Remarks to the Clean Energy Package

Balázs Gábor LEHŐCZ
CEO, Dunamenti Power Plant

30th May 2017, REKK Energy Policy Forum
The operating regime is not optimised for a least cost solution…

Key elements of current European energy policy

<table>
<thead>
<tr>
<th>I. RES development</th>
<th>II. Energy only market</th>
<th>III. Customer integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ensuring security of supply via renewable generation</td>
<td>• Pure energy is traded on power markets</td>
<td>• Provide opportunity for customers to choose supplier</td>
</tr>
<tr>
<td>• Reduction of GHG emission</td>
<td>• Bottlenecks minimized with integrated transmission system operation and (cross border capacity) development</td>
<td>• Support response possibilities to market signals of consumers via smart systems</td>
</tr>
<tr>
<td>• Governmental subsidies to support green investments</td>
<td>• Active regulatory framework to create the single EU energy market (market couplings)</td>
<td>• Integrate customer’s investments to support system operation (with rooftop solar, batteries, smart homes)</td>
</tr>
<tr>
<td>• Transmission system development to bring RES generation to the customers</td>
<td>• Short term operated balancing markets to liberate resources</td>
<td></td>
</tr>
</tbody>
</table>

Primary source free RES generation provides independent energy source for the continent’s industry

Market prices send necessary signals to investors and create a favorable environment

Customers involved actively in system operation and become a „prosumer“ on the power market
No capacity investments are expected within the current market framework

EU BL curve compared with German LCOE ranges (2013, 2030) [EUR/MWh]

1) LCOE calculated to Germany with typical load factors

Source: Fraunhofer ISE, REKK
Security of supply will become tighter year to year with continuous decrease of generation capacities

Taking into account a slight increase in demand and applicable reserve obligations, the Hungarian power system will need ~7800 MW available capacity in the mid-term.

To meet this need and provide back-up capacities beside RES generation, ~1700-1800 MW new capacity is required in the following 10-15 years.

Capacity scarcity is not primarily caused by the increase in demand, rather the retirement of obsolete and non-competitive plants.

1) Import is fixed at 10% (~ the 2016 level) as an acceptable risk level
2) Total Available Capacity: Based on ENTOS-E expectations, the R3 reserve obligation is optional from 2020

Source: MAVIR, MET
Optimum shall include all potential solutions in order to achieve sustainable development

Issues of present EU energy policy

- Investment **decisions** are **not based** on short term **price** signals

- Governmental support mechanisms (**subsidies**) **accelerated renewable capacity developments**

- Partly available **RES capacities** can **not guarantee system stability**

- Consumers are not willing to participate in power system **operation and taking significant operational risks** just because

- **Extreme weather** conditions with high peak demands **appear in complete regions**, not only in single countries
The solution is on the table: more than 25 capacity mechanism introduced in 14 EU countries

Remarks about current power generation situation

- **Increase of** weather dependent renewable portfolio requires more flexible balancing sources
- **PP shutdowns** from the existing generation portfolio are still expected which will **decrease the systems’ reliability**
- Decision makers do **not make CAPEX investments without an expectable return**
- The energy only markets (as the current situation presents) are unable to stimulate investments in merchant generation

Countries that have already introduced or are evaluating capacity mechanism
Thank you!