

MASARYK UNIVERSITY BRNO



Analysis of operating system of waste collection yards in Brno

Abstract

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Problems of waste collection yards and overall question of waste management belong among the most important present day agendas. But it is often overlooked. At the same time the question of waste management is globally very pressing. Also the EU becomes aware of this situation¹. The EU presses the member states to waste prevention or recycling and reuse.

Citizens do realize more and more the necessity to recycle and prevent the landfilling. Further to that the recycling industry grows considerably and new methods of hazardous waste's final disposal are found. Not only European but also state level of this situation is not ideal. Although there is a big improvement in the question of recycling in the Czech Republic, modern incinerators and disposal sites are built, waste production is still a topical issue.

City of Brno tries through this project assignment to increase the efficiency of one part of waste management – waste collection yards (WCY). However, it is necessary to understand the role of this part in the overall system, to what extent the occupation of WCY is directly linked with waste production, level of recycling waste management and the like. Therefore it is not possible to perceive the WCY as an isolated problem.

The aim of this work is to analyse the operating system of WCY in the city of Brno from several perspectives: legal, economical, system efficiency and purpose. The main tool for our analysis was field research (observation and fill-in questionnaire) performed by team members at individual WCY. We have also worked with in-house information delivered from municipal authority, bibliography connected to the topic. We have consulted various experts as well as information from websites, newspapers or NGOs.

Firstly, we needed to visualise a „big picture“ about contemporary waste management in Brno which is provided by joint-stock company SAKO, 100%-owned by the city of Brno. We could not focus merely on one part of the system – waste collection yards – without further investigation its impacts and connections to other parts – fees, transport, municipal waste and its volume, recycling, public awareness, costs, efficiency, advertising, environment and the like. The main objective for European Union is the situation when there is no waste, which means it is not necessary to create more disposal sites or build new incinerators producing dangerous CO₂, because most of the waste is recycled. The Czech Republic as a member state of the EU integrated this objective into its legislation and long-term objectives in waste management and therefore all the analysis and suggested solutions in our work aim for this strategic goal.

¹ There is a lot of materials from thematic strategies to action plans and directives. We will focus on this in the part dedicated to legal perspective.

Our paper consists of a thorough SWOT analysis which briefly explains and clarifies contemporary situation of operating system of WCY as well as functions connected to them. This part is followed by and at the same time gives the basis for the rest of the work legal analysis of legislative framework – from supranational to local level. Economical analysis proceeds from the information gathered via field research and accessible economical indicators or information about volumes of waste. It gives several recommendations how to increase the efficiency of waste management. The last part is dedicated to marketing and closes our paper with analysis of communication and presentation of SAKO company stressing the WCY. The company would promote the system of WCY and give the justification for the money spend on their operation.

We could divide our suggested solutions into short-term with direct impact on WCY operation – implementation is possible within a period of 6 months to one year without any system changes. And long-term, where implementation is dependable on the owner of SAKO company – city of Brno, political will and wider public discussions. Their results could be seen within a period of one to three years. We believe that all presented ideas will cause a wider public discussion and problem of WCY as well as waste management in general will become a part of public awareness, because only the citizens can make things happen by causing a pressure on public institutions.

Legal analysis

There are several typical things from European to the national level within the legislative adjustment.

At first, there is an effort to avoid the origin of waste. Law is trying by its tools² to lead people to reduce producing of waste. Let's perceive, that the key role plays not the fact how to handle with waste, but the fact that if it is possible, not generating waste at all. It is covetable that we try to find some utilization for things that we nowadays consider to be as unusable.

Consequently, another part after prevention of waste is continued by reprocessing and recycling. For achieving this goal is very important an active participation of citizens. There is a need to motivate them. Then it is relevant to hold conditions for treatment with different kinds of waste. This referred to technical issues which are not more specified in this work.

² Not every time are the tools efficient – as mentioned §10 law of waste.

But compared to one of the goals of Commission – to improve adherence of law legislative, we should not forget about technical norms.

The form of collecting centers and their obligations are determined in the law of waste and in generally binding notice of Brno city n. 14/2007. In that area, we perceive some shortages not only in the direction of economic effectiveness, but we are afraid also about legal shortages in above mentioned regulations and labour law and safety law. We decided to react on this situation with research of centers.

The last thing is the way of financing. The system of selecting charges, where the person – payer is related to permanent stay, is in today situation ineffective. We therefore suggest the change of payment system.

Economic analysis and questionnaire survey

According to the survey, we suggest improvement of marking “SSO” and “SMO” (name, small pricelists, confusing list of collected waste) and introduction directing indicators. Most of the courts should implement better security measure, at least not transparent fence, which could prevent thieves from viewing the content of centers. Also covered containers for huge capacity and for regressive collecting of electronic equipment would help. These containers would have also practical function, they would protect waste against unfavourable weather conditions.

At least in large SSO would be appropriate to buy normal car weight. Then could anybody come even with bigger amount of waste at once and it won't be necessary to come several times. According to our findings, opening hours of centers are not set correctly. People are interested for coming rather in the afternoon and in the evening during the whole week. Therefore we suggested different opening hours. We calculated that the city wants to behave socially so it does not intend to reduce numbers of working places.

We propose to introduce container for used oil, which then firms manipulate for further usage. We advise to close SMO Točná and SMO Bratří Žůrků because according to our table of efectivity, these two centers have the smallest one and besides in their locality, there is another center. On their ground we would build bazaar which could allow using unnecessary things that would be otherwise ended in waste. There would be also savings for the city in form of bringing in centre. Nowadays many centers already work as a nonofficial bazaar.

We consider as unsatisfactory the system of selecting the municipal fee, which is currently operated by Law No. 565/1990 Coll. on local charges. It affects only people with permanent residence in the city of Brno. More effective is for us to introduce a fee for municipal waste in accordance with Act No. 185/2001 Coll. waste. The high of a fee is determined by the production of municipal waste. The payer is a person who owns the property where the waste is created. With this change could the city cover 73 % of its expenditures for the operation of waste management, against current 54 %.

On the basis of these suggested changes, we expect reduction in amount of municipal waste. This means reducing costs of transportation. Together we reduce amount of misspend waste by introducing the bazaar. We can increase financial resources offered by EKOKOM and in the same time reduce costs on liquidation of waste by getting new containers for classified waste in the streets or by implementing plastic bags. From above mentioned savings we would finance modernization of centers according to our suggestions that emerged from questionnaires.

We propose take advantage of grants from European Union in the future and build up several central ecological courts that would replace current high number of small subsidies. The most important source of finance we see European Regional Development Fund, that could be used for purchasing new equipment to improve the infrastructure. For preventing waste prevention and elimination of environmental weight we recommend to use the Operational Programme of the environment.

Marketing

Marketing recommendations are following economic and SWOT analysis in the area communication strategy of the company. The main mission is to meet people with waste – why should they classify it (use the collecting centers and where to find them) and what it happens with it then. Another activity is to influence young people to make them interested in the area classified waste.

- 1) Rename collecting courts and ecological courts. We think that the names of ecological courts describe more the essence of function and help to often misunderstanding their role from the citizen side of view. Mostly old citizens left waste with that the concrete place does not work and so they complicate the life of employers. The word „ekodvůr“ is showing ecological direct and held the important association with classifying.

Against that the term „collecting court“ is understand as a place where we can bring anything. „Ekodvůr“ is mostly used.

- 2) Create a vision of society. Implement the principles of strategic management and planning.
- 3) Create a basis for a new identity - new logo, a new claim. United visual style codified in graphic manual. Creation of a special logo for waste collection point.
- 4) Development and implementation of communication strategies (an internal as well as external)
- 5) Creation of a new website.

Another general recommendation of our work is to use the majority of the modifications and changes to universities, but also high schools, students and connect the practical and useful together. City saves while getting many nonorthodox ideas, solvings from academia and provide opportunity to students to gain practical experience. For example field of study such as waste management at the Mendel University.