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ANNEX 2

**ANNEX**

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

**Third Report on the State of the Energy Union**

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## **Annex 2 - Policy observations at Member State, Regional and EU Level**

### **National Energy and Climate Plans**

- In accordance with the template proposed by the Commission for the National Energy and Climate Plans (NECPs)<sup>1</sup>, Member States have started preparations for their plans for the period 2021 to 2030, which should include national contributions to the Energy Union objectives and the 2030 targets for energy and climate. More than two thirds of Member States have set up a political process for the plans or are in a preparatory phase. More than half have already engaged in public consultation on the plans. More than one third of Member States have indicated to the Commission that they have started work on the analytical basis and on regional cooperation in preparation of the plans.
- Building on the progress made, it is now necessary to step up efforts in the preparation and finalisation of the draft national energy and climate plans.

### **Energy security**

- The EU is making good progress to diversify sources, routes and suppliers of energy; importantly, renewable energy developments between 2005 and 2015 have reduced the need for fossil fuels by more than 10% compared to what it would have been otherwise.
- A number of Member States are still totally or predominantly dependent on supply from one single source or supplier, notably Bulgaria, Estonia, Finland, Hungary, Latvia and Slovakia which are particularly dependent on a single gas supplier (Russia). Some member States are in a similar situation for oil and/or coal as well as for a substantial part of their nuclear fuel supplies.
- The EU's gas supply diversification strategy is based on three main lines of action: i) transparent, liquid and flexible Liquefied Natural Gas (LNG) market, ii) the Southern Gas Corridor, and iii) Mediterranean gas hub.
- New interconnections and LNG terminals, and in particular the Projects of Common Interest (PCIs), have facilitated an improvement of security of gas supply in the last couple of years. Today, an increased percentage of gas demand can be satisfied through alternative infrastructures with only one Member State remaining that could not fully substitute for the disruption of their most important gas infrastructure (i.e. Bulgaria)<sup>2</sup>.
- The completion of the trans-European gas networks must be accelerated further to address the remaining bottlenecks between Member States (e.g. Croatia, Hungary, Romania, Bulgaria and Greece; Portugal and Spain with France; the Baltic States through Lithuania - Poland) and to ensure that consumers and suppliers in all Member States have access to LNG hubs. Europe's supply is affected by global market developments as gas becomes more and more a global commodity. This was demonstrated by last year's decrease in LNG gas imports in Northwest Europe, when cargoes were attracted to the higher-priced Asian markets.

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<sup>1</sup> Annex I to the proposal for a Regulation on the Governance of the Energy Union COM(2016) 759 final.

<sup>2</sup> Slovenia cannot fully comply with this rule either but together with Luxembourg and Sweden it is exempted from it.

- The Southern Gas Corridor remains a strategic priority project in the context of the European Energy Security and Energy Union strategies. Its timely completion is critical, so that gas from new suppliers can flow to Europe by 2020. The EU continues to actively engage with all the stakeholders involved in the development of the Corridor.
- The recent discoveries of large natural gas fields in the East-Mediterranean region (Israel, Cyprus, Egypt) and the perspectives for even larger exploitable deposits (possibly also in Lebanon) have raised the profile of the region as a gas producer and exporter. It is therefore in the EU's interest to assist the countries in the region in better exploiting their energy resources and to develop mutually beneficial commercial cooperation.
- As regards electricity, cold weather in most of Europe significantly increased power demand in January 2017. Although major electricity supply disruptions did not occur, several countries imposed export curtailments or explicit export bans, which undermined the confidence in the internal electricity market and security. These events highlighted the need for common rules for preventing, preparing for and handling electricity crisis with more solidarity and transparency. The adoption by the co-legislators of the Commission proposal on Risk Preparedness in the electricity sector is crucial in this respect.

## **Internal energy market**

### *Electricity infrastructure*

- In 2017, seventeen Member States were already above the 10% interconnection target for 2020, whilst several others are very close to it.
- The completion of the trans-European electricity networks must be accelerated to enhance security of supply, manage variability, improve the integration of renewables and further the internal energy market. Additional electricity interconnections and the reinforcement of internal lines are needed to further integrate the internal electricity market in South Western Europe and in Northern and Central Europe (e.g. Germany and Poland), as well as to advance towards the integration of the Baltic States with the European electricity system through synchronization.

### *Wholesale markets*

- Wholesale power markets have further integrated: today, 30 out of the 42 EU borders<sup>3</sup> already participate in day-ahead market coupling. Through more efficient use of interconnectors, market coupling helps increase social welfare across the EU by reaping efficiency gains. Implementing market coupling on all remaining European borders that were still applying explicit day-ahead auctions by the end of 2016 would render a social welfare benefit of more than 200 million euros per year<sup>4</sup>.

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<sup>3</sup> This includes Austria, Belgium, the Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Hungary, Italy, Lithuania, Latvia, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia, Slovakia and Great Britain.

<sup>4</sup> ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Gas Markets in 2016 Electricity Wholesale Markets Volume October 2017.

- Further integration of markets requires closer coordination with neighbours. Large amounts of electricity interconnector capacities remain unused due to missing coordination between neighbouring transmission system operators and regulators<sup>5</sup>. Examples in various Member States show that coordinated capacity calculation can increase cross-border trade significantly, to the benefit of consumers.
- Many Member States have made good progress in opening up their wholesale markets to competition. The latest example is Finland's revised Gas Market Act, which should open gas market competition when the Baltic-connector project (gas interconnector between Finland and Estonia) is completed. Generally, in Member States where the electricity and gas markets have been opened to competition, this has increased choice and improved security of supply. In other countries, however, market concentration is above EU average and low competition results in higher prices and reduced security.
- Many Member States have not yet fully implemented the necessary rules that allow for competitive and liquid markets, particularly for wholesale gas markets. Furthermore, incumbent undertakings still have significant market power in a number of Member States. Competition enforcement remains key to ensuring open and competitive markets.
- Uncoordinated state interventions increasingly distort market and investment signals, resulting in unnecessary costs for consumers. Adapting support schemes to more market-based models (e.g. through tendering) and opening capacity markets across borders can significantly reduce market distortions, as evidenced in various Member States.

#### *Retail markets and consumers*

- In the case of industrial customers, there has been a convergence in retail electricity prices across EU countries over the last couple of years.
- Recently, more Member States have successfully moved away from end-user price regulation (Ireland, Latvia). However, prices for households remain regulated to different degrees in about half of the Member States, which constitutes an obstacle to demand-side participation, retail competition and may discourage investments in energy efficiency.
- Energy poverty should be addressed more effectively at the Member State level. Today most Member States do not define energy poverty in their national legislation. Energy poor households should be better identified and the evolution of energy poverty monitored, in order to allow more targeted action through energy efficiency measures such as long-term building renovation strategies which specifically target energy poor households and social policy measures such as targeted income support.

#### **Energy efficiency and moderation of demand**

- There has been significant progress on energy efficiency. Overall primary energy consumption decreased in the post-recession years, showing that economic

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<sup>5</sup> See ACER/CEER ANNUAL REPORT ON THE RESULTS OF MONITORING THE INTERNAL ELECTRICITY MARKETS IN 2016, Chapter Wholesale Markets, Sections 3.2/3.3.

recovery and growth could be achieved without increasing the demand for energy.

- In 2015, primary energy consumption of the Union was only 3% above its primary energy consumption target for 2020, and the final energy consumption in 2015 was already lower than the target agreed for 2020. However, both primary and final energy consumption grew in 2015 compared to 2014 and are also expected to further increase in 2016, partly due to climate variations and lower fossil fuel prices.
- Collectively, the announced national targets for 2020 are consistent with the EU level of ambition for Final Energy Consumption (FEC) but the gap is now greater for Primary Energy Consumption (PEC).
- Member States are making good progress in achieving energy savings under Article 7 of the Energy Efficiency Directive. Their collective efforts in 2015 were above the linear trajectory to achieve the required savings for the EU in 2020.
- Accelerating the renovation rate of the EU buildings stock, which account for about 40% of energy use in the EU, is a top priority. Many Member States have put in place ambitious policies to address this need through financing incentives and support schemes, including with the use of European Structural and Investment Funds. In this respect, improving access to attractive financing products to finance building renovations is a key factor to attract more private investment. This has been confirmed by the use of the European Fund for Strategic Investment in this sense with the French region of Île de France successfully securing a long-term loan at a low rate for renovating up to 10,000 apartments.
- Further improvements of energy efficiency in the transport sector are needed in most Member States, including measures promoting a switch to collective transport means and zero- and low-emission vehicles. In this respect, the promotion and support of electro-mobility, including accelerated deployment of recharging infrastructure, should continue to receive particular attention, which is also considered under the proposal for an updated Energy Performance of Buildings Directive<sup>6</sup>.

## **Decarbonisation**

- Most Member States are expected to reach their 2020 targets for the non-ETS sectors under the Effort Sharing Decision. Only a few Member States will need to put in place either additional measures or make use of flexibilities. This is in particular the case for Austria, Belgium, Finland, Germany, Ireland, Luxembourg and Malta. During the 2013-2015 period, Malta exceeded its target. According to preliminary estimates for 2016, Malta, Belgium, Finland and Ireland are likely to exceed their non-ETS targets.

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<sup>6</sup> COM(2016) 765 final

- An important contribution to Energy Union actions comes from revenues that Member States generate from auctioning emission allowances under the European Union emissions trading system (ETS). Member States earned nearly € 15.8 billion from the auctioning of EU ETS allowances over the period 2013-2016. Approximately 80% has been used or is planned to be used for climate and energy purposes. Member States use most of these revenues domestically for renewable energy followed by energy efficiency and sustainable transport.
- In 2016, emissions from sectors covered by the EU Emissions Trading System reduced by 2,9% to 1,75 billion tonnes, below the level that is foreseen for the year 2020.
- The third reduction to auctions as a result of the agreed backloading measure took place in 2016, reducing supply in the EU ETS by 200 million. To address the structural imbalance between the supply and demand for allowances in the carbon market and to render the auction supply in the EU ETS more flexible the creation of a Market Stability Reserve (MSR) was agreed in 2015. As the Market Stability Reserve will become operational in 2019, the Commission published the total number of allowances in circulation for the first time in May 2017, corresponding to 1, 69 billion allowances.

#### *Renewable energy*

- Member States will have to maintain, and some will have to strengthen, efforts to reach their 2020 binding targets, as the trajectory becomes steeper closer to 2020. In 2015, the vast majority of Member States had already exceeded their indicative average trajectory for 2015-2016. Only three Member States (France, the Netherlands and Luxembourg) showed 2015 renewable energy shares below their indicative average trajectory for 2015-2016. 11 Member States are already above their 2020 renewable energy target.
- Renewable energy is increasingly addressed in regional cooperation fora such as the Baltic Energy Market Interconnection Plan (BEMIP) and the Central and South-Eastern Europe Gas Connectivity (CESEC) which have been successfully extended to new cooperation areas such as electricity, renewable energy and energy efficiency. Regional cooperation can reap additional cost-effective potential for renewable deployment across the EU, as shown by the recent joint pilot tender between Denmark and Germany.
- Stable and predictable regulatory frameworks are crucial for facilitating cost-effective renewables deployment. Recent successful auctioning tenders for support to renewable energy projects, for example in Denmark, Germany, the Netherlands or the UK, have demonstrated investors' confidence in technological progress, good policy design, and electricity market reforms. Lessons should be learned from such good practices and disseminated across the EU.
- The cost-reductions in renewable energy technologies over the last couple of years are enabling consumers to increasingly produce their own renewable energy and encouraging greater uptake. There are more than 2500 energy communities in the European Union. In Germany, for example, 50% of the generation capacity is owned by private individuals and produces electricity at costs that are competitive with large market actors. Member States should continue existing efforts to ensure that self-consumption of renewable energy is not subject to unnecessarily restrictive conditions.

### *Local initiatives*

- Local initiatives have made essential contributions to the development of renewable energy at the local level, for instance by the residents of the city of Breda in the Netherlands. In fact, more than 7500 cities from the EU countries and beyond are engaged in the Covenant of Mayors initiative; as such, more than 31% of the EU population lives in areas with ambitious climate and energy initiatives.

### **Research, innovation and competitiveness**

- European industry, research institutes and academic innovative actors are overall well positioned in the global energy landscape. With 35% of international patents<sup>7</sup> in renewables, the EU is a leader in low carbon key technology innovation. Significant growth has been seen in climate change mitigation innovations in Europe, which has occurred mostly in the fields of clean energy technologies and transport. Yet more work is needed to quickly and successfully bring these innovations to the internal and export markets and turn them into growth and job opportunities.
- The SET Plan is the European delivery mechanism and the only collective forum for industrial stakeholders, countries and research institutions on clean energy research and innovation to bring the fifth dimension of the Energy Union into fruition. The ongoing implementation process delivers on the targets set for each of the 10 SET Plan Actions and validates the commitments made last year, this being a very important step forward. Nevertheless, Member States need to engage more actively and collectively with research and industry actors to demonstrate concrete collaborative activities that measure up against the targets set for that purpose. In addition, the SET Plan should act as the knowledge hub and support mechanism to the Member States to deliver on their new proposed obligations to plan and report on concrete R&I indicators and competitiveness in the fifth dimension of the National Energy and Climate Plans, under the Governance of the Energy Union proposal.
- The private sector plays a crucial role by ensuring that novel products, technologies and services reach successfully the market place. Public-Private-Partnerships are particularly important under this context, reason why the Horizon 2020 has set aside significant resources for this type of collaboration.
- The Strategic Transport Research and Innovation Agenda (STRIA)<sup>8</sup>, outlines seven transport R&I priority areas for future research and innovation to address the transport sector's decarbonisation. Based on these roadmaps, a governance Member State group will start in November 2017 overseeing the implementation of the key actions, monitor the process and coordinate research activities.

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<sup>7</sup> European Commission/Joint Research Centre (based on data of the European Patent Office).

<sup>8</sup> SWD (2017)223