
Environment and Climate Regional Accession Network (ECRAN)

Report on National Roundtable on Cost recovery and Cost Benefit Analysis in Waste Sector

30-31 March 2016, Sarajevo

ENVIRONMENT AND CLIMATE REGIONAL NETWORK FOR ACCESSION - ECRAN

WORKSHOP REPORT

Activity 2.2

**NATIONAL ROUNDTABLE ON COST RECOVERY AND COST BENEFIC ANALYSIS IN
WASTE SECTOR**

30-31 March 2016, Sarajevo, Bosnia and Herzegovina



This Project is funded by the
European Union



A project implemented by
Human Dynamics Consortium

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LIST OF ABBREVIATIONS	
B/C	Benefit / Cost ratio
BIH	Bosnia and Herzegovina
CBA	Cost Benefit Analysis
ENPV	Economic Net Present Value
ERR	Economic Rate of Return
EU	European Union
IPA	Instrument for Pre-accession Assistance
IRR	Internal Rate of Return
MBT	Mechanical-biological Treatment
MWM	Municipal Waste Management
NPV	Net Present Value
SIDA	Swedish International Development Cooperation Agency
UN	United Nations



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I. Background/Rationale

Waste Framework Directive requires that, in accordance with the polluter-pays principle, the costs of disposing of waste must be borne by the holder of waste, by previous holders or by the producers of the product from which the waste came. Also the cost shall be allocated in such a way as to reflect the real costs to the environment of the generation and management of waste.

Landfill directive requires that Member States shall take measures to ensure that all of the costs involved in the setting up and operation of a landfill site, including as far as possible the cost of the financial security and the estimated costs of the closure and after-care of the site for a period of at least 30 years shall be covered by the price to be charged by the operator for the disposal of any type of waste in that site.

Such requirements call for sound cost recovery mechanisms and use of economic instruments to reflect real environmental costs.

Supporting efforts for establishment of cost recovery mechanisms **ECRAN Regional workshop on Cost recovery in waste sector** took place 18 - 19 March 2015 in Tirana, Albania. Few selected conclusions included:

- There is no single model for cost recovery and how it shall be established. Very much depends on national situation, traditions, waste management goals, market maturity, etc.;
- Polluter pays principle implementation step by step starting with O&M costs and later adding investment costs (affordability and political acceptability);
- Financial support does not solve the long-term and continuous operation of the system. The main source of financing – waste management tariffs;
- There are differences among countries how environmental costs (landfill tax or other instruments) are applied and impact cost recovery;
- Getting prices right can encourage development of infrastructure using private funds;
- It is important to have various services as economic units – landfill, incinerator, MBT, collection – with full costs accountancy and recovery;
- Regional solidarity principle:
 - a. municipal waste management tariff should not depend on the distance to the regional waste management facilities
 - b. price should be the same for all municipal waste holders of the region if they have the same scope and quality of the services
- It is important, that municipalities continue being involved into collecting tariffs:
 - a. They are better informed about the situation
 - b. Municipalities get more influence on waste management services
 - c. Better acceptance for people.
- Regional authorities may support municipalities in implementation of their functions:
 - a. to present the calculation of tariffs for MWM to municipality and collect them after approval of the council of municipality;
- Some countries have methodologies for setting tariffs for municipal waste collection from waste holders and waste management;



- Attention shall be paid to costs of waste collection. Collection of waste may make up to 60% of total costs, while landfilling – only about 10%;
- Flat fee rates are more easy to control, but they do not provide economic interest for minimisation of landfilling;
- Economic incentive to shift from landfilling to other methods of treatment is not possible without landfill tax.

Countries in the region still lack well established methodologies for cost recovery. This problem is growing with each new investment into waste management operations. Economic instruments, except of packaging charges, are almost not used. Landfill taxes or similar instruments, which would support recycling and divert waste from landfilling are still to be developed.

Considering such a situation national roundtables are organised in beneficiary country in order to better reflect national situation and needs in developing cost recovery systems in waste sector.



II. Objectives of the training

General Objective

To provide practical knowledge on experience of the EU Member States and support establishment of cost-recovery mechanism in the country.

Specific Objectives

- To establish common understanding on main terms, definitions and principles for cost recovery in waste sector;
- To present experience of the Member States having different models of cost recovery;
- To present and discuss legal basis and institutional mechanisms for tariff setting;
- To analyse impacts of cost recovery for investment projects planning;
- To familiarise with cost – benefit analysis and application of it in waste management sector;
- To provide information on economic incentives for better waste management supporting achievement of waste recycling, biodegradable waste diversion and other targets as required by the EU waste management law;
- To identify steps for establishment of national cost recovery system in waste sector;
- To present CBA requirements and analyse relation of CBA to cost recovery in waste sector.

Results/outputs

The expected results are:

- Delivery of presentations as foreseen in the agenda;
- Established/ improved knowledge base regarding cost recovery mechanisms;
- Established/ improved knowledge base regarding economic instruments in waste management sector;
- Increased experience in cost benefit analysis;
- Practical knowledge and experience in financial analysis.



III. EU policy and legislation covered by the training

- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste;
- Council Directive 99/31/EC of 26 April 1999 on the landfill of waste;
- Directive 94/62/EC of the European Parliament and of the Council on 20 December 1994 on packaging and packaging waste

Waste Framework Directive

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. This Directive repealed Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste (the codified version of Directive 75/442/EEC as amended), hazardous waste Directive 91/689/EEC, and the Waste Oils Directive 75/439/EEC. It provides for a general framework of waste management requirements and sets the basic waste management definitions for the EU sets the basic concepts and definitions related to waste management, such as definitions of waste, recycling, recovery. It explains when waste ceases to be waste and becomes a secondary raw material, the so called end-of-waste criteria, and how to distinguish between waste and by-products. The Directive lays down some basic waste management principles: it requires that waste be managed without endangering human health and harming the environment, and in particular without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest. Waste legislation and policy of the EU Member States shall apply as a priority order the following waste management hierarchy:

- Prevention;
- Preparing for re-use;
- Recycling;
- Recovery;
- Disposal.

The Directive introduces the "polluter pays principle" and the "extended producer responsibility". It incorporates provisions on hazardous waste and waste oils, and includes two new recycling and recovery targets to be achieved by 2020: 50% preparing for re-use and recycling of certain waste materials from households and other origins similar to households, and 70% preparing for re-use, recycling and other recovery of construction and demolition waste. The Directive requires that Member States adopt waste management plans and waste prevention programmes.

Landfill Directive

Council Directive 99/31/EC of 26 April 1999 on the landfill of waste - The Landfill Directive defines the different categories of waste (municipal waste, hazardous waste, non-hazardous waste and inert waste) and applies to all landfills, defined as waste disposal sites for the deposit of waste onto or into land. Landfills are divided into three classes:

- landfills for hazardous waste;
- landfills for non-hazardous waste;
- landfills for inert waste.



The Directive does not apply to:

- the spreading on the soil of sludge (including sewage sludge and sludge resulting from dredging operations);
- the use in landfills of inert waste for redevelopment or restoration work;
- the deposit of unpolluted soil or of non-hazardous inert waste resulting from prospecting and extraction, treatment and storage of mineral resources as well as from the operation of quarries;
- the deposit of non-hazardous dredging sludge alongside small waterways from which they have been dredged and of non-hazardous sludge in surface water, including the bed and its subsoil.

A standard procedure for the acceptance of waste in a landfill is laid down so as to avoid any risks, including:

- waste must be treated before being landfilled;
- hazardous waste within the meaning of the Directive must be assigned to a hazardous waste landfill;
- landfills for non-hazardous waste must be used for municipal waste and for other non-hazardous waste;
- landfill sites for inert waste must be used only for inert waste;
- Criteria for the acceptance of waste at each landfill class must be adopted by the Commission in accordance with the general principles of Annex II.

Packaging Directive

The Directive obligates member states to meet targets for the recovery and recycling of packaging waste. The Directive covers all packaging placed on the Community market. In 2010, an estimated 98.6 billion plastic carrier bags were placed on the EU market, which amounts to every EU citizen using 198 plastic carrier bags per year. Out of these almost 100 billion bags, the vast majority are lightweight bags, which are less frequently re-used than thicker ones.

In 2004, the Directive was amended to provide criteria clarifying the definition of the term 'packaging' and increase the targets for recovery and recycling of packaging waste. In 2005, the Directive was revised again to grant new Member States transitional periods for attaining the recovery and recycling targets. In 2013 Annex I of the Directive containing the list of illustrative examples of items that are or are not to be considered as packaging was revised in order to provide more clarity by adding a number of examples to the list.

The Directive is to be amended in 2015.



IV. Highlights from the training workshop

National Roundtable on Cost recovery and CBA in Waste Sector took place 30 – 31 March 2016 in Sarajevo, Bosnia and Herzegovina (Hotel Bristol Sarajevo, Fra Filipa Lastrica 2, 71000 Sarajevo, BiH). Agenda of the roundtable is presented in annex 1. EU legislation covered during the workshop includes Waste framework Directive, Landfills Directive, Packaging and packaging waste Directive and the relevant implementing national legislation.

First day of the roundtable was dedicated to the discussion on the **cost recovery issues in waste sector**. Following presentations were delivered:

1. Welcome and opening - Nermina Skejović – Hurić. Ministry of Foreign Trade and Economic Relations B&H. Department for Environmental Protection.
2. Introduction to the agenda - Mr. Arunas Kundrotas. ECRAN SPIWG Coordinator.
3. Developing municipal solid waste management sector – Nermina Skejović – Hurić. Ministry of Foreign Trade and Economic Relations B&H. Department for Environmental Protection.
4. Implementation of investment projects in B&H supported by the World Bank.
5. Cost recovery and tariffs setting. MS experience. Estonia - Peeter Eek, Ministry of Environment, Head of Waste Management Department, Estonia
6. Cost recovery and tariffs setting. MS experience. Italy - Francesco Loro, Waste management expert at Environmental Protection Agency of Veneto, Italy
7. Cost recovery and tariffs setting. MS experience. Lithuania - Rasa Uselyte, European Union Funds Management Division, Ministry of Environment, Lithuania
8. National roundtable regarding establishing cost recovery system in Republic of Serbia

Some issues discussed regarding host country include:

- Responsibilities of Bosnia and Herzegovina within the EU accession process;
- Results within the environment – trends in approaching the EU;
- Progress monitoring results regarding transposition of waste sector directives;
- Progress in developing sectoral strategic documents;
- Legal Framework for environmental protection in Bosnia and Herzegovina;
- Waste Management Situation in BiH, system establishment and EU standards including:
 - Low level of services coverage – 68%,
 - Low level of waste selection – 5%,
 - Small number of municipalities that dispose to arranged depots – 10%,
 - Great number of illegal dumping sites – 650,
 - Small number of refurbished municipal depots – 3,
 - Failure in achieving planned goals (all levels of environmental authorities in BiH),
 - Various areas in BiH does not have regional infrastructure for waste management,
 - Municipalities dispose of waste at unsanitary landfills. Legal deadline for closing illegal disposal sites was 2008/2011 – process still not finished,
 - Mechanical-biological treatment plant (MBO) in: Tuzla, Konjic, Brčko and Mostar, currently are operating as a sorting plant,
- Financing sources:
 - World bank: Phase I: 2002-2010. Total 24,8 mil EUR and 4,3 co-financing of entities,
 - World Bank: Phase II: 2009-2017. 40 mil \$ and co-financing 2 mil \$,
 - IPA 2008: 5 Feasibility Studies and 6 Localization Studies: 1 million,



- IPA I – 2010, Banja Luka; Mostar; Neum, Srebrenik, Bosanska Krupa and Sarajevo: 10,7 mil EUR,
- SIDA (44 municipalities.): 2010 – 2015. 10 mil EUR.
- Prices:
 - There is no unique pricing policy at the Canton level;
 - Public utilities' services price issue has not been clearly regulated within the decisions on public utility activities of local autonomy units,
 - Most municipalities have not made decision on establishment of measure unit and regulation of the way of pricing for public utilities services products and services in the manner established with regulations of the cantonal Laws on public utilities' activities,
 - Actual prices of waste disposal are not economically justified, and usually do not cover cost of urban waste disposal activities implementation,
 - Weak financial solvency of a certain number of beneficiaries from the households category. None of the municipalities has a clearly established social policy to subsidize those households categories,
 - EU/UN: affordability – waste - households 1-2% of income, i.e. in BiH 5-10 KM/on monthly basis,
 - Municipal estimation is that 10% percent of population can not afford present service tariffs,
 - Operational cost 30 - 40 KM / on monthly basis per household.
- Suggestions for sustainable system - gradual increase of households fees from 50% in order to cover direct cost,
- National level strategy for waste management is needed.

Experience of EU Member States discussed include:

- Tariff methodologies applied in each country;
- Examples of tariff calculations;
- Gate fee calculations;
- Methods of cost recovery systems:
 - Municipal tax system,
 - Tariff system,
 - Public tender for lowest price for acceptable standard.
- Methods of setting tariffs:
 - Per m²;
 - Per households;
 - Per ton.
- PAYT application, incentive role and problems faced with the introduction;
- Economic instruments applied;
- Tariff/ local tax collection arrangements;
- Fine systems for failing to comply with requirements;
- Relation of cost recovery with achievement of targets.

Second day was dedicated to the cost – benefit analysis of investment projects in waste sector. Participants were introduced to the main CBA issues as seen from the evaluator side, evaluation methodology and main CBA development aspects including:



- Option identification;
- Feasibility analysis;
- Option selection;
- Financial analysis;
- Steps of the financial analysis;
- Investment costs;
- Reinvestment costs;
- Calculation of residual value;
- Depreciation;
- Reference period (not more than 30 years);
- Determination of operating costs and revenues;
- Specific cost recovery issues;
- Calculation of the financial indicators:
 - Return on investment
 - Net present value (NPV (C))
 - Internal rate of return (IRR (C))
 - Return on invested capital
 - Net present value (NPV (K))
 - Internal rate of return (IRR (K))
- Sources of financing and sustainability;
- Economic analysis;
- Fiscal corrections;
- Approach to inflation;
- From market to shadow prices;
- Examples of market distortions;
- Assessment of external effects;
- Economic indicators;
- Calculation of the economic performance indicators:
 - Social discount rate
 - Economic Net Present Value (ENPV) (ENPV should be more than 0)
 - Economic Rate of Return (ERR) (ERR should be more than 5 %);
 - Benefit/Cost ratio (B/C) (B/C ratio should be more than 1);
- Sensitivity analysis;
- Risk analysis;
- Assessing of financing gap;
- Cost-benefit analysis of major projects.

Practical aspects of CBA application were demonstrated using simplified calculation examples. Session was delivered by ECRAN Short Term Expert assoc. professor, Dr. Sarunas Bruzge.

Roundtable discussion conclusions

1. Development of national level waste management strategy/ plan would provide basic structure for waste management in B&H;
2. Development of the national Tariff Methodology would facilitate cost recovery situation. This could be guidance document for municipalities. Elaboration of draft waste tariff methodology (or other alternative methods like municipal tax) is needed to facilitate discussion with regions/ municipalities. Currently such activity is not planned;



3. Municipalities would benefit from such discussion regarding cost recovery issues and methods. Could be delivered several workshops for municipalities;
4. Low tariff level is mainly hampered by political acceptability when affordability is very low. Needed gradual increase of tariffs and social policy to those who can not pay;
5. Expected improvements after establishment of regional systems, but more effort is needed to provide guidance for set – up of such systems (components of these systems);
6. Currently affordability rate is not established. 1 – 2% is taken as guidance provided by international organisations. Would be important to set the affordability rate at national level. This would facilitate development of investment projects;
7. Waste management systems financed with the support of the loan component speeds up establishment of required infrastructure, but faces affordability problem. Blending with grant resources is needed to reduce pressure on recovery system which exceeds affordability levels rather substantially;
8. More effort shall be concentrated on the separation and reduction of waste stream to landfilling. Good practices are available. Simple systems could be established first. Not to start with very complicated difficult to implement requirements.

Most important next steps

- Developing and approving national waste management strategy/ plan including clear description of the regional system and step-wise plan for establishment;
- Look for possibilities to blend loans and grant resources to reduce pressure on cost recovery system and make it affordable;
- Organising process for the development of the national waste management tariff methodology and discussion with municipalities regarding need of cost recovery system.

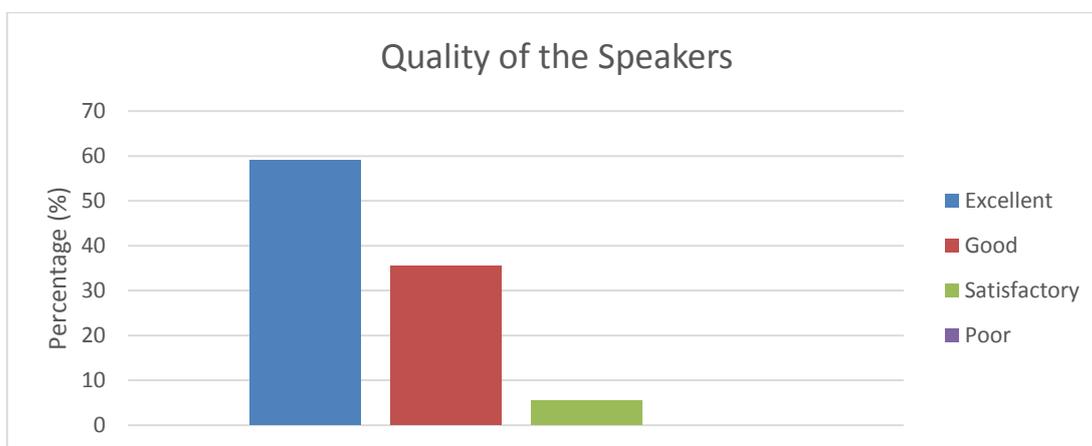
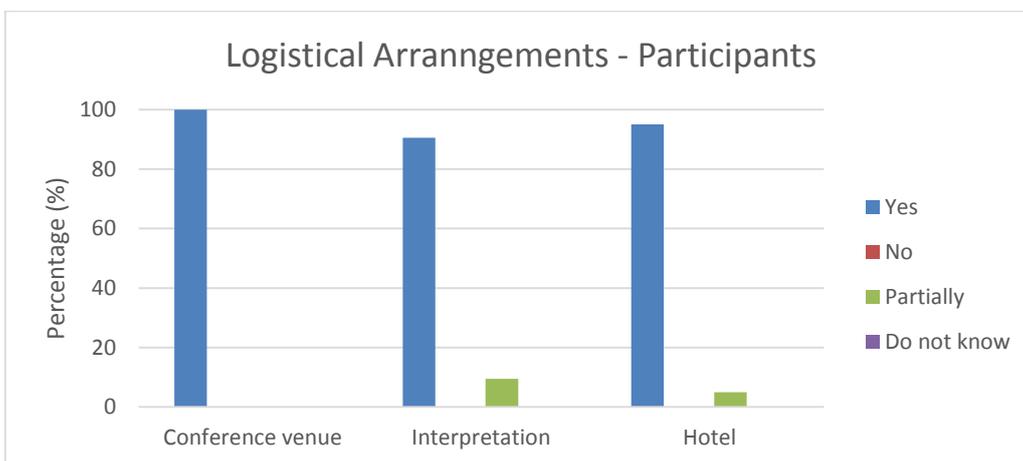
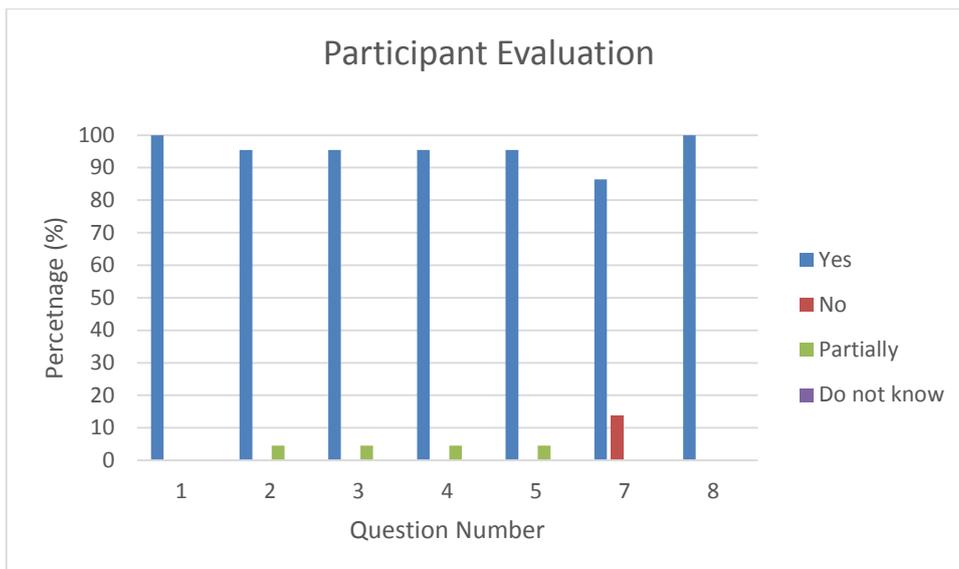


V. Evaluation

Workshop – Participants’ Evaluation

Question	N°. Responses	Yes	No	Partially	Do not know	
1. Was the workshop carried out according to the agenda	22	22 (100)%	0 (0)%	0 (0)%	N/A	
2. Was the programme well structured?	22	21 (95)%	0 (0)%	1 (4)%	N/A	
3. Were the key issues related to the topics addressed?	22	21 (95)%	0 (0)%	1 (4)%	N/A	
4. Did the workshop enable you to improve your knowledge?	22	21 (95)%	0 (0)%	1 (4)%	N/A	
5. Was enough time allowed for questions and discussions?	22	21 (95)%	0 (0)%	1 (4)%	N/A	
6. How do you assess the quality of the speakers?	Speaker/Expert	N°. Responses	Excellent	Good	Satisfactory	Poor
	5	110	65 (59)%	39 (35)%	6 (5)%	0 (0)%
Question	N°. Responses	Yes	No	Partially	Do not know	
7. Do you expect any follow-up based on the results of the workshop (new legislation, new administrative approach, etc.)?	22	19 (86)%	3 (13)%	N/A	N/A	
8. Do you think that further TAIEX assistance is needed (workshop, expert mission, study visit, assessment mission) on the topic of this workshop?	18	18 (100)%	0 (0)%	N/A	N/A	
9. Were you satisfied with the logistical arrangements, if applicable?	Conference venue	22	22 (100)%	0 (0)%	0 (0)%	0 (0)%
	Interpretation	21	19 (90)%	0 (0)%	2 (9)%	0 (0)%
	Hotel	20	19 (95)%	0 (0)%	1 (5)%	0 (0)%
Comments: <ul style="list-style-type: none"> • No comments; • It is satisfactory workshop with a lot of recommendations for the further work; • I received very useful information on how to form the tariffs. Particularly useful was the presentation of 2. Day meeting because I amended knowledge about CBA; • I think that cost benefit analysis is not needed in such detail to be processed, as the participants of the workshop will have no opportunity to do so, or if they will be involved, it will be only partly. 						

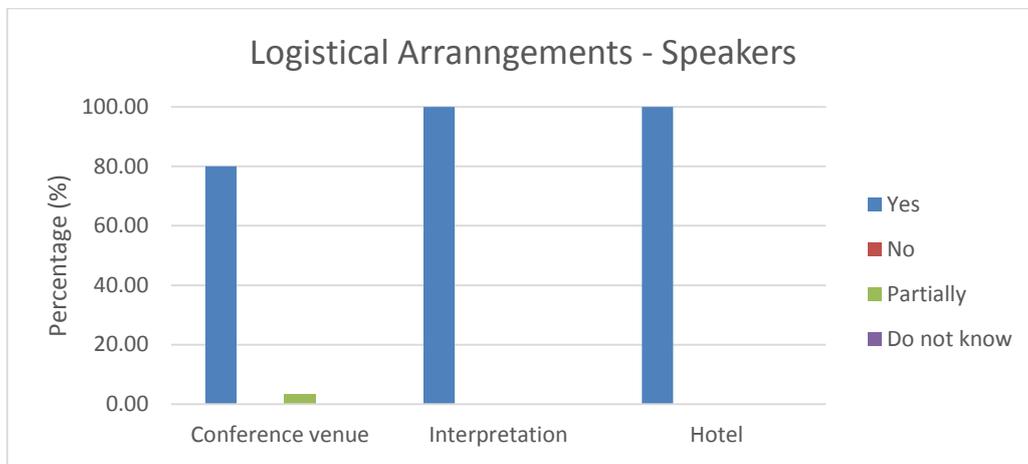
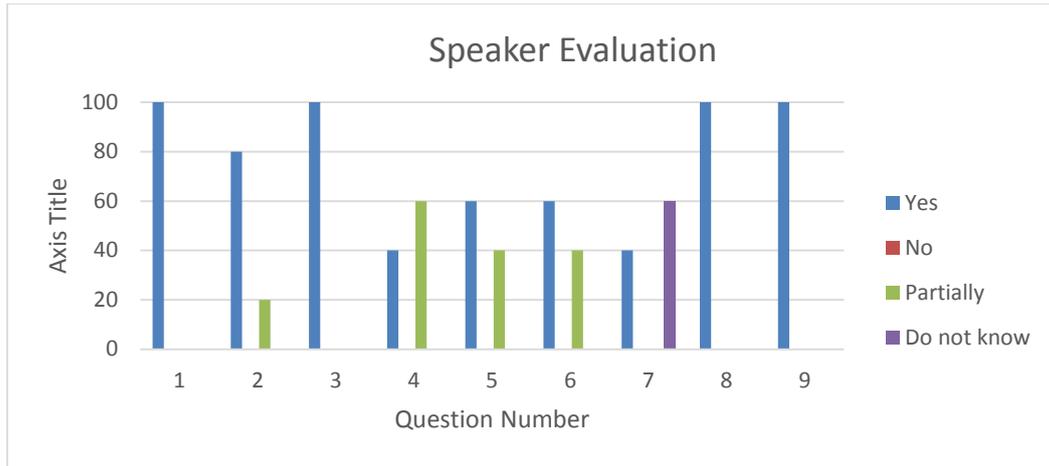




Workshop – Speakers’ Evaluation

Question		N°. Responses	Yes	No	Partially	Do not know
1. Did you receive all the information necessary for the preparation of your contribution?		5	5 (100)%	0 (0)%	0 (0)%	N/A
2. Has the overall aim of the workshop been achieved?		5	4 (80)%	0 (0)%	1 (20)%	N/A
3. Was the agenda well structured?		5	5 (100)%	0 (0)%	0 (0)%	N/A
4. Were the participants present throughout the scheduled workshop?		5	2 (40)%	0 (0)%	3 (60)%	N/A
5. Was the beneficiary represented by the appropriate participants?		5	3 (60)%	0 (0)%	2 (40)%	N/A
6. Did the participants actively take part in the discussions?		5	3 (60)%	0 (0)%	2 (40)%	N/A
7. Do you expect that the beneficiary will undertake follow-up based on the results of the workshop (new legislation, new administrative approach etc.)		5	2 (40)%	0 (0)%	N/A	3 (60)%
8. Do you think that the beneficiary needs further TAIEX assistance (workshop, expert mission, study visit, assessment mission) on the topic of this workshop?		5	5 (100)%	0 (0)%	N/A	N/A
9. Would you be ready to participate in future TAIEX workshops?		5	5 (100)%	0 (0)%	N/A	N/A
10.If applicable, were you satisfied with the logistical arrangements?	Conference venue	5	4 (80)%	0 (0)%	1 (20)%	0 (0)%
	Interpretation	5	5 (100)%	1 (33)%	0 (0)%	0 (0)%
	Hotel	5	5 (100)%	0 (0)%	0 (0)%	0 (0)%
Comments: <ul style="list-style-type: none"> Participants should be informed about the event earlier. 						





ANNEX I – Agenda

Day 1 : 30 March 2016

Topic: ECRAN Task 2.2.3 Cost recovery and tariff setting (or economic/financial analysis). Subtask 2. National roundtables on cost recovery

Chair and Co-Chairs: Nermina Skejović – Hurić, BiH, Arunas Kundrotas, ECRAN

Venue: Hotel Bristol, Sarajevo

Start	Finish	Topic	Speaker	Sub topic/Content	
08:30	09:00	Registration			
09:00	09:10	Welcome and opening	Nermina Skejović – Hurić, Ministry of Foreign Trade and Economic Relations. Department for Environmental Protection		
09:10	09:20	Introduction of the agenda	Mr. Arunas Kundrotas ECRAN SPIWG Coordinator	<ul style="list-style-type: none"> • Presentation and adoption of the agenda • Introduction to the purpose of the workshop and its expected outcomes 	
09:20	09:40	Developing municipal solid waste management sector	Nermina Skejović – Hurić, Ministry of Foreign Trade and Economic Relations. Department for Environmental Protection	<ul style="list-style-type: none"> • Short description of the sector • Current cost recovery system (tariffs methodology and setting procedures, levels) • Developing waste management system, infrastructure components • Challenges Method : PPP and Q&A	
09:40	10:00	Cost recovery system as proposed in waste	Representative of the World Bank financed project. BiH	<ul style="list-style-type: none"> • Short description of the investment project • Proposed cost recovery mechanism Method : PPP and Q&A	



		management investment project		
10:00	10:30	Discussion	All participants	<ul style="list-style-type: none"> •Challenges in developing cost recovery mechanisms Method : moderated discussion
10:30	11:00	Coffee Break		
11:00	11:45	Cost recovery and tariffs setting. MS experience. Estonia	Peeter Eek, Ministry of Environment, Head of Waste Management Department, Estonia	<ul style="list-style-type: none"> •Cost recovery system – what shall be recovered? •Tariffs setting procedures and methodology •Institutional system for cost recovery Method : PPP and Q&A
11:45	12:30	Cost recovery and tariffs setting. MS experience. Italy	Francesco Loro, Waste management expert at Environmental Protection Agency of Veneto, Italy	<ul style="list-style-type: none"> •Cost recovery system – what shall be recovered? •Tariffs setting procedures and methodology •Institutional system for cost recovery Method : PPP and Q&A
12:30	13:00	Discussion	All participants	<ul style="list-style-type: none"> •What is applicable to the national situation? Method : moderated discussion
13:00	14:00	Lunch Break		
14:00	14:45	Cost recovery and tariffs setting. MS experience. Lithuania	Rasa Uselyte, European Union Funds Management Division, Ministry of Environment, Lithuania	<ul style="list-style-type: none"> •Cost recovery system – what shall be recovered? •Tariffs setting procedures and methodology •Institutional system for cost recovery Method : PPP and Q&A
14:45	15:00	Discussion		<ul style="list-style-type: none"> •What is applicable to national situation? Method : moderated discussion
15:00	15:30	Coffee Break		
15:30	16:15	National roundtable		Method : moderated discussion



		regarding establishing cost recovery system		
16:15	16:30	Wrap up	Mr. Arunas Kundrotas, ECRAN SPIWG Coordinator	Key points of discussions and next steps

Day 2 : 31 March 2016

Topic: ECRAN Task 2.2.3 Cost recovery and tariff setting (or economic/financial analysis). Subtask 2. National roundtables on cost recovery. Introduction to cost benefit analysis requirements

Chair and Co-Chairs: Nermina Skejović – Hurić, Arunas Kundrotas

Venue: Hotel Bristol, Sarajevo

Start	Finish	Topic	Speaker	Sub topic/Content
08:30	09:00	Registration		
09:00	09:10	Welcome	Nermina Skejović – Hurić, Ministry of Foreign Trade and Economic Relations. Department for Environmental Protection	
09:10	09:20	Introduction	Mr. Arunas Kundrotas ECRAN SPIWG Coordinator	



09:20	10:30	Introduction to CBA Theoretical and practical background.	Assoc. Professor, Dr. Sarunas Bruzge ECRAN Short Term Expert	<ul style="list-style-type: none"> • New and old CBA guidelines. Main differences • Feasibility and option analysis
10:30	11:00	Coffee Break		
11:00	12:30	Financial analysis. Theoretical and practical background	Assoc. Professor, Dr. Sarunas Bruzge	<ul style="list-style-type: none"> • Reference period • Reinvestment/residual value • Determination of project costs/revenues • Discounting, calculation of financial indicators • Determination of EU grant rate • Financial sustainability • Calculation of financial indicators
12:30	13:30	Lunch Break		
13:30	15:00	Economic analysis. Theoretical and practical background	Assoc. Professor, Dr. Sarunas Bruzge	<ul style="list-style-type: none"> • Fiscal corrections; • Conversion of market to accounting (shadow) prices; • Evaluation of non-market impacts and corrections for externalities; • Calculation of economic indicators.
15:00	15:30	Coffee Break		
15:30	16:15	Sensitivity and risk analysis. Theoretical and practical background	Assoc. Professor, Dr. Sarunas Bruzge	
16:15	16:30	Wrap up	Mr. Arunas Kundrotas ECRAN SPIWG Coordinator	Key points of discussions and next steps



ANNEX II – Participants

First Name	Family Name	Institution Name	Country	Email
Alma	Imamović	Federal Ministry of Agriculture, Water Management and Forestry	Bosnia and Herzegovina	alma.imamovic@fmpvs.gov.ba
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Atifa	Halilović	Federal Ministry of Environment and Tourism	Bosnia and Herzegovina	atifa.halilovic@fmoit.gov.ba
Azra	Rogović-Grubić	Ministry of Foreign Trade and Economic Relations of BiH	Bosnia and Herzegovina	azra.rogovic-grubic@mvteo.gov.ba
Dario	Kokor	Federal Ministry of Environment and Tourism	Bosnia and Herzegovina	dario.kokor@fmoit.gov.ba
Dijana	Vasić	Ministry of Foreign Trade and Economic Relations of BiH	Bosnia and Herzegovina	dijana.vasic@mvteo.gov.ba
Elma	Kuldija	Federal Ministry of Agriculture, Water Management and Forestry	Bosnia and Herzegovina	elma.kuldija@fmpvs.gov.ba
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ANNEX III – Presentations (under separate cover)

Presentations can be downloaded from:

http://www.ecranetwork.org/Files/Workshop_Presentations_CBA_March_2016_Sarajevo.zip



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