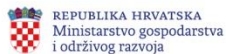




CIRCULAR ECONOMY
APPROACHES IN
SOLID WASTE
MANAGEMENT



Project co-financed by the European Union from the Cohesion Fund

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

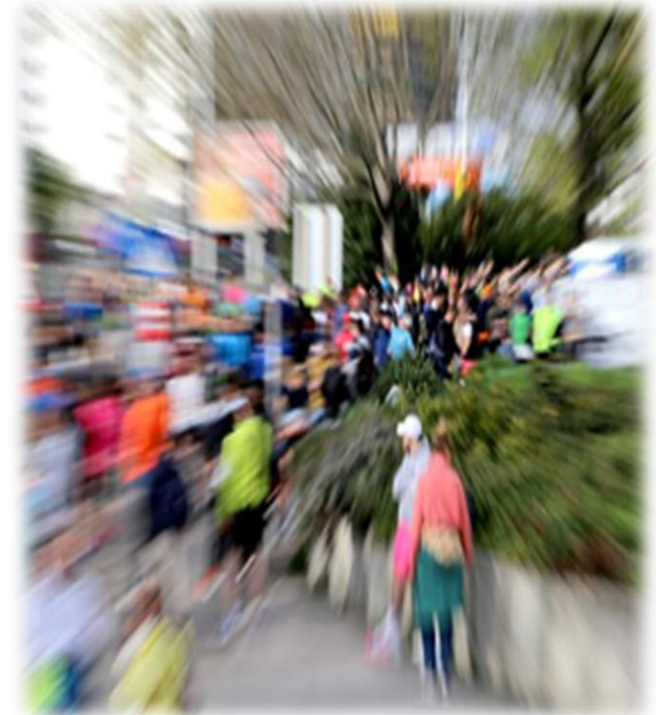
- Ministry of Environment
- Finnish Association of Property Owners and Construction Clients

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 $> 3,500 \text{ m}^3$ - extensive examination of contaminants and undesired substances by external expert. ÖNORM EN ISO 16000-32
- gross building volume $< 3,500 \text{ m}^3$ and CDW $> 750\text{t}$ - 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 $> 3,500 \text{ m}^3$ or CDW $> 750\text{t}$
 - 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 $< 3,500 \text{ m}^3$ and CDW $< 750\text{t}$
 - 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



3 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

	Denmark	Finland	Sweden
Brick/tiles	X	X	X
Concrete	X	X	X
Glass	X		X
Gypsum	X	X	X
Insulation	X		X
Mixed stony fraction		X	
Mixed concrete and asphalt		X	
Paper	X	X	X
Cardboard		X	
Plastics	X	X	X
Polyvinyl chloride (PVC)	X		X
Scrap metal	X	X	X
Stone materials, e.g. granite		X	
Tiles and ceramics	X		X
Wood	X	X	X

Thank you

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