THE REDIR PROPOSAL: THE ROLE OF MARKET MECHANISMS AND CROSS-BORDER EXCHANGES IN MEETING THE TARGETS

Workshop “The ‘Clean Energy for All Europeans’ Package & Mediterranean Electricity Market Integration”

Brussels, 11.04.2018

Mediterranean Forum on Electricity and Climate Change

Prof. Dr. Mario Ragwitz, Fraunhofer ISI
Current Flexibility/Cooperation Mechanisms

- Statistical transfers
- Joint projects
- Joint support schemes
- Physical transfer from 3rd countries
Current Flexibility/Cooperation Mechanisms

3.1: Statistical Transfer
- Virtual transfer of energy from one MS statistic to the RES statistic

3.2: Joint projects between Member States
- RES potentials are exploited jointly by two or more MS
- MS define which share counts towards which MS‘s target

3.3: Joint support schemes
- Merging RES support schemes and defining quantity allocation

3.4: Joint projects with third countries
- Joint projects between MS and countries outside the EU

(Source: Klessmann et al., 2014)
General policy pathways possible w.r.t. cooperation with 3rd countries (e.g. MENA)

<table>
<thead>
<tr>
<th>EU COM Policy Pathway</th>
<th>EU RE target and harmonized support schemes</th>
<th>Status quo, national RE targets, but policy convergence</th>
<th>Decarbonisation without RE targets (carbon market and a revised ETS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Pathways analyzed</td>
<td>Pathway A Harmonized FIP</td>
<td>Pathway C National converged schemes, national import tenders</td>
<td>Pathway C* National converged schemes, joint EU import tenders</td>
</tr>
<tr>
<td>Policy Pathways analyzed</td>
<td>Pathway B Harmonized Quota Scheme</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

realistic options considering current proposal for 2030-Governance

Source: Dii 2013
Next steps for EU-MENA integration of RES policy

Transition towards a long term reliable framework:

1. Pooling of Art. 9 Projects to facilitate transition of pathway C to C*
2. Definition of comparable RE targets in MENA countries
3. a) Extension of EU Energy Community to MENA countries and application of Art. 6 → virtual transfer possible but full market liberalization required
   b) Continuation of pathway C* to ease the coordination of build-up of interconnectors, combining RES tenders with tenders for interconnectors
4. Introduction of fully harmonized premium system after full market integration including a common CO$_2$ market, energy subsidy phase-out and a reliable regulatory framework for grid investments have been accomplished.
Next steps for EU-MENA integration of RES policy

No regret options valid for all pathways:

- Introduction of non-discriminatory grid access and taxation regime
- Definition of national MENA RES targets comparable to EU
- Creation of regional power and balancing markets
- Unbundling of generation-, transmission- and distribution activities
- Regime for full IPP participation (transparent and non-discriminatory)
- Stepwise implementation of cost-reflective electricity prices in all countries
- Introduction of metering and certification schemes for RES
- Convergence of financing conditions

Additional elements for harmonized policy options:

- Existence EU-MENA power, balancing and carbon markets
- Common approach for burden sharing of RES support cost
EU Commission environment and energy state aid guidelines contains the following main requirements.

Support should be granted based on the following conditions:

- Use of auctions (or Quota /TGCs) to determine remuneration level
- Premium systems to support market compatibility – no premium payment during negative prices
- Technology neutrality
- Partial opening of national support schemes (Cross-border support schemes)
2030 governance for RES: Deliver on the 2030 targets while ensuring MS flexibility

1. The European Council agreed in October 2014 on an EU binding RES target, but excluded national binding targets.

2. What are the requirements for the future RES governance?
   - EU target should be “fulfilled through Member States contributions guided by the need to deliver collectively the EU target”
   - All Member States should contribute → need to define their fair share
   - Increased flexibility for Member States (compared to 2020 framework)
   - RES investors will need transparency and reliability to deliver the target → need for transparent and reliable planning framework; enforcement of EU target
   - Reliable national commitments also needed to coordinate investments in grids and generation assets

3. What-if-questions not sufficiently solved so far - What if national plans or actual RES deployment do not add up to 27%?
Governance: Gap-Filler + Additional issues

- 2020-targets used as baseline. If not met by 2021 payment to fund required (Art.27(4)) → good solution to keep 2020 targets effective

- Mechanism to avoid ambition gap (Art. 27 (1))
  - Measures at Union level

- Mechanism to close implementing gap (Art. 27 (3-4))
  - Issue recommendations for MS
  - Measures at Union level in addition to recommendations
  - Additional measures by MS (H&C/T quotas, funds, others)
  - *Additional idea: Using the gap-filler as a tool to implement cooperation projects with 3rd countries?*
Designing Opened Auctions
Which is the best premium system?

Support expenditures, support type, and reference electricity price

**Sliding FIP, ref price exporting MS**
- Risk for regulator in importing MS
- -> not recommended

**Sliding FIP, ref price importing MS**
- Risk for plant operator, leading to winner’s curse
- -> not recommended

**Sliding FIP, Average ref. price**
- moderate risk of uncertainty of price differential between markets

**Fixed FIP**
- high risks of uncertainty of fundamental price drivers: demand, fuel prices, ETS prices

---

**Assumptions:**
- 2 Member States
- Total volume of auction: 100 MW, corresponds to 100 GWh/a (at 1000 FLH)
- Country A: LCOE 100 €/MWh
- Country B: LCOE 80 €/MWh
- Reference electricity price: Country in which installation is located

**Volume in country A:** 0 MW → support expenditures 0 €
**Volume in country B:** 100 MW → support expenditures 3.0 mn €

**Volume in country A:** 0 MW → support expenditures 0 €
**Volume in country B:** 100 MW → support expenditures 5.0 mn €
Designing Opened Auctions
Technology specific or technology neutral?

- **Advantage of technology neutrality:**
  - incentive for full competition between all generators

- **Disadvantage of technology neutrality:**
  - technologies leading to lower system integration cost components, external to the award criterion of the auction, might not develop at the optimal level
  - new technologies with high cost reduction potential might be underrepresented
  - design criteria of auctions, e.g. project realisation periods, might indirectly discriminate against certain technologies
Recognizing the numerous benefits of regional electricity market integration, France, Germany, Morocco, Portugal and Spain signed a joint declaration, during COP22 in Marrakech, on the establishment of a roadmap for sustainable electricity trade (SET) between Morocco and the European internal energy market. An activity was launched on 7 September 2017 in Rabat to prepare the SET Roadmap. The objectives of the SET Roadmap preparation exercise are:

- To analyze the benefits of increased RES electricity exchanges, resulting from electricity market integration.
- To identify investments, processes and procedures to enable sustainable electricity trade between the five signatories.
- To formulate the SET Roadmap implementation pathway.

The work undertaken will include studies to analyze the economic, financial, legal/regulatory, security, technical, environmental, social, market and implementation topics relevant to the SET Roadmap preparation. These studies have now been launched

THANK’S FOR LISTENING