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Technical Assistance for Assessment of Turkey's Potential on Transition to Circular Economy

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An insight of C&D waste: Legal framework in Italy, permit requirements and exemptions

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Activity 1.2.1. Circular Economy Training
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AGENDA

1. Legislation and CWD production
2. C&D: by-products?
3. Recycling C&D waste: permit requirements and exemptions
4. Storage of the C&D
5. Mobile plants
6. End of waste C&D Decree
7. Excavated soil permit exemptions
8. Drivers

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LEGISLATION AND CWD PRODUCTION

WASTE FRAMEWORK DIRECTIVE



Article 3: Definitions:

'**construction and demolition waste**' means waste generated by construction and demolition activities;

Article 11: Preparing for re-use and recycling

Member States shall take measures to promote **selective demolition** in order to enable removal and safe handling of hazardous substances and facilitate re-use and high-quality recycling by selective removal of materials, and to ensure the establishment of sorting systems for construction and demolition waste at least for wood, mineral fractions (concrete, bricks, tiles and ceramics, stones), metal, glass, plastic and plaster.

WASTE FRAMEWORK DIRECTIVE



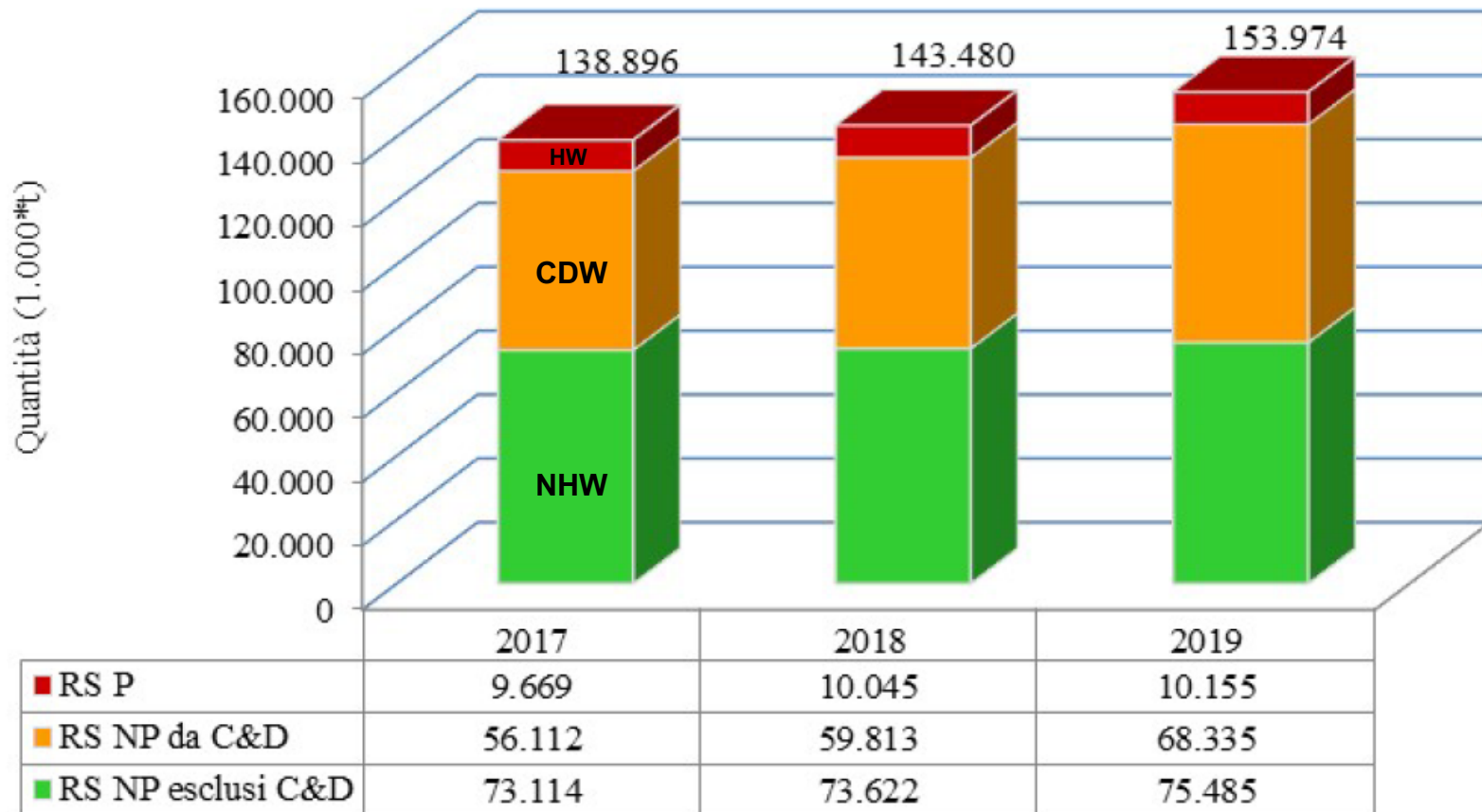
Article 11: Preparing for re-use and recycling

6. By 31 December 2024, the Commission shall consider the setting of **preparing for re-use and recycling targets** for **construction and demolition waste** and its material-specific fractions

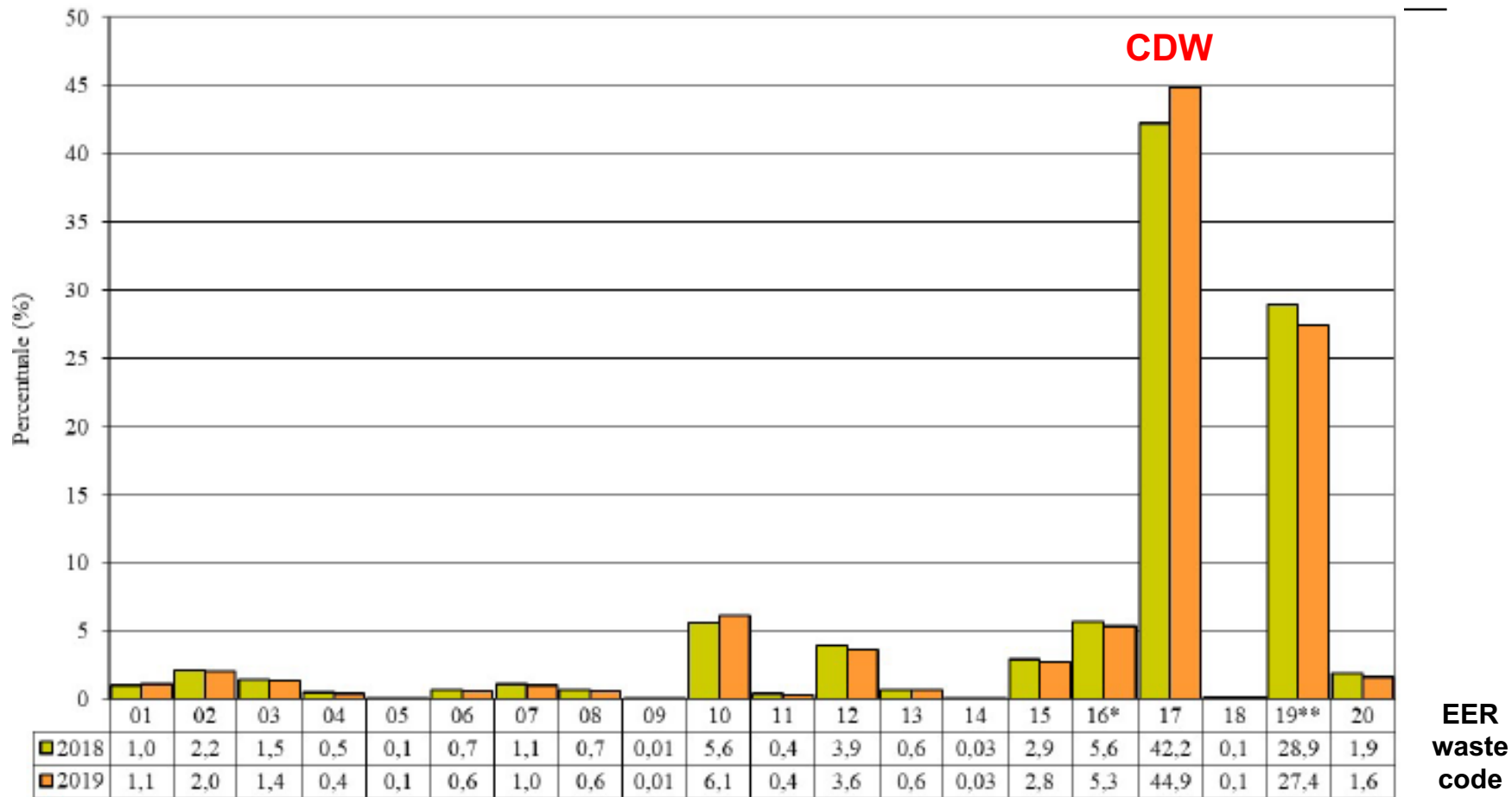
CDW PRODUCTION IN ITALY



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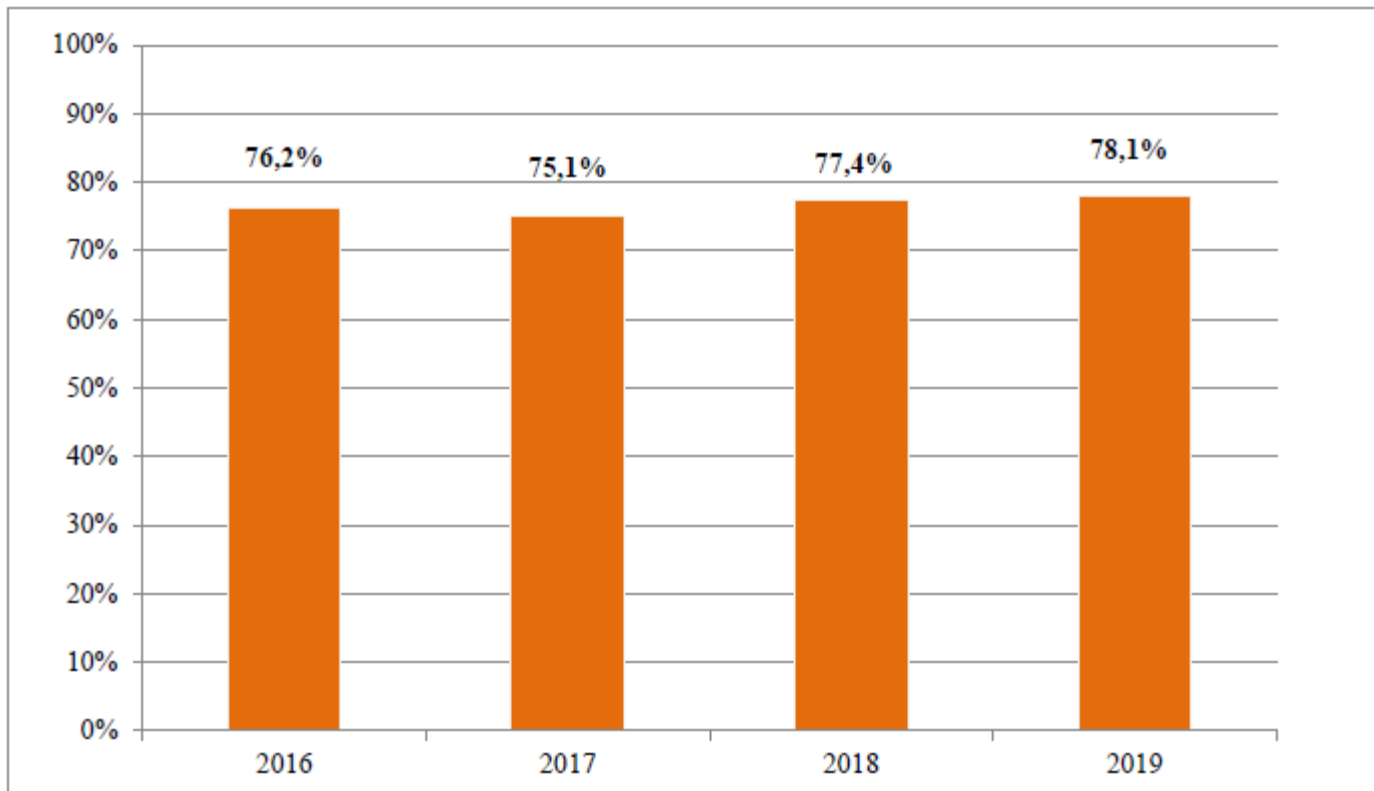


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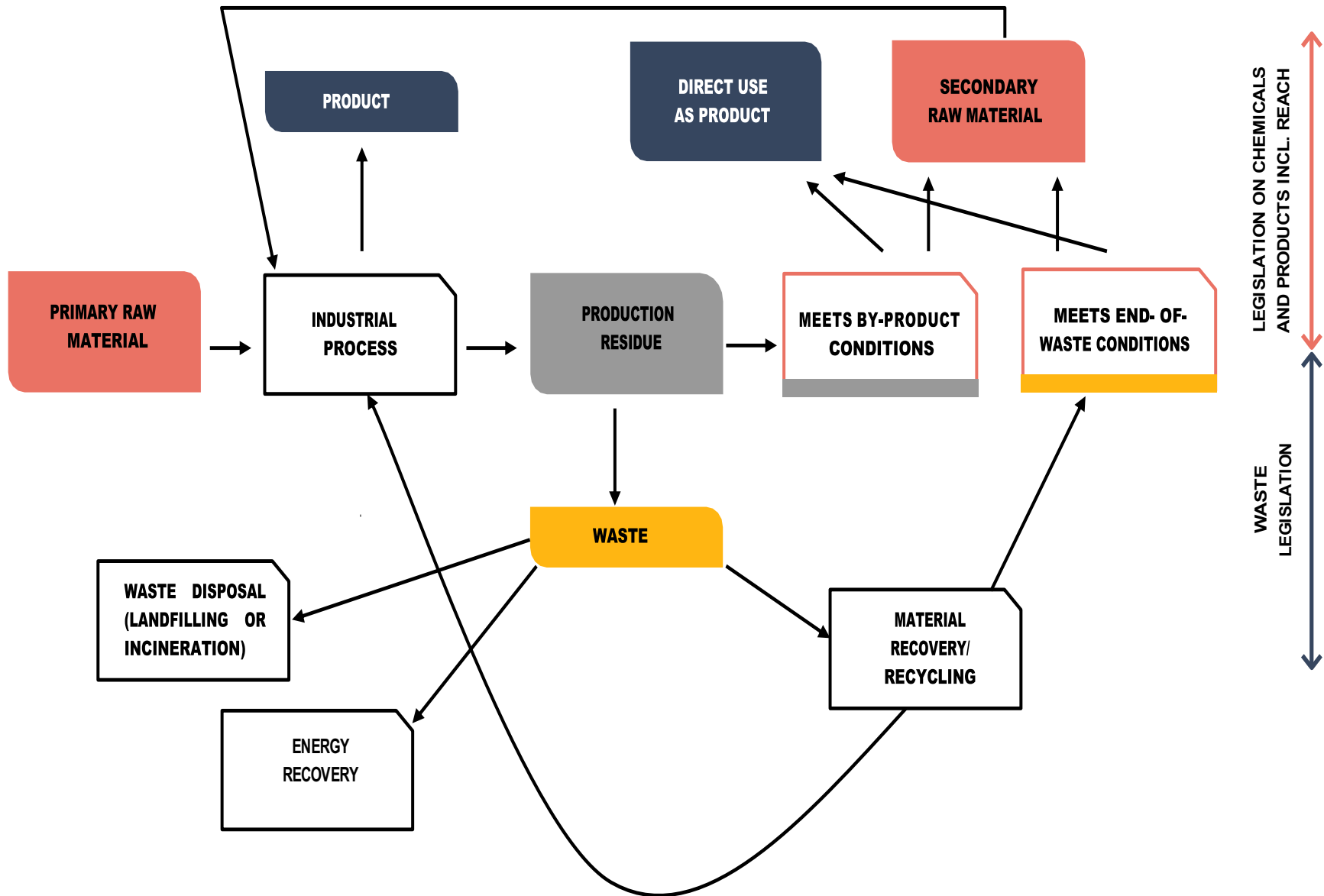
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Recycling rate of CDW (excluding backfilling)



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C&D AND BY-PRODUCTS



BY-PRODUCTS (ART.5 WFD)

Member States shall take appropriate measures to ensure that a substance or object resulting from a production process the primary aim of which is not the production of that substance or object is considered not to be waste, but to be a by-product if the following conditions are met:

- (a) further use of the substance or object is certain;
 - (b) the substance or object can be used directly without any further processing other than normal industrial practice;
 - (c) the substance or object is produced as an integral part of a **production process**; and
 - (d) further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.
-

C&D AND BY-PRODUCTS IN ITALY



Court of Cassation ruling n.16431 31/03/2017

The demolition activity of a building **cannot** be called a "**Production process**", with the consequence that the materials that derive from it must be qualified as **waste** and not as by-product.

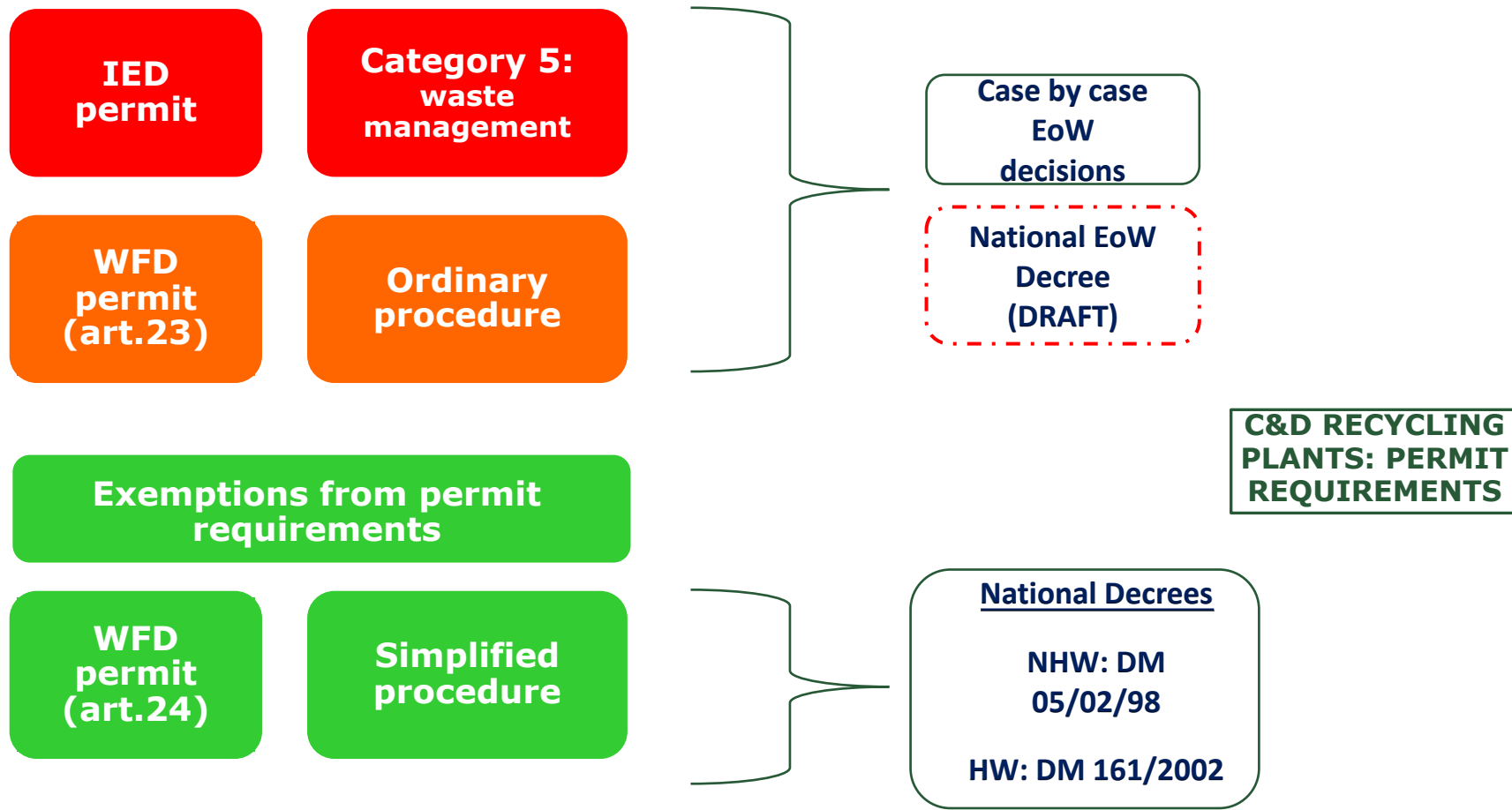


The accused was convicted of illegal waste management for having disposed of material from the demolition of a warehouse without having considered it as a waste.

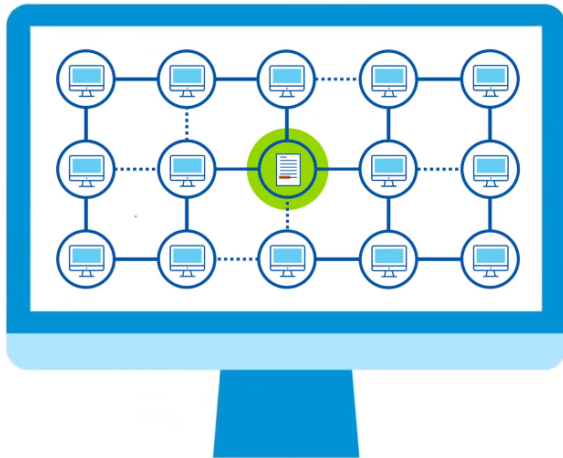
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RECYCLING C&D: PERMIT REQUIREMENTS AND EXEMPTIONS

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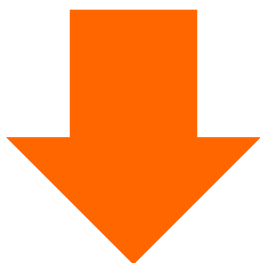
C&D RECYCLING PLANTS: PERMIT REQUIREMENTS



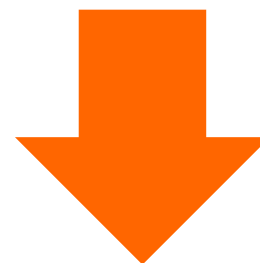
In order to comply with the principles of transparency and publicity, a [national register](#) for the collection of authorizations issued and simplified procedures is set up at the Ministry of Environment (**RECER**).

C&D RECYCLING PLANTS: BURDEN OF PROOF

THE CHOICE BETWEEN SIMPLIFIED PROCEDURE AND ORDINARY AUTHORIZATION IS UP TO THE COMPANY



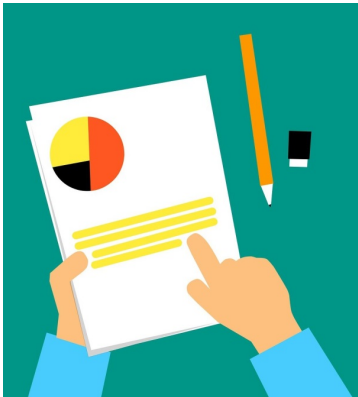
The burden of proof rests on the person who invokes the facilitated regime



Simplified procedure applies exclusively to the specified recovery operations and to the waste identified in the National Decree

C&D RECYCLING: SIMPLIFIED PROCEDURE

COMMUNICATION TO
THE COMPETENT
AUTHORITY: START OF
THE RECYCLING
ACTIVITY



The Competent Authority:

- Registers the company in a special "simplified procedure" Register
- Verifies the compliance of the Communication with the required requisites within 90 days

CONTENT OF THE COMMUNICATION



- A. Compliance with the technical standards and specific conditions referred in the National Decree
- B. Possession of the requisites required for waste management;
- C. The recovery activities to be carried out;
- D. The plant, the recovery capacity, the recycling process, the use of any mobile plants;
- E. The characteristics of the products deriving from the recovery cycles
- F. Quantity of accepted waste

SPECIFIC CONDITIONS REFERRED IN THE NATIONAL DECREE



- Allowed waste (EER)
- Origin of the waste
- Characteristics of the waste
- Max quantity of allowed waste
- Recycling activity
- Characteristics of raw materials and / or products obtained
- Environmental standard (leaching test)

VALIDITY OF THE COMMUNICATION



The communication must be renewed every **5** years and in any case in case of substantial modification of the recovery operations.



The recycling plant operator is required to pay an annual registration fee to the Competent Authority for keeping the Register and for carrying out periodic inspections.

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 2: glass waste in non-dispersive form

EER	Waste	Source	Characteristics	Recycling activity	Product
170202	Glass	Selective building demolition	Common fiber glass	R5: Direct recovery in the glass industry	Glass products in the forms usually marketed

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 6: Plastic waste

EER	Waste	Source	Characteristics	Recycling activity	Product
170203	Plastic	Construction and demolition	Plastic materials, [...]	<p>R13: Storage and removal of foreign substances for the production of secondary raw materials for the industry of plastic materials</p> <p>R3: Treatment to obtain plastic materials compliant with UNIPLAST-UNI 10667 specifications and for the production of plastic products in the forms usually marketed</p>	Secondary raw materials compliant with specifications UNIPLAST-UNI 10667 and plastic products in the forms usually marketed

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 7: Ceramic and inert waste

EWC Code:



**MAX quantity allowed:
120,000 t/y**

- 170101: Concrete
- 170102: Bricks
- 170103: Tiles and ceramics
- 170107: Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 170106
- 170802: Gypsum-based construction materials other than those mentioned in 170801
- 170904: Mixed construction and demolition wastes other than those mentioned in 170901, 170902 and 170903

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 7: Ceramic and inert waste



Origin of the waste

Demolition, crushing and construction activities

Characteristic of the waste

Inert material, brick and ceramic even with the presence of metal fractions, wood, plastic, paper and insulators except asbestos.

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 7: Ceramic and inert waste



Recycling activity n.1

a) storage of inert waste [R13] for the production of secondary raw materials for construction, through mechanical grinding phases and technologically interconnected, seaving, particle size selection and separation of the metal fraction and unwanted fractions to obtain inert stone fractions with granulometry suitable and selected, with eluate of the leaching test in compliance with the provisions of annex 3 to this decree [R5];

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 7: Ceramic and inert waste



Recycling activity n.2

b) use for **environmental recovery** after the treatment referred to in point a)
(recovery is subject to the execution of the **leaching test** according to the method in annex 3 to this decree **[R10]**;

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 7: Ceramic and inert waste



Recycling activity n.3

c) use for the **construction** of road, railway and airport embankments and foundations, industrial yards. Recovery is subject to the execution of a treatment referred to in point a) and to the execution of a **leaching test** [R5].

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 7: Ceramic and inert waste



Characteristics of raw materials and / or products obtained

Secondary raw materials for building with characteristics compliant with Annex C of the Circular of the Ministry of the Environment and Land Protection of 15 July 2005, n. UL / 2005/5205
[\(Green Public Procurement Decree\)](#)

TECHNICAL STANDARDS OF SECONDARY RAW MATERIAL

Procedures and methods of recycling must guarantee to obtain products or secondary raw materials complying with:

1



- Annex C of the GPP Decree: performance characteristics of recycled aggregates

2



- Product characteristics in compliance with the technical regulations of the sector or, in any case, in the forms usually marketed

Allegato C3 STRATI DI FONDAZIONE

PARAMETRO	MODALITÀ DI PROVA	LIMITE
Materiali litici di qualunque provenienza, pietrisco tolto d'opera, calcestruzzi, laterizi, refrattari, prodotti ceramici, malte idrauliche ed aeree, intonaci, scorie spente e loppe di fonderia di metalli ferrosi (caratterizzate secondo EN 13242).	Separazione visiva sul trattenuto al setaccio 8 mm (rif. UNI EN 13285)	> 90% in massa
Vetro e scorie vetrose	Idem	≤ 5% in massa
Conglomerati bituminosi	Idem	≤ 5 % in massa
Altri rifiuti minerali dei quali sia ammesso il recupero in sottofondi o fondazioni stradali ai sensi della legislazione vigente	Idem	≤5% per ciascuna tipologia
Materiali deperibili: carta, legno, fibre tessili, cellulosa, residui alimentari, sostanze organiche eccetto bitume; Materiali plastici cavi: corrugati, tubi o parti di bottiglie in plastica, etc.	Idem	≤ 0,1% in massa
Altri materiali (metalli, guaine, gomme, lana di roccia o di vetro, etc.)	Idem	≤ 0,4 % in massa
Passante al setaccio da 40 mm	UNI EN 933/1(*)	100%
Passante al setaccio da 20mm	UNI EN 933/1(*)	>61%; <79%
Passante al setaccio da 10mm	UNI EN 933/1(*)	>41%; <64%
Passante al setaccio da 4 mm	UNI EN 933/1(*)	>31%; <49%
Passante al setaccio da 2 mm	UNI EN 933/1(*)	>22%; <36%
Passante al setaccio da 1 mm	UNI EN 933/1(*)	>13%; <30%
Passante al setaccio da 0,5 mm	UNI EN 933/1(*)	>10%; <20%
Passante allo staccio da 0,063 mm	UNI EN 933/1(*)	≤ 10%
Rapporto tra il Passante al setaccio da 0,5 mm ed il Passante al setaccio da 0,063 mm	UNI EN 933/1(*)	> 3/2
Equivalentente in Sabbia	UNI EN 933-8	>30
Perdita in peso per abrasione con apparecchio "Los Angeles"	UNI EN 1097/2	≤ 30
Indice di forma (frazione > 4 mm)	UNI EN 933/4	≤ 40
Indice di appiattimento (frazione > 4 mm)	UNI EN 933/3	≤ 35
Ecocompatibilità	Test di cessione di cui all'All. 3 DM 05/02/1998	Il materiale dovrà risultare conforme al test di cessione previsto dal DM 5 febbraio 1998

ENVIRONMENTAL STANDARDS OF SECONDARY RAW MATERIAL

Leaching test



- ❑ **Sampling:** UNI 10802:2013 "Wastes - manual sampling and preparation of sample and analysis of eluates"
- ❑ **Method:** EN 12457-2:2002 "Characterisation of waste - Leaching - Compliance test for leaching of granular waste materials and sludges"
- ❑ To be performed at the first entrance of the waste and then **every 12 months** and, in any case, whenever substantial changes occur in the recycling process.

LEACHING TEST: CONCENTRATION LIMITS

Parametri	Unità di misura	Concentrazioni limite
Nitrati	Mg/l NO3	50
Fluoruri	Mg/l F	1,5
Solfati	Mg/l SO4	250
Cloruri	Mg/l Cl	100
Cianuri	microngrammi/l Cn	50
Bario	Mg/l Ba	1
Rame	Mg/l Cu	0.05
Zinco	Mg/l Zn	3
Berillio	microngrammi/l Be	10
Cobalto	microngrammi/l Co	250
Nichel	microngrammi/l Ni	10
Vanadio	microngrammi/l V	250
Arsenico	microngrammi/l As	50
Cadmio	microngrammi/l Cd	5
Cromo totale	microngrammi/l Cr	50
Piombo	microngrammi/l Pb	50
Selenio	microngrammi/l Se	10
Mercurio	microngrammi/l Hg	1
Amianto	Mg/l	30
COD	Mg/l	30
PH		5,5 <> 12,0

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STORAGE OF THE C&D

STORAGE OF THE C&D (RECYCLING OPERATION R13)



Admitted to the simplified procedure

R13 at the production site of the waste

R13 storage installations

R13 + R recycling installations



Limitation to storage capacity

Waste Storage area complying with Technical standards (NHW) set in the Decree 05/02/98

TEMPORARY STORAGE: EXEMPTION



Collection of waste in the place of production for the purpose of transporting to a recovery or disposal plant.



Limits at the storage:

- Temporal criterion: every 3 months
- Quantitative criterion: up to 30 tons (10 of HW)

Waste is grouped into homogeneous categories

For C&D waste, temporary storage can be made in the areas pertaining to the points of sale of the related products

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MOBILE PLANTS FOR C&D

C&D WASTE: MOBILE PLANT



Definition of mobile plant:


Mobile recycling plants that have the characteristic of mobility, that is, they are used on a traveling basis at different sites.

The law requires a **double** authorization title.

C&D WASTE: MOBILE PLANT

Request of **ordinary permit** to the CA of the Region where the interested party has its registered office or the foreign company that owns the plant has its representative office.

The Region can adopt supplementary prescriptions or it can prohibit the activity with a justified measure.



In order to carry out the **recycling campaigns** on the national territory, the interested party, at least **20 days** before the installation of the system, must **notify** the Region in whose territory the chosen site is located the detailed specifications relating to the activity campaign.

6

END OF WASTE DECREE
(DRAFT)

CDW: A NATIONAL END-OF-WASTE DECREE

**Pursuant to Art. 6 of
the Waste Framework
Directive**

DRAFT

- Admissible waste
- Checks on incoming waste
- Recycling activities
- Final use of the product
- Compliance with EoW criteria/conditions
- Technical reference standards for the attribution of the CE mark
- Declaration of conformity
- Leaching test (environmental standard)
- Sampling method

C&D: A NATIONAL END-OF-WASTE DECREE

Parametri	Unità di misura	Concentrazioni limite
Nitrati	mg/l	50
Fluoruri	mg/l	1,5
Cianuri	microngrammi/l	50
Bario	mg/l	1
Rame	mg/l	0,05
Zinco	mg/l	3
Berillio	microngrammi/l	10
Cobalto	microngrammi/l	250
Nichel	microngrammi/l	10
Vanadio	microngrammi/l	250
Arsenico	microngrammi/l	50
Cadmio	microngrammi/l	5
Cromo totale	microngrammi/l	50
Piombo	microngrammi/l	50
Selenio	microngrammi/l	10
Mercurio	microngrammi/l	1
COD	mg/l	30
Solfati	mg/l	750
Cloruri	mg/l	750
PH		5,5 <> 12,0

Key challenge (leaching test):

- ❑ Chlorides and sulphates concentration limits in the eluate (as they are constituents of C&D)
- ❑ Risk analysis

Tabella 3– Analiti da ricercare e valori limite

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SOIL AND STONES:
EXEMPTIONS

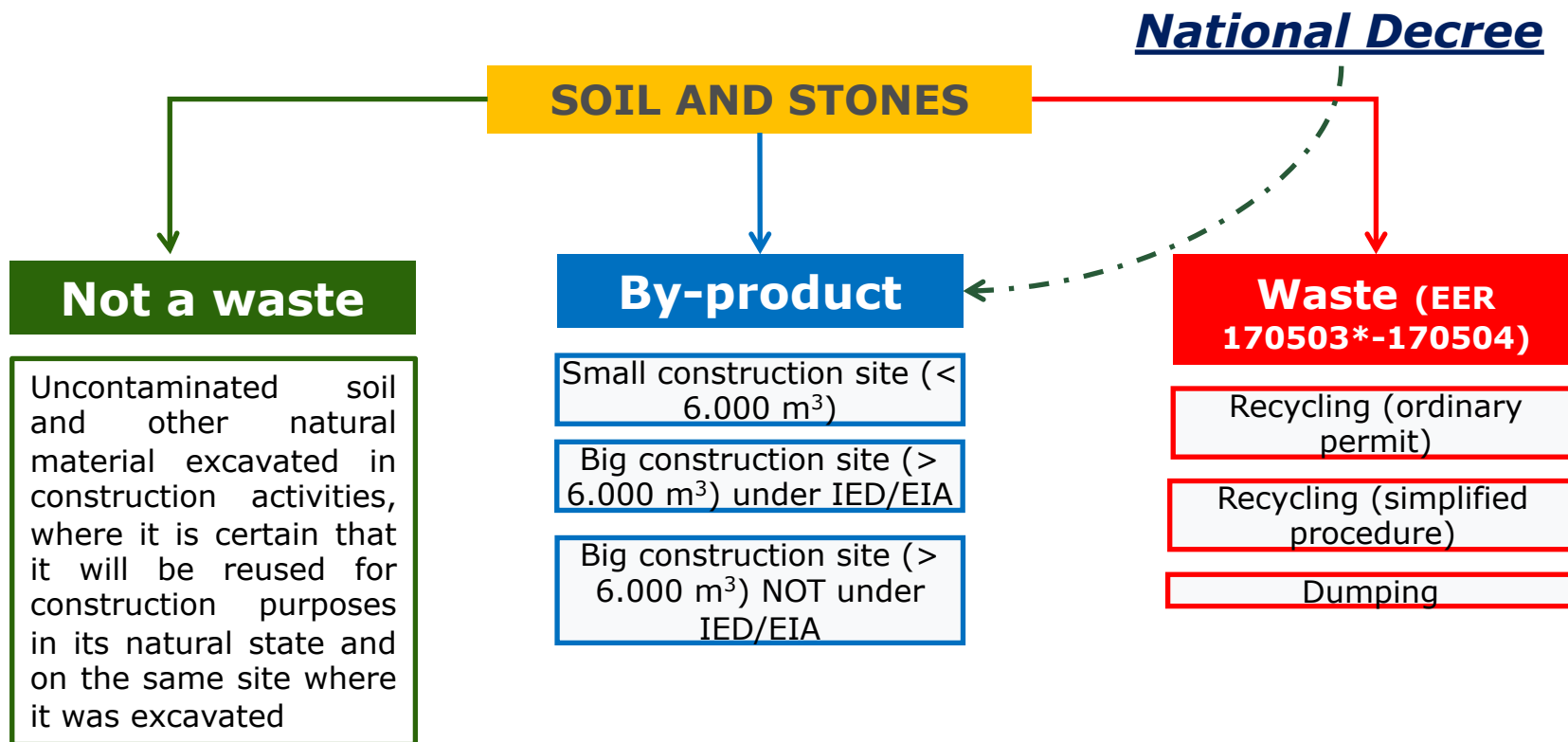
SOIL AND STONES



SOIL AND STONES

The excavated soil deriving from activities aimed at the realization of a work, including: excavations in general (excavation, foundations, trenches); drilling, drilling, piling, consolidation; infrastructural works (tunnels, roads); removal and leveling of earthworks.

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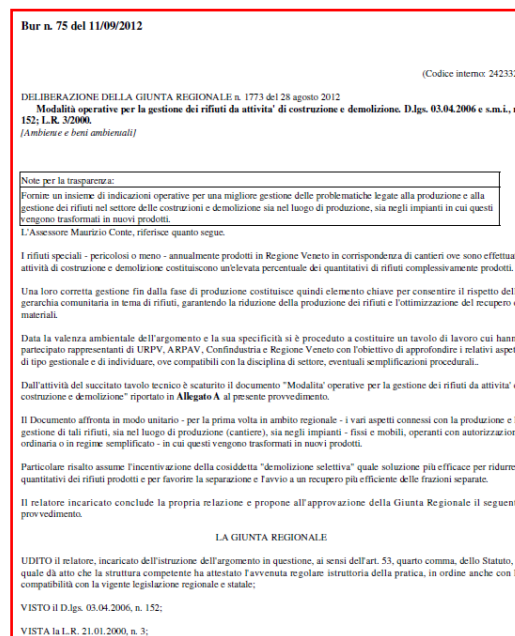
DRIVERS

DRIVERS FOR INCREASING CDW RECYCLING IN ITALY

- ❑ Enforcement of Green Procurement law. **Green Public Procurement** rules have introduced the mandatory use of recycled materials (in particular, of recycled aggregates in infrastructure),
 - ❑ New and more stringent rules for **selective demolition** practices would greatly increase CDW sustainable management.
 - ❑ The introduction also of "**recycled aggregate**" in the price lists of the construction works would help to facilitate the use of such materials.
 - ❑ The development of **end of waste criteria** would also help in developing the market for recycled aggregates. In the case of Italy such a development would be much quicker if it was led by initiative/input from the EU Commission.
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ITALIAN GUIDELINES



Thank you for your attention

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Grazie!



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