An EU funded project

Draft by-law on C&D waste and on End of Waste Status

3rd Workshop

Waste Management Plan

on hazardous Construction & Demolition Waste

3rd of February 2017

(Belgrade)

Content

Waste vs. Product

Definition of waste

- Serbia (LWM as amended by 14/2016): waste means any substance or object which the holder discards, intends or deems necessary to discard
- EU (2008/98/EC): 'waste' means any substance or object which the holder discards or intends or is required to discard

End of waste

a) Use as waste – waste status ends with the legitimate use (use itself is a waste treatment, waste license necessary)

b) Recycle to a new product – product regulation applies (e.g. chemical legislation, liability rules, etc.)

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Waste vs. Product

End of waste

c) Recover the waste to an extent that it complies with the requirements of an End of Waste Regulation

- Serbia: Art. 8v and 8g of the LWM – no EoW Regulation implemented yet
- EU: Art. 6 of 2008/98/EC – three EoW Regulations up to now (333/2011 for Fe scrap and Al scrap; 715/2013 for Cu scrap; 1179/2012 for glass cullets)

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Waste vs. Product

End of waste/by-product

d) By-product is a material resulting from a production process, the primary aim of which is not the production of that item, and which fulfills several conditions laid down in law and is not discarded but directly used to substitute another material

- Serbia: Art. 8a, 8b and 8g of the LWM – to become effective a by-law shall be implemented
- EU: Art. 5 of 2008/98/EC – no implementation act necessary, decision can be made on a case by case basis depending of the national legislation

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By-product and EoW

Note:

- The declaration of a by-product shall be made only by the generator.

  If the generator discards the material it becomes a waste.

  To gain a non-waste status the general rules for End of Waste status (point a to c) apply.

  By-product is always a case by case decision since one of the conditions laid down in law is that the use of the material is secured – this is depending on the market situation and/or existing contracts (same material generated by different generators may be a waste or not depending on existing contracts that secure the use).

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Types of EoW Regulations

To define the EoW status of a recovered material two different approaches may apply:

a) A (waste) specific regulation or a binding protocol
   e.g. EU regulation 333/2011, Austrian Regulation on composting biodegradable wastes (Fed. Law Gaz. II 292/2001).
   e.g. UK protocol "End of waste criteria for the production of aggregates from inert waste" (published by EA, NIEA, NR; valid only for England, Wales and Northern Ireland)

b) A general by-law defining the (general) requirements for the application for an EoW status on a case by case basis.
   A Decision on an EoW status is issued for each separate applicant.

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Types of EoW Regulations

Specific EoW Regulation or protocol

Advantages

- Necessary quality criteria can be laid down very specific (waste specific, use specific, treatment specific, etc.)
- Allowed input materials can be defined
- Specific treatment methods can be prescribed
- Legal certainty for each applicant (he has to follow only the protocol – necessary investments can be defined in advance)

Disadvantages

- Each regulation/protocol needs a separate legislative act – slow implementation for different waste streams

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Types of EoW Regulations

General EoW Regulation

Advantages

- Only one necessary legislative act

Disadvantages

- Necessarily very general – decision therefore on a case by case basis, that means no legal certainty for an applicant on necessary investments before a decision is issued.
- High burden for the Authority (case by case decisions – possibly a large number of slightly different applications to be scrutinized).
- Possibly different decisions for similar materials/wastes.

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Serbian legal framework

Law on Waste Management (as amended by *Official Gazette of RS* 14/2016)

- End-of waste status Article 8v - Conditions
  - The substance or object is usually used for special purposes;
  - There is a market or demand for such substances or objects;
  - The substance or object meets technical requirements for special purposes prescribed by laws and standards pertaining to those products;
  - The use of substance or object will not lead to overall adverse effects for environment or human health.

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Serbian legal framework

Law on Waste Management (as amended by *Official Gazette of RS* 14/2016)

Obligation of the Minister of Environment

- Prescribe technical requirements for certain types of waste which compliant with the EU regulations gained end-of-waste status (paper, glass, rubber, textile, aggregate and metal), as well as other types of waste and prescribe procedures for compliance assessment;
- Define other special criteria for determination of end-of-waste status.
- Run a register of waste that gained end-of-waste status based on issued certificates on product compliance

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Register on by-products and EoW status

Law on Waste Management (as amended by *Official Gazette of RS* 14/2016)

Article 8g:

- Register on by-products
- Register on EoW status

Advantage:

- A public accessible register secures legal certainty for the potential user of the material.
- All necessary "product information" (e.g. MSDS, restriction on use, etc.) can be distributed via the register to all relevant stakeholders.

Proposed by-law on EoW Status

Proposed By-law on EoW Status

The proposed by-law on EoW Status provides for two different situations:

a) A general framework how to reach an EoW certificate for a material which was not converted into a product already but shall be used for a specific purpose outside the waste regime. An example could be recovered plastic waste (e.g. PET flakes). Such a material can substitute directly virgin raw material in a production process (e.g. blow moulding of bottles). Normally (since there is no harmonized EoW regulation) this is done with a waste treatment license. To enhance the market opportunity the recycler may want to gain an EoW status to deliver his recovered material to customers who used only virgin material (non waste) so far.

Proposed by-law on EoW Status

Proposed By-law on EoW Status

b) There is already a specific by-law governing the handling and EoW status of a specific waste stream.

   In this case the by-law regulates the way of application and decision making and the registration of the material in the product register.

   Such a clause is necessary to implement i.a. the EU Regulations on EoW status of glass and several scraps. The system should be applied also for a specific EoW clause in the proposed by law on (mineral) C&D waste.

Proposed by-law on C&D waste

Proposed By-law on C&D waste

The focus of the proposed by-law is on the environmental performance of recovered aggregates (recovered mineral C&D wastes). The physical properties (as construction material) are not covered since recovered material should be classified like virgin material in that respect. Thus several harmonized (CEN) standards can be applied to describe the performance of the material.

To secure a high environmental standard a three step approach is envisaged.

Proposed by-law on C&D waste

Proposed By-law on C&D waste

Step 1:

Mandatory source separation (where feasible). Mandatory recycling orientated dismantling (including the preparation of a decommissioning plan and removal of hazardous components - triggered by a specific amount of C&D waste generated).

By this source separation and removal of potential hazardous contaminants a good environmental performance of the recovered aggregates shall be reached.

Proposed by-law on C&D waste

Proposed By-law on C&D waste

Step 2:

Classification of recovered aggregates into several classes with regard to their environmental performance (leachate behaviour and total content on specific substances, especially heavy metals, partly also organic pollutants like PAH, HC and PCB).

Step 3:

Assigning specific quality classes to a specific type of use (e.g. open use in sensitive areas, use under a dense cover, use as filler in concrete).

Proposed by-law on C&D waste

Proposed By-law on C&D waste

Limit values

For each environmental class a set of limit values is proposed. These limit values are derived from pertinent legislation (Austria) and national guidelines in several EU (Germany, LAGA M20) and non EU countries (Switzerland, Australia), international standards for land use (Eikmann/Klocke-lists) and comparison with regional soil quality data.

These proposals are meant as a basis for discussion during stakeholders consultation and might need some adaptation with regard to the specific situation in Serbia.

Proposed by-law on C&D waste

Proposed By-law on C&D waste

Stationary and mobile recycling

To avoid long transport distances the possibility of a mobile recycling is foreseen. For mobile recycling units different licensing request might be applied compared with permanent installations. To avoid that this is used to circumvent licensing requirements mobile installation shall be used only for a restricted time period. The proposed time frame also should be a start point for stakeholder consultations.

Inclusion of excavated soil

As an option the regulation can cover the use of excavated soil for backfilling and for re-cultivation too.

Proposed by-law on C&D waste

Proposed By-law on C&D waste

Inclusion of excavated soil

The proposed quality classes are orientated on German (Bundesbodenschutzverordnung) and Austrian (Verwert-ungsgrundsatz Bodenaushub) legislation.

This legislation was concluded on basis of ecotoxicological parameters and comparison with typical soil quality. Restrictions for the use of soil for re-cultivation and backfilling are not absolute. Where the natural occurring soil has a higher content on heavy metals similar soil may be used, even if this soil doesn’t meet the quality standards (however the situation at a specific site should never be worsened by applying soil from another origin).

Proposed by-law on C&D waste

Proposed By-law on C&D waste

EoW status for recovered aggregates/soil

As an further option an EoW status for specific classes of recovered aggregates and soil is proposed. This covers the classes with the best environmental performance which do not need any restrictions in use. This EoW status can be a tool to promote the use of recycled material.

Quality management system

For the QM of recovered aggregates two different options are foreseen.

a) An obligatory QM system as described in an Annex to the regulation can be prescribed.

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Proposed by-laws

Quality management system

b) The recycler may set up a QM system in accordance with applicable international standards (e.g. ISO 9001, ISO 14001) with an external verification.

These two options shall be a basis for stakeholder consultation.

A pre-defined QM system (Annex) provides for an equal playing field, however a tailor made (verified) QM system provides for a higher flexibility (an can include other aspects of QM, e.g. the compliance with CEN standards for construction material).

Proposed by-law on C&D waste

Proposed Parameters for aggregates

Parameter	Dimension	Class 1	Class 2	Class 3	Class 3a[8]
HC	mg/kg	100	300	500	-
PAH 16 US-EPA	mg/kg	3	5	15	20/300[10]
PCB 7 congeners[11]	mg/kg	0,02	0,1	0,5	0,5
As	mg/kg	20	30	50	50
Pb	mg/kg	100	200	300	300
Cr	mg/kg	50	100	200	200
Cu	mg/kg	40	100	200	200
Ni	mg/kg	40	100	200	200
Hg	mg/kg	0,3	1	3	3
Cd	mg/kg	0,6	1	3	3
Zn	mg/kg	120	300	500	500

8 Bituminous bound material/excavated road surface
10 20 mg/kg is applied for hot mixing; 300 mg/kg is the absolute limit value.
11 To be analyzed only if a PCB contamination of the input material cannot be excluded

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Proposed by-law on C&D waste

Proposed Parameters for aggregates

Parameter	Dimension	Class 1	Class 2	Class 3/3a
pH		6,5-9	6,5-12	6,5-12,5
Conductivity	µS/cm	500	1000	1500
PAH 16 US-EPA	µg/l	-	-	-
As	µg/l	10	30	30
Pb	µg/l	20	40	50 (100)
Cr	µg/l	15	30	75
Cu	µg/l	50	100	200
Ni	µg/l	40	50	150
Hg	µg/l	0,2	0,2	1
Cd	µg/l	2	2	5
Zn	µg/l	100	100	300
Ammonium-N	mg/l	0,5	1	5
SO_4	mg/l	100	250	400
Nitrate -N	mg/l	10	30	50

Leachate prepared in accordance witn EN 12457: Part 4 (l:s = 10:1)

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Proposed by-law on C&D waste

Acceptable use for aggregates

	Unbound application without low-permeable, bonded covering or backing layer	Unbound application under low permeable, bonded covering or backing layer	Bound application (e.g. production of concrete strength class C 12/15[17] or higher)	Production of asphalt mix[18]
Class 1	+	+	+	+
Class 2	-	+	+	+
Class 3	-	-/+[19]	+	+
Class 3 a	-	-	-	+[20]

[19] Not used in sensitive areas

[20] If the concentration of PAH exceeds 20 mg/kg only cold mixing or use in a closed mixing device is allowed.

Proposed by-law on C&D waste

Not covered

a) Non mineral C&D waste (wood, plastics, mixed waste)
The non-mineral fraction can be recycled/recovered in similar way as organic waste from other sources (industry, households, craft shops) – plastic recycling, re-use of wood, generation of RDF for cement industry and/or power stations. Obligatory source separation can improve this recycling.

b) Hazardous C&D waste (asbestos containing waste, PCB waste, etc.)
For these waste streams specialised regulations exist in most cases. Recycling orientated dismantling provide for a separate collection of these fractions.

Link between EoW and C&D waste Regulation

The EoW clause in the draft by-law on C&D waste is not fully linked to the product register as described in the by-law on EoW status.

Thus both regulations should be a package or the EoW Article 11 needs to be amended.

Thank you!

Andreas Moser, Christian Neubauer

MS Experts, Austria