



Ministry of Environmental and Nature Protection

**Implementation of waste management plan
in the
Republic of Croatia**

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**2013 workshop on Waste Policy Implementation
30-31 May 2013 Copenhagen**



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Planning documents for waste management

Waste management strategy of the Republic of Croatia



Waste management plan of the Republic of Croatia



County (regional) waste management plan and Waste management plan of the City of Zagreb



Waste management plans for towns/municipalities/
Waste management plan of the waste producer



Waste management plan in the Republic of Croatia for the period from 2007 to 2015

- ❖ **Establishment of an integrated waste management system**
- ❖ **Remediation and closing of existing landfills**
- ❖ **Remediation of "hot spots"**
- ❖ **Development and establishment of regional and county centres for waste management**



Organization of waste management



**Environmental Protection
and Energy Efficiency Fund**

- ❖ collection of charges (for: motor vehicles, pollution to environment by hazardous and non-hazardous technological (industrial) waste)
- ❖ project financing (remedy of landfill sites, encouragement of waste prevention and reduction, waste treatment and use of valuable properties of waste, encouragement of cleaner production and prevention of emissions in the production process)

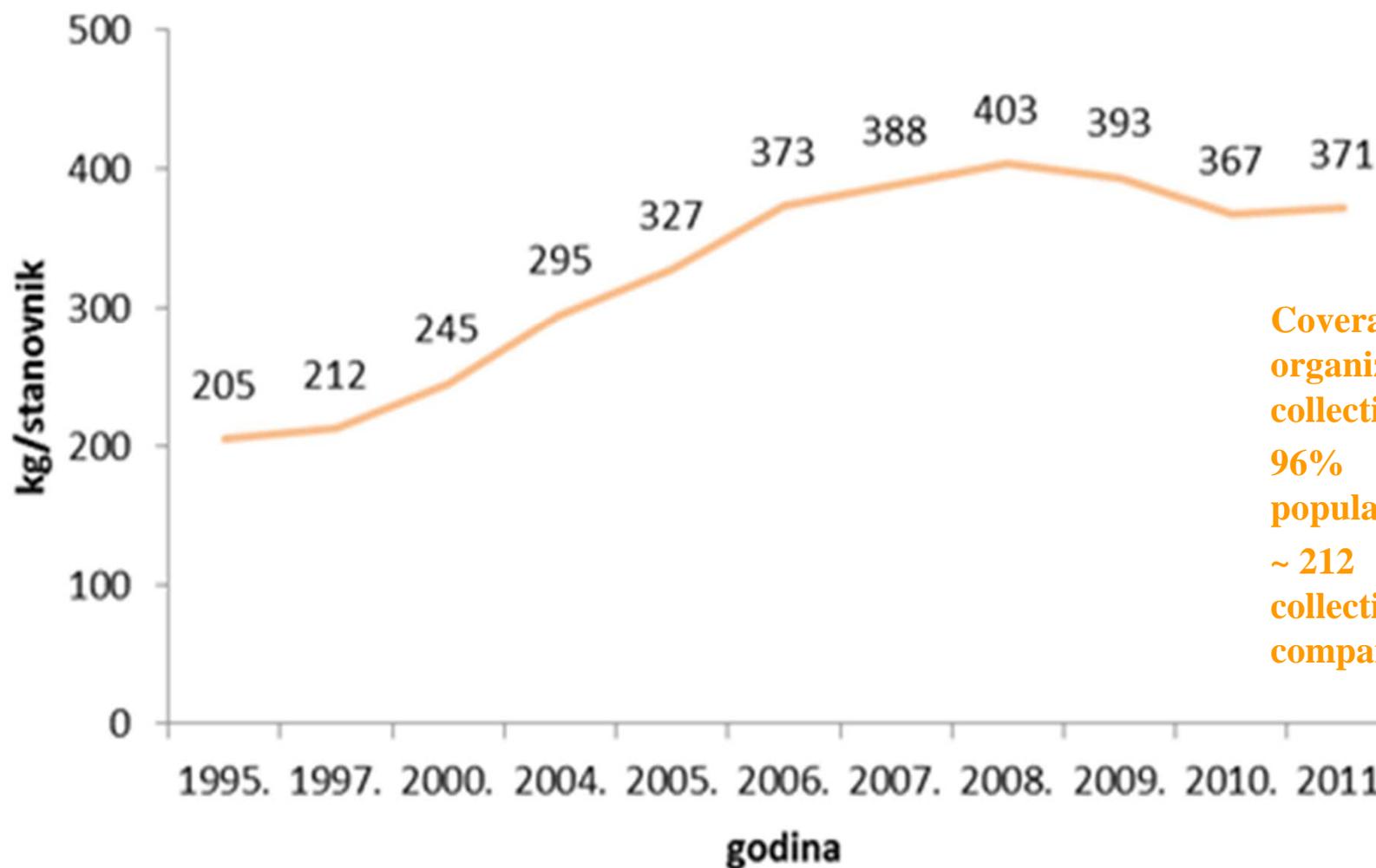


**Croatian
Environmental Agency**

- ❖ collecting and entering data into the information system
- ❖ preparation of waste management reports in the scope of reports on environmental situation
- ❖ development of indicators for monitoring the situation in the field of waste
- ❖ standardization of terms used in the field of waste management



Municipal waste



Coverage by organized collection: 96% population ~ 212 collection companies

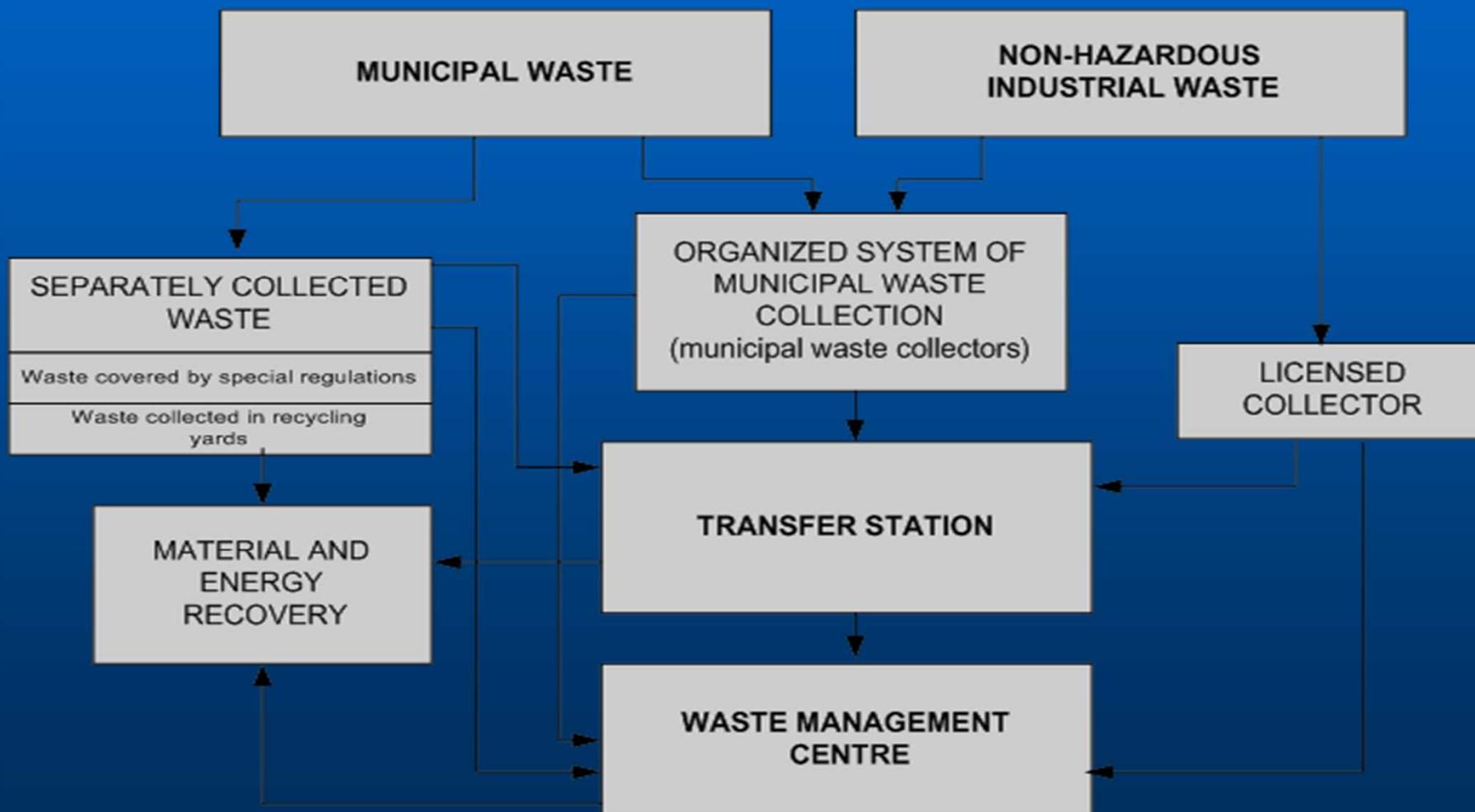
2011: ~1,6 mil t
371 kg / inhabitant / year (1 kg/day)

PROBLEMS:
implementation, low % of recycling, management fees...



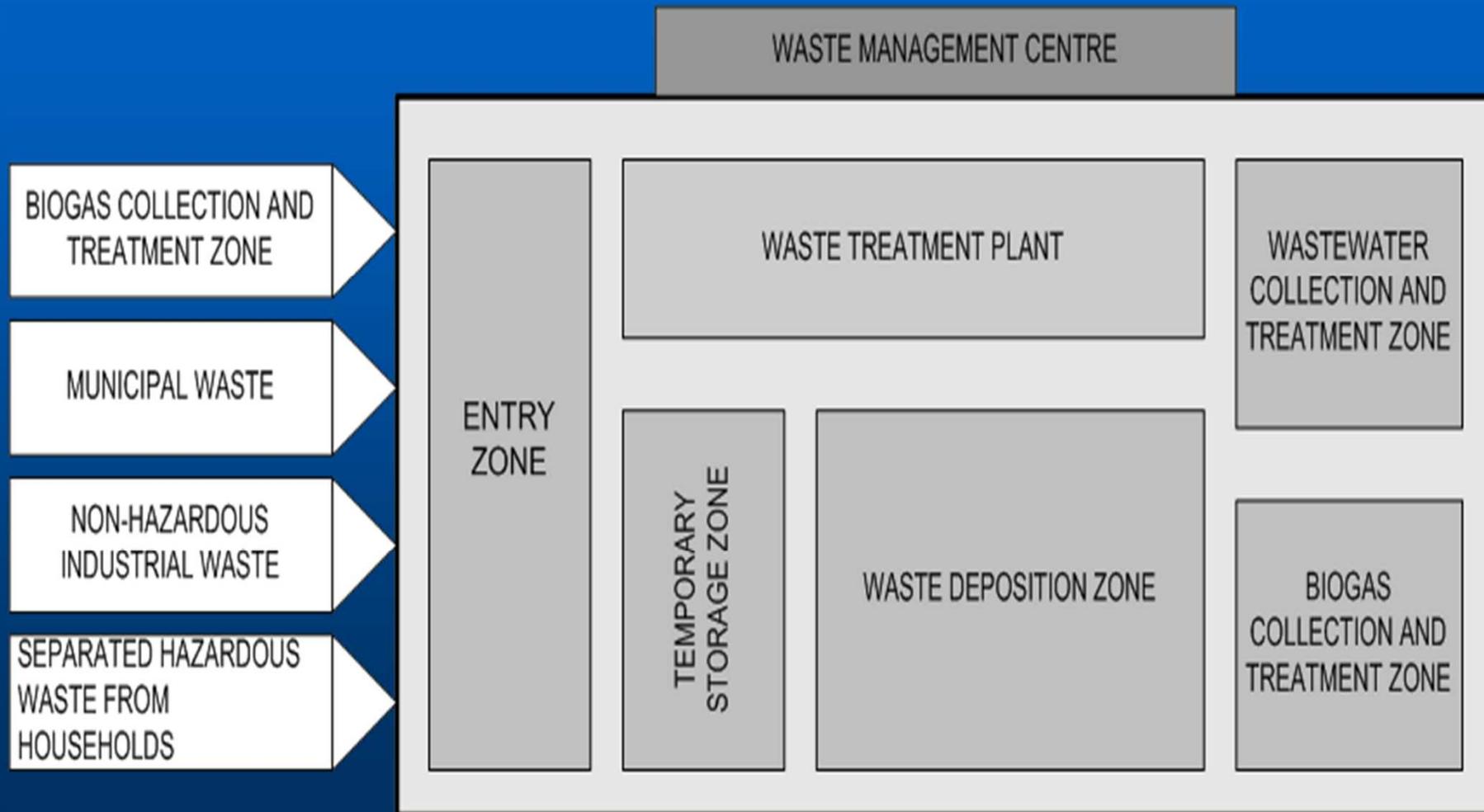
Waste management centres

Municipal and industrial waste management system





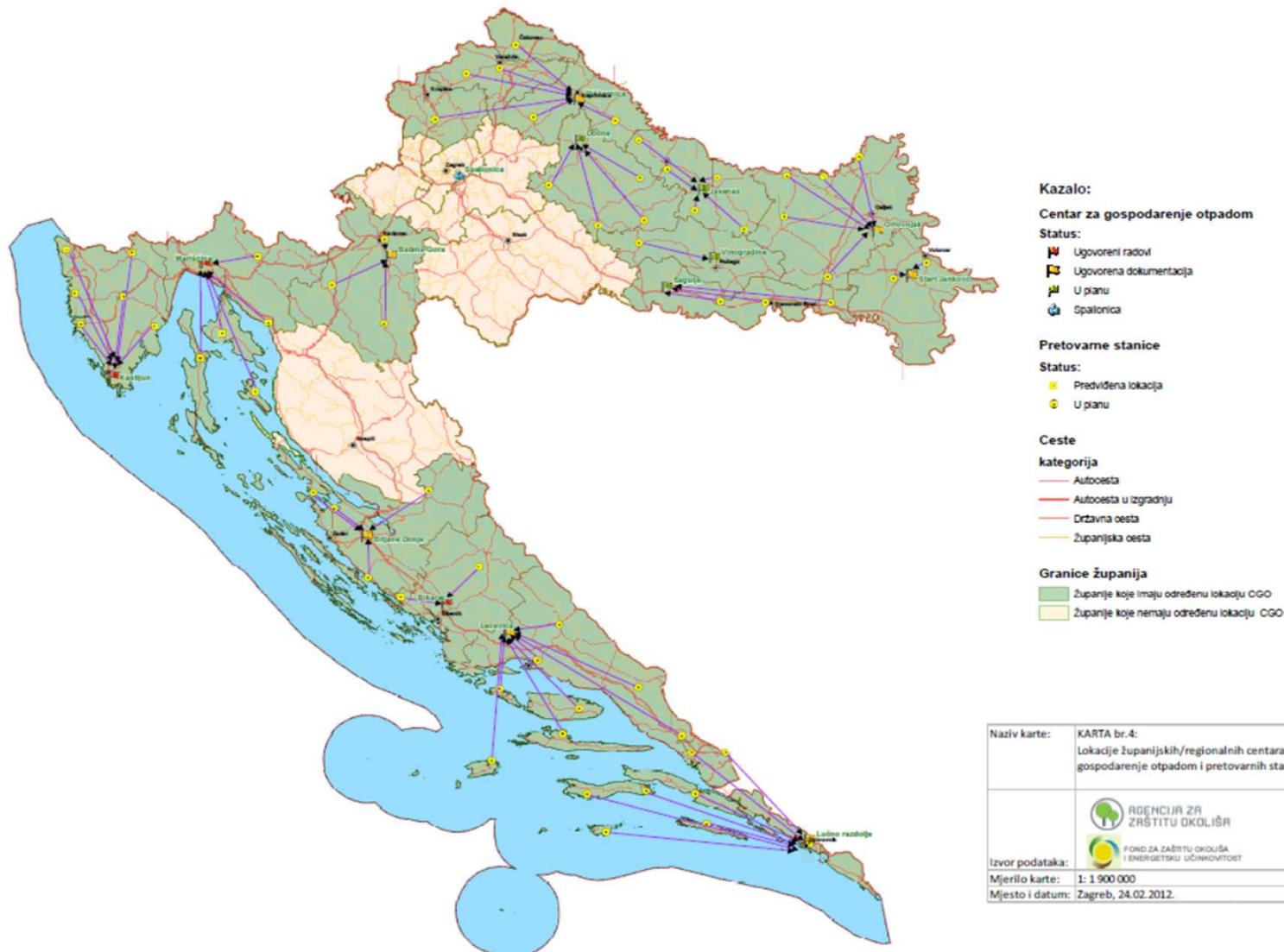
Waste management centres Construction of WMC





Waste management centres

Lokacije županijskih/regionalnih centara za gospodarenje otpadom i pretovarnih stanica u Republici Hrvatskoj





Waste management centres

WMC in the implementation

WMC 'Bikarac'- Šibensko-Kninska County

- ❖ implemented Phase I covering the landfill with infrastructure financed by ISPA in the amount of 7.8 million,
- ❖ in the preparation of the second phase of the project which will include the construction of MBT and 2 TS

WMC 'Marišćina' in Primorsko-goranska County (IPA)

- ❖ a landfill with infrastructure and MBT facility in the amount of € 35.8 million
- ❖ the amount does not include the construction of 5 TS that will work with WMC be the backbone of an integrated waste management system PGC
- ❖ construction of WMC is ongoing, completion is scheduled in 2014. and the preparation of documentation for TS
- ❖ in the final stage of the tender documentation for the procurement of equipment

WMC 'Kaštijun' in Istria (IPA)

- ❖ a landfill with infrastructure, MBT facility in the amount of € 34.8 million
- ❖ as with PGC, planned 6 TS are not included in this amount
- ❖ construction of WMC is underway, whose completion is scheduled in 2014.god. and the preparation of documentation for TS
- ❖ in the final stage of the tender documentation for the procurement of equipment



Waste management centres

WMC under the preparation

CWMC Zadar County (Biljane Donje)

- ❖ ongoing is repairing of the Feasibility Study with a cost-benefit analysis
- ❖ soon is expected to continue the procedure of obtaining the IPPC permit
- ❖ a tender for the preparation of project and tender documents for WMC and TS has been published

RWMC Northwest Croatian PIŠKORNICA (Koprivničko-križevačka, Krapinsko-Zagorska, Medjimurje and Varaždinska County)

- ❖ ongoing is repairing of the Feasibility Study with a cost-benefit analysis
- ❖ soon is expected publishing tenders for the public procurement, the project and tender documents for RWMC and TS
- ❖ environmental permits for RWMC have been obtained
- ❖ issuing of the location permit is expected early in the third quarter of 2013th

CWMC Karlovac (Babina gora)

- ❖ underway are amendments to the terms of reference for public procurement makers the project and tender documentation for the WMC and TS
- ❖ environmental permits for CWMC have been obtained

WMC Požeško-slavonska županija (Vinogradine)

- ❖ in the preparation the tender for the public procurement of documentation

WMC Dubrovačko –Neretvanska county (Lučino Razdolje)

WMC Splitsko-Dalmatinska county (Lećevica)



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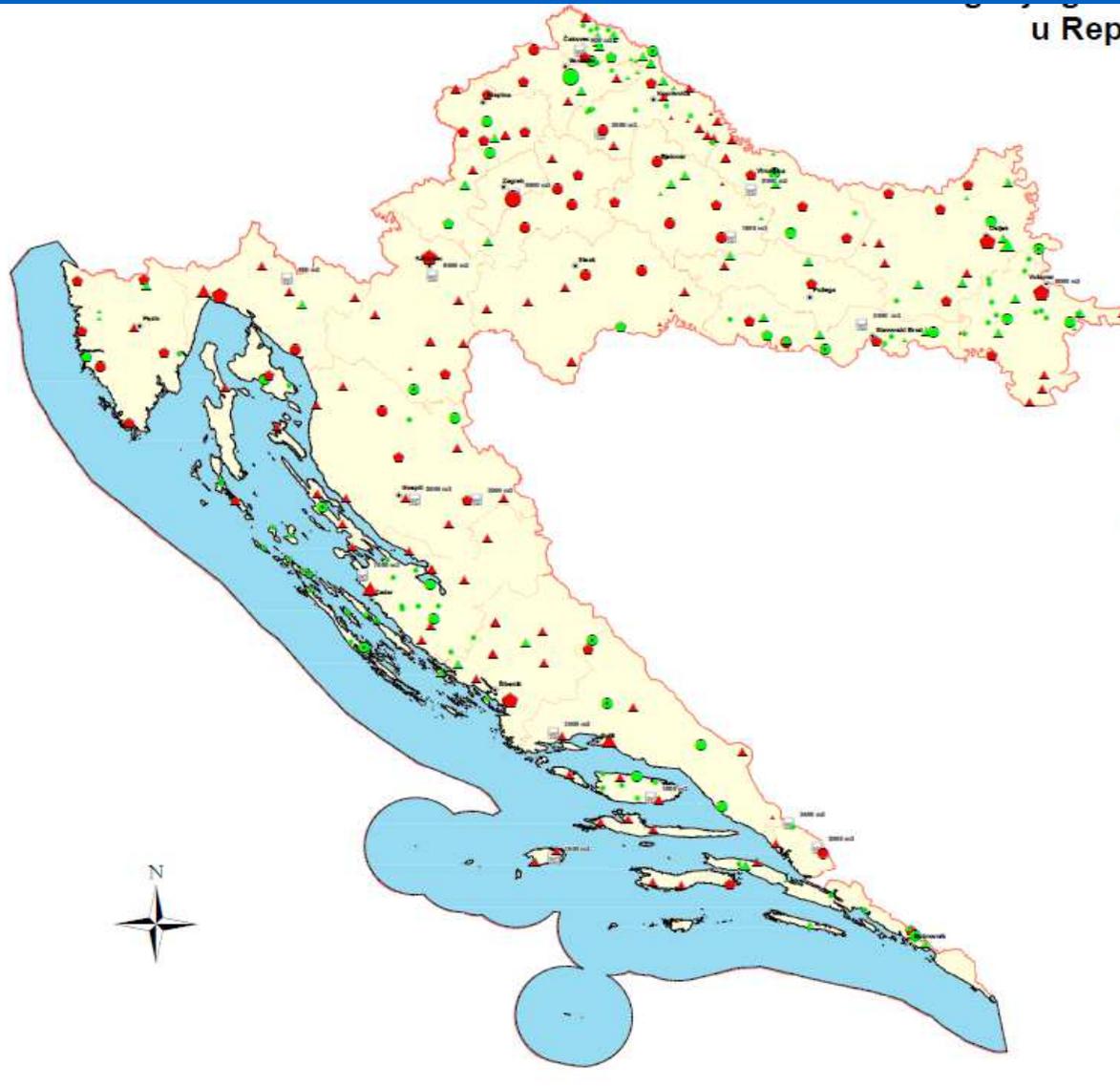
Waste management centre Bikarac





Remediation and closing of existing landfills

146 active landfills reported landfilling a total of 1 858 127 t of waste in year 2010



Landfill remediation program (2004) - EPEEF
-at the beginning of 2012:

- ❖ 107 official landfills of municipal waste have been remediated
- ❖ 48 locations were in the process of remediation
- ❖ 146 locations in preparatory stages of the remediation process



Remediation and closing of existing landfills



Landfill “Ivančino Brdo” - Before remediation



Landfill “Ivančino Brdo” - After remediation



Landfill “Zagračina” - Before remediation



Landfil “Zagračina” After Remediation



Remediation of hot spots

Remediation of contaminated land former factory coke plant in Bakar (remediated)

Remediation the pool of red mud and waste base former alumina plant in Obrovac (in progress)

Remediation Mravinačka kava (the final stage)

Remediation of contaminated soil at the former factory Jugovinil Bay (in preparation)

Slag landfill Plomin (remediated with funds of HEP-a)

Phosphogypsum landfill - Petrokemije Kutina

Remediation of oily sludge in Botovo

Remediation Lemić hills near Karlovac (in preparation)

Remediation Cave Sovjak (in preparation - EU funding)

Remediation of the location of former factory Borovo in Vukovar (completed)

Remediation of tar from the beach Salbunara on island Biševo (completed)

Remediation of contaminated land former electrodes and ferroalloys (in progress)

Environmental remediation of the former screw factory TVIK in Knin



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Remediation of hot spots

Remediation of contaminated land former factory coke plant in Bakar (remediated)



Remediation Mravinačka kava





Total revenues of the fund/charges on polluters 2004-2012

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COLLECTED INCOME OF ENVIRONMENTAL PROTECTION AND ENERGY EFFICIENCY FUND

2004.-2012.

CHARGES	€
Charges for emissions of CO ₂	44.938.244,49
Charges for emissions of SO ₂	11.463.887,70
Charges for emissions of NO ₂	5.305.419,90
Charges for non hazardous technological (industrial) waste	5.392.074,91
Charges for hazardous waste	589.957,71
Special environmental charges for motor vehicles	256.359.684,07
Total revenue from Fund Act	324.049.268,78
Charges for Packaging and Packaging waste	477.846.648,60
Charges for managing waste Tires	29.990.419,12
Charges for managing waste Vehicles	51.053.166,61
Charges for managing waste Oil	31.762.612,74
Charges for managing waste Batteries and Accumulators	6.894.345,83
Charges for managing waste Electrical and Electronic Devices and Equipment	87.359.474,20
Total revenue from Law of Waste	684.906.667,10
TOTAL REVENUE/ €	1.008.955.935,88



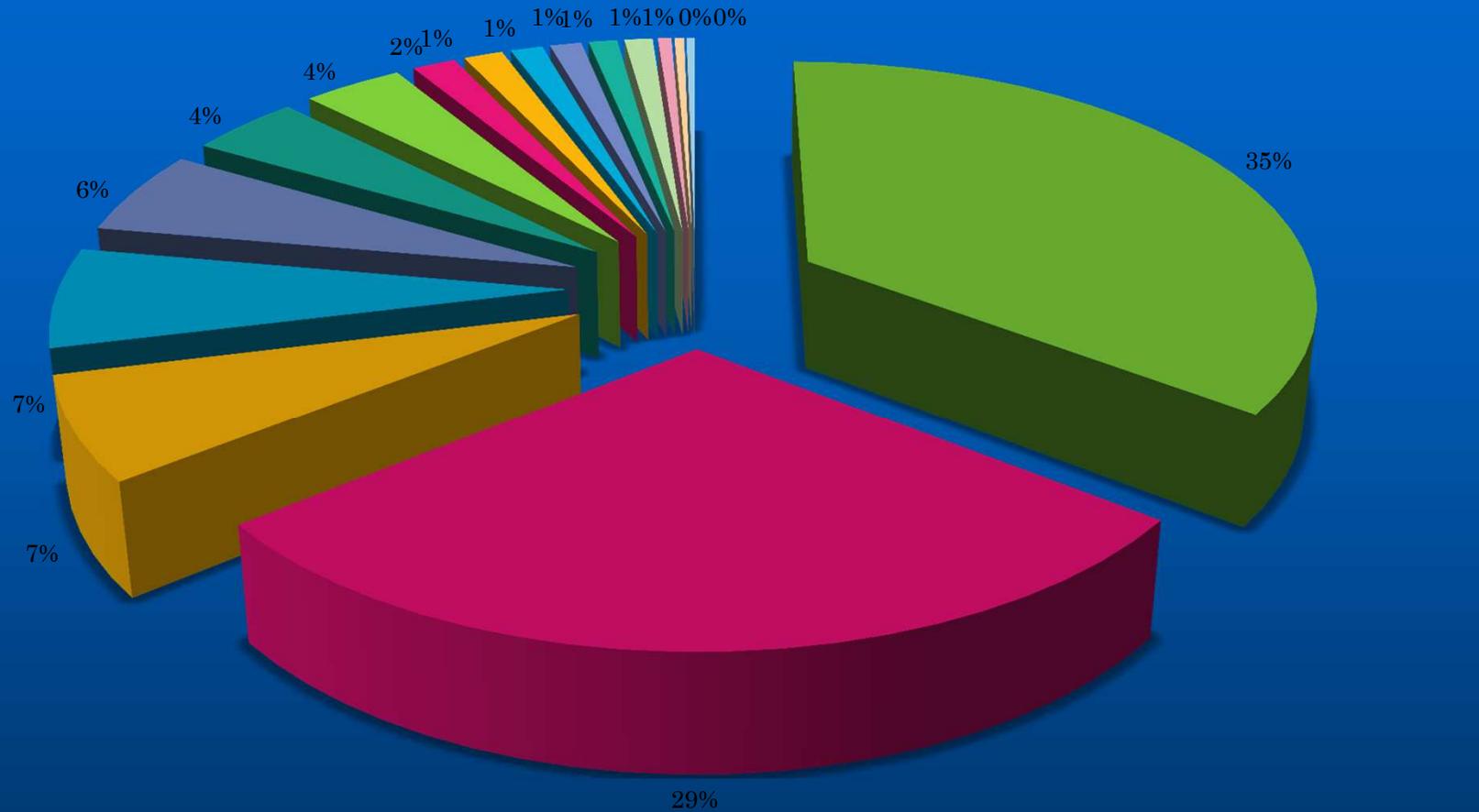
The Fund's investment in environmental protection 2004-2012

ENVIRONMENTAL PROTECTION	€
Remediation of municipal waste landfills	76.995.760,71
Remediation of hazardous waste	62.840.655,31
Other environmental projects	14.895.962,10
Waste Management	14.399.543,71
Waste recovery and exploitation valuable waste properties	12.223.275,22
Remediation of illegal landfills	8.955.843,18
Promoting cleaner production, avoiding and reducing waste	8.095.659,72
Avoiding and reducing the generation of waste	3.536.284,20
Waste management - construction of county waste management center Marišćina	3.182.846,97
Encouraging educational, research and development studies of environmental protection	2.618.079,57
Former factory workers compensation workers SALONIT Ltd. Vranjic	2.555.000,00
The protection and preservation of biological and landscape diversity	2.320.134,25
Promoting sustainable development of rural areas	2.292.317,30
Construction waste - asbestos	1.104.028,24
Waste management - construction of county waste management center Kaštijun	788.486,23
Protection, preservation and improvement of the quality of air, soil, water, sea	653.277,44
TOTAL €	217.457.154,15



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The Fund's investment in environmental protection 2004-2012



- Remediation of municipal waste landfills
- Other environmental projects
- Waste recovery and exploitation valuable waste properties
- Promoting cleaner production, avoiding and reducing waste
- Waste management - construction of county waste management center Marišćina
- Former factory workers compensation workers SALONIT Ltd. Vranjic
- Promoting sustainable development of rural areas
- Remediation of hazardous waste
- Waste Management
- Remediation of illegal landfills
- Avoiding and reducing the generation of waste
- Encouraging educational, research and development studies of environmental protection
- The protection and preservation of biological and landscape diversity
- Construction waste - asbestos



The Fund's investment in environmental protection and energy efficiency 2004-2012

ENVIRONMENTAL PROTECTION	217,5 mil. €
ENERGY EFFICINECY	59,8 mil. €
TOTAL	277,3 mil. €



Thank you for your attention!

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