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Central European Energy Conference



Ministry of Environment and Energy



Region of Western Macedonia



## The state of play on transition planning in the Region of Western Macedonia



On behalf of the Region Coal Platform Working Team

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## Energy Sector: Regional Profile

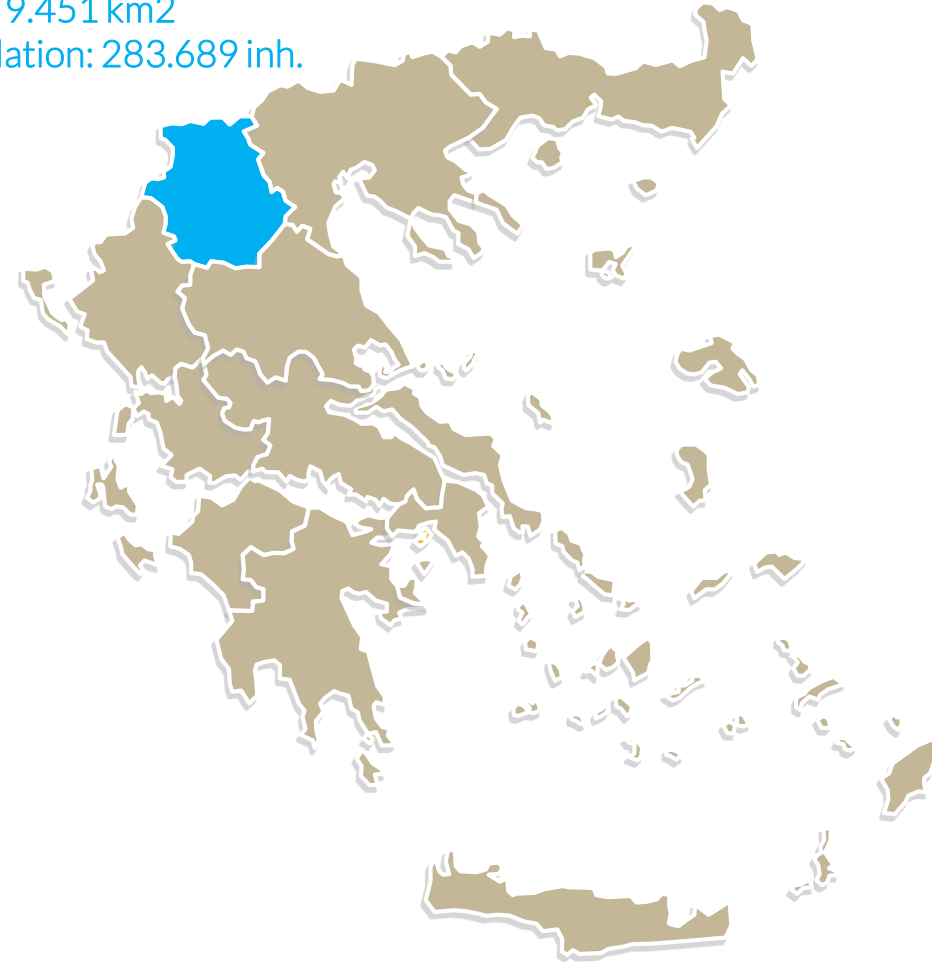
- Supplies electricity to the Greek interconnected system since 1960, acting for several decades as the Greek energy pillar of economic growth, due to the low electricity production cost through the utilization of local energy sources
- Lignite activity includes open-cast mines of a total area of 160 thousand acres
- 4 lignite fired power plants are in operation representing the 40% of thermal units and 20% of the total installed net capacity of the interconnected system in Greece
- Approximately 100.000 citizens of Kozani, Ptolemaida and Amyntaio use district heating systems powered by lignite power plants



### Western Macedonia

Area: 9.451 km<sup>2</sup>

Population: 283.689 inh.



## Energy Sector: Facts

Lignite Industry started its decline in 2010 initiating the request for transition to a new economic model for the Region. Three main phases characterize the lignite utilization shrinkage.

The first phase has already occurred during the period 2010 – 2015, when the 4 oldest units ceased operating.

In 2020, the second phase is expected when 6 units will terminate their operation, according to the existing environmental limitations.

By 2030, 4 more units will reach their lifetime, leaving only 3 units or 30% of the initial lignite capacity in the region, having taken into account the new unit, which will start its operation in 2022.

Western Macedonia's contribution to the overall national electricity production has been severely diminished. The Region's input to the Greek energy mix has been reduced from almost 50% (2009) to less than 30% (2016).

### Impact

- It is estimated that in case of no Regional supporting actions the unemployment in Western Macedonia in 2050 will rise above 40%, while in Kozani and Florina it will exceed 52% and 38%, respectively.
- According to the proposed National Strategy for Adaptation Measures to Climate Change (2015), the local negative impact could possibly be fourfold compared to other Greek regions, mainly derived from the reduction of lignite mining activity.

## Starting Point



### Strengths

- High concentration of specialized human resources
- Industrial culture
- Important energy and environmental infrastructure
- Diversification of energy resources
- Primary sector with perspective
- Academic and research structures
- Strategic geographic position in S.E. Europe area

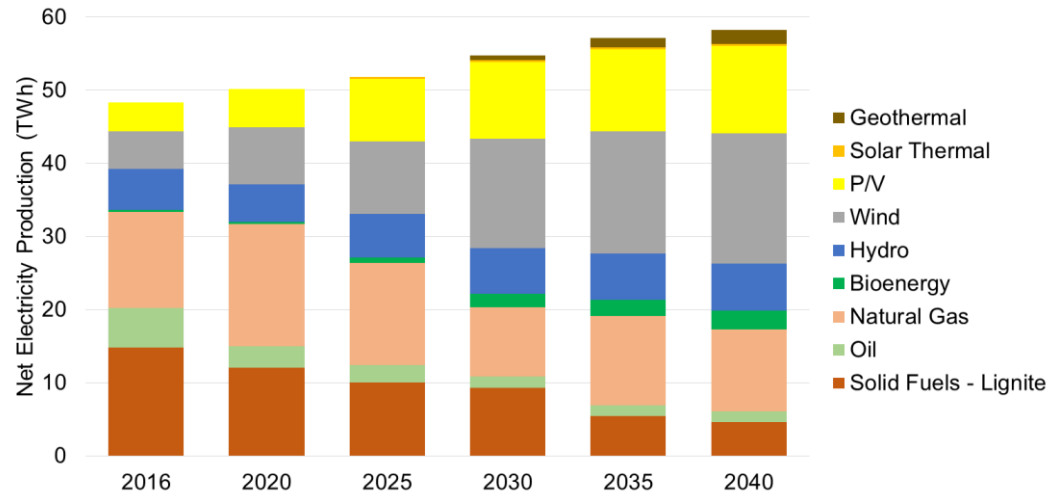


### Weaknesses

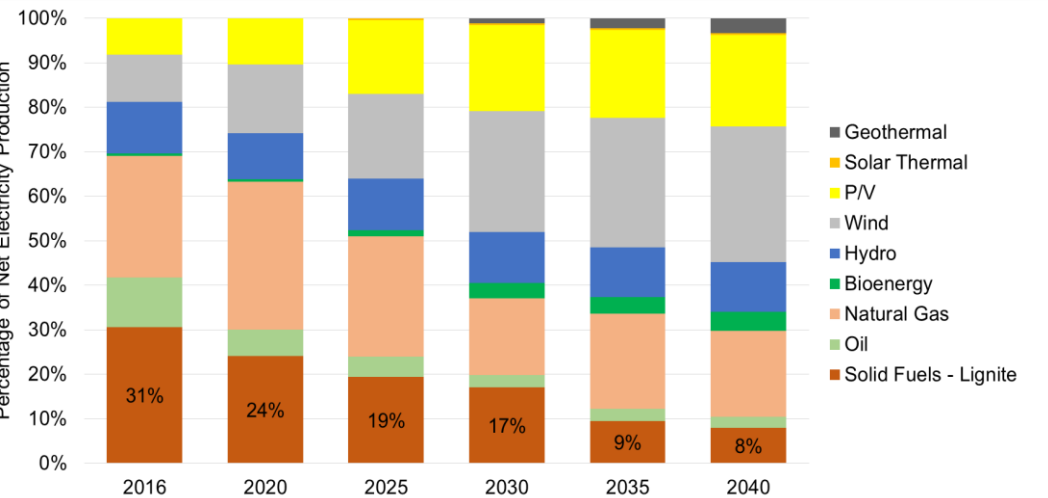
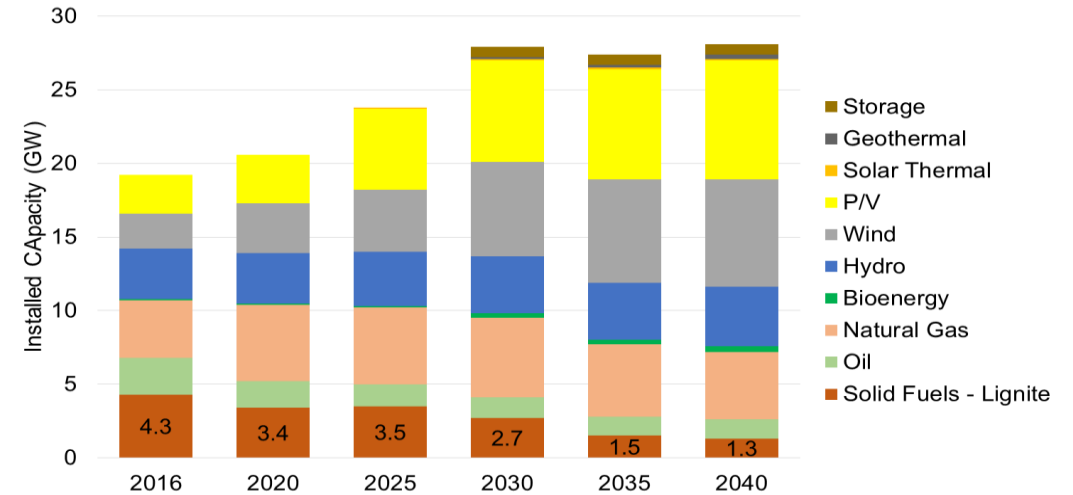
- One – dimensional characteristics of labor force
- Continuing decrease of lignite production
- Ongoing decommissioning of lignite units
- High rates of unemployment
- Energy poverty
- Low diversification of productive model
- Low innovation rates

## National Energy Planning (under consultation)

### Net Electricity Production



### Installed Capacity



The national planning for energy and climate was submitted by the Greek Ministry of Energy and environment on November 2018

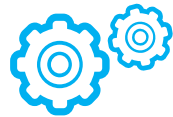
The lignite industry is foreseen to be continuously declining reaching less than 10% of net electricity production of Greece in 2030.

New capacity building mainly on Wind and P/V brings new challenges for Regional energy profile diversification

## Our Mission

Requirements for Regional transition to low lignite dependency economy

The regional strategy for the transition should fulfil the following specified three main axes



### **BUSINESS**

- Strengthening business activities
- Enhancing the region's productive baseline with innovative and competitive actions



### **ENVIRONMENT**

- Protection, promotion and enhancement of the natural and human environment
- Development of favorable living conditions



### **SKILLS**

- Capacity building and human skill development in areas directly linked to the region's productive environment

## Team Actions towards Western Macedonia transition

Development of a study, ordered by the Region of W. Macedonia, for sectoral specialization assessment towards the development of a sustainable production model. (ANKO-2015)

Development of a study by the Technical Chamber of Greece/ Dept. Western Macedonia, identifying the technical and economic consequences of the forthcoming changes

Development of a study by WWF Greece, concerning proposed solution for Western Macedonia economic growth in post lignite era

Development of the studies "Lignite Industry in Western Macedonia : Threats - Challenges - Opportunities" & "A roadmap of Western Macedonia transition to a low lignite dependency era"

Development of the list of proposed projected in the framework of Regional Transition

Visit to post-lignite areas in Saxony Anhalt - Germany and Loos Gohelle - France

Participation of W. Macedonia as pilot case in "Coal Regions in Transition Platform"

Participating

Learning

Discussing

Organisation of the Workshop "Post-lignite era : Challenges for the Western Macedonia" 2016

Participation in a WWF Greece event in Kozani : "Just transition of the Region of Western Macedonia into a low lignite dependency era" 2018

Studying

## Transition through the Coal Regions Platform

The main goal of our effort is to design and implement projects that bring investments and jobs to the region, offsetting losses from declining lignite industry, exploiting the know-how and skills acquired over the past decade but also ensuring an environmentally and economically sustainable future.

### Technical work / Collaborations

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#### Coal Platform Working Group

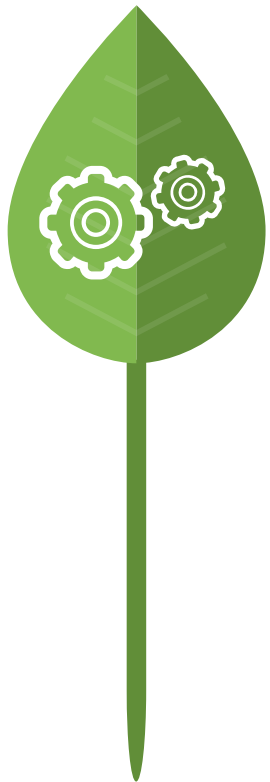
The Region of Western Macedonia formed, in late 2017, a working group to support the technical and administrative work to be carried out throughout its participation in the Coal Regions in Transition Platform.

#### SRSS technical support

Development of support measures for establishing the Region's transition procedures framework in design, governance and institutional / financial field. A total budget of 500.000 € was approved for the project.

#### Strategic Partnerships development

Western Macedonia is working on the development of strategic collaborations with similar regions towards the exchange of ideas and knowhow.





## Transition through the Coal Regions Platform

### Financial tools in Regional and National Level

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#### Regional Development Fund of Western Macedonia

Established in 2016 by the Western Macedonian Regional Council, the Fund reached its operational status in 2018. It is co-funded by the Public Power Corporation, through compensatory supporting actions, and the Hellenic Fund for Entrepreneurship and Development. Aims to support local SMEs in Regional level in the form of small low interest loans. Strong emphasis is being given on projects with substantial added value to the local economy. The Fund will invest 10 M€ in a minimum of 200 innovative business plans.

#### National Just Transition Fund

Announced by the Greek Government for the lignite areas, it is expected to finance sustainable development actions providing a budget of 60 M€ (20 M€ per year) during the period of 2018-2020. The funding priorities are related to the Region's Smart Competitiveness Strategy, as well as past development plans and proposals, promoting the development of clean energy, energy saving, circular economy, primary sector, exploitation of industrial heritage and integrated intervention programs. The main aim of the program is job creation and entrepreneurship support.



## Building the projects identification dialogue

### Evaluating existing knowledge

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- A free on line dynamic database has been created, involving studies carried out for the Region of Western Macedonia.
- Includes regional and local action plans, regional strategic priorities, RIS3 studies, prefeasibility studies, regional development studies, business plans, techno-economic evaluations, handbooks of best practices, pilot studies, sustainable energy action plans, funding tools etc.
- Categorization of studies according to the following indicative thematic priorities: District Heating, Biomass, Buildings, Energy Efficiency, Hybrid RES, Environment, Air quality, Transport, Waste Management, Land recovery, Post Lignite era, Municipal – Regional Actions Plans, Forest Management, Water resources, Tourism, Agriculture, Technological Parks, Cultural Heritage, Funding tools, SMEs, Clusters, Incubators

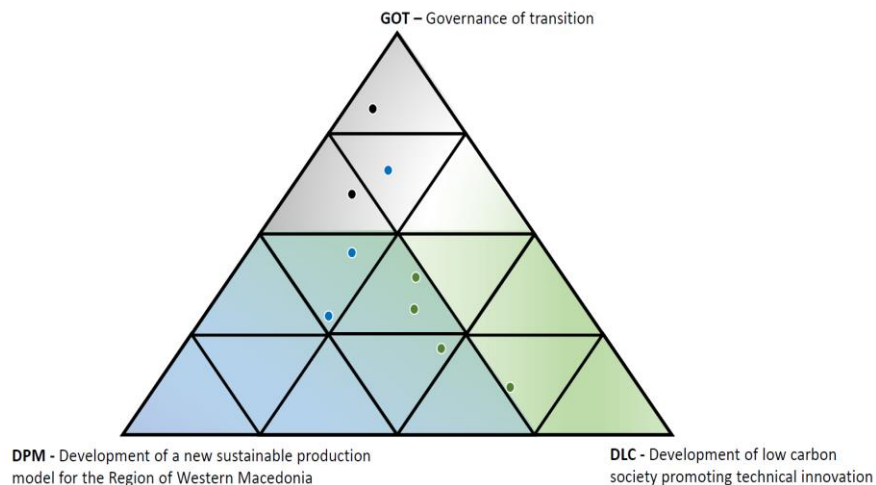
### Developing new projects and ideas (under construction)

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- Establishment of an electronic public platform for proposal submission and debate.
- Evaluation of projects through concrete indicators, based on pre-defined set of selection criteria at political level, such as impact on employment, maturity of implementation, and coherence with regional / EC policies. Configuration of the initial Regional Portfolio of Projects.
- Approval of the Portfolio by the Regional Council of Western Macedonia as Regional Reference Document and incorporation to the next Programming Period planning.
- Selection of the most emblematic projects with high level of maturity, high added value in terms of employment and the possibility of immediate implementation.

## Developing the list of Transition's potential projects

Three main items have been identified for projects design and implementation related to governance, socioeconomic and technical impact.



### Priority axes under discussion and evaluation

- Support for district heating operation, substituting lignite dependency with alternative energy sources, over the next decade.
- Energy upgrade of the private and state owned building sector, promoting energy saving and renewable energy utilisation.
- Promotion of Renewable Energy Sources and development of Energy Communities.
- Support for the Primary Sector, focusing on infrastructure improvements, production process vertical integration and extraversion.
- Re-skilling, training of staff and support of job creation.
- Industrial Heritage.






### Proposed new Projects on Energy

-  South-East Europe Energy Center
-  Zero Emission Village
-  Motor Sport Centre
-  Technology Dissemination Centre

-  Coal Mine Rehabilitation
-  Industrial Tourism

## The way forward

- The transition of the Region of Western Macedonia to a low carbon economy is a one-way path and a strategic choice of great national importance.
- The process of transiting to a new development model is particularly demanding and complex.
- One of the most crucial issues ahead is to plan the next National Strategic Reference Framework and Smart Specialisation Strategy, so as to include priorities that will supporting the transition process.
- Networking and bilateral collaborations is expected to facilitate transition and provide added value to Coal Platform
- The establishment of a single fund by the European Commission to support the transition of their economies depended on Coal to a new sustainable productive model, is strongly supported by the Region.

 Region of Western Macedonia	Governor of Western Macedonia : Theodoros Karipidis
 ΔΗΜΟΣ ΚΟΖΑΝΗΣ	Mayor of Kozani : E. Ioannidis
 ΔΗΜΟΣ ΕΟΡΔΑΙΑΣ	Mayor of Eordaia – President of the Network of Energy Production Municipalities : S. Zamanidis
<u>Δήμος Αμυνταίου</u>	Mayor of Amyntaio : K. Theodoridis
 ΔΗΜΟΣ ΦΛΩΡΙΝΑΣ 	Mayor of Florina - President of Municipalities of Western Macedonia : I. Voskopoulos

### Working Team for Coal Platform of Western Macedonia (in alphabetic order)

Giannakopoulos Dionysios	Researcher B, Centre of Research and Technology Hellas (CERTH/CPERI), Dr. Mechanical Engineer
Karlopoulos Evangelos	Specific Technical Scientist, Centre of Research and Technology Hellas (CERTH/CPERI), Chemical Engineer MSc
Kiourtsidis Charalambos	Head of Regional Operational Program of Western Macedonia Management Unit.
Mavromatidis Dimitrios	Director of Regional Development Fund Unit of Western Macedonia, President of Technical Chamber of Greece/W.M
Raftopoulos Stavros	Counsellor of the Ministry of Environment and Energy
Sidiropoulos Anastasios	Director of Programmes Dept, Regional Development Agency of Western Macedonia (ANKO), Economist Phd Cad.
Topaloglou Eleftherios	Director of the Regional Union of Municipalities in Western Macedonia, Dr. Political Scientist
Tourlidakis Antonios	Rector of the University of Western Macedonia, Dr. Mechanical Engineer



Thank you