



An EU funded project

## **3<sup>rd</sup> Workshop**

# **Waste Management Plan on hazardous Construction & Demolition Waste**

**3<sup>rd</sup> of February 2017  
(Belgrade)**

# Specific WMP on hazardous C&D waste

- ❖ **Recently issues on European Level**
- ❖ **Strategy on management of C&D waste for Serbia**
- ❖ **Action Plan and Recommendations for Serbia**

# Tackling C&D waste: A specific issue?

- High number of players with different interests
- Diverse waste stream and high volumes
- Potential to harm environment and human health



# European Strategy for C&D Waste Management

- C&D waste are the biggest sources of waste in Europe
- The separate collection, selective removing of hazardous waste and adequately recovery needs to be improved

## ❖ **Waste Framework Directive (2008/98/EC)**

Member States shall take the necessary measures designed to achieve that by 2020 a minimum of 70% (by weight) of non-hazardous construction and demolition waste shall be prepared for re-use, recycled or undergo other material recovery“

## ❖ **Roadmap to a Resource Efficient Europe (COM(2011) 571)**

## ❖ **Strategy for the sustainable competitiveness of the construction sector and its enterprises (COM(2012) 236)**

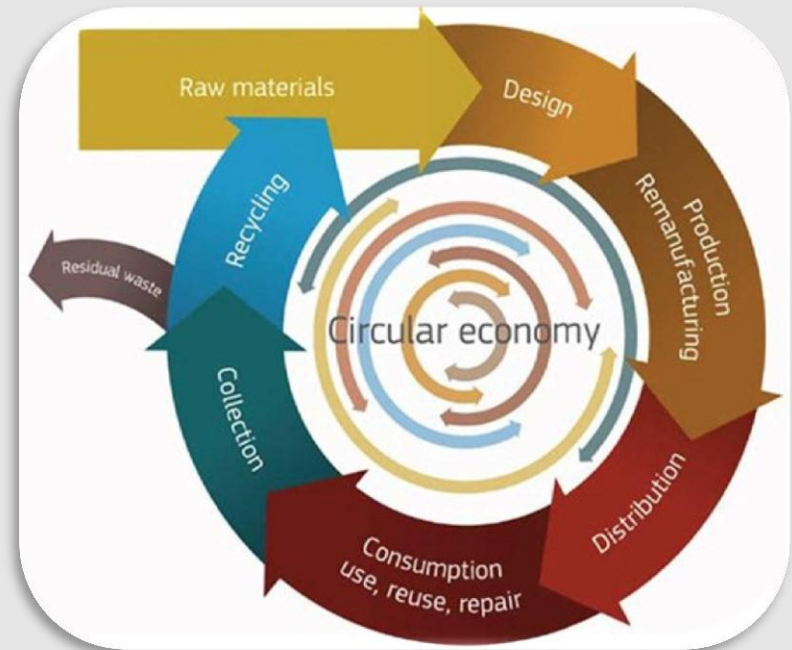
## ❖ **The 7<sup>th</sup> Environment Action Programme (EAP) 'Living well, within the limits of our planet' (2013)**

## ❖ **Resource efficiency opportunities in the building sector (COM(2014) 445)**

## ❖ **EU Construction & Demolition Waste Management Protocol (EC 2016)**

# European Strategy for C&D Waste Management

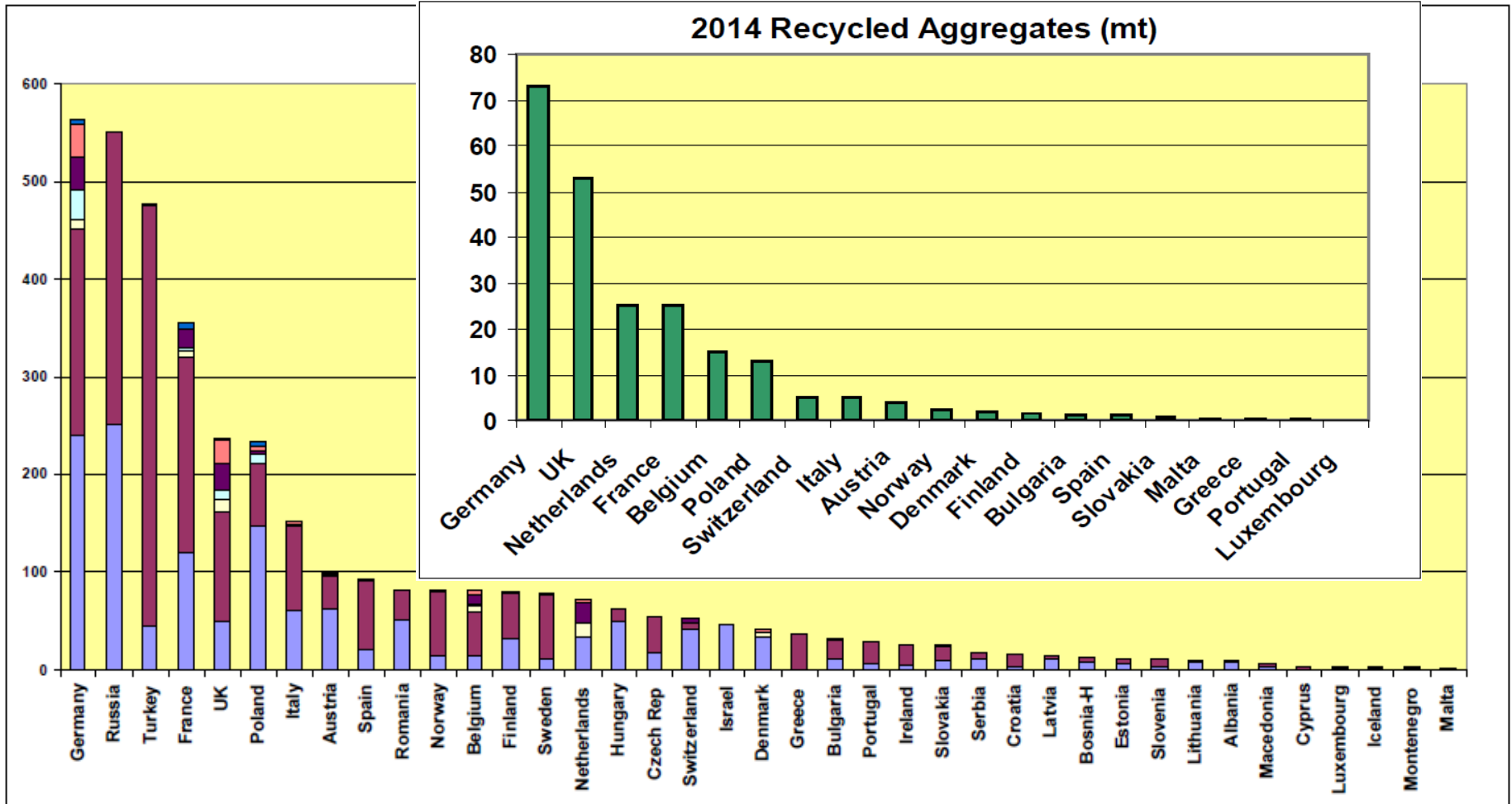
- Closing the loop - An EU action plan for the Circular Economy (COM(2015) 614 final)
  - Amendment of Directives
  - Action plan
  - Priority areas
- Life cycle approach!
  - Production
    - Eco design
    - Energy efficiency
    - Improve best practices on mining
    - Improve Raw Materials Information
  - The use of construction materials
    - Environmental footprint
    - Labelling
    - Green Public Procurement
  - Waste management
    - ...



<http://www.acceleratio.eu>

# European production of natural aggregates

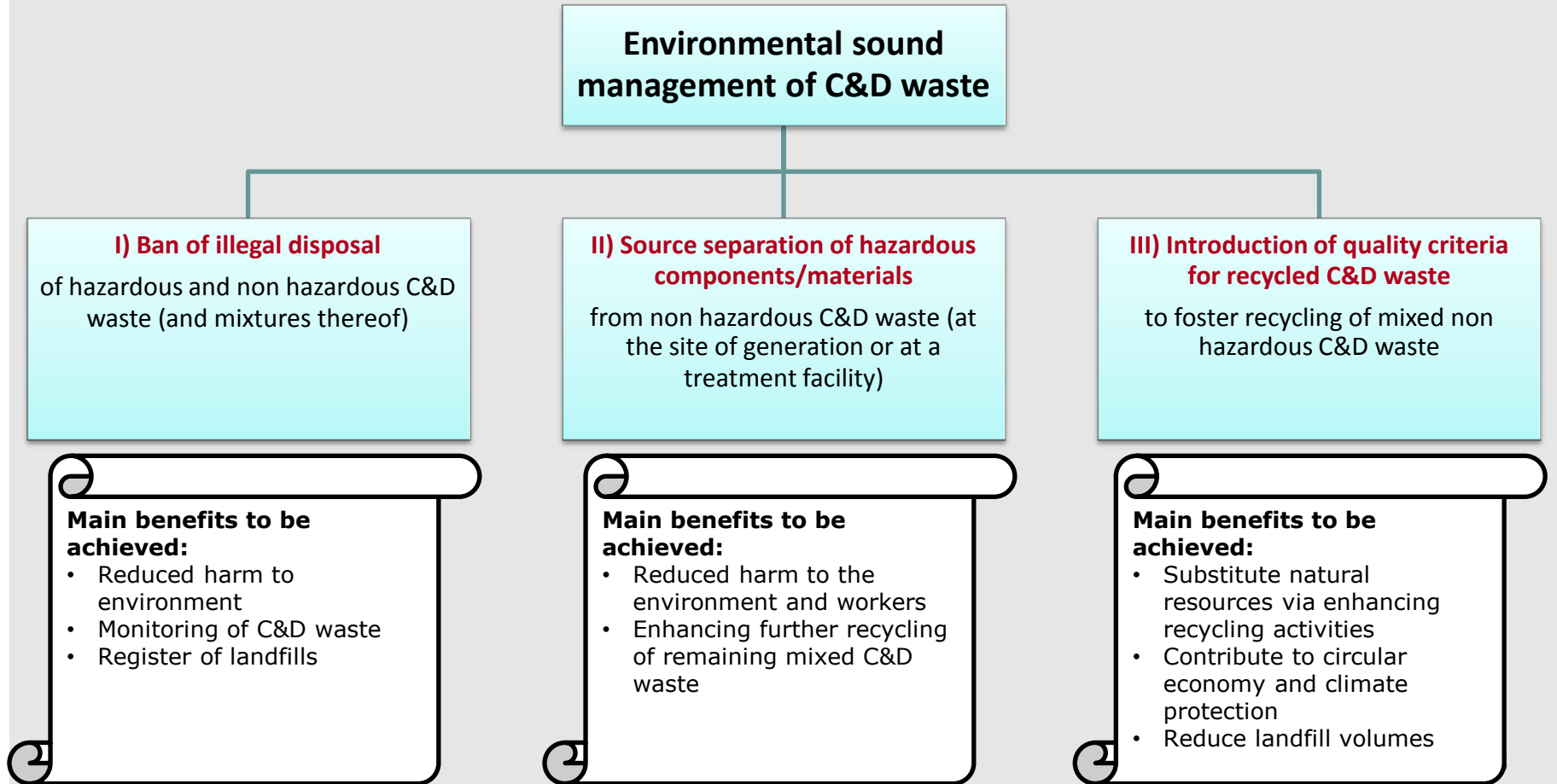
UEPG Presentation 2015 Brian Jones



| 2014        | Total Number of Producers (companies) | Total Number of Extraction Sites (Quarries and Pits) | Sand & Gravel (millions tonnes) | Crushed Rock (millions tonnes) | Marine Aggregates (millions tonnes) | Recycled Aggregates (millions tonnes) | Re-Used on Site (millions tonnes) | Manufactured Aggregates (millions tonnes) | Total Production (millions tonnes) |
|-------------|---------------------------------------|--|---------------------------------|--------------------------------|-------------------------------------|---------------------------------------|-----------------------------------|---|------------------------------------|
| Austria     | 1068                                  | 1362   | 63                              | 33                             | 0                                   | 4                                     | 0                                 | 2   | 102                                |
| Belgium     | 79                                    | 112  | 13                              | 45                             | 6                                   | 15                                    | 0                                 | 1   | 81                                 |
| Bulgaria    | 217                                   | 295  | 11                              | 19                             | 0                                   | 1                                     | 0                                 | 0   | 32                                 |
| Croatia     | 170                                   | 250  | 3                               | 14                             | 0                                   | 0                                     | 0                                 | 0   | 17                                 |
| Czech Rep   | 167                                   | 371  | 18                              | 36                             | 0                                   | 0                                     | 0                                 | 0   | 54                                 |
| Denmark     | 214                                   | 337  | 33                              | 0                              | 5                                   | 2                                     | 0                                 | 0   | 41                                 |
| Estonia     | 190                                   | 280  | 7                               | 5                              | 0                                   | 0                                     | 0                                 | 0   | 11                                 |
| Finland     | 567                                   | 2530   | 32                              | 47                             | 0                                   | 1                                     | 0                                 | 0   | 81                                 |
| France      | 1454                                  | 2663   | 120                             | 199                            | 7                                   | 20                                    | 5                                 | 3   | 354                                |
| Germany     | 1481                                  | 2960   | 240                             | 211                            | 10                                  | 68                                    | 5                                 | 30  | 564                                |
| Greece      | 140                                   | 192  | 0                               | 38                             | 0                                   | 0                                     | 0                                 | 0   | 38                                 |
| Iceland     | 28                                    | 56   | 2                               | 0                              | 0                                   | 0                                     | 0                                 | 0   | 3                                  |
| Ireland     | 104                                   | 430  | 5                               | 21                             | 0                                   | 0                                     | 0                                 | 0   | 26                                 |
| Italy       | 1120                                  | 1800   | 61                              | 86                             | 0                                   | 5                                     | 0                                 | 0   | 152                                |
| Latvia      | 55                                    | 105  | 12                              | 2                              | 0                                   | 0                                     | 0                                 | 0   | 14                                 |
| Lithuania   | 70                                    | 205  | 7                               | 3                              | 0                                   | 0                                     | 0                                 | 0   | 10                                 |
| Malta       | 5                                     | 10   | 0                               | 1                              | 0                                   | 0                                     | 0                                 | 0   | 2                                  |
| Montenegro  | 7                                     | 12   | 1                               | 1                              | 0                                   | 0                                     | 0                                 | 0   | 2                                  |
| Netherlands | 250                                   | 185  | 34                              | 0                              | 14                                  | 25                                    | 0                                 | 0   | 73                                 |
| Norway      | 853                                   | 972  | 14                              | 66                             | 0                                   | 2                                     | 0                                 | 0   | 82                                 |
| Poland      | 1711                                  | 2722   | 146                             | 64                             | 0                                   | 7                                     | 6                                 | 10  | 234                                |
| Portugal    | 240                                   | 271  | 6                               | 23                             | 0                                   | 0                                     | 0                                 | 0   | 29                                 |
| Romania     | 950                                   | 1090   | 52                              | 31                             | 0                                   | 0                                     | 0                                 | 0   | 82                                 |
| Russia      | 1181                                  | 1485   | 250                             | 300                            | 0                                   | 0                                     | 0                                 | 0   | 550                                |
| Serbia      | 20                                    | 65   | 11                              | 6                              | 0                                   | 0                                     | 0                                 | 0   | 17                                 |
| Slovakia    | 209                                   | 256  | 10                              | 14                             | 0                                   | 0                                     | 1                                 | 0   | 25                                 |
| Slovenia    | 123                                   | 154  | 3                               | 8                              | 0                                   | 0                                     | 0                                 | 0   | 11                                 |
| Spain       | 990                                   | 1845   | 20                              | 71                             | 0                                   | 1                                     | 0                                 | 0   | 92                                 |
| Sweden      | 481                                   | 1391   | 11                              | 66                             | 0                                   | 0                                     | 0                                 | 2   | 79                                 |

# Serbian WMP on hazardous C&D waste

- Proposed strategy for Serbian hazardous C&D waste management





## Action plan on management of (hazardous) C&D waste

- Successful and environmental sound C&D waste management as set out in the European Legislative Framework can only take place if the **appropriate policy and framework** conditions are enacted and in place.
- **Dialogue** between public and private actors, ministries and competent authorities at local, regional and national level is of high importance for successful implementation of the defined measures
  - Establish a representativeness body for the recycling industry, establish Working Groups on Ministry Level / Association Level
  - Introduction of measures to collect and keep records of information on building materials
  - Share information on relevant regulative and informative instruments (e.g. via website)
  - Agreement on joint inspections
- **Introduce a financing mechanism** to support activities on recycling and selective de-construction and to tackle illegal activities
  - E.g. via introducing a fee for disposal activities or a taxation of primary aggregates
  - If political decision is taken to introduce taxes/fees, the available budget should be earmarked and be used for financing/funding of activities in the field of (hazardous) C&D management (e.g. improve inspection activities, improve standardization, educate workers involved parties, etc.)

# Action plan on management of (hazardous) C&D waste

## I) Ban of illegal disposal

| Measure  | Sub-measure   | Main responsibility   | Until when            |
|--|---|---|-----------------------|
| <b>Enlarge the administrative capacity for inspection and punishment of illegal operators</b>                          | Considering a) ban of illegal dumping b) illegal de-construction c) illegal transportation of (hazardous) C&D waste d) guarantee the execution of penalties   | <b>MAEP; Competent Authorities; Autonomous Provinces; Ministry of Justice, Police; Ministry of Construction, Transport and Infrastructure; Ministry of Health; Ministry of Labour, Employment, Veteran and Social Affairs</b> | <b>End of Q4/2018</b> |
| <b>Establish capacities for the disposal of hazardous waste at sanitary landfills</b>                                  | Considering a) the amount of C&D waste yearly generated b) the geographical spread<br><i>(even when the total capacities seem to be sufficient – more sanitary landfills with additional capacities for hazardous waste would guarantee a better geographical spread and lower transport distances)</i> | <b>Local self governmental units; MAEP; Competent authorities; Autonomous Provinces</b>   | <b>End of Q4/2018</b> |
| <b>Fully register / make visible the disposal of mixed C&amp;D waste and enhance technical standards for landfills</b> | Considering a) the amount of C&D waste yearly generated b) the technical minimum requirements for landfills<br><i>(even a register of landfills already exists – a big amount of C&amp;D waste movements seems to be not visible documented)</i>  | <b>Local self governmental units; MAEP; SEPA; Competent authorities; Autonomous Provinces</b>   | <b>End of Q4/2018</b> |

# Action plan on management of (hazardous) C&D waste

## I) Ban of illegal disposal

### To conclude:

- **Mineral non-hazardous C&D waste only should be disposed of at registered landfills fulfilling the minimum acceptance criteria**

*(-> limit values as defined in Serbian Regulation on categories, classification and testing of waste OG of the RS No. 56/10)*

- This implies that pre-treatment and selective removal of hazardous parts during demolition activities need to be carried out!
- **Illegal activities need to be addressed and banned**
  - This implies that inspection activities (e.g. joint inspections) and the approval of acceptance procedures at landfills need to be intensified!

# Action plan on management of (hazardous) C&D waste

## II) Source separation of hazardous components/materials

| Measure   | Sub-measure  | Main responsibility  | Until when            |
|---|--|--|-----------------------|
| <b>Enact the (drafted) by-law covering mineral C&amp;D waste</b>  | Considering a) recycling orientated dismantling b) source separation c) storage & transport d) end-of-waste status e) quality criteria for C&D waste         | <b>MAEP</b><br><i>(for implementation an amendment of the Law on Waste Management is requested)</i>                      | <b>End of Q4/2018</b> |
| <b>Publish the (drafted) Waste Management Plan for Asbestos-containing waste</b>                                | Considering the information on a functioning system for the safe collection, storage, treatment and disposal of asbestos waste and asbestos containing waste | <b>MAEP</b>  | <b>End of Q4/2018</b> |
| <b>Make the demolition plan mandatory in the approval procedures for a demolition/de-construction permit</b>    | Considering the relevant information on the removal and/or separate collection of hazardous components and contaminated fractions                            | <b>Ministry of Construction, Transport and Infrastructure; Local Authority; MAEP</b>                                     | <b>End of Q2/2018</b> |
| <b>Update the Regulation on procedures of asbestos-containing wastes, Official Gazette of the RoS, No 75/10</b> | Considering that the production of asbestos is already banned and the focus should be laid on the handling of asbestos containing waste                      | <b>MAEP</b>  | <b>End of Q2/2018</b> |
| <b>Establish capacities for the treatment of source separated hazardous waste</b>                               | Considering a) the amount yearly generated b) waste streams contaminated wood, PCB containing waste, hydrocarbon- or PAH-contaminated soils                  | <b>Waste management sector (waste management operators); Building sector, Chamber of Commerce, Competent authorities</b> | <b>End of Q2/2020</b> |

# Action plan on management of (hazardous) C&D waste

## II) Source separation of hazardous components/materials

### To conclude:

- **Hazardous components/materials need to be removed before de-constructing a building considering defined standards**
  - (-> drafted by-law covering mineral C&D waste)
  - (-> drafted Waste Management Plan for Asbestos-containing waste)
- **Illegal activities need to be addressed and banned**
  - This implies that inspection activities (e.g. joint inspections) and the approval of acceptance procedures at landfills need to be intensified!
  - ( -> Rulebook on preventive measures for safety and health at work that exposes to asbestos, Official Gazette of the RoS, No. 108/15 replacing No. 106/09)

# Action plan on management of (hazardous) C&D waste

## III) Introduction of quality criteria for recycled C&D waste

| Measure   | Sub-measure   | Main responsibility   | Until when            |
|---|---|---|-----------------------|
| <b>Enact the (drafted) by-law covering mineral C&amp;D waste</b>  | Considering a) recycling orientated dismantling b) source separation c) storage & transport d) end-of-waste status e) quality criteria for C&D waste  | <b>MAEP</b><br><i>(for implementation an amendment of the Law on Waste Management is requested)</i>                         | <b>End of Q4/2018</b> |
| <b>Make the demolition plan mandatory in the approval procedures for a demolition/de-construction permit</b>                          | Considering the relevant information on the removal and/or separate collection of hazardous components and contaminated fractions   | <b>Ministry of Construction, Transport and Infrastructure; Local Authority; MAEP</b>  | <b>End of Q2/2018</b> |
| <b>Make the use of re-cycled mineral C&amp;D waste obligatory in public tendered construction projects (Green Public Procurement)</b> | Considering a) quality aspects b) specific mandatory share (e.g. 10%) to be used in new public tendered projects  | <b>Ministry of Construction, Transport and Infrastructure; Local Authority; MAEP</b>  | <b>End of Q4/2018</b> |
| <b>Establish capacities for the recycling of non-hazardous mineral C&amp;D waste</b>  | Considering a) the amount yearly generated b) quality standards for recycled C&D waste<br><i>(proposal: 4 to 5 facilities in different cities with each 30.000 to 50.000 tons per anno)</i> | <b>Waste management sector (waste management operators);</b><br>Building sector, Chamber of Commerce, Competent authorities | <b>End of Q4/2020</b> |
| <b>Introduce quality standards for recycled C&amp;D waste</b>   | Considering a) technical aspects b) environmental aspects and c) quality assurance schemes  | <b>Institute for Standardization of Serbia (ISS);</b> MAEP, Ministry of Construction, Transport and Infrastructure          | <b>End of Q4/2017</b> |

## Action plan on management of (hazardous) C&D waste

### III) Introduction of quality criteria for recycled C&D waste

#### To conclude:

- **Recyclable non-hazardous waste should be directed to recycling facilities for the purpose to substitute natural aggregates**  
*(-> drafted by-law covering mineral C&D waste)*  
*(-> relevant Standards like: SRPS EN 13043, Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas; SRPS EN 13055, Lightweight aggregates; SRPS EN 13242, Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction)*
- **Establish the use of recycled materials in public tendered projects (enhance green public procurement)**

# Thank you!

Andreas Moser, Christian Neubauer

MS Experts, Austria