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STUDIES

Issue 2013/06  
October 2013

POLICY

BRIEF

## *In Search of an EU Energy Policy for Mediterranean Renewables Exchange: EU-Wide System vs. ‘Corridor by Corridor’ Approach<sup>1</sup>*

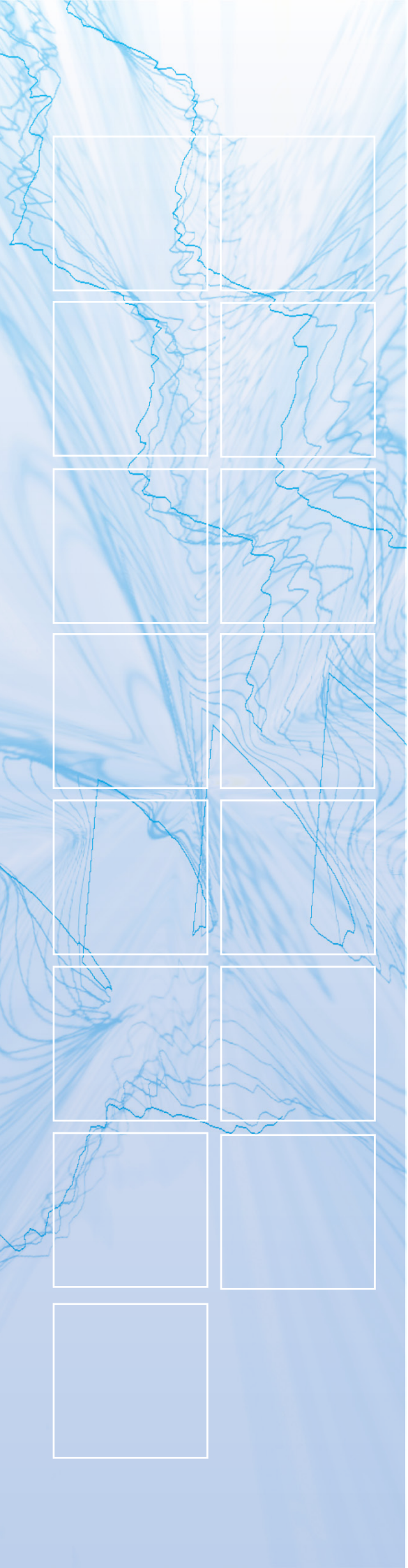
*Authors: Jean-Michel Glachant and Nicole Ahner*

### *Highlights*

*To date there is no clear EU legal and regulatory framework governing renewables exchange across the Mediterranean. It is a patchwork of Member State, third country and EU energy regulation, complemented by case-sensitive renewables-specific trade arrangements that frame EU imports of energy from renewable sources (RES-E) generated by projects currently under development in the Middle East and North Africa region (MENA).*

*As the vision of a Mediterranean energy market for electricity requires extensive investments, institutional and legal reforms and a high level of regulatory accord among EU and MENA countries that is not attainable in the near future, we are in practice moving towards a ‘cor-*

1. This policy brief takes advantage of the presentations and comments made at the workshop “The ‘Schengenization’ of EU Energy Policy - The Case of Euro-Mediterranean Renewables Exchange”, June, 27 2013 organised by the Loyola de Palacio Chair in cooperation with Clingendael (CIEP), the Regional Centre for Energy Policy Research (REKK) and the Centre for European Policy Studies (CEPS). However it only expresses the views of the authors. For a comprehensive study of the existing EU legal framework please refer to our Working Paper 2013/xy, of the same name, available at <http://fsr.eui.eu>.



*ridor-by-corridor’ approach rather than towards a fully-fledged EU-style system for Mediterranean RES-E exchanges.*

*The various regional institutions and organisations involved in EU-MED energy cooperation are crucial for regulatory convergence at the regional level, and thus to enable Mediterranean RES-E trade initiatives.*

*Since the Green Package<sup>2</sup> allows Member States to use RES-E from non-EU countries for their EU-RES target compliance only if the green energy is physically imported into the EU and does not allow for statistical transfers between the Member States and the third countries, it may rather provide an incentive for enhanced North-South energy cooperation than offer us a ready-to-use framework or platform for RES-E exchanges. However, this may be understood as a rationale for regional market integration.*

*If the EU were able to institutionalize energy relations with the three North African countries or any other country, it would rely on an extension of the Energy Community, or on a new ‘North African Energy Community’.*

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2. Notably Article 9 of Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, OJ L 140/16.



## Background

Recent years have seen increasing efforts in Europe to win the Southern Mediterranean countries as new suppliers of RES-E. Massive amounts of green electricity generated by projects currently under development in the MENA region might be someday consumed in the EU. Estimates suggest that Europe may realize cost savings of 30 €/MWH given the lower costs on the Southern bank. The MENA countries themselves might expect to benefit from an annual export industry volume of about € 47 - 63 billion. Moreover, a benefit for Member States, and the EU as a whole, would be an opportunity to receive credit towards the EU RES targets for clean power generated abroad and consumed in the EU.<sup>3</sup>

However, to date, beyond the stark invocation of Euro-Mediterranean RES-E exchange less attention has been given to its actual implementation. There is no clear EU legal and regulatory framework for energy cooperation across the Mediterranean. It is a patchwork of Member States' third countries' and EU energy regulation, complemented by case-sensitive RES-E- specific trade arrangements that frames the envisaged massive EU imports.

But - What would be the most appropriate platform for RES-E exchange across the Mediterranean Basin? Should we be moving towards a limited energy exchange platform or towards unlimited market integration? In other words, should we prefer a 'corridor-by-corridor' approach or rather a full-fledged EU-style internal system?

*What is a 'corridor' and why is the 'corridor-by-corridor' approach more achievable?*

In order to accommodate the additional RES-E generated in MENA countries, electricity transport capacity between the EU and MENA must be expanded on a significant scale. One multi-facility project, the Mediterranean Solar Plan (MSP), alone claims to target 20 GW of new generation capacity.<sup>4</sup> Possible solutions for resolving the current low infrastructure connection between the EU and the MENA include:

1. "Closing the Mediterranean ring" by means of further development of interconnector capacity concentrated in the east (Gibraltar) and west (the Bosphorus), which would permit the transport of power across the whole MENA and the EU;
2. "Corridor approach", involving the construction of direct North-South (MENA-EU) direct submarine HVDC cables grouped into "transmission corridors" capable of accommodating several GW each; or
3. A combination of 1 and 2.<sup>5</sup>

A due closing of the ring is still complex today due to the poor condition of the grids in several MENA countries and the subsequent challenge of effectively interconnecting these grids. As a first step, South-South interconnections need to be enhanced, both in "hardware" terms (infrastructures) and "software" terms (energy exchanges based on clear cross-border trading rules and flows integration) in order to develop mutually beneficial commercial transactions leading then to a regional more integrated **platform**. The second step, cannot be done before the

3. Considering the lack of current development, it is not likely that significant amounts of RES electricity will actually be imported into the EU by 2020; however, because of the long lead time required to construct an high-voltage, direct current (HVDC) link, the 2009/28/EC Directive provides that Member States may receive credit for RES consumed in a third country during construction of an interconnector commenced on or before 31 December 2016 and under certain limited conditions.

4. The Mediterranean Solar Plan (MSP) is one of the main efforts set forth in the founding declaration of the Union for the Mediterranean (UfM), whose membership includes the EU-27, MENA, the League of Arab States and eastern European countries.  
5. MEDRING Update - Volume II, "Analysis and Proposals of Solutions for the Closure of the Ring and North-South Electrical Corridors" MED-EMIP (Final Draft, April 2010), at p. 88.



**Box 1 Necessary trade arrangements**

|   |   |
|---|---|
| <p><b>Short-term arrangements</b></p> <p><b>Operational arrangements:</b></p> <ul style="list-style-type: none"> <li>• <i>Dispatching</i></li> <li>• <i>Congestion management</i></li> </ul> <p><b>Commercial arrangements:</b></p> <ul style="list-style-type: none"> <li>• <i>Buying and selling power</i></li> <li>• <i>Inbalances settlement</i></li> <li>• <i>Capacity allocation</i></li> </ul> <p><b>Arrangements specific to RES-E</b></p> <ul style="list-style-type: none"> <li>• <i>Certification mechanism</i></li> <li>• <i>Priority to RES-E</i></li> </ul> | <p><b>Long-term arrangements</b></p> <p><b>Connection agreement:</b></p> <ul style="list-style-type: none"> <li>• <i>Entry in generation (Possible to export?)</i></li> <li>• <i>Access rules to the grids</i></li> <li>• <i>Access rules to interconnections</i></li> </ul> <p><b>Use-of-system charges:</b></p> <ul style="list-style-type: none"> <li>• <i>Transmission tariffs</i></li> <li>• <i>Transmission losses</i></li> </ul> |
| <p>Relevant for: Area N, Area S, interconnections N-S and any transit area X</p>  |   |

Source: A. Henriot, FSR, November 2012.

first, it is South-South interconnections to develop a South-South market probably as a pre-requisite to North-South interconnection projects. Many of the major markets in the Northern Mediterranean have a national or regional power exchange. Similarly, some Southern Mediterranean countries might go closer to the creation of a sub-regional market, to be integrated with the Northern area at a later stage. To successfully integrate Northern and Southern markets, sub-regional integration and cooperation need to be deepened. However, today most of the Southern electricity systems are still vertically integrated, and / or state-owned monopolies. As a result, foreign players or national newcomers are discouraged to participate in the system.

Unfortunately the EU side has added its own complexity. Up until 2020 there is no real driver to accelerate the vision of large-scale deployment and import of green energy from the South to the EU. This may prove useful to meeting new 2030 RES-E targets under discussion in the EU (with RES-E being less expensive for EU consumers). Only on

the horizon 2050, where many national and the EU roadmap look for at least 80% of RES penetration (buzz word: the German ‘Energiewende’), the dream or the vision of a truly integrated EU-MED energy market could offer a major role for RES electricity imports to Europe.

Against such a background, today’s ‘corridor’ approach<sup>6</sup> appears more attainable in the near future. It might be understood as

- an energy system that includes all necessary qualified generation facilities, grid upgrades and regulatory modifications;
- each corridor is an “interface” between one or a few third countries and one or a few EU Member States directly involved.

6. The three electricity ‘corridors’ are the ‘Western corridor’ from Morocco (and possibly Algeria) to Spain and further to France, Portugal and other EU countries, the ‘Central corridor’ from Tunisia (and possibly Algeria) to Italy and other EU countries and finally the ‘Eastern corridor’ from Turkey to Greece and to other Member States.



**Box 2 Indispensable terms**

|   |   |
|---|---|
| <p>Actions by the applicable MENA government(s) and organizations:</p>                                | <ul style="list-style-type: none"> <li>• put in place the Grid Code;</li> <li>• authorize production for export and fix criteria for access to the international market;</li> <li>• define access rules to interconnector capacity and congestion management rules;</li> <li>• identify an independent body certifying renewable sources power plants;</li> <li>• define procedures for tracking production and import of renewable sources (certificate of origin).</li> </ul> |
| <p>Example of actions by the EU Member State government(s) exemplified by the Italian case:</p>       | <ul style="list-style-type: none"> <li>• Italian case: define criteria for the acknowledgement of Italian incentives to the 'green' energy from Tunisia (Italy – Tunisia Bilateral Agreement);</li> <li>• Italian case: set up procedures to monitor energy import aimed at achieving the target for RES-E.</li> </ul>  |
| <p>Actions by both governmental or organizational parties to be included in "corridor agreement":</p> | <ul style="list-style-type: none"> <li>• capacity allocation and congestion management procedures;</li> <li>• inter-TSO compensation (ITC) mechanisms.</li> </ul>   |

Source: M. Cuomo, FSR, July 2012.

*Necessary trade arrangements for Mediterranean RES-E exchange*

Any operation of RES-E trade requires at least a minimum set of trade arrangements. According to the European Commission today Mediterranean RES-E exchanges are still hampered by a lack of common qualification of generation facility and charging principles for the network use, a lack of common principles for priority access, a lack of common methodologies for price setting, a lack of common provisions to establish a regional wheeling agreement or wholesale energy market, a lack of common rules for cross-border electricity exchanges such as common methodology to establish Net Transfer Capacity (NTC), and a lack of transparent capacity allocation and congestion management rules (at least bilaterally).<sup>7</sup> In fact, to take off North-South RES-E trade needs some certainty about the trade arrangements to be put in place (Box 1).

7. European Commission, Staff Working Document SWD (2012) – 164 final accompanying the EC Communication 'Renewable energy: a major player in the European energy market, COM(2012) 271 final at p. 20.

*What are the indispensable aspects of the EU legislative framework for each corridor of RES-E trade?*

Indispensable terms to be included in the inter-governmental and interorganizational agreements controlling the development and operation of the corridors are those that reflect the provisions of the EU regulatory framework essential to protecting the integrity of the EU's internal energy market, scheduled to be complete by 2014/15. Box 2 is a non-exclusive list of areas essential for the trade in each corridor and thus to be included either in each corridor's respective intergovernmental and interorganizational agreement or a multilateral agreement.

*The role of the regional institutions and organisations, industrial initiatives*

A corridor-by-corridor approach may permit a more organic development of EU-MENA energy trade. Much like the development of sub-regional markets within the EU, corridor-oriented development could be guided by the actual needs and appetite of



voluntary participants from MENA. In this way, each regulatory platform for trading RES power between the EU and MENA can develop in synch with the common priorities of the participating countries. While this may not be the simplest approach from the perspective of global investors and lenders, they might (a) have ample opportunity to influence the negotiation of the international agreements controlling the applicable corridor and (b) a predictable timeframe and procedure for possible changes to the platform will be known upon execution of the agreement, i.e. the expiration date and modification provisions.

In addition, building corridors regulated largely by contracts negotiated among organizations will allow for an organic progression towards an integrated EU-Med electricity market. The consecutive (or concurrent) development and operation of several separate corridors under regimes controlled largely by the parties to each individual “corridor agreement” will provide feedback valuable for the eventual later codification in the MENA region of those aspects seen as most compatible with EU energy regulatory framework. Similarly, future EU legislation might benefit from the experience of such large-scale integration with an extra-Community sub-region.

In this context the key role of the – though vast number of – regional institutions and initiatives becomes obvious. Although some coordination of their actions and plans would be desirable, and converging interests should be conveyed in few focused Mediterranean associations it is undeniable that these bodies are enablers of regional market integration.

To start with the regulatory side, there is **MedReg**<sup>8</sup>, the institution for Mediterranean Energy Regulators launched as a voluntary working group that became a formal organisation in 2007. MedReg comprises 23

energy regulators from 20 Mediterranean countries promoted by the EU and mainly worked on a master plan for building a regional electricity market, one focus being the establishment of strong and independent regulatory authorities in all Mediterranean countries. As a result, for instance, Morocco decided to establish an independent regulator for electricity and gas in 2014.

There are the industrial stakeholders, grouped in initiatives such as the Desertec Industry Initiative (Dii) and the MEDGRID industrial initiative,<sup>9</sup> which was created to support the implementation of the Mediterranean Solar Plan (MSP), and is complementary to the DESERTEC initiative. Both initiatives signed a Memorandum of Understanding in 2011 in order to cooperate. Similarly, there is the Observatoire Méditerranéen de l’Energie (OME), a private and non-profit association created in 1988 assembling the major energy companies of the Mediterranean region which understands itself as a gathering platform to promote regional dialogue and cooperation.<sup>10</sup> Moreover there is a grouping of all the Mediterranean electricians associations, called MEDELEC<sup>11</sup> or the younger cooperation initiative ‘Renewable Energy Solutions for the Mediterranean’ (RES4MED)<sup>12</sup>.

As a sister organisation to the European Network of Transmission System Operators for Electricity (ENTSO-E), there is the newly established Association of the Mediterranean Transmission System Operators (TSOs), the so-called ‘Med-TSO’ that is open to the TSOs of those countries that are parties

8. For further information visit: [http://www.medreg-regulators.org/portal/page/portal/MEDREG\\_HOME](http://www.medreg-regulators.org/portal/page/portal/MEDREG_HOME)

9. A consortium of 21 companies (TSOs, generators, manufacturers, financing institutions, investors) from both shores of the Mediterranean Sea. See <http://www.medgrid-psm.com/en/>

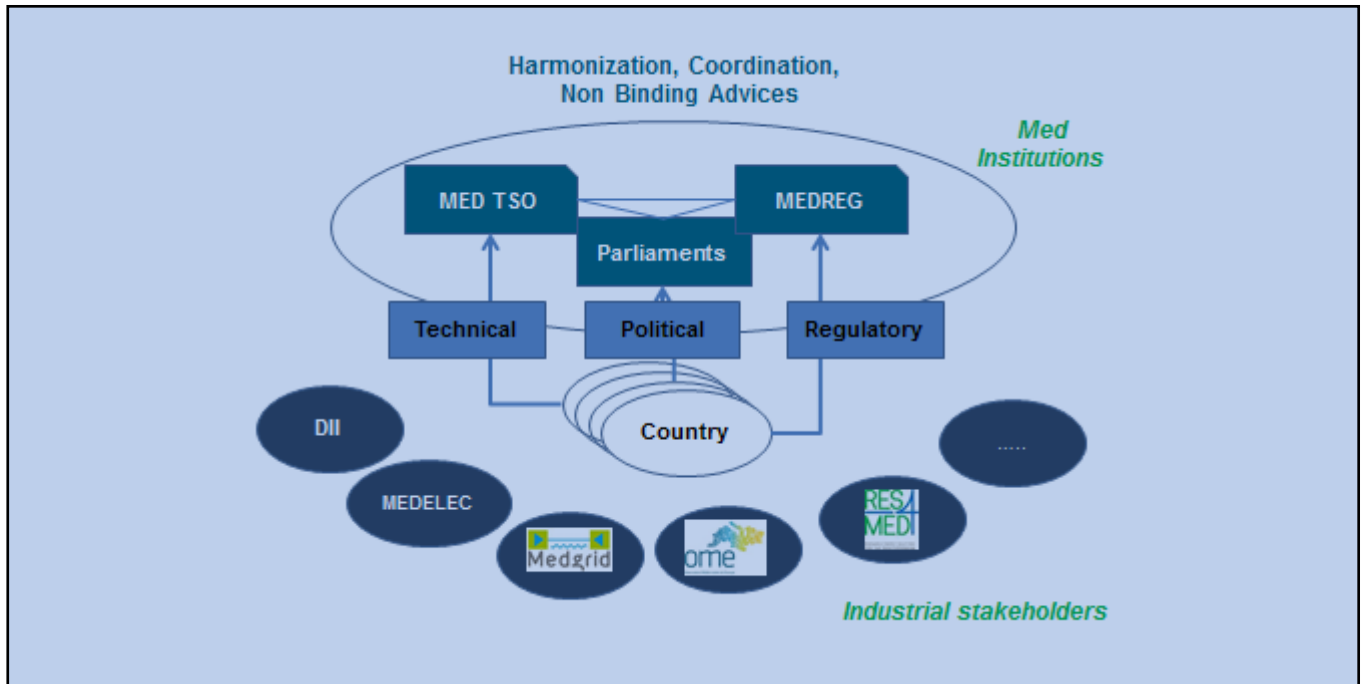
10. In May 2013 OME and MEDGRID published their joint report “Towards an Interconnected Mediterranean Grid: Institutional Framework & Regulatory Perspectives”, available at: <http://www.ome.org>.

11. For further information visit: <http://www.medelec.org/Content/Default.asp?>

12. For further information visit: <http://www.res4med.org/site/index>.



**Box 3 Med Institutions and industrial stakeholders**



Source: M. Urbani, OME, 'Regional Governance for Electricity Integration in the Mediterranean: which Institutional Framework?'<sup>14</sup>

to MedReg.<sup>13</sup> Equilibrated governance is guaranteed by the election of a President from a Southern Mediterranean TSO and a Vice-President from a Northern Mediterranean TSO. Med-TSO takes part in the institutional settings related to the development of the Mediterranean energy network, participates in the operations concerning the network coordination of the adhering parties, and adopts of common criteria of access and use of the network (network codes, transport of energy and tariffs). (Box 3)

*Financing institutions – the European Bank for Reconstruction and Development*

In correlation with the fast growing energy demand, the International Energy Agency (IEA) forecasts more than US \$5 trillion of energy sector investment

13. <http://setis.ec.europa.eu/newsroom-items-folder/european-commissions-launches-med-tso-to-boost-mediterranean-electricity-systems-2>

14. PowerPoint Presentation from 27th June 2013 available at: <http://fsr.eui.eu/Events/ENERGY/Workshop/2013/130627SchengenizationEUEnergyPolicy.aspx>

in the Middle East and Africa for 2012-2035. This includes investments in national infrastructure and potential interconnections.

The European Bank for Reconstruction and Development (EBRD), an AAA-rated international financial institution, owned by 63 countries and two inter-governmental institutions promotes transition to market economies in 34 countries from central Europe to Central Asia (including Turkey and Mongolia) and from 2012, in the Southern and Eastern Mediterranean. The capital base is €30 billion: It facilitates inward and cross boarder investments in the region. More than €8.9 billion have been invested in 2012 across a variety of sectors. The private sector accounts for 78% of the EBRD finance. In Autumn 2012 the EBRD's Board of Directors approved the first three projects in the South & East Mediterranean region. By 2015, the EBRD expects to be investing up to €2.5 billion across the Southern and Eastern Mediterranean region which comprises Jordan, Morocco, Egypt and Tunisia. Its mission is *inter alia*



**Box 4 Conditions to qualify the imported RES-E as “consumed” in the Community following Article 9 of the RES Directive at subsection 2(a)(i).**

- (i) an amount of electricity equal to the RES amount is firmly nominated to the allocated interconnection capacity by all responsible TSO's in:
  - a. *the third country*
  - b. *the country of destination*
  - c. *(if applicable) each third country of transit (i.e. each 'non-EU transit country')*
- (ii) this same amount is 'firmly registered' in the 'schedule of balance' by the responsible TSO on the EU side of the interconnector; and
- (iii) capacity nomination date and production date refer to the 'same period'

*[emphasis added by the authors]*

to support, but not to replace private investment: it is about additionality (by providing longer tenors matching the projects cash flows, innovative structures or local currency financing). It can be said that it acts as a catalyst for higher and riskier involvement of financiers (ability to attract additional sources of financing given the EBRD's market position and to provide a wide range of financial tools such as loans, bonds, equity, and mezzanine debt).

**Article 9 of Directive 2009/28/EC in context**

Through 2020, Article 9 of the RES Directive permits the Member States to cooperate with third countries and private operators in developing and operating RES-E generation projects located in third countries. RES-E produced via this “joint cooperation” mechanism will count toward the national targets of the Member States provided that the project adheres to the requirements of Article 9. To qualify for inclusion in the national target amount, the RES-E must be produced in an installation constructed, or refurbished, after 25 June 2009 as a joint project and “consumed” in the EU Member State that claims it as part of its total consumption.<sup>15</sup>

15. RES Directive, Article 9, Subsections 2(a) and (b). In addition, other than investment aid granted to the installation, the RES-E amount must not have benefited from the support scheme of a third country.

Rather than engage in the impossible task of fully tracing the actual RES-E from generation to consumption, the RES Directive uses the following fiction: in order for a specific amount of RES-E generated in a third country to count towards a national target, an amount equal to that specific amount must be accounted for at every step of its transport to the consumer country, as follows<sup>16</sup> (Box 4)

The requirement of an actual physical import into the EU brings us back to the initially discussed general issue that an appropriate regulatory framework and an adequate level of coherence between the involved Southern and Northern Mediterranean countries do not exist. The problem of the necessary “traceability”, i.e. tracing the flows plus tracing the quality of produced and exported RES-E, adds to the complexity. There are several questions open such as the RES nature certification requirements, the measurement of RES volume being RES-E for the downstream support scheme, the adaption of the downstream RES support scheme to the particular

16. Note that the requirements below are no general import requirements for RES-E into the EU but matter only where Member States wish to count the third country RES-E for their RES target compliance. This is already happening in Morocco, Jordan and Egypt (see mirror field of Kuryamat 150 MW CSP below), where competitive tenders are launched to enact national plans and where industrial off-takers are using wind and solar plants to feed their factories, regardless of Article 9





cost profile of the upstream RES generation. In case of transits inside the EU, it is unclear how to ensure priority access for Southern Mediterranean RES-E only transiting in a given Member State, the nomination and measurement rules for transit RES-E balancing-settlement. On the Southern shore problems arise around the green facility certification, the measurement of green generation output and green injections into the grid, congestion management, dispatch priority, balancing rules, or access to the interconnection, just to name a few.

Such results leads us to conclude that since Article 9 allows Member States to use RES-E from non-EU countries for their EU-RES target compliance only if the green energy is physically imported into the EU (and does not<sup>17</sup> allow for statistical transfers between the Member States and the third countries), this provision may rather provide an incentive for enhanced North-South energy cooperation than offer an actual ready-to-use framework or ‘platform’ for RES-E exchanges. Thus, it may be understood as a rationale for regional market integration. Note however, that the Commission intends to create further incentives to invest in RES-E in the Southern Mediterranean region and hence, as a first gesture of its ‘good will’ claimed in its Communication of 7 September 2011<sup>18</sup> that it will consider improving the RES Directive’s conditions for joint projects with third countries as long as it does not undermine the targets for renewable in the EU. In fact, interpretative guidelines on how to actually implement joint projects under Article 9 is expected for the course of this year 2013.

17. Note that the RES Directive provides that Member States may receive credit for RES-E consumed in a third country during construction of an interconnector commenced on or before 31 December 2016 and under certain limited conditions.

18. See European Commission Communication, On security of energy supply and international cooperation - “The EU Energy Policy: Engaging with Partners beyond Our Borders”, COM(2011) 539 final.

### *What involvement is necessary at the EU level?*<sup>19</sup>

Despite an abundance of literature stating the contrary, notably that the current bottom-up approach to Euro-Mediterranean RES-E trade is characterized by non-binding advice, regional institutions and harmonisation efforts at the regional level, EC Communications and declarations point into another direction. If the EU is to institutionalize energy relations with North Africa or any other country multilaterally, it should rely on an extension of the Energy Community, or on a new North African Energy Community (such findings clearly derive from the European institutions Communications). The Commission explicitly proposed the creation of such a new Community as a tool for enhanced energy exchange and markets integration around the Mediterranean basin, based on a differentiated and gradual approach.<sup>20</sup> In fact, it is expected that in the context of the presentation of the MEDREG’s mapping on energy infrastructure investment at the December 2013 meeting of Union for the Mediterranean’s Energy Ministers a respective proposal will be discussed.

19. See note 19 above at section 2.3: “The EU should continue to include key principles for trade and investment such as non-discrimination and market access and make them enforceable through effective dispute settlement procedures both in bilateral agreements as well as in multilateral legal frameworks. These rules should be negotiated to suit the specific energy relations and interests of individual countries, or groups of countries. These principles have to be complemented with rules concerning reciprocal and equivalent access to energy resources and networks in these countries, as well as investment protection, and regulatory convergence regarding pricing policies, sustainability criteria and crisis prevention mechanisms. [...]”

20. European Commission Staff Working Document ‘Implementation of the European Neighbourhood Policy in 2012 Regional Report: A Partnership for Democracy and Shared Prosperity with the Southern Mediterranean’, SWD(2013) 86 final, atp. 17.

## Conclusion

More Euro-Mediterranean RES-E exchange is plausibly feasible in the near future. It is true that a full harmonization of electricity legislation among EU and MENA countries, while ideal, would require a level of regulatory accord that still does not exist in the EU (nearly two decades after liberalization). However a timely achievement of the EU 2020 targets only demands a minimum of regulation that is adaptable by a limited number of voluntary affected parties, i.e. a few producer countries, a few consumer countries, a few transit countries (if any) and some private entities, such as the project entrepreneurs and their lenders. Non-binding guidance at the EU level could therefore be the tool of choice for a trade enhancement in the short term. This would lead to

a built-in timeline mechanism aimed at achieving more market integration in the longer term. Non-binding guidance is preferable to our eyes because it (a) permits the interested parties to negotiate an agreement with the flexibility that is necessary to respond to fluid economic or regulatory conditions and (b) mitigates the risk that investors will be retroactively subject to changes in the regulatory framework without the ability to modify the project's controlling agreement. Early binding rules issued by the Commission would presumably increase capital costs (perhaps prohibitively) by causing an investment's regulatory misalignment among players. Moreover, the enactment of such a binding piece of legislation could entail a multi-year process that would effectively overshoot the core timeline of the EU-Med development process (2020).

Florence School of Regulation  
Robert Schuman Centre  
for Advanced Studies

European University Institute  
Villa Malafrasca  
Via Boccaccio 151  
50133 Firenze - Italy

Contact FSR coordinator:  
[Annika.Zorn@eui.eu](mailto:Annika.Zorn@eui.eu)

## The Florence School of Regulation

*The Florence School of Regulation (FSR) was founded in 2004 as a partnership between the Council of the European Energy Regulators (CEER) and the European University Institute (EUI), and it works closely with the European Commission. The Florence School of Regulation, dealing with the main network industries, has developed a strong core of general regulatory topics and concepts as well as inter-sectoral discussion of regulatory practices and policies.*

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