 5).

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2. Programme, workshop dynamics and participants

2.1. Programme

This participatory workshop (Session B), with *Baixo Alentejo* municipalities, took place on September 7th of 2021 (images of the workshop in Annex I). The programme and contents are described in Table 1. The programme was structured in an awareness and training component (four presentations), and in an information gathering component (two participatory activities).

Table 1. Programme of the workshop with the municipalities, main objectives and responsibilities.

Programme topic		Main objectives	Responsibilities
09h30	Opening session.	<ul style="list-style-type: none"> Brief presentation of the project and partners. Contribution and importance of the involvement of <i>Baixo Alentejo</i> municipalities. 	CIMBAL (promoter)
09h40	Framework of the workshop in the project and presentation of the programme.	<ul style="list-style-type: none"> To present the framework of the workshop in the project, within WP7 - Activity 7.2 (participatory actions dedicated to municipalities and construction companies); Programme brief presentation. 	FCT NOVA (project partner, WP7 leader)
09h50	Exhibition component 1.	<ul style="list-style-type: none"> To present the challenges of the new Portuguese legal framework for CDW management by municipalities. 	Portuguese Environment Agency (Portuguese waste management national authority)
10h05	Exhibition component 2.	<ul style="list-style-type: none"> To present the challenges of the regional scale regarding CDW management. 	Alentejo Regional Coordination and Development Commission (Portuguese waste management regional authority – Alentejo region)
10h20	Exhibition component 3.	<ul style="list-style-type: none"> To present an example of a common regulation for CDW management in Porto Metropolitan Area (Portugal). 	Smart Waste Portugal Association (project partner)
10h30	Exhibition component 4.	<ul style="list-style-type: none"> To present the perception about the legal framework about CDW in Czech Republic and Romania (national, regional and local/municipal scales). 	FCT NOVA (in representation of project partners Enviros – Czech Republic, and CNPCD – Romania)
10h40	Debate.	<ul style="list-style-type: none"> Questions and answers about the exhibition components and other topics related to circularity in the construction sector, and in specific about CDW management. 	All participants
11h00	Session break.	<ul style="list-style-type: none"> Session break. 	-

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Programme topic		Main objectives	Responsibilities
11h10	Activity 1 (in group).	– To discuss general contents to be considered or to be avoided in the common regulation to be developed for <i>Baixo Alentejo</i> region.	FCT NOVA and technicians of <i>Baixo Alentejo</i> municipalities
11h30	Activity 2 (in group).	– To discuss specific contents to be considered in the common regulation to be developed.	FCT NOVA and technicians of <i>Baixo Alentejo</i> municipalities
12h10	Debate and next steps.	– Debate and clarification of next steps concerning WP7 activities.	FCT NOVA and technicians of <i>Baixo Alentejo</i> municipalities
12h30	Session closure.	– Session closure.	CIMBAL

2.2. Workshop dynamics

The participatory workshop, dedicated to *Baixo Alentejo* municipalities, that took place by videoconference, due to Covid-19 pandemic restrictions, was planned and organized considering two main and interrelated components: awareness and training, and activities and information gathering.

2.2.1. Awareness and training component

The awareness and training component was planned considering the training needs identified by the municipal technicians that participated in the workshop held on April of 2021 (Session A), namely in what regards “CDW management legal framework (general)” topic (FCT NOVA, 2021b), that was the second most voted issue (with a result of 4,5, using for this purpose a 5-point Likert scale, between 1 “very unnecessary”, and 5 “very necessary”), and also because it was considered an important discussion theme for the current workshop, related to regulatory framework (WP 2).

To accomplish the mentioned purpose, four entities (corresponding to four presentations) were invited to be involved in this process, exposing specific topics about the regulatory framework regarding the circularity on the construction sector and, in specific, CDW management on different scales (*i.e.*, national, regional and local/municipal). Those entities and the contents exposed are described in Table 2.

Table 2. Contents’ list and responsible entities of the exhibitions of the workshop.

Exhibition’s themes and responsible entity	Main contents list
Exhibition 1	– Portuguese current CDW management regulation (Decree-Law 102-D/2020, of December 10 th ¹ , recently amended by Law 52/2021, of August 10 th ²). The mentioned decree-law revoked from July 1 st onwards the Decree-Law 46/2008, of March 12 th ³ , that was since 2008 the first Portuguese regulation focused in specific in CDW management.

¹ Decree-Law 102-D/2020, of December 10th (in Portuguese): <https://dre.pt/application/conteudo/150908012>

² Law 52/2021, of August 10th (in Portuguese): <https://dre.pt/application/conteudo/169360995>

³ Decree-Law 46/2008, of March 12th (revoked): <https://dre.pt/application/conteudo/247037>

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Exhibition's themes and responsible entity	Main contents list
<p>Challenges of the new Portuguese legal framework for CDW management by municipalities.</p> <p>Responsible entity: Portuguese Environment Agency (Portuguese national waste management authority).</p>	<ul style="list-style-type: none"> - Main recent amendments about CDW management resulting from Decree-Law 102-D/2020, including: definitions, main targets (recovery and incorporation of recycled materials), selective collection target (including for CDW, from 2025 onwards), responsibility for CDW management adjustment, articulation with other Portuguese regulations for the construction sector (Public Procurement Code and Legal Regime of Urbanization and Edification), CDW operations licensing process, reuse of soils and rock, incorporation of CDW on construction works (and national technical specifications), CDW transportation and e-GAR (electronic tool for waste traceability) obligations, among others. - Emphasis of main responsibilities of municipalities referring to CDW management.
<p>Exhibition 2</p> <p>Challenges of the regional scale regarding CDW management.</p> <p>Responsible entity: Alentejo Regional Coordination and Development Commission (Portuguese regional waste management authority – Alentejo region)</p>	<ul style="list-style-type: none"> - Highlight of the main national legal requirements with implications to the regional sphere in what regards CDW management; - Sequence of steps for the correct CDW management, depending on the construction work type (<i>i.e.</i>, if they are public or private, or depending on a licensing process or prior notification); - Identification of main constraints regarding CDW management, on the perspective of a regional authority, namely in what respect to the implementation of the circular principles in the construction sector; - Reflection about the main solution for promoting an effective CDW management.
<p>Exhibition 3</p> <p>Example of a common regulation for CDW management in Porto Metropolitan Area (Portugal).</p> <p>Responsible entity: Smart Waste Portugal Association (project partner).</p>	<ul style="list-style-type: none"> - Involvement of the Association in CDW management related projects; - Presentation of the project “Action Plan for the Sustainable Management of CDW in Porto Metropolitan Area”⁴ (3drivers & FCT NOVA, 2020), in which it was developed a proposal for a common regulation for CDW management for the 17 associated municipalities; - Current situation about the implementation of the common regulation and constraints associated, namely on what regards the recent CDW regulation amendments (Decree-Lay 102-D/2020, of 10th December). - Reflection about CDW management main drivers.
<p>Exhibition 4</p> <p>Perception about the legal framework about CDW in Czech</p>	<ul style="list-style-type: none"> - Reflection about the implementation of CDW related regulations (on national, regional and local/municipal scales) on Czech Republic and Romania, answering about what to maintain/replicate and what to avoid in future regulations.

⁴ Project “Action Plan for the Sustainable Management of CDW in Porto Metropolitan Area” deliverables (in Portuguese): http://portal.amp.pt/pt/2/temae/526#FOCO_2

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Exhibition's themes and responsible entity	Main contents list
<p>Republic and Romania (national, regional and local/municipal scales).</p> <p>Responsible entity:</p> <p>FCT NOVA (WP7 leader) (in representation of project partners Enviros and CNPCD)</p>	<p>Note: before the workshop (and as defined in FCT NOVA, 2021a), project partners ID Norway, Enviros (Czech Republic) and CNPCD (Romania) were invited to participate in this activity (see Annex II), also as a preparatory work for the subsequent Activity 7.3 (to be hold in April of 2022); Enviros and CNPCD answered to the invitation from FCT NOVA, and the results were briefly presented in Portuguese to the participants by FCT NOVA.</p>

2.2.2. Activities and information gathering component

During this workshop with *Baixo Alentejo* municipalities, the following participatory activities were organized (the methodological approach is detailed described jointly with the results, in order to facilitate the understanding; in chapter 3):

- Activity 1 (in group): general contents to be considered or to be avoided in the common regulation to be developed for *Baixo Alentejo* region (specifically in subchapter 3.1);
- Activity 2 (in group): specific contents to be considered in the common regulation to be developed for *Baixo Alentejo* region (specifically in subchapter 3.2).

To carry out the participatory activities described above, participants were asked to register their answers on a specific form, allowing one form *per* municipality. After the workshop, FCT NOVA provided the opportunity for the participants to conclude the work they started, allowing for the reception of the answers in its final version by September 9th of 2021.

2.3. Organization and characterization of participants

2.3.1. Organization of participants in the participatory activities

This participatory workshop with *Baixo Alentejo* municipalities (Session B), was expected to take place in a face-to-face model. However, due to the restrictions of Covid-19 pandemic, it was necessary to carry it online. For the organization of the workshop itself, each municipality was previously asked to gather their participants in a common space, considering the physical distance imposed by the security restrictions due to the Covid-19 pandemic, and to ensure a good image and sound conditions, to allow for an adequate involvement of the participants in the debates and participatory activities. Participants were divided into (virtual) rooms, one for each municipality.

2.3.2. Participants' characterization

In this participatory workshop dedicated to municipalities (Session B), 36 participants were involved, representing all the 13 municipalities of *Baixo Alentejo* region.

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Because different municipal divisions are involved in the CDW management process in a daily basis, it was considered an important criterion the participation of the municipal technicians of those divisions. In this context, each municipality was asked previously to be represented by technicians from three distinct areas related to municipal CDW management: environment, urbanism, and surveillance/oversight. As mentioned, 36 technicians participated, representing, in proportion, the areas represented in Figure 1.

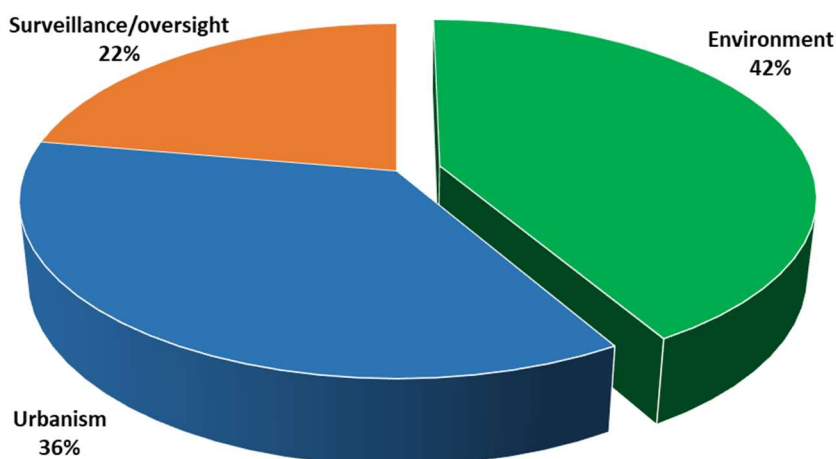


Figure 1. Intervention areas where workshop participants perform their main functions.

2.4. Complementary information

After the participatory workshop (Session B), a weblink was sent to each participant, to allow an evaluation, and to collect suggestions for improvement of the next workshop, as well as to rate their satisfaction level. Answers received until September 10th of 2021 were considered. These contributions, as well as the comments of FCT NOVA, are presented in chapter 4.

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3. Results of activities

3.1. Activity 1 – General contents for a common regulation

In this group activity, participants were asked to identify and discuss the main general contents to be considered or to be avoided in the common regulation to be developed for *Baixo Alentejo* region, due to the implementation of circular principles in the construction sector and, in particular, to CDW management criteria.

As explained in the participants' characterization (subchapter 2.3), the contributions were questioned for three distinct intervention areas: environment, urbanism and surveillance/oversight. First, the participants were asked about the contents, in general terms, that the common regulation should contemplate, and those that the regulation should avoid. The contents identified by each municipality were organized and ordered considering the decreasing order of responses' frequency. The frequency refers to the number of times that each aspect was identified.

The results represent the contribution received from the participants and some of the answers may not comply with the objectives of a regulation about circular principles applied to the construction sector, and in specific in what regards CDW management. Nevertheless, all the contribution were analysed and registered (some of them adapted, but none excluded).

Within the general contents to be contemplated in the future common regulation (Table 3), the ones that have the greatest consensus are, for each of the three intervention areas defined: criteria for CDW delivery to municipal/intermunicipal controlled sites and/or CDW collection service (environment); articulation between the regulations related to the construction sector, conditioning the administrative acts to the demonstration of the correct and effective CDW management planning and execution (urbanism); and criteria to be applied/verified by surveillance/oversight actions (surveillance/oversight).

In a complementary way, in what regards the contents that should be avoided in the future common regulation, it is important to mention that for some municipalities the legal requirements are difficult to understand (lack of knowledge), and that the current legislation lacks clarification in a few concepts.

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Table 3. General contents to be contemplated and to be avoided in the future common regulation.

General contents				
Area	Content to be contemplated	Frequency (n.º)	Content to be avoided	Frequency (n.º)
Environment	Criteria for CDW delivery to municipal/intermunicipal controlled sites and/or CDW collection service (including uniformization of procedures).	8	<p><i>Comment from one municipality: difficulty in understanding legal requirements, with subsequent obstacle in practical application.</i></p>	1
	Obligation for CDW pre-sorting, by type of waste, previously to the collection service.	5		
	Define CDW management operations related to the collection service (i.e., collection on construction sites, or delivery in specific municipal controlled sites).	4		
	Responsibilities definition for CDW origin types (i.e., individuals, construction companies, or direct administration/municipal construction works)	3		
	Identify required documentation to be applied to CDW collection service.	2		
	Prohibition of CDW illegal dumping.	1		
	Obligation to present a CDW management plan.	1		

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General contents				
Area	Content to be contemplated	Frequency (n.º)	Content to be avoided	Frequency (n.º)
Urbanism	Articulation between the regulations related to the construction sector (<i>i.e.</i> , Public Procurement Code and Legal Regime of Urbanization and Edification), conditioning the administrative acts (<i>i.e.</i> , beginning and conclusion of licensing processes) to the demonstration of the correct and effective CDW management planning and execution.	6		
	When applicable, presentation of a demolition plan (with the licensing process).	2		
	Establish an awareness component to be applied during the administrative acts, related to the licensing processes.	2		

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General contents				
Area	Content to be contemplated	Frequency (n.º)	Content to be avoided	Frequency (n.º)
Surveillance/oversight	Criteria to be applied/verified by surveillance/oversight actions (<i>i.e.</i> , documentation validation, practices verification, among others).	7	Issues considered too technical to be correctly executed/verified.	1
	Define competences for surveillance/oversight actions about CDW management.	3		
	Define incorrect CDW management practices and actions/penalties to be applied.	3		
	Implement awareness measures, together with periodic surveillance/oversight actions.	1		
	To involve the police authorities and other entities in surveillance/oversight actions.	1		
Other/ transversal	Tariff conditions definition.	6		
	Clear definition of minor do-it-yourself construction and demolition activities (including bricolage definition).	5	Lack of definitions clarification.	1
	To consider an awareness component about CDW management (general).	2		
	Indication/uniformization of CDW licensed final destinations (waste management operators), by type of CDW.	2		

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General contents				
Area	Content to be contemplated	Frequency (n.º)	Content to be avoided	Frequency (n.º)
	When feasible , obligation to use recycled aggregates resulting from CDW generation on construction sites.	2		
	Considerer tax benefits to promote the correct CDW management.	1		

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3.2. Activity 2 – Specific contents for a common regulation

In this group activity, the participants were asked to discuss and to give contributions about specific topics related to the common regulation to be developed for *Baixo Alentejo* region, regarding the circularity principles in the construction sector, with a focus on CDW management. The topics for discussion were pre-identified in the activity form, although allowing to add other suggestions.

For each suggested topic, the participants were asked to evaluate, discuss, and give their opinions about three main subjects:

- Perception about the relevance of the pre-selected topics for its inclusion on the future common regulation, using for this purpose a 7-point Likert scale, between 1 “very unnecessary”, and 7 “very necessary”, namely (results presented in Table 4):
 - Differentiation by CDW origin (*i.e.*, individuals, construction companies, direct administration/municipal works).
 - Services for CDW temporarily storage *in situ* and collection (and conditions to be defined);
 - CDW preliminary storage in municipal controlled sites (and conditions to be defined);
 - CDW transportation to final destination (and conditions to be defined);
 - Tariff (and conditions to be defined);
 - Reuse of construction materials (and conditions to be defined);
 - Materials passport (and conditions to be defined);
 - Pre-demolition audits (and conditions to be defined);
 - Selective demolition (and conditions to be defined);
 - Other aspects (and conditions to be defined).
- The municipal areas (*i.e.*, environment, urbanism and/or surveillance/oversight) that should be involved in a more direct way in each topic (results also presented in Table 4);
- The specific contents that the common regulation should contemplate, and those that should be avoided, in relation to each specific pre-suggested topic (results presented in Table 5).

In every case, the answers from the participants were analysed, organized and ordered in decreasing order of responses frequency. The frequency refers also to the number of times that each topic was identified by each municipality.

Again, the results represent the contribution received from the participants and some of the answers may not comply with the objectives of a regulation about circular principles applied to the construction sector, and in specific in what regards CDW management. Nevertheless, all the contribution were analysed and registered (some of them adapted, but none excluded).

Regarding the importance about the pre-selected topics for its inclusion on the future common regulation, the services for CDW temporary storage (*in situ*) and collection were mentioned in a more consistent way, followed by CDW preliminary storage in municipal controlled sites, tariff, and reuse of construction materials

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(6,5, 6,2, 6,2 and 6,1, respectively, in the 7-point Likert scale mentioned above). Materials passport and pre-demolition audits were pre-selected topics mentioned less times (5,3, for each specific topic).

In respect to the areas that should be involved, in general terms environment area was mentioned more times (61 times), followed by surveillance/oversight area (54 times), and then by urbanism area (30 times).

Table 4. Perception about the importance of each topic to the regulation and areas to be involved.

Specific contents		
Topic	Importance *	Areas to be involved in the municipalities (frequency, n.º)
Services for CDW temporarily storage <i>in situ</i> and collection (and conditions to be defined).	6,5	Environment (11) Surveillance/oversight (8)
CDW preliminary storage in municipal controlled sites (and conditions to be defined).	6,2	Environment (11) Surveillance/oversight (3)
Tariff (and conditions to be defined).	6,2	Environment (5) Urbanism (5) Surveillance/oversight (4)
Reuse of construction materials (and conditions to be defined).	6,1	Environment (5) Surveillance/oversight (5) Urbanism (3)
CDW transportation to final destination (and conditions to be defined).	5,8	Environment (8) Surveillance/oversight (4) Urbanism (1)
Other aspects (and conditions to be defined).	5,7	Environment (3) Surveillance/oversight (3)
Selective demolition (and conditions to be defined).	5,6	Surveillance/oversight (8) Urbanism (6) Environment (3)
Differentiation by CDW origin (<i>i.e.</i> , individuals, construction companies, direct administration/municipal works).	5,5	Surveillance/oversight (8) Environment (7) Urbanism (6)
Materials passport (and conditions to be defined).	5,3	Environment (6) Urbanism (4) Surveillance/oversight (4)
Pre-demolition audits (and conditions to be defined).	5,3	Surveillance/oversight (6) Urbanism (5) Environment (2)

* Using a 7-point Likert scale, between 1 “very unnecessary”, and 7 “very necessary”.

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In respect to specific contents that the future common regulation should contemplate or avoid (Table 5) the general conclusion is that some municipalities are not in total agreement about criteria to adopt and, for this reason, the “contradictory” opinions were positioned side by side in the table.

Nevertheless, the future common regulation should contemplate the following contents (independently of the specific topic): criteria for CDW origin types, criteria for CDW management operations, specification of equipment typologies for adequate CDW temporarily storage, criteria to CDW delivery to municipal controlled sites, tariff differentiated rates, and criteria to the reuse of construction materials.

In what regards the contents to be avoided, it should exist concern when regulating about different types of construction works (*i.e.*, licensed processes *versus* minor do-it-yourself construction and demolition activities, including bricolage).

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Table 5. Specific contents to be contemplated or to be avoided in the regulation, in relation to each topic.

Specific contents				
Topic	Content to be contemplated	Frequency (n.)	Content to be avoided	Frequency (n.)
Differentiation by CDW origin (<i>i.e.</i> , individuals, construction companies, direct administration/municipal works).	Criteria for CDW origin types (specifying origin types).	8	Differentiation between CDW origin types (by type of producer).	1
	Criteria by CDW type.	2	Include direct administration/municipal works (in this case, it should be created an internal regulation)	1
	Responsibilities by type of intervenient.	1		
	Surveillance/oversight actions for CDW origin validation.	1		
Services for CDW temporarily storage <i>in situ</i> and collection (and conditions to be defined).	Criteria for CDW management operations (CDW collection at the construction work site service, or CDW delivery to municipal controlled sites by individuals or construction companies).	8	Municipal obligation to provide a specific CDW collection service (CDW should be delivered directly to municipal controlled sites by individuals or constructions companies)	1
	Specification of adequate equipment typologies for CDW temporarily storage, like big-bags and metallic containers.	8	Imposition about procedures that each municipality should adopt about CDW management.	1
	CDW pre-sorting obligation before its deliver to municipal controlled sites.	4		

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Specific contents				
Topic	Content to be contemplated	Frequency (n.)	Content to be avoided	Frequency (n.)
	CDW producer responsibility in relation to the respective CDW management.	1		
	Exempt CDW from a deposition fee if it is delivered to municipal controlled sites.	1		
CDW preliminary storage in municipal controlled sites (and conditions to be defined).	Criteria to CDW delivery to municipal controlled sites (e.g., site identification, CDW types, pre-sorting <i>in situ</i> , adequate transportation validation).	8	Imposition about a specific local where CDW should be temporarily stored.	1
	CDW management municipal responsibility only to minor do-it-yourself construction and demolition activities (including bricolage).	1	CDW management municipal responsibility if CDW was generated at a construction work subject to prior control (license process).	1
	A specific period during which CDW preliminary storage is allowed.	1		
CDW transportation to final destination (and conditions to be defined).	CDW delivery obligation to licensed waste management operators (general).	4	It should not be defined the transportation type to be used.	1
	Procedural control, in specific for construction works with a licensing process associated.	4		
	Obligation to CDW delivery to licensed waste management operators, but only when CDW is generated in construction works subjected to prior control (licensing process).	1	Regulate final destinations (but excluding temporarily storage) about CDW generated at minor do-it-yourself construction and demolition activities (including bricolage).	1
	Establish final destination types for CDW types.	1		

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Specific contents				
Topic	Content to be contemplated	Frequency (n.)	Content to be avoided	Frequency (n.)
Tariff (and conditions to be defined).	Differentiated rates (<i>i.e.</i> , CDW waste types, CDW management services provided, types of producers)	6		
	Criteria to apply to collection service to CDW delivery to controlled municipal sites.	5	Regulate about CDW generated by minor do-it-yourself construction and demolition activities (including bricolage).	1
	Tax benefits to promote the correct and effective CDW management.	2		
	A monetary guarantee to CDW storage <i>in situ</i> and collection service (<i>e.g.</i> , big-bags and containers).	1		
	Exempt from a specific fee some CDW types.	1		
Reuse of construction materials (and conditions to be defined).	Promote and create criteria to the reuse of construction materials.	6	Regulate about construction materials with origin at minor do-it-yourself construction and demolition activities (including bricolage).	1
	Criteria to preparation for reuse and storage of construction materials.	3		
	Criteria to reuse construction materials in other construction works.	2		
	Define surveillance/oversight actions about the reuse of construction materials.	1		

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Specific contents				
Topic	Content to be contemplated	Frequency (n.)	Content to be avoided	Frequency (n.)
Materials passport (and conditions to be defined).	Exemplify a materials passport (in an annex of the regulation).	1		
	Determine materials typification and their use.	1		
	Create a specific form, with the identification of European List of Waste (ELW) ⁵ codes expected.	1		
Pre-demolition audits (and conditions to be defined).	Create a CDW characterization form, with the identification of ELW codes, with estimated quantities associated (process to be accompanied by a qualified technician).	4	The regulation should not incorporate this topic, but it should be implemented through a specific procedure.	1
	Specify for which type of construction works it is necessary to perform a pre-demolition audit.	2	Regulate about CDW generated by minor do-it-yourself construction and demolition activities (including bricolage).	1
	If applicable, the promotor should deliver the pre-demolition document during the licensing process.	2		

⁵ European List of Waste (ELW): Commission Decision 2014/955/EU, of 18 December, amending Decision 2000/532/EC on the list of waste, pursuant to Directive 2008/98/EC of the European Parliament and of the Council.

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Specific contents				
Topic	Content to be contemplated	Frequency (n.)	Content to be avoided	Frequency (n.)
Selective demolition (and conditions to be defined).	Criteria for selective demolition processes, including responsibilities definition (to present, for example, in a demolition plan).	4		
	Definition of phases involved in the selective demolition process.	2		
	Criterion only to construction works subjected to prior control (licensing process).	1	Regulate about CDW generated by minor do-it-yourself construction and demolition activities (including bricolage).	1
	Types of CDW to be sorted.	1		
Other aspects (and conditions to be defined).	Promotion of surveillance/oversight actions.	1		
	Increase penalties for CDW illegal dumping occurrences.	1		
	Promotion of a database with construction materials (in specific recycled materials, including recycled aggregates resulting from CDW), to be used in other construction works.	1		

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4. Workshop evaluation

After the *workshop*, a weblink was sent to each participant, in an anonymous and confidential format, regarding its evaluation. Twenty-eight responses out of 36 participants were received (response rate of 78%), and the overall evaluation of the workshop, measured on a 7-point Likert scale (between 1 “very bad”, and 7 “very good”), was 5,6 (see details of the evaluation in Figure 2).

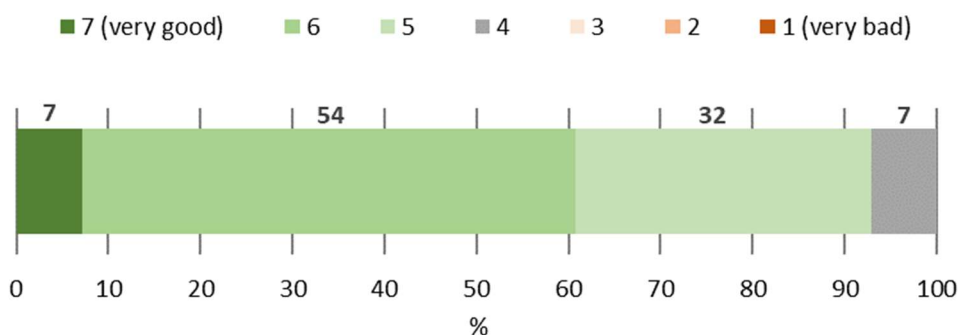


Figure 2. Overall evaluation of the workshop with the municipalities, in relation to the number of respondents.

The results are detailed below, where comments from the FCT NOVA team are also presented:

- What the participant liked more and less, according to pre-selected options, but allowing to add other choices, and accepting, in both cases, more than one answer (Table 6);
- Improvement suggestions for the next workshop (Table 7).

Table 6. Evaluation of the workshop by the respondent participants - what they liked more and less.

Topics evaluated	Answers (in relation to total respondents)		Feedback from FCT NOVA
	N.º	%	
What you liked more			
Contents (exhibitions)	17	60,7	<ul style="list-style-type: none"> - Maintain/reinforce in the next workshops, especially in the contents and structure/organization, but also trying to improve the dynamics in the participatory actions (and rhythm/dynamics), although fulfilling the approved in the project, the previously agreed with the municipal representatives of the projects, and the established programme.
Structure and organization.	15	53,6	
Utility.	6	21,4	
Participatory activities.	5	17,9	
Rhythm/dynamics.	4	14,3	

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Promotor:

Parceiros:

Topics evaluated	Answers (in relation to total respondents)		Feedback from FCT NOVA
	N.º	%	
What you liked less			
Rhythm/dynamics.	9	32,1	<ul style="list-style-type: none"> – It is recognized that, online, the rhythm/ dynamics is compromised, as well as the participatory activities, so the team will try to improve these aspects in the next workshop, and will reflect about some aspects of contents/utility to the target audience; – This workshop was held by videoconference, due to Covid-19 restrictions, but if everything goes as planned, the next one will be in a face-to-face model.
Participatory activities.	4	14,3	
Contents (exhibitions).	1	3,6	
Utility.	1	3,6	
Do not allow the exchange of ideas during the activities with other municipalities.	1	3,6	<ul style="list-style-type: none"> – In a different approach regarding what happened in the first workshop, held in April of 2021 (FCT NOVA, 2021b), it was not a purpose of this second workshop to promote the discussion between municipalities. The main intention was to give to each municipality the opportunity to their technicians, from three different areas related and important to CDW management, although with different responsibilities in this theme (<i>i.e.</i>, environment, urbanism and surveillance/oversight), to share, discuss and register their opinions about a future common regulation to the prepared for <i>Baixo Alentejo</i> region.
Reduced time for the different themes.	1	3,6	<ul style="list-style-type: none"> – The workshop characteristics were discussed previously with the municipal representatives of the project, with the general idea that more prolonged actions would not be feasible due to the technicians' agendas.
Difficulty in following the online session, as the sound was not in ideal conditions.	1	3,6	<ul style="list-style-type: none"> – Before the workshops, FCT NOVA requested (through specific e-mails with instructions, but also thought telephone), to the operational representative of the project in each <i>Baixo Alentejo</i> municipality, to try to ensure good conditions of image and sound, so all the participants may have opportunity to clearly understand the presentations and to enable the involvement in the debates and activities.

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Table 7. Evaluation of the workshop by the respondent participants – improvement suggestions.

Improvement suggestions	Answers (in relation to total respondents)		Feedback from FCT NOVA
	N.º	%	
Better image and sound conditions.	1	3,6	– Please see answer related to this subject in Table 6 (what you liked less).
Increased time for each of the speakers.	1	3,6	– Please see answer related to this subject in Table 6 (what you liked less).
Lesser exposure densification or slower presentation speed.	1	3,6	– FCT NOVA will try to improve the next workshop contents considering this comment. But please see also answer related to this subject in Table 6 (what you liked less).
The timing of the session (suggested to be after the 15 th of September, due to the technicians' vacation).	1	3,6	– The date was planned considering two criteria: the planned schedule for this activity in the project, approved by the EEA Grants Operator, where the workshop would take place in August) and CIMBAL recommendation that the workshop should be held in early September, due to municipal elections.
The work rooms for the activities should have several municipalities, to allow the exchange of ideas.	1	3,6	– Please see answer related to this subject in Table 6 (what you liked less).

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5. Conclusions

Within the scope of the (De)construct for Circular Economy project, more precisely WP 7 (information, awareness and training), this report presents the results of the participatory workshop (Session B), held online on September 7th of 2021, entitled “Construction and demolition waste management by *Baixo Alentejo* municipalities – importance of a common regulation”. This workshop is articulated with the main objectives of WP 2 (regulatory framework), namely in what concerns the creation of a common regulation to *Baixo Alentejo* region in respect to the circular principles application to the construction sector and, specifically, to CDW management.

Regarding the **awareness and training component**, it is important to highlight the accomplishment with the training needs identified in the first workshop (held in April of 2021), namely in what regards the legal framework for CDW management. In this context, FCT NOVA involved the national and regional Portuguese waste management authorities, and also the project partners, to launch the solving of the identified knowledge gaps of municipal technicians.

On the **participatory activities’ component**, carried out with *Baixo Alentejo* municipalities, the following main conclusions stand out:

- Thirty-six technicians from all *Baixo Alentejo* municipalities participated in the workshop, representing three areas of intervention important to CDW management at a municipal level (42% from environment area; 36% from urbanism area; and 22% from surveillance/oversight area);
- For the general contents to be contemplated in the future regulation, for each of the three distinct areas defined, the following were highlighted: criteria for CDW delivery to municipal/intermunicipal controlled sites and/or CDW collection service (environment), articulation between the regulations related to the construction sector, conditioning the administrative acts to the demonstration of the correct and effective CDW management planning and execution (urbanism), and criteria to be applied/verified by surveillance/oversight actions (surveillance/oversight); in relation to general contents to be avoided, definitions clarification is a relevant aspect.
- Regarding specific pre-selected topics to be included in the future regulation, CDW temporary storage and collection services were mentioned in a more consistent way; in the other hand, materials passport and pre-demolition audits were mentioned less times;
- In respect to the areas that should be involved in the pre-selected topics, in general terms environment area was mentioned more times, followed by surveillance/oversight, and then by urbanism;
- Complementarily, specific contents that the future common regulation should contemplate (and although municipalities are not in total agreement in all pre-selected topics) are criteria for CDW origin types, criteria for CDW management operations, specification of adequate equipment typologies for CDW temporarily storage, and criteria to CDW delivery to municipal controlled sites; in respect to the contents to be avoided, it should exist a special concern when regulating about different types of construction works (*i.e.*, licensed processes *versus* do-it yourself minor construction works/bricolage).

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As **next steps**, one more workshop is scheduled to be performed in Portugal with *Baixo Alentejo* municipalities, and it will occur in December of 2021, in articulation with the proposed regional strategy for the application of the circular economy to the construction sector (WP 6). In the next workshop, the project partners will continue to be called upon to intervene actively, contributing through content, or sharing experiences, to be agreed on a case by case.

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Annex I – Images from the workshop with *Baixo Alentejo* municipalities

(Des)construir para a Economia Circular

WP 7 – Informação, sensibilização e formação
A 7.2 – Ações de participação (municípios e empresas de construção)

Gestão dos RCD pelos municípios do Baixo Alentejo – a importância de uma regulamentação comum

Iceland
Liechtenstein
Norway grants

7 setembro 2021

Equipa FCT NOVA

NOVA ESCOLA DE CIÊNCIAS E TECNOLOGIA

Graça Martinho
Professora

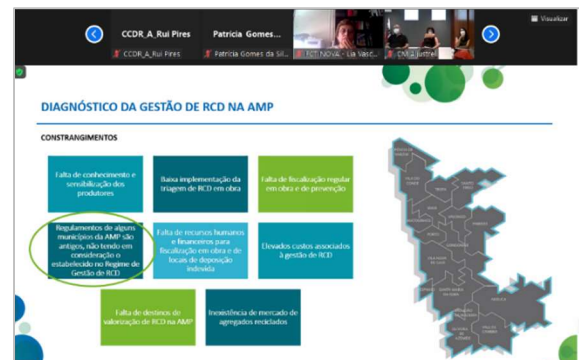
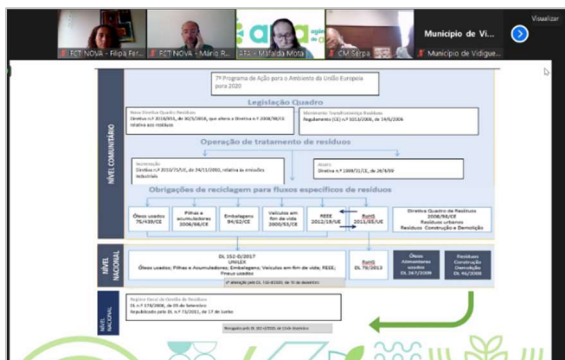
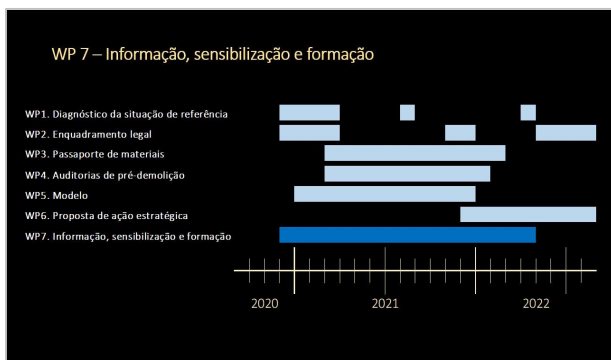
Mário Ramos
M.e., estudante PhD

Lia Vasconcelos
Professora

Filipa Ferreira
M.e., estudante PhD

Gestão de resíduos
Resíduos de construção e demolição

Governança e literacia
Ações de participação



Escala	A manter / replicar	A alterar
República Checa	<ul style="list-style-type: none"> Aplicação da hierarquia de resíduos O fim de estatuto de resíduo para alguns tipos de RCD (e.g., fração mineral) 	<ul style="list-style-type: none"> Aumentar as taxas de deposição em aberto Promover ações de inspeção/fiscalização
Regional	<ul style="list-style-type: none"> Melhorar a separação dos RCD in situ Monitorizar os RCD e melhorar as condições da sua classificação, nomeadamente no que se refere a RCD perigosos Criar infraestruturas e condições de tratamento para os RCD Implementar a recolha de RCD a nível municipal (proporcional à produção) Fazer depender as licenças de utilização do destino dados aos RCD Limitar o tipo de tratamento / eliminação de resíduos Hover várias alternativas de laboratórios para análises aos RCD 	
Local	<ul style="list-style-type: none"> República Checa: Refletir aspetos ambientais nos cadernos de encargos Roménia: Sem dados 	<ul style="list-style-type: none"> Diferenciar o custo dos materiais reciclados, tornando-os competitivos Sem dados

Assunto	Importância atribuída, entre a (muito importante) e (não importante)	Que conteúdo deve ficar explícito no âmbito de regulamentação?	Que conteúdo deve ficar de fora do âmbito de regulamentação?	Que áreas de atuação no município merecem intervenção neste assunto? (ambiente, urbanismo, educação, fiscalização)
Diferenciação pela proveniência dos RCD (i.e., municípios, empresas de construção, obras de administração direta)				
Serviço para acondicionamento e recolha dos RCD (e eventuais condições a definir)				
Armazenamento preliminar dos RCD em instalações do município (e eventuais condições a definir)				

(continua)

Annex II – Invitation to the involvement of project partners ID Norway, Enviros and CNPCD

(De)construct for Circular Economy (Des)construir para a Economia Circular

Promotor:



Parceiros:



WP7 – Information, awareness and training

Activity 7.2 – Participatory actions for municipalities and construction companies

Partner collaboration – invitation to ID Norway, Enviros and CNPCD

If you accept to collaborate on this task, please send your feedback only to Mário Ramos (mario.ramos@fct.unl.pt) until the 20th of August of 2021. If it is not currently convenient to you, please inform us also about your decision.

A. Main considerations and instructions

Within WP7 - Activity 7.2, FCT NOVA will hold, in Portugal, in early September 2021, a second round of workshops, dedicated to two specific groups: *Baixo Alentejo* municipalities and micro and small construction companies. FCT NOVA invites you to collaborate on the preparation of these specific workshops, this time dedicated to the regulatory framework related to the construction sector activity (but focusing on the construction and demolition waste requirements), by filling in the information requested below. Please check the methodological report regarding Activity 7.1 for more details (such as subchapter 3.1, table 1).

If you accept to participate, FCT NOVA kindly asks you to coordinate in your country with representatives of the authorities of the construction sector and/or construction and demolition waste (CDW) management, referring to **three different scales: national, regional, and local** (*i.e.*, municipality), asking them (one representative for each scale) for their opinion on the considered and questioned topics. Please see the instructions below. In addition, these results can be used later to the tasks related to Activity 7.3.

Instructions

Please follow the following instructions:

1. **If there are specific CDW management regulations in your country (or part of other regulations dedicated to this matter)**, please go to **section B** and ask to the selected authority representative to give a contribution about the questioned topics.

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2. If there are no CDW management specific regulations (or part of other regulations dedicated to this matter), please go to **section C** and ask to the selected authority representative to give an opinion about the questioned topics.
3. If it reveals necessary to better explain an idea/perception, you can use **section D** to register complementary comments. Otherwise, you can keep the extra results for Activity 7.3.

After receiving the results, FCT NOVA will decide the best way to present your data on the workshops.

B. Experience with CDW regulatory framework at different scales

(please use keywords or short sentences)

Scale		What are the main strongest points of the regulation, leading to effective good results?	What would you change on the regulation to achieve better practical results concerning CDW management?
B1	National scale	• •	• •
B2	Regional scale	• •	• •
B3	Local scale	• •	• •

C. Perception about the implementation of a future regulatory framework at different scales

(please use keywords or short sentences)

Scale		What are the main aspects that a future CDW management regulation must incorporate?	What are the main aspects that a future CDW management regulation must avoided to prevent eventual constraints?
C1	National scale	• •	• •
C2	Regional scale	• •	• •
C3	Local scale	• •	• •

D. Complementary comments and/or information

Scale		
D1	National scale	•

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Scale		
		•
D2	Regional scale	• •
D3	Local scale	• •

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