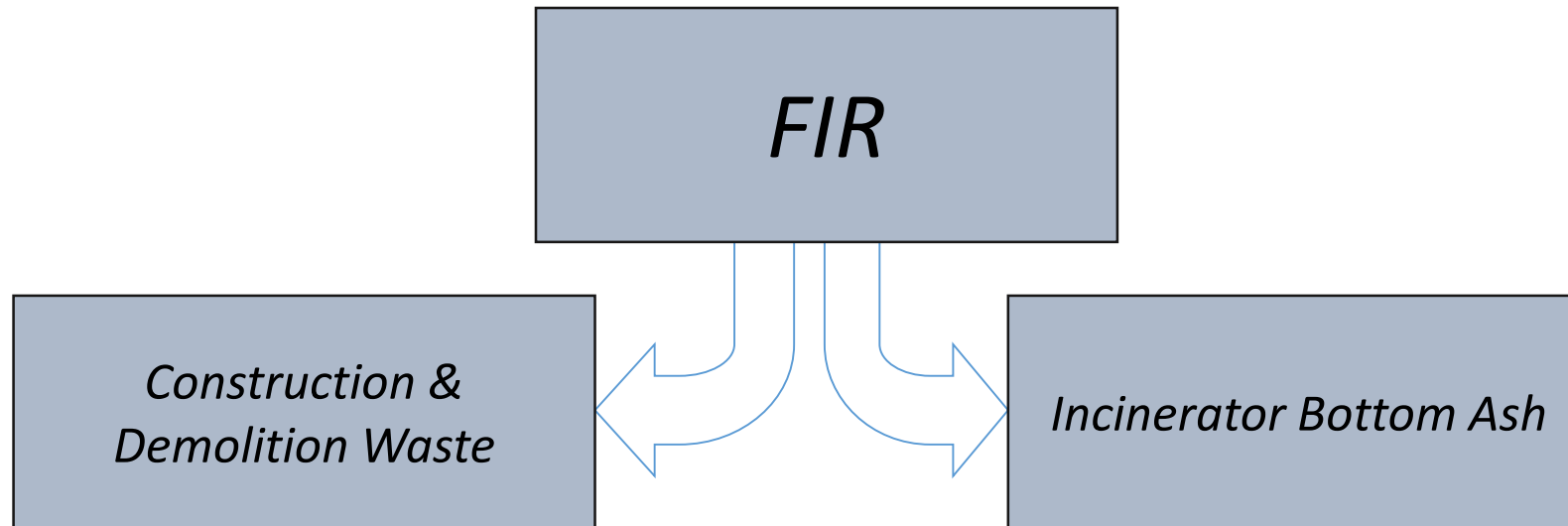




End-of-Waste for Recycled  
Aggregates  
European experiences

Geert Cuperus  
EPA Circular Economy  
Conference  
22 September 2022

# About us



- Established 1991
- Aim: promote the high quality recycling of C&DW and IBA
- Through EU involvement, exchange of expertise in and dissemination outside the association
- Our industry contributes to Circular Economy for more than 30 years

*Belgium, Germany, Spain, Italy, The Netherlands, Sweden, France, Switzerland, Ireland, UK, Mexico and individual companies*

# Activities

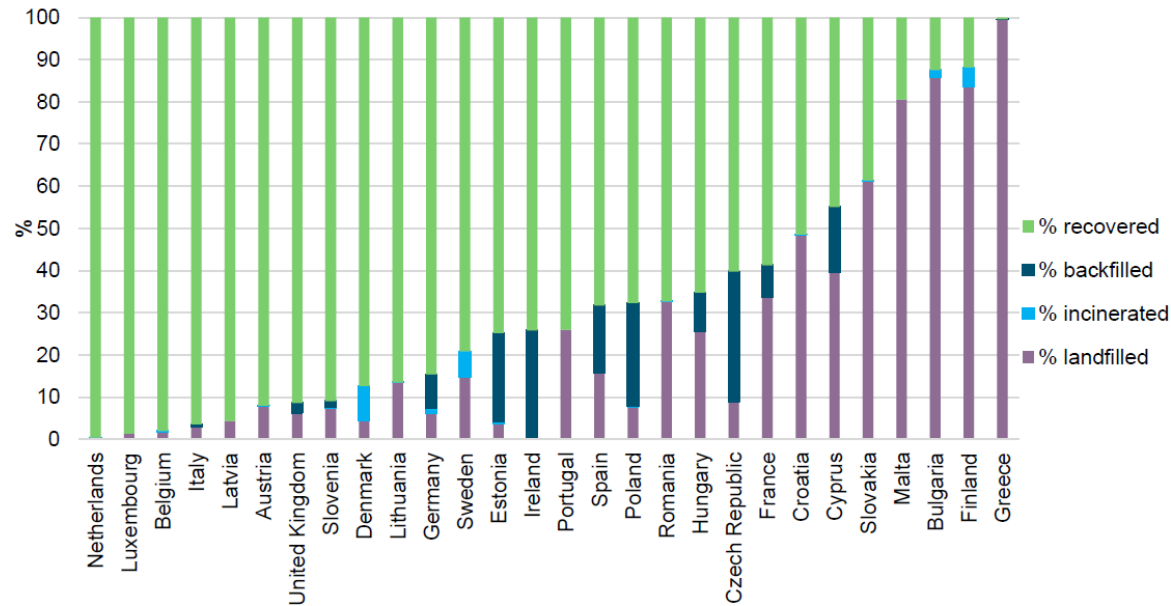
- Policy
- CEN Standardisation
- Technical Working Groups
- Dissemination of expertise
- Partner for European institutes



Ref. Ares(2016)5840668 - 10/10/2016



# Circular Economy is within reach



## Resource Efficient Use of Mixed Wastes

### Improving management of construction and demolition waste

Final report  
October 2017




**FIR** FÉDÉRATION INTERNATIONALE  
DU RECYCLAGE


  
[www.fir-recycling.com](http://www.fir-recycling.com)


  
[info@fir-recycling.com](mailto:info@fir-recycling.com)


  
 +32 3 2034426


**FIR** FÉDÉRATION INTERNATIONALE  
DU RECYCLAGE

Developing the recycling of  
Construction & Demolition  
Waste

A 10-step approach to  
achieve 70% recycling in  
Member States

# Features of well performing MS

- A ban on landfilling of C&DW or high taxes
- Good tracking and tracing of C&DW
- Good management of asbestos
- A national framework for environmental testing (leaching)
- A quality assurance scheme for recycled aggregates
- Specifications for use of recycled aggregates in road construction and in concrete
- Beneficial market conditions for recycled aggregates, such as prescribed use in public road construction

# Role of EoW for recycled aggregates

- Give clarity (and confirm!) that recycled aggregates is a product
  - Enhance the profile of recycling
  - Give trust
  - Boost/support recycling
- 
- ➔ Role differs per Member State
  - ➔ Role may be negative



# On end-of-waste

STUDY TO ASSESS  
MEMBER STATES (MS) PRACTICES  
ON BY-PRODUCT (BP) AND  
END-OF WASTE (EoW)

Reference: N° 070201/2018/793241/ENV.B.3

**Final Report, 2020**

prepared by  
Umweltbundesamt GmbH  
ARCADIS Belgium

Scoping the development of further EU wide  
end-of-waste criteria and by-product criteria under the  
Waste Framework Directive

DG ENV, Unit B3, Waste Management and Secondary Materials

JRC, Unit B.5, Circular Economy and Industrial Leadership

JRC, Unit D.3, Land Resources

**End of waste for recycled aggregates**  
An overview of existing regulations in the EU and lessons learned

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Recycled  
aggregates  
not selected

But new  
study  
coming up

# End-of-waste for recycled aggregates

## Flanders

- Raw Material Declaration is required for recycled aggregates. to be requested: for specific producer, specific product and specific application
- Meet environmental requirements
- Certification conf. "Eenheidsreglement" (QA): sampling and testing; acceptance procedure; production control, product control; asbestos control; 3<sup>rd</sup> party control

## Austria

- EoW regulated in decree on recycled aggregates
- EoW when limit values U-A are met
- Producer to notify authority that it produces a product
- Conformity declaration for customers
- Decree prescribes general requirements for the production of recycled aggregates (a demolition report is to be received, acceptance control, quality control prescriptions)
- Each batch to be tested
- 3<sup>rd</sup> party control only first declaration testing
- Decree also requires notification of input/output

## The Netherlands

- Specific EoW decree
- Required are an acceptance protocol, FPC, QA system according to EN13242, asbestos management
- Meet criteria Soil Quality Decree
- Not for every batch
- Produced according to EN standard
- Declaration of conformity
- Certification according to BRL2506 (QA) is proof

## Italy

- Specific decree EoW for inert C&DW
- For specific applications
- Requirements such as on waste acceptance and minimum manufacturing process,
- Environmental testing, each batch
- EN standards prescribed
- Management system ISO9001 required to demonstrate compliance
- Declaration of compliance

Also apply to  
primary materials

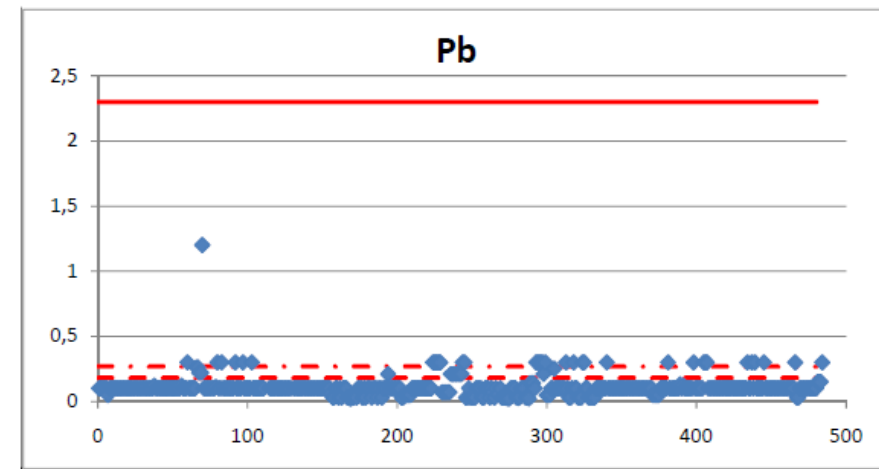
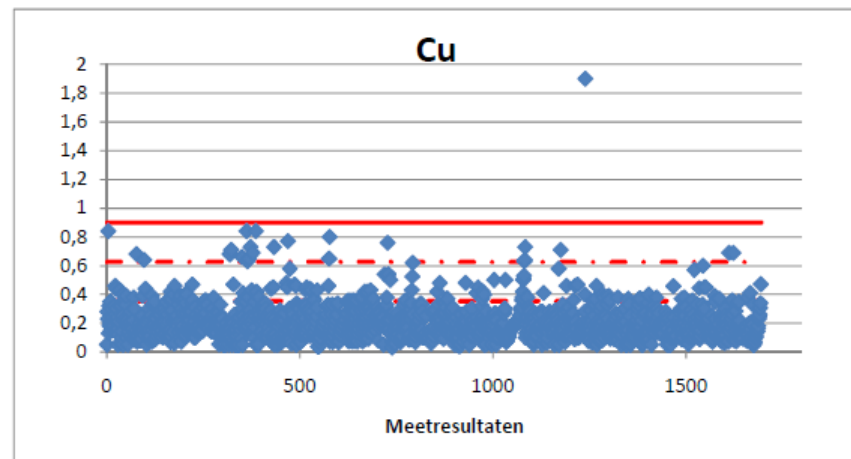


# Some details

- Always leaching and solid testing
  - Methods differ
  - Parameters differ
  - Limit values differ
- Specific details
  - Three MS limit value on contamination (floating/sinking)
  - Two MS limit value on asbestos (100 mg/kg)
  - One MS no testing on sulphate
  - One member state testing on statistical basis, not every batch

# On leaching criteria

- Environmental impacts must be regarded – recycled aggregates are a waste derived material
- Quality work along the chain
- Well produced recycled aggregates should not pose any problem
- Leaching is independant of waste/product status



# Conclusions

- Several approaches in Europe, many common issues
- In two MS EoW decree was more or less codification of existing situation
- In one MS fully new decree
- End-of-waste criteria are part of a package, not the sole instrument
- End-of-waste not per se efficient everywhere