

European Commission
***Consultation paper on generation
adequacy, capacity mechanisms
and the internal market in
electricity***

Anigas comments

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Anigas welcomes the European Commission public consultation paper on generation adequacy, capacity mechanisms and the internal market in electricity.

In our opinion, this analysis should not disregard the contribution of properly designed capacity remuneration mechanisms in addressing market failures/distortions emerging in real energy only-markets and to reduce the increasing risk perceived by market operators, which is also influenced by the current policy driven transition of the electricity sector (RES subsidies etc.)

History showed that real energy-only markets generally fail to provide system adequacy unless market power is sufficiently large to support investments in new power plants before capacity gets scarce. Literature¹ refers to “missing money problem” to explain the reason why real energy-only markets fail to provide system adequacy. By oversimplifying, main causes of flaws in the actual functioning of energy only markets as opposed to theory can be highlighted:

1. Customers are risk averse

Their risk aversion makes impossible to create liquid long-term markets, thus energy-only markets does not provide long-term price signals for investments in new and existing power plants.

2. Rigidity of electricity demand

In real energy markets, electricity demand is rather rigid so that, in case of insufficient supply, there is not enough voluntary load reduction to clear the market. As a consequence, when involuntary load shedding occurs, a problem of efficiency turns into a problem of reliability (a public good).

¹ See, for instance, Cramton and Ockenfels, Economics and design of capacity markets for the power sector, May 2011

Furthermore, TSO's measures which have to be adopted to maintain reliable system operations during scarcity periods (e.g. contracting new additional capacity, managing of out of market operating reserves, rolling blackouts, etc.), interfere with market and generate the "missing money problem".

3. Public acceptability of energy-only market dynamics

In pure market design, the lack of coordination in the decisions to build new capacity induces boom and bust cycles that are not always well accepted by public opinion, influencing the regulatory interventions leading to the "missing-money problem".

4. Changes in the power generation mix

In the last years, the rapid growth of RES share in the power mix portfolio has increased, due to RES intrinsic intermittent output, the need for flexibility and real time services, in order to guarantee the security of supply. A "missing money" problem can thereof be identified regarding flexible capacity which should be supported, where the markets do not provide the correct long-term investment signals, by a specifically targeted remuneration mechanism.

Investors' perceived risk has increased post liberalization of energy markets and has been enhanced by the current financial crisis, affecting the premium required in the electricity sector to hedge the growing uncertainty on capital cost recovery. The reasons of this uncertainty can be summarized as follows:

1. **Price volatility, that is intrinsic in energy-only markets** since scarcity periods, occurring few hours every year and changing from year to year, cannot be clearly estimated in advance.
2. **Policy driven transition in the electricity sector** (e.g. toward RES, efficiency, new market design) since the frequency and the level of scarcity prices are significantly affected by small changes in the regulatory framework.

Therefore, by explicitly pricing the value of capacity, properly designed market-based capacity remuneration mechanisms complementary to energy-only markets could be a safety valve to mitigate:

- **The “missing-money problem”** resulting from energy-only market flaws, filling the gap between capital and fixed costs of peaking capacity and the actual rent coming from the markets.
- **The investor’s perceived risk** or required risk premium, reducing the uncertainty about the recovery of capital and fixed costs that is intrinsic in energy-only markets and that has been further exacerbated by the current policy driven transitions (e.g. RES, energy efficiency etc.).

Anigas remarks that gas-fired power plants, which feature a high degree of operating flexibility, are at date the most effective and cost-efficient mean to deal with RES unpredictable energy output which directly translates into an increased need of real time flexibility services. However, the reduced number of operating hours drastically reduces their profitability and, therefore, threaten their economic viability. Supporting these gas-fired power plants (existing and new ones) that, whilst playing a major role in guaranteeing the security of supply and the real-time system balancing (the so called “RES backup”) are often unable to recover from the markets a sufficient revenue to stay in the market itself (“missing money”), represents an optimal solution given natural gas environmental sustainability and low carbon footprint.

Thus, Anigas supports the implementation at member State level of tailor-made capacity remuneration mechanisms which take in due account the specific national market conditions in terms of capacity and flexibility needs. However, we are also in favor of an adequate level of European coordination and supervision (e.g. through the definition of some common basic criteria for the evaluation of capacity mechanisms) in order to avoid possible distortions/inconsistencies. Moreover, these measures should be compliant with Third Energy Package provisions and not hamper the integration of the European electricity markets as envisaged by the European Target Model.