

**Regions implementing sustainable phosphorus management**

# **Switzerland**

**Phosphorus flows, policy and perspectives**

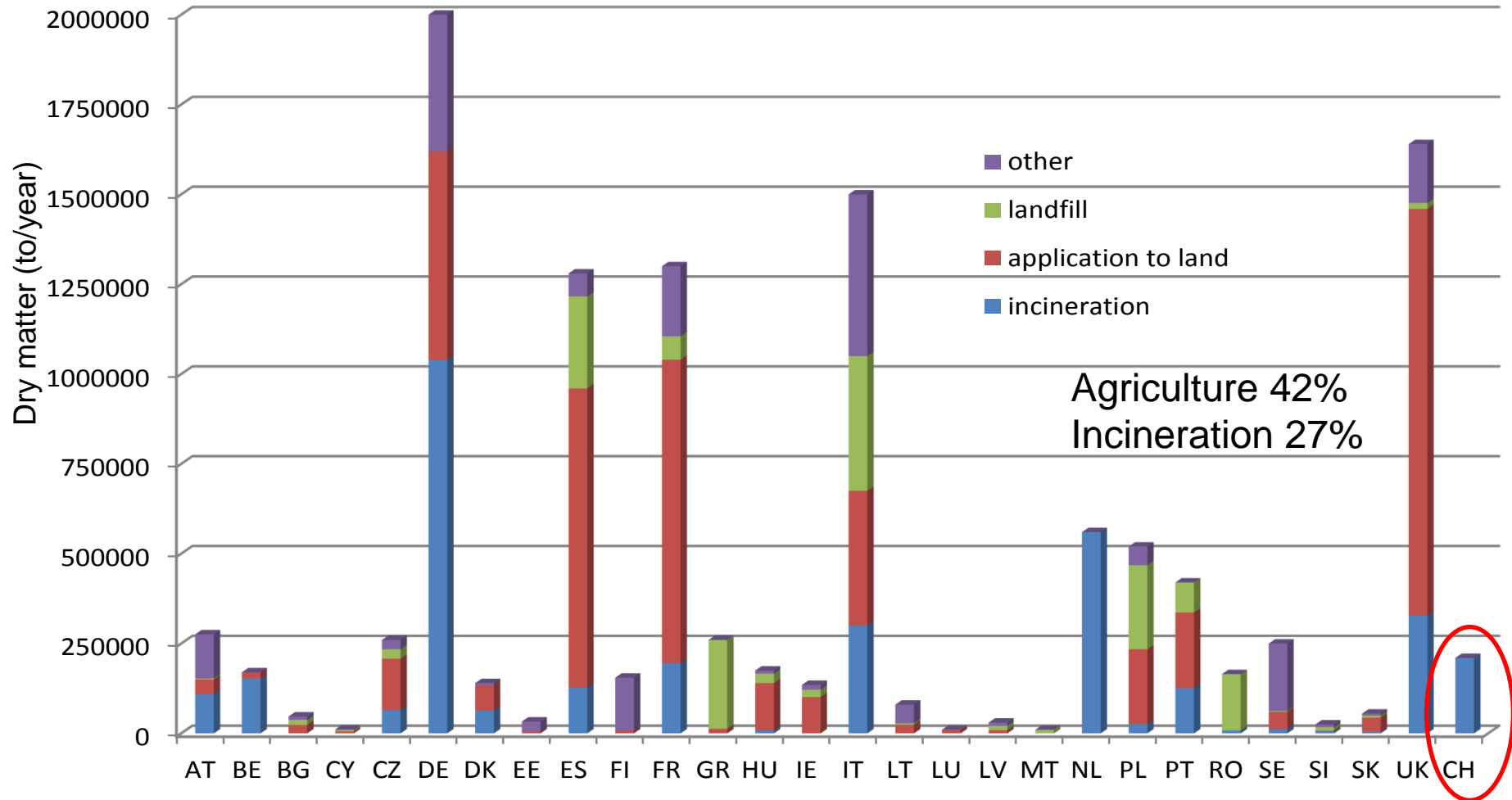
**Anders Nätörp**

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- **Switzerland**
  - Sludge treatment
  - Phosphorus flows
- **Swiss legislation**
  - Decree on solid waste
  - Fertilizer legislation
- **Perspectives**

# Countrywise Sewage Sludge Disposal in the EU



Source: Environmental, economic and social impacts of the use of sewage sludge on land, part I: Overview report, milieu Ltd, WRc, RPA, 2010, <http://ec.europa.eu/environment/waste/sludge/index.htm>

# Switzerland

**8 Million inhabitants**

**Landfill of organic materials forbidden since 2000**

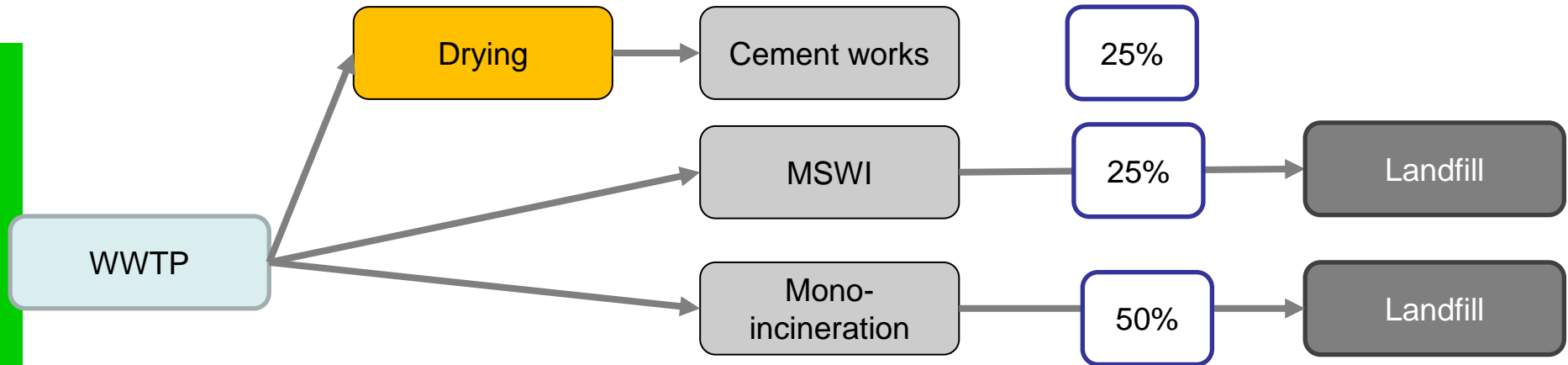
**Sewage sludge not used in agriculture since 2006**

**->100% incineration**

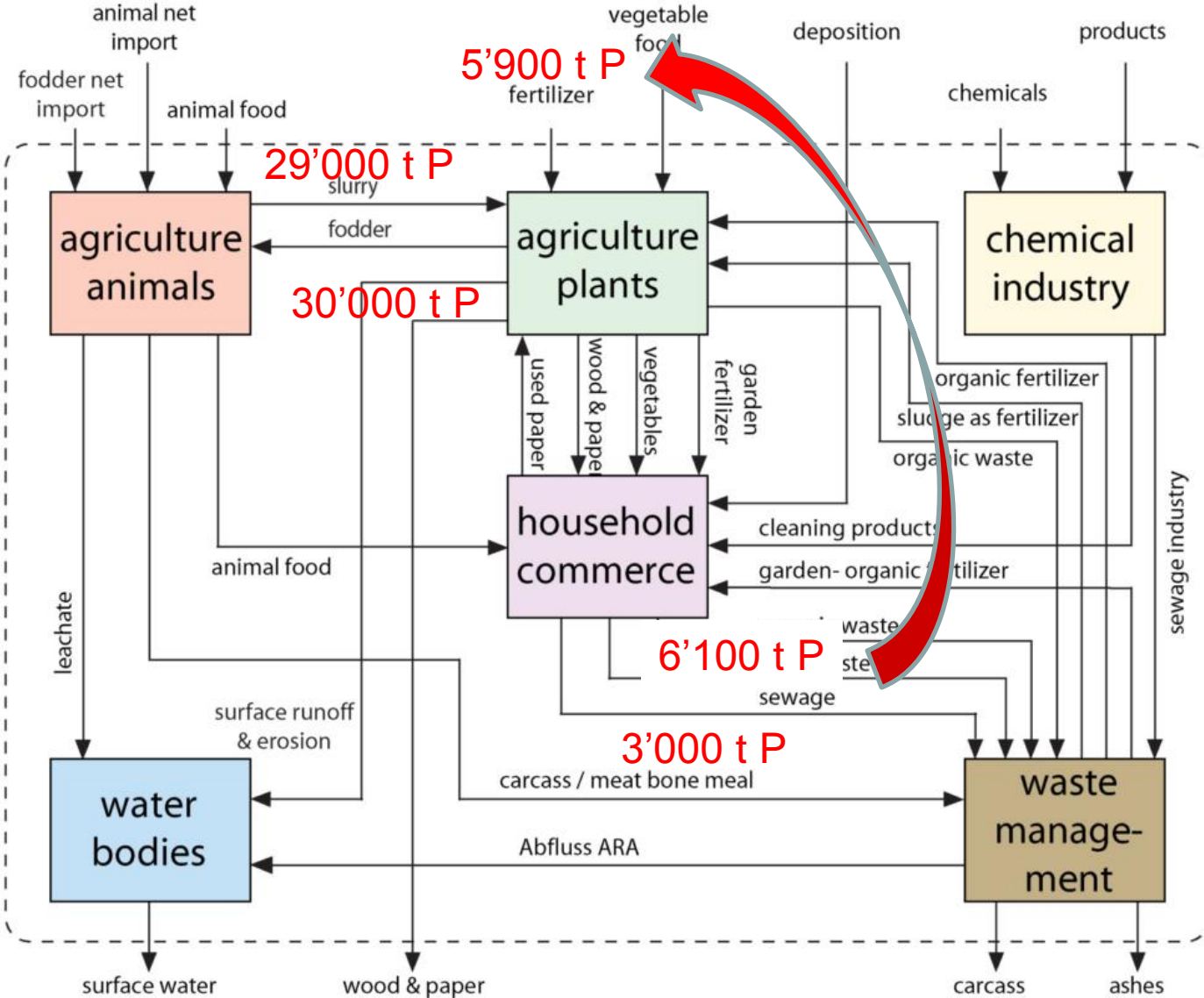


Picture:  
Marcel Wiesweg,  
creative commons

# Current sewagee sludge treatment



# Phosphorus Cycle in Switzerland



Source:  
Binder, de  
Baan, Wittmer,  
2009

Revised mass  
flow analysis  
foreseen for  
spring 2015

# Swiss Legislation on waste

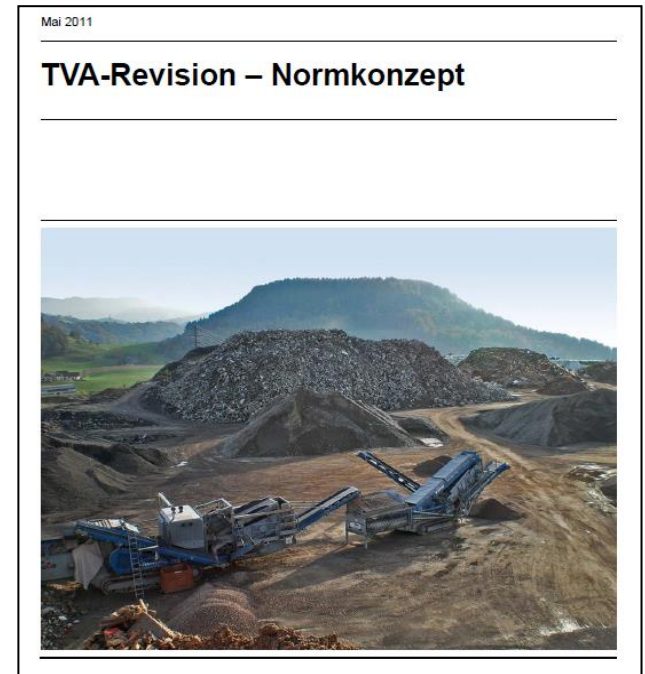
**Landfill of organic materials forbidden since 2000**

**Sewage sludge not used in agriculture since 2006**

**New decree on solid waste planned for end 2015**

## **Phosphorrich waste**

- Sewage sludge and meat and bone meal
- Recovery after 5 years (or separate landfill or ash another 5 years)
- Implementation aid with
  - BAT/ yield
  - plant availability



# Swiss Legislation on fertilizer

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## **Sewage sludge classified as recycling fertilizer (DüV)**

### **Recycling fertilizer (ChemRRV)**

- No direct use of sewage sludge allowed
- Low limits for heavy metals
- Today no commercial process for recovery possible

### **Introduction of mineral recycled fertilizer category planned**

- Min P<sub>2</sub>O<sub>5</sub>, plant availability,...(DüV), contaminant limits (Chem RRV)
- Potential materials are sewage sludge ash, meat and bonemeal ash, wood ash

**The goal is to reduce the heavy metal input to the soil!**



# Perspectives

## Development in Canton Zürich

**RRB 572/2007: future disposal of sewage sludge must ensure phosphorus recovery and good energy use**

**Preevaluation in 2008 of monoincineration for all 1.3 Million inhabitants**

**Negotiation of common sludge disposal for the entire canton**

**Project for monoincineration plant -> accepted with 97% in 2013**

**Start of plant in 2015**



Picture: ERZ

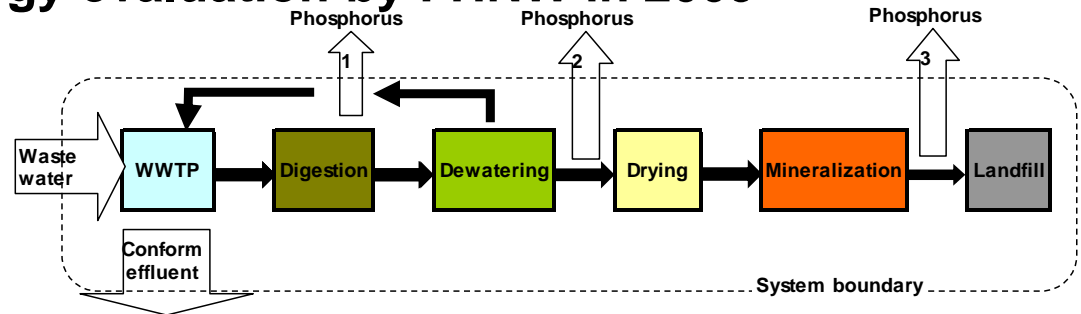
Leo Morf, AWEL,  
September 2014

# Perspectives

## Development in Canton Zürich

**RRB 572/2007: future disposal of sewage sludge must ensure phosphorus and good energy recovery**

**Phosphorus recovery technology evaluation by FHNW in 2009**



**Support of development of LEACHPHOS process.**

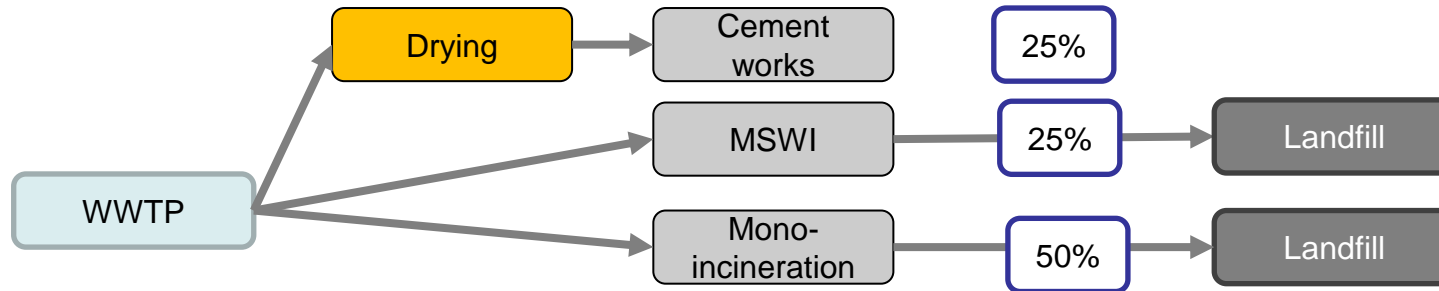
Picture:  
Lüscher& Nätörp, 2009

**Optimisation and evaluation of alternatives to recovery process ongoing.**

**Choice of phosphorus recovery process expected summer 2015**

Leo Morf, AWEL,  
September 2014

# Perspectives Switzerland



## Timeline of Swiss waste decree

Hearing finished November 2014

Information from FOEN in summer 2015

Publication of new decree in autumn 2015

## Current discussion

transition period 5 years too short?

can the incineration in cementworks and MSWI be combined with recovery?

how to distribute the cost?

# Thank you for your time and your attention!

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