



**AD HOC Group
on Environment, RES and energy efficiency**

***Assessment of the possible effects of
extending the functioning of national
mechanisms to a supra-national level.
RES and CHP***

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FINAL REPORT

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1.-Introduction.

There is a great range of market-based instruments that governments use to promote electricity from RES (renewable energy sources)

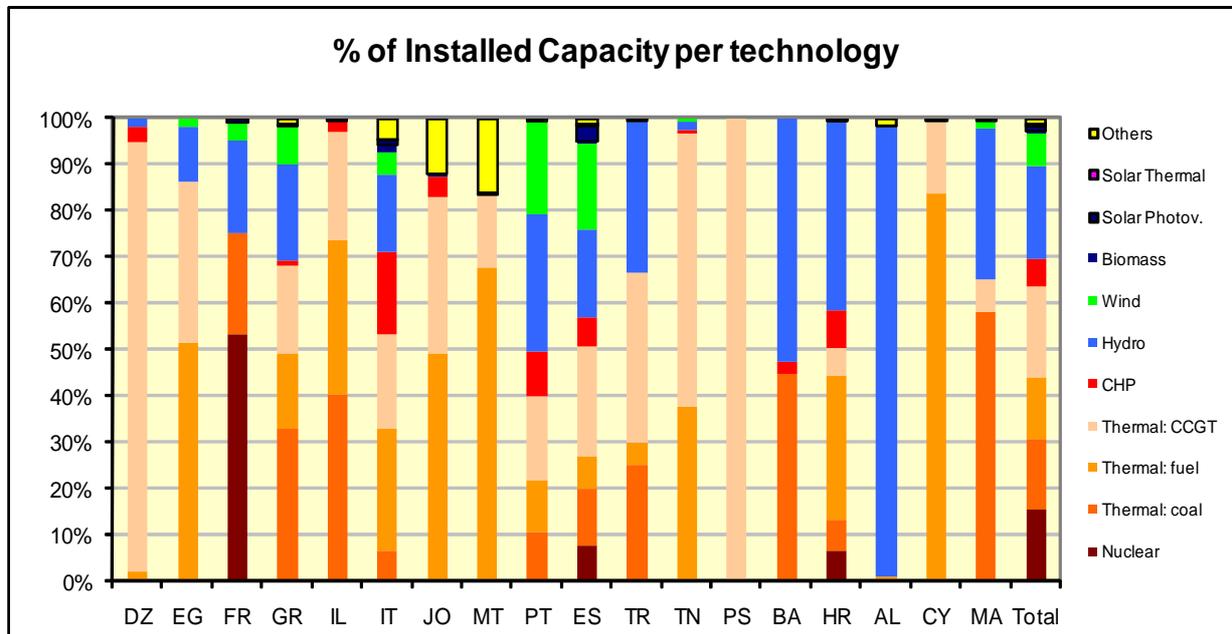
National mechanisms are very different from some countries to another, motivated by historical reasons, natural resources, environmental policy, etc.

There is also a wide range in the level of support to energy from RES, which must be adapted to the generation costs, very different from some countries to others.

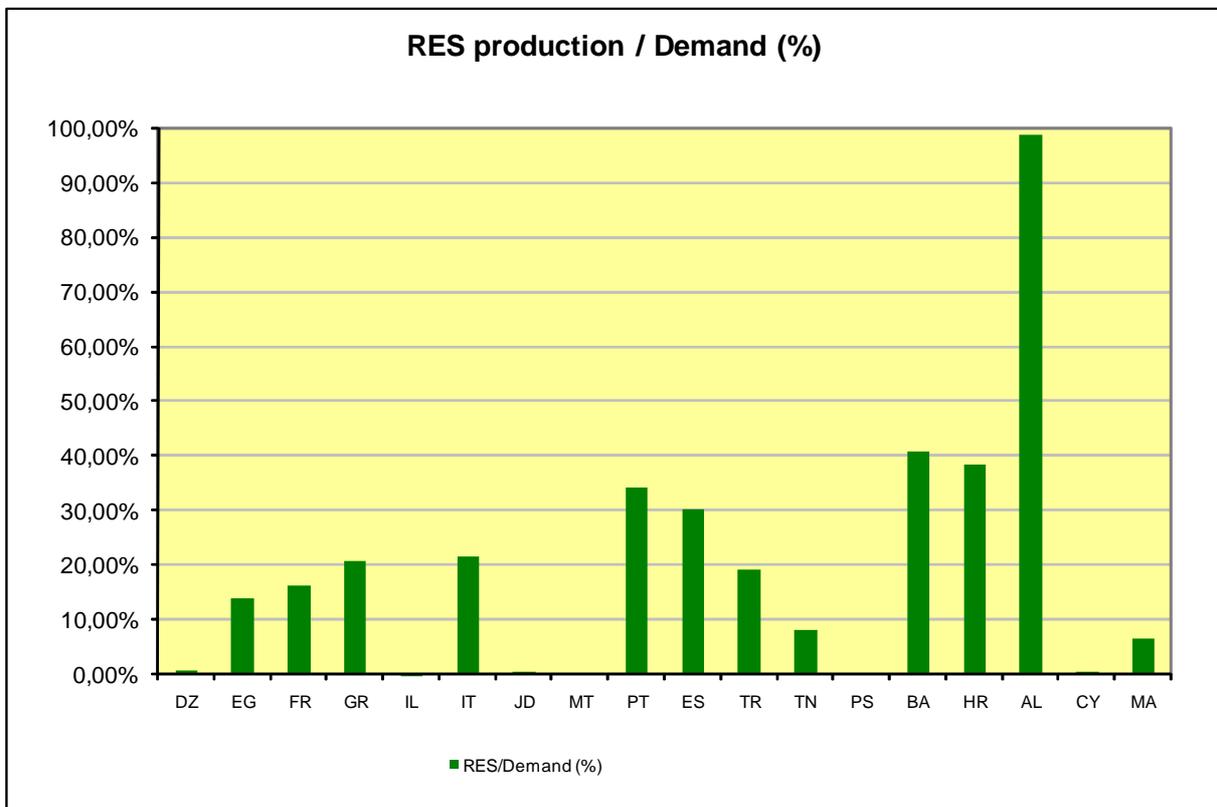
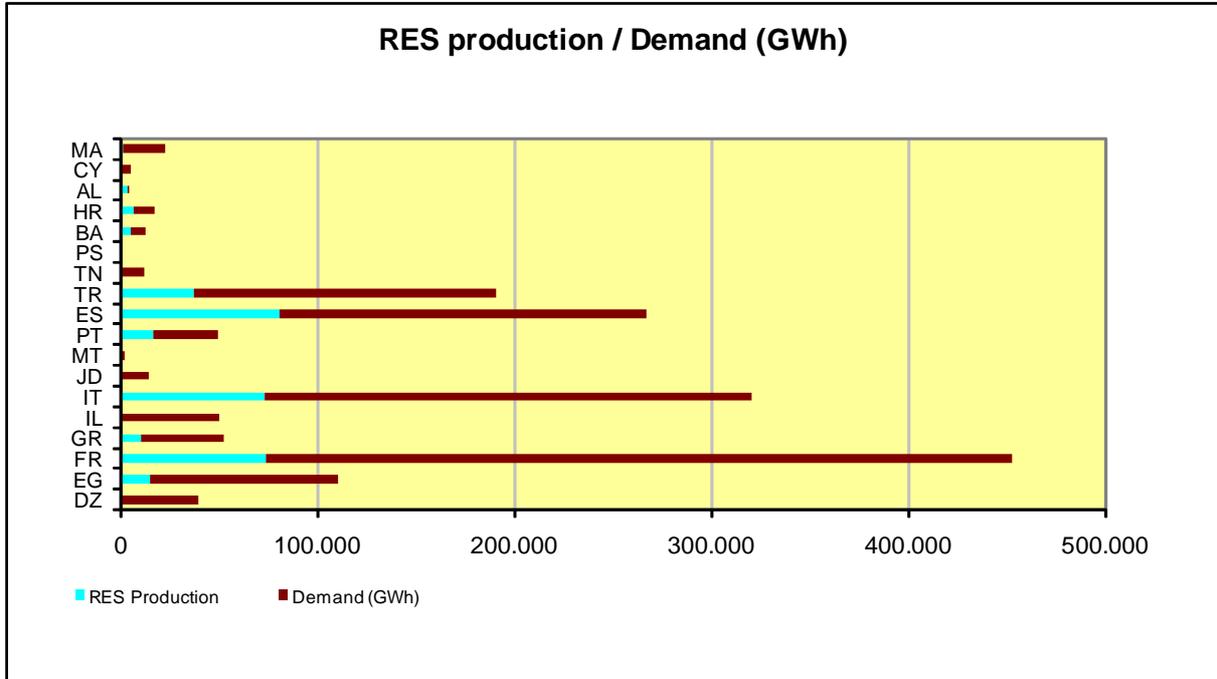
Taking into account this context, to make compatible support schemes at a national level with a supranational level, where many countries are involved, is not an easy task.

Current development of RES in MEDREG members is very different from some countries to others.

The next charts show the installed capacity (MW and percentage) per technology for the members according to the last information received (Benchmarking 2009 data):



The next chart shows the coverage of Renewable Energy Sources generation over demand, in GWh and also in percentage. (Benchmarking 2009 data):



This document will try to assess the potential benefits and risks of this harmonization process in order to extending the national support mechanisms to a supra-national level.

From the MEDREG perspective, one of the key points to promote RES is to set a clear and stable regulatory framework at international level. This point could facilitate investments in non-EU countries, getting advantages of the potential resources and avoiding potential risks.

The objective of this report is to establish the basic points of a supra-national framework on development and implementation of a clean technology transfer to non-EU countries, in which are the best natural resources.

2.-Effects to regulatory harmonization

2.1. Analysis of potential benefits

- **To optimize natural resources.**

If the mechanisms to promote renewable are extended to a supranational level, the areas with more potential in resources will be the best position to receive supports, so, investments are optimized, focusing in those areas.

- **To improve efficiency.**

Efficiency (Comparison of the total amount of support received and the generation cost) improves in a supra-national promotion mechanism, and the system is more cost effective for consumers.

- **To improve effectiveness.**

Effectiveness (ability to deliver an increase of the share of renewable electricity according a potential of reference) is higher when investment goes where best resources are located.

The potential benefits to install renewable plants in developing countries and a stable and clear international regulatory framework will attract investments from developed countries.

- **To improve the development of non-EU countries.**

If the effectiveness improves, typical advantages for renewable will be benefits for the societies where resources are located. Advantages concerning industry,

employment, local and regional development, trade balances, security of supply and improvements in environmental quality, etc.

Renewable energies contribute to creating quality jobs and improving industrial competitiveness is an additional reason for the need to encourage policies that promote such energies to secure long-term economic growth.

As a result of all these advantages, we could point out that renewable energies constitute a guarantee for sustainable development.

2.2 Analysis of potential difficulties and risks

- **Passivity of EU countries.**

The delay of some EU countries in fulfill the European regulation about climate change, RES, Energy Efficiency, etc, can be an extra difficulty to extending investments in non-EU countries.

- **Difficulty of design an adequate supra-national support scheme.**

Setting an adequate support scheme for different countries is a complex task, with the possibility of over-pricing and the consequent windfall profits for the generators and the extra costs for consumers.

One of the key points is the stability and predictability of economic incentives which reduce regulatory uncertainty. This is an important requirement to incentivizing investments in new capacity and, at the same time, minimising financing costs and reducing final costs to consumers.

- **Increase in Electric energy prices.**

RES technologies are very intensive in capital and they can be especially expensive in developing countries. Greater investment costs, dispersion of energy sources and the intermittency of some of them, which lead to higher costs of the renewable energy. With the increase in the renewable share, and without the adequate investment plans, final price of the electricity could be higher.

- **Insufficient network infrastructures**

It is necessary to define an adequate network development in order to integrate the new RES plants. As this technology usually is variable and difficult to manage an adequate infrastructure level is a key factor to combine the RES targets with the guaranty of supply.

It is also necessary to build interconnections between EU countries and non-EU countries, through Mediterranean Sea.

Currently, there is only an interconnection in the west part of the Mediterranean Sea (Spain-Morocco), and some interconnections on the east part (Turkey/Syria/Jordan/Egypt)

- **Geopolitical barriers**

Another important factor for the success of the harmonization process is the political commitment between countries, overall in energy scarcity situations.

Energy is usually regarded as a national issue. The objectives of the countries and industries sometimes are not in the same directions, and usually this lack of convergence led to strong political reactions from member countries and their industries.

- **Convergence in the institutional framework**

The integration and compatibility in national support schemes is not possible without the creation of an integrated institutional and regulatory framework at an international level.

3.-Regulatory mechanisms to a supra-national level.

There are some mechanisms to promote RES (feed in tariff, tradable green certificates, tenders, and investment grants or tax rebates). But there are also some barriers to apply those mechanisms in non-EU countries. (Lack of legal stability, insufficient know-how, low investment level, insufficient network capacity, etc)

The regulatory mechanisms to a supra-national level could contribute to overpass those barriers.

3.1. Flexibility mechanisms in the Directive 2009/28/CE

The Directive 2009/28/EC of the European Parliament and the Council of 23 April 2009 on the promotion of the use of energy from renewable sources sets flexibility mechanisms.

The Directive facilitates a cross border trade of RES energy compatible with National support schemes, in order to facilitate to reach national mandatory targets. Those

flexibility mechanisms are statistical transfers, joint projects between Member States and joint support schemes, all of them, between EU countries.

Statistical transfers:

It is an agreement between Member States, making arrangements from a one Member State producer of RES energy to another Member State, consumer of this energy.

There is a statistical transfer for a specified amount of renewable energy. For the producer country, this energy is deducted from total renewable energy taking into account in measuring compliance with the targets. For the consumer country this energy is added to the energy that is taken into account for the compliance with the targets.

Joint projects between Member States

One of the Member States invest in new renewable generation plants located in other member state. The amount of electricity produced by renewable sources is taken into account in the compliance with the national targets of the first Member State.

It is necessary interconnection lines between both countries.

Joint support schemes

Two or more Member States can agree to coordinate their national support schemes. The participating members must set up a distribution rule to allocate amounts of energy from renewable sources between the countries.

This energy produced in the territory of one of the countries may counts towards the national overall target of other participating country, according this rule.

Interconnection lines between countries are also necessary

But there is other flexibility mechanism which involved EU and non-EU countries:

Joint projects between Member States and third countries

In this mechanism, one Member State cooperates in a project located in a non-EU country. The aim of the project must be the production of electricity from renewable sources. This cooperation also may involve private operators. It is possible Joint projects with the participation of several countries.

The electricity produced from renewable sources must be taking into account for

measuring compliances with the national targets, with the following requirements:

- Electricity must be consumed in the EU. Then, an equivalent amount of electricity has been firmly nominated to the allocated interconnection capacity by both system operators
- Energy must be produced by a new installation plant.(After the 25th of June, 2009)
- The electricity produced and exported has not received support from a third country other than investment aid granted to the installation.

3.2 Key points for the success of the flexibility mechanisms of the Directive are:

3.2.1. Agreement between countries

A key factor is that relevant authorities from the origin and destination countries must set up a dialogue about infrastructures, cross border electricity exchanges, certification and regulatory issues in order to reach agreements to make transfer of RES possible and to notify to the EU Commission.

It is necessary a firm commitment by the states to cooperate, share the knowledge and the experiences in renewable projects.

Also, cooperation may include transparency in exchange of information and best practices, as national action plans, forecasts, national reports, etc.

3.2.2. Share of the RES energy

When UE Member States join projects with non EU countries, it is important that projects relate only to new capacity. This will help to the objective to no reduce the proportion of renewable energy in the total energy produced in the non-EU country.

Also, the project must define which proportion of the electricity generated will be for domestic use and which one for export. This means that the energy produced could be shared between the EU and non-EU countries. The EU country can fulfill its national RES target.

On the other hand, non EU members improve their security of supply and get benefits for the industry, investments, employment, etc.

3.2.3. Interconnections

Interconnections between countries facilitate integration of electricity from renewable sources. Also, interconnections reduce balancing costs and smooth variability. Transferring renewable energy from producer countries to consumer countries is impossible without strong interconnections infrastructures at a supra national level.

3.2.4. Certification bodies

It is necessary setting certification organisms in the participant countries, at a national level, with the international recognition of the EU and the non-EU members.

This organism must certificate that the energy comes from renewable sources, according to objectives and transparent criteria. Also must set transparent rules and the appropriate controls.

3.2.5. External and internal financing mix

A critical question for the success in the flexibility mechanisms is the financing of the projects.

The incentives must provide reasonable expectation for all parts, and all stakeholders involved must take a reasonable profitability. This consideration involves that EU members may use this renewable energy in the accounting towards their national overall target. Also, it involves that some supranational institutions like World Bank, European Investment Bank, African Development Bank, Official Aid Development, etc, must invest on grant aids for a part of the installation. It means that electricity consumed in the origin country will have lower cost.

3.3. Flexibility mechanisms in Kyoto and post-Kyoto: -Clean Development Mechanisms

Kyoto and post-Kyoto protocol are initiatives according to the strategy for climate change mitigation.

One of the flexibility mechanisms defined in the Kyoto protocol is the Clean Development Mechanisms (CDM). Currently, CDMs constitute a financial tool that is scarcely used in the region.

According to this mechanism, it is allowed investments to be made from Annex I countries, or developed countries in less developed countries in order to reduce the former's CO₂ emissions.

With these projects, developed countries can obtain CO₂ emission rights, which eventually could be sold in a CO₂ emission rights market.

For the developed country, the main objective of these mechanisms is to avoid emission thanks to these projects, getting emission cuts in places where the costs of the projects are cheaper than in their own countries.

For the developing country, the profits are coming from the investment in new renewable projects, and the advantages in employment, know how, etc.

4 Conclusions

Renewable resources in non-EU countries could be used by EU countries with great advantages for both parts.

RES directive will allow to non-Eu countries to receive investment for RES installations, in order to produce electricity for their domestic consume and also to export to EU countries. This is a key point for some Eu countries to fulfil with their national targets.