



# **Experiences with auditing radioactive waste management & end-of-life vehicles**

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# Hazardous waste - definition

**Hazardous waste:** is waste that poses substantial or potential threats to public health or to the environment.

**Characteristic hazardous wastes** are materials that are known or tested to exhibit a hazardous trait such as:

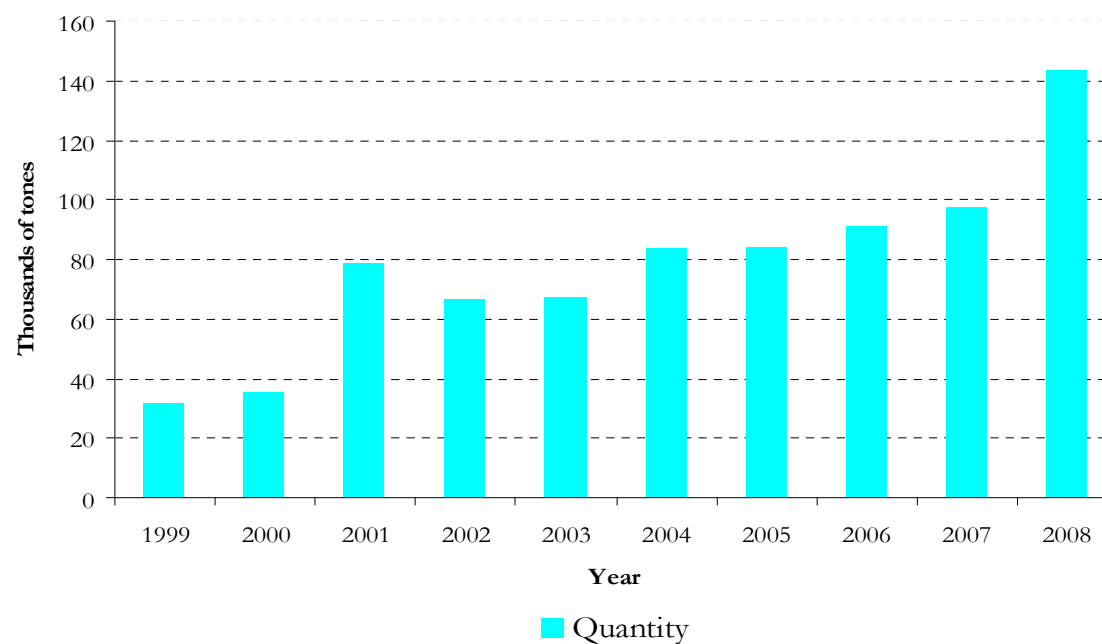
- ignitability (i.e. flamability)
- reactivity
- corrosivity
- toxicity



# Hazardous waste – problems in Slovenia (1)

**Quantities of hazardous waste are  
constantly growing:**

Quantity of hazardous waste

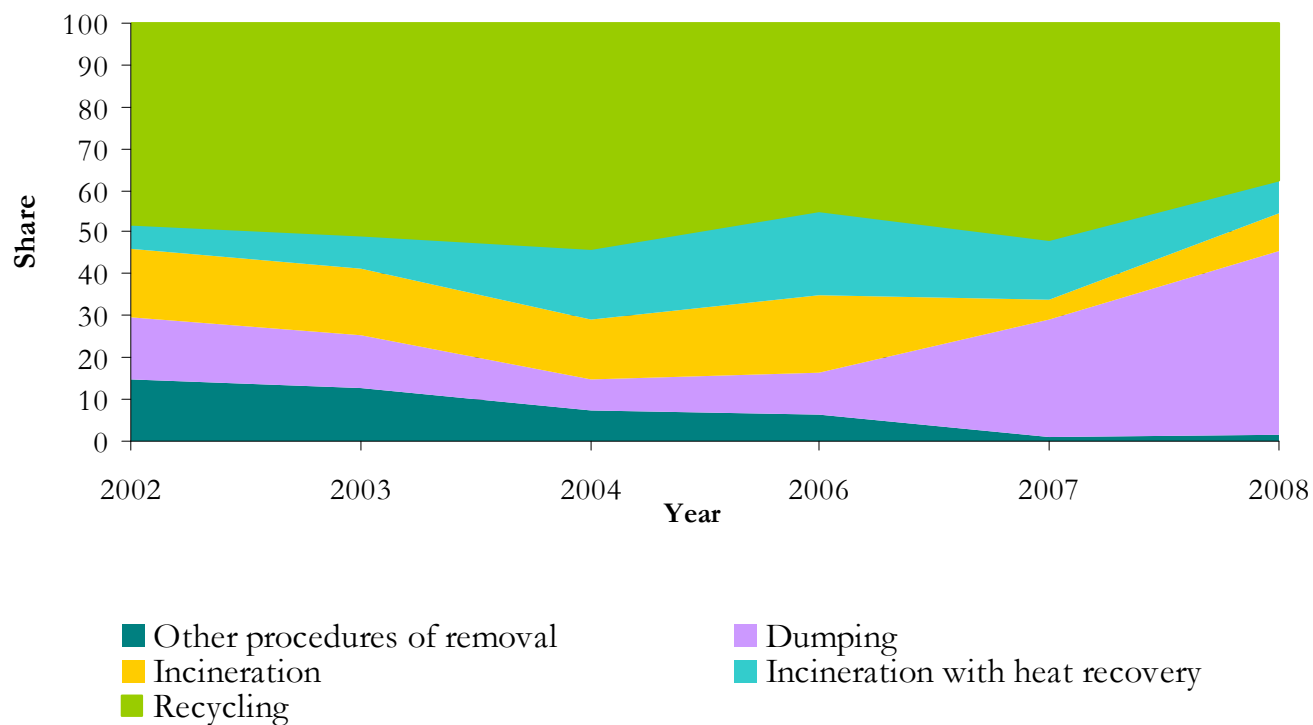




## Hazardous waste – problems in Slovenia (2)

**The share of recycling is falling, the share of  
dumping, on the other hand, is raising:**

Treatment of hazardous waste





## Analysis of risks in managing hazardous waste

- Radioactive waste is not well managed; there is no permanent repository for intermediate level and low radioactive waste (LILW) from the nuclear power plant → **an audit conducted in 2009–2010-2011**;
- There are a lot of hazardous components in used vehicles; managing end of life vehicles in Slovenia is poorly managed thus majority of them are not recycled but disposed to improper landfills; hazardous waste is not treated properly → **an audit conducted in 2010**;
- There is not enough facilities for incinerating and recycling medical waste → **an audit to be conducted in 2012**.



## Managing radioactive waste from the nuclear power plant

- Slovenia is one of few countries in the European Union with operating nuclear power plant which **hasn't yet taken care for final disposal of medium and low radioactive waste (LILW) from the nuclear power plant;**
- Temporary repository in the power plant is more than 90 % full; **the safety of further storing of medium and low radioactive waste there is at risk;**
- The **location** for permanent storage of radioactive waste should have been **chosen by 2009 and the repository should start to operate at the latest in 2013.**





# Planned repository for LILW at chosen location





# Audit on efficiency of choosing location for the permanent repository of LILW from nuclear power plant

## The main audit question:

- Was the procedure for choosing location for permanent storage of low and intermediate low radioactive waste (LILW) from the nuclear power plant efficient?

## Sub-questions:

- Was the planning and carrying out the procedures for the location for the LILW repository efficient?
- Were the procedures to assure social acceptability of the repository planned and carried out efficiently?





## Impacts of the audit – the request for corrective actions taken by the auditees (1)

- **The costs of the repository were not planned efficiently:**
  - the data used for planning the size of the repository were obsolete – the newest procedures for compacting the LILW were not taken into account; this affected also the choice of the location → **we demanded to estimate the quantities of LILW again, considering the newest technologies of their treatments before preparing investment plan;**
  - it was not taken into the account to provide repository for the whole quantity of the LILW from the nuclear power plant (Slovenian and Croatian share), which will cause 50% higher costs → **we demanded to start immediate negotiations with Croatian authorities to built joint repository;**



## Impacts of the audit – the request for corrective actions taken by the auditees (2)

- the procedure of choosing the location was not transparent – the criteria initially established were changed several times during the procedure – thus there were not the same conditions throughout the procedure for all the competing locations → **because also the size of the repository is not irrevocably established we demanded to estimate the results of evaluating competing locations once again;**
- The Agency for the radioactive waste does not have proper controls over managing contracts for building the repository, thus we found costs that exceeded the costs agreed in contracts up to 50 % → **we demanded to establish proper controls over implementing contracts and to determine employees, responsible for implementation of contracts.**



## Impacts of the audit – the request for corrective actions taken by the auditees (3)

- **The methods to assure social acceptance of the repository were not planned and carried out efficiently:**
  - Final costs of different measures (compensations and other investments into local communities) to assure social acceptance of the repository exceed the planned ones by more than 300 %; there are some measures approved which were not planned, others are much higher as initially arranged; besides high compensations to local communities local population oppose the installation of the repository in the chosen location → **we demanded to reevaluate the compensations to the local communities under initially set criteria and to harmonize disbursements to the set criteria**



# Audit on managing end-of-life vehicles







# Audit on managing end-of-life vehicles – existing problems (1)

## Problems managing end-of-life vehicles in Slovenia (1):

- only 10 % of end-of-life vehicles and their components generated in Slovenia each year are recycled and recovered properly, according to official data collections;



- 90% of all end-of life vehicles are managed improperly; they are illegally disposed or exported; handling with hazardous components is therefore not according to set standards and rules which cause unnecessary threat to environment;





## **Audit on managing end-of-life vehicles – existing problems (2)**

### **Problems managing end-of-life vehicles in Slovenia (2):**

- official data collections about number of end-of-life vehicles & means and methods of managing them are not accurate, complete and up-to date;



- data about end-of-life vehicles provided to European Commission are therefore unreliable and doesn't reflect actual state



## **Audit on managing end-of-life vehicles – audit questions**

### **The main audit question:**

- Is managing of end-of-life vehicles in Slovenia efficient?

### **Sub-questions:**

- Is there an efficient and transparent system of managing end-of-life vehicles, which enables reaching set objectives in place?
- Is there an efficient system of controls over managing end-of-life vehicles in place?



## Impacts of the audit – request for corrective actions taken by the auditees (1)

### The Court of Audit demanded (1):

- to establish the register of vehicles which will enable better and complete review and control over all registered vehicles from the purchase till the end of their functioning;
- to establish comprehensive data base over means and methods used for dismantling and recycling of all end-of-life vehicles in Slovenia;
- to establish comprehensive data base of persons authorized for dismantling and extracting hazardous components from end-of-life vehicles;



## Impacts of the audit – request for corrective actions taken by the auditees (2)

### The Court of Audit demanded (2):

- to establish more efficient controls over extracting components which cause threat to environment, their managing and methods of recycling;
- to establish better controls over the data about end-of life vehicles transmitted to European Commission to ensure correct and reliable figures about methods of dismantling and recycling end-of-life vehicles in Slovenia.



**Thank you for your  
attention!**

**Any questions?**