REGIONAL WORKSHOPS ON CIRCULAR ECONOMY APPROACHES WITH FOCUS ON CONSTRUCTION SECTOR

GUIDELINES FOR WASTE AUDITS BEFORE DEMOLITION
Objectives and audit process

Objectives
• to understand the type and amount of materials that will be deconstructed
• to issue recommendations on their further handling
• assessment of the viable recovery routes

Legal instrument to make the waste audits obligatory
• deconstruction permits
• public procurement - before the call for tenders and should be part of tender specifications

Usually the waste audit process includes the following steps:
• Desk study - to gather information from building and maintenance documentation;
• Field survey - visual inspection, comparisons with documents, taking measurements, planning of deconstruction techniques, sampling and analysis (chem., mechan. to identify materials)
• Inventory – estimation of waste types and quantities, feasibility of separation
• Waste management recommendations for safe removal, re-use or recycling, disposal
• Reporting – preparation of final report summarizing the findings and recommendations
Green Deal on pre-deconstruction audits in Finland

Participants

• Ministry of Environment
• Finnish Association of Property Owners and Construction Clients

Commitments of the Association

• carrying out demolition surveys in all repair and demolition projects,
• reporting the demolition materials generated to the Ministry
• promoting the reuse of demolition materials in its own operations
• promoting recycling in its own operations

Commitments of the Association

• background studies to promote sustainable dismantling
• develop the recycled material market
• demolition auditing guidelines
• participate in training units
Pre-demolition auditing in Austria

Actions before tendering

- gross building volume > 3,500 m³ - extensive examination of contaminants and undesired substances by external expert. ÖNORM EN ISO 16000-32
- gross building volume < 3,500 m³ and CDW > 750t - oriented examination of contaminants and undesired substances by a demolition recovery specialist
- all other cases – just determine use/disposal of CDW prior to demolition

Actions after tendering and before dismantling

- gross building volume > 3,500 m³ or CDW > 750t
  - demolition recovery concept, (ÖNORM B 3151) by a demolition recovery specialist or by an external expert
  - removal of substances identified in demolition recovery concept
  - confirmation of removal - by a demolition recovery specialist or by an external expert
- gross building volume < 3,500 m³ and CDW < 750t
  - hazardous waste has to be removed before demolishing
  - assurance, that the building is free of contaminants and undesired substances given by the waste recipient or the builder

The documents have to be kept for a minimum of seven years
Obligations for source separation in Nordic countries

Selective deconstruction and on-site sorting could be well implemented even without obligations for demolition auditing

<table>
<thead>
<tr>
<th>Material</th>
<th>Denmark</th>
<th>Finland</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brick/tiles</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Concrete</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Glass</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Gypsum</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Insulation</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed stony fraction</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Mixed concrete and asphalt</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cardboard</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Plastics</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Polyvinyl chloride (PVC)</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Scrap metal</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stone materials, e.g. granite</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Tiles and ceramics</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Wood</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Thank you

Mihail Asenov

Senior Waste Management and CDW Expert

Environment Agency Austria