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

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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



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

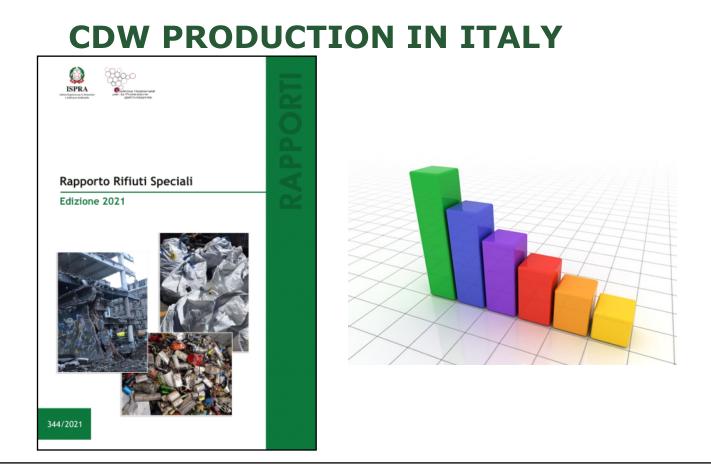
Member States shall take measures to promote selective demolition in order to enable removal and safe handling of hazardous substances and facilitate re-use and high-quality recycling by selective removal of materials, and to ensure the establishment of sorting systems for construction and demolition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

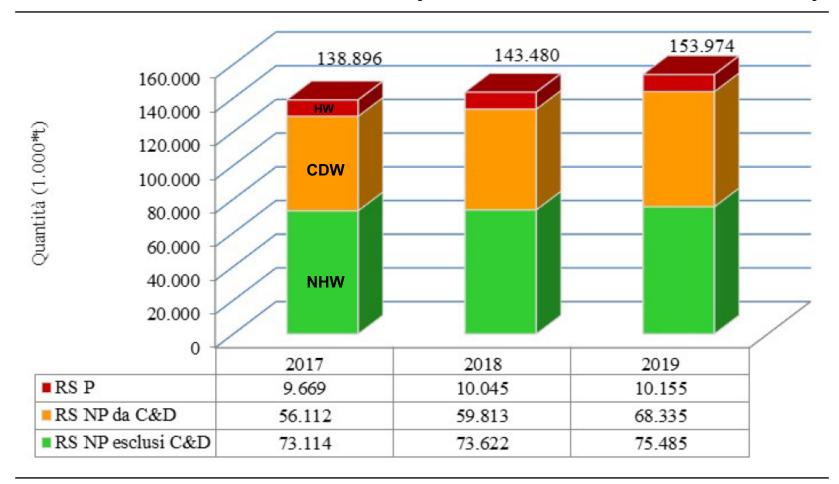
WASTE FRAMEWORK DIRECTIVE

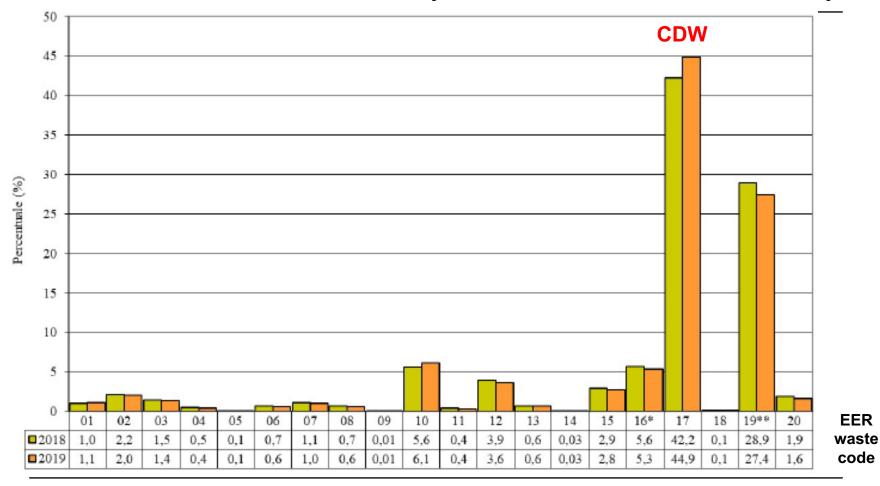


Article 11: Preparing for re-use and recycling

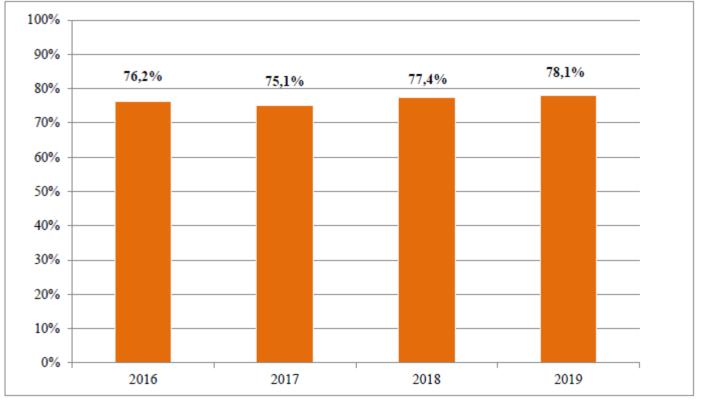
6. By 31 December 2024, the Commission shall consider the setting of **preparing for re-use and recycling targets** for **construction and demolition waste** and its material-specific fractions





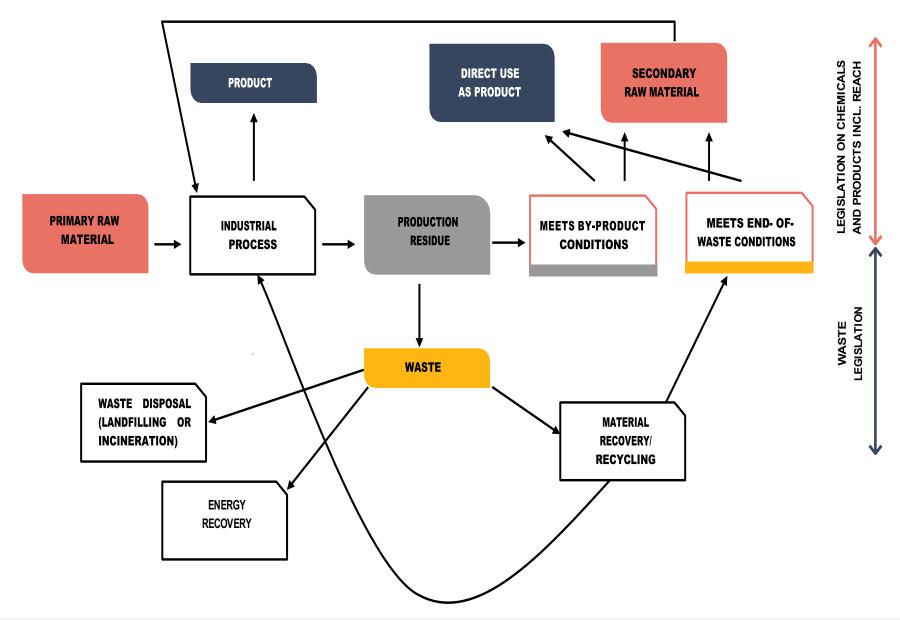


Recycling rate of CDW (excluding backfilling)





C&D AND BY-PRODUCTS



https://www.impel.eu/guidance-making-the-circular-economy-work-launched/

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





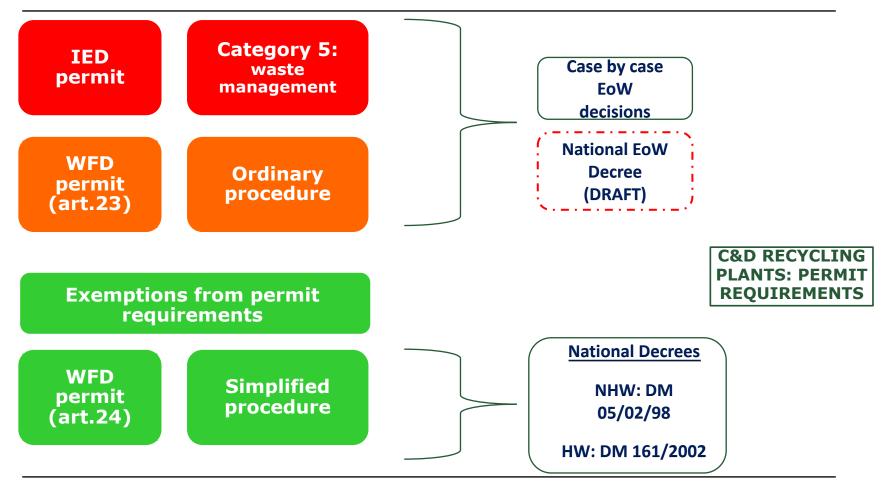
Court of Cassation ruling n.16431 31/03/2017

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.

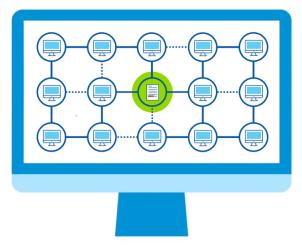
The accused was convicted of illegal waste management for having disposed of material from the demolition of a warehouse without having considered it as a waste.

RECYCLING C&D: PERMIT REQUIREMENTS AND EXEMPTIONS





C&D RECYCLING PLANTS: PERMIT REQUIREMENTS



In order to comply with the principles of transparency and publicity, a <u>national register</u> 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



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 <u>5</u> <u>years</u> 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, []	R13: Storage and removal of foreign substances for the production of secondary raw materials for the industry of plastic materials R3: Treatment to obtain plastic materials compliant with UNIPLAST-UNI 10667 specifications and for the production of plastic products in the forms usually marketed	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



• 170101: Concrete

EWC Code:

- 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 <u>leaching test</u> 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 <u>environmental recovery</u> after the treatment referred to in point a) (recovery is subject to the execution of the <u>leaching test</u> 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 <u>leaching test</u> [R5].

C&D WASTE ADMITTED TO SIMPLIFIED PROCEDURE

Category 7: Ceramic and inert waste



<u>Characteristics of raw materials and / or</u> <u>products obtained</u>

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:





 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
Material i litici di qualunque provenienza, pietrisco tolto	Separazione visiva sul	> 90% in massa
d'opera, calcestruzzi, laterizi, refrattari, prodotti ceramici,	trattenuto al setaccio 8 mm	
malte idrauliche ed aeree, intonaci, scorie spente e loppe	(rif. UNI EN 13285)	
di fonderia di metalli ferrosi (caratterizzate secondo EN		
13242).		
Vetro e scorie vetrose	Idem	≤ 5% in massa
Conglomerati bituminosi	Idem	\leq 5 % in massa
Altri rifiuti minerali dei quali sia ammesso il recupero in	Idem	≤5% per ciascuna tipologia
sottofondi o fondazioni stradali ai sensi della legislazione		
vigente		
Materiali deperibili: carta, legno, fibre tessili, cellulosa,	Idem	$\leq 0,1\%$ in massa
residui alimentari, sostanze organiche eccetto bitume;		
Materiali plastici cavi: corrugati, tubi o parti di bottiglie in		
plastica, etc.		
Altri materiali (metalli, guaine, gomme, lana di roccia o di	Idem	$\leq 0,4\%$ in massa
vetro, etc.)		
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(*)	$\leq 10\%$
Rapporto tra il Passante al setaccio da 0,5 mm ed il	UNI EN 933/1(*)	> 3/2
Passante al setaccio da 0,063 mm		
Equivalente in Sabbia	UNI EN 933-8	>30
Perdita in peso per abrasione con apparecchio "Los	UNI EN 1097/2	≤ 30
Angeles"		
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	Il materiale dovrà risultare
	all'All. 3 DM 05/02/1998	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 sa mpling 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/1 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

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



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.

Request of <u>ordinary</u> <u>permit</u> 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.

C&D WASTE: MOBILE PLANT

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 <u>20 days</u> 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.

END OF WASTE DECREE (DRAFT)



CDW: A NATIONAL END-OF-WASTE DECREE

Pursuant to Art. 6 of the Waste Framework Directive



- □ 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

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	

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

Key challenge (leaching test):

Chlorides and <u>sulphates</u> concentration limits in the eluate (as they are constituents of C&D)

□ Risk analysis

SOIL AND STONES: EXEMPTIONS

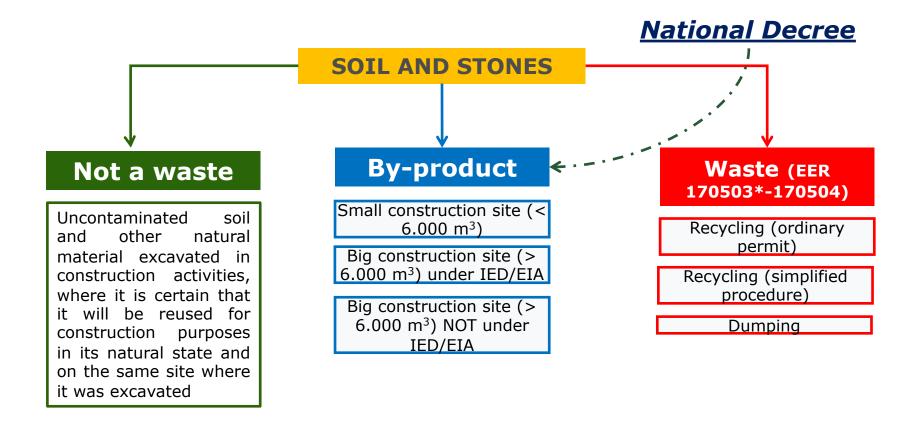


SOIL AND STONES



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.





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.

ITALIAN GUIDELINES

	PRASSI DI RIFERIMENTO UNI/PdR 75:2020	Burn, 75 del 11/09/2012
0.0228	Decostruzione selettiva - Metodologia per la decostruzione selettiva e il recupero dei rifluti in un'ottica di economia circolare Datoha Accessivation - Mathadalgy for advative deconstructor and radio accessy fore a situator recentry prependire	(Codec interne: 242332 DELIBERAZIONE DELLA GIUNTA REGIONALE a. 1773 del 28 agosto 2012 Medalità operative per la gestione dei rifiuti da utivita' di costruzione e demolizione. D.Jgs. 0.3.04.2006 e s.m.i., e 152; L.R. 32000. /Ambiene e beni ambienzali/
estema Nazionale per la Protezione dell'Ambiente	La presai di informento doffinaco una motodologia openativa por la decualnucione selettiva alte Involtea il recopero (incluo e nuoci dei rifed dormenti dalle confuzione e domotorne. La necloslogia dostrita nei dovariento è unicriata alla compatibilità con la gestione digitale dei processo e delle informazioni.	Note per la traspuretra: Fornire un insiene di indicazioni operative per una migliore gestione delle problematiche legate alla produzione e alla gestione dei rifittati elestore delle costruzioni e demolizione sia nel luogo di produzione, sia negli impianti in cui questi tengono trasformati in nuovi prodotti. U'Assensore Maurizio Conte, riferisce quanto seguni. 1 rifiuti speciali – pericolosi o meno - annualmente prodotti in Regione Veneto in corrispondenza di cantieri ore sono effettuati
Area 3 Gruppo di Lavoro n. 14		a triuti specialo personso ninero - anuantenie produzi ne Regione vetterio ni octriponezi al cualte i ore sono cretual attività di construzione e denoliziore continuiscono unicivata procentala dei quantitivi di finiti compassi name in produzi Una loro corretta gestione fin dalla fase di produzione costituisce quindi elemento chiave per consentire il rispetto dell gerarchia commitaria in tema di rifiuti, garantendo la riduzione della produzione dei rifiuti e Tottimizzazione del recupero di materiali. Data la valenza ambientale dell'argomento e la sua specificità si è proceduto a costinire un tavolo di lavoro cui hann
DEFINIRE CRITERI E INDIRIZZI CONDIVISI PER IL RECUPERO DEI RIFIUTI INERTI documento introduttivo	Publicate 6.3 lettorate 2026 IEEE VII.010.00	partecipato appresentanti di URPV, ARPAV, Confindustria e Regione Veneto con l'obiettivo di approtondire i relativi aget di tipo gestionale e di individuare, ove compubiliti con la disciplina di settore, eventuali semplificazioni procedurali. Dall'attività del succitato tavolo senico è scatturito il documento "Modaliti operative per la gestione dei rifiuti da attività" costruzione e demolizione" riportato in Allegato A al presente provedimento.
		III Documento affronta in modo unitario - per la prima volta in ambito regionale - i vari aspetti comeasi con la produzione e il gestioni di tali rittati, sia nel longo di nel orduzione (catterio): sia negli imiganti - fisse - molti, operanti con autorizzazion ordinaria o in regime semplificato - in cui questi vengono trasformati in movi prodotti. Particolare risalto assume l'incentivazione della cosiddetta "demolizione solettiva" quale soluzione più efficace per ridarre quantitativi dei rittativo dei rittati e asparazione e l'avvio a un recupere più efficace) in cui apprendente e la soluzione più efficace per ridarre quantitativi dei rittativi dei nella notadotta e la separazione e l'avvio a un recupere più efficace) in cui apprendente per la soluzione più efficace) per ridarre quantitativi dei rittativi dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella dei nella soluzione più efficace) per ridarre quantitativi dei rittativi dei nella de
		II relatore incaricato conclude la propria relazione e propone all'approvazione della Giunta Regionale il seguent provvedimento. LA GIUNTA REGIONALE UDITO il relatore, incaricato dell'istruzione dell'argomento in questione, si sensi dell'art. 53, quarto comma, dello Statuto,
2015 / 2016 Turis Auforito ranges 2016	RECYL	quale da atrio che la struttura competente ha attestato l'avvenuta regolare istruttoria della pratica, in ordine anche con l compatibilità con la giorate legitalazione regionale e statale; VISTO il D.lgs. 03.04.2006, n. 152; VISTA la L.R. 21.01.2000, n. 3;

Thank you for your attention

Romano Ruggeri Email: <u>rruggeri@arpa.sardegna.it</u> Grazie!

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