Bosna i Hercegovina
Agencija za statistiku Bosne i Hercegovine

Bosnia and Herzegovina
Agency for Statistics of Bosnia and Herzegovina

Waste statistics - electrical and electronic equipment

Quantifying e-waste in Bosnia and Herzegovina

UNECE JTF meetings, 29-30 June 2017, Geneve

Introduction

- The first WEEE Directive (Directive 2002/96/EC) entered into force in February 2003. The Directive provided for the creation of collection schemes where consumers return their WEEE free of charge. These schemes aim to increase the recycling of WEEE and/or re-use.
- In December 2008, the European Commission proposed to revise the Directive in order to tackle the fast increasing waste stream. The new WEEE Directive 2012/19/EU entered into force on 13 August 2012 and became effective on 14 February 2014.
- EU legislation restricting the use of hazardous substances in electrical and electronic equipment (RoHS Directive 2002/95/EC) entered into force in February 2003.
- The RoHS recast Directive 2011/65/EU became effective on 3 January 2013

The new WEEE Directive 2012/19/EU

year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Original target WEEE Directive	Min. 4 kg/inhabitant **or** average kg/inhabitant collected annually over the previous 3 years				Min 45% PoM (annual average from 3 preceding years)			65% PoM (annual average from 3 preceding years) or 85% WEEE generated		

- own collection targets in terms of „percentage of the average weight of EE placed on the market in the 3 preceding years (PoM), or „the percentage of WEE generated“,
- Collection targets include not only households WEEE, but also professional WEEE

The new clustering of products

Product categories	Annex I-EU10	Annex III – EU6
Large households appliance	1	1,4,5
Small household appliances	2	5
IT&telecommunications equipment	3	2,4,6
Consumer equipment	4	2,5
Lighting equipment	5	3,5
Electrical&electronic tools	6	4,5
Toys, leisure and sports equipment	7	4,5,6
Medical devices	8	4,5
Monitoring&control instruments	9	4,5
Automatic dispensers	10	1,4

What's new ?

18 April 2017:

The Commission adopted the "WEEE package" including:

- The Commission implementing Regulation 2017/699 establishing a common methodology for the calculation of the weight of electrical and electronic equipment (EEE) placed on the national market in each Member State and a common methodology for the calculation of the quantity of waste electrical and electronic equipment (WEEE)
- Specific parametres:
  - **weight of EEE**

    (means the gross weight of any EEE within the scope of Directive 2012/19/EU
  - **WEEE generated**

    (means the total weight of WEEE resulting from EEE within the scope of Directive 2012/19/EU that had been placed on the market)

ANNEX I

1. Methodology for the calculation of substantiated estimates of the weight of EEE placed on the market

EEE placed on the market(t) = Domestic production(t) + Imports(t) – Exports(t

Where:

- *Domestic production(t)* =the weight (tonnes) of finished EEE produced in a reference year *t* within a Member State.
- *Imports(t)* =the weight (tonnes) of EEE entering a Member State in a reference year *t* coming from another Member State or a third country for distribution, consumption or use.
- *Exports(t)* =the weight (tonnes) of EEE leaving a Member State in a reference year *t* for another Member State or a third country for distribution, consumption or use.

Classification used: PRODCOM codes and Combined Nomenclature codes (CN codes)

2. Methodology for the calculation of the total quantity of WEEE generated

Used Classifications for “apparent consumption” method

- UNU-KEYS- are constructed such that product groups share comparable average weights, material compositions, end-of-life characteristics and lifespan distributions.
  - The 54 categories are grouped into 10 primary categories, according to the original EU Waste Electrical and Electronic Equipment (WEEE) Directive.
  - closely follows the harmonised statistical coding of the international trade codes
  - The links from the WEEE Directive lists 10 categories to the UNU-KEYS is made
  - The links from the recast of the WEEE Directive lists of six categories to the UNU-KEYS is made
- LoW- (European List of Wastes)
  - there are 13 LoW codes that refer to e-waste. They are subdivided into hazardous and non-hazardous waste
- BASEL codes (Annex VIII and Annex IX)

- HS classification (EU CN)
  - Harmonized Commodity Description and Coding System, there are about 270 codes relevant to EEE, according to their descriptions.
  - EU CN is European customs nomenclature for the purposes of trade of goods. Tariff codes up to level 6 are based on the Harmonized Commodity Description System (HS), while 7 and 8 codes are signify EU tarrif codes. The EU CN is updated every year to meet the needs of technological development and changes in foreign trade flows.
- PRODCOM
  - PRODCOM headings are derived from the Harmonized System (HS) or Combined Nomenclature (CN), Which allows comparisons between production statistics and external trade statistics.
- SYSTEM of ENVIRONMENTAL-ECONOMIC ACCOUNTING
  - The SEEA framework follows a similar accounting structure as the System of National Accounts (SNA).
  - In the SEEA, e-waste under Chapter 3.6.5 on waste accounting, phisical supply/use table for solid waste

Correlations between various classifications to gather data for e-waste statistics

	UNU-KEYS	HS	LoW	Basel code	WEEE Directive 6 categories
UNU-KEYS					
HS	1 HS codes unique links to the UNU-KEYS.				
EU List of Waste (LoW)	Not directly correlated	Not directly linked, due to differing concepts of waste in HS classification and LoW			
Basel Codes	Not directly correlated	Not directly correlated	Not directly correlated		
EU WEEE Directive, 6 categories	One UNU-KEY can be correlated to the 6 categories	1 HS codes can be correlated to the 6 categories of the WEEE-Directive	Not directly correlated	Not directly correlated	
EU WEEE Directive, 10 categories	One UNU-KEY links to a category in the WEEE Directive	1 HS codes can be correlated to the 10 categories of the WEEE-Directive	Not directly correlated	Not directly correlated	Not directly correlated

Introduction legal basis for EEE management in Bosnia and Herzegovina

- Bosnia and Herzegovina has not established the Environmental Protection Agency. Relevant institutions for environment issues on state level:
  - **Ministry of Foreign Trade and Economic Relations of B&H – Department for Nature Protection**
  - **Agency for Statistics of Bosnia and Herzegovina**

Relevant institutions at other administration 13 levels : 2 Entities, 10 Cantons and District

in Bosnia and Herzegovina Entity-Federation, 2012 take into force the Regulation on the management of waste from electrical and electronic products (FBiH No.87/12)

in Bosnia and Herzegovina Entity-Republika Srpska, there is the Law on Waste Management. According to the Law on Waste Management ("RS no. 53/02), permit for management of EE waste issued by the Ministry of Physical Planning, Construction and the Environment

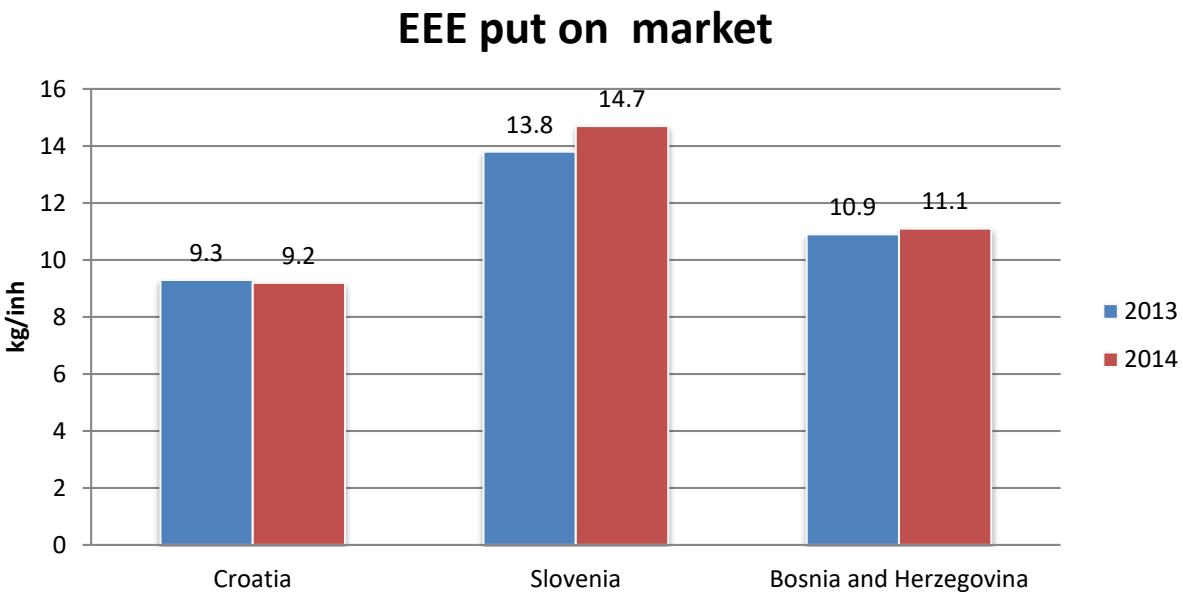
Indicator: EEE put on market

"apparent consumption method":

Sales = Domestic Production (from Prodcom statistics) + Import – Export (from international trade statistics).

Based on methodology that uses production, import and export data for EEE from Agency for Statistics of BiH, it is calculated that 13,3 kg per capita of EEE was put on the market in 2015.

	2013	2014	2015
Total EEE put on market (kg/inh) (calculation of Agency for Statistics of BiH)	10,9	11,4	13,3


EEE put on market
kg/inh
16
14
12
10
8
6
4
2
0
9.3
9.2
13.8
14.7
10.9
11.1
Croatia
Slovenia
Bosnia and Herzegovina
2013
2014

Comparison data

	2013	2014	2015
Apparent consumption methodology (kg/person)	10,9	11,4	13,3
Formally registered (currently available data (kg/person)	5,2	5,5	5,8

Next step:

Accurate household stock data is crucial to validate the time series of EEE placed on market

In order to complete the prediction model for WEEE generated, a research survey needed to quantify “lifetime profiles” and “stocks” of EEE.

Specific variables for survey

- Number and type of products in household stock
- Number of products no longer functional but still at home
- Number of products in use
- Purchased new or used products
- Age of EEE in stock
- Age of product at time of disposal
- Disposal behaviours

WEEE generated

- Using time series data of EEE PoM from apparent consumption methodology and “lifespan profiles” for each UNU-KEY generated from the consumer survey, it is possible to estimate the average households WEEE generated

	2014
Domestic e-waste generated (kg/inh) (calculation of UNU - IAS)	5,8

Statistics observations are....

Looking at the statistical aspects, observations are as follows:

- CN codes are subject to annual change, which must be taken into account when constructing time-series
- CN codes are subject of annual change, but HS codes are subject of 5-year change
- Generally, good measurement of transboundary flows is difficult to ascertain.
- Needed to detect values that are too low or too high (lead to a harmonised dataset)
- Some PRODCOM codes for EEE do not have another unit of measure, only in pieces (Conversion factor?)
- Future data quality can be improved focusing on key products

Statistics observations are....

- LoW classification is source of the waste oriented, statistical classification of waste EWCStat is waste material oriented, Conversion tables are required for these classifications
- NACE (ISIC) classification, Division 26- Manufacture of computer, electronic and optical products and Division and 27- Manufacture of electrical equipment (To include all codes?)
- Make a connection Basel codes-LoW codes for hazardous e-waste
- Introduce methodology for the calculation of the Total quantity of WEEE generated (ANNEX II-the - calculated by applying a Weibull distribution function)

Thanks for your attention

Agency for Statistics of Bosnia and Herzegovina

Department for Transport, Environment, Energy and Regional Statistics

www.bhas.ba

sevala.korajcevic@bhas.ba