

Energy recovery from waste in Slovakia

WASTE TO ENERGY

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2nd Interregional Seminar
10 March 2011, Bratislava



Situation in the EU: Energy recovery from waste



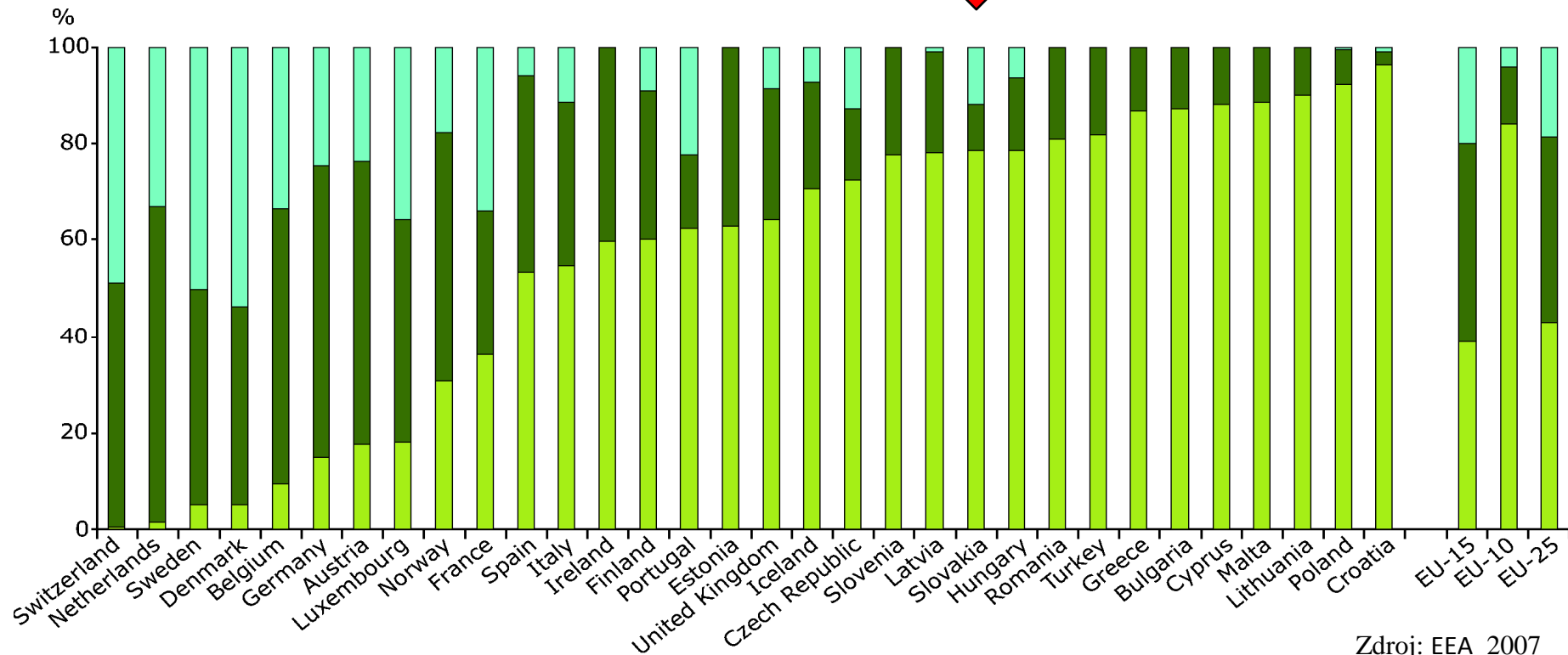
- Energy recovery has its place in the hierarchy of waste management
- Waste is considered to be **an energy source** in the EU
- Calorific value of mixed municipal waste is on the level of brown coal (10 – 13 MJ/Kg)
- Currently, there is more than **400 devices** for energy recovery in use in Europe. The overall capacity is more than 67 mil. tons/year.
- Waste incineration, contrary to landfill, **prevents emissions of greenhouse** (mostly methane)
- Extensive legislation (directives, regulations, strategies for waste incineration, landfills, air protection, integrated prevention)



Situation in the EU: Energy recovery from waste



landfill
 recycling
 combustion with the use of energy



Zdroj: EEA 2007

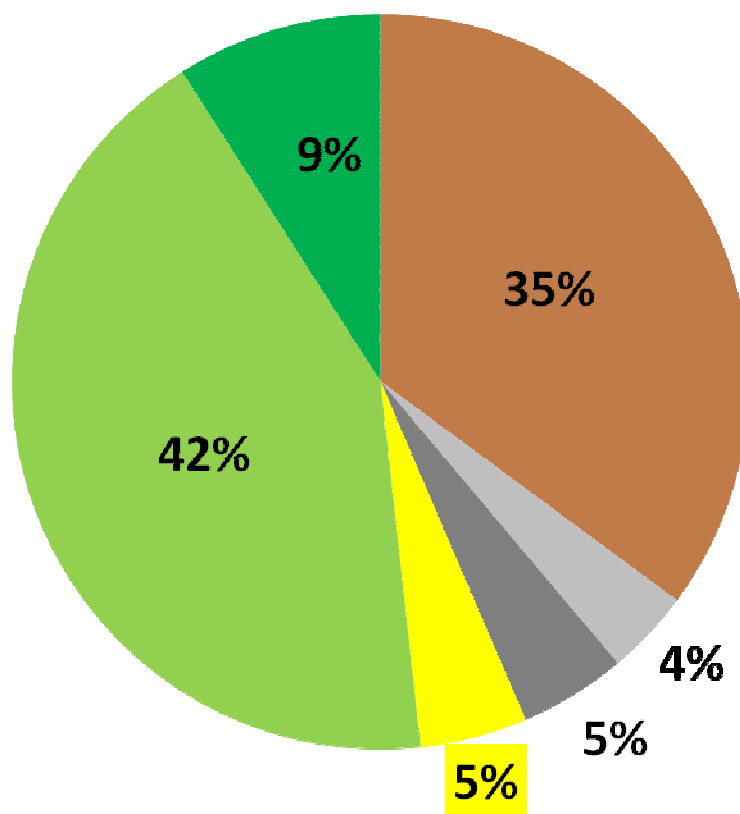


Situation in SR: Waste management in 2008 (except municipal waste)



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11.492.078 t



- D1 Skládkovanie odpadov
- D2-D10 Ostatné zneškodnenie
- D11-D15 Nakladanie s odpadmi
- R1 Energetické zhodnocovanie
- R2-R11 Materiálové zhodnocovanie
- R12-R13 Úprava a skladovanie

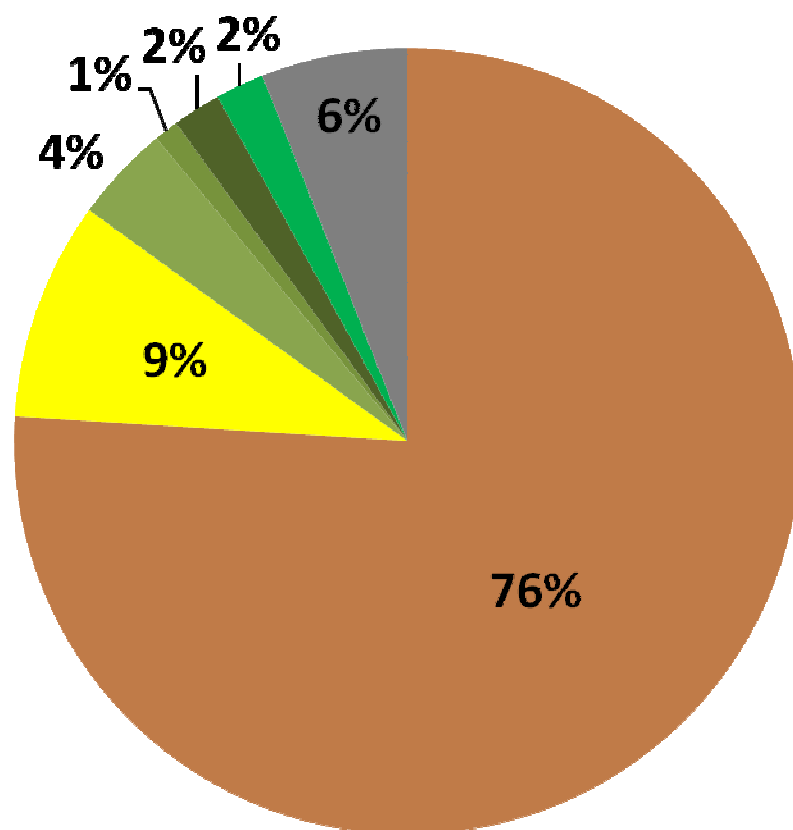


Situation in SR: Waste management with municipal waste in 2008



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1.790.691 t



- D1 Skládkovanie odpadov
- R1 Energetické zhodnocovanie
- R3 Recyklácia alebo spätné získavanie organických materiálov
- R4 Recyklácia alebo spätné získavanie kovových zlúčenín
- R5 Recyklácia alebo spätné získavanie iných organických materiálov
- R12-R13 Úprava a skladovanie
- Iné nakladanie



Situation in SR: Infrastructure



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■ Incinerators for municipal waste.....	2
■ Incinerators for dangerous waste.....	5
■ Incinerators of hospital waste	8
■ Cement	4
■ Biogas	21
■ Overall	40



Zdroj: Enviroportal, URSO

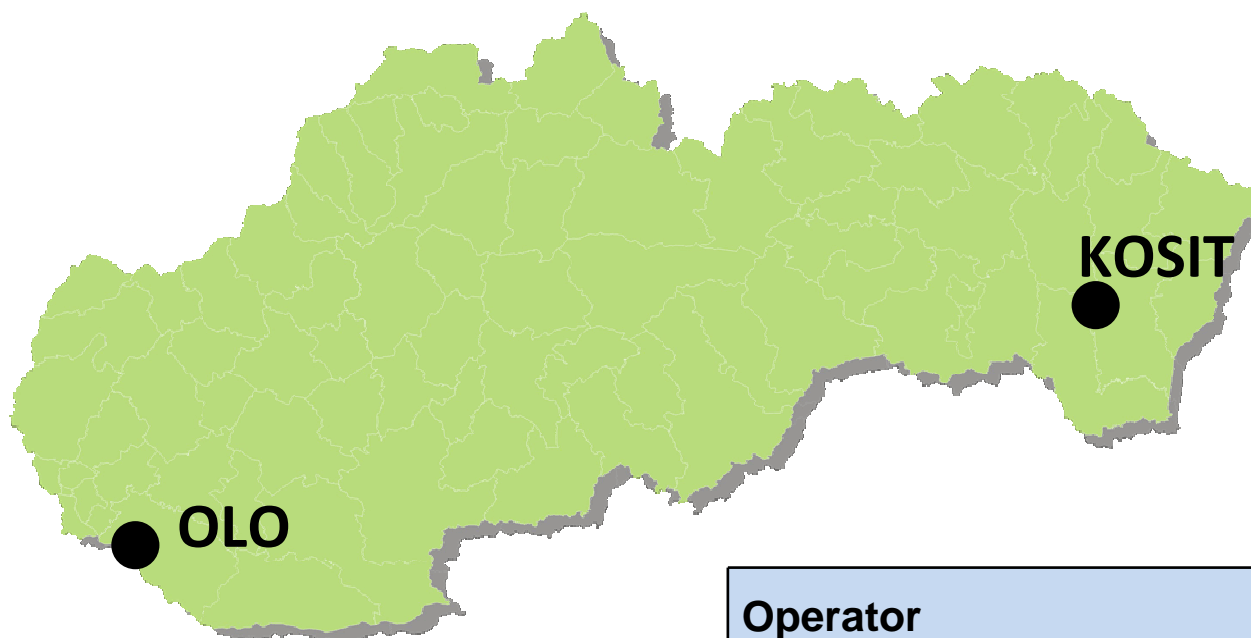
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Incinerators of municipal waste



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Operator	ton/year
OLO a.s. Bratislava	125 640,33
KOSIT a.s. Košice	70 637,00
Total	196 277,33

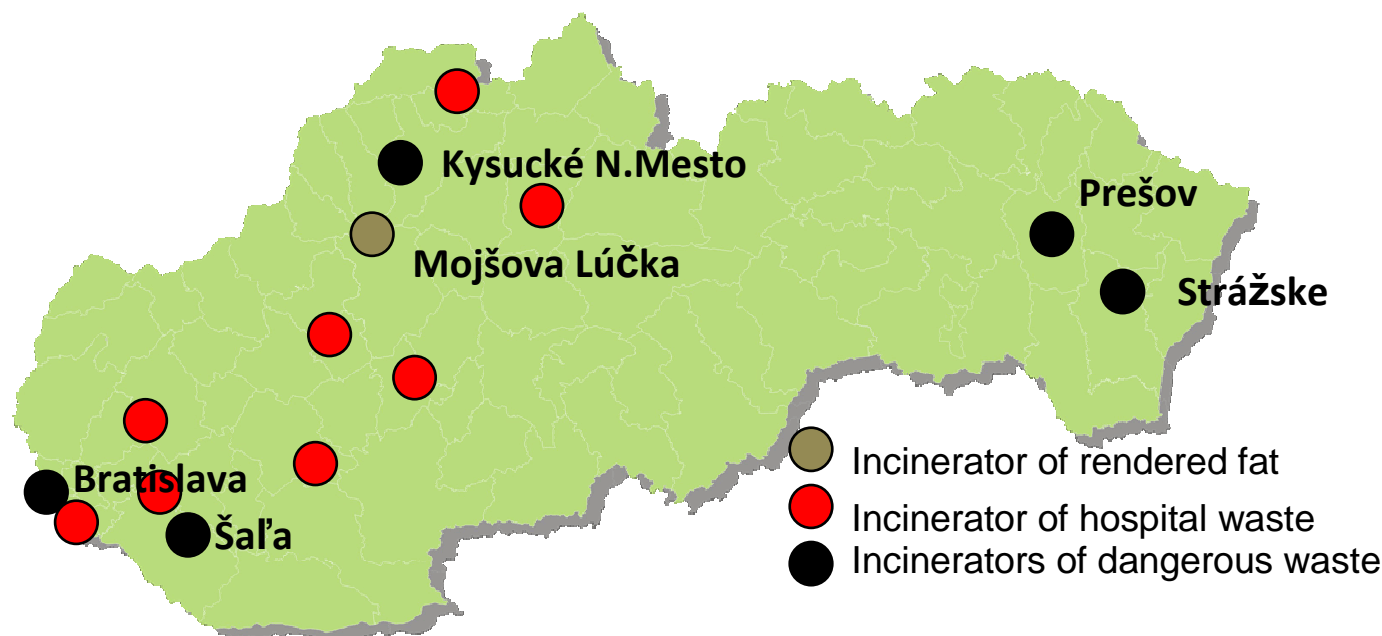
Source:
Enviroportal,
Zoznam spaľovní a
zariadení na
spoluspaľovanie



Incinerators of hospital waste



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- Incinerator of rendered fat
- Incinerator of hospital waste
- Incinerators of dangerous waste

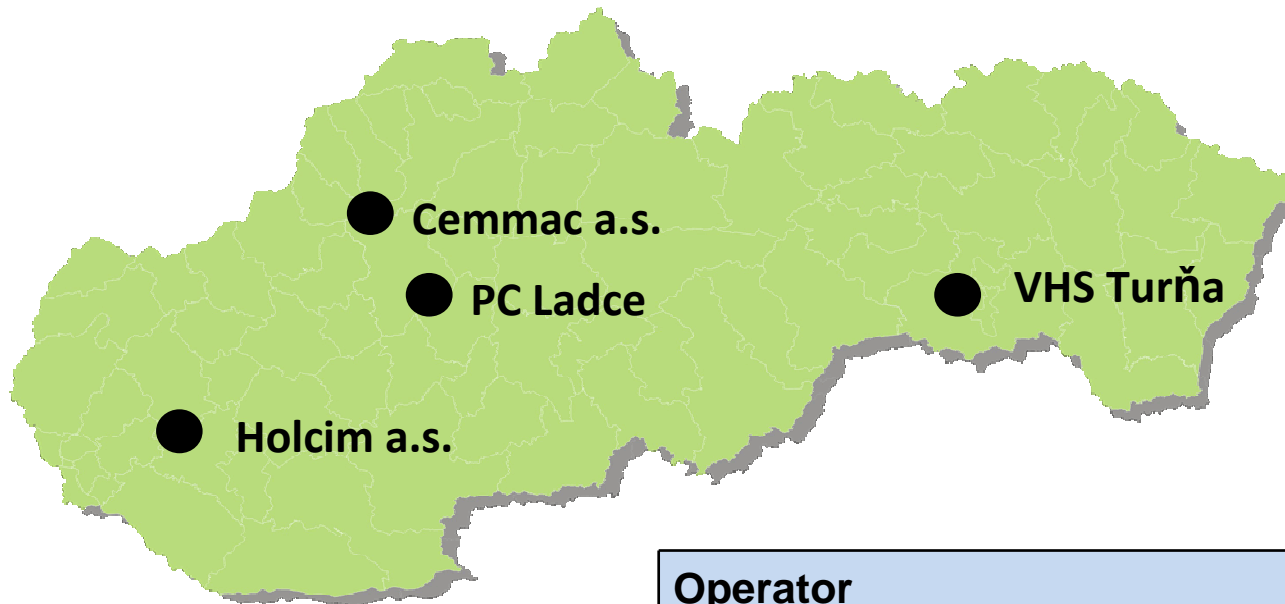
Operator	tons/year
Duslo a.s. Šaľa	6 182,02
Slovnaft a.s. Bratislava	4 018,36
Total	10 200,38

Operator	kg/hour.
Chemko Light Strážske	0,14 - 0,18
Fecupral, s.r.o. Prešov	0,15
.A.S.A. Slovensko Žilina	0,31
Total	0,6 - 0,64

Source:
Enviroportal,
Zoznam spaľovní a
zariadení na
spoluspaľovanie



Cement



Operator	tons/year
Holcim a.s. Rohožník	
Cemmac a.s. Horné Sŕnie	
Považská cementáreň a.s. Ladce	
VSH a.s. Turňa	
Spolu za rok 2009	200.000

Source:
Enviroportal,
Zoznam spaľovní a
zariadení na
spoluspaľovanie



Biogas plants



Biogas plants in SR 2010	Total installed capacity (kW)	Number of permits URSO
● Wastewater treatment plant	3809	13
● BPS	6042	8

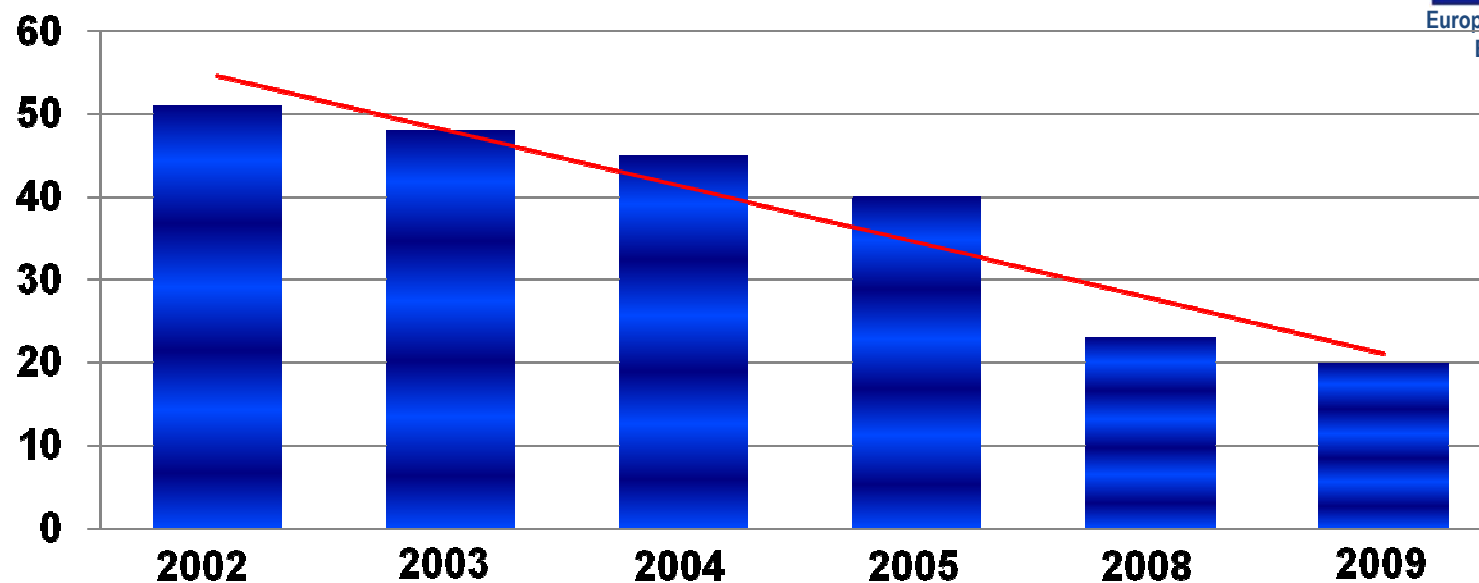
Source: URSO



Evolution of the number of incinerators

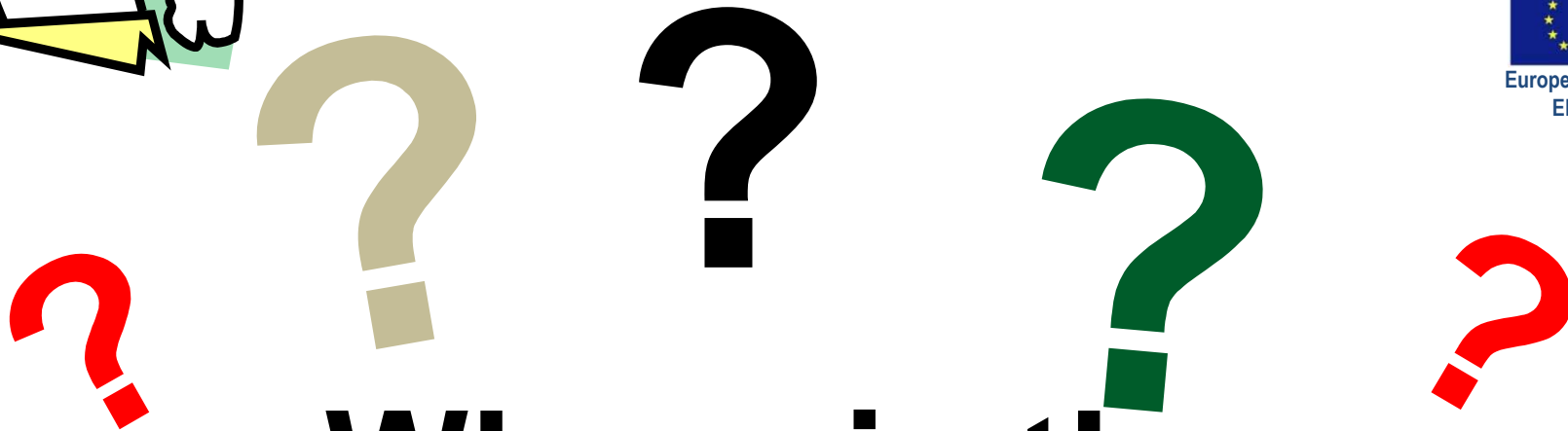


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Source: SAŽP 2008





**Where is the
mistake?**



BARRIERS: Legislative



- Absence of legal definition of energy recovery from waste.
- Waste Act
- Ministry of Environment Decree number 53/2004 as amended by Decree number 102/2005, they set up conditions for the quality of fuels – there are not any alternative solid fuels.
- Waste as an energy source is not mentioned in any Slovak strategic material (Energy policy, Energy Efficiency Act, Law on the promotion of RES – there is a biomass, POH SR – is vague).
- It is necessary to connect the waste energy management with other departmental concepts (energy, agricultural, etc.)
- Absence of integrated waste management systems on the regional level.
- Competence of local governments in the field of municipal waste.



BARRIERS:



Economic

- Prices for the waste disposal in landfills
- Capital intensive projects
- Absence of mandatory collection of heat



Investors

- Absence of energy recovery in strategic materials
- Public is not informed about the investor intention
- Unprofessional approach

Public

- Negative attitude of non-governmental organizations
- Excessive caution of local and regional politicians
- Poor awareness about the energy recovery of waste



Energy policy of EU



Main goals

- Increase of the security of supply
- Ensuring of competitiveness of European economies and the availability of affordable energy
- Promoting of environmental sustainability and combating the climate change



Energy policy of Slovakia



- Slovakia imports 90 % of primary energy sources (Russia)
- Electricity consumption increased by 3 % in last three years.
- Energy intensity in Slovakia is:
2x higher than the OECD average and
4x higher than the EU 27 average



Environmental and energy policy SR



Waste = energy

1.800.000 t KO = 18 mil. GJ

Average calorific value KO 10 MJ/kg



Goal for WMP SR for 2010



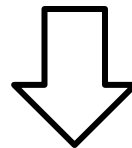
1.800.000 tons

Municipal waste (330 kg/area/year)



20% ERW

360.000 tons



Lack of infrastructure



Potential for 2020



2.750.000 tons

Municipal waste (500 kg/area/year)



20% ERW

550.000 tons

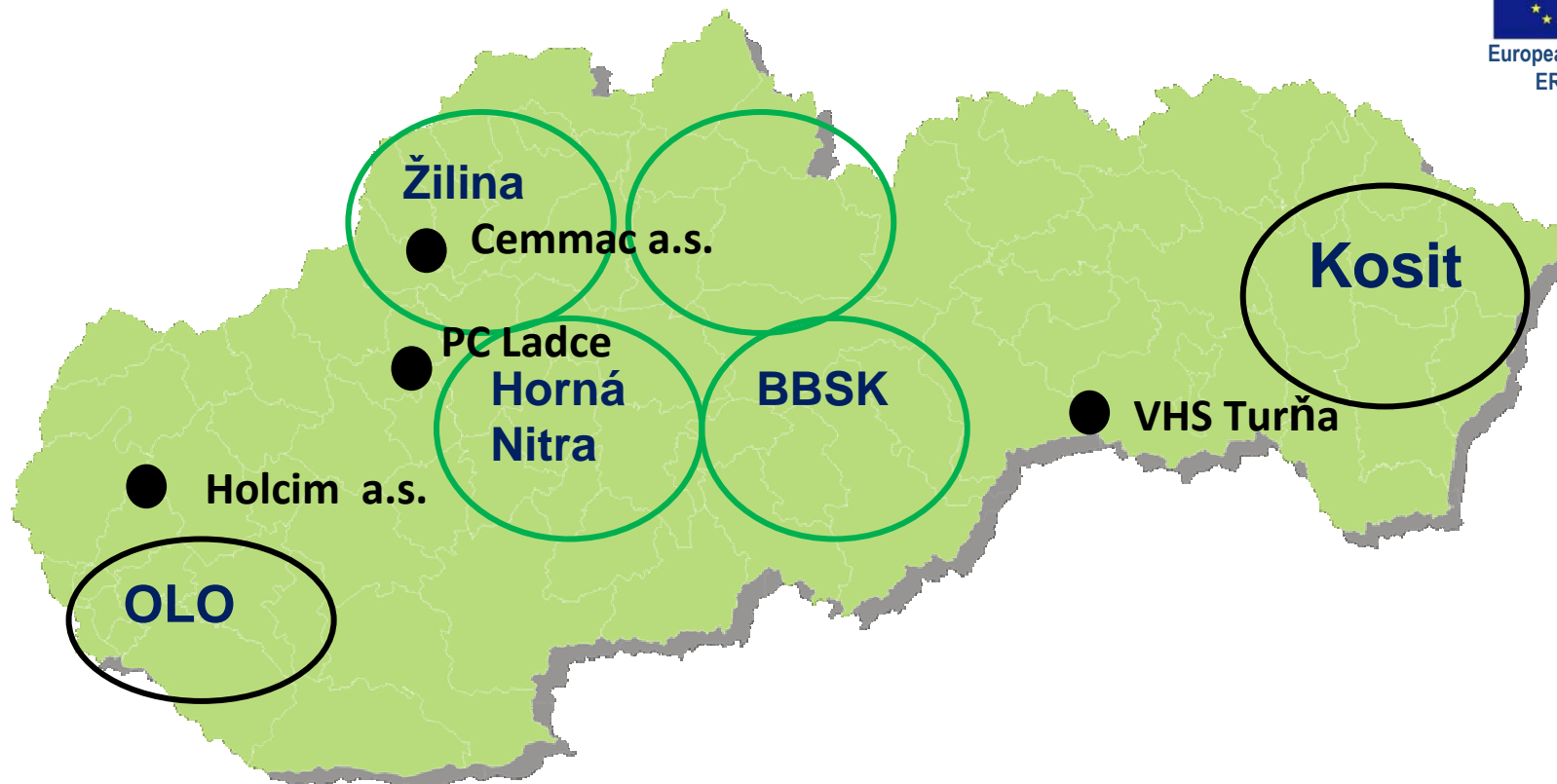


40% ERW

1.100.000 tons



Potential for regional projects



Projects with the capacity between 80
– 150.000 t KO



Conclusion



- Resolving the energy recovery from waste in SR (energy waste management in SR, strategic materials in this field)
- Remove of legal and economic barriers in ERW
- Discussion about advantages and necessity of ERW
- Use of time and sources of OPE
- Support for the projects on ERW in SR





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Thanks for your attention!

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