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Transparency register: 17284292859-45

## **Consultation Paper on generation adequacy, capacity mechanisms and the internal market in electricity**

Stadtwerke München GmbH appreciates the opportunity to comment on the consultation paper. Please find enclosed our comments.

### **I. General Remarks**

Stadtwerke München GmbH (SWM) is a multi-utility company owned by Munich City Municipality in Germany and citizen value is a central theme for SWM. It employs more than 7.800 employees and has a turnover of approximately 4 billion Euros. It provides a range of utility services to approximately 1.1 million customers:

- Energy services: electricity, district heating and natural gas supplies;
- Water supply services and 18 municipal swimming pools; and
- Local transportation: subway, bus and tram services.

SWM has the ambitious target to produce enough power from renewable energy sources in its own plants to cover 100% of Munich's power demand by 2025.

Munich intends to be the first city worldwide with more than one million inhabitants to reach this ambitious goal. SWM will invest € 9 billion in renewable energy in the upcoming years.

SWM is only answering to the most important questions from our point of view and concern.

### **II. Answers to the Questions**

#### **INVESTING IN THE INTERNAL ENERGY MARKET**

##### **(1) Do you consider that the current market prices prevent investments in needed generation capacity?**

The current electricity price level (spot- and futures markets) together with the price level for fossil fuels and CO<sub>2</sub>-certificates are the reasons why thermal power plants, especially gas fired plants, operate with significantly reduced full load hours. This leads to less profitability. In the worst case a

new built power plant is going to be a “stranded investment”. Thus, there are no market signals for needed generation capacity.

**(2) Do you consider that support (e.g. direct financial support, priority dispatch or special network fees) for specific energy sources (renewables, coal, nuclear) undermines investments needed to ensure generation adequacy? If yes, how and to what extent?**

Most renewable energies, especially wind power and photovoltaic, would not have been built without the support of feed-in-tariffs. By now, increasing amounts of supported electricity lead to a significant depletion of wholesale electricity prices. Amongst others, this is one reason, why new built thermal power plants are currently economically unviable. At present no market or market price for generation adequacy exists.

**(3) Do you consider that work on the establishment of cross-border day ahead, intraday and balancing markets will contribute to ensuring security of supply? Within what timeframe do you see this happening?**

Coupled markets will help only to some extent, but not in general: e.g. in a very cold winter day all over Europe every single region will probably face the same supply problems and will not have resources to help out in other regions.

Thus, the coupled markets have to be diverse enough in their specific supply system and demand behavior.

**(4) What additional steps, if any, should be taken at European level to ensure that internal market rules fully contribute to ensuring generation adequacy and security of supply?**

Renewable energy (RES) support schemes should be coordinated in terms of not effecting competitive energy markets. Additionally, the RES support payments, seen from the economic point of view, must be reorganized (wherever it is necessary) in order to make sure that the control of the volume is directly linked to the demand, respectively correlated with the carbon reduction targets. Furthermore, investment decisions in RES should be driven or affected by market prices.

Market prices have to be uncapped in order to send the right signals to investors, owners and operators of power plants. Market limits and other regulatory interventions do not ensure a level playing field which is important for the fully economic integration of RES considering market prices for investment decisions and the competitive operation facing all other technologies.

Grid costs have to be fairly allocated according to the reason, usage taking into account the extent of with respect to capacity and energy volume that possibly means the change from volume to capacity based prices for the grid use.

The emission trading system (ETS) has to be strengthened i. a. by a further reduction (without any backloading but permanent set-aside) of the carbon certificates. Otherwise RES will never or at least many years later have the chance of market integration. ETS and RES targets have to be harmonized in order to benefit from each other in the best way.

Otherwise and assuming continuous low prices for carbon certificates thermal power plants will not come back into the economic efficiency. Considering this fact, no power plant will be built and the security of supply is not guaranteed.

**(5) What additional steps could Member States take to support the effectiveness of the internal market in delivering generation adequacy?**

The effectiveness directly depends on the market coupling. Thus, the best way to further enhance the generation adequacy is to enforce the European market coupling. That means first of all a coordinated cross border development of the high voltage grid. It means furthermore a more coordination of balancing mechanism and, as already commented before, the phase out of market distortions.

## ASSESSING GENERATION ADEQUACY

**(8) Looking forward, is the generation adequacy outlook produced by ENTSO-E sufficiently detailed? In particular,**

**a. Is there a need for a regional or European assessment of the availability of flexible capacity?**

With respect to a coordinated cross border development of the high voltage grid in terms of an enhanced market coupling a European assessment of flexible capacity may give important information about the need of generation linked with a regional allocation. It may also effect the balancing mechanism.

**b. Are there other areas where this generation adequacy assessment should be made more detailed?**

The outlook only focuses on generation adequacy considering a static demand. Considering the fluctuation of RES production it requires a more comprehensive analysis that takes into account the time resolution of energy demand, the volatile residual load and, if necessary, the relevant grid status.

**(11) Should generation adequacy standards be harmonised across the EU? What should be that standard or how could it be developed taking into account potentially diverging preference regarding security of supply?**

Yes, the standards should be harmonized which also leads to a higher market coupling in an easier way. European standards can support (and reduce the time of) national discussions for example about capacity mechanisms considering on the security of supply. Standards also help to manage extreme situations when it comes to risks of lost load (black out, brown out).

## MECHANISMS TO ADDRESS GENERATION ADEQUACY CONCERNS

**(12) Do you consider that capacity mechanisms should be introduced only if and when steps to improve market functioning are clearly insufficient?**

Yes, if energy markets do not provide sufficient security of supply, capacity mechanisms should be implemented. These mechanisms - in case of necessity - are recommended to be introduced as comprehensive and based on capacity payments and not affecting the energy only market.

A comprehensive mechanism is technology-neutral and considers existing, new built and planned to be built power plants in the same way. No selective procedures are implemented. Comprehensive mechanisms allow power plants to act at the energy only market even though they get payments from capacity mechanisms.

In parallel and to complete capacity mechanisms, the demand side management should be improved which leads to a more flexible demand, which is expected to be about 5 GW maximum (middle-term).

**(13) Under what circumstances would you consider market functioning to be insufficient: a. to ensure that new *flexible* resources are delivered?**

If prices of certificates continue to be rather low, caused by a big surplus of certificates, no thermal power plants - in general and including flexible resources - will be delivered. The ETS needs a significant set-aside without any backloading afterwards and further structural measures.

In parallel, the excessive development of RES uncoupled to energy demand and market prices has to be reorganized and harmonized with ETS targets, including continuously ongoing carbon reduction. Otherwise, RES will hold down carbon prices and will never be profitable ("in the money").

**b. to ensure *sufficient* capacity is available to meet demand on the system at times of highest system stress?**

Price caps in energy markets prevent signals to investors of power plants, thus they would not build new capacity. For instance high peak prices inform about shortages in power production and should not be capped.

A second reason for missing investments and consequently insufficient capacity is a continuous low carbon price development (see 13.a).

**(14) In relation to strategic reserves:**

**a. Do you consider that the introduction of a strategic reserve can support the transition from a fossil fuel based electricity system or during a nuclear phase out?**

In principle yes, but one has to be aware of the fact that a strategic reserve does not incentivize new built capacity. Therefore, a strategic reserve is the best solution as long as the needed capacity is small, the operation time is short and the technical requirements and the payment are clearly defined and published, so that available capacity can be provided non-discriminatory, technology-neutral and cost-effective. In this case a strategic reserve does not significantly influence the energy only market.

**b. What risks, if any, to effective competition and the functioning of the internal market do you consider being associated with the introduction of strategic reserves?**

As commented in (14a) no new built power plants will be incentivized. In case of an extensive usage over long time periods operating with oversized capacity the prices at the energy only market will be capped and the market signal (which is important for investors) does not appear.

**(15) In relation to capacity markets and/or payments:**

**a. Which models of capacity market and /or payments do you consider to be most and least distortionary and most compatible with the effective competition and the functioning of the internal market, and why?**

A comprehensive capacity market (see also 12, which excludes strategic reserve) pays for capacity without excluding the power plants from the energy market. A capacity market should cover the European market and have been introduced on binding standards. It is technology-neutral, ensures competition and is stable and easy to operate.

**b. Which models of capacity market and /or payments do you consider to be most compatible with ensuring flexibility in a low carbon electricity system?**

There is no preferred model that is best applicable. Based on clear market prices sufficient flexible capacity will be built automatically. Furthermore / alternatively technical requirements for power plants may guarantee that the needed flexibility will be provided.

**c. Are there any models of capacity mechanism the introduction of which would be irreversible, or reversible only with great difficulty?**

A strategic reserve is reversible without any consequences. Comprehensive capacity markets (see 12) actually cannot be removed without bigger difficulties. But in case of sufficient capacity, the payments to generators will tend to zero, thus the capacity mechanism has phased out automatically from the economic point of view.

**(16) Which models of capacity mechanisms do you consider to have the least impact on costs for final consumers?**

A strategic reserve probably has the least costs short term, but do not incentivize new built power plants. In case of a comprehensive capacity market, it should be a European or at least a regional market, which is more effective (long term) than national solutions.

**(17) To what extent do you consider capacity mechanisms could build on balancing market regimes to encourage flexibility in all its forms?**

Capacity mechanisms cover a difference between the maximum peak load and the available power generation capacity. Balancing mechanisms are applied to the grid in order to stabilize the fre-

quency. Balancing mechanism and capacity mechanisms do not have a direct influence to each other and should be consequently separated from each other in the discussion.

**(18) Should the Commission set out to provide the blueprint for an EU-wide capacity mechanism?**

Currently we do not know if the energy only market will fail, in contrary we do everything that this does not happen. Otherwise, the discussion about capacity mechanisms has already started in many countries. In order to support these discussions but also to prevent a fail development (to defend the beginnings) a blueprint could be helpful in a very close cooperation with the branch.

**FRAMEWORK FOR ASSESSING CAPACITY MECHANISMS**

**(19) Do you consider that the European Commission should develop detailed criteria to assess the compatibility of capacity mechanisms with the internal energy market?**

Yes.

**(20) Do you consider the detailed criteria set out above to be appropriate?**

**a. Should any criteria be added to this list?**

Yes. The implementation of a capacity mechanism should not be an instrument to compensate for a disadvantageous and not competitive design of the overall energy market and an energy policy that is not market oriented. In particular, renewables have to be better integrated into the market by abolishing guaranteed prices and feed-in privilege as currently set in place in Germany. Before assessing the need for capacity mechanisms, these reasons of further market distortions have to be removed.

**b. Which, if any, criteria should be given most weight?**

- the need and effectiveness of capacity mechanisms has to be demonstrated
- strict neutrality of technologies
- cost effective
- RES support has to be changed (market integration, volume control) and harmonized with capacity mechanisms
- support of flexible demand
- does not affect the energy only market
- ensuring a level playing field for all Member States
- ensuring a competitive bidding process and allows demand response
- costs have to be transferred to consumers in a fair way.