



Circular economy and hazardous waste management

Some concerns from NAOE's experience

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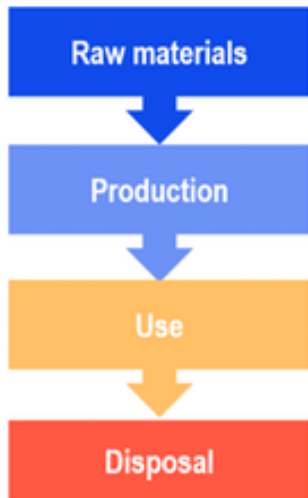
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Content

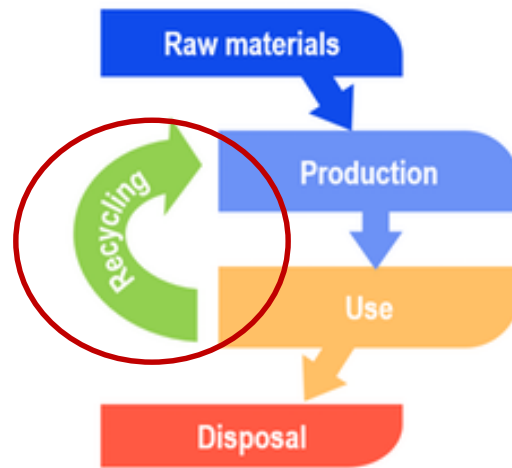
- Challenges for environmental authorities
- Case no 1 and 2: by-product or waste?
- Case no 3: what is recycling, what is not?
- Some concerns

From linear economy to circular economy

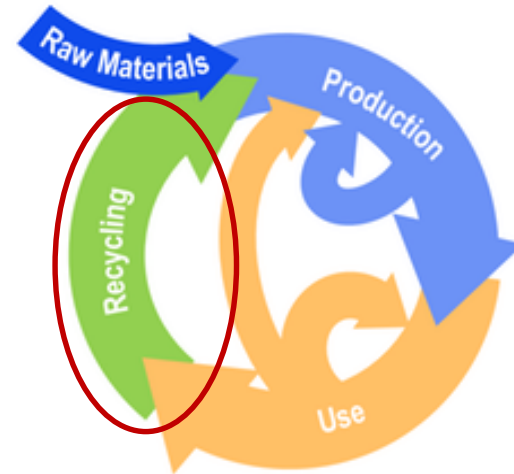
Linear economy



Recycling economy



Circular economy



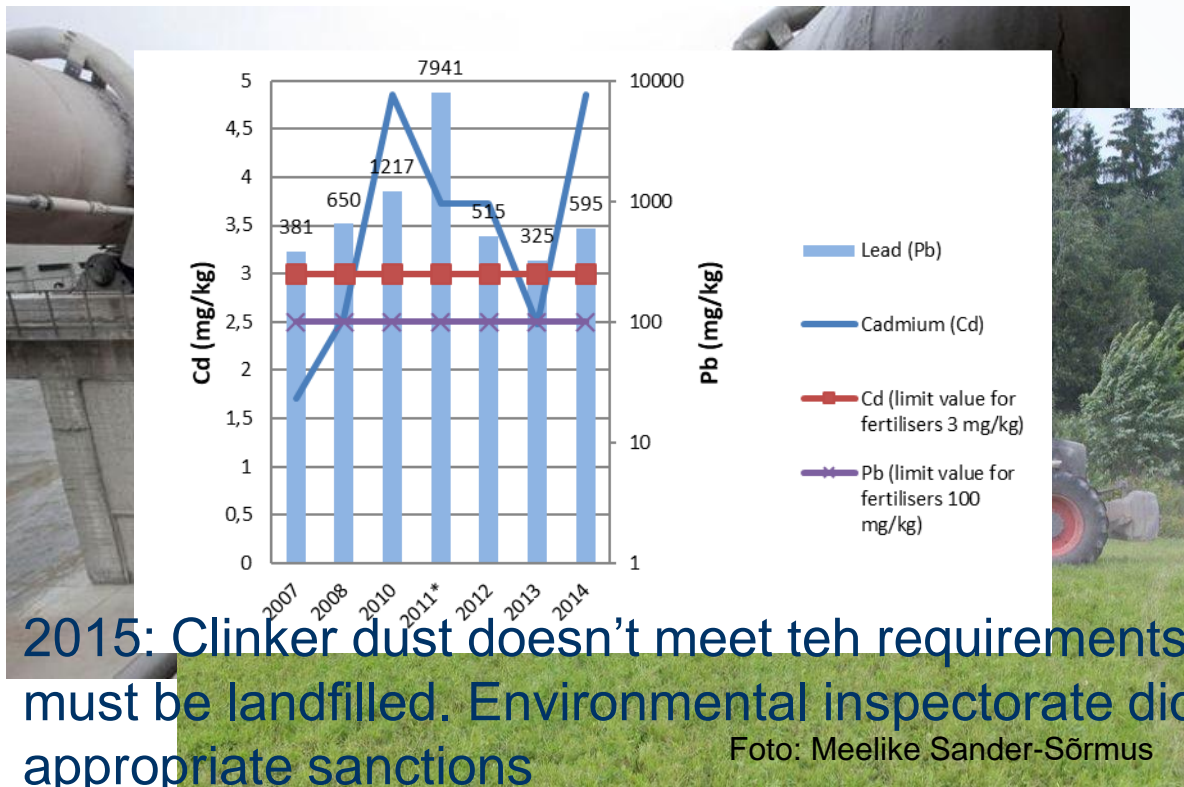
The challenges for authorities in circular economy (recycling)

- Permitting: complex processes of production and waste management; what is *waste*, *by-product*, *end-of-waste*? What is really *recycling*?
- Control over waste producers and management companies
- Clear and understandable legislation, e.g. criteria for end-of-waste products. Interface between chemical, product and waste legislation
- Intersectoral/ ministerial issues
- Incentives for changing technologies, for supporting prevention and recycling

Case no 1: by-product or waste?

Use of clinker dust as fertilizer

Clinker dust – hazardous waste because of heavy metals and/or high alkalinity



2018: Ministry of Agriculture: more research is needed for using clinker dust as fertilizer

Case no 2: by-product or waste?

Pond of hazardous waste (carbide sludge)



Carbide sludge – hazardous waste because of heavy metals and/or high alkalinity

2015: The Inspectorate accepted the company's explanation that the sludge is a by-product rather than waste, and waived the proceedings. NAOE found that it can be an illegal dumping site

2018: decision by authorities – it is waste (not by-product); the site must be eliminated by the company and the fine must be paid

What is recycling, what is not?

- Incineration (and other energy recovery) is not recycling
- Backfilling is not recycling
- Landscaping is not recycling (if it is not replacing other materials)
- Down-cycling should be



Some concerns

- Enterprises with old technologies and business models are heavily challenged in circular economy
- Enterprises try to avoid environmental taxes, penalties, fines > risk for fraud and down-cycling
- Regulations and permitting need to catch up the new circular economy policy
- Recovery (incineration, back-filling, landscaping) is not recycling
- Recycling of hazardous waste must be controlled

Thank you!

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