

## **Factsheet on food waste reduction and related eco-innovations in Region of Western Macedonia (RWM), Greece**

RWM ROP 2014-2020: 331 Mio EUR (ERDF & ESF)

The OP has a Total Budget of 330.737.741€ (EU Contribution 80%, 92,9% from ERDF and 7,1% from ESF)

The main objectives of ERDF and its support will substantially contribute to promoting the following key EU and national development priorities (Thematic Objectives):

1. "Strengthening research, technological development and innovation" (ERDF – 3.13% of EU allocation).
2. "Enhancing access to, and use and quality of, ICT" (ERDF – 3.13% of EU allocation).
3. "Enhancing competitiveness of SMEs" (ERDF – 9.40 % of EU allocation).
4. "Supporting the shift towards a low-carbon economy in all sectors" (ERDF – 8.26% of EU allocation).
5. "Promoting climate change adaptation, risk prevention and management" (ERDF – 7.36% of EU allocation).
6. "Preserving and protecting the environment and promoting resource efficiency" (ERDF – 18.48 % of EU allocation).
7. "Promoting sustainable transport and removing bottlenecks in key network infrastructures" (ERDF – 16.34% of EU allocation).
8. "Promoting sustainable and quality employment and supporting labour mobility" (ESF – 0.53% of EU allocation).
9. "Promoting social inclusion, combating poverty and any discrimination" - ERDF" (ERDF – 7.03% of EU allocation).
10. "Promoting social inclusion, combating poverty and any discrimination" - ESF" (ESF – 6.44% of EU allocation).
11. "Investing in education, training and vocational training for skills and lifelong learning" (ERDF – 18.06% of EU allocation).
12. "Technical Assistance" (ERDF – 1.71 % and ESF – 0.13% of EU allocation respectively): provision of technical assistance.

It addresses Investment Priorities: **21**

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This document provides a brief overview of how the challenges and opportunities faced by RWM on food waste and eco-innovations are addressed by the ERDF.

## **1. Situation and key challenges**

The Region of Western Macedonia (RWM) has a total area of 9.451 km<sup>2</sup> (7,16% of the country) and is the gateway of Greece and the European Union to the Western Balkans, bordering at the northwest side of the country with Albania and FYROM. RWM consists of the Regional Units (RU) of Kozani, Grevena, Kastoria and Florina.

The geographical position of Western Macedonia, combined with the fact that is the only region of Greece without sea, form a spatial unity with special physical characteristics that include both mountainous and semi-mountainous areas (82%), a diverse natural environment with rich fauna and flora and the largest surface of water resources in the country. These features create an area that can become an attractive place for the development of productive activities and living by applying the appropriate developmental model.

The population of RWM has been significantly reduced over the past 50 years, as, according to the official census, it has dropped by 9.7% between 1961-2011. According to the latest Eurostat figures, the population of the area was estimated at 278,706 in 2014, i.e. there is an additional 1.8% drop between 2011 and 2014. The most significant population reduction trend is noted in the RU of Grevena (27% between 1961 and 2011) - which also has the highest ageing rates - followed by the RU of Florina (23.7%) and Kozani (1.7%), which is the most populated, too. The RU of Kastoria is the only one where the population shows an increasing trend (6%).

The regional economy faces significant challenges related to the need for restructuring of the economy towards higher value added activities, the absence of foreign direct investments, the declining manufacturing sector and the pollution and degradation of the natural environment resulting from decades of mining and energy production activities.

The recent economic crisis along with discontinuities in regional research and innovation policies have magnified the structural deficiencies of the local economy, characterised by small companies, traditional industries, high unemployment, and low competitiveness.

Scientific specialisation is limited and focused essentially on energy technologies. From the economic side, the region has a very strong sectoral specialisation in energy and has implemented a number of targeted projects.

Despite this focus, the region has not managed to create a competitive advantage and is trapped in a vicious circle where efforts towards differentiation and development in the energy sector have reinforced the dominance of the public sector.

The economic crisis led the unemployment rate in 2016 to 31%, ranking the region second concerning this indicator. This accentuated the problems of the previous decade, when the region already faced the highest unemployment rate in Greece due to de-industrialization and the migration of labour intensive industries to neighbouring Balkan low labour cost countries.

After 2008, it is estimated that over 20% of regional firms have ceased their operation, while the turnover of regional firms, particularly in the trade sector, has dropped over 40%. Indicatively, in 2013 there were 8,299 wholesale and retail trade firms in the region, a decrease of 9.7% compared to 2008.

Over 2001-2009, the average annual growth of GDP was 5.1%, while during the period 2010-2013 due to the crisis the relevant index was decreasing annually by 3.4%. In 2014, the region accounted for 2.3% of the country's GDP. In terms of GDP per capita, the region was positioned 4th among the 13 Greek regions and below the EU28 average (66%).

Moreover, 2.3% of the country's workforce is employed in the region, 54.30% in the services, 27.90% in the secondary sector and 17.80% in the primary sector (B'semester2016).

There are no regional data available for Food Waste.

## **2. How RWM will address these challenges towards 2020?**

### **Related challenges will be addressed mostly by RIS3 2014 – 2020 Policy in W. Macedonia**

Although Western Macedonia and its regional stakeholders have been engaged in several programs and initiatives, both at national and European level (e.g. Innovative Actions, ERDF, Regional Innovation Poles), which focused in boosting innovation capacity among SMEs as well as to transfer good practices among the policy makers, the RTDI policy design and implementation in the Greek regions, so far, was centralized and launched by the central government.

Not that rarely the regional authority was not systematically informed about the projects implemented in the region, through the national OP and the project did not take into account recommendations and priorities arising from previous initiatives. Most of these priorities still remain relevant for the region and form a useful foundation for the RIS3.

Western Macedonia has a limited, but significant, number of stakeholders that have been successively engaged in the previous regional innovation initiatives. These include the regional development agency (ANKO), the University of Western Macedonia (UOWM), the Technological Institute of Western Macedonia (TEIWM), the ISFTA, business clusters and business associations.

In the programme period 2014-2020 the region has adopted a holistic strategy towards a new long-term sustainable development vision, given the environmental degradation. So far, initiatives undertaken were of a circumstantial character and lacked a long term perspective. The vision for the new strategy should be towards the post-mining era and should include mechanisms that will help the region reduce the over-dependence on the operations of the Public Power Corporation (DEH) S.A.

As previously mentioned Western Macedonia is one of Greek regions with lowest R&D intensity, notably in the business sector. Scientific specialization is limited and focused essentially on energy technologies. According to the assessment elaborated by a team of experts, the RIS3 strategy should not focus exclusively on energy industry/technologies, while this is clearly a core regional specialization, but needs to adopt a more diversified approach building on existing clusters of business activity and seeking to shift such 'niche' into higher-value added.

According to the approved by EC Strategy, the RIS3 priorities comprise a mix of sectors and subsectors as follows:

- 1. Energy / RES – District Heating**
- 2. Integrated waste management**
- 3. Traditional sectors of Agricultural Development and Manufacturing**
  - Manufacturing – Standardization of characteristic agricultural products
  - Fur farming - leather products
  - Agri-food, drinks / beverages, metal constructions
- 4. Tourism**

The RIS3 Strategy is funded under Thematic Objectives 1 – 4 of the ROP 2014 – 2020 (see above), including also Thematic Objective 8 for the promotion of self-employment and entrepreneurship with emphasis in RIS3 priority sectors.

### **3. What kind of eco-innovations may offer opportunities to help RWM to address these challenges ?**

The eco-innovative enterprises of Agri-food sector that **MAY** offer opportunities to help RWM to address these challenges are operating in the following sub-sectors:

- Dairy products
- Wine
- Bakery products

- Drinks & Beverages
- Fruits
- Legumes, namely lentils, beans of various kinds and chickpeas.
- Vegetables
- Gourmet delicacies and spices
- Aromatic & medicinal plants and products

**There are no recorded in the region NOTABLE good practices in Food Waste**

**The Key stakeholder that may help to deliver expected impacts is DIADYMA SA that is the responsible public waste management company in RWM.**

<http://www.diadyma.gr/indexenglish.html>

DIADYMA S.A. was founded in 1996 to serve the needs for Waste Management in the area, according to the Strategic Plan approved by the Regional Council in 1997.

The company's major task is the design, development & operation of the regional Integrated Waste Management System (IWMS) of Western Macedonia (61 municipalities, 300,000 residents).

Shareholders are the Municipalities of Grevena, Kastoria, Florina, Kozani & Ptolemaida and the Local Unions of the municipalities of the four prefectures of the region.

- ✓ Systems Design & feasibility studies
- ✓ Environmental Studies & Risk Assessment
- ✓ Technical Studies for needed infrastructure
- ✓ Constructions supervision
- ✓ Systems development & implementation
- ✓ Resource allocation & cost minimization
- ✓ Software development