



The Regional

Integrated **W**aste **M**anagement
System

of Western Macedonia

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Responsible Body for Waste Management (DIADYMA S.A.)



□ DIADYMA SA was founded in 1998, with the participation of 61 "Capodistrian" Municipalities & Communities - being one of the largest inter-municipal partnerships at country level.

□ Shareholders (today after the new "Kallikratis" administrative structure): The 12 Municipalities of the Region of Western Macedonia - Aminteaon, Voio, Grevena, Deskati, Eordea, Kastoria, Kozani, Nestorio, Orestida, Prespa, Serbia-Velvento & Florina

□ The main objective of the Company since its establishment was the design, implementation and operation of the Integrated Waste Management Plan in Western Macedonia Region, through the application of sustainable management methods, in order to achieve the objectives of the National and European legislation on waste management, with the lowest cost to the citizen.

IWMS Facilities

The IWMS has been in operation since July 2005 and consists of:

- The Integrated Waste Management Central Facilities(IWMCF) where the Municipal Solid Waste is processed and finally disposed of
- The 10 Local Waste Management Units, where the mixed waste, recyclable materials, bulky, electrical and electronic waste, green and other separately collected waste streams are initially registered and transferred and then through LWMU are transhipped and transported to the IWMCF.



Evolution of IWMS of Western Macedonia

1st Phase: Ensure Landfill and restoration of Dumpsites XΑΔΑ (2003-2007)

- Construction of 9 LWMU, 1 Regional Sanitary landfill (A & B Cells), Supplies of mobile equipment for waste transfer and land filling (Cohesion Fund, 13 million €)
- 207 Uncontrolled dumpsites were restored (38 with funding of 6 million € from Operational program ‘Environment and sustainable development” (EPPERAA), 169 with funding of 3 million € from program THISEAS “Development Program for Local Government)

2nd Phase: Development of Recycling with Collection at Source programs & Exploitation of waste with the MBT plant (2009-2015)

- Development of Collection at Source programmes with the use of four different bins (each for different recyclable material) (ESPA 4 million €, Hellenic recovery recycling corporation 1,5 million €)
- Construction of C’ cell of sanitary landfill and Supplementary mobile equipment (ESPA 10 million €)
- Signing of Contract for the construction of MBT plant - through PPP project Total Investment 48 million €)



3rd Phase: Prevention and Reuse (2016-2020)

- ✓ **Green Points Network for reuse and exploitation**
 - a) Urban type “Green Points” in specific settlements (<3.000 inhabitants)
 - β) Collection of items for reuse in Materials Reuse Centers (logistics centers)
 - γ) Networking of facilities – Online access for citizens (e-platforms)
- ✓ **Expansion of existing networks of Collection At Source of recyclable materials**
 - ✓ **Development of Collection At Source networks for biowaste**
- ✓ **Information and public awareness raising actions on waste prevention**

Local Waste Management Unit (LWMU)



Transshipment of mixed waste

Management of Recyclable materials

Area for reuse centers

Integrated Waste Management Central Facilities



Integrated Waste Management Central Facilities

MBT plant - Sanitary landfill



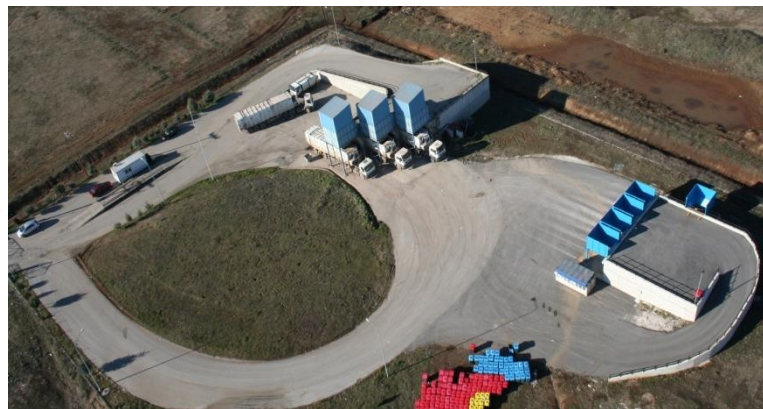
RECEPTION BUILDING-EDUCATION CENTER- INFORMATION AREA



Management System Operation Recyclable Materials



1. Collection at Source



2. LWMU



3. Regional Recycling Center

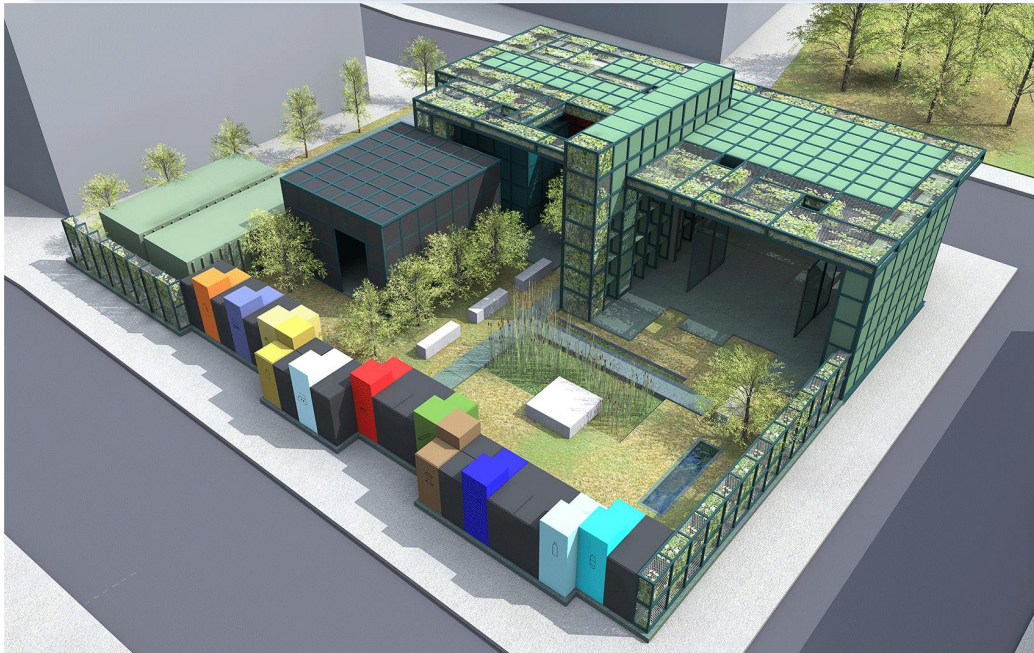


4. Recyclables

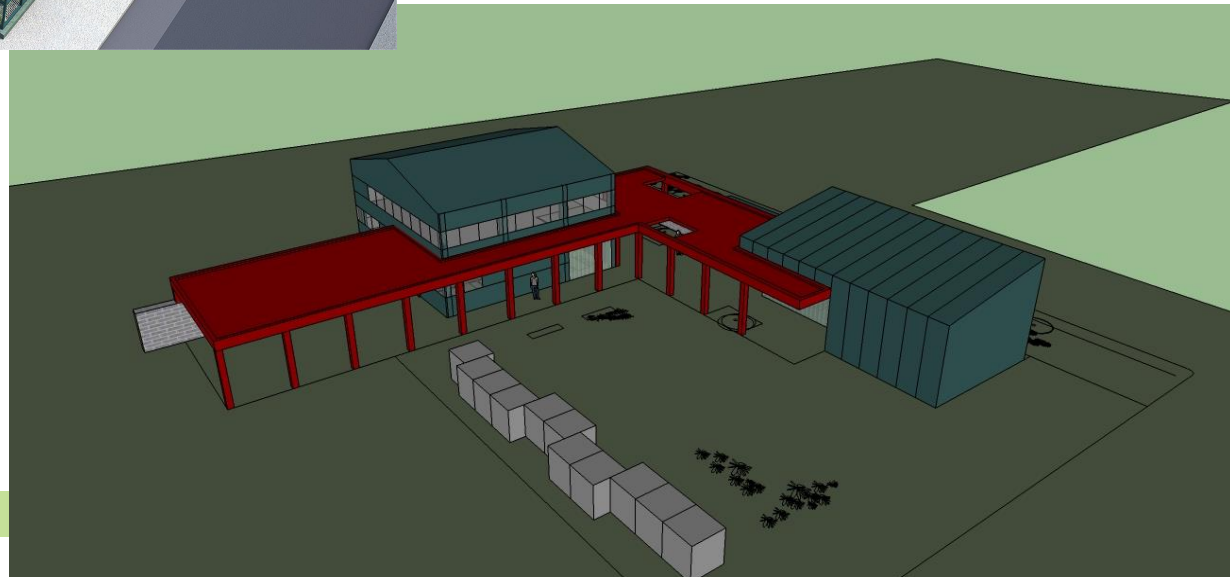
Green Points Network – Material Reuse Centers

- a) The 10 existing LWMUs can operate as Big Green Points as each of them already has 7 waste streams (paper, plastic, glass, metals, WEEE, green, bulky) - Adding equipment to serve the other streams
- b) Construction of 12-15 Urban Type Small Green Points in specific settlements with at least one per Municipality in accordance with the Local Waste Management Plans
- c) Supply of 5 Mobile Units of prevention and reuse to serve remote settlements
- d) Construction of 5 Materials Reuse Centers within the LWMUs for the management of materials (logistic centers) and with Internet access for citizens' online access

Urban Type Green Point



Reuse Center

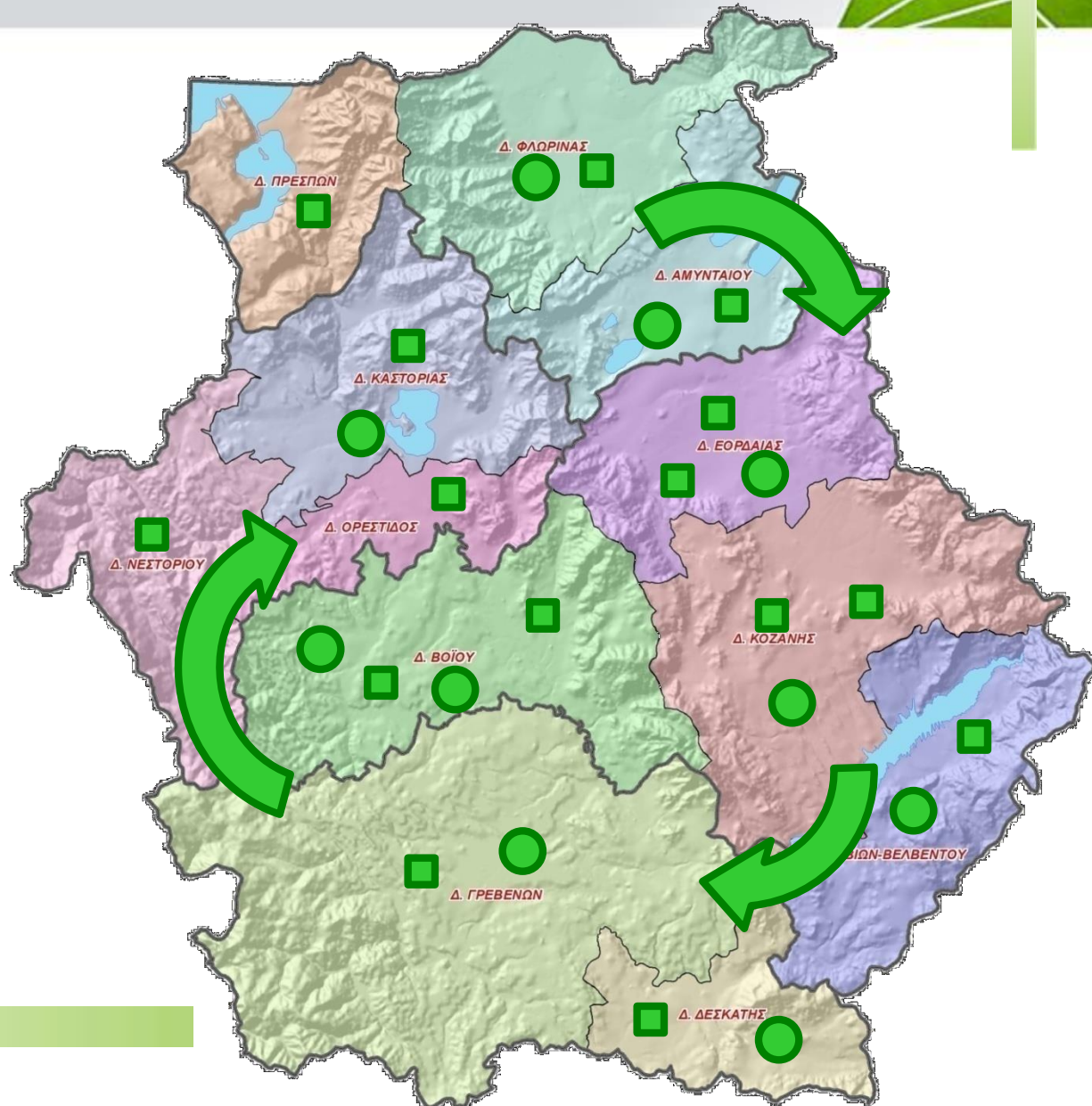


Green Points and Reuse Centers Network

● : Big Green Point

■ : Small Green Point

↻ : Mobile Unit of prevention and reuse



Development of Networks for collection at source of the Bio-waste

- Municipalities will develop networks for biowaste collection at source with a brown bin.
- They will be processed at a Discrete stream in the MBT plant
- Distribution of compost bins at home.



Biogas exploitation of landfill site in Western Macedonia for the production of electricity

- **Scope:** the provision of services for the collection and exploitation of the biogas of the landfill site of the Integrated Waste Management Central Facilities of Western Macedonia waste for the production of electricity and the supply of the electricity distribution network, granting the right to exploit biogas, according to the terms and conditions set forth in this declaration.
- **Duration of the contract:** 20 years from the issuing of the Energy Efficiency Unit's license
- **Signature of contract:** May 2018

DIADYMA SA And European Projects (1)

Finished:



Development of Innovative Actions in Waste Management
Knowledge Clusters of Western Macedonia - Information Society Program



Recycling and Material Recovery: Regional Environmental Management Capacity and Infrastructure
INTERREG IIIA Greece – FYROM



LESS WASTE - Joint Waste Prevention Plans and Promotion of Recycling
INTERREG CBC Programme “Greece – Albania”



WASTE-C-CONTROL - Waste Management Options for Greenhouse Gases Emissions Control
LIFE+ Programme 2007-2013

DIADYMA SA And European Projects (2)

Under implementation:



LIFE M3P: “Material Match Making-Industrial Symbiosis”
LIFE Programme 2014-2020



LESS-WASTE-II: “Development of an Action Plan for the Management of Bio-wastes at the Cross-Border Region Greece-FYROM”
Interreg IPA Cross-border Cooperation Programme "Greece - The former Yugoslav Republic of Macedonia 2014-2020"



SYMBIOSIS: “SYMBIOTIC NETWORKS OF BIO-WASTE SUSTAINABLE MANAGEMENT ”
Interreg IPA Cross-border Cooperation Programme "Greece - The former Yugoslav Republic of Macedonia 2014-2020"

DIADYMA SA And European Projects (3)



interreg - IPA CBC
Greece - Albania



WASTE RREACT : Integrated waste management facilities for boosting recycling and composting in 7 Regions through cross-border activities

Interreg IPA Cross-border Cooperation Programme "Greece - Albania 2014-2020"

interreg - IPA CBC
Greece - Albania



GREENPOINT-MOB : Development of a mobile Green Point at the cross-border region and promotion of prevention and recycling

Interreg IPA Cross-border Cooperation Programme "Greece - The former Yugoslav Republic of Macedonia 2014-2020"

interreg - IPA CBC
Greece - Albania



LESS-WASTE-II: Promotion of waste prevention and recycling at the cross-border area

Interreg IPA Cross-border Cooperation Programme "Greece - The former Yugoslav Republic of Macedonia 2014-2020"

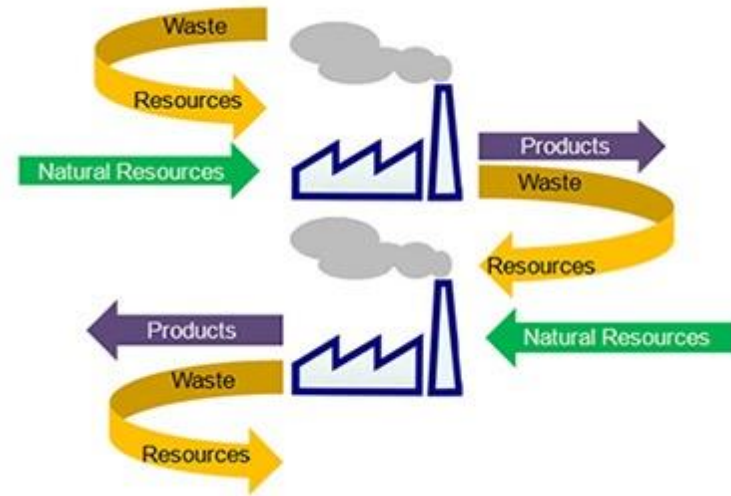


Circular Economy: Project LIFE M3P (1)

Material Match Making Platform for promoting the use of industrial waste in local networks

The project aims to develop local networks to improve the treatment of industrial waste, to promote its use in other local businesses and to reduce the need for processing, storage and transport.

A "smart" electronic business platform will be created to match different materials, waste and by-products to promote industrial co-operation and the circular economy.



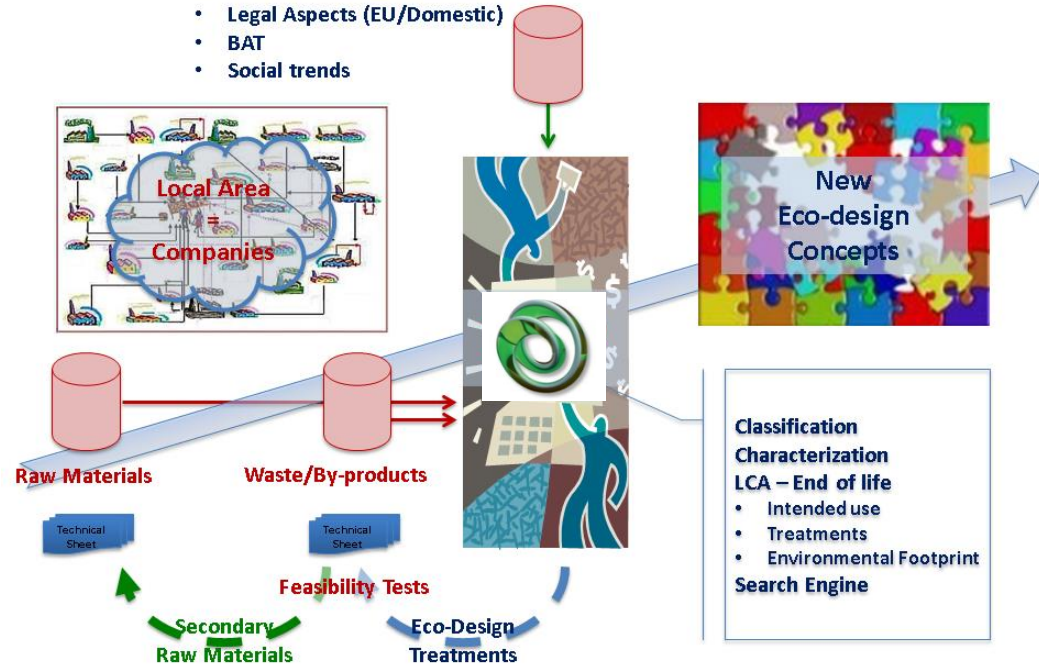
Life M3P
Material
Match
Making
Platform



Project LIFE M3P (2)

Another objective of the project is to demonstrate the utility (value and added value) of such a digital electronic platform at European level for the recording, use and exploitation of industrial waste produced in a local area.

Such exploitation can improve the overall efficiency of industrial processes through increased waste use in the area itself and less reliance on waste disposal.



Life M3P
 Material
 Match
 Making
 Platform



Sectors in the local area

Italy/ Lombardy
Textiles and clothing
Plastic
Wood



Spain/ Asturias
Construction



Belgium/ Flanders
Several sectors



Greece/Western Macedonia
Fur
Wood



Information and awareness raising actions on prevention issues

- Continuation of information actions in schools in Western Macedonia
- Over the past 2.5 years, 12.000 Kindergarten, Primary, Secondary and High School students have been actively involved.
- Organization of conferences and informative events
- Exploitation of the MBT plant's multi-purpose room for student education



What we achieved

- Closure and restoration of 207 uncontrolled dumpsites and application of land filling in 2005
- Implementation of programs for collection at source for 4 streams of recyclable packaging materials (paper, plastic, metals and glass) from 2009
- Recycling of around 18,000 tones / year of packaging materials, ie 80% of the target, of which 30% are sorted by source
- Processing the biodegradable fraction of waste to > 80% from 2017

Thank you for your attention!

