SOLID WASTE MANAGEMENT CONCEPT IN SAMARA URBAN DISTRICT

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Urgent problems of solid waste (SW) management are handled on the urban district level. The drawbacks and reasons of current method of their management are revealed on the basis of the SW management analyses in Samara. SW management concept aiming at the maximum practicable waste conversion is proposed. Integrated interrelated measures of the strategic SW management scheme have been set forth, as well as the basic investment stimulation instruments in this field.

The stable tendency of solid waste (SW) increase is observed in Samara urban district, where the economical activity is mostly concentrated and where a considerable mass of a population is concentrated on limited area.

During the last 10 years the amount of SW has almost doubled and at present it is about 3200,000 mi.

The complication and changes in SW composition are observed.

The present day SW management system in Samara is based on mixed waste collection in its formation place, further transportation and waste burial at landfills and numerous dumps.

At the present there is no centralized SW collection system in the private residential sector. There is a small number of recycling reception camps, which basically specialize in nonferrous metal and iron-and-steel scrap collection.

About 72% of waste of the total amount of formed SW is allocated at four refuse dumps, 20% of waste is dispersed in the environment, that is burned or discharged at some spontaneous unauthorized landfills, and only about 7-8% is processed by commercial organizations.

There is no centralized commercial waste recycling system in the city. The existing industry of neutralization and waste recycling, presented, as a rule, by prototype models and plants of low productivity, is unable to balance recycling capacities.

The waste neutralization methods are of liquidation nature (landfills) and basically solve sanitary and hygienic problems.

Existing SW management mechanism shows that at present time its numerous instruments, which could allowed effective salvation of current problems in the waste management sphere, are poorly used. several drawback characteristic of administrative and economical mechanism of waste management can be traced in Samara:

- The lack of environmentally and economically sounded and estimated waste management projects.
- Regulatory and legal framework imperfection.
- Poor control mechanism of executive and environmental bodies regulating activities in the waste management sphere.
- Environmental industry underdevelopment and ineffective use of potential of small-scale business engaged in waste management and environmental industry, in municipal order execution, and in city economy services development sphere. Absence of investment and access of business players to lending agencies financial resources.
- Absence of waste flow coordination centre and computerized effective control, accounting and SW management process city system.
- Insufficient attention to the waste assortment process.
- Disconnection of services responsible for waste management process.
- High cost of available industrial and office premises, and at the same time inefficient use of manufacturing enterprises idle capacity for waste conversion.
- Absence of the obligatory quota (municipal order) for the material, items and products manufactured using secondary raw materials.

The consequents of this problem are the low level of sanitary, epidemiological and environmental state of the city territory. Environ-

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ment abuse results in increased morbidity and affects the quality of life.

To change the current situation in Samara urban district SW management and to achieve the balance of environment characteristics and social and economical development, the reforms of the old one and creating of the new adequate to the settled tasks waste management system is needed.

Solid waste management concept proposes the complex of interrelated measures, aimed at the gradual change from landfill burial to industrial waste conversion, neutralization of the damage caused by negative waste influence and must provide the waste management process optimization during its whole life cycle.

SW management mechanism in urban district can be defined as the aggregate of investment resources, methods, means, instruments and SW management leverages, used by public authority, environmental bodies and designated authority to achieve the set goals.

Present program actions of the SW management strategic scheme include the following measures:

1. Measures on the collection and recycling of the secondary raw materials system improvement.
2. Measures on the wastes conversion system improvement.
3. Measures on the recyclable materials processing.
4. Measures on waste burial system improvement
5. Measure to insure the concept implementation.

Present day life caused new problems and created the necessity of the elements connected with SW management. These are such elements as:

- ♦ Auditing service which is practically absent in SW management;
- ♦ Marketing service;
- ♦ Legal support.

The practical solution of the industrial waste conversion problem is connected with large investment. That's why it is important to create the conditions which would make SW management system attractive for the business. Thus it is necessary to stimulate the investment flow, to receive support from the municipal authority for the business in SW management.

The creation of the infrastructure aimed at optimization of the SW management sphere is needed.

The SW management mechanism improvement, its efficiency increase can be achieved through a combination of activities in certain directions:

- ♦ The project documentation development and rubbish recycling plants (complexes) building.
- ♦ Measures for selective SW collection adoption.
- ♦ Measures for recycling certain types of raw materials
- ♦ Selective SW collection standard design development in Samara urban district. Containers and container courts provision.
- ♦ Waste-transshipment stations and SW collection and assortment complexes building.
- ♦ Information SW flow management mechanism improvement (accounting of waste placement; creation of data base of people engaged in designing, producing and adopting waste recycling equipment; waste exchange creation, etc.).
- ♦ Sanitation management automation in Samara.
- ♦ Toughening the existing sanctions and aggravating criminal and administrative responsibility for preventing environmental violations in SW management.

The expected results of the whole complex of measures are ecologically safe SW storage and utilization, liquidation of dumps, environment quality improvement and insurance of positive habitation environment for people.

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