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Report of the IMC Working Group Coordinator Renewable Energy

Prospects for Renewable Energy in the Regions MED

The energy sector is changing and renewable energy technologies are becoming more important in this new context. Environmental policies have a significant impact in this direction: the growth in fossil fuel prices and the maturity of renewable energy technologies, suggest an increasing role in the recent development of energy markets in 2020-2030.

This trend is even more important when one considers the objectives of international (Kyoto Protocol) and European (energy-climate package) policy.

Evolution

All studies conducted at the Mediterranean, European, and world level show:

- Strong growth of renewable energy in all cases;
- The growth of new technologies is lower in the short term than long term;
- Technology of biomass has major potential long-term growth, particularly in the Mediterranean region;
- The penetration of renewable energies can be strongly influenced by the liberalization of energy markets, particularly if the technologies are "pushed" to the point of being competitive on the world market.

This effect will be dominant after 2020, because the energy markets will be more diversified and more flexible

The effects of the development of renewable energy: Investment and Employment

To meet the proposed production quotas for renewable energies massive investments will be necessary.

The industries with the greatest potential for investment are those related to bio-energy, the use of solar technology and the construction of wind farms. The increased investment will also cause an increase in employment. The Commission believes that with current trends, European employment (direct and indirect) can reach 950,000 units in 2010 and 1.4 million in 2020 (about a third in areas MED), net of potential job losses due to the displacement of conventional energy.

However, in a scenario that takes account of new EU policies and objectives within the Climate and Energy Package, the Commission considers ("Advanced Renewable Strategy", 2008), that employment will reach

about 1.7 million units in 2010 and 2.5 million in 2020 in the European Union alone. It will, however, exploit the resources and skills already acquired in the manufacturing sector and not leave the field entirely to imports.

An integrated energy and industrial policy can exploit the potential (in terms of investment and employment) global development of renewable energy, giving added value to support environmental actions undertaken at the national level, as shown in the scheme adopted by the German Ministry of Environment.

The Mediterranean

With over half a billion people living in the Mediterranean basin, the Mediterranean region consumes 10.2% of global electricity consumption and 8.2% of primary energy, which are dominated by fossil fuels (80%, with only 6% from renewable energy), with nearly 8% of global CO₂ emissions.

Which energy resources for the Mediterranean?

The Mediterranean region has 5% of global reserves of oil and gas, 98% of which are concentrated in the South, and has considerable potential for renewable energy, particularly solar and wind power, which is currently underused even though their production has increased in recent years.

What is the demand for energy in the Mediterranean?

Over the period 1971-2006, primary energy consumption in the Mediterranean basin has doubled (from 402 to 968 Mtoe) and electricity consumption quadrupled (from 384 to 1,665 TWh).

Transportation continues to be the main consumer of energy in the Mediterranean, though it is also the industry that accounts for the largest increase in consumption. The structure of energy demand has changed radically: from energy-based industry, the Mediterranean now offers a more balanced pattern of consumption. To cope with this growth in energy demand, all energy sources are necessary.

In terms of energy consumption, the imbalance between the north and the south shore, although it is trending towards reduction, remains substantial, generating ever greater exchanges between the South shore and the North shore and little exchange among the South shore.

Integrating renewable energy in energy policy in the Mediterranean?

Renewable sources account for 6% (biomass included) of the Mediterranean energy mix, though, encouraged by incentives (financial, fiscal), policies and technological progress renewable energy in the Mediterranean has experienced exceptional growth. However, despite this potential, the contribution of renewable energies to the satisfaction of demand is low. The amount of renewable energy is growing in absolute terms but, given the simultaneous increase in demand, the share of renewable energies (hydraulic, wind, solar, geothermal) in the primary energy supply is growing very slowly.

Is energy used efficiently in the Mediterranean?

The awareness of the importance of energy conservation and evidence of links between environment (climate change) and development in the Mediterranean is growing.

On the north shore energy efficiency policies (EE) began to be implemented around the first oil shock of 1973, and continue with the promulgation of the Energy and Climate Package (20/20/20).

Moreover, and as indicated, studies estimate that there is significant potential to improve energy efficiency in this industry through demand management and improved control of transport and heating and cooling demand.

How to reduce the Greenhouse effect?

In 2000, 72% of the emissions of greenhouse gases (GHG) in the Mediterranean were attributable to CO₂ related to energy use with a growth rate that is two times faster than the global rate.

The comparison of the EU-27 and the Mediterranean region is interesting because these are two groups with approximately the same level of population. The consumption of primary energy and electricity in the Mediterranean is only half the respective consumption of the EU-27; likewise per capita consumption in the Mediterranean of primary energy and electricity is about half that of the EU-27. However, CO₂ emissions per type is up 6% in the Mediterranean compared to the EU-27, which shows that the Mediterranean energy mix is a greater emitter of CO₂ than the European mix.

The task of the Mediterranean Regions

In this context, the Mediterranean regions need a **common vision** to address four major energy challenges of the EU:

- Interconnection of different European and Mediterranean markets;
- The achievement of market integration;
- The security of energy supply;
- The development of "intelligent networks".

In these areas, development of renewable energy is an asset for these regions. At the Community level, the strategic direction adopted in the field of renewable energies is to:

- Diversify energy sources;
- Promote the use of renewable energy sources;
- Contribute to sustainable growth in Europe (Lisbon and Gothenburg);
- Develop a strong high-tech industry in the field of renewable energies - Reduce emissions of greenhouse gas emissions.

We must implement at regional level the existing legislation on energy. The status of implementation of existing legislation is weak, and it is the main cause of malfunctioning of the internal energy market in the Mediterranean regions. The proper functioning of markets is essential to provide stakeholders the transparency and predictability required to make their investment decisions in a stable regulatory framework.

In the transport sector, the EU adopted a binding target of 10% of energy from renewable sources by 2020. This underlines the importance of bio-fuels and low-carbon electricity generation, which are of great interest to shipping regions, as are most regions of the Mediterranean.

A key point in the future energy policy of the EU will be the energy infrastructure that will be involved in a new Package of Energy Infrastructure from the Commission and which provides interconnections at the European level. The integration of energy networks must begin at the regional level to better meet the needs of consumers and businesses.

The following is evident:

- The important role of the regions in the development of RE;
- The need for the Mediterranean to form a coherent policy;
- The added value of cooperation between territories to build a long-term partnership between the regions of the Mediterranean concerning RE..

For this, the Working Group on "Renewable Energies" of the IMC is to coordinate and improve the regional policies of renewable energy (RE).

We will try to establish:

- A methodological framework and (common) transnational strategy;
- A database of good practices on regional policies;
- A common framework for cooperation;
- A partnership that will focus on establishing a permanent framework for cooperation between regions for the development of RE (GECT ER.MED), open to all Mediterranean regions (North & South shores).

The objective is, thus, to improve:

- The quality of regional policies to support RE;
- The contribution of renewable energies to energy production;
- The knowledge of the potential development of RE in the regions;
- The harmonization of policies across regions;
- The identification of best practices for the development of RE;
- Solutions for institutional structuring.

Conclusions

The idea is to propose cooperation between the regions that will strengthen their participation in joint initiatives; these actions should be linked with regional strategies for innovation and capitalization.

Since the Mediterranean basin includes most of the EU border with third countries, it is important to develop an intelligent network to feed the production of renewable energy, both offshore and onshore, in the European Union. The Mediterranean will play an important role in the connection of Europe to diversify supply sources in third countries. We must consider the importance of the Mediterranean at the time of negotiating and strengthening energy markets with third countries (the Commonwealth Pan - Mediterranean Energy Partnership East, Western Balkans) and also in the domestic market.