

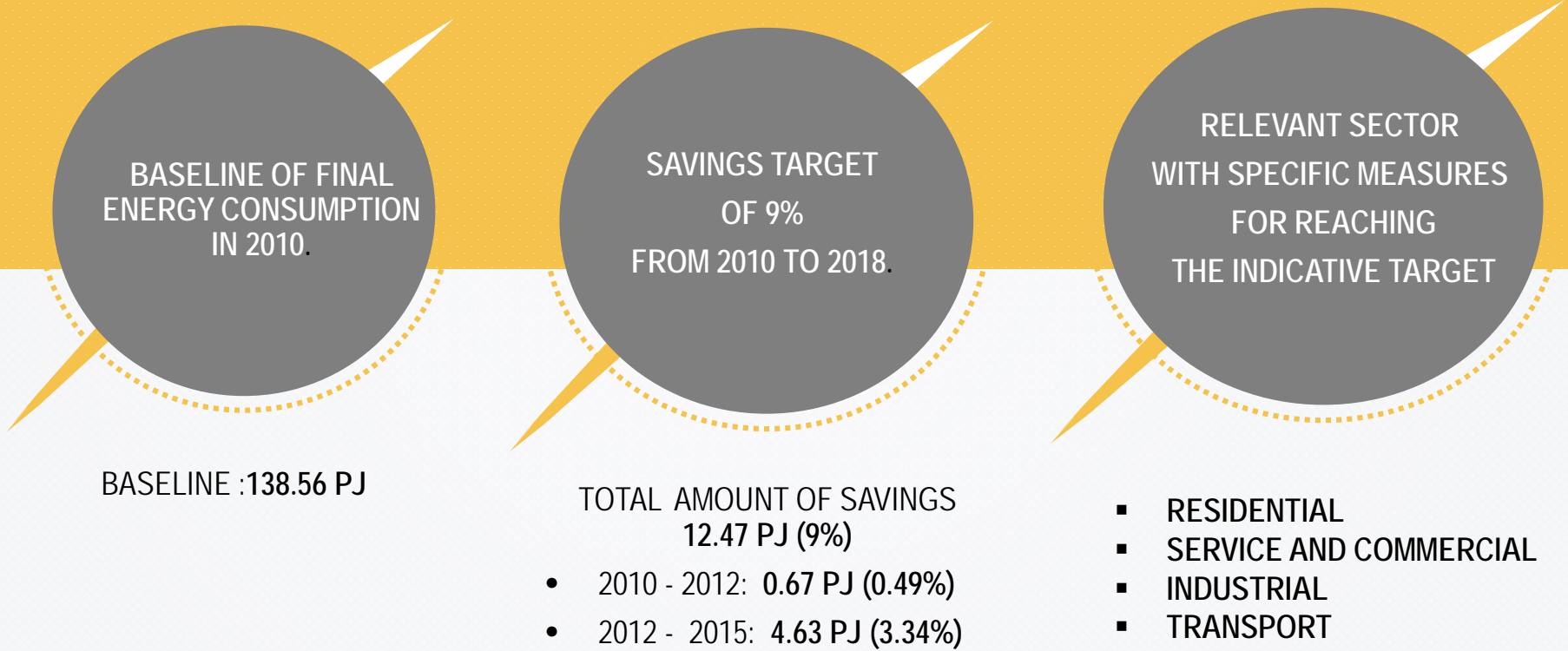


## BOSNIA and HERZEGOVINA

# Core Topic 2 EEAPs and monitoring

# EEAPs PROCESS IN BOSNIA AND HERZEGOVINA

NEEAP 2010-2018. (final draft 2012. it has not adopted)



## EEAPs PROCESS IN BOSNIA AND HERZEGOVINA

Table 5 Total savings in final energy consumption, have been reached in relevant sectors till 2015.

Indicative target of energy savings till 2018. (PJ)		12,47 PJ				
Indicative target of energy savings till 2015. (PJ)		n/a				
Sector	Sectoral targets (PJ)		Energy savings have been reached till 2015. (PJ)		Expected energy savings expected in 2018. (PJ)	
	2015	2018	Total (TD)	From (BU) measures	Total (TD)	From(BU) measures
Residential	n/a	5,25	0,0003	2,1120	-	5,19
Service	n/a	1,62	-	2,5000	-	1,61
Industrial	n/a	4,79	-	0,3440	-	4,53
Transport	n/a	0,81	-	0,2720	-	0,27
<b>TOTAL (PJ)</b>	<b>n/a</b>	<b>12,47</b>	<b>0,0003</b>	<b>5,3200</b>	<b>-</b>	<b>11,6</b>
<b>% (FROM REFERENT CONSUMPTION )</b>	<b>n/a</b>	<b>9,00%</b>	<b>0,00022%</b>	<b>3,77%</b>	<b>-</b>	<b>8,37%</b>

Final draft of EEAP 2016-2018 for Bosnia and Herzegovina

# EEAPs PROCESS IN BOSNIA AND HERZEGOVINA

Table 18 - An overview of planned goals and achieved savings of energy

Period	Indicative target of savings in final energy consumption		Expected and achieved savings			
			TD mehtod		BU method	
	Absolut amount (PJ)	% (the reference consumption ESD)	Absolut amount (PJ)	% (Absolut amount )	Absolut amount (PJ)	% (Absolut amount ESD)
2012	0,67	0,49%	n/a	n/a	n/a	n/a
2015	4,63	3,24%	0,0003	0,00%	5,321	3,77%
2018	12,47	9,00%	12,47	9,00%	11,600	8,37%

Final draft of EEAP 2016-2018 for Bosnia and Herzegovina

# EEAPs PROCESS IN BOSNIA AND HERZEGOVINA

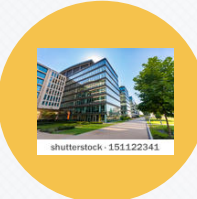
## IMPLEMENTED MEASURES, METHODOLOGY AND RESULTS



**RESIDENTIAL SECTOR:**  
ACHIEVED SAVINGS: 2,107 PJ - 40,13 % OF INDICATIVE TARGET FOR 2018. (5.25 PJ) je  
**GOOD RESULT**



**INDUSTRIAL SECTOR:**  
THE SAVINGS ARE ACHIEVED IN AMOUNT OF 0,442 PJ IT PRESENTS 9.23% OF INDICATIVE TARGET IN 2018 (4,79 PJ)  
**VERY BAD RESULT**



**SERVICE SECTOR (PUBLIC AND COMERCIAL):**  
THE SAVINGS ARE ACHIEVED IN AMOUNT OF 2,50 PJ IT PRESENT 154,32 % OF INDICATIVE TARGET IN 2018. (1,62 PJ)  
**EXCELLENT RESULT**



**TRANSPORT:**  
THE SAVINGS ARE ACHIEVED IN AMOUNT OF 0,272 PJ IT PRESENT 33,58% OF INDICATIVE TARGET IN 2018. ( 0,81 PJ)  
**SATISFACTORY RESULT**

**THE GOALS FOR NEARLY ZERO BUILDINGS WERE NOT CONSIDERED**



## METHODOLOGY AND RESULTS

### BOTTOM UP - BU) METHODOLOGY

METHODOLOGY FOR CALCULATION SAVINGS AND PROJECTION THE SAME, IS BASED ON MEASUREMENT AND VERIFICATION, SAVINGS IN FINAL CONSUMPTION WHICH IS PRESCRIBED INTERNATIONAL **EMEEES GUIDELINES** AND INTERNATIONAL PERFORMANCE MEASUREMENT AND VERIFICATION PROTOKOL **IPMVP**.

(BU) IS CONSISTED OF FORMULAS FOR CALCULATION SAVINGS PER UNIT (**UFES**) FOR RELEVANT MEASURE.

TOTAL ENERGY SAVINGS IN FINAL ENERGY CONSUMPTION (**FES**) ARE CALCULATED MULTIPLYING **UFES** WITH RELEVANT FACTOR VALUE IN CURRENT PERIOD AND SUMMING ALL SPECIFIC RESULTS OF EACH (PROJECT) WHICH WERE REALISED IN PARTICULAR MEASURE.

THE RESULT **UFES** IS BASED ON DIFFERENCE IN SPECIFIC CONSUMPTION ENERGY BEFORE AND AFTER IMPLEMENTING ENERGY EFFICIENCY MEASURE.

MVP FOR VERIFICATION SAVINGS USES THE SAME FORMULAS

$$UFES = \frac{SHD_{init}}{\eta_{init}} - \frac{SHD_{nes}}{\eta_{new}}$$

EMEEES: Evaluation and Monitoring for the EU Directive on Energy End-Use Efficiency and Energy Services;

[http://www.evaluate-energy-savings.eu/emeees/en/the\\_project/project\\_description.php](http://www.evaluate-energy-savings.eu/emeees/en/the_project/project_description.php)

IPMVP: The International Performance Measurement and Verification Protocol <http://www.nrel.gov/docs/fy02osti/31505.pdf>

# EEAPs PROCESS IN BOSNIA AND HERZEGOVINA

B&H EEAP 2016-2018. (final draft- it has been revised recently )

SAVINGS FINAL ENERGY CONSUMPTION IN 2015.  
PRIMARY ENERGY CONSUMPTION

**BASELINE SAVINGS IN 2015.**  
5.321 PJ  
(3.77022%) of total target savings

INDICATIVE TARGET FOR FINAL ENERGY CONSUMPTION OF 9% (ESD )from 2015.  
INDICATIVE TARGET FOR SAVING 20% TILL 2020 (EED).

**TARGET SAVINGS IN 2018.**  
12.47 PJ (9%)  
EXPECTED SAVINGS IN 2018.  
(from BU mesures) 11.6 PJ (8.37%)  
**REDUCING ENERGY CINSUMPTION OF 20% TILL 2020.**

## MESURES

1. SECTORs MEASURES
2. HORIZONTAL MESURES
3. SAVINGS IN PRIM. ENERGY

- PROGRAMS WITH RELEVANT MEASURES

**NEW INDICATIVE TARGET BY EED (PRIMARY AND FINAL ENERGY CONSUMPTION)  
IT IS DEFINED BY ANALYSING THREE SCENARIO:**

PRIMARY AND FINAL ENERGY CONSUMPTION	BiH	FBiH	RS	BD BiH
TOTAL FINAL ENERGY CONSUMPTION WITHOUT IMPLEMENTING MEASURES (TFEC (ktoe))	4851,30	3141,2	1621,7	88,4
<b>Scenario (1) – bez ušteda</b>				
TOTAL PRIMARY ENERGY CONSUMPTION WITHOUT IMPLEMENTING MEASURES TPES (ktoe)	9153,40	5839,90	3189,90	123,60
<b>Scenario (2) – 20% ušteda</b>				
SAVINGS IN PRIMARY ENERGY SCENARIO 2 (20% TPES (ktoe))	1830,68	1167,98	637,98	24,72
TOTAL PRIMARY ENERGY CONSUMPTION WITH EE MEASURES– SCENARIO 2; ( TPES -20% (ktoe))	7322,72	4671,92	2551,92	98,88
<b>Scenario (3) – 12% ušteda</b>				
SAVINGS IN PRIMARY ENERGY SCENARIO 3 (12% TPES (ktoe))	1098,41	700,79	382,79	14,83
TOTAL PRIMARY ENERGY CONSUMPTION WITH EE MEASURES– SCENARIO 3 ; ( TPES -12% (ktoe))	8054,99	5139,11	2807,11	108,77



## NEW INDICATIVE TARGET BY EED IN PRIMARY AND FINAL ENERGY CONSUMPTION

IN DETERMINING THE INDICATIVE TARGET OF PRIMARY ENERGY SAVINGS  
IN BOSNIA AND HERZEGOVINA, SAVINGS ARE CONSIDERED AS A RESULT OF TWO BASIC MEASURES:

1. ENERGY EFFICIENCY MEASURES IN PRODUCTION, TRANSMISSION AND DISTRIBUTION (EL. AND HEATING ENERGY)
2. ENERGY EFFICIENCY MEASURES IN SECTOR OF FINAL ENERGY CONSUMPTION

AMOUNT OF SAVINGS IN FINAL ENERGY CONSUMPTION TILL 2018. ARE : **12,47 PJ (= 138,56 PJ x 9%)**

AMOUNT OF SAVINGS IN FINAL ENERGY CONSUMPTION TILL 2020. ARE: **15,24 PJ (= 138,56 PJ x 11%)**

USING RELEVANT CALCULATION MODEL WE GOT RATIO BETWEEN PRIMARY AND FINAL ENERGY CONSUMPTION:

**IT IS 1,887**

IT MEANS THAT PRIMARY ENERGY CONSUMPTION WILL RESULT SAVINGS IN 2020. IN AMOUNT OF **686,74 ktoe** (= 15,24 PJ x 1,887 x 23,88).

THIS MEANS THAT THE REDUCTION IN ENERGY CONSUMPTION (THE AMOUNT OF SAVINGS), TO WHICH MUST COME IN GENERATION, TRANSMISSION AND DISTRIBUTION SHALL BE AS FOLLOWS:

**IN THE SCENARIO 2** (20% primary energy savings): 1830.68 ktoe - 686.74 = **1143.94 ktoe** ; or

**IN THE SCENARIO 3** (12% primary energy savings): 1098.41 ktoe - 686.74 = **411.67 ktoe**.

**ANALYSING ALL EXISTING STRATEGIC DOCUMENT, GDP, PRODUCTION GROWTH, ETC.**

**THE SCENARIO 3 WITH 12% SAVINGS TILL 2020. IS THE CHOSEN OPTION FOR INDICATIVE TARGET FOR SAVING PRIMARY ENERGY FOR BOSNIA AND HERZEGOVINA**

## MEASURES IN EEAP 2016-2018

IN NEEAP 2010-2018. HORIZONTAL MEASURES WERE INTEGRATED IN SECTORAL MEASURES

THERE IS NEW APPROACH IN EEAP 2016-2018. REGARDING MEASURES:

IMPLEMENTATION EEAP-a 2016-2018. IS PLANNED THROUGH SEPARATELY HORIZONTAL AND SECTORAL MEASURES:

1. HORIZONTAL MEASURES ARE CROSS SECTORAL MEASURES, EDUCATION TRAINNING, AWARENESS RAISING ETC
2. SECTORAL MESURES INCLUDE MESURES FOR EACH SECTOR:

- RESIDENTAL
- SERVICE (PUBLIC AND COMERCIALA)
- INDUSTRY
- TRANSPORT



WITH EXPECTED SAVINGS IN PJ

HORIZONTAL AND SECTORAL MEASURES ARE INCORPORATED IN RELEVANT PROGRAMS WITH DETAIL  
DESCTRIPTION OF THE PROGRAM AND  
RESPONSABLE INSTITUTION FOR IMPLEMENT THE SAME

## EXPECTED SAVING IN FINAL ENERGY SAVINGS TILL 2018. AND EXPECTED ENERGY SAVINGS IN 2020. THROUGH SECTORS

SECTOR	RIFLECT TO INDIVIDUAL MEASURES	METHODOLOGY	SAVINGS IN 2015.(PJ)	EXPECTED SAVINGS IN2018 (PJ)	PROJECTION OF SAVINGS 2020 (PJ)
RESIDENTAL	MESURES D1-D5	TD	2,112	5,125	6,264
SERVICE	MESURES U1-U7	BU MVP + TD	2,331	4,411	5,391
INDUSTRY AND SME	MESURES I1-I4	IFI - CREDIT LINES PROGRAMS WITH EQUIPMENT WHICH WERE INSTALED MESURES WHICH WERE VERIFICATED (WEBSEEF ,WEBDSEF KfW)	0,349	1,845	2,255
TRANSPORT	MESURES S1-S3	IMPLEMENTED MEASURES IN SEAP MUNICIPALITY	0,280	0,790	0,966
OTHER SECTOR			-	-	-
HORISONTAL MESURES	MESURES H1-H9	NO RELEVANT VERIFICATION	-	-	--
Snabdijevanje			-	-	-
<b>SUM</b>			5.072	12,470	15,240
<b>SAVINGS BY ESD</b>			5.072	12,470	15,240
<b>SAVINGS OUT OF ESD</b>			-	-	-



## ENERGY EFFICIENCY DIRECTIVE 2012/27/EC

THE INTEGRATIVE PART OF EEAP 2016-2018. IS ROADMAP OF EED IT INCLUDES:

- LEGISLATIVE FRAMEWORK
  - PRIMARY AND SECONDARY
  
- STRATEGIC DOCUMENT
  - STRATEGY FOR RECONSTRUCTION OF BUILDINGS
  
- IMPLEMENTATION MESURES:
  - RECONSTRUCTION OF CENTRAL GOVERNMENTS BUILDINGS
  - EE IN PUBLIC PROCUREMENT
  - EE AND ALTERNATIVE SYSTEM
  - ENETGY AUDITS AND ENERGY MENAGMENT
  - MEETERING SYSTEM AND INFORMATION OF ENERGY CONSUMPTION
  - SUBVENTION IN COOLING AND HEATING SYSTEM
  - MESURES IN TRANSSMISION AND DISTRIBUTION ENERGY (ELECTRIC, HEATING GAS)

## INSTITUTIONAL AND FINANCIAL FRAME FOR IMPLEMENTING POLICY OF ENERGY EFFICIENCY IN BOSNIA AND

THIS THE LAST BUT NOT LEAST PART OF EEAP 2016-2018.

FINANCIAL SOURCE	STATUS OF IMPLEMENTATION OF FINANCIAL SOURCE	FINANCIAL MODEL	STATUS OF IMPLEMENTATION OF FINANCIAL MODEL
ENERGY TAX	NO	PREFRENCIAL CREDIT	EXISTING
CO <sub>2</sub> TAX	NO EXISTING	GRANT	EXISTING
TAX FOR AIR POLLUTION	EXISTING	SUBVENTION	EXISTING
TAX FOR ENVIRONMENT	EXISTING	NO KREDIT	EXISTING
PUBLIC BUDGET	EXISTING	CURREN BUDGET LINE	EXISTING
IFI	EXISTING	("Budget capturing")	NO EXISTING
UN FANDS	EXISTING	OBLIGATION SCHEME FOR EE AND ALTERNATIVE MESASURES	NO EXISTING
EU FANDS	EXISTING	TAX SUBVENTION	NO EXISTING
PRIVATE FINANCING	EXISTING	ESCO	NO EXISTING
		PPP	EXISTING
		COMERCIAL CREDIT	EXISTING





# THANK YOU FOR YOUR ATTENTION

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