

GENERAL INFORMATION

PETUS description of tool in use						
Name of the case	Construction of Municipal Waste Water Collector No 5, Samokov Municipality					
Name of the tool	<ul style="list-style-type: none"> • Procedure for Criteria Relative Weight Evaluation (National Level) • Technical and Economic Report (TER) + Local Priority Criteria (LPC) (Municipal Level) 					
Country	Bulgaria					
City / region	Samokov Municipality					
Total area (km ²)	1209.9 sq. km					
Population	41884 inhabitants (2001)					
Density (people/km ²)	34.61 inhabitants/sq. km					
Tool user's profile	<p>a. Samokov Municipality</p> <p>b. Holistic</p> <p>c. Samokov Municipality 2000 Samokov 34, Macedonia Str Tel: +359 722 66 666 Fax: +359 722 60 050</p>					
Reviewer, date	Ina Kovacheva, last updated April 2005					
Short description of the case						
<p>The case presents the integration of two evaluation tools used at different levels (national and municipal) in order to solve the problem of an urgent waste water collector construction. It illustrates the relationship set between national and municipal priorities and presents the practical implications of the transition from one decision-making level to another.</p> <p>Samokov's Waste Water Treatment Plant (WWTP) was put in operation in 2001. For achieving its full effectiveness an urgent accomplishment of the adjacent town sewage network (six collectors) was needed. Because of the very scarce financial resources available at the moment the Municipality had to make a decision for the construction of only one of the six collectors. Using a combination of a previously used and a newly elaborated tool, the Municipality chose one of the collectors and successfully applied for financial support (50% of the sum needed for construction) to the <i>National Program on Priority Construction of Urban Waste Water Treatment Plants</i>.</p>						
To which PETUS sector issue is this case study related?						
Management and conception of urban water infrastructures						
Sector	Waste	Energy	Water	Transport	Green/blue	Building and Land use
			X			
Scale of project	Component	Building	Neighbourhood	City	Region	
			X	X		
Status of project	Starting up	Ongoing	Finished	Start date	End date (exp.)	
		X		2002	End of 2004	
Key words						
<i>sewage, waste water treatment, waste water collector, local priority criteria</i>						
Project	<p>a. Object (building, city park, wind farm, etc.)</p> <p>a. Town sewage collector.</p>					

<p>b. Type of activity (regeneration, renovation, new development, etc.)</p> <p>c. Type of product (plan, scheme, design project, etc.)</p>	<p>b. Construction.</p> <p>c. Design project.</p>
<p>Tool</p> <p>a. Character (according to WP3final0704.doc)</p> <p>b. Benchmarks (qualitative or quantitative)</p> <p>c. Availability (paid/ free)</p>	<p>a. Case-specific tools.</p> <p>b. Qualitative and quantitative.</p> <p>c. Available at request in the Municipality</p>
<p>Decision-making process</p> <p>a. Stage of the tool implementation (preliminary, midterm, etc.)</p> <p>b. Level (political, technical, etc.)</p> <p>c. Public participation</p>	<p>a. Preliminary</p> <p>b. Technical</p> <p>c. No</p>
<p>Other (optional, if needed)</p>	

DETAILED INFORMATION

A. Detailed description of project and tool	
<p>1. Description of context (existing strategies, laws, policy, action plans, etc.): EU, national, regional, municipal</p>	<p>National Strategy for the Environment and Action Plan 2000-2006</p> <p>The Strategy comprises an environment and SWOT analysis, strategic objectives, action plan and its financial support.</p> <p>The specific objectives in the water sector are to guarantee sufficient quality and quantity of water supply to both the population and the industrial enterprises by:</p> <ul style="list-style-type: none"> ▪ Overcoming the insufficiency in water provision; ▪ Water provision for irrigation; ▪ Creating awareness and commitment in efficient use of water resources; ▪ Preserving and improving the quality of underground and surface waters. <p>One of the conclusions made in the scan analysis outlined that “<i>while the water supply infrastructure is relatively well developed and covers almost all of the population, the level of development of sewage system and urban waste water treatment plants is much lower and might be assessed as unsatisfactory.</i>”</p> <p>Adopted in 1999 National Program on Priority Construction of Urban Waste Water Treatment Plants (National Program) set 19 priority actions according to the analysis results and the specific objectives. Among them 5 concern the reduction of the water pollution and the construction of the urban waste water treatment plant within the.</p>
<p>2. Description of project</p>	
<p style="text-align: center;">National level</p>	

a. Background (What caused the initiation of the project?; What was the problem? Who initiated the project?);

a. The **National Program** concerns settlements with equivalent population* over 10 000. It is currently implemented in 36 Bulgarian municipalities in order to meet a number of assessed shortcomings:

- **Unsatisfactory development** of the sewerage system and the urban waste water treatment plants (UWWTP);
- **Scarce water resources** in Bulgaria compared to other countries in Europe;
- **Pollution** in water bodies resulting in risks for the social, ecological and economic development of the country;
- **Poor technical status** and **unaccomplished construction** works of sewage systems;
- **Lack of compatibility** between existing sewage systems and waste water treatment plants;
- Considerable part of operating **UWWTPs overloaded** or not working with **full capacity**. (Fig. 1)

Element	Unit	1990	1995	1998
Population - total	thousands	8.718	8.406	8.257
Population relying on the network	thousands	5.754	5.590	5.491
Population relying on the network	%	66.0%	66.5%	66.5%
Volume of water discharged to sewage systems	Millions m ³	786	686	670
Volume of treated wastewater of sewage systems	Millions m ³	419	397	422
Volume of treated wastewater of sewage systems	%	53%	58%	63%
Capacity of wastewater treatment plants	Thousands m ³ /per day	46	50	51
Capacity of wastewater treatment plants	Millions m ³	n.a.	668	669

Fig 1. Selected data on sewage and wastewater treatment in Bulgaria (source: National Statistical Institute)

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

b. The aims of the **National Program** are: (1) defining the priorities for construction of UWWTPs downstream the rivers; (2) upgrading, reconstruction and modernisation of existing UWWTPs; (3) planning and construction of new UWWTPs. *12 criteria* (including equivalent population number, rank of the river, place of wastewater discharge etc.) were weighted according to an expert rating methodology called **Criteria Relative Weight Evaluation (CRWE)**.

c. Two stages for realisation were outlined in the **National Program** based on the financial resources available and expected:

- 1999 to 2002 – available resources from the national budget and national financial institutions;
- 2002 to 2005 – national budget sources supplemented by expected grants from EU programs.

According to the **National Program** until the end of 2005 all the UWWTPs regarded should be accomplished and functioning.

c. Time interval and stages of project realisation;

* population equivalent (p.e.) – the amount of oxygen-demanding substances whose oxygen consumption during biodegradation equals the average oxygen demand of the waste water produced by one person. For practical calculations, it is assumed that one unit equals 54 grams of BOD per 24 hours. (United Nation Statistic Division – Environment Glossary);

<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>d. The projects for UWWTP building and reconstruction are jointly supported under a co-financial scheme by:</p> <ul style="list-style-type: none"> ▪ National Budget; ▪ National Fund for Environmental Protection (NFEP); ▪ Municipal Fund for Environmental Protection – 10% of the financial support granted by NFEP. <p>The Municipality of Samokov is one of the municipalities included in the <i>National Program</i>. Its local UWWTP was chosen among 32 possible plants ranked by CRWE.</p> <p>e. At national level a direct link with the waste sector is reported. The sediments from UWWTP should be stored in specialised waste depots which are not sufficient yet. A construction program for waste depots is going on in parallel.</p>
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Municipal level

<p>a. Background (What caused the initiation of the project?; What was the problem? Who initiated the project?);</p>	<p>a. By the time the <i>National Program</i> started in 1999, the Urban Waste Water Plant of Samokov had been abandoned unfinished because of insufficient financial resources. The reasons for resuming the construction process were: (1) the number of the equivalent population (46 000 was above the minimum of 10 000 required by the <i>National Program</i>); (2) the Iskar river, where the waste water is discharged, is among the ones with highest ranking (with the strictest ecological requirements) in the country as it later provides drinking water for Sofia and flows into the Danube (Fig. 2); (3) the current high percentage of urban sewage coverage (70% of the town) and (4) the availability of an already finalised executive projects for the plant and the adjacent technical infrastructure.</p>
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Fig 2. Locality of Samokov and Iskar river

A Technical and Economic Report (TER) had been developed in late 1980s reviewing the whole sewage system of the town and the part of the collectors discharging the waste water to the planned UWWTP. It included: (i) analysis of the existing situation; (ii) argumentation for the support of future needs concerning the main and secondary sewage system collectors; (iii) design projects. TER had justified the need for six main collectors in the town.

The UWWTP was put into operation in 2001. A next step was the required urgent accomplishment of the **adjacent urban water and the sewage network** of six town collectors. The main collector (No.1) was already constructed but the rest collectors (from No.2 to No.6) discharging waste water into it were unfinished yet. In 2004 collectors No.1 and No.4 are already functioning; collector No.6 is only

<p>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>the overall estimated value.</p> <p>The value of each criterion is defined by an expert assessment. In this case the experts implementing the procedure were from the Ministry of Environment and Water.</p> <p>a. Assessment method</p> <p>b. The tool is paper-based and paid</p> <p>c. The tool represents a well-known methodology in the country and could be modified according the specific case.</p> <p>d. See A.3c - national level</p> <p>e. No information is available</p>
Municipal level	
<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>The Local Priority Criteria (LPC) were developed to complement TER for the purpose of the particular situation – selection between alternatives (construction of collector No.2 or No.5). The particular combination of both (LPC and TER) as an evaluation tool has not been used in other cases or sectors.</p> <p>The Municipality's argumentation for choosing Collector No. 5 includes four groups of local priority criteria:</p> <ul style="list-style-type: none"> ▪ Degree of project accomplishment – a ready design project within TER; ▪ High social importance and health: <ul style="list-style-type: none"> (1) the current lack of sewage in a residential quarter inhabited by a Roma ethnic minority was expected to cause serious health problems; (2) the construction of the collector would provide for accomplishing the waste water system of a newly built residential quarter, too; ▪ Technological requirements to UWWTP: <ul style="list-style-type: none"> (1) the collector should discharge additional waste water and should facilitate the efficient operation of the UWWTP; (2) the construction of collector No5 would be easier than that of collector No2, which would serve the historical centre of the town and would take more time and resources to go through the existing urban fabric. ▪ Environmental benefits - effectively diminishing environmental risks by reducing river pollution and matching the project indicator for water purity. <p>The criteria were defined to facilitate the evaluation when choosing between two options. No particular procedure was adopted for the evaluation process.</p> <p>The construction of collector No.5 started in stage III (2001-2003).</p> <p>a. Case-specific tool</p> <p>b. Paper-based tool.</p> <p>c. The tool is based on an existing tool (TER) modified for the purpose of the project.</p> <p>d. The tool is created by municipal experts.</p> <p>e. The Master Plan of Samokov and the Comprehensive Development Scheme of Samokov Municipality were used to define the exact collector traces and to identify the impact areas</p>
B. Tool implementation	

1. Argumentation for choosing the tool	
	National level: Procedure for Criteria Relative Weight Evaluation
<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 of 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 need for urgent action concerning the reduction of pollution in rivers and the limited financial resources demanded the use of a tool by which to define priorities in UWWTP construction.</p> <p>b. The initiative was undertaken by the Ministry of Environment and Waters according to UN and EU requirements for sustainable water use.</p> <p>c. The <i>National Program</i> requires the tool implementation. The <i>National Program</i> is adopted in accordance with EU directives (?? (97)49, ?? 91/271/???, ?? 76/464/???, ?? 79/923/???, ?? 76/160/???, etc).</p> <p>d. No information available</p>
	Municipal level : Technical and Economic Report (TER) + Local Priority Criteria (LPC)
<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 of 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. Voluntary - the opportunity given by the <i>National Program</i> required good support when applying for grants. The TER and the LPC proved to be relevant for the specific conditions in the town of Samokov</p> <p>b. The initiative for development of the tool was undertaken by the Municipality.</p> <p>c. The tool needed to provide an assessment for choosing one of the two needed collectors to discharge waste water to the newly-built UWWTP. The Municipality had to decide which of the two collectors was more urgently needed by the town and its sewage infrastructure. The tool applied was a combination of the Technical and Economic Report (TER) and formulated LPC (taking into account the current local conditions in the town).</p> <p>d. Several studies on the sewage system in the town had been undertaken in the past twenty years. These provided the basis for the development of particular projects. These studies and projects included technical and economic evaluation tools which were strongly considered while accomplishing TER.</p>
2. Barriers for the tool implementation	
<p>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>National level No barriers and problems were reported up to 2004.</p> <p>Municipal level One of the criteria included in the evaluation tool at the national level is "ownership". The projects competing for funding need to clearly indicate the ownership on land, buildings and infrastructure. However, currently because of the transition period the ownership on the town sewage system is not clearly divided between the State and the municipalities.</p>
C. Influence of the tool on the decision-making process	
1. Description of the decision-making process/ procedures	
	National Level
<p>a. Stages</p>	<p>Actors involved in decision-making process (national and municipal levels): Ministry of Environment and Waters (Consultative Council), Municipality of Samokov, <i>Samokovconsult</i> Ltd.</p> <p>The procedure structures arguments for the National Fund for Environmental Protection (NFEP) in the decision-making process for granting municipal projects within the <i>National Program</i>.</p> <p>a. Stages:</p> <ul style="list-style-type: none"> ▪ Municipalities submit applications for financial support to a Consultative Council

<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>at the Ministry of Environment and Waters (MoEW) also comprising experts from the Ministry of Regional Development and Public Works;</p> <ul style="list-style-type: none"> ▪ The Consultative Council ranks the applications and makes the decision for providing grants; ▪ The Consultative Council proposes the grants to be included in the State Budget. <p>b. The Consultative Council made a technical decision; the political decision was made by the Council of Ministers through the proposed state budget.</p> <p>c. No information available</p> <p>d. The political decision makers are the Council of Ministers (national level) and Municipal Council (local level). The technical decision makers are the Consultative Council (national level) and the Municipality of Samokov (local level).</p> <p>e. The final decision for application approval was made by the Consultative Council (expert decision), but it took effect after the approval of the State Budget (political decision).</p>
<p align="center">Municipal Level</p>	
<p>a. Stages</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>a. Stages:</p> <ul style="list-style-type: none"> ▪ The municipal experts (Water And Sewage Department) with the assistance of Samokovconsult Ltd developed and proposed the collector construction projects to be approved by the Municipality; ▪ The Municipality made a proposal to the Municipal Council for approval; ▪ The Municipal Council approved the proposal (municipal level) and the Municipality submitted its grant application to the Consultative Council (national level). <p>b. Consecutive technical (by municipal experts) and political (by the Municipal Council) steps were undertaken;</p> <p>c. No information available</p> <p>d. The Municipal Council, the Municipality, municipal experts (water and sewage department)</p> <p>e. The Municipal Council, political one</p>
<p>2. Tool in decision-making process</p>	
<p align="center">National level</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>d. Was the tool used to</p>	<p>a. The tool was implemented at the initial stage of The <i>National Program</i> realisation by the Consultative Council before grant approval.</p> <p>b. The output of the tool is used as support for:</p> <ul style="list-style-type: none"> ▪ including grants in the State Budget; ▪ decision making support for NFEP (when it is included as a financial donor); ▪ financing by EU programs. <p>In some cases the tool output demands additional expert evaluation.</p> <p>c. The main quantitative goal was the reduction of pollutants of the Iskar River. The benchmarks were defined by national Regulation No. 9 on the Quality of Water Intended for Drinking and Domestic Purposes.</p> <p>d. yes –see b.</p>

support argumentations?	
	Municipal level
<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>d. Was the tool used to support argumentations?</p>	<p>a. The TER and the LPC were implemented by municipal experts (Water and Sewage Department) in the initial stage of project development. It was used for choosing between two options namely the construction of collectors No5 or No2 as funds were not available to construct both.</p> <ul style="list-style-type: none"> ▪ Monitoring during operation of the UWWTP and the town collectors. <p>b. Successfully meeting the criteria of the <i>National Program</i>, TER and the municipal priority criteria present the basis for decision-making which concerns:</p> <ul style="list-style-type: none"> ▪ municipal applications for financial support from the national or the NFEP budget; ▪ project propositions for EU financial support; ▪ management of the construction process; <p>c. The technical parameters included in TER served as benchmarks during the construction of the collectors and the whole town sewage system as it was developed in compliance with Bulgarian National Standard on waste water and sewage systems and the particular conditions in the town.</p> <p>d. yes – see b.</p>
3. Transparency of decision-making process	
	National level
<p>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.)</p> <p>b. How was the public involved?</p> <p>c. Was there a public discussion over the project and at what stage of the project development?</p>	<p>a. Information was disseminated directly to the Municipalities and general public by mass media and by Internet in the site of the Ministry of Environment and Waters.</p> <p>b. No information available</p> <p>c. No information available</p>
	Municipal level
<p>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.)</p> <p>b. How was the public involved?</p> <p>c. Was there a public discussion over the project and at what stage of the project development?</p>	<p>a. The information was disseminated directly by the Municipality. An announcement for the project grant was published in the local newspapers.</p> <p>b. No information available</p> <p>c. No information available</p>
D. Expert assessment/analysis/comment of the tool effectiveness	
1. Assessment by tool users	
	National level

<p>a. Were there measurable improvements as a result of the tool implementation? If YES, what? If no: why not?</p> <p>b. Were there any spun-off's or unintended consequences?</p> <p>c. General view on the tool? Lessons learned?</p> <p>d. Potentials for further use of the tool?</p> <p>e. Will the actors recommend it or use it in other cases - why / why not?</p>	<p>a. After using the <i>Procedure for Criteria Relative Weight Evaluation</i>, a list of priority UWWTPs for construction was set and the implementation of the <i>National Program on Priority Construction of Urban Waste Water Treatment Plants</i> started. As a result of the construction of the plants the pollution of the main streams in the <i>National Program</i> was considerably reduced.</p> <p>b. An updated database for all the UWWTP was gathered including schemes of all river basins and the points of water quality monitoring, documentation (so called "Passports") of accomplished and unfinished UWWTPs etc.</p> <p>c. The tool provides for identifying the municipalities (the cities or towns in particular) that are the main polluters of rivers and have no UWWTP. To this end it defines the priorities for the construction of UWWTPs downstream.</p> <p>d. The tool can be implemented in different programmes and in other urban sectors, after modifying the criteria to meet specific infrastructure requirements.</p> <p>e. The interviewed municipal experts in Samokov estimate the <i>Criteria Relative Weight Evaluation</i> as a successful one but they recommend including more social criteria when determining the priority for UWWTP in order to increase awareness about the social impacts of decision making related to waste water treatment and the resulting quality of water.</p>
<p align="center">Municipal level</p>	
<p>a. Were there measurable improvements as a result of the tool implementation? If YES, what? If no: why not?</p> <p>b. Were there any spun-off's or unintended consequences?</p> <p>c. General view on the tool? Lessons learned?</p> <p>d. Potentials for further use of the tool?</p> <p>e. Will the actors recommend it or use it in other cases - why / why not?</p>	<p>a. Due to the implementation of the tool the municipality succeeded to determine its own priority for the construction of the town sewage collectors and argued the need for additional financing.</p> <p>b. No information available up to now</p> <p>c. The LPC provide an opportunity for Bulgarian municipalities to apply for additional grants supporting UWWTP and sewage system construction.</p> <p>d. The LPC are very helpful because they are flexible and can be modified according to particular infrastructural sectors, local needs and dynamic changes in Municipalities.</p> <p>e. The tool was useful for the municipality but it has to be improved with regard to public involvement in the decision-making process in order to contribute to the transparency of the priority procedure.</p>
<p>2. Reviewer's assessment</p>	
<p>Usefulness, sustainability relevance, who are the actors excluded etc. of the tool.</p> <p>Suggestions and needs for further development of the tool</p>	<p>National level</p> <p>This includes too general expert evaluation of social aspects, no public discussion mechanisms included, no particular benchmarks of social benefits envisaged.</p> <p>It is important to outline that such National Programs could be useful only if made relevant to the cases in many Bulgarian settlements where the urban infrastructure system is owned by the state, yet the municipality takes the responsibility for its maintenance. The Programmes would provide an opportunity for the towns to argument needed co-financing.</p> <p>Municipal level</p> <p>TER is comprehensible only for the technical experts. The development of an approach which explains the outputs from the tool to the general public and makes the decision-making process more transparent, would contribute for a better communication between the Municipality and the citizens.</p>
<p align="center">E. Additional information on the case study available</p>	
<p>Websites</p>	<p>National Association of Municipalities in the Republic of Bulgaria http://www.namrb.org/invest/obinfo.php?obid=213</p> <p>Info media http://samokovinfomedia.com/</p> <p>National Trust Ecofund http://www.ecofund-</p>

	bg.org/index.php?mainPageId=79&changeLanguageId=2&PHPSESSID=2eede839686b41f2bacda235eb8f5b06
References concerning the case but also the key words or problem (papers, articles, reports, laws, etc.)	National Strategy for the Environment and Action Plan 2000-2006 National Program on Priority Construction of Urban Waste Water Treatment Plants
Other sources (Interviews, conferences, discussions, etc.)	Interviews Evelina Perfanova – engineer, Head, Department of Construction and Investment, Municipality of Samokov (4 th March 2004) Katia Maslarska – engineer, Municipal <i>Samokovkonsult</i> company (4 th March 2004)
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