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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

Making the internal energy market work

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1. INTRODUCTION

The European Union needs an internal energy market that is competitive, integrated and fluid, providing a solid backbone for electricity and gas flowing where it is needed. To tackle Europe's energy and climate challenges and to ensure affordable and secure energy supplies to households and businesses, the EU must ensure that the internal European energy market is able to operate efficiently and flexibly. Despite major advances in recent years in the way the energy market works, more must be done to integrate markets, improve competition and respond to new challenges. As underlined by the Commission's Energy Roadmap 2050,¹ achieving the full integration of Europe's energy networks and systems and opening up energy markets further are essential in making the transition to a low-carbon economy and maintaining secure supplies at the lowest possible cost.

If we fail to make major changes to the way the energy market functions, we will be faced with a less reliable and more costly European energy system, declining EU competitiveness and wealth, and slow progress towards decarbonisation. To reverse these trends, we urgently need to invest in generation, transmission and distribution infrastructure, as well as storage. Existing energy systems need to be modernised, at a cost estimated at a trillion euro². We also need to encourage more efficiency measures, stimulate fair competition, and empower consumers to take an active role and fully exercise their rights and choices.

Accordingly, the European Heads of State or Government set a clear deadline of 2014 for completion of the internal energy market. The internal energy market is not an end in itself. It is a key instrument in delivering what EU citizens aspire to most: economic growth, jobs, secure coverage of their basic needs at an affordable and competitive price, and sustainable use of limited resources.

By 2014 the existing legislation needs to be implemented fully, including putting in place the essential technical rules at EU level, and providing regulators with necessary tools and resources to enforce legislation effectively. Cross-border markets for gas and electricity must be up and running in all parts of the EU and the implementation of plans to complete, modernise and smarten EU grids must be well under way. Only when this is achieved can consumers start reaping the full benefits of the internal energy market.

Today the EU is not on track to meet this deadline. Not only are Member States slow in adjusting their national legislation and creating fully competitive markets with consumers' involvement, they also need to move away from, and resist the calls for, inward-looking or nationally inspired policies. These tendencies are preventing the internal market from working

¹ COM (2011) 885.

² COM (2011) 658 final.

effectively. They even threaten to unravel the progress we have made on the way to the internal energy market. Yet, there is clear added value in pulling Member States' energy policies together and creating efficient and secure energy systems transcending national borders.

This Communication reiterates the benefits of integrated European energy markets and sets out ways to ensure that the market fulfils its potential as soon as possible and satisfies the needs and expectations of the EU's citizens and businesses. Because of its importance for the deepening of the Single Market, this initiative has been identified as one of the 12 priority actions under the Communication "Single Market Act II – Together for new growth."³

2. THE BENEFITS OF OPEN, INTEGRATED AND FLEXIBLE ENERGY MARKETS

National governments, businesses and individuals alike must be satisfied that the internal market gives them the best deal. This is not the case at the moment. The generation market is still highly concentrated. In eight Member States more than 80% of power generation is still controlled by the historic incumbent. In a well-functioning energy market, ideally addressing costs of externalities, investments in generation should be driven by market considerations rather than subsidies. Energy markets in general are perceived not to be transparent or sufficiently open for newcomers, including demand-side service providers. Economically rational investments in energy efficiency are not being made – or at least not enough. Consumer satisfaction is low even in Member States that today have fairly competitive energy markets.

Yet, the internal energy market has already delivered undeniable benefits and the potential gains remain more attractive than ever.

2.1. Much has already been achieved

More choice and flexibility for consumers

At least 14 European electricity and/or gas companies are now active in more than one Member State and there are more than three main electricity suppliers in twenty Member States⁴. Even households and small businesses can now choose from several suppliers in two thirds of Member States.

Price comparison tools have helped consumers find better deals. An insight in what can be gained from changing suppliers has led to high switching rates in a number of Member States, from Sweden to the UK, to Ireland, Belgium or the Czech Republic⁵.

More competitive pricing

³ COM (2012) 573 final.

⁴ See also table 12 in Staff Working Document entitled Energy Markets in the European Union in 2011, referred to as "SWD 1".

⁵ Consumer Markets Scoreboards, European Commission, DG SANCO, http://ec.europa.eu/consumers/consumer_research/editions/cms7_en.htm, The functioning of retail electricity markets for consumers in the European Union, Study on behalf of the European Commission, DG SANCO, 2010 ("Study on retail electricity markets"). http://ec.europa.eu/consumers/consumer_research/market_studies/docs/retail_electricity_full_study_en.pdf.

Market opening, increased cross-border trade and market integration⁶, and stronger competition, all fostered by EU legislation and by the forceful enforcement of competition and State aid rules, are keeping energy prices in check⁷, helping to keep manufacturing jobs in the EU and benefiting all consumers.

However, the energy bill paid by consumers consists of more than just its energy component, which makes this price effect less visible. Transmission and distribution networks charges make up a substantial part of the total bill, as do taxes and levies.⁸ These charges, taxes and levies are not always spread evenly over all customer groups, burdening household consumer bills in particular. They are all determined at Member States level and subject to national policies.⁹ In some Member States taxes and levies constitute around 50% of final energy bill.¹⁰ In the EU-15, taxes in the final bill for domestic customers increased on average from 22% in 1998 to 28% in 2010.¹¹

More liquid and transparent wholesale markets

Liquidity and transparency in traded electricity markets have gradually improved as the result of 'market coupling' between Member States.¹² Market coupling has spread steadily from the North-West of the EU to other regions. Currently, 17 Member States are "coupled". Also the formation of the All-Island market in Ireland in 2007 was a positive contribution to the construction of the internal electricity market. These developments have led to more cross-border trade and greater price convergence.¹³ Transparency is increasing, also as a consequence of the Regulation on wholesale market transparency and integrity in energy (REMIT) adopted in 2011.¹⁴

With ever more trading between gas companies, the tenfold growth of gas trading platforms ("gas hubs") between 2003-2011 has been impressive. EU markets with liquid gas hubs have been able to benefit much more from their exposure to gas-to-gas competition, including global LNG markets influenced by events taking place beyond the EU such as, for instance, the so-called 'shale gas revolution' in the US. The stark contrast between the beneficial

⁶ See SWD 1, page 47.

⁷ While prices of primary energy commodities have increased annually by 14% for crude oil, almost 10% for gas and 8% for coal in recent years, wholesale electricity prices in the EU have risen much less, namely by 3.4%. See SWD 1, figure 29.

⁸ Those are used inter alia to reflect the environmental externalities of the energy use as recommended by the Commission in Annual Growth Surveys 2011 and 2012 (COM (2011) 11 final, COM (2011) 815 final) as well as European Council conclusions (EUCO 10/1/11 REV1), aiming to shift taxation away from labour towards i.a. consumption and environmental pollution, with due regard to competitiveness of EU industry and consumer prices. They can however also be used for revenue raising.

⁹ For details about these elements in individual Member States see SWD 1, part 3.

¹⁰ See SWD 1, part 2, figure 33.

¹¹ See study titled 'Price developments on the EU retail markets for electricity and gas 1998 – 2011', page 2 http://ec.europa.eu/energy/observatory/electricity/doc/analysis_retail.pdf. However, the average share of environmental taxation in total tax revenues in the EU is decreasing. Taxation trends in the European Union, European Union 2011: http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-DU-11-001/EN/KS-DU-11-001-EN.PDF

¹² Market coupling optimises interconnection capacity and ensures that electricity flows from low price to high price areas by the automatic linking of buyers and sellers on either side of a border.

¹³ The Commission remains vigilant to ensure that power exchanges do not engage in anticompetitive practices alongside their necessary cooperation for market coupling projects.

¹⁴ OJ L 326, 8.12.2011, p. 1

effects this has had on wholesale gas prices in liquid and competitive markets in the EU, compared to less liquid and competitive markets, is striking.¹⁵

More secure supplies

The increased liquidity of wholesale markets has also enhanced security of supply in the EU. In gas, the number of major gas supplying countries to Europe has increased between 2000 and 2010 from 14 to 23. The effect on security of supply can be seen from what happened in early February 2012, where exceptionally high demand for gas and electricity during extremely cold weather coincided with reduced gas imports. Short-term price signals at the various gas hubs and power exchanges in the western part of the EU attracted gas to where it was needed most and ensured that all available electricity generation capacity was brought on line, keeping energy supplies to end-consumers intact.

More coordination and transparency in relations with third countries

The EU and its Member States have recognised the need to do more to co-ordinate their external energy relations¹⁶, in particular towards producer, transit and consumer countries.¹⁷ This gives the EU more weight in energy-related trade relations.

At the initiative of the EU, the benefits of applying the rules of the EU internal energy market have been spread to Western Balkan and neighbouring countries, especially by the agreement establishing the Energy Community¹⁸. The Energy Community can and should expand further to establish an ever growing energy market going beyond the borders of the EU. Trade in energy in well-functioning markets provides a true benefit to the EU, the Energy Community and other neighbouring countries. They create value for importing and exporting countries alike and enable the complementary use of natural resources in various regions. The EU assists and supports Energy Community countries in addressing their challenges in applying the internal energy market rules.

Significant improvements have also been achieved in defining common regulatory best practices and technical standards, on the basis of internal energy market principles, with Southern Mediterranean countries, paving the way to the intake in the internal energy market of significant flows of renewable power and for joint infrastructure projects within the framework of the European Neighbourhood Policy.

2.2. Even more to be gained

In addition to these benefits, there is a number of areas where on-going work is expected to bear fruit soon.

More power for consumers to control their energy costs

¹⁵ See map 1, page 31 of SWD 1.

¹⁶ Decision No 994/2012/EU of the European Parliament and of the Council of 25 October 2012 establishing an information exchange mechanism with regard to intergovernmental agreements between Member States and third countries in the field of energy, OJ L 299, 27.10.2012, p. 13. See also COM(2012) 218 final

¹⁷ Europe's national regulators coordinate their work on international issues through the Council of European Energy Regulators (CEER).

¹⁸ Signed in 2005, members are the Western Balkan countries, Ukraine and Moldova, with Norway, Turkey, Armenia and Georgia as observers.

Energy prices are likely to continue to rise in the future due to, among others, unrelenting global fuel demand as well as investments needed to maintain and modernise the EU's ageing energy systems¹⁹. However, the internal energy market can ensure that investments are made in the most cost-effective way and that pre-tax costs for households and industry remain in check through competitive pressures on suppliers. Estimates indicate that already today EU consumers could save up to €13 billion per year if they switched to the cheapest electricity tariff available²⁰. This potential is currently largely untapped as many people are still not fully aware or able to make full use of the opportunities created by the market²¹.

Better control of consumption through smart technologies

New energy services open to new actors and market incentives can help consumers better manage their bills by enabling them to consume energy in a more cost-efficient way and to more easily produce their own electricity.

Further technical developments will support this trend. Smart metering systems both facilitate micro-generation by consumers and can help reduce household energy consumption. Moreover, smart metering systems allow adjusting electricity consumption in real time in response to market price fluctuations. This has been shown to reduce household energy costs by 13% but can lead to even bigger savings with home appliance automation²².

The new Energy Efficiency Directive, which includes provisions on distributed generation and demand response²³ will help the market to evolve in this direction. Cooperation between utilities (in particular energy and telecommunications) can ensure that related investments are cost-effective.²⁴

More competition through better access to transmission grids

It is not enough to simply have the transmission networks in place, it is equally important that all market players are able to use them. This was the conclusion of the Commission in its sector inquiry into the functioning of energy markets in 2007.²⁵

The lack of open and non-discriminatory access to transmission infrastructure has prevented new entrants from competing fairly in the market. EU rules already oblige Member States to separate (unbundle) their transmission and supply businesses.²⁶ A new industry branch has emerged with a transmission-only focus and an increasingly cross-border footprint. The European networks of TSOs (ENTSO-E and ENTSOG) and the Agency for Cooperation of Energy Regulators (ACER) play an important role in ensuring that existing infrastructure is used more efficiently, and new infrastructure is planned and developed optimally with a

¹⁹ See Commission's Communication "Energy Roadmap 2050", pages 2, 5, 6 and 7. Decarbonisation of the energy system would not be more expensive than a continuation of current policies.

²⁰ Study on the functioning on retail electricity markets.

²¹ Throughout EU, awareness among consumers is low, with only one in three consumers comparing offers, see the Study on retail electricity markets.

²² Vaasaett study, "Empower Demand", <http://www.esmig.eu/press/filestor/empower-demand-report.pdf>

²³ COM (2011) 370.

²⁴ DG CNECT public consultation:
http://ec.europa.eu/information_society/policy/doc/library/public_consult/cost_reduction_hsi?cost_reduction.pdf.

²⁵ COM (2006) 851 final.

²⁶ To date, the Commission has received draft certification decisions for over forty Transmission System Operators (TSOs) in thirteen Member States, out of 99 TSOs requiring certification. Eighteen of those TSOs are to be certified as ownership unbundled.

European, rather than company-centred, perspective, using best available technologies. Unbundling and competition rules will have to continue to be enforced rigorously to ensure effective access to transmission infrastructure across the EU.

More efficient use and development of grids

Pan-European technical rules (binding guidelines and codes) can deliver further improvements in network efficiencies. Suppliers and users should gain easier access to infrastructure and profit from lower transaction costs for cross-border trade. In gas, new rules on the management of congestion, and the transparent allocation of pipeline capacities, can remove barriers to grid access. In electricity, new technical rules such as on cross-border balancing markets and on liquid intra-day markets²⁷, should, in combination with smart grids, help improve system flexibility and the large-scale integration of electricity from renewable energy sources and participation of demand response resources alongside generation. This will enable renewable energy producers to participate fully in a truly competitive market and progressively take on the same responsibilities as conventional generators, including as regards balancing.

3. GETTING THE MOST OUT OF THE INTERNAL ENERGY MARKET

Although the benefits of a well-functioning internal energy market are progressively becoming visible, there are challenges that need to be tackled urgently in order to complete the internal energy market by 2014. Without action, the transition towards sustainable, innovative, low-carbon and energy-efficient systems by 2020 and beyond may be compromised and urgently needed investments may not be secured at the lowest possible cost or even not at all.

3.1. The enforcement challenge

3.1.1. Implementing the Third energy package

The architecture for the internal energy market is clear. It is laid out in the Third energy package²⁸ and in complementary legislation²⁹. The building blocks are there but they must be implemented effectively for the internal energy market to work.³⁰ Delays in implementation have negative effects on all players and therefore are not acceptable, neither the parts dealing with market opening nor those meant to ensure effective empowerment and protection of consumers.

²⁷ Intraday and balancing markets will allow market participants (including consumers) to adjust their production and consumption in response to changing circumstances, in particular in response to prices. Liquid intraday markets are needed to enable adjustments in supply and demand schedules on an hourly basis, which is not yet a reality Europe-wide. Cross-border balancing markets will help avoid unnecessary costs linked to purely national procurement of balancing services. Thanks to these arrangements, demand and supply will be matched on a cross-border scale at all time-frames.

²⁸ Directives 2009/72/EC and 2009/73/EC, Regulations (EC) No 713/2009, 714/2009 and 715/2009.

²⁹ In particular, Regulation No 994/2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC, REMIT, and the proposed Regulation on guidelines for trans-European energy infrastructure.

³⁰ Details of the Commission's implementation policy of the Third energy package have been set out in the Communication on a 'Better governance for the single market', COM(2012) 259 final. Referring to this Communication, the October 2012 European Council has called upon Member States to take urgent action. The follow-up to this policy will be carried out, inter alia, in the context of the European semester.

The Commission is pursuing, as a matter of priority, infringement procedures against those Member States that have not yet fully transposed the Third energy package Directives or have failed to do so correctly.³¹ The Commission intends to provide regular updates on the state of implementation of internal energy market legislation in individual Member States and on the infringement procedures.

The Commission, with support from CEER, will facilitate Member States' exchange of best practices on key consumer-related issues, including price comparison tools, transparent pricing and billing, and elaborating the concept of vulnerable consumers.

National energy regulators are called upon to disseminate information to consumers. Before the end of 2012, the Commission will launch web-based guidance on energy consumer rights and on sources of consumer information and protection in individual Member States' energy markets.

3.1.2. Ensuring a level playing field

Energy regulators and competition authorities, at EU and national level, need to act decisively to ensure that all companies in the market are treated equally and that a level playing field is established and maintained³². The Commission will actively enforce competition rules.

This is important in particular where legacy advantages of historical operators act as a barrier to entry for newcomers. The Commission will continue to enforce antitrust and State aid rules in the energy sector to ensure that when barriers to competition that are lifted by regulation are not reinstated by the actions of undertakings or public authorities that could lead to distortions on the market.

The Commission will press public authorities ensuring that concessions, e.g. for hydro power generation facilities, storage facilities or the operation of distribution grids, are awarded in full compliance with Treaty principles and EU secondary legislation. The most appropriate way should be to put these concessions out to tender on a non-discriminatory basis, using open instruments such as auctions. The Commission intends to assess the adequacy of the existing regulatory measures for achieving this goal.

A level playing field is also important between EU and foreign companies. The internal market rules and trade by way of liquid power exchanges open the EU energy market to operators from third countries. Once established in the EU, these third-country operators enjoy the same rights and obligations as European operators. The lack of import restrictions or import duties on gas and electricity imports makes the European market one of the most open energy markets in the world and a good example for the further facilitation of worldwide

³¹ See SWD 1, part 4. Since September 2011 the Commission launched 19 infringement cases for non-transposition of the Directive 2009/72/EC and 19 cases for non-transposition Directive 2009/73/EC. By 24 October 2012, only 12 cases have been closed and the rest of the proceedings are on-going. This is without prejudice to the right of the Commission to pursue at a later stage a failure to transpose certain provisions, should shortcomings be identified, e.g. in the context of a non-conformity check (all received notifications of national transposition measures are subject to examination as to conformity with EU law).

³² Competition law enforcement has proven to be supportive in levelling the playing field in the power generation sector, e.g. antitrust case against E.On (2008), GDF Suez/International Power merger case (2011), and in the gas supply sector, e.g. RWE (2009) and ENI (2010) cases.

energy trade. EU trade policy aims to ensure that EU companies can compete on an equal footing outside the EU in their competitors' home markets. An internal energy market of 500 million consumers gives the EU and its companies weight in international trade.

3.1.3. *Bridging the gap between Member States*

If the EU is to develop a single electricity and gas market, no region or individual Member State must be left behind. The fact is, though, that energy market development is, in economic terms, highly divergent between countries³³, for example with respect to gas markets in the north-western parts of the EU as compared to the Eastern part of the EU.

The Commission and ACER shall promote regional initiatives to play a prominent role in bridging the gap. Regional Initiatives should help set up additional regional gas hubs and power exchanges, and reach the target of full market coupling in electricity across the EU as soon as possible³⁴.

However, in Member States where there is a single supplier and no network connections to other suppliers, enforcing regional market arrangements is of little help. The Commission is committed to providing assistance to help these Member States catch up. But without fundamental reforms in the countries concerned, progress will not be possible.

Member States must stimulate competition by developing infrastructure, in particular in support of cross-border activity, and eliminating market entry barriers.

3.2. **The consumer challenge: helping consumers take advantage of opportunities**

While rigorous enforcement of consumer protection rules is crucial, it will not be sufficient. To make the most of the benefits the internal market brings, consumers, including individual citizens and small businesses, must be enabled, and feel incentivised, to play an active role in the market.

Currently, SMEs and households are more passive than large industrial customers and are therefore losing out as available price differentials remain unexploited. This may be due in part to inefficient consumer protection or lack of transparency or consumer-friendly information, which all engender low consumer satisfaction³⁵ and trust. However, without consumers' appetite for active participation in the market, service diversification and value-added services are not developing.³⁶

³³ See SWD 1, part 2 and 3.

³⁴ Commission communication "The future role of Regional Initiatives", COM(2010) 721 final.

³⁵ Consumers rank the electricity and gas markets poorly. In 2012, the electricity market ranks 26th out of 30 services markets, with particularly low scores in Southern European countries (the highest for Luxembourg and the lowest for Bulgaria). The gas market ranks 21st out of 30 services markets (the top ranked country is Slovenia and the bottom ranked country – Belgium). Both electricity and gas markets have poor scores on choice, comparability and switching suppliers and tariffs, suggesting that consumers are not making full use of the saving opportunities created by market liberalisation. Details on performance country-by-country are provided in SWD 1, part 3. See http://ec.europa.eu/consumers/consumer_research/cms_en.htm.

³⁶ This has been recognised by the European Economic and Social Committee (EESC). Based on its work with civil society organisations, EESC promotes an informed and structured debate on energy issues among civil society and between organised civil society and decision-makers.

3.2.1. *Enabling the delivery of diverse and innovative services to consumers*

Getting the best deal might involve changing supplier to reduce bills or increase service quality, choosing price formulas that reward efficient energy use or facilitate micro-generation, etc. In competitive markets, consumers are offered a diversified choice as suppliers endeavour to cater to consumers' diverse needs and preferences. Some suppliers target price-conscious customers by competing on cost while others base their offer on high service quality or added value and ancillary services, or even bundle energy services with other services (e.g. telecoms).

Timely deployment of smart meters as set out in the EU acquis can trigger demand-response and other innovative and smart services. For example, consumers can be given the possibility to take advantage of lower prices in periods of weak demand while avoiding energy consumption in peak periods. This will increase consumer benefit and further broaden consumer choice. Such service offers will depend not only on the ability of businesses to address the diversity of consumer motivations and capacities with respect to their energy consumption, but also on the availability of diversified, flexible and/or dynamic pricing schemes.³⁷

However, at present, price regulation in many Member States prevents suppliers from offering attractive services³⁸ and tailor-made and dynamic pricing schemes. It discourages new entrants that could challenge the incumbents. In some Member States prices are even regulated by the State for some or all customer groups at levels below market costs. This can lead to energy tariff deficits borne by energy companies or by public finance, which may burden future energy consumers or taxpayers with serious costs. This also fails to provide the right incentive for efficient energy use. It is clear that such a situation is not conducive to the development of a competitive market and is economically unsustainable.

Even if regulated prices allow the cost of operations to be covered, they do not send the right price signals needed to secure efficient investment. They are perceived by investors as an indicator of political interference which stifles investment. While a number of Member States³⁹ have already allowed electricity and gas prices to be free of state intervention, including for retail consumers, and the Commission has agreed with several others⁴⁰ a timely phase-out of regulated prices, the majority of Member States still intervene in some form in retail price formation.

The Commission has earlier opened a number of infringement procedures against Member States regulating prices for industrial customers. A recent European Court of Justice ruling states that price regulation can be compatible with EU law only under strictly defined circumstances⁴¹.

Member States should seek to cease regulating electricity and gas prices for all consumers, including households and SMEs, taking into account universal service obligation and effective protection of vulnerable customers. Suppliers should clearly

³⁷ BEUC, 'Empowering Consumers through Smart Meters', pp 23-26, <http://bit.ly/JKn9R7>

³⁸ This may in part explain the low switching rates in several Member States. For further details on switching rates see SWD 1, part 3.

³⁹ Including Austria, Czech Republic, Germany, Finland, Luxembourg, the Netherlands, Sweden, Slovenia, the United Kingdom.

⁴⁰ Romania, Greece, Portugal.

⁴¹ Case C-265/08, Federutility and others v Autorità per l'energia elettrica e il gas.

spell out the different cost elements in the final cost for their customers, to encourage well-informed decision-making.

The Commission will continue to insist on phase-out timetables for regulated prices being part of Member States' structural reforms. The Commission will continue to promote market-based price formation in retail markets, including through infringement cases against those Member States maintaining price regulation that is not meeting the conditions laid down by EU law.

3.2.2. Targeted assistance to give vulnerable consumers better protection

Final energy prices for consumers may continue rising in the coming years, having a negative impact particularly on consumers in an economically weak situation. They should therefore be adequately protected. However, subsidies or regulation aimed at lowering the overall energy prices tend to reduce the incentives for energy-efficient behaviour, do not specifically target the most in need, and can distort competition. While assistance to vulnerable consumers by financial measures may be part of social policy, assistance with energy efficiency improvements represents a cost-effective form of assistance⁴².

The on-going changes in the energy sector may pose additional challenges to certain consumers who may not have the tools or competencies (literacy, access to information on- and offline etc.) to participate actively in the newly developing market and reap the benefits on offer. These consumers may need further assistance of non-financial character, helping them also to understand their rights and responsibilities.

The existence of vulnerability is not an argument against continued liberalisation, but highlights the fact that ensuring adequate protection of consumers, especially those in vulnerable positions, will be one of the key success drivers of the completion of the EU's internal energy market.

Member States should provide targeted assistance to vulnerable consumers in order to address their economic vulnerability and to help them make informed choices in the increasingly complex retail markets. The Commission will support Member States in defining what is meant by and what causes energy consumers' vulnerability by providing guidance and facilitating the exchange of best practice.

Member States should emphasise the importance of energy efficiency improvements in addressing consumer vulnerability and energy poverty.

3.3. The transition challenge: making Europe's energy systems fit for the future

Our energy systems are in the early phase of a major transition. Significant investments are needed to replace the EU's ageing systems, decarbonize them and make them energy-efficient and increase security of supply. The EU supports these investments through various instruments such as the European Energy Programme for Recovery, the future Connecting

⁴² On 22 June 2011, the Commission proposed a new Directive to step up Member States' efforts to use energy more efficiently at all stages of the energy chain – from the transformation of energy and its distribution to its final consumption. On 4 October 2012, the Council endorsed the political agreement on the Energy Efficiency Directive. The European Parliament had casted its favourable vote on such agreement on 11 September 2012.

Europe Facility, the EU Cohesion Policy⁴³ and Horizon 2020⁴⁴. Investments are taking place⁴⁵, but the pace must be stepped up if we are to achieve our objectives.

The internal energy market can help the EU make the transition: well-functioning markets promote and support system change much more effectively and more cheaply than any central planning or purely subsidy-driven overhaul. But the system change cannot take place without a properly integrated, modern infrastructure.

3.3.1. Let the market work to encourage the appropriate investments

Before liberalisation, vertically integrated national energy companies were in control of the entire system from production to consumption. With the development of a competitive market with multiple producers and unbundled network operators, no single entity can on its own ensure the reliability of the electricity system. The market participants are interdependent. Integrating more wind and solar energy⁴⁶ adds to the variability of supply and demand, and to the challenge of keeping supply and demand in balance at all times, at least until demand response and storage possibilities improve.

But these challenges to the electricity system can be overcome provided the regulatory framework clearly defines the role of the different players involved in the provision of electricity to final customers, such as producers, network operators, demand-response providers, suppliers, and consumers. Supply- and demand-side flexibility can and should be rewarded on the basis of market-based price signals (short-, medium- and long-term) to encourage the energy-efficient production and use of electricity. The enforcement of the antitrust rules will complement regulation in this regard. Public intervention that discourages private investments and undermines the internal market must be avoided.

Flexibility

The market, if allowed to function, will always indicate the economic value of power at each point in time. Prices will be low when there is a sudden surge in supply (e.g. when there is a lot of wind and solar power) and higher at times of shortage.

Such dynamic price signals are essential to encourage consumers and demand-side service providers to reduce consumption during periods of peak demand. In the electricity sector, changes of price have traditionally had little effect on the demand volume. But as smart grids and meters are rolled out, the potential for demand flexibility on the part of individual consumers or aggregators can really be tapped into.

Price signals are equally pivotal in encouraging flexibility on the supply side, from storage or from generation capacity that can be quickly ramped up or down. Together with a stronger

⁴³ With planned allocations of at least EUR 11 billion foreseen for 2007-2013. For 2014-2020 the Commission has proposed a significant concentration of EU Cohesion Policy efforts on renewable energy and energy efficiency, including smart grids, as well as a strong focus on RTDI. Member States and regions need to ensure that this funding complements private investment, leveraging it, and not crowding it out.

⁴⁴ Aimed at well targeted support to R&D.

⁴⁵ See Staff Working Document entitled "Investment projects in Energy Infrastructure", also referred to as SWD 2.

⁴⁶ The Energy Roadmap shows that renewable energy will be the core of the EU energy system in a 2050 perspective, and represent very high shares of electricity generation already by 2030.

EU Emission Trading System⁴⁷, the market can secure optimum investments and ensure the quality of our electricity systems in the future.

Policy makers and consumers may be concerned about the variability of prices. Linking markets across Member States will limit the risk, as spikes and falls are less likely to occur simultaneously in all countries. Increased demand responsiveness and flexible generation and storage will help absorb the peaks. There is no evidence that more volatile short-term markets lead to higher average prices, especially when there is continued back-up generation.

Suppliers will be able to hedge the risk against short-term price volatility in longer-term forward markets. Retailers will be able to offer innovative price plans to consumers interested in benefitting from flexible supply contracts, which will allow them to optimise their energy costs by using smart metering systems and appliances to focus their consumption on periods of low prices.

In short, properly functioning long-term and short-term wholesale markets (in particular, day-ahead, intraday, balancing and ancillary services markets), which reflect the economic value of power at each point in time in each area can steer investments to where they are most efficient.

The Commission will as a matter of priority:

- **ensure the further development of well-functioning, cross-border, wholesale markets in all timeframes by developing network codes⁴⁸. The Commission counts on ACER, ENTSOs, the European Parliament and Member States for their support in ensuring that network codes are put in place according to plan⁴⁹. These codes will establish common rules to enable network operators, generators, suppliers and consumers to operate more effectively within the market.**
- **help speed up the integration of storage and flexible generation e.g. by tackling remaining regulatory issues in the context of the European balancing market network code. The Commission will consider setting up a co-ordination initiative to address emerging regulatory and technical issues. Its upcoming communication on energy technologies and innovation will analyse how technology development, including storage technology and micro-generation, could link up with market developments at the European level to achieve the climate and energy targets.**

Optimising State intervention: steering the energy mix to low carbon

To achieve agreed greenhouse gas emission reduction objectives at least cost the EU Emissions Trading System — a market-based instrument that has created a single European carbon price — has been introduced. From 2013 on, also the carbon market design is fully 'europeanised', thus enabling the internal energy market to facilitate the transition towards sustainable, low carbon and efficient energy systems by rewarding low-carbon investments⁵⁰ and low-carbon fuels over carbon-intensive ones.

⁴⁷ Directive 2003/87/EC as amended by Directives 2008/101/EC and 2009/29/EC

⁴⁸ See paragraph 2.2, more efficient use and development of grids.

⁴⁹ Commission decision of 19 July 2012 on the establishment of the annual priority lists for the development of network codes and guidelines for 2013, 2012/413/EU.

⁵⁰ Including in carbon capture and storage ("CCS").

In addition, the above-mentioned transition challenge will require optimising state support to ensure that the appropriate investment continues to take place.

Currently, Member States use various forms of direct or indirect state support and/or surcharges on consumers' bills for a range of energy sources. Assuming further progress in completing the internal energy market as described above, falling production costs, and evolution in the carbon market, all forms of support mechanisms need to be regularly reviewed.

For example, support schemes for renewables - as well as a number of mandatory rules on priority grid access⁵¹ - were introduced on the grounds of incomplete market opening, incomplete internalisation of the external costs of conventional generation, and the early stage of development of most renewable-energy technologies. Markets and technologies have evolved since then.

The Commission will issue guidance on best practice and experience gained in renewable energy support schemes and on support scheme reform.⁵²

The aim here is greater consistency in national approaches, whilst protecting the principles of cost-efficiency and regular degressivity, as well as to avoid fragmentation of the internal market. The more efficient schemes are, the cheaper renewable energy becomes. And the more consistent they are, the easier it is to integrate renewable energy across EU borders and beyond.

The Commission is in the process of reviewing the guidelines on State aid for environmental protection to reflect changes in the technological landscape and EU policy objectives in the energy sector, while minimising competition distortions in the internal market.

In particular, the revision aims at ensuring that State aid control facilitates the granting of aid provided that it is well-designed, targeted, least distortive and provided that no better alternatives (regulatory, market based instruments) are available. The Commission will encourage in particular solutions that are cost-efficient and promote cross-border integration.

The Commission intends to actively contribute to the G20 goal to remove all environmentally harmful subsidies, including remaining direct and indirect support for fossil fuels.⁵³

Optimising State intervention: security of supply in electricity

Some Member States have introduced or plan to introduce separate payments for the market availability of generation capacity, as they are concerned that the 'energy only' market will not deliver sufficient investment in generation to ensure security of supply in the longer term.

⁵¹ Directive 2009/28/EC.

⁵² COM(2012) 271 final.

⁵³ Roadmap for a resource efficient Europe, COM (2011) 571 final, includes a milestone that 'by 2020, environmentally harmful subsidies will be phased out'. Annual Growth Surveys 2011 and 2012 (COM (2011) 11 final, COM (2011) 815 final) also call for elimination of environmentally harmful subsidies. Commitments to reform fossil fuel subsidies have also been adopted at the global level, for example in the context of the G20 and at the Rio+20 conference.

Such capacity mechanisms are long-term tools that aim to provide a stream of revenue to (selected) generators and commit consumers to paying for the capacity provided.⁵⁴

However, the Commission is of the view that if capacity mechanisms are not well designed and/or are introduced prematurely or without proper co-ordination at EU level, they risk being counterproductive. If capacity mechanisms do not treat demand reduction fairly, they can lock in generation-based solutions rather than energy efficiency or demand response solutions. If they do not distinguish base load from peak load, they may not attract sufficiently flexible generation capacity. Capacity mechanisms distort the EU-wide price signal and are also likely to favour fossil fuel generation sources over more variable renewable sources (beyond levels necessary for maintaining power systems in balance) and may therefore run counter to EU decarbonisation and resource efficiency objectives.

In well-functioning energy markets, generation investment incentives and security of power generation supply depend also on the evolution of the carbon market. The Commission is putting forward options for structural measures to address the current over-supply of ETS allowances resulting from the economic crisis⁵⁵. This would create more investor certainty and reduce the need for national measures.

Far from ensuring generation adequacy or security of supply, poorly designed capacity mechanisms will tend to distort investment signals. As such, these interventions can interfere with cross-border trade and competition as they can close off national markets from generation elsewhere in the EU and also distort the location of generation in the internal market. Nationally-based capacity mechanisms can increase costs for all Member States by preventing the best use of generation and flexibility across borders.

The Commission considers that capacity mechanisms are likely to be subject to EU internal market rules, including State aid control and Directive 2009/72/EC.

Member States should demonstrate the need for such mechanisms over alternative approaches such as peak-shaving measures, increased imports through appropriate interconnections, and facilitating demand-side participation in the market for industrial as well as retail customers. Even in times of generation capacity constraints, cross-border exchanges need to be maintained. Allocation procedures need to be transparent and non-discriminatory.

Member States should carry out a full analysis of whether there is a lack of investment in generation, and why. They should seek cross-border solutions to any problems they find before planning to intervene. Any capacity mechanism needs to take into account any impact the intervention will have on neighbouring Member States and on the internal energy market. Fragmentation of the internal energy market must be avoided.

The Commission is launching a public consultation on security of supply in electricity, generation adequacy and the internal energy market.

Depending on the results of its consultation and further engagement with Member States and stakeholders, the Commission may propose follow-up measures.

⁵⁴ In some Member States, the public intervention envisaged takes the form of long-term security of supply contracts, with the State or an entity assigned by it as counter party. Capacity mechanisms are to be distinguished from short-term mechanisms aimed at ensuring that the real-time balance between supply and demand is maintained even in the face of sudden variation on either side.

⁵⁵ See Communication "The state of the European carbon market in 2012", COM(2012)652

Security of supply requires coordination among Member States that can deliver short-term crisis response and long-term solutions to security of supply challenges. As our energy systems become more integrated, we shall need more coordination and cooperation across borders to identify and address risks, and to ensure proper crisis response.

The Commission is formally setting up an Electricity Coordination Group with the mandate to facilitate cooperation on security of supply in electricity, including generation adequacy and cross-border grid stability.

3.3.2. *More integration, faster modernisation and better use of grids*

More grids to integrate EU energy markets

Energy must be able to flow to where it is needed, without physical barriers at national borders. This implies *inter alia* addressing the effects of unplanned power flows ("loop flows") on cross-border market integration. Serious investment in energy networks is needed to enable certain areas of the EU to emerge from isolation⁵⁶ and to achieve our Europe 2020 targets.

There is a pressing need to enhance the way investment takes place as stressed in the proposed Regulation establishing the Connecting Europe Facility⁵⁷. Work has already started on defining the energy networks of the future in accordance with the environmental *acquis*. In October 2011, the Commission tabled a proposal for a Regulation on "Guidelines for trans-European energy infrastructure"⁵⁸. It identifies twelve priority corridors and areas covering electricity, gas transmission and storage, and oil and carbon dioxide transport networks and a dynamic identification of projects of common interest. The Commission has come out in favour of faster permit-granting procedures, improved cross-border infrastructure cost allocation, and financing support.

The swift adoption and implementation of the Energy Infrastructure Package is crucial as acknowledged by the European Council on 9 December 2011.

Faster modernisation towards smart grids

With the growing need for flexibility and energy efficiency and to accommodate distributed generation and demand-side participation, co-ordinated action is needed with a view to the deployment of smart grids at European, regional and municipal levels. Smart grids rely on digital infrastructure. The Commission tabled a proposal for a Regulation on "Guidelines for trans-European telecommunications networks"⁵⁹ identifying *inter alia* digital services infrastructure as priorities. An efficient deployment should exploit the synergies between telecommunication and energy operators at infrastructure and services level, which must cooperate in a pro-competitive way, thus opening the field for new entrants.

The Commission will continue to promote pro-competitive co-operation between the energy and the ICT sector, including innovative service providers for advancing the modernisation of grids and accelerating innovation in the energy sector. Member States

⁵⁶ See the conclusions of the European Council of February 2011. In particular, Baltic states operating in Russian and Belarussian electricity system should be synchronized with the EU.

⁵⁷ COM(2011) 665

⁵⁸ COM(2011)658 final.

⁵⁹ COM(2011)657 final.

are asked to encourage this on a national level. The European Standardisation Organisations (CEN/CENELEC/ETSI) have the urgent task of developing a first set of Smart Grid standards by the end of 2012. The Commission will promote the use of these standards.

The Commission already earlier adopted a Communication on smart grids⁶⁰ calling for the necessary framework conditions for industry to successfully develop the technologies and production capacities to deliver this investment, and setting out the vision of integrated infrastructure management⁶¹. Based on best practices and projects in Member States⁶² the Commission is presently developing guidelines and new instruments to further stimulate the rollout of smart metering systems in the present decade⁶³, monitoring the progress of current smart metering projects in the EU and supporting promising R&D and pilot projects⁶⁴ in smart grids..

The Commission will further support R&D and innovation to facilitate the deployment of smart grids. The Commission will renew the standardisation mandate granted to the European standardisation organisations in order to develop a second set of standards and develop guidance and identify potential Projects of Common Interest by the end of 2012.

Stronger demand response in distribution networks

With the advent of smart metering systems, microgeneration technologies, smart appliances and home automation, consumers will be increasingly enabled to modulate their energy demand according to the actual situation in energy markets. Such demand response will allow consumers to save money while increasing the efficiency and stability of energy systems. It will, however, require that Member States, regulators, Transmission System Operators (TSOs), Distribution System Operators (DSOs) and retailers cooperate with each other and with other players (demand-side service providers, ICT companies or system developers). The objective is to develop transparent and easily understandable rules and standards for demand response and data management.

It will also require reconsidering the role of DSOs. In particular it needs to be ensured that their regulated activities are limited to tasks which are best performed by a natural monopoly, and that new services made possible by new technologies are developed in competitive markets. In this context, it seems also appropriate to consider the role of third parties (such as aggregators, energy services and actors from other network sectors, e.g. ICT, telecoms, electrical engineering) in the future development of local distribution grids or energy services.

The Commission has launched the debate under the auspices of the Citizens' Energy (London) Forum and will continue the discussion based on the smart metering rollout plans of Member States.

⁶⁰ COM(2011)202.

⁶¹ The Electricity Directive and the Energy Efficiency Directive provide a complementary mix of obligations and incentives to Member States to establish such a framework.

⁶² In line with the Commission's Industrial Policy Communication COM(2012)582.

⁶³ The number of smart meters in the EU will need to rise from some 45 million at present to at least 240 million by 2020, with the necessary annual investment spending increasing from just over €1 billion at present to €4-5 billion by 2015, subject to costs-benefit analysis.

⁶⁴ For example through the European Industrial Initiatives for Electricity Grids, and the European Innovation Partnership for Smart Cities and Communities.

The Commission will address the technology aspects of further evolution in energy distributions networks in the upcoming communication on energy technologies.

The Commission calls on Member States to adopt ambitious strategies for the roll-out of smart metering systems and to ensure that they meet the interests of energy suppliers, distributors and consumers alike.

The Commission asks Member States to produce action plans which reflect how to modernise their grids, including rules and obligations for DSOs, synergies with the ICT sector and promotion of demand-response and dynamic prices, in accordance with the Energy Efficiency Directive.

4. CONCLUSION

Market opening gives consumers a real choice. It limits the need for public intervention and prevents inappropriate public intervention. There are a number of issues which need to be tackled urgently in order to complete the internal energy market by 2014, end isolation of several EU Member States from EU networks, realise the Europe 2020 agenda and move towards a transformed energy system by 2050 at least cost to all. These issues also stand in the way of realising full benefits to consumers, raise barriers to competition and innovation and undermine the security and sustainability of European energy.

The Commission is committed to deliver, within its sphere of competence, on the challenges of building and modernising a European network, and incorporating renewable energy, micro-generation and smart grids by means of stable regulatory framework that sets out the role of the different actors (network operators, producers, suppliers, demand response providers, consumers and regulators).

On the basis of this Communication, the Commission proposes an Action Plan (Annex 1) to ensure the success of the internal energy market. The Commission calls upon all Institutions, Member States and Stakeholders concerned to work together towards achieving the proposed actions according to the proposed timing. The Commission will review the progress of implementation of the Action Plan in 2014. The Commission is determined to ensure that the follow-up to the Action Plan at Member State and at EU level be firmly anchored in the European semester, in particular via the Annual Growth Survey, the Single Market Integration Report and the Country specific recommendations.

Annex 1: Action Plan for Europe

Action/Measure	Actor(s) involved	Timing
Enforcement		
1. Timely and comprehensive transposition of the Third energy package Directives and implementation of the Third energy package Regulations	Member States / national regulators for energy / Commission	March 2011
2. Guidance on defining the concept of "vulnerable customers"	Commission	2013
3. Rigorous application of the internal energy and competition rules	Commission / Member States / national regulators for energy / national competition authorities	continuous
4. Enhance effectiveness of Regional Initiatives and their contribution to the integration of the internal energy market	Commission / Member States / national regulators for energy / ACER	continuous
5. Revision of guidelines on State aid for environmental protection	Commission	End 2013/ Beginning 2014
Improve consumer empowerment and support		
6. Further efforts to involve, inform and motivate consumers, including through the implementation of the Energy Efficiency Directive and through web-based content for consumers pointing to relevant consumer-protection resources and energy consumers' main rights.	Commission / Member States / national regulators for energy/ consumer associations	2013 / 2014
7. Through the Citizens' Energy Forum, support Member States in setting the scope for research, data collection and reporting on energy retail markets.	Commission/ Member States / national regulators for energy/ consumer associations	2013
8. Improve information provision to consumers, establish guidelines and best practice on price comparison tools, clear and transparent billing, and on support to vulnerable consumers	Commission / Member States / national regulators for energy / consumer associations	2013
9. Targeted assistance to vulnerable consumers to make informed choices and giving them the necessary support to enable them to cover their energy needs in competitive retail markets	Commission / Member States	2013
Making EU Energy Systems fit for the future		
10. Adopt and implement network codes - in electricity: capacity allocation and congestion management rules	ACER / ENTSOs / Commission / Member States / national regulators for energy	2013/2014

rules for longer-term (forward) capacity allocation network connection rules system operation - in gas: capacity allocation balancing rules including network-related rules on nomination procedure, rules for imbalance charges and rules for operational balancing between transmission system operators' systems interoperability and data exchange rules rules regarding harmonised transmission tariff structures		
11. Swift adoption and implementation of the Energy Infrastructure Package	Council / European Parliament / Member States / national regulators for energy	December 2012
12. Adoption of the first Union list of Projects of Common Interest	Commission / Member States	2013
13. Create framework and market for broad introduction of smart appliances (e.g. via R&D support, standardisation, ecodesign and energy labelling)	Commission / stakeholders (in particular European standardisation organisations)	2014
14. Prepare national action plans for swift deployment of smart grids	Member States / Commission	2013
15. Reflection on future roles and responsibilities of DSOs, demand response, smart appliances and home automation, distributed generation and energy saving obligation schemes	Commission / Member States	2013
16. Analyse how the internal energy market can contribute to improving energy efficiency	Commission	2013
17. Analyse how technology development, including storage technology and micro-generation, can link up with energy market developments	Commission	2013
Ensuring appropriate State interventions		
18. Phase-out of regulated gas and electricity prices taking into account universal service obligation and effective protection of vulnerable customers.	Commission / Member States	2009 and beyond
19. - Analyse investment incentives and generation adequacy in electricity under the existing European framework - And develop criteria for assessing and ensuring consistency of national capacity-related initiatives with the internal market	Member States Commission	2013 and beyond
20. Adopt guidance on support schemes for renewables	Commission	2nd/3rd quarter 2013

21. Formalise the Electricity Coordination Group	Commission	October 2012
22. Phase-out of environmentally harmful subsidies, including direct and indirect fossil-fuel subsidies.	Commission / Member States	By 2020 at the latest