



ECOWASTE 4 FOOD:

“Supporting eco-innovation to reduce food waste and promote a better resource efficient economy”

REGIONAL ACTION PLAN



Regional Development Fund of Western Macedonia on behalf of the Region of Western Macedonia

November 2018

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Regional Action plan of RDFWM - RWM

Part I - General information

Project: ECOWASTE4FOOD

Partner organization: Regional Development Fund of Western Macedonia on behalf of the Region of Western Macedonia

Other partner organizations involved: -

Country: Greece

NUTS2 region: Dytiki Makedonia

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Part II - Policy context

The Action Plan aims to impact: Investment for Growth and Jobs program
 European Territorial Cooperation program
 Other regional development policy instrument

Name of the policy instrument addressed: Regional Operational Programme 2014-2020 of Western Macedonia

This Action Plan is a plan that creates new projects of private sector organizations in Western Macedonia in the field of food waste reduction, through the identification of relevant activities, their integration in the Regional Operational Programme 2014-2020 of Western Macedonia and the funding of these activities. It should be noted that up to date food waste has not been addressed at all within the policy instrument. In this respect, the Action Plan will also instigate a change of the policy instrument.

Part III - Details of the actions

1. The background

During the ECOWASTE4FOOD project and especially during the cross-visits that took place in Italy and in Poland and during the stakeholder meetings in Kozani, there were several observations regarding the current situation of food waste management in the Region of Western Macedonia. Such observations are the following:

- The legal framework in Greece does not provide any incentives to limit food waste although it is changing lately. There is no tax imposed according to the amount of food waste produced as in other countries, thus producers and companies are not obliged to manage their food waste. The only incentive that they have to reduce food waste is the cost for their destruction by the responsible waste management organization, that is DIADYMA for Western Macedonia, which is the case for specific types of food waste.
- Corporate and income taxes in Greece are currently among the highest within the European Union and this is a significant drawback for any type of investments including the investment in initiatives that would reduce food waste.
- Greece and Western Macedonia still face an economic crisis which causes financial problems in most of companies and especially SMEs. Hence, companies tend to focus on their core business activities and to not consider investments on the side, such as an investment in reducing food waste.
- Despite the unfavorable economic environment, it was observed during the eco-innovation research that there are several companies which on their own initiative try to reduce food waste through innovative practices or cooperation with companies that use their food waste. Such examples are the following:
 - Fruit and vegetable producers that provide “ugly” products or in general products that are not considered saleable to juice producers who produce juices and use the remainder of the products for the production of bio-gas.
 - Producers of milk and dairy products who use the by-products of their production to feed animals and to support hospitals and charities.
 - Producers of pastry products who sell the by-products of their production to producers of animal feed.
 - Companies that collect used cooking oil and use it to produce biofuels.
- On the other hand, it was also observed that there are technologies applied in other areas of the project which are not applied in Greece such as the production of dehydrated healthy fruit and vegetable snacks in Poland, or the use of the by-products of pasta production in Italy to produce cardboard boxes or even the production of mushrooms using coffee waste in the UK. Due to the big

production of fruits and vegetables and the big amount of coffee waste in Western Macedonia these eco-innovations present great opportunities for the Region.

- Other interesting eco-innovations that could contribute significantly to the reduction of food waste in Western Macedonia, that could also be applied and benefit companies of the tertiary sector and consumers at the same time, include mobile applications like the ResQ Club application in Finland and IT related initiatives such as the Winnow practice in the UK.
- The companies that apply eco-innovations in Western Macedonia stated that the cost for investing in initiatives of food waste reduction is quite high. One of the biggest costs is the logistics cost, that is the cost of transporting food waste to the location where food waste would be reused. This is one of the biggest challenges for most companies.
- The initiatives for the reduction of food waste in Western Macedonia are implemented in most of the times by single companies or in cooperation with the client-company who uses the food waste produced. Cooperation is very limited. However, stakeholders that participated in the stakeholder meetings showed that they understand the benefits of the cooperation of similar, even competitive companies, in the field of food waste exploitation and in the frame of producing economies of scale that would counterbalance the investment costs.

In summary, the process of experience exchange completed within Phase 1 of ECOWASTE4FOOD project and including four cross-visits, one ad-hoc visit and four stakeholders' meetings, helped RDFWM to identify the strengths and potential of Western Macedonia companies in food waste reduction activities, to identify good practices of food waste reduction applied in other project regions and assess them in terms of their transferability and applicability to Western Macedonia. The good practices mentioned above and within the description of the Actions have been selected after the assessment of more than 20 good practices identified by the ECOWASTE4FOOD project within the project regions. The stakeholders of Western Macedonia were actively involved in all project activities and more specifically:

- The Managing Authority of the Regional Operational Programme of Western Macedonia 2014-2020 participated in 3 stakeholders' meetings while two more meetings with representatives of the Managing Authority took place in the first semester of 2018. The Managing Authority of the ROP of Western Macedonia 2014-2020 participated in the evaluation of the Action Plan and agreed with the selection of the respective actions and activities.
- Representatives of private and public sector companies participated in the stakeholders' meetings while few of them also proposed actions that have been considered and included in the Action Plan such as the action of product line equipment upgrading which was recommended by ASOP Velventou "Dimitra" and was included in Activity 1 of the Action Plan.
- Stakeholders from other project regions contributed significantly in the formulation of the Action Plan through the advice they provided on the

implementation and application of their eco-innovations and the respective challenges they faced.

Regarding the characteristics of Western Macedonia in relation to the topics of ECOWASTE4FOOD, the following can be noted:

- The agricultural sector is characterized by reducing competitiveness and by the lack of cooperative trade schemes. However, the sector is significant in the region and plays an important role in the development of the region.
- Livestock farming has been reduced by 74% from 1980 to 2007 while it represents 29,28% of the primary sector.
- SMEs dominate the secondary sector and tertiary sector.
- There is an identified need in the region for improvement of competitiveness of SMEs, for new investments, for enhancing cooperation and for SMEs valorizing ICT products and applications.

The investment priority of the ROP 2014 of the Region of Western Macedonia that is targeted by the Action Plan is Investment Priority 3a and within this priority the following will be targeted for the inclusion of actions of the Action Plan: 3.1.1.A Actions of supporting businesses for the application of innovations and / or research and development results.

2. Actions

Based on the background analysis, the objective of the Action Plan is the promotion of entrepreneurship and the application of innovations through the implementation of actions in the areas of food production and consumption, aiming at reducing and / or valorizing food waste. Actions of the action plan will help businesses of the region to become more competitive while the Region of Western Macedonia will also be benefited through the reduction of the produced food waste.

The vision of RDFWM for the RAP is the reduction of food waste in Western Macedonia through the parallel promotion of entrepreneurship, cooperation and exploitation of innovative practices. The mission is to lead enterprises, producers, consumers, public bodies and NGOs to undertake food waste reduction actions and initiatives, and establish relevant cooperations in order to increase the success prospect of investing in the reduction and / or valorization of food waste.

Based on the above, the following Group of Action is proposed to be integrated in the ROP 2014-2020:

GROUP OF ACTIONS 1: Supporting food enterprises of the primary, secondary and tertiary sectors in the application of innovative practices and / or research and development results for the reduction and valorization of food waste. Food waste can include by-products of the productive processes of food, food surplus or residuals from the productive processes and food that is close to the expiration date or it will be thrown away or destroyed if not consumed. The goal is for the

food enterprises to invest in new technologies and processes of reducing and valorizing food waste, thus increasing their competitiveness and development prospects.

Within this group of actions two types of activities are proposed. The proposed activities that could be potentially incorporated in the ROP 2014-2020 of the Region of Western Macedonia are the following:

- ***ACTIVITY 1: Reducing food waste at the source: Application of innovative practices and development of new production lines or upgrading and improvement of existing production lines for the valorization of food waste or residues that are produced from the productive process.***

Objective of Activity 1: To promote investments by food enterprises in new technologies and practices which will reduce and / or valorize food waste of the productive processes, reducing in this way their ecological footprint and increasing at the same time their competitiveness and their development prospects. Furthermore, the activity also targets existing businesses which apply expensive food selection and packaging processes. Upgrading the production lines with the use of new and innovative production processes can reduce the cost of these processes, increase the percentage of food waste recovery at the first production level and in turn it can create new job openings.

Content of Activity 1: The activity refers to new investments of existing SMEs who are active in the food production and have the potential to re-use the residuals of their food production or food waste.

The first part of the activity refers to the use and re-use of food waste in the food industry improving in this way resources' efficiency and productivity and introducing to the market new innovative products. These practices have been identified as opportunities for the valorization of food waste but food production businesses cannot apply them since they do not have the necessary production lines.

The second part of the activity refers to the upgrading of existing production, selection and packaging processes which are very costly, with new advanced equipment for the reduction of food waste and the improvement of the competitiveness of enterprises.

Indicative Activities on which Activity 1 is based: The action is based on the eco-innovations of MicroFood Co. and Paula in Poland, in combination with the eco-innovation of Velventos Cooperative in Greece. A potential application in Western Macedonia is the re-use of ugly fruits that are not proper for sale in the production of healthy fruit snacks with extended life span.

- ***ACTIVITY 2: Re-use of products which are considered today to be unusable or could not be sold: Application of innovative practices for the valorization of food waste resulting for the development of new products.***

Objective of Activity 2: This activity targets existing and new micro-enterprises and SMEs which through their research and their activities have identified new ways of valorizing food waste for the development of new products. The

objective of the activity is the promotion of innovative practices aiming at re-defining waste as a raw material. In this way, the practical application of innovative ideas and the valorization of food waste will be both achieved.

Content of Activity 2: The innovativeness of these activities is the valorization of food waste which if not valorized would end up in land-fills. Through the re-definition of their use in the form they are available or after processing, they could constitute raw materials for the development of new products. The final product would not necessarily be a food product but food waste should be at least 50% of the final product or 100% of produced food waste should be used for the production of the final product.

Indicative Activities on which Activity 2 is based: This activity is based on practices such as the Grocycle practice applied in the UK which uses coffee waste and produces mushrooms with the use of this coffee waste. They also provide innovative mushroom growing kits which can be used by consumers to grow their own mushrooms.

3. Players involved

In the development phase of the action, the following players will be involved:

- The Region of Western Macedonia and the Regional Development Fund of Western Macedonia which are actually the designers and promoters of the Action plan.
- The Managing Authority of the ROP 2014-2020 which has been the most important partner in the process of formulating the Action Plan and the decision-maker on the acceptance of the identified actions-activities and their integration in the policy instrument. Currently, the Action Plan has been accepted by the Managing Authority.
- The Waste Management Authority of Western Macedonia actively involved in experience exchange activities and in the Action Plan discussions.
- Local municipalities such as the Municipality of Kozani involved in stakeholders' meetings and in the Action Plan discussions.
- Professional organizations such as GEOTEE in Western Macedonia and business associations which have been informed and are aware of the Action Plan and have participated in the assessment of the respective activities.
- Producers and businesses of the primary sector such as producers of fruits like ASOP Velventou Dimitra, dairy products producers such as First Hand-Apo prwto heri and Kourelas SA, livestock producers etc., actively involved in experience exchange activities and in the Action Plan discussions and contributing with proposals in the formulation of the Action Plan.
- Businesses of the secondary sector mainly in the field of food processing and production and companies of the tertiary sector including IT services companies,

restauration companies etc., actively involved in experience exchange activities and in the Action Plan discussions.

- NGOs such as ARSIS, that use food surplus to support people in need, actively involved in experience exchange activities and in the Action Plan discussions.

In the implementation phase of the action, the following players will be involved:

- The Region of Western Macedonia and the Regional Development Fund of Western Macedonia who will be monitoring the process of the Action Plan implementation.
- The Managing Authority of the ROP Western Macedonia 2014-2020 who will be launching and managing the calls and the funding of the actions-activities included in the Action Plan of RDFWM.
- Producers and businesses of the primary sector and the secondary sector who will be the recipients of funding and the implementers of the investments in the reduction of food waste.

Concerning the monitoring of the Action Plan this will be the responsibility of RDFWM and the Region of Western Macedonia in cooperation with the Managing Authority of the ROP Western Macedonia 2014-2020. Monitoring will include quarterly meetings of representatives of the aforementioned organizations in order to discuss the planning of the implementation of the actions, the process of implementation and any problems that might appear in the course of the implementation and the results of the actions implemented along with any necessary contingency measures. Risks in the implementation of the Action Plan include mainly the lack of participation of applicants for the calls that will have been launched concerning the activities of the Action Plan and potential contingency measures include the organization of an awareness-raising event, the repetition of the call and the alteration of the terms of participation.

4. Timeframe

The timeframe is defined as follows:

- Up to 31/12/2018: Consultation of the action with regional stakeholders and development of the final action.
- 1/1/2019 - 31/12/2020: Implementation of the action.

5. Costs

The budget for this action depends on the available funding within the Investment Priority 3a of the ROP 2014-2020 of RWM. This will be defined in cooperation with ROP's Managing Authority during consultation processes that will take place in 2018.

However, at this point, an indicative range of the budgets of the investments for each activity of the Action Plan can be defined. In this respect:

Activity 1 Indicative Budget of Investments: 100K EUR - 500K EUR
Activity 2 Indicative Budget of Investments: 50K EUR - 200K EUR

6. Funding sources:

Funding sources include NSRF 2014-2020 and more specifically Investment Priority 3a of the Thematic Objective 3a which is co-funded by ERDF.

Date: 13/12/2018

Signature: _____

Project manager

Stamp of the organization: _____



Signature: _____

Governor of Western Macedonia

Stamp of the organization: _____





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