


**GENERAL INFORMATION**

<b>PETUS description of tool in use</b>						
<b>Name of the case</b>		Waste Management Concept - Plastics				
<b>Name of the tool</b>		Waste management plan - pilot project "Yellow bag"				
<b>Country</b>		Austria				
<b>City / region</b>		Styria				
Total area (km <sup>2</sup> )		16, 388				
Population		1, 183, 246				
Density (people/km <sup>2</sup> )		72				
<b>Tool user's profile</b>		a. Municipality of the City of Graz				
a. Organisation name (municipality, NGO, national or regional department, company, etc.)		b. Waste management controlling				
b. Field of activity		c. Johannes Edegger Kaiserfeldgasse 1/IV A- 8010 Graz				
c. Detailed contact/feedback (project website, e-mail, address, tel., fax)		Tel.: +43 316 872 4360 Fax: +43 316 872 4309 Email: abfallwirtschaft@stadt.graz.at <a href="http://www.graz.at/umwelt_gesundheit">http://www.graz.at/umwelt_gesundheit</a>				
<b>Reviewer, date</b>		Ingrid Kaltenegger, June 2003				
<b>Short description of the case</b>						
<p>The basis for all initiatives intended to improve the waste management concept for the city of Graz is the waste management plan of the province of Styria. This regulation controls avoidance, recycling, handling and disposal of waste in the provincial capital Graz. This regulation also states that waste has to be collected separately: paper, glass, metal, plastics, textiles and wood.</p> <p>For the collection of plastics (only plastic packaging) there exist 6 different types of collecting which differ mainly in sector (household, small trade, trade, recycling companies,...) and volume. Waste from households and small businesses is collected together every 4 weeks (up to a volume of 1,100 litres) and is subject of this case study.</p> <p>For the collection, handling, recycling and disposal of plastic packaging every consumer has to pay a certain amount of money which is already included in the price of all plastic-products. Private companies are responsible for dealing with plastic packaging and have contracts with the municipality.</p> <p>In Graz the collection of Plastic packaging for recycling had been installed before it was obliged by law. This had financial background because it is much more expensive if plastic packaging is included in residual waste and ends up in dumpsites than to collect and handle it separately.</p> <p>Plastic packaging is subdivided into 8 fractions (foils, hollow bodies, etc.), most of the material from the 8 fractions is recycled and the rest is burnt as a substitute for other combustibles such as coal. From 1<sup>st</sup> of January 2004, 95% of all plastic packaging has to be collected for recycling.</p>						
Why was the case chosen? To which PETUS key-problem is this case study related?						
<b>Sector</b>	Waste	Energy	Water	Transport	Green/blue	Building & Land Use
	<b>X</b>					
<b>Scale of project</b>	Component	Building	Neighbourhood	City	Region	
				<b>X</b>		
<b>Status of project</b>	Starting up	Ongoing	Finished	Start date	End date (exp.)	
		<b>X</b>		1992		
<b>Key words</b>						
<i>Waste management, plastic packaging, recycling, plastics, households, small businesses</i>						
<b>Project</b>		a. No object – city area				
a. Object (building, city park, wind farm, etc.)		b. Managing concept for waste management				
b. Type of activity (regeneration, renovation, new development, etc.)		c. Scheme				
c. Type of product (plan, scheme, design project, etc.)						
<b>Tool</b>						

<ul style="list-style-type: none"> <li>a. Character (according to WP3final0704.doc)</li> <li>b. Benchmarks (qualitative or quantitative)</li> <li>c. Availability (paid/ free)</li> </ul>	<ul style="list-style-type: none"> <li>a. Process and planning tool</li> <li>b. Mainly quantitative indicators concerning amounts of waste</li> <li>c. Available for free</li> </ul>
<p><b>Decision-making process</b></p> <ul style="list-style-type: none"> <li>a. Stage of the tool implementation (preliminary, midterm, etc.)</li> <li>b. Level (political, technical, etc.)</li> <li>c. Public participation</li> </ul>	<ul style="list-style-type: none"> <li>a. Preliminary planning tool</li> <li>b. Political and technical level</li> <li>c. No direct public participation, but a lot of information for the public available.</li> </ul>

#### DETAILED INFORMATION

<b>A. Detailed description of project and tool</b>	
<p><b>1. Description of context</b> (existing strategies, laws, policy, action plans, etc.): EU, national, regional, municipal</p>	<p>The basis for all initiatives in improving the waste management concept for the city of Graz is the waste management plan of the province of Styria. This regulation controls avoidance, recycling, handling and disposal of waste in the provincial capital Graz. This regulation also states that waste has to be collected separately: paper, glass, metal, plastics, textiles and wood.</p> <p>Plastic packaging is subdivided into 8 fractions (foils, hollow bodies, etc.) and the biggest part of it goes into substantial recycling which means that the material is processed and used again in other forms, the other part is used as a substitute for other combustibles now but will not longer be allowed to be burnt. From 1<sup>st</sup> of January 2004, 95% of all plastic packaging has to be collected.</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Landfill site where plastic packaging is dumped</p>
<p><b>2. Description of project</b></p> <ul style="list-style-type: none"> <li>a. Background (What caused the initiation of the project? What was the problem? Who initiated the project?);</li> </ul>	<ul style="list-style-type: none"> <li>a. The cost of disposal of plastic packaging to landfill is much more expensive than if it is collected and handled separately for recycling. So the city of Graz has implemented the waste management plan before it was enforced by law.</li> </ul> <p>The municipality is obliged to reach as high a collection rate as possible for plastic packaging and with as little non-plastic substances included in the material collected as recycling as possible. ARGEV, one of the private companies which is authorised to collect plastic packaging in the area of Graz, started a pilot project in October 2001.</p>

This involved yellow bins used for the collection of plastic packaging have been replaced by yellow bags (those bags have been used only in rural areas so far). The notion behind this was that the quality of plastic in the bags is better than in the bins. This is because the bins contain 25 – 30% of incorrect material whereas in the bags there are only about 10% mistakes because no heavy things or metals can be disposed of in the bag without destroying it.



Bins used for collecting packaging material



The "Yellow bag"

b. Objectives/aims (sustainability statement – what issues of sustainability were attacked);

b. The main objective of the project was to reduce the amount of waste in the city of Graz and to reduce costs of disposal.

c. There has been a preliminary review of the project,

<p>c. Time interval and stages of project realisation;</p> <p>d. Financing – amount, sources, institutions involved, partnerships, levels.</p> <p>e. Other sectors involved in the particular project/problem (conflicts and/or links)</p>	<p>followed by a screening and information-gathering stage and an optimisation phase which is still going on.</p> <p>d. The tool has been worked out by the department of waste management in the municipality of Graz under whose remit this falls.</p> <p>e. There have been close contacts with the environmental department of the city of Graz during the process.</p>
<p><b>3. Description of tool</b></p> <p>a. Character (according to WP3final0704.doc) - calculation tools, process tools, assessment methods, generic tools, simulation tools, guidelines, framework tools, schemes, indicators and monitoring, checklists, case-specific tools;</p> <p>b. Availability of the tool (web-based / paper, paid / free, etc.)</p> <p>c. Based on existing tool or newly elaborated;</p> <p>d. Adaptation of the tool to the local context (are there local experts involved in tool's development?)</p> <p>e. Other tools implemented to support the project development</p>	<p>a. This was a pilot project and could be seen as a kind of simulation tool: to identify if it would be better to use yellow bags everywhere. It also includes indicators and is therefore a monitoring tool as well. Indicators, procedures, guidelines, small database (collection rate, misses) are part of the tool.</p> <p>b. Information about the tool is available at the department for Waste management controlling, which is now part of the environmental department.</p> <p>c. The tool is based on the waste management plan of the province of Styria and was adapted for the city of Graz</p> <p>d. see above</p> <p>e. see above</p>
<b>B. Tool implementation</b>	
<p><b>1. Argumentation for choosing the tool</b></p> <p>a. What were the reasons for the implementation of the tool? (voluntary or requested by what local, national, etc regulation)</p> <p>b. Who took the initiative for choosing /elaboration the tool?</p> <p>c. What were the criteria for choosing the tool?</p> <p>d. Was there knowledge of other tools and were they considered?</p>	<p>a. The pilot project started in October 2001. The notion behind this was that the quality of the plastic in the bags is better than in the bins. This is because the bins contain 25 – 30% of mistakes (non-plastic substances included in the recycling) whereas in the bags there are only about 10% mistakes because heavy things or metals can be disposed in the bag without damaging it. So the costs for further handling of plastics can be reduced.</p> <p>b. The municipality of Graz.</p> <p>c. Decreasing the amount of (plastic) waste in the city and monitoring the reduction.</p> <p>d. Not directly, waste management plans and their measures from other cities were reviewed. No real other tools were considered</p>
<p><b>2. Barriers for the tool implementation</b>  What were the main problems in the tool implementation? (Regulation, information available, public awareness, lack of clear SD definitions and benchmarks, communication etc.)</p>	<p>No problems were experienced during tool implementation.</p>
<b>C. Influence of the tool on the decision-making process</b>	
<p><b>1. Description of the decision-making process/ procedures</b></p> <p>a. Stages</p>	<p>a. Preliminary stage: gathering relevant information  Screening: information to the local government and the public (internet, folder, information events, etc.) and pilot</p>

<p>b. Levels (political, technical, etc.)</p> <p>c. Sources of information used during the dmp;</p> <p>d. Who are the decision-makers?</p> <p>e. Who made the final decision for the project implementation? Was it political or technical decision?</p>	<p>projects. Scoping: gathering information and evaluation of it, providing (new) information to the public and government</p> <p>b. For every change (e.g. of contracts with private companies) the political decision of the municipality of Graz is necessary. It has to be decided in the municipal council (policy level). Therefore, the department of waste management (technical level) has to prepare everything for this decision, especially things concerning the technical background.</p> <p>An important instrument for the decision making process is the waste management plan that every waste management association has to formulate. It is a requirement which defines everything regarding waste management (it could be compared to the land utilisation plan each municipality has). The Waste management plan has to be updated and adapted if necessary every 5 years. The weak point is that no municipality is legally prosecuted if this does not happen. Another weak point is that almost no citizen knows about the content of the waste management plan or is involved in its making.</p> <p>The waste management plan has to be approved by the government and has also to consider national interests and has to ensure that no conflicts arise.</p> <p>There is also a close cooperation with the environmental department of Graz in terms of LA 21 processes, sustainability, air quality and noise.</p> <p>c. Sources of information used during the Decision making process include the environmental department of Graz, province of Styria, a database where the legal basis and relevant programmes are listed. The waste management plan is the most important information source behind the project</p> <p>d. The decision making in this project involved experts from the waste management department who prepare information so that politicians can make their decisions.</p> <p>e. The final determination for project implementation was a political decision.</p>
<p><b>2. Tool in decision-making process</b></p> <p>a. At what stage was the tool implemented? By whom? (experts, politicians, etc.)</p> <p>b. How did the tool output influence the process (added or skipped levels/stages in the existing decision-making process, etc.)?</p> <p>c. Quantitative goals or benchmarks defined? (If YES, which – and what were they compared to?)</p>	<p>a. The tool is supposed to be used from the beginning of the process by technicians.</p> <p>b. The use of the tool (by using bags instead of bins) resulted in mistakes (non-plastic substances included in the recycling) being reduced from 25 – 30% down to about 10%.(the data were collected by measures after the implementation of the pilot project)</p> <p>c. Yes benchmarks were defined: indicators are needed for planning and for updating the waste management plan every 5 years. The collection rate and the rate of mistakes in the different collection systems are gathered for optimising this tool and are compared to the rates of the previous years. This is to ensure an ongoing improvement</p>

d. Was the tool used to support argumentations?	that can be seen through monitoring. d. Yes, the tool was used to support argumentations the technical level to the political level and to the public.
<b>3. Transparency of decision-making process</b>	
a. How was the information of the dmp disseminated? - directly (decision makers – public) or indirectly (decision makers - NGO, PR company, etc. - public); sources of dissemination used (mass media, internet, brochure, etc.)	a. There was a great amount of information disseminated directly to the public about the waste management plan and the project. The department for waste management started a big campaign to inform private households about the new concept. Information sheets were also translated into 15 languages to inform people of nationalities other than Austrian living in Graz. There exists also a Webpage to inform people about the new system <a href="http://www.graz.at/umwelt/abfallwirtschaft.htm">http://www.graz.at/umwelt/abfallwirtschaft.htm</a> and <a href="http://www.oekomarkt.graz.at/">http://www.oekomarkt.graz.at/</a>
b. How was the public involved?	b. The public were not directly involved in the process but were well informed. Handouts to inform households about the aspired reduction of waste and how they could contribute to this aim were distributed.
c. Was there a public discussion over the project and at what stage of the project development?	c. No, there was no public discussion over the project, only information events.
<b>D. Expert assessment/analysis/comment of the tool effectiveness</b>	
<b>1. Assessment by tool users</b>	
a. Were there measurable improvements as a result of the tool implementation? If YES, what? If no: why not?	a. In general the department for waste management is satisfied with the Project “yellow bag”. Mistakes regarding the inclusion of incorrect materials for recycling were reduced from 25 – 30% down to about 10%.
b. Were there any spin-off’s or unintended consequences?	b. No spin offs were experienced.
c. General view on the tool? Lessons learned?	c. Very important for this success was constant information to the citizens of Graz.
d. Potentials for further use of the tool?	d. The tool could potentially be used in other cities too.
e. Will the actors recommend it or use it in other cases - why / why not?	e. Yes, they would recommend it because of the success
<b>2. Reviewer’s assessment</b> of the tool (usefulness, sustainability relevance, who are the actors excluded? etc.) Suggestions and needs for further development of the tool	It is felt that this is a very useful tool in this special situation and is a good case study.
<b>E. Additional information on the case study available</b>	
Websites	<a href="http://www.graz.at/umwelt_gesundheit">http://www.graz.at/umwelt_gesundheit</a>
References concerning the case but also the key words or problem (papers, articles, reports, laws, etc.)	
Other sources (Interviews, conferences, discussions, etc.)	<a href="http://www.graz.at/umwelt/abfallwirtschaft.htm">http://www.graz.at/umwelt/abfallwirtschaft.htm</a> <a href="http://www.oekomarkt.graz.at/">http://www.oekomarkt.graz.at/</a>