Hazardous waste management in the Republic of Serbia

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Faculty of Organizational Sciences, Belgrade, 2014
The impact of economic activities on environmental pollution – result of years of excessive spending and a lack of investment in maintenance and replacement of resources.

Negative effects and consequences:

- Pollution of large amount of water
- Air pollution
- Land degradation
- Plants devastation
- Animals destruction
- Threats to human health

Health effects of pollution:

- Headache
- Fatigue
- Respiratory illness
- Cardiovascular illness
- Gastroenteritis
- Cancer risk
- Nausea
- Skin irritation

Soil contamination

- Bacteria
- Parasites
- Chemicals

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Situation analysis

- Many years of **neglect of proper waste management** due to general political / economic / technical / social situation

- **No plants** for storage, **physical-chemical** treatment, incineration or other form of **thermal destruction** or disposal of hazardous waste

- Lack of **established procedures and policies** and its application

- **No systematized data** on quantities of hazardous waste generated

- No data on the **amounts stored in the past** in temporary storage or industrial landfill

- Hazardous waste is usually temporary **deposited within the company** where it is produced, usually inadequately

- Low level of **public awareness**
Currently, hazardous waste management is based on following activities:

- Collection and transport
- Temporary storage
- Treatment
- Export to treatment / disposal
- Disposal

The treatment of hazardous waste in Serbia is available only for specific waste streams: oils, sludge, some types of adhesive and solvent, and asbestos. Exports of hazardous waste for treatment / disposal over the last ten years was the most common legal solution which industries are applied. Waste is most often been exported to German and Austrian plants.
Situation analysis

Treatment of hazardous waste - 3 to 5 € per kilogram (to export)

If Serbia had its own plant, it could be destroyed for 1 € per kilogram

Costs of hazardous waste management have not yet been systematically identified as an item in the ordinary procedure of business planning.

Ranging from 0.15 to 0.40 % of annual sales revenue in the industry.

Total annual damage caused by inadequate waste management is between 98 million and 276 million € equivalent to 0.4% - 1.1% of GDP.
Situation analysis

Building a plant in Serbia

Most Preferable

- AVOID
- REDUCE
- REUSE
- RECYCLE
- RECOVER
- TREAT
- DISPOSE

Least Preferable
Key solution

Key focus for the start: Raising population awareness

- Perception of the public
- Insufficient public awareness
- The lack of strong support from the authorities

- The tough and clear position of the competent authorities and institutions
- Communication and understanding with all target groups (business sector, state, local experts, citizens and the general public)

WHY?
Građani Stare Pazove protiv gradnje postrojenja za preradu otpada

Subota, 01. 03. 2014. 21:33

Na zboru građana prisutnima su se obratili i stručnjaci za zaštitu životne sredine, koji su govorili o štetnosti postojanja postrojenja za preradu... »

Opasan otpad možda u Svilajncu ili Žitištu

Te opštine resorno ministarstvo vidi kao pogodne lokacije za postrojenje u kojem bi se uništavale i prerađivale hemikalije zaostale posle industrijske proizvodnje. – Slični pogoni u Evropi bezbedni

Građani protiv izgradnje spalionice opasnog otpada

Informacija da će se graditi spalionicu opasnog otpada u naselju nezadovoljstvo građana

Svi mi koji nećemo deponiju opasnog otpada u našoj Staroj Pazovi

1,017 likes · 6 talking about this

Zid buke za opasni otpad

Predstavnici Ministarstva za ekologiju i prostorno planiranje nisu uspeli da ubedite Ćupričane u neškodljivost pogona koji bi trebalo da bude izgrađen na području ove opštine

Ćuprija – Još je dan pokušaj prezentacije postrojenja za preradu opasnog otpada, koje bi trebalo da bude sagrađeno na teritoriji „Dobričevo“ kod Ćuprije, završio se neuspehom. Predstavnici Ministarstva za ekologiju i prostorno planiranje gotovo da nisu mogli da dođu do rešenja, ono što su hteli da izložbe izgubilo se u huku nezadovoljstva i glasnih primiti stotinak Ćupričana, koji su napunili salu Skupštine opštine, dok ih je ispred bilo još oko

Predrasude sprečile uništavanje opasnog otpada

Evropska unija htela da u Srbiji finansira gradnju tri postrojenja za opasan otpad ali, zbog naše neefikasnosti, većina novca je preusmerena u druge države
Location
## Location

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Population density (km²)</th>
<th>Distance from the industrial zone (1-5)</th>
<th>Highway (Infrastructure)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Locations</strong></td>
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<td>Ćuprija</td>
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<td>Surčin (Dobanovci)</td>
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</table>
Stakeholders analysis

IMPORTANCE

INFLUENCE

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Raising awareness campaign

Economy and Public Sector

- Round table
- Shareholders meetings
- Conferences
- Campaigns among companies

General Public

- Youth (16-30)
- Seniors
- Information and educational campaign

- Pensioners
Interactive educations and workshops related to Environmental awareness in 8 schools in Surcin

- Waste sorting
- Cooperation with Municipality institutions (Cultural centres, etc.)

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PROMOTION

- Social networks
- Guerilla

SPORT EVENTS

- Tournaments, promotion of Healthy life and being environmentally conscious
PENSIONERS

PROMOTION & DISCUSSION

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Plan zbrinjavanja opasnog otpada
## Operator analysis

<table>
<thead>
<tr>
<th>Operator</th>
<th>Services</th>
<th>Reputation</th>
<th>Convenience &amp; Safety</th>
<th>Project Organisation</th>
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Waste treatment

EXPORT

One Miteco vehicle (25t per vehicle) x 16 tours = 400t

Serbia – Croatia – Slovenia – Austria

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## Waste treatment

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>TOTAL (in euros)</th>
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<tr>
<td>Cargo transport</td>
<td>16</td>
<td>24 000</td>
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<tr>
<td>Dosimetric Controls</td>
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<tr>
<td>Export Duty</td>
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<td>Treatment costs (180 €/t)</td>
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<td><strong>Total</strong></td>
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Thank you for your attention!