INCEPTION IMPACT ASSESSMENT			
TITLE OF THE INITIATIVE	Initiative to improve the electricity market design		
LEAD DG – RESPONSIBLE UNIT – AP NUMBER	DG ENER – B2 – AP 2016/ENER/007	**DATE OF ROADMAP**	10/2015
LIKELY TYPE OF INITIATIVE	Legislative Proposal		
ADDITIONAL INFORMATION	*https://ec.europa.eu/energy/en/news/new-electricity-market-consumers*		

This Inception Impact Assessment is provided for information purposes only and can be subject to change. It does not prejudge the final decision of the Commission on whether this initiative will be pursued or on its final content and structure.

A. Context, Subsidiarity Check and Objectives

Context

The creation of an integrated electricity market is a cornerstone of the EU's project to create an Energy Union as was emphasised in the Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy. The aim is to set the conditions for a reliable and affordable energy for all, to apply the efficiency first and solidarity principles and to make the European Union the world leader in renewable energy. The Energy Union governance system will secure the implementation of the internal energy market and the delivery of the 2030 energy and climate framework and will deepen the cooperation between Member States, including at the regional level, and with the Commission.

Achieving these goals will require a design of the European electricity market which enables it to respond to the new challenges that have emerged since the adoption of the Third Package[1], most notably (i) significant and growing shares of generation from renewable, increasingly decentralised and variable, energy sources, (ii) a lack of sufficient interaction between the electricity wholesale and retail market depriving consumers of the possibility to participate actively in the energy transition, (iii) a lack of investment signals particularly in some Member States and (iv) national approaches to address these challenges, based on solutions which risk fragmenting and undermining the functioning of the internal energy market.

This initiative builds on previous related policy initiatives, such as the Communication *"Delivering the internal electricity market and making the most of public interventions"* (C(2013) 7243) and the *Communication on Energy Security* (COM(2014)330). It is also related to other ongoing initiatives, in particular, the review of Energy Efficiency legislation (EE) and the Renewable Energy Sources Directive (RES), the improvement of security of electricity supply (SoS electricity), the Energy Union governance and the implementation and of the Guidelines on State aid for environmental protection and energy 2014-2020.

The EE, RES and SoS electricity initiatives have links with the market design initiative in particular in the following areas:

- RES will consider a new approach to renewable energy deployment, including options on how to further integrate renewable energy in the EU electricity market. It will also reflect on EU-level instruments and measures complementing collective contributions by Member States in order to ensure delivery of the EU-level 2030 target set by the October 2014 European Council.

- EE aims to ensure that energy efficiency contributes to the development of a competitive, sustainable and secure EU energy system, including the improvement of the efficiency in energy transformation, transmission and distribution (including plants providing heat while also operating in the electricity market, e.g. CHP) and

[1] Notably the Third Energy Package consisting of Directive 2009/72 of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC, *OJ L 211, 14.8.2009, p. 55–93;* Regulation (EC) No 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity repealing Regulation (EC) No 1228/2003. *OJ L 211, 14.8.2009, p. 15–35;* Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators. *OJ L 211, 14.8.2009, p. 1–14* as well as Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. *OJ L 140, 5.6.2009, p. 16–62*

measures that directly affect energy demand (including electricity).

- For SOS electricity, the main objective is to better align national policies relating to security of electricity supply and create a framework for cross-border co-operation across Europe whilst achieving better functioning markets.

Due to these links, impact assessment preparations for the market design initiative and the RES, EE and SoS electricity initiatives will be closely integrated.

In the context of developing the market design initiative, an evaluation of the relevant electricity market rules will be conducted. Detailed evaluations of the functioning of the Internal Electricity Market were carried-out over the last years, such as in the Communications *"Progress towards completing the internal market"* (COM(2014) 634) or *"Making the internal energy market work"* (COM(2012)663), as well as the Report on energy costs and prices (COM(2014) 21/2). Also, the recent Communication *"Delivering a new deal for energy consumers"* (COM(2015) 339) identifies the areas where further actions should be taken in order for consumers to actively participate in the energy markets and benefit from it. Other EU institutions, notably the Agency for the Cooperation of Energy Regulators (ACER), are also regularly reviewing the functioning of the EU's electricity markets and, in its *"Bridge 2025"*, carried-out studies on shortcomings of the current electricity market design. The analysis showed that the currently fragmented policies of Member States can lead to distortions of the Internal Energy Market, and that energy consumers have not seen the full benefits of the Internal Energy Market due to a host of retail market shortcomings. Further elements enabling an evaluation are expected to emanate from the Commission's Communication *"Launching the public consultation process on a new energy market design"* (COM(2015)340). Also the impact of a revised EU ETS, including the recently agreed Market Stability Reserve, providing a better long-term investment signal for low carbon investments will need to be taken into account.

Issues

The initiative will mainly address the following issues:

1) **Insufficient investment in the Power sector**. Significant investments are required in the power sector to meet future demand needs and the replacement of ageing infrastructure. However, the current electricity market design does not provide the right incentives to invest in generation capacity, especially in flexible ones (concerning both supply, demand or storage). In addition, in some areas there are insufficient locational signals for investment in capacity (generation and transmission).

2) **Market design not adapted to increasing volumes of variable electricity sources**. With the 2030 targets agreed by the October 2014 European Council (EUCO 169/14) the share of electricity generated from renewable sources is likely to reach up to 50% of electricity produced. At the same time, following national targets and support schemes for renewable energy up to 2020, the EU-level target for 2030 and increased regional cooperation in renewable energy will impact on the electricity market. Most new renewable energy generation, particularly from wind and sun, is characterised by variable (i.e. non dispatchable) production patterns. Therefore, electricity markets need to become increasingly flexible to accommodate a larger share of variable generation. The current market design is not well adapted to the particularities of renewable energy sources, in particular their decentralized location and less predictable production patterns, which require short term markets for trading energy and more efficient balancing of demand. Price caps, a lack of full balancing responsibility for RES and exit barriers for generation capacity prevent flexible resources, notably storage and demand side response to develop and to be adequately remunerated in the market.

3) **Risk of fragmentation of the internal market leading to higher costs and welfare losses.** National Capacity Remuneration Mechanisms, and uncoordinated and non-market based RES support schemes risk undermining the functioning of the internal market and can have spill-over effects to neighbouring countries. Similarly, with increasing market integration, grid operation and planning, including planning of infrastructure investments, can no longer be optimised on a purely national basis.

4) **Insufficient link between wholesale and retail markets**. Market opening and competition on retail market level is still lower than on the wholesale market and consumers do not have sufficient incentives to become active in the market. New technologies such as smart grids, smart metering, smart-home, self-generation and storage equipment are available and mature, but not sufficiently rolled out. Regulatory barriers still prevent consumers to actively offer demand response to the market. Information asymmetries and conflicts of interest between market operators further hamper engagement of consumers and the development of competition between market players. Finally, distribution grids will need to cope with increasing amounts of renewable energy generation connected to the distribution grid.

5) **Lack of competition on retail markets**. Retail energy markets in a number of Member States suffer from a number of inter-related shortcomings related to limited transparency in consumer offers, energy consumption and costs, giving rise to suboptimal competition on both price and non-price terms, elevated consumer prices and the slow uptake of energy services and advanced technologies amongst many consumer groups. At the

same time many vulnerable consumers do not enjoy effective protection, while energy poverty still remains an issue to be tackled.

The outline of the initiative will be adapted in view of the responses to the consultation process, the related questionnaire on risk preparedness and the planned evaluation of the existing electricity market and security of supply rules.

Subsidiarity check

The planned measures are to be adopted on the basis of Article 194 (2) TFEU together with Article 114 (1) TFEU. In the field of energy, the European Union has a shared competence pursuant to Article 4 (2) (i) TFEU. This competence has already been used within the so-called first, second and third energy packages and the existing security of supply measures. The issues to be addressed in the present initiative also have as their objective to enhance the functioning of the internal market for electricity and ensuring electricity security of supply in the meaning of Article 194(2) and Article 114 (1).

The objectives of this initiative cannot be achieved on a national level. The initiative aims at a modification of existing EU legislation and at the creation of new frameworks for cross-border co-operation, which can legally and practically only be achieved at the European level. The challenges cannot be addressed as efficiently by individual Member States as fostering a more efficient and integrated EU electricity market and ensuring a more co-ordinated policy response to security of supply and in other related policy fields requires harmonised and coordinated approaches by all Member States; which can only be achieved by EU action. National policy in the electricity sector has direct impact on neighbouring Member States, and no state can effectively act alone. Indeed, the initiative is also aimed at addressing the distortive effects of uncoordinated, fragmented policy initiatives.

EU action has significant added value by ensuring a coherent approach in all Member States as, without EU action, the objectives of this initiative cannot be achieved.

The electricity market design also contributes to achieving objectives that are binding at the European level. The EU has committed to achieve a share of 27 % of renewable energy sources in total energy consumption by 2030, which can be expected to require half of the electricity to be generated from renewable energy sources. This requires an integrated market framework suitable for the integration of large shares of renewable energy sources.

Main policy objectives

The main policy objectives of this initiative are:

- Providing clear market signals for new investments, with a view of increasing power system flexibility (including storage) and facilitating the further development of renewables in order to achieve the 2030 targets in a cost-efficient way;

- Improving the efficiency of the internal electricity market by removing market barriers, by improved governance and by promoting regional cooperation on electricity market operations and energy policies based on existing and the creation of new fora (in close coordination with Energy Union governance);

- Enhancing the link between wholesale and retail markets and take advantage of demand side potential (including storage) both in terms of flexibility and efficiency of the power system;

- Increasing competition and consumer participation at the retail level;

- Ensuring consumer protection and helping Member States to effectively tackle energy poverty.

To achieve these objectives a combination of instruments needs to be considered both of legislative and non-legislative nature. Concerning legislative measures, they could include amendments to the following legislative acts, depending also on the opinions and proposals expressed during the Public Consultation:

- Electricity Directive
- Electricity Regulation
- ACER Regulation
- Energy Efficiency Directive
- Renewable Energy Sources Directive
- Consumer Protection Cooperation Regulation

Furthermore the work will impact the shape of a number of network codes, in particular the codes on Balancing

and System Operation.

B. Option Mapping

Baseline scenario – no EU policy change

The **Baseline Scenario** will take account of both national and EU electricity market related arrangements in place till the end of 2015 and reflect possible developments of these in the absence of new EU-level action. At the same time there will be an effort to reflect also identified market distortions, like low price caps and exit barriers, as well as existing or planned capacity remuneration mechanisms and RES support schemes. Certain market measures that have been or are planned to be adopted by end of 2015 through the Network Codes will also be included here, including the measures related to intra-day markets and some measures related to balancing markets and system operation.

Options of improving implementation and enforcement of existing legislation or doing less/simplifying existing legislation

See Baseline Scenario above. Simplifying existing legislation will not address the new challenges of the electricity markets.

Alternative policy approaches

A number of options will be examined to assess which changes and improvements of existing legislation can achieve the objectives in the most cost-effective way.

In general the options can be characterized from their geographical coverage, their scope in addressing an observed market failure or further improving existing EU regulations or harmonizing national ones, as well as the specific measures assumed.

First set of policy approaches:

a. *Providing the right incentives for investments*, removal of price caps to ensure that prices reflect possible scarcity of electricity at all times, removal of exit barriers for old generators and removal of priority dispatch for any particular source of electricity; establish bidding zones within the EU which incentivise investments into new generation capacity and transmission infrastructure in the right locations. Application of internal market and competition rules.

b. *Increasing the flexibility of the electricity markets*, including measures that will facilitate demand to become more elastic, most notably the roll-out of fit-for-purpose smart metering systems, the introduction of more dynamic / time responsive hourly tariffs and ensuring full and effective market access for independent demand aggregators. This also includes the enhancement of the role of electricity storage, the creation of short-term cross border markets, integrated balancing markets and setting equal rules for all electricity generations, including from renewable energy sources, as well as demand side participation in the markets. Implementing day-ahead procurement of balancing resources and smaller number of standardised products is also needed to increase the flexibility of the markets.

c. *Regional Integration to avoid fragmentation of internal energy market,* creating regional electricity system operators, introducing balancing regions, mandating regional system adequacy assessment and system adequacy standards, basing the introduction of national Capacity Remuneration Mechanisms, if needed, on a common assessment and adapting their design to an integrated regional electricity market minimising distortions to the market, focusing on clearer roles and responsibilities, as well as improved governance structures of and amongst the various national and European actors and authorities (NRAs, ACER, ENTSO-E, TSOs, DSOs, electricity traders).

d. *Establishing a stronger link between wholesale and retail markets*, covering a number of measures that aim to further improve the functioning of retail markets and are not included in the baseline, including the modification of network charges in such a way that better incentives are given to TSOs, DSOs and consumers. There is a need to assure that price signals from the wholesale market are passed through to final customers and that final customers can make their contribution to the balancing of supply and demand.

e. *Increasing competition on retail markets / strengthening the role of electricity consumers*, removing switching fees, addressing issues related to energy poverty and consumer protection, etc.

Second set of policy approaches:

a. Providing the right incentives for investments: introduction of an EU Capacity Remuneration Mechanism (CRM), EU price zones, nodal pricing or EU price caps; abolishing existing national CRMs and creating an integrated Energy Only Market(without capacity markets).

b. Increasing the flexibility of the electricity markets: introduction of EU balancing areas, fully harmonised balancing products, EU-wide procurement of balancing energy, full harmonisation of tariffs to facilitate demand response.

c. Regional integration: For CRMs see above a. and c., for balancing areas above b., turn ACER into European regulator with comparable powers of National Regulatory Authorities, only one European Transmission System Operator and Electricity System Operation centralised at European level.

d. Establishing a stronger link between wholesale and retail markets: full harmonisation of tariffs to ensure that price signals of wholesale markets are passed through to retail level and to facilitate demand response.

Governance aspects have to be looked at in the context of implementing a cost-effective and coherent delivery of climate and energy objectives including the target for energy efficiency, greenhouse gas emission reduction and the share of renewable energy. This will be done in the context of streamlining the planning and reporting obligations within the Energy Union governance initiative.

Alternative policy instruments

The options described above will consist of regulatory instruments complemented, where appropriate, with non-regulatory instruments. A number of issues could be addressed by so-called network codes (delegated acts). Further Commission communications clarifying existing legal provisions might also address some of the issues.

Alternative/differentiated scope

The options described above will implicitly examine whether each policy option creates a level playing field for all demand and supply technologies, as well as for all market participants, whether individuals or large companies. It will also assess the effects of each option on security of supply, i.e. test whether the option will lead to more security for all, and at what cost. Specific, more detailed assessments may be prepared in some areas, for example a more detailed inception impact assessment has been prepared for the aspects of security of supply.

Options that take account of new technological developments

The options described above will take account of new technological developments, particularly in the areas of retail markets to the further development of smart grids and smart metering solutions and electricity storage, which will facilitate better system management and the integration of demand side resources.

Preliminary proportionality check

An EU legislative framework for the electricity market design and security of supply is a proportionate response to the objective to achieve a fully-integrated internal energy market, enabling the most cost-efficient operation of the electricity system and investments in infrastructure across the EU. It does not go beyond what is necessary to achieve these objectives. Important national prerogatives, such as the Member State's right to determine the conditions for exploiting their energy resources, their choice between different energy sources and the general structure of their energy supply, remain untouched.

C. Data Collection and Better Regulation Instruments

Data collection

Usage will be made of existing and projected econometric tools, existing and projected studies, and other data available inside and outside the Commission.

Consultation approach

Part of the initiative, in particular aspects related to electricity retail markets and end-consumers have already been subject to a wide public consultation[2]. A wide stakeholder consultation was launched on 15 July 2015 on a new energy market design (COM(2015)340) and on risk preparedness[3]. A High Level Conference on electricity market design took place on 8 October 2015 in Florence. Specific stakeholder categories, such as energy customers, Member States and regulatory authorities, retail and wholesale market participants, distribution and transmission grid operators will also be addressed in existing fora, such as the European Electricity Regulatory Forum (the Florence Forum).

Will an Implementation plan be established?

■ **Yes** ☐ **No**

D. Information on the Impact Assessment Process

The work on the impact assessment has started.

The initiative will be guided by the already existing Inter-service group on Energy market design comprising: the Legal Service, the Secretariat-general, DG Budget, DG Agriculture and Rural development, DG Climate action,

2 https://ec.europa.eu/energy/en/consultations/consultation-retail-energy-market

3 https://ec.europa.eu/energy/sites/ener/files/documents/20140416_energy_retail_market.pdf
https://ec.europa.eu/eusurvey/runner/8d5b585d-adec-7136-6540-dd3c1eb42ccb

DG Communications Networks, Content and Technology, DG Competition, DG Economic and Financial Affairs, DG Employment, Social affairs and Inclusion, DG Energy, DG Environment, DG Financial stability, Financial services and Capital markets, DG Internal market, Industry, Entrepreneurship and SMEs, the Joint Research Centre, DG Justice and Consumers, DG Mobility and Transport, DG Regional and urban development, DG Research and innovation, DG Taxation and Customs Union.

Impact assessment preparations for this initiative and for the aforementioned RED, EE and SoS electricity initiatives (see point A.) will be closely integrated to ensure consistent coverage of the post-2020 period from these different interrelated angles.

E. Preliminary Assessment of Expected Impacts

Each policy option will be assessed on whether it achieves the objectives of the Market Design Initiative based on a set of indicators that may include:

- Social Welfare, Consumer Surplus and System Costs (EU & National level), including consumer empowerment and choice.
- Wholesale and retail prices (price levels, convergence, volatility)
- Market Operation (efficient use of interconnections, renewable energy sources integration, competition)
- System Operation (security of supply, short and long term resource adequacy, efficient operation of the power system) and impact on transmission and distribution networks
- Revenues for market participants from the various markets
- Innovation on energy services
- Contribution to cost-effective achievement of decarbonisation, renewable energy and energy efficiency objectives

Likely economic impacts

As each option covers different measures concerning wholesale and retail markets, as well as electricity system operation (which affects economic activity, especially in the case of brown outs or black outs), each options is expected to have different and varied economic impacts.

At the moment it is not evident if these should better be assessed in a cost-efficient manner (i.e. including all costs/benefits and monetising non-economic indicators) or be assessed based on a number of indicators, which could include:

- System costs;
- Wholesale and retail prices (price levels, convergence, volatility);
- Revenues for market participants from the various markets (across time-frames) and provision of adequate price signals for investments;
- Market Operation (efficient use of interconnections, renewable energy sources integration in markets, efficient market operation across time-frames);
- System Operation (short and long term resource adequacy, flexibility, efficient operation of the power system, brown-outs and black-outs);
- Consumer surplus (including consumer benefits from demand response participation, cost of load curtailments and increased consumer protection).

In general it is expected that (compared to Baseline) the options:

- Removing market distortions should show improvement across all indicators, except possibly for (national) system operation.
- Regional integration should further improve results across all indicators, especially concerning security of supply and system costs, coming naturally from the pooling resources across regions and using them in a more efficient manner. This is expected to be a win-win approach.
- Establishing a stronger link between wholesale and retail markets should improve the cost-efficiency and flexibility of the system, most likely reducing the investment needs (and thus incentives) on the supply side and lowering overall system costs. Retail prices are expected to be reduced and consumer surplus to be increased.

- Improving the price signals will provide different incentives for investments in target generation technologies at different costs. Although difficult to evaluate their exact effect ex-ante, aligning the schemes across EU or regions is expected to have improved benefits and reduced costs.

Likely social impacts

A more competitive energy market and a more harmonised approach to security of supply will put downward pressure on end-user energy prices (including system costs), which will benefit in particular lower income categories as these consumers spend a higher proportion of their income on energy, i.e. it should reduce energy poverty. However, ensuring electricity prices are more cost reflective may increase consumer prices, or require consumers to pay for insurance against high prices (eg. through fixed tariffs).

The various options, especially the ones assuming regional integration, are expected to lead to a higher degree of security of supply, for all in a spirit of solidarity and at a lesser cost. Better coordination at a regional level, as well as clear rules on how to handle emergency situations, should assist in quickly alleviating the situations where the electricity system is stressed and minimize brown-outs and black-outs.

Several measures in this initiative specifically aim at reducing the effects of income inequality and increasing disposable income levels amongst energy poor and/or vulnerable energy consumers. Other measures target improving consumer protection against unfair selling practices.

Note that social and employment impacts will focus on the micro level, as the ones on the macro level (like GDP, health and employment) have more or less been assessed by previous impact assessments on the 2030 Framework, which also serves as the underlying context for this work

Likely environmental impacts

The contribution to cost-effective achievement of decarbonisation, renewable energy and energy efficiency objectives will be assessed.

Likely impacts on simplification and/or administrative burden

The new EU legislative framework will aim to improve coordination among Member States, by creating more transparent and harmonized procedures. This is expected to reduce and simplify overall administrative burden

Likely impacts on SMEs

The deployment of smart grids and smart metering, as well as the increasing importance of decentralized generation, reflect most significantly in the Active Demand and Future Markets options, is expected to boost the future competitiveness of EU technology providers such as the electrical and electronic engineering industry, which consists mostly of SMEs and provide new business opportunities for SMEs in this field.

Likely impacts on competitiveness and innovation

Improvements in the electricity market design, especially in the context of options Active Demand and Future Markets, are expected to strengthen incentives for the development of innovative solutions concerning demand side management and energy services. This could be achieved through specific measures allowing a more active participation of the demand side, thus unlocking additional revenue streams for new market and making EU the global leader in green growth.

Impacts on competitiveness have been covered above, under Economic Impacts

Likely impacts on public administrations

The introduction of better governance principles in the electricity sector and harmonized rules across Member States' electricity markets and system operation is expected to facilitate decision making both on a national and regional level.

Although some new regulations and procedures will be needed, which will increase the burden on public administrations – especially if existing CRMs and renewable energy sources schemes need to be adapted-, their cost is expected to be minimal compared to the significant benefits attained by the more transparent and integrated framework on how markets are managed and security of supply is ensured, in a spirit of solidarity and mutual trust

Likely impacts on third countries, international trade or investment

Considering the limited electricity trade with third countries, no significant impact is expected on third countries and international trade or investment. There may be a secondary effect related to gas imports used as a fuel in combine cycle power plants, but this will greatly depend on the hours of operation of these units in each option