

Quick Response Request

Submitted by: National Association of Municipalities of the Republic of Bulgaria

Date: August 2010

Subject: The methodology for determining the size of the municipal waste fee in accordance with the amount of discarded waste.

Background: NAMRB was involved in elaborating a draft of a new Law on Local taxes and fees. NALAS collected some good and detailed answers (for ex. from Romania).

1. Summary of Results

The materials collected include some good guidelines for establishing the structure and level of tariffs and special taxes.

NALAS members recommend in their answers to the Bulgarian Association request that the fee:

- covers the actual cost of providing waste service;
- covers at least the amounts invested and the running and operation costs of waste management services;
- encourages the capital investment;
- respects and ensures the financial autonomy of the operator.

2. Analytical/Detailed Information

A) Croatia

Waste management is under the responsibility of governmental body named Environmental protection and energy efficiency Fund of the Republic of Croatia.

The Fund issued the Regulation which lays down the amounts of unit charges, corrective coefficients, approximate criteria and criteria for determining fees for loading the environment with waste for non-hazardous industrial waste and hazardous waste.

Legal persons and individuals who are disposing municipal and or non-hazardous technological waste in landfills are liable to pay compensation.

Compensation is calculated and paid according to the amount of waste disposed at landfills. Price for one tone of the waste is 12 Kuna (1,64 EUR).

The amount of compensation to the municipal and / or non-hazardous technological waste is calculated according to the following formula:

$N = N1 \times O$, where N represents fee on municipal and / or non-hazardous technological waste in Kuna, N1 represents charge per ton of disposed municipal and or non-hazardous industrial waste (referred to as the unit fee), O represents the amount of disposed municipal and / or non-hazardous industrial waste in a calendar year.

The calculation is based on the size of the apartment but it is not the same in whole country. Approximately it is 0,37 Kuna (0,05 EUR) per m² for individuals and 0,49 (0,07 EUR) Kuna for legal persons. That means that people who live alone in their big apartments are punished with high fee although they are not producing large amount of waste.

New suggestions appeared recently, for example to copy the system in Vienna where the criteria is the number of tenants in one apartment, not the size of it. But there are problem even in this logic because in Croatian cities there is a huge number of unregistered subtenants who, in this case, would not have to pay anything.

The issue is obviously still work in progress.

B) Romania

Public service concerning the waste management is part of the community services of public utility and is conducted under the supervision, direction and coordination of local authorities or community development associations.

The amount of fees and special taxes and rules are established, adjusted or modified by local authorities, according to legal provisions. The structure and level of tariffs and special taxes will be established so that:

- it covers the actual cost of providing sanitation service;
- it covers at least the amounts invested and the running and operation costs of waste management services;
- it encourages the capital investment;
- it respects and ensures the financial autonomy of the operator.

According to the Framework-guide for the development of minimum quality standards and minimum cost standards for decentralized public services (28.08.2009):

- the minimum quality standards determine the costs – all aspects related to a certain service cost should be defined (usually, these definitions can be found within the budget specifications)
- the characteristics of a minimal quality standard :
 - express a minimal level
 - ensure a consistent approach of services for various categories of beneficiaries
 - require the attachment of monitoring and evaluation indicators
 - it is formulated clear and concise
 - it is measurable
- the minimal cost standard – 3 ways for calculating the cost of a service:
 1. the model of budgetary cost with zero base – when estimating the cost of a new activity or service or when reevaluating an existent activity or service.

1) Price x time x Quantity (beneficiaries x frequency)

Minimal quality standards requests	
Service operational costs: - functioning costs - utility costs - human resources costs - logistic costs	Administrative costs: - human resources costs - functional costs - technology costs - logistic costs

2) average cost model – applied when a new quality standard has to be adapted to an existing service – stages:

- setting up the average cost of competences (presently, /local authority/average beneficiary)
- involving local authorities and responsible ministry in activities in order to adjust the verage cost to the needs as set by legislation
- calculating the average adjusted cost
- evaluating the level of minimal cost based on average adjusted cost
- comparing and analyzing the minimal cost standard to the actual expenses
- analyzing the financial consequences of the minimal costs only for the local authorities and for the central budgets
- setting up a financing level for each and every part
- if the case, developing a transition mechanism

3. allocation formula model – frequently used for designing fiscal transfers’ allocation models according to their significance to expenses generation; each factor significance is established through statistical methods.

The statistical cost standard model – stages:

- setting up the average cost /each territorial-administrative unit/average beneficiary
- establishing the statistics factors that might affect the costs
- employing statistical analysis to determine the importance of different factors in calculating the average local authorities’ cost/beneficiary
- designing a computerized allocation model, introducing the significant factors (from previous point) and constituting an allocation model of available funds according to significant factors’ importance and calculating an average cost standard/ territorial-administrative unit
- comparing and analyzing the estimated cost/need for transfer to actual expenses
- analyzing financial consequences of minimal costs on territorial-administrative units and on local and central budgets
- establishing a financing level for each and every part
- if the case, developing a transition mechanism

The quality standards on local level – local authorities must be able to elaborate their own quality standards if they decide to increase the quality of a certain service up to the highest level mentioned within the national standard. The elaborated procedures must ensure a sufficient collaboration with responsible ministries and sufficient civil society and beneficiary participation. The increasing financial needs of local standards must be financed by local incomes

C) Montenegro

There is no national methodology for determination of municipal waste fee. Also, municipalities do not have prices methodology for determination of unit cost of municipal waste fee. Anyway, determined unit cost is multiplied with m² of building and that is how municipalities get amount of municipal waste fee.

Municipalities charge for collection of municipal waste. Beside that, municipalities which have sanitary landfills, charge for disposal municipal waste on sanitary landfill. Methodology is the same but unit cost are different regarding of taxpayers (hotels, private businesses, dwelling owners, etc.) and zones.

D) Kosovo

AKM hasn’t any methodology for the determining the amount of municipal waste fee in accordance with the amount of the discarded waste.

E) Macedonia

ZELS does not have any information concerning these methodologies.

F) Slovenia

In Slovenia this topic is handled by the Decree on environmental tax for environmental pollution caused by waste disposal.

The fee is paid to environmental pollution caused by disposal in landfill for inert, hazardous and non-hazardous waste. The fee is to be paid from the landfill operator.

Calculation for the fee:

The base is determined by the Unit load at ground (UL_{ground}) and the Unit of Load at air (UL_{air}) in the calendar year:

$$\text{Base} = P_{\text{ground}} \times \text{UL}_{\text{ground}} + P_{\text{air}} \times \text{UL}_{\text{air}}$$

P_{ground} = Price for unit load at ground (is set by the government once a year; in 2010 = 0,0022 EUR)

P_{air} = Price for unit air load (is set by the government - is equal to the price of a unit of CO₂ emissions fee; = 0,0125 EUR)

$\text{UL}_{\text{ground}}$ and UL_{air} = number of units of load (for air and ground)

The share from tax for the emission of gases is approximately three times the share of tax for the load of ground.

$\text{UL}_{\text{ground}}$ depending on the type of garbage dump = m (mass) of garbage (in kg) * number of $\text{UL}_{\text{ground}}$ / kg of garbage

Type of garbage dump	number of $\text{UL}_{\text{ground}}$ / kg of garbage
Inert garbage	1
Non-hazardous garbage	2
Hazardous garbage	10

$$\text{UL}_{\text{air}} = G \times \text{DOC} \times \text{DOCF} \times F \times (\text{MCH}_4 / \text{MC})$$

$G = 21$ global heating potential CH₄

DOC proportion of degradable organic carbon in waste

DOCF proportion of organic carbon in waste that is converted into greenhouse gases

F proportion of CH₄ in dumping ground gas

$\text{MCH}_4 / \text{MC} = 1,333$

If the proportion of organic carbon, which is converted into greenhouse gases (DOCF) and the proportion of methane in landfill gas (F) does not acknowledge based on data obtained by chemical analysis of waste or other biological tests on the decomposition of waste (as well as chemical analysis of landfill gas (F)), the following values are used: $\text{DOCF} = 0.77$ and $F = 0.5$.

$$\text{DOC} = 0,4 \text{ (A)} + 0,17 \text{ (B)} + 0,15 \text{ (C)} + 0,30 \text{ (D)}$$

Biodegradable municipal waste, which determines the value of a DOC:

A ... proportion of paper, cardboard and textiles

B... proportion of green biomass waste, wood, waste from processing plants (not for food)

C ... proportion of food waste and organic waste from food production and preparation

D ... proportion of waste made in wood processing, wood industry and other waste wood, bark, cork, straw

A, B, C and D – quotient between the individual components of the waste in the total amount of waste and all garbage ground waste mass

If in the processing of municipal waste (before disposing it), the quantity of each type of biodegradable waste is not reduced, then the following values are used:

A=0,12

B=0,05

C=0,25

D = 0,05

Type of garbage	EUR / kg
Inert	0,0022
Non-hazardous (share of biodegradable waste = 0)	0,0044
Non-hazardous (share of biodegradable waste = 0,47)	0,0191
Hazardous (share of biodegradable waste = 0)	0,0220
Hazardous (share of biodegradable waste = 0,47)	0,0367

REDUCTION OF BASE:

Base = the calculated money amount for the waste, deposited in a calendar year

$$\text{Reduction} = \text{Pair} \times G \times R + 0,44 \times E$$

R = amount of CH₄, which has burned or was captured (in kg)

E = electrical energy produced from the gas (in kWh)