



EEX response to the public consultation of the European Commission (DG Energy) on generation adequacy, capacity mechanisms and the internal market in electricity

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2. INTRODUCTION

The European Energy Exchange (EEX) welcomes the opportunity to take part in the the European Commission's consultation on generation adequacy, capacity mechanisms and the internal market in electricity. The present consultation is an important contribution to investigate both different approaches and challenges from a European perspective in order to sustain a reliable electricity system.

About EEX

The European Energy Exchange (EEX) is the leading energy exchange in Europe. It develops, operates and connects secure, liquid and transparent markets for energy and related products on which power, natural gas, CO₂ emission allowances and coal are traded. Clearing and settlement of all trading transactions are provided by the clearing house European Commodity Clearing AG (ECC). EEX is a member of Eurex Group.

3. SUMMARY

INVESTING IN THE INTERNAL EU ENERGY MARKET

After more than one decade of steady liberalisation, today's European electricity markets face fundamental challenges.

These challenges are in particular:

The increasing share of energy from renewable sources decreases the amount of energy that is produced by conventional power plants. In addition, the wholesale spot market price-level lowers due to the impact of renewable energy on the merit order. As a result, conventional power plants with higher variable costs are used less frequently, and their revenues might not be sufficient to cover fixed costs and to incentivise new investments. Nevertheless, investments in flexible technologies – not only for generation but also on the demand side – will be needed to balance fluctuating electricity generation from renewable sources. **However, so far there have been no widespread structural capacity problems, and there is no evidence either that a fundamental capacity problem may arise in the near future.** Only in a few geographically limited areas temporal capacity scarcities were experienced, e.g. in Southern Germany. Yet, these situations were merely caused by grid problems.

Another critical factor is that the debate is increasingly nationally dominated and that European coordination gets out of sight. If investors have any doubt that the market is 'allowed' to function on a European level because of unilateral domestic policy, they will not invest in this environment. This means a severe setback for the harmonisation and integration of European energy markets. **The more intervention there is from national authorities, the more uncertainty it creates for investors, which ultimately leads to more reluctance to invest.**

Exchanges play a pivotal role in this context. The exchange prices for electricity, gas and CO₂ provide essential references both to the market and to the decision makers who need them to estimate what influence their governance has. As such, EEX and other exchanges already provide, and are willing to further develop, products that meet the requirements of

an increasingly renewable-dominated market and that reflect a European market perspective.

ASSESSING GENERATION ADEQUACY

Already today, most national markets are well linked to their adjacent neighbouring markets and intensive cross border trading takes place. We therefore recommend also for the assessment of generation adequacy to take on the European perspective because a purely national analysis is no longer sufficient. A reasonable step can be a temporal assessment on a regional level, e.g. within the CWE or NWE regions. However, such a path requires a sufficient expansion of the European transmission system.

MECHANISMS TO ADDRESS GENERATION ADEQUACY CONCERNS

EEX has sincere doubts that capacity payment mechanisms are most suitable to fulfil the requirements put to the electricity market design. We rather consider this approach as a measure of last resort. The potential of trading markets – particularly in terms of integrating renewables – should instead be fully developed. We therefore ask the political and regulatory decision-makers to clearly commit to market-based principles on a European basis for the market design on which the energy industry and investors can rely.

In our opinion, it is crucial that the planning on future energy markets, including energy production – based on renewables and/or conventional power sources – as well as the grid expansion is closely aligned between the national and the European level. The established, well-functioning European energy markets are part of the solution of how these great challenges and conflicts between national and European planning, between grid usage and grid stability can be solved.

By becoming more European, EEX will strengthen the market, increase efficiency and promote investment at the same time. Clearly, there is a European answer to how investments can be promoted, and how the market can be further developed.

The following market-based measures are from our perspective most suitable for an adequate market-design development, and should be implemented before eventually introducing capacity payment schemes:

1) Market integration of renewable energy sources

Reliable and market-based price signals can only be achieved through the full integration of renewable energy into the power market. This includes that operators of facilities for renewables should be incentivised to base their generation in short-term trading on market prices and, hence, on the actual demand. However, we acknowledge that renewables will need a certain level of investment grants for the time being. A solution can be a premium that covers parts of the estimated costs. The difference could then be gained (or overcompensated) through market participation.

2) Strengthening of market prices

Prices need to be robust signals for an efficient dispatch and to incentivise investments, the use of flexible generation technologies, demand side management and storage technologies. A strong political commitment to free and unregulated prices is necessary to provide market participants with planning reliability. Political and regulatory decision makers shall formulate goals and set the right framework in order to help direct long-term investment decisions.

3) Fostering of demand flexibility and price elasticity

Wholesale prices provide for important signals for the use of storage and demand side management technologies. These technologies complement the system by providing necessary flexibility by absorbing electricity in case of oversupply and delivering electricity in case of undersupply.

4) Grid expansion at European level

A highly interconnected European system of transmission grids, high-voltage, direct current transmission and subsea cables links the different European markets closer together, and would hence significantly diversify the overall European generation capacity. Sufficient transmission capacity is also needed to connect storage technologies with load centres.

5) Definition and guaranteeing security of supply at European level

Integrated European markets comprise a diversified generation capacity mix, and will thus provide for a high level of security of supply for the whole European Union (and beyond). Market coupling optimises the use of cross-border capacities by implicitly allocating electricity and capacities. Peak load, moreover, does not occur at the same time of the day in all EU Member States or in neighbouring countries. It would therefore be absolutely inefficient to strive for energy autarchy on a national level.

FRAMEWORK FOR ASSESSING CAPACITY MECHANISMS

Should there nevertheless be the political will to establish capacity payment mechanisms, all consequences and details of such a system should be considered very carefully. The criteria lined out in the consultation paper to assess the compatibility of capacity mechanisms with the internal energy market could serve as a starting point for developing minimum requirements.

4. ANSWERS TO CONSULTATION QUESTIONS

4.1. INVESTING IN THE INTERNAL ENERGY MARKET

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

- The current price development with low prices (cf. Figure 1) may not provide sufficient investment signals for building new conventional flexible generation. However, one has to recognise the reasons for this market situation:
 - As market prices generally indicate the situation of supply and demand, low prices show that enough electricity generation is available. This effect can be observed on both the spot markets and the derivative markets.
 - So far, there have been no widespread capacity problems at peak consumption times, and scientific evidence for an existing “generation gap” is missing.
 - An increasing amount of renewable generation is not based on market competition but on subsidies. This leads to market distortions and influences the price formation: Thus, subsidies for renewables trigger the need for subsidising conventional electricity generation, and must not result in a vicious circle of cross-subsidies.
- It is also important to recognise that not only the price level is crucial for investment decisions. Already the discussion whether the necessity exists to modify the market design leads to uncertainty and can restraint long-term investments.
- We believe that market-based reference prices still form the essential basis for the market players’ operations – including their investment decisions. By publishing traded prices and volumes, the exchanges ensure transparency and provide reliable reference signals to the market. Two of the most frequently used reference prices in Europe are the Phelix established by EPEX SPOT for the power spot market and the Phelix Future established by EEX for the power derivatives market (cf. Figure 1).
- For investment decisions, transparent, well-functioning markets are an important precondition. For that reason market participants need equal access to fundamental data. Beyond providing this transparency, the example of the EEX transparency platform illustrates the interaction between conventional and renewable energy for the German/Austrian price zone (cf. Figure 2).

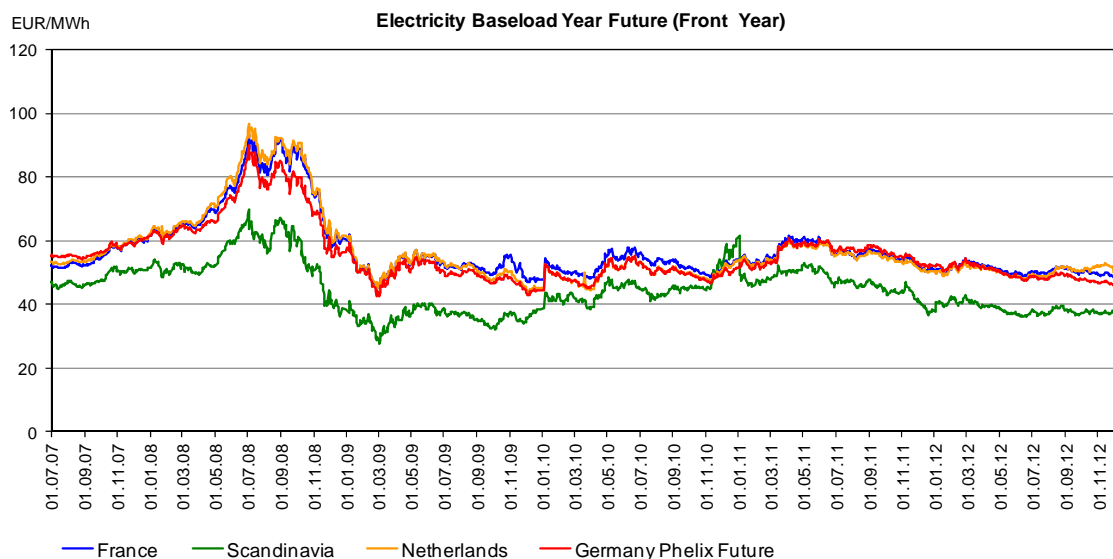
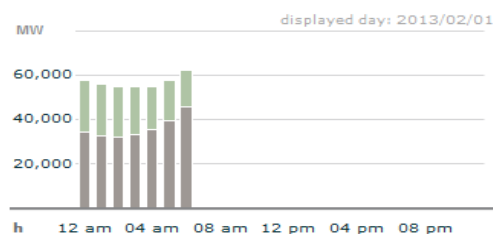


Figure 1: Comparison of Power Derivatives Prices within Europe (Sources: APX-ENDEX, EEX, Nasdaq OMX)

Welcome to the EEX Transparency Platform

On the EEX transparency platform market-relevant generation and consumption data is published at a central and neutral site, close to the market, in order to further increase transparency on the wholesale market. This implements both statutory publication requirements and voluntary commitments by the industry.

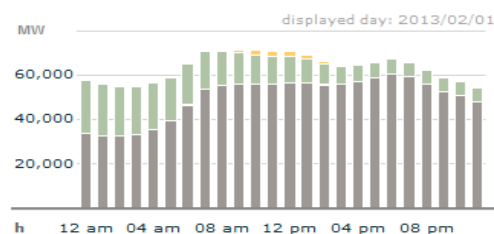
Actual production (power)



Show all data:

[Conventional \(≥ 100MW\)](#), [Wind](#), [Solar](#)

Planned production (power)

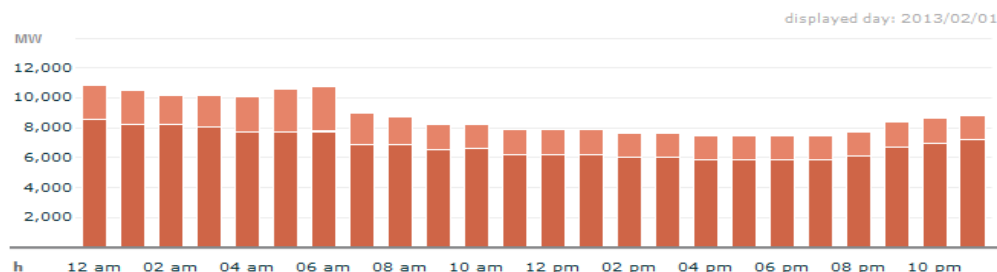


Show all data:

[Conventional \(≥ 100MW\)](#), [Wind](#), [Solar](#)

Legend: ■ Conventional ■ Wind ■ Solar

Planned and unscheduled non-usability of generating units of ≥ 100 MW



Show all data: [scheduled non-usabilities](#), [unscheduled non-usabilities](#).

Legend: ■ Planned non-Usabilities ■ Unscheduled non-Usabilities

Figure 2: Energy mix for the German/Austrian market area / planned and unscheduled non-usability of generating units (source: www.transparency.eex.com as of 1 February 2013)

(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?

- Indeed, we think that the price formation of electricity markets is increasingly influenced by parameters that are (too) far away from the market. This concerns in particular support schemes that give guarantees for the feed-in of energy as well as for the remuneration independently from the real market situation. This leads to different conditions for different market participants and distorts prices and investment decisions.
- Besides an adequate level of market prices to refinance investments, also other aspects are critical for investment decisions, particularly with regard to the trust in the legal and regulatory framework.
- In many Member States, market design components, such as renewables support schemes, have been frequently modified and amended in the past years. This made reliable estimates of future return on investment, both for renewable and conventional electricity, practically impossible.

(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?

- Indeed, we believe that a supranational perspective is needed for this discussion.
- A European internal energy market is already a reality to a large extent, particularly in Central Western and Northern Europe where CWE-Market coupling leads to a high price convergence.
- One example is the German “Energiewende” that can only be achieved in a European context. By providing flexibility, the market is helping Germany reach its goals of phasing-out nuclear power and allowing generators and suppliers to adapt quickly to legal changes. E.g. CWE-market coupling has helped to stabilise German prices and to cope with a high in-feed of power from fluctuating renewable energy sources (cf, Figure 3). Without the European marketplace, this would have been much more challenging and costly. It is therefore essential that the internal market functions effectively and that market coupling continues to develop.

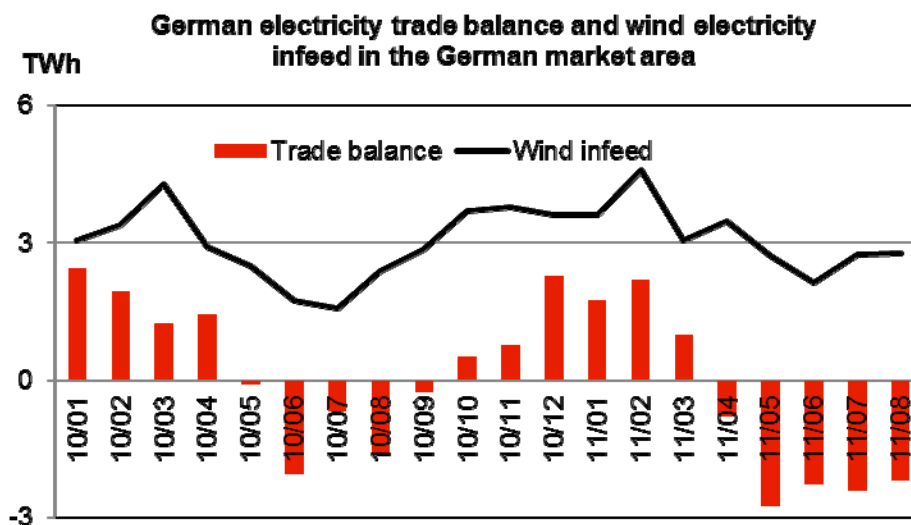


Figure 3: German electricity trade balance and wind electricity in-feed
(Sources: German TSOs and ENTSO-E)

- Timeframe: from our perspective, an internal energy market is already a reality in many parts of Europe. Market parties such as Energy Exchanges, TSOs, regulators and market participants are working towards a closer integration of markets.
- Against this background, a true integration of European energy markets can become a reality very quickly once the remaining political obstacles are overcome and when the urgently needed investments in the electricity grids are made.

(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?

- We believe that security of supply shall be defined and guaranteed at European level.
- We would also appreciate the elaboration of a European legislative framework for the energy market looking beyond 2014 to ensure the future functioning of the internal market and to meet the challenges of the market design.

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

- EEX believes in a closer coordination of energy policies amongst Member States, e.g. in the promotion of grid expansion.
- Wherever regulated prices exist, they shall be eliminated. However, a first step can be to lower the share of price components decided upon by governments.

(6) How should public authorities reflect the preferences of consumers in relation to security of supply? How can they reflect preferences for lower standards on the part of some consumers?

- In our opinion, market price signals can also be used as a reference for market-based flexibility products as well as for balancing markets. E.g. in Germany the price system for electricity market balancing is linked to the intraday market of EPEX SPOT. In this way, incentives for the system balance are set market-based.

4.2. ASSESSING GENERATION ADEQUACY

(7) Do you consider that there is a need for review of how generation adequacy assessments are carried out in the internal market? In particular, is there a need for more in depth generation adequacy reviews at:

a) National level

b) Regional Level

c) European Level

(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?

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

(9) Do you consider the Electricity Security of Supply Directive to be adequate? If it should be revised, on which points?

(10) Would you support the introduction of mandatory risk assessments or generation adequacy plans at national and regional level similar to those required under the Gas Security of Supply Regulation?

(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?

Answer to Q 7-11

- The final goal should be to assess generation adequacy at European level. A reasonable intermediate step could be a regional approach but a purely national analysis is definitely no longer sufficient. Already today, most national markets are well linked to their adjacent neighbouring markets and intensive cross border trading takes place. Security of supply is mainly ensured on a regional level between different countries, and it should thus be discussed at regional level between the different national authorities as well as at European level.
- The expansion of the European transmission system constitutes an essential precondition for achieving the goals of security of supply and generation adequacy. A closed-meshed grid expansion at European level instead of a purely national removal of bottlenecks corresponds to the requirements of a largely integrated European energy market. This can be achieved in particular through market coupling which also permits an adequate, cost-efficient and diversified European generation structure with regard to production sites, energy sources and technologies.

4.3. 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?

- We are fully convinced that the completion of the internal energy market is the most cost-efficient and most sustainable solution to the missing-money problem. Therefore, we ask all involved political and regulatory decision makers to commit themselves to market-based principles at European level in order to achieve a market design on which the energy industry and investors can rely. We also believe that market forces have not been fully developed yet, and that they will be able to cope with the current challenges.
- Capacity mechanisms should only be the very last resort and transitory in nature.
- Experiences with full cost recovery models show significant risks of high complexity and limited efficiency. Many of the international examples of capacity payment schemes are frequently modified in order to eliminate incentives for unwanted behaviour. Consequently, the overall costs of the system rise while deteriorating its efficiency.

The future European electricity market design should be based on market principles:

1) Market integration of renewable energy sources

Reliable and market-based price signals can only be achieved through the full integration of renewable energy into the power market. This includes that operators of facilities for renewables should be incentivised to base their generation in short-term trading on market prices and, hence, on the actual demand. However, we acknowledge that renewables will need a certain level of investment grants for the time being. A solution can be a premium that covers parts of the estimated costs. The difference could then be gained (or overcompensated) through market participation. In the long run, a regional or even European harmonisation of support schemes or marketing mechanisms of renewable energies would further facilitate their market integration.

2) Strengthening of market prices

The price of electric energy provides an important signal for a cost-efficient power plant dispatch as market participants have an incentive to bid with their individual variable costs. The same applies to the use of flexible generation technologies, demand side management and storage technologies. Hence, floating spot market prices complement intermittent renewables. A strong political commitment to free and unregulated prices is necessary to provide market participants with planning reliability. Given that energy spot market prices are highly volatile, power plant operators should not have to live in fear that prices are cut by political and/or regulatory intervention.

3) Fostering demand flexibility and price elasticity

Wholesale prices provide for important signals for the use of storage and demand side management technologies. These technologies complement the system by providing necessary flexibility to absorb electricity in case of oversupply and deliver electricity in case of undersupply.

4) Grid expansion at European level

A highly interconnected European system of transmission grids, high-voltage, direct current transmission and subsea cables links the different European markets closer together, and would hence significantly diversify the overall European generation capacity. Sufficient transmission capacity is also needed to connect storage technologies with load centres.

5) Definition and guaranteeing security of supply at European level

Integrated European markets comprise a diversified generation capacity mix, and will thus provide for a high level of security of supply for the whole European Union (and beyond). Market coupling optimises the use of cross-border capacities by implicitly allocating electricity and capacities. Peak load, moreover, does not occur at the same time of the day in all EU Member States or in neighbouring countries. It would therefore be absolutely inefficient to strive for energy autarchy on a national level.

(13) Under what circumstances would you consider market functioning to be insufficient:

a) to ensure that new flexible resources are delivered?

- This question often depends on various non-market aspects (legislative/regulatory/economic conditions). Nevertheless, market forces could be able to deliver flexibility products, as shown in our answer to question 12.

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

- We believe that market forces are indeed able to ensure sufficient capacities, if prices are adequately high and market conditions suitable.
- In February 2012, the German electricity system was considered to be in a distressed situation. However, this was not the result of market failure, but rather of a too low level of reserve and balancing capacity as well as of mismatching load forecasts.

(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?

- A strategic reserve can be an alternative model to accompany the energy-only market.
- Compared to capacity markets, it could be realised with less regulatory intervention, and is generally more market-based, depending of course on the detailed design.
- Moreover, it is a better solution for a temporary and transitory instrument.

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?

- If implemented at national level, the introduction of strategic reserves may lead to differing market conditions in different national markets. As a result, the functioning of the internal energy market might be significantly constrained and eventually undermined, having implications also on competition between utilities at European level.

(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?

- It is hard to assess which of the different existing and discussed capacity payment schemes is the most distorting one. Each of them has its very specific own distorting implications on the functioning of the EU internal energy market. As a rule of thumb, though, the less interventions and regulations there are fixed within a capacity payment scheme, the less distorting it is. If the introduction of a capacity payment scheme corresponded to the general political will, all rules and regulations should be very transparent in order to mitigate possible distorting effects.
- From our point of view, the least distortion originates from strategic reserves as they tend to provide security of supply in very distressed market conditions only. However, if a capacity payment mechanism was to come, it should be implemented very carefully, transparently and on a temporary basis.

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?

- No answer.

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

- Most models are only reversible with great difficulty (and significant extra costs) as most of them are geared to provide long-term capacity payments and tend to increase the complexity of market designs. Therefore, we believe that possible regulatory interventions shall be as limited as possible and a clear ex ante defined exit procedure is needed.

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

- No answer.

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

- Balancing markets have the potential to be further developed and could provide a basis for capacity mechanisms, e.g. by extending the delivery periods of balancing markets.

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

- Although regulation is not our preference, we consider an EU-framework with minimum standards as fairly reasonable.

4.4. 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?

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

Answer to Question 19 and 20:

The criteria lined out in the consultation paper to assess the compatibility of capacity mechanisms with the internal energy market could serve as a starting point for developing minimum requirements.

a) Should any criteria be added to this list?

- A list of measures that should be taken before introducing capacity payment schemes should be clearly marked as such. Such measures are a) the expansion of cross border interconnectors and the grid, b) the strengthening of market forces and c) the promotion demand response.

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

- In our opinion, all mentioned criteria are adequate and equally important. However, we would grant criterion 2: “The effectiveness of the capacity mechanism addressing the identified market failure should be demonstrated and that it is additional to what would have occurred under normal market rules” particular importance.
- By that, we would like to underscore that capacity payment schemes shall be a measure of last resort if market-based mechanisms did not deliver any relief. If they were to be introduced, public authorities should be asked to prove that capacity payment schemes are the most adequate instrument to solve the identified shortcomings that cannot be solved by market forces.

5. CONTACT

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