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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
construction companies – importance of a common regulation**

Final report

September 2021

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* construction companies – importance of a common regulation” was held on September 14th 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* construction companies 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 14th 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* construction companies’ 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* construction companies, took place on September 14th 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 (two presentations), and in an information gathering component (two participatory activities).

Table 1. Programme of the workshop with construction companies, 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> construction companies. 	CIMBAL (<i>promoter</i>).
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 good practices to CDW management at construction sites. 	RDF Construções (project partner), representing a construction company, as a CDW producer.
10h05	Exhibition component 2.	<ul style="list-style-type: none"> To present the activity of CDW management operators and good practices to CDW delivery to facilities. 	Resialentejo (project partner) and Ambigroup (invited entity), representing CDW management operators.
10h20	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.
10h50	Activity 1 (in group).	<ul style="list-style-type: none"> To discuss the perception, for construction companies, about the effect of a common regulation to be developed for <i>Baixo Alentejo</i> region. 	FCT NOVA and construction companies' representatives.
11h10	Activity 2 (in group).	<ul style="list-style-type: none"> To discuss contents to be considered in the common regulation to be developed. 	FCT NOVA and construction companies' representatives.
11h30	Session closure.	<ul style="list-style-type: none"> Session closure. 	CIMBAL.

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2.2. Workshop dynamics

The participatory workshop, dedicated to *Baixo Alentejo* construction companies, 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 construction companies' representatives that participated in the workshop held on April 2021 (Session A), namely in what regards "CDW management good practices" topic (FCT NOVA, 2021b), that was the most voted issue (with a result of 4,4, using for this purpose a 5-point Likert scale, between 1 "very unnecessary", and 5 "very necessary").

To accomplish the mentioned purpose, three entities (corresponding to two presentations) were invited to be involved in this process, exposing specific topics in the perspective of a CDW producer and also CDW management operators. 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
<p>Exhibition 1</p> <p>Good practices to CDW management at construction sites.</p> <p>Responsible entity:</p> <p>RDF Construções (project partner), representing the perspective of a construction company (CDW producer).</p>	<ul style="list-style-type: none"> - Costs estimation, on the project phase, referring to CDW management during construction activity; - Equipment and collection service adaptation to the construction site reality (e.g., urban/rural reality, distance to CDW management operators); - Main criteria to manage hazardous CDW (e.g., CDW containing asbestos); - CDW sorting on construction sites, in the perspective of cost reduction, when delivering it to waste management operators; - Examples of construction materials reuse.

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Exhibition's themes and responsible entity	Main contents list
<p>Exhibition 2</p> <p>Activity of CDW management and good practices to CDW delivery to their facilities.</p> <p>Responsible entities:</p> <p>Resialentejo (project partner) and Ambigroup (invited entity), representing a Municipal Waste Management System¹, and a private waste management operator, respectively.</p>	<ul style="list-style-type: none"> - Main role of a Municipal Waste Management System, in the contest of CDW management, and interface with municipalities; - Synergy between a Municipal Waste Management System (Resialentejo) and a private waste management operator (Ambigroup); - Main CDW characterization; - Services provided by a waste management operator (e.g., container rental, collection service); - Delivery cost reduction depending on CDW pre-sorting at construction sites; - CDW transportation using e-GAR (Portuguese mandatory electronic tool for waste traceability, including for CDW); - CDW potential to produce recycled aggregates.

2.2.2. Activities and information gathering component

During this workshop with *Baixo Alentejo* construction companies, 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): the perception, for construction companies, about the effects of a common regulation to be developed for *Baixo Alentejo* region (specifically in subchapter 3.1);
- Activity 2 (in group): 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 (completed with the assistance of the project operational representative in each municipality).

¹ Municipal Waste Management System: an entity representing a group of municipalities, sharing waste management responsibilities, depending on a specific regulatory framework, as well considering the contracts established between the parties; they are also responsible for the waste treatment, because they are in charge of the waste management facilities (*i.e.*, recycling, disposal, waste to energy).

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2.3. Organization and characterization of participants

2.3.1. Organization of participants in the participatory activities

This participatory workshop with *Baixo Alentejo* construction companies (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.

Prior to the workshop, several contacts were developed with construction companies with their headquarters registered in each municipality. The contacts were performed by the municipal representative for the project, jointly with other municipal technicians, to find out their interest in contributing to the project. Only construction companies with a certificate or with a construction permit title until Class 4 could participate, so the focus was on micro and small construction companies, a methodological objective for the workshop previously established (see methodological approach in FCT NOVA, 2021a). The contact approaches differed depending on the municipality, due to the different existing realities. After defining the date and time of the workshop, as well as its duration (which was reduced to allow the participation of more construction companies), a new participation interest verification was performed.

For the organization of the workshop itself, each municipality was previously asked to gather the construction companies in a common physical 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 in the debate and participatory activities.

Twenty one representatives of *Baixo Alentejo* micro and small construction companies participated in the workshop, distributed through the (virtual) rooms in accordance with the registration established in Table 3. Regarding the municipalities of *Barrancos*, *Beja*, *Cuba*, *Ferreira do Alentejo* and *Ourique* it was not possible to have the participation of these municipalities' construction companies. In some cases (*Barrancos* and *Ferreira do Alentejo*), FCT NOVA was informed that construction companies did not participate due to extreme weather conditions in the previous night and in the morning of the workshop. For the next workshops, a new effort will be made to try to bring companies from these municipalities to contribute to the project.

Table 3. Number of participants in the workshop, by municipality.

Municipalities	N.º participants (representatives of construction companies)
<i>Aljustrel</i>	4
<i>Almodôvar</i>	3
<i>Alvito</i>	1
<i>Castro Verde</i>	3
<i>Mértola</i>	1
<i>Moura</i>	3
<i>Serpa</i>	2

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3. Results of activities

3.1. Activity 1 – Perception about the effects of a common regulation

In this group activity, participants were asked to discuss the perception about the effect on construction companies due to the creation of a common regulation to be developed for *Baixo Alentejo* region, regarding the implementation of CDW management criteria, considering specific pre-selected topics, namely:

- Regulate preliminary storage (*in situ*) and collection service for CDW, but with associated costs;
- Regulate municipal controlled sites (or in the region) to deliver and preliminary store CDW resulting from small construction works (*i.e.*, minor do-it-yourself construction and demolition activities (including bricolage activity));
- Regulate the cost referring to CDW to be delivered to the municipalities, depending on whether they are sorted prior to delivery;
- Regulate controlled sites to store construction materials for its reuse in other construction works;
- Regulate criteria for carrying out surveillance/oversight actions related to CDW management.

The contents identified by each municipality were organized and ordered considering the decreasing order of responses' frequency (Table 4). The frequency refers to the number of times that each aspect was identified.

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

Within the main benefits that the future common regulation can bring to construction companies, the ones that have the greatest consensus are (independently of the pre-selected topic): lower costs if the municipal controlled sites for CDW management are near the construction sites; lower costs for sorted CDW delivery (and by type of CDW); reuse of construction materials as a good solution to attend the logistic constraints of construction companies; and equality between construction companies when applying same criteria to CDW management.

In a complementary way, in what regards the constraints that can arise for construction companies (also independently of the pre-selected topic), it is important to mention the need of more human resources involvement in CDW sorting (time consuming), as well as the necessity to attend to the opening and closing times (including Saturdays) for controlled municipal sites for CDW management, established by the municipality.

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Table 4. Perception about the effects of a common regulation to construction companies.

Perception of construction companies				
Topic	What benefits can companies obtain?	Frequency (n.º)	What constraints can arise for companies?	Frequency (n.º)
Regulate preliminary storage (<i>in situ</i>) and collection service for CDW, but with associated costs.	Lower costs resulting from the services provided to CDW storage and transportation to final destinations.	4	Costs applied not fair or affordable to construction companies (general).	2
	Availability of more solutions for CDW management to construction companies (general).	2	Costs associated with the services provided if the solutions are not near to the construction sites (cost of transport).	2
	Standardization of rules for the services to be provided.	1		
	Raise awareness to construction companies about the costs involved.	1		
	Collection service operationalization under the responsibility of the municipality.	1		
Regulate municipal controlled sites (or in the region) to deliver and preliminary store CDW resulting from small construction works.	Lower costs if the municipal controlled sites are near the construction sites.	6	Adaptation to the opening and closing times established by the municipality (including Saturdays)	3
	Lower costs if CDW resulting from minor do-it-yourself construction and demolition activities (including bricolage) is sorted.	2	If there are limitations about CDW types received.	1

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Perception of construction companies				
Topic	What benefits can companies obtain?	Frequency (n.º)	What constraints can arise for companies?	Frequency (n.º)
Regulate the cost referring to CDW to be delivered to the municipalities, depending on whether they are sorted prior to delivery.	Lower costs for sorted CDW (and by type of CDW).	5	More human resources involvement in CDW sorting (time consuming).	5
	Equality, since the costs applied are fair and affordable for construction companies.	3	Logistic necessary to perform CDW sorting at construction sites.	1
Regulate controlled sites to store construction materials for its reuse in other construction works.	Good solution to attend the logistic constraints of construction companies.	5	To store construction materials that will not be used in the future.	1
	Reuse of construction materials that otherwise would be turned into CDW.	2	Costs associated to the transport of construction materials to the sites where they will be stored.	1
	If a discount is practice on the cost related to CDW delivered by construction companies who reuse construction materials.	1		
Regulate criteria for carrying out surveillance/oversight actions related to CDW management.	Equality between construction companies.	5	If equality criteria are not assured.	1
	Driver to promote CDW management good practices.	3	Penalties to be afforded.	1
	Support (if didactic) to effective CDW management improvement.	2	Lack of knowledge about legal requirements to comply with new criteria.	1

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3.2. Activity 2 – Contents to be considered in the common regulation

In this group activity, the participants were asked to discuss and to give contributions about the contents that should be contemplated in the common regulation to be developed for *Baixo Alentejo* region, with a focus on CDW management, for each pre-select topic, namely:

- Criteria to be applied to CDW collection service;
- Amount of CDW that municipalities should receive (and under what conditions);
- Types of CDW that municipalities should receive (and under what conditions);
- Costs that companies are willing to pay for CDW delivery to the municipalities;
- Construction materials that construction companies want to reuse;
- Conditions that should be imposed to companies that do not comply with CDW management rules.

The contents identified by each municipality were organized and ordered considering the decreasing order of responses' frequency (Table 5). The frequency refers to the number of times that each aspect was identified.

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

In respect to contents that the future common regulation should contemplate (independently of the pre-selected topic), the following were highlighted: to define appropriate equipment typologies for CDW temporarily storage (*e.g.*, big-bags and metallic containers), and criteria for its use and CDW transportation to municipal controlled sites; penalties application; promote the reuse of tiles (but also windows, window frames, and doors, although less mentioned); the municipality should be responsible to receive the CDW mineral fraction (*e.g.*, concrete, bricks, tiles, ceramics), among other CDW types (also less referred); and CDW management cost should be depend on whether CDW types arrive to municipality controlled sites separated or not.

Table 5. Contents to be contemplated in the regulation, in relation to each topic.

Contents		
Topic	Content to be contemplated	Frequency (n.)
Criteria to be applied to CDW collection service.	To define appropriate equipment typologies for CDW temporarily storage (<i>e.g.</i> , big-bags and metallic containers), and criteria for its use and CDW transportation to municipal controlled sites.	8
	In general, the collection service should be provided by municipalities.	3
	Small quantities of CDW must be delivered to the municipality by the producer.	2

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Contents		
Topic	Content to be contemplated	Frequency (n.)
	Discount on VAT for construction companies delivering CDW to municipal controlled sites.	1
Amount of CDW that municipalities should receive (and under what conditions).	There should be no limit.	5
	There should be a daily limit free of cost.	3
	There should be a limit, but depending on the fact that CDW is sorted or not.	1
	It should be allowed to deliver CDW in all <i>Baixo Alentejo</i> municipalities.	1
Types of CDW that municipalities should receive (and under what conditions).	Mineral fraction (e.g., concrete, bricks, tiles, ceramics).	4
	All types (general).	3
	All types (but except hazardous CDW).	2
	Wood.	2
	Gypsum, glass and plastic.	1
	There must be a place to deliver CDW previously sorted, and a place to deliver the mixtures.	1
Costs that companies are willing to pay for CDW delivery to the municipalities.	Differentiate the cost depending on whether CDW types arrive separated or not.	4
	Cost if CDW is delivered by the company to the municipality: 10 €/t.	3
	Cost if CDW is collected, at construction sites, by municipality services: 20 €/t	1
	Cost if CDW is delivered by the construction company to the municipality: 15 to 25 €/t	1
	Cost if the municipality rent a container and is responsible for the collection service: 20 to 30 €/t	1
	The cost for the collection service should be disaggregated from the delivery cost to the municipality.	1
	The company is not available to pay for CDW delivery to the municipality.	1
Construction materials that construction companies want to reuse.	Tiles.	6
	Windows and window frames, and doors.	4
	Cobblestone (sidewalk pavement).	3
	All that can be reused (general).	3
	Recycled aggregates.	1
Conditions that should be imposed to companies that do not comply with CDW management rules.	Penalties (general)	7
	Awareness campaigns.	3
	Ensure same criteria to all construction companies.	1
	Being unable to work for the municipality for a certain period of time.	1
	Losing benefits in delivering CDW to the municipality.	1

Contents		
Topic	Content to be contemplated	Frequency (n.)
	Benefiting construction companies that correctly perform CDW management.	1
	Communication non-compliance to responsible entities.	1

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4. Workshop evaluation

Participants were asked to complete a form, in an anonymous and confidential way, regarding the workshop evaluation. Nineteen responses out of 21 participants were received (response rate of 91%), and the overall evaluation of the workshop, measured on a 7-point Likert scale (between 1 “very bad”, and 7 “very good”), was 5,3 (see details of the evaluation in Figure 2). If excluded one specific municipality, where the good sound conditions were not assured for the workshop, the overall evaluation would rise to 5,9.

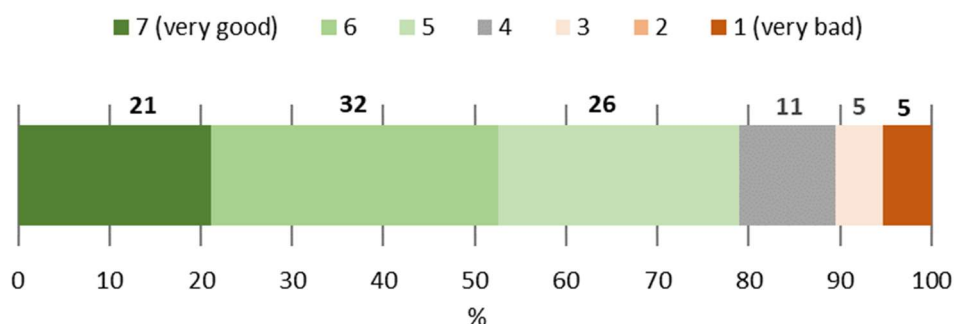


Figure 2. Overall evaluation of the workshop with construction companies, in relation to total respondents.

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 workshops (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			
Utility.	13	68,4	- Maintain/reinforce in the next workshops, especially in the structure and organization (together with contents/utility), but also trying to improve the dynamics in the participatory actions, although fulfilling the approved in the project, the previously agreed with the municipal representatives of the projects, and the established programme.
Structure and organization.	12	63,2	
Contents (exhibitions)	11	57,9	
Rhythm/dynamics.	9	47,4	
Participatory activities.	7	36,8	
What you liked less			
Participatory activities.	4	21,1	

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Topics evaluated	Answers (in relation to total respondents)		Feedback from FCT NOVA
	N.º	%	
Rhythm/dynamics.	1	5,3	– It is recognized that, by videoconference, the participatory activities, as well as the rhythm/ dynamics and contents, are compromised, 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.
Contents (exhibitions)	1	5,3	
Utility.	1	5,3	

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	%	
Companies should participate more in the workshops.	2	10,5	– FCT NOVA asked the project municipal representatives to invite construction companies within their intervention area (until class 4 of construction permit title, to fulfil the objectives of the intended analysis); – Although each municipality opted for the strategy it deemed most convenient, many companies declined the invitation, others showed interest but later did not attend the workshop, and others not even responded.
Improve the sound quality of the videoconference.	2	10,5	– Before the workshops, FCT NOVA requested (through specific e-mails with instructions, but also through 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.
Present more good practices and practical examples.	2	2,0	– The exhibition components of the current workshop tried to answer to the main training need identified in the first workshop (Abril of 2021), with practical examples given from 1 CDW construction company and 2 CDW management operators. Nevertheless, FCT NOVA will try to improve the next workshop contents considering this comment.
Consider another schedule (time) for the next workshop.	1	5,3	– The workshop characteristics were discussed previously with the municipal representatives of the project, with the general idea that more prolonged actions (or other date/time) would not be feasible for most construction companies, due to specific agendas. In this case, the compromise was to reduce the workshop duration from 3 to 2 h.
Increase session duration (1-2h more).	1	5,3	

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Improvement suggestions	Answers (in relation to total respondents)		Feedback from FCT NOVA
	N.º	%	
Participation of politicians.	1	5,3	<ul style="list-style-type: none"> The project foresees the participation of the municipal executive, in WP 6 – Proposed strategic action, in which the results obtained in the initial phase of the project (where these activities are inserted) will serve as the basis for the strategic action to be adopted by <i>Baixo Alentejo</i> region, where the participation of the municipal executives will have great relevance; However, FCT NOVA team suggests that the ideal time to involve municipal executives will be after the next municipal elections, but also after the identification of concrete project proposals, which will happen mainly from the beginning 2022 forwards.
Need for better clarification on e-GAR (Portuguese electronic tool for waste traceability)	1	5,3	<ul style="list-style-type: none"> This issue was discussed in the debate, but since it is a complex subject, FCT NOVA will try to improve clarification on this matter in future opportunities.
Do not use videoconferencing (because nothing is learned).	1	5,3	<ul style="list-style-type: none"> 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.

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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 14th of 2021, entitled “Construction and demolition waste management by *Baixo Alentejo* construction companies – 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 “CDW management good practices”. In this context, FCT NOVA involved the project partners (RDF Construções, as a construction company, responsible for CDW generation; and Resialentejo/Ambigroup as waste management operators), to launch the solving of the identified knowledge gaps.

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

- Twenty-one construction representatives of companies from all *Baixo Alentejo* region participated in the workshop, where construction permit class 1 title was predominant, representing 57%);
- Regarding the perception of the main benefits that the future common regulation can bring to construction companies, the following were highlighted: lower costs if the municipal controlled sites for CDW management are near the construction sites, lower costs for sorted CDW delivery (and by type of CDW), reuse of construction materials as a good solution to attend the logistic constraints of construction companies, and equality between construction companies when applying same criteria to CDW management; on the other hand, in respect to the constraints that can arise for construction companies, it is essential the need of more human resources involvement in CDW sorting (time consuming), and the necessity to attend to the opening and closing times for controlled municipal spaces for CDW management;
- Within the contents that the future common regulation should contemplate, the following aspects were emphasised: to define appropriate equipment typologies for CDW temporarily storage, and criteria for its use and CDW transportation to municipal controlled sites; penalties application; promote the reuse of tiles (but also windows, window frames, and doors, although less mentioned); the municipality should be responsible to receive the CDW mineral fraction, among other CDW types (also less referred); and CDW management cost should be depend on whether CDW types arrive to municipality separated or not.

As **next steps**, one more workshop is scheduled to be performed in Portugal with *Baixo Alentejo* construction companies, 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 workshops, 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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Operador do Programa:



Promotor:



Parceiros:



Annex I – Images from the workshop with *Baixo Alentejo* construction companies

(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 pelas empresas de construção do Baixo Alentejo – a importância de uma regulamentação comum

14 setembro 2021

Equipa FCT NOVA

NVA
Núcleo de Inovação em Ciência e Tecnologia

Graça Martinho
Professora

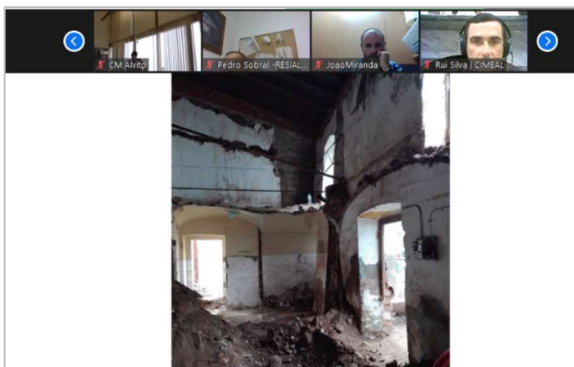
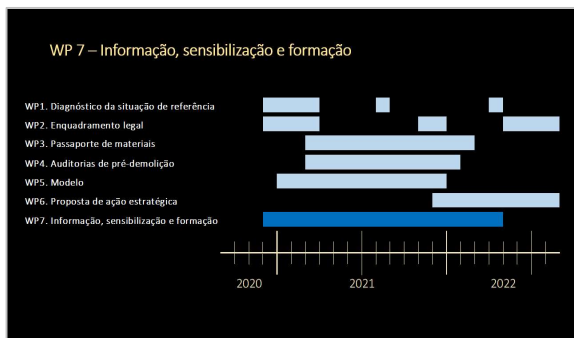
Mário Ramos
Me., estudante PhD

Lia Vasconcelos
Professora

Filipa Ferreira
Me., estudante PhD

Gestão de resíduos
Resíduos de construção e demolição

Governança e literacia
Ações de participação



TRANSPORTE DE RCD

*Cuidados a ter com o transporte dos RCD

- Documentos
- Acondicionamentos
- Preço

Boas práticas sobre a gestão de RCD

Empresas construção

RCD

Asspeto	Que conteúdo deve ficar explícito no âmbito do regulamento?
Que condições deve contemplar o envio de resíduos de RCD? (exemplos: tipo de equipamentos, condições para o resíduo)	
Que quantidade de RCD os municípios devem receber e em que condições? (exemplos: limite diário gratuito, custo diferenciado pela origem)	
Que tipos de RCD os municípios devem receber e em que condições?	
Que custos estão as empresas obrigadas a pagar pelos RCD recebidos pelo município? (exemplos: custos concretos, por exemplo: €/t, por tipo de resíduo)	
Que materiais de construção querem as empresas reutilizar? (exemplos: telhas, paredes, pavimentos, calçada)	
Que condicionantes devem ser impostas às empresas que executem má gestão dos RCD. (exemplos: consequências, formação obrigatória)	

Operador do Programa:



Promotor:



Parceiros:

