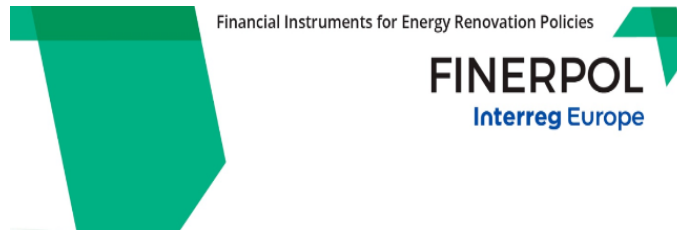




Regional Action Plan For FINERPOL project



ΤΕΧΝΟΛΟΓΙΚΟ ΕΚΠΑΙΔΕΥΤΙΚΟ ΙΔΡΥΜΑ
ΔΥΤΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ



Region of Western Macedonia, Greece

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Part I – General information

Project: **FINERPOL - Financial Instruments for Energy Renovation Policies**

Title of Regional Action Plan: «**District heating projects with the utilization of biomass and similar sources of energy for the use of Renewable Energy Technology in Public Buildings of small Municipalities of Western Macedonia** »

Subtitle: «**The interconnection with the policy instrument of Priority 4 of the ROP 2014-2020 and the use of additional Financial Instruments for the extension of District Heating Projects for larger scale actions**»

Partner Organization: **WESTERN MACEDONIA UNIVERSITY OF APPLIED SCIENCES (TEIWM)**

Other partner organisations involved (if relevant): -

Country: **Greece**

NUTS2 region: **Western Macedonia (Dytiki Makedonia)**

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Part II – Policy context

The Action Plan aims to impact:

Investments for Growth and Jobs Programs

European Territorial Cooperation Programs

Other policy instruments for regional growth/development

Name of policy instrument: **Regional Operational Program for the Region of Western Macedonia 2014-2020, Thematic Objective Axis 4**

Part III – Details of the expected actions



Title: «District heating projects with the utilization of biomass and similar resources of energy for the use of Renewable Energy Technology in Public Buildings of small Municipalities of Western Macedonia»

Subtitle:« The interconnection with the policy instrument of Priority 4 of the ROP 2014-2020 and the use of additional Financial Instruments for the extension of District Heating Projects for larger scale actions»

The Thematic Objective Axis 4 of the Influenced Policy Instrument (Regional Operational Program for the Region of Western Macedonia 2014-2020 – ROPWM) is entitled: Support for the transition towards a Low-Carbon economy for all sectors. The Managing Authority of the ROPWM has already approved two actions which involve a budget of more than 21 M€: (a) Improvement of the energy efficiency of public buildings and (b) Development –upgrade of district heating networks. The latter action involves an amount of about 6 M€.

Every approved action of the ROPWM must be accompanied with an action plan that specifies the activities to be implemented, the implementation time frame of the activities, the involved players, the results that are expected by each action, etc. By changing – influencing this action plan, one can change-influence this specific approved action of the ROPWM. In the following lines, the activities and the steps of TEIWM are analyzed, that led to the change of the aforementioned action of the ROPWM.

- **Background**

- **Interregional exchange of experiences**

The basic results of the interregional exchange of experiences at the regional level of Western Macedonia are the following:

- The TEIWM selected best practices that appeared most suited to their local and regional circumstances. Each good practice was assessed against the following key performance indicators: Investment leveraged; Emission reductions; Cost savings; Barriers to investment.
- During the first phase of the FINERPOL project, four (4) stakeholders meetings took place. The Head of the Managing Authority of the ROPWM 2014-2020, participate to almost all stakeholder meetings and missed only one of the seven (7) Interregional events and study

- visits of the project. Most important, the MA-ROPWM2014-2020 was present to the two (2) workshops of the ex-ante assessment of the Action Plan. During the stakeholders meetings, interregional events, study visits and especially during the workshops with the Head of the Managing Authority of Western Macedonia (MA-ROPWM), Mr Charalampos Kiourtsidis, it was decided that the best practices that were selected for the Region of West Macedonia had to fulfill the following additional criteria: (a) comply with the existing legislative framework, (b) minimize the risks in terms of adaptation and implementation, e.g. Be similar with Financial Instruments (FIs) that have already been applied in the region previously and (c) synchronize / harmonize with the European common practices.
- Therefore, for example, regarding the first criterion, a BP from Plymouth on the concept of Energy community shares was adopted: Plymouth Energy Community (PEC) Renewables is a Community Benefit Society, set up in 2014 by Plymouth Energy Community to fund, install and manage community-owned renewable installations. It is owned by its Members on a one Member, one vote basis. It is adopted as a good practice for the region, since a new law for energy cooperatives has been adopted recently in Greece, whereas Energy Performance Contracts (EPCs) legal framework already exists in Greece. It will contribute to the Action Plan, as an alternative for establishing RES FIs. So, in the case of the specific action plan, the PEC good practice will act as a pilot for the following first back-up plan: Due to the long-term crisis in Greece, there is the possibility that no private investors are interested for the planned FI of the current action plan. In this case, the PEC good practice will act as a pilot for setting up a similar energy community.
 - Regarding the second criterion, the loan and equity cases of Chieti and Cambridgeshire have been selected: Technical assistance by Intelligent Energy Europe (IEE) was provided to a consortium of 5 public authorities under the lead of Cambridgeshire County Council (CCoC) to set up a long term finance model/fund which aligns private and public sector investment to support low carbon infrastructure investment; set up appropriate delivery mechanisms and to deliver an investment programme of around €17m into renewable energy and energy efficiency projects. The ELENA - Chieti Towards 2020 Project is the largest investment-intervention ever made in the Province of Chieti for energy efficiency improvements and installation of energy producing facilities from renewable sources. The EU-funded project plans to invest a total of 80 million Euros over the 2012-2020 period, through which photovoltaic systems for public building roofs and energy efficiency

interventions in public buildings and public lighting systems will be realized. It is adopted as a good practice, since, for the first case, the procedure of European Investment Bank (EIB) loans and PPPs has already been applied in a recent project in Western Macedonia for waste management, whereas the back-to-back contract of Cambridgeshire minimizes the risk for public authorities. Both good practices have inspired the current action plan in its first steps. Therefore, the current action plan first focuses in the public buildings and then to the whole city. These good practices will also contribute to the Action Plan, as the main examples and pilots for establishing RES FIs.

- Finally, regarding the third criterion, EPCs were selected also, since it is a common practice in Europe: The Region of Ostergotland in Sweden launched an EPC call. Siemens Building Technologies, after winning the public bid to run the EPC for Landstinget i Östergötland (LIO) successfully completed the first and second phase within the stipulated period. The program agreement included the following specification: Upgrade the running and management of 28 buildings initially. EPCs will act complementarily in the planned FI, whereas EPCS must begin implementing in Greece as well. So, in the case of the current action plan, the EPC good practice will act as a pilot, in case the aforementioned PPP example is not accomplished.

- **Lessons learnt from the project in relation to the development of the Action Plan**

- During the first phase of the FINERPOL project, the team members of TEIWM together with the stakeholders and mainly the Head of the MA-ROPWM participated in four (4) stakeholder meetings, two (2) thematic workshops in Greece regarding the ex-ante assessment of the current action plan, seven (7) interregional events, study visits, etc, where the good practices of the project as well as local good practices from the study visits were discussed. They all agreed that they came across interesting practices and ideas from other regions, but the mixed schemes, such as the ones that are presented during the interregional event in Poland (e.g. Jessica), that are consisting of EU funding and private funds are very challenging and interesting, since they match the Greek reality and the need to keep a private character of the investment that guarantees maintenance. Especially due to the economic crisis in Greece, and the hostile environment for investments, it is obvious that the grants such as the ROPWM2014-2020 have to focus on

how to initiate actions and establish projects that will attract investments and mitigate the high risk of the Greek reality. Therefore, the current action plan's steps try to establish district heating projects that include public buildings but also set the guidelines on how to expand them to private customers and guarantee viable and long-term operation.

- In many good practices, it was obvious that all the authorities (Regions, Municipalities, etc) did not have the necessary personnel and expertise to set-up FIs for RES and EE projects. Therefore, the key for the establishment and the success for such projects was the technical support that was supplied to them by ESCOs (e.g. big ESCO enterprises in the case of the Region of Zealand in Denmark and Ostergotland in Sweden) and Universities (e.g. Czech Technical University-CVUT). The Greek stakeholders realized that. All the involved Municipalities of the region, when properly and fully informed, seize the opportunity and address the local universities and external expertise. Therefore, the exchange of experience has broadened their horizon in seeking also private funds for research and innovation in energy retrofiting. The second step of the current action plan is a proof of this lesson that was learnt by the municipalities of the region.

- **Action**

1. Why specific actions of the ROPWM need to change:

Within the framework of the Regional Operational Program 2014-2020 for the Region of Western Macedonia, the Priority Axis 4: «Supporting the shift towards a low carbon economy in all sectors» includes approved actions of district heating projects with the utilization of biomass or other renewable sources of energy, that could be implemented in forthcoming calls. Within the forthcoming period (2018-2019), the Priority 4 was initiated through launching three (3) calls for actions of energy upgrading of (a) schools, (b) medical care buildings and (c) public administration buildings and universities. It is obvious that the aforementioned calls should be launched before launching calls for actions of district heating network development or upgrading. The latter has an estimated budget level of 6,0 M€.

However, a great concern of the Managing Authority of the Regional Operational Program 2014-2020 for the Region of Western Macedonia (MA-ROPWM) was the following: Due to the limited available amount of funding for district heating networks (6,0 M€) and due to restrictions of the legal framework, the actions of district heating should obligatory have the nature of “pilot actions” that demonstrate the great benefits of renewable energy sources and district heating on buildings (public first and then

private). So, reasonably, the call that would be launched for the district heating action of the 6,0 M€ would address municipalities that have only prepared a final study for constructing a district heating network that would be fed by a biomass or Renewable energy Sources System. From past experience, it became obvious that such “pilot actions” with public buildings, often are constructed, but without prediction for their maintenance, surveillance for good operation and why not for their expansion to other public and private buildings in the future. Therefore, these pilot actions mostly fail to fulfill their purpose and lead many times to the opposite result.

Gradually, it became obvious that the EXISTING action of district heating networks of the ROPWM has to be changed!

2. Procedure for changing the ROPWM:

At the same time, the TEIWM implements the project, which refers to the current Action Plan with the title «Financial Instruments for the energy efficiency of buildings» and named as FINEROL.

The Head of the MA-ROPWM, participated in almost all stakeholder meetings, interregional events, workshops, study visits, and especially during the workshops of the ex-ante assessment of this Action Plan. After all these meetings and having in mind the past experience of previous pilot projects, all the involved players agreed that the mixed schemes that are consisting of EU funding and private funds are very challenging and interesting, since they must insert the Greek reality and since they need to keep a private character of the investment that guarantees maintenance of the pilot systems. An extract of the minutes of the 1st workshop of the ex-ante assessment on the 05-10-2017, with the considerations of the MA of the ROPWM, Mr Charalampos Kiourtsidis is placed here, for the proof of concept:

“There is the need for actions on small RES-based district heating projects in order to cover the energy gap and poverty of small municipalities. However, these small pilot interventions for public buildings should only be funded by Structural funds, in cases where they are viable for the entire settlement. Therefore, financial instruments prediction with mixed public and private schemes must accompany these interventions. This financial analysis, as a previous speaker pointed out, is also an opportunity to activate the Energy Service Companies’ (ESCO's) legal framework and registry in our country as well. In conclusion, what matters is the viability of the whole settlement, so financial analysis should be done in order to find an investor to finance the whole network and also address environmental impacts.”

However, these considerations had to be translated into specific changes of the action plan that will affect the pilot district heating action of the ROPWM and the launched call of this action.

3. Changes of the Policy Instrument – ROPWM:

Therefore, in complete accordance to the MA-ROPWM directives, in order for this Action Plan to be adopted by the MA-ROPWM, it has to include the following additions-changes that will be applied to the launched call of the action of district heating in public buildings in West Macedonia cities: (a) The need for Feasibility and sustainability studies for expansion of district heating in the city and (b) A preliminary study of financial instruments (FIs) that will guarantee the maintenance, good operation and expansion of the pilot system to the whole city.

These two requirements have never been imposed before in a call launched by the ROPWM and assure that the 6,0 M€ of the specific action of the ROPWM will mobilize additional private funding by companies and ESCOs.

Therefore, the most important change of the ROPWM 2014-2020, that the FINERPOL project is going to bring, is the preliminary steps for the establishment of innovative Public – Private Partnerships (PPPs) between Municipalities and ESCOs that involve investments on energy efficiency and RES coming from loans and/or private funds.

The specific steps that the TEIWM is going to follow, in order for this action plan to really improve/change/influence the Priority Axis 4 of the ROPWM 2014-200 are:

- a) One meeting with the MA-ROPWM before the launch of the call for RES-based district heating projects of the ROPWM Axis 4, in order to assure that the call will include the two requirements mentioned above and formulate them.
- b) Establishment of a contract between TEIWM and a municipality of the Region, acting as a pilot for other municipalities, for the technical support for: (1) The application to the call of the Priority Axis 4 of the ROPWM 2014-2020 and (2) The establishment of a Financial Instrument of the form of PPP for the expansion of the district heating network to the whole city and for the construction of a CHP plant for the needs of the municipality.
- c) Establishment of a contract between TEIWM and a global scale business advisor (bank or other) for the set-up of the Financial Instrument (FI) for the specific municipality that will act as a pilot for other municipalities as well.
- d) Meeting-workshop between the municipality, the MA-ROPWM, the business advisor and

ESCOs or private investors, as a part of the ex-ante assessment of the new FI, in order to investigate potential obstacles and ways to overcome these obstacles for the set-up of PPPs for the energy investments in this municipality (e.g. Pre-commercial Innovation procurements or other).

- e) Launching of the call for District Heating projects by the MA-ROPWM.
- f) Delivery of the proposed-pilot financial scheme to the MA-ROPWM and to the respective Ministry in Greece for evaluation.

Target values and monitoring:

Target values:

- ✓ Minimum total invested value after the establishment and implementation of FIs in West Macedonia: 20 million EUR
- ✓ Average investment: 10 million EUR
- ✓ Minimum number of invested projects: 1
- ✓ Public to Private funds involved: 30/70
- ✓ Number of loans provided per year during the implementation of the FIs: 1
- ✓ Minimum CO₂ emissions decrease after the implementation of the FIs: 2%
- ✓ Minimum energy costs reduction after the implementation of the FIs: 20%

Monitoring values:

- ✓ Number of FIs established in the region.
- ✓ Number of PPPs established in the region.
- ✓ Leverage (calculated as a rate of private funds involved).

● **Players involved**

The organizations registered in the region of Western Macedonia who are involved in the planning, development, implementation and monitoring of the action plan and their current and future role are presented here:

1. Seven (7) municipalities of the region where present through their representatives in stakeholder meetings, study visits and ex-ante assessment workshops. They are going to

- be the key actors of this action plan. One of them will be selected as a pilot case for developing prototype energy investments FI.
2. TEI of Western Macedonia as FINERPOL partner.
 3. Centre of Research and Technology – Hellas (CERTH/CPERI), the Technical Chamber of Greece (TEE), the Regional Development Agency (ANKO SA), as Technical Consultants of the Action Plan.
 4. Region & MA- ROP of Western Macedonia 2014-2020 as funding entities of the public sector.
 5. MA- ROP of Western Macedonia 2014-2020 and TEI of Western Macedonia as monitoring and evaluation entities for the implementation of the Action Plan
 6. Big (Public Power Corporation-Renewables SA-PPCR) and small companies-ESCOs that are interested in contributing private funds to the projects.
 7. Ministry of Environment and Energy and Ministry of Economy, as evaluators of the FIs, and the potential PPPs procedures.

● Timeframe

ACTIVITY DESCRIPTION	Duration
A) One meeting with the MA-ROPWM before the launch of the call for RES-based district heating projects, in order to assure that the call will include the two requirements mentioned above and formulate them.	Up to 18 months after the beginning of Phase 2 (until September 2019).
B) Establishment of a contract between TEIWM and a municipality of the Region, acting as a pilot for other municipalities, for the technical support for: (1) The application to the call of the Priority Axis 4 of the ROPWM 2014-2020 and (2) The establishment of a Financial Instrument of the form of PPP for the expansion of the district heating network to the whole city and for the construction of a CHP plant for the needs of the municipality.	Up to 4 months after the beginning of Phase 2 (until July 2018).

<p>C) Establishment of a contract between TEIWM and a global scale business advisor (bank or other) for the set-up of the Financial Instrument (FI) for the specific municipality that will act as a pilot for other municipalities as well.</p>	<p>Up to 10 months after the beginning of Phase 2 (until January 2019).</p>
<p>D) Meeting-workshop between the municipality, the MA-ROPWM, the business advisor and ESCOS or private investors, as a part of the ex-ante assessment of the new FI, in order to investigate potential obstacles and ways to overcome these obstacles for the set-up of PPPs for the energy investments in this municipality (e.g. Pre-commercial Innovation procurements or other).</p>	<p>Up to 13 months after the beginning of Phase 2 (until April 2019).</p>
<p>E) Launching of the call for District Heating projects by the MA-ROPWM</p>	<p>Up to 20 months after the beginning of Phase 2 (until December 2019).</p>
<p>F) Delivery of the proposed-pilot financial scheme to the MA-ROPWM and to the respective Ministries in Greece for evaluation.</p>	<p>Up to 22 months after the beginning of Phase 2 (until February 2020).</p>

• Costs

Under the 2014-2020 Regional Operational Program for Western Macedonia, Priority Axis 4: "Supporting the transition towards a low-carbon economy in all sectors", two (2) actions were approved with budget € 21,307,908.00 in summary:

- A) The regional plan for the energy improvement of public buildings (country standard) and
- B) The regional plan for the exploitation of biomass with emphasis on district heating.

During the next period it is planned to activate the Axis by issuing invitations:

- For the actions of development and upgrade of district heating networks, estimated budget € 6.0 million,
- For actions to improve the energy efficiency of public buildings, estimated budget € 10.0 million.



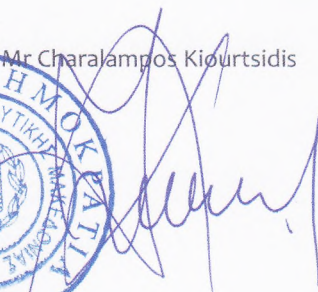
If the changes to the action of 6,0 M€ of the ROPWM that are proposed to the current action plan are applied, it is expected that the average budget of a municipal energy investment will reach 12 million EUR, including public and private funds.

- **Funding Sources:**

As far as the required funding for the changes of the ROPWM is concerned, the contract between the REGION, TEIWM, EKETA and Municipality of Deskati and the global-scale business advisor is funded by the Region of Western Macedonia own funds. The construction of the pilot is funded by the ROPW 2014-2020 and the PPP establishment will be based on the results of the global – scale advisor.

July 2018

Signatures:

<p>The Scientific Responsible for drafting the FINERPOL regional action plan of TEIWM</p> <p>Assistant Professor Dimitrios Stimoniaris</p>   <p>Stamp of TEIWM</p>	<p>The Head of the Managing Authority of the Regional Operational Program of Western Macedonia 2014-2020 (MA- ROPWM 2014-2020) confirming acknowledgement of the current action plan</p> <p>Mr Charalampos Kiourtsidis</p>   <p>Stamp of the MA-ROPWM</p>
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