

ACTION A2.4 Preparatory studies for the integrated management of HHW

DELIVERABLE A2.D19

Report (study) on the integrated management of household hazardous waste (HHW) in Western Macedonia region

Beneficiary Responsible: TN Beneficiaries involved: DIADYMA, MEEN

Summary

The main objectives of this study are to design an Integrate HHW Management Plan (IHHWMP) for the Region of Western Macedonia.

For this purpose, preliminary actions were made are:

- Public Opinion Research, which was conducted at the Region of Western Macedonia, from which important conclusions are extracted about the level of knowledge of the citizens regarding HHW, as well as their intention to apply special practices aiming at the separate collection of these wastes.
- Quality Composition Study which took place at the Central Facilities of DIADYMASA, based on which the types and quantities of HHW that are included in the municipal solid waste of the Region were defined. The analysis of the results and the extracted conclusions offered valuable data for the development of management proposals for the specific waste.
- Bibliographic review and research of similar actions and good practices abroad.

For the design of the regional network of separate collection of HHM in Western Macedonia,

HHM is divided into 3 main categories with proposed actions in each category, as follows:



1. HHW streams belonging to Alternative Collection Systems (ACS) of Special Waste (such as small electrical & electronic equipment, fluorescent and low-consumption lamps, household type batteries).

The actions promoted concern:

- ⇒ Information and awareness actions
- ⇒ The expansion of existing collection network of ACS by placing new bins increasing collection points in order to cover the entire Region of Western Macedonia

2. HHW streams of special wastes that they don't belong to Alternative Collection Systems (such as household cleaning and personal care products hazardous building materials containing solvents - paints, adhesives, varnishes, other materials, chemical wastes with their packaging, biocides, plant protection products, disinfectants and detergents pressure vessels, aerosols etc. and unprocessed fire extinguishers-, printing waste - cartridges/ink cartridges, toner).

The actions promoted concern:

- ⇒ Design of a new Collection at Source (CaS) network with collection points:
 - Installation of a Special Bin in common used areas of the large towns of the Region, for the collection of HHW in 4 basic categories (paints etc, biocides, detergents, aerosols)
 - Installation of Collection Point in "Private Area" inside commercial shopw/stores (like expired medicines or sharp items in pharmacies, paints/adhesives in paint shops, end of life fire extinguishers in fire department stores etc)
 - Municipal Green Points
 - 10 Local Waste Management Facilities (LWMF) of DIADYMA
 - Collection events or regular repeated collection schedule per town/village
- ⇒ Design and supply of a Special Collection Bin for common used areas
- ⇒ Development of a new HHW Collection Network from all suggested collection points
- ⇒ Creation of appropriate Infrastructure in the LWMF for the reception of HHW.
- ⇒ Information and awareness actions



3. Domestic medical waste (sharps - needles, infectious waste from home hospitals -gizzards, catheters, etc. and other hazardous waste - finished medicines, mercury-thermometers).

And the actions proposed are given below:

- ⇒ Procurement of special bins for sharp tools
- ⇒ Procurement of special bins for mercury thermometers
- ⇒ Creation of a new collection network from pharmacies (for sharp tools andthermometers)
- ⇒ Awareness campaigns to continue the collection of expired medicine/drugs inpharmacies
- ⇒ Creation of a collection network, with the help of the social services of theMunicipalities, for collecting household infectious waste.

The following annexes fill in the study:

1. Presentation of results of Quality Composition Study
2. Presentation of Public Opinion Research
3. Geospatial representation of the separate collection network of HHW in RWM
4. Brief Technical Description of the planned HHW Classification and Storage Unit
5. Brief Technical Description of the proposed Sterilization Unit