



Response to the European Commission Consultation Paper on generation adequacy, capacity mechanisms and the internal market in electricity, dated 15 November 2012.

The Centre for Energy from the University of Amsterdam gladly responds to the consultation from the European Commission on 'generation adequacy, capacity mechanisms and the internal market in electricity'.

Introduction

The Centre for Energy was established at Amsterdam University in 2010 with the support from the Dutch Ministry of Economic Affairs, the Dutch Organization for Applied Scientific Research, the Dutch Homeowners Association, the Dutch Association for Energy, Environment and Water of industrial end-users and the Dutch Consumers Association. The Centre is currently located at Amsterdam Law School of the University of Amsterdam.

Amsterdam Centre for Energy is an academic institute dedicated to the research and education in the field of energy regulation and policy. The Centre advises the central and local Dutch governments in promulgation and enforcement of policies, as well as drafting energy-related laws and regulations. Members of the Centre are active in advising governments in Poland, Germany, United Kingdom and Canada in the field of energy. The Centre's staffs are also frequent advisors to the European Union on energy-related subjects.

The Center's expertise and interest include both the legal side and the financing economic side of energy. The Centre has deep perspectives concerning the formulation of power and gas market, the balancing of supply and demand of power, regulating various parties during the generation, transmission and distribution of power, the pricing mechanism in the power industry and smart grid. Based on such expertise, the Centre is able to offer a unique combination of knowledge in the field of financing energy efficiency and regulating energy market. Together with the Market Regulation Research Group in Amsterdam Law School and Amsterdam Business School at the University of Amsterdam, the Centre offers a variety of training courses including a Master's course. Furthermore, the Centre is preparing new multidisciplinary academic Master trajects in co-operation with Delft University, Utrecht University and Groningen University. registered

General observations

The call for capacity mechanisms materializes at the moment the "missing money problem" becomes perceptible in the European electricity markets. Diminishing operating hours due to a higher share from renewable competition is one of the causes of the problem. It should be noted that the share of renewable electricity is to grow further towards the 90% in 2050. The effect on operating hours will thus only increase. The question at stake is thus not a temporary problem, but a permanent issue, only to grow over the next decades.

A solution to the problem should be found in the market environment we strive for: an almost completely sustainable electricity system. In that environment a large share of the electricity will be generated by wind and solar power. In an energy-only market as we know it today, the price of electricity will be very low during most of the day as wind and solar power have very low variable costs. It is easily envisaged that the investment for just the replacement of a wear

down windmill cannot be justified from the revenues from an energy-only market (the ‘missing money’). An additional financial arrangement is needed for sustaining the sustainable energy system.

At this moment policy makers will set the switch for the nature of this arrangement: the choice is - up to present knowledge - threefold: it can be a government controlled financial support system, it can be a TSO mechanism or it can be a market-integrated arrangement.

Different parties have different preferences in this respect, as it is not at all strange that parties search ways to secure the ‘missing money’. But who is responsible for generating the ‘missing money’? It is very important to ascertain a clear answer to this question as it is leading in this important choice.

In all mature markets (from bread to telecom, from paper to motor fuels) the players in the supply chain have been developed financial mechanisms to secure money for the needed investments in the production plants. Its supplier guarantees the end user the delivery of the traded goods, also in periods of a stressed market. For energy, these same principles have been adopted in the sequence of Directives on energy.

In the European electricity market, such a financial mechanism to secure money for investments is evidently not yet developed. The call for capacity mechanisms can be heard as a call for help to assist the market in the development of such mechanisms.

It should not be allowed to interpret the call for capacity mechanisms as a call to give the TSOs (or another central body) the responsibility for sufficient generation capacity that is an inextricable part of the responsibility of the suppliers in their supply chain.

Neglecting these principals of the already established market structure in the EU, will undermine significantly the further progress of the internal energy market.

Answers to the questions

In following paragraphs, the questions in the consultation paper are answered in their original order.

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

The Markets of EU-Member States are, after a decade still in the transition phase from the pre-2000 monopolistic system to market system. A new equilibrium regarding investments in generation capacity has to be found in a dynamic environment: the continually shifting legal framework, the economic crisis and the varying political attention for climate change policies do not help to find such a equilibrium.

In some Member States an increasing overcapacity is being built, while other show a lacking pace of investments. This shows differences in investment climate rather than a failure in the system. In the open market of the EU, investors will avoid regions with low transparency on supply, demand and price formation. The foremost important transaction registration between demand and supply has not yet been developed in a large number of Member States or large volumes of electricity do not take part in these registrations. This poses risks for investors and the choice to invest in another country is easily made as the energy companies do act on a European scale.

However, present signals of decreasing incentives for investments in peak capacity deserve serious investigation. The transition towards generation capacity operating at very low variable

costs, will sharpen the ‘missing money problem’. The present energy only market will need an additional market where investments for new capacity can find their economical justification. The present choices lay down the foundation of this additional market: government driven (subsidies), TSO-driven (state aid) or market driven. The policy steps towards this additional market should be set with much precaution, based on sufficient knowledge of the energy systems in the different phases of the transition and on sufficient insight in the interests of the different stakeholders.

- (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?

Yes, support for certain types of generation will affect also investment decisions. Financial support for renewables is specifically meant to do so.

The way the support is given, however, will also strongly impact the behaviour of market parties. Feed in tariffs are known to weaken price signals and priority dispatch may even shield the generator completely from clear demand and supply mechanisms. The other market parties thus face the challenge to correct the ‘blind’ behaviour from these shielded generators.

Further more, the mere discussion on a possible support mechanism (from a central body as government or TSO) will defer new investments.

At this moment a myriad of policy instruments, aimed at the transition towards a sustainable energy supply, is already in place. Each new instrument will add to the policy risks as experienced by investors. It should also be noted that when governments compensate every negative effect of the transition, the energy system will return into the pre-2000 centrally managed system.

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

Yes.

The electricity system of the EU is still divided in more than 27 sub-systems and the establishment of one integrated system is underway for almost a decade now. International day-ahead trading leads to a more efficient dispatch of generation units. The variations in demand and - increasingly - in generation of electricity stress the immature intra-day markets and the balancing mechanisms throughout the EU.

Flexibility is a key factor in the present problems. The call for new extra flexible generation plants reflects the intransparency of demand and supply, thus limiting the use of all available information by market parties. It should not be allowed that market parties (generators, traders, end users) transfer their problems to the TSOs.

Nevertheless, many national markets struggle with opening their markets for intra-day trade and for market operated balancing mechanisms. As long as these markets do not mature, flexibility remains the concerns of the TSOs. Of course, existing cross-border capacity can limit the volumes of international trade, existing regulatory and commercial frameworks should not.

Opening the borders for trade in flexibility could be very promising. It could prevent negative prices in one country, as parties in neighbouring countries will offer positive prices - but only when allowed to bid on these offers. How can Germany experience negative prices, when in neighbouring states electricity is valued at a real price at exactly the same moment?

Large countries may see little benefits in cross border trade near to dispatch. However, small incremental trade volumes may have a significant effect to a stressed system. Research should give more evidence of the contribution of international flows in easing the stress on a national system.

- (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?

Inherent to the endorsed internal energy market is the idea that market parties are free to locate their generation capacity wherever they choose. The generation adequacy can thus only be viewed on the European level.

“Security of supply” is a broad term, which needs clarification. In general terms “security of supply” sees on the geopolitical forces that determine the availability of primary fuels for a country. In case of the electricity market, the definition could be narrowed into a more adequate term: “security of transmission” or “transmission adequacy”, putting emphasis on the principal role of the TSOs.

The EU can relentlessly keep pressing for fast implementation of the 3rd package by all Member States.

The EU should investigate any (perceived) limitations in the legal and regulatory EU-frameworks that may hinder more flexible trade arrangements.

In addition, the EU (DGTREN and DGCOMP) should screen closely all national arrangements regarding market structures and network regulations on possible (un)intended protectionist effects.

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

Member States can proceed in opening up their markets for intra-day trading and balancing mechanisms (flexibility), involving both generators as end users (as far as practical). In these open markets financial data will supply the stimulus for investors, rather than technology driven solutions.

In these markets, care should be taken to confront all market parties with the cost they incur on the system. It should not be allowed that certain costs are transferred to a (semi-)public body.

Member States can promote of open price systems with the clearing and settlement procedures in hands independent from the incumbents. These will support transparency in the balancing between demand and supply of the open energy system.

Further more, Member States and EU can address the socio-cultural barriers in the predominantly technocratic energy sector. The organisation of the sector, also on EU-level, mirrors this engineer centred thinking.

The emphasis on ‘smart grids’ as a solution also reflects the engineers’ approach. The emergence of ‘smart markets’, the trading floor for flexibility, does not depend on the ‘smart grid’-technology. In general terms 50% of the electricity is used by large end users, that have a strong interest in their energy costs. These end users will deploy ‘demand side management’ on a short notice, once they are enabled to interact properly with the relevant market parties. Smart grid technology is readily available for these larger end users. EU and Member States should only add ‘smart thinking’.

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

The reliability of the supply is at present regarded as a technological issue. From the point of view of the grid operators, this is a correct approach.

Nevertheless, not every end user will need the same standards of reliability of the actual supply of electricity. A high tech ICT-industry will seek a high standard, while a refrigerated storage can allow a lower standard.

Socio-economic research could show the acceptance of different classes of end users of other reliabilities than the “maximum” standard.

In the energy system a better differentiation could be made in the responsibilities regarding ‘Security of Supply’.

The ‘Security of Supply’ originally sees only on the secure supply of primary energy (fossil fuels, renewable, nuclear) and the state and EU bear responsibility for a policy ensuring market parties to fill the market with sufficient fuels.

The ‘Security of Transmission’ sees on the proper transmission and distribution of energy and the TSO (DSO) bear the responsibility for ensured delivery of energy to the end users.

Finally, the ‘Security of Sales’ should be introduced, where the supplier (salesmen of energy) is responsible for all transactions needed to supply energy to its client, the end user. When the supplier sells a contract for a guaranteed supply of electricity, he should ensure himself of sufficient generation capacity to fulfil his contract at all times.

This division of responsibilities is key to the approach of the various problems the sector faces. It forms the very basis for DSM (f.i. switch on/switch off contracts) and it is the answer to the TSOs struggling with problems they can never solve, because these problems stem from a flaw in the responsibilities of other market parties.

- (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:

The TSOs co-operating under ENTSOe should get the time to improve their recently started assessment system.

ENTSOe could be encouraged to seek the participation of relevant parties from generators and end users in order to improve their data, both quantitatively as qualitatively.

a. National level

Relevant, but only from the point of view of national politicians who favour their national energy market.

b. Regional Level

Important.

c. European Level

Most important (in line with subsequent Directives).

(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?

Both generation adequacy and flexibility should be viewed on a EU-level.

The energy system should be regarded as a whole, under the condition the TSOs ensure the security of transmission within the area. Only for physically restricted subsystems, a separate analysis will be needed.

The question only mentions 'flexible capacity' and so limits the solutions to the supply side of the equation. This illustrates again that the TSOs may not be the right party to assess the flexibility in the system, as flexibility is found with market parties rather than TSOs. Any analysis of flexibility requires a close co-operation with the market parties from both supply and end user side.

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

Developments in end use are most important for the assessments, both regarding progress of energy efficiency as progress in more flexible demand structures. TSOs depend on end user organisations for a good understanding of these issues.

The approach towards renewable electricity sources could also be reviewed. The flexibility of renewable generators to reduce their output is not used without proper reasoning.

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

The directive puts an emphasis on the technological solution. With increasing cross-border trade, other solutions become more important. The directive could be augmented in this respect, given sufficient evidence of the beneficial effects of cross-border trade.

(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?

No.

The added value of these assessments should first be established. And these assessments cannot be made at national or regional level. As the 'security of sales' is the responsibility of the supplier to the end user, the market parties supplying the end users can only make these assessments.

(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?

The approach and calculations should be harmonised within the EU. Otherwise, the result of a EU-wide assessment can hardly be used in policy making.

The factual standards for generation adequacy differ over Europe at this moment and there is no evidence that harmonisation is needed.

Whereas the adequate supply is a prime responsibility of the supplier in its contract with the end user, harmonisation would hinder the development of new contract forms and flexibility transactions. It would thus lead away from contributing solutions.

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

No, there is no need for such mechanisms as meant in the question.

Insufficient functioning of markets can be solved by non-market solutions, but at a high cost. Capacity mechanisms will take away a basic responsibility from market parties and it will be hardly possible to reverse. In all mature markets (from wine to oil products), investments in production capacity are born by end users via divers market mechanisms without public support.

It must be considered a market flaw if a supplier does not guarantee the delivery of its product to the end user. This flaw is to be addressed within the market system. New arrangements are needed, introducing additional incentives for generators, based on a sound system for demand and supply with an according reward and payment for an agreed level of reliability.

These arrangements should be part of the market from the start.

- (13) Under what circumstances would you consider – given market functioning to be insufficient - the introduction of capacity mechanisms to be justified:

These questions cannot be answered. The questions have been clarified (bold print), hopefully in the proper way.

- a. to ensure that new *flexible* resources are delivered?

NO.

As stated under (12), additional market arrangements should be developed, aimed at a sustainable climate for both sufficient and flexible solutions in generation and demand.

The present challenges faced by TSOs can be solved by a better use of existing capacities in the system.

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

NO.

As stated under (12), additional market arrangements should be developed, aimed at a sustainable climate for both sufficient and flexible solutions in generation and demand.

The present challenges faced by TSOs can be solved by a better use of existing capacities in the system

(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?

May be, the instrument of strategic reserves is to be researched further.

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?

An important risk lies in creating two markets, one for normal conditions and one for strategic reserves. The incumbents will be very strong in this second market and thus also on the first market (cross subsidies).

(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?

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?

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

All additional capacity payments or other mechanisms by a central body will lead to a significant and permanent distortion of the market.

The basic responsibility of a supplier is to supply the product he sells. This includes the supply in periods the system is under stress. There is no reasonable argument that another party (TSO?) should take over this responsibility.

Capacity payments should be a part of normal market arrangements, resulting from this responsibility, and they should not be introduced as a new policy instrument.

It should be noted that in the pre-2000 period, the responsibility for capacity was often in a different hand than the supplier.

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

When normal market arrangements result in also a payment for capacity, the most efficient system will be established.

All additional capacity mechanisms lead to extra investments, not driven by demand, but by a newly designed system. The final costs will be larger by definition.

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

A well-designed balancing regime will encompass contracts for emergency capacity. These contracts exist also between market parties: end user and generator find each other in securing their emergency situations, independently from the TSO.

This example shows the distinction between the public responsibilities from the TSO and the private responsibilities from the market parties. At the same time it shows the competition on the same contracts. Thus it illustrates that the market must be considered competent to use (copy if you like) the instruments used in balancing regimes without touching the responsibility of each party.

Instruments from balancing regimes can be taken as an example for market parties to resolve their problems.

Great care should be taken to undermine the role of the TSOs with tasks that belong to market parties.

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

YES.

National approaches will most probably impair the internal market for a long period of time.

This blueprint should be based on a long term view on the internal electricity market, thus giving guidance toward a market structure that will be needed in order to bear the transition toward a energy supply based on renewables. Present questions are to be seen as first tell tales of the sustainable energy supply that is envisaged.

An electricity market with a high rate of renewable generation (wind and solar) cannot be supported with the present market structure, as this will not even generate incentives for investments in renewal of renewable units at their end of life. Thus additional market arrangements are needed on the long term and these arrangements will provide the answers for the present problems.

- (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

In view of above-mentioned risks for the development of the internal market, the EU should act on EU-scale. This is not an issue for 'subsidiarity'. The EU-Commission has the instruments to appraise all measures from Member States, either on state aid or on distortion of competition. Capacity that is supported by a new national mechanism, cannot operate without distorting competition with international competitors. Both in the day-to-day international trade as on the balance sheet of the multinational energy companies this distortion will play a role.

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

YES

Only point (4) contains two misunderstandings to be corrected:

1. Mechanisms should be open to all parties. Limiting access to the electricity sector underlines the mentioned technocratic socio-cultural attitude of the sector.
2. Also demand response and (international) trade must be valued in these mechanisms.

a. Should any criteria be added to this list?

This question is only relevant after a capacity mechanism succeeds in passing all the criteria, which is a mere hypothetical case.

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

Points (3), (5c) and (8d).

Points 3 and 8d (limited duration) are very strict and important criteria. Although a mechanism may be introduced for a limited period, the transition towards more renewable generation will only increase the now experienced market failures. It will be very difficult to stop a mechanism if the ground for introducing it has only increased.

Furthermore, once the responsibility for capacity is shifted from market party to TSO, it will show impossible to reverse this shift.

Point 5c is also important. A capacity payment for retaining old fossil units to the grid is clearly a benefit for only incumbent companies.

Contact

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