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From: Presidency
To: Permanent Representatives Committee (Part 1)
Subject: Energy System Integration - Setting the path towards a climate-neutral Europe
- Report by the Presidency

Delegations will find attached a Presidency Report on the Energy System Integration - Setting the path towards a climate-neutral Europe.

COREPER is invited to take note of the report.

Presidency Report

ENERGY SYSTEM INTEGRATION - SETTING THE PATH TO A CLIMATE NEUTRAL EUROPE

December 2020

The European Union is about to enter the next phase of its energy transition. **Reflecting the objective of climate neutrality by 2050, climate and economic policies need to further converge.** The first phase mainly focused on the transformation of the electricity sector, diversification of energy sources and creating a European energy market. The next phase requires a more integrated, cross-sectoral approach making use of innovative energy technologies which help the European economy to become more circular, digital and contribute to its global competitiveness.

In addition to these long-term transformative goals, the energy sector will also have to continue to fulfil its essential role in the short run by contributing to the EU's economic recovery from the COVID19 crisis. Although the COVID19 pandemic generates several challenges, **Europe's energy system remains resilient.** The recovery from the crisis can help shape the transition to a more safe and sustainable future. As the European Council stated in July 2020: "The plan for European recovery will need massive public and private investment at European level to set the Union firmly on the path to a sustainable and resilient recovery, creating jobs and repairing the immediate damage caused by the COVID19 pandemic whilst supporting the Union's green and digital priorities."

Reflecting the ambition for a green recovery and keeping the long-term objective of climate neutrality by 2050 in sight, the EU aims **to become the first climate neutral continent.** In order to achieve this objective the European Council agreed in December 2020 to increase the **2030 EU climate target to at least 55% of greenhouse gas reductions compared to 1990 levels.**

The climate neutrality objective will serve as a reference point for many years to come. **It will require emission reductions in all sectors of the economy to net-zero in the coming 30 years, necessitating substantial investments.** While the EU has strongly benefitted from cost reductions in renewable energy technologies over the last decade, new challenges are arising, such as the need for massive investments in grid infrastructure and the identification of suitable sites for further expansion of renewable electricity that are also accepted by the public. The energy system remains the focal point of this vital transition and needs to implement a more holistic approach that includes interactions with other sectors such as transport and buildings.

As a first step, in order to become **‘Fit for 55’**, the European Commission will review the EU's energy targets for 2030. The growth of renewable energy needs to accelerate significantly and our integrated energy system has to become more energy-efficient in order to achieve the 2030 emissions reduction target. This requires considerable efforts both from the individual Member States and from the Union as a whole.

ROADMAP

The roadmap to the EU's 2030 energy and climate targets as well as to climate-neutrality by 2050 is set out in the **EU Strategy for Energy System Integration (ESI)** presented by the European Commission on 8 July 2020. The ESI concludes that the EU needs to accelerate the transition towards a more integrated energy system that delivers a climate neutral, prosperous economy at the least cost across all sectors. And that this transition will also support EU leadership in innovation and the development of new business models and new energy carriers, such as hydrogen.

In view of the forthcoming review of EU energy legislation, during the German Presidency Member States held broad discussions on **strategic measures to achieve further energy system integration**:

- The **Energy Efficiency First principle** has been widely supported by the Member States as a leading principle underpinning the transformation of the EU's energy system in all sectors.
- The discussion highlighted that the role of **cost efficiency** should be strengthened as the transformation of the energy system continuously gains speed and depth. Movement towards a greater **circular energy economy** would further support the EU's efficiency ambitions.

- The European Commission's **renovation wave initiative** received support from a great number of Member States. It is considered a thrust to further push energy efficiency, the sustainable deployment of building renovation skills and the development of local renewable energy as well as waste heat sources.
- Member States stressed that **deepening electrification** by reaching into new sectors of the economy will play a vital role in the forthcoming decarbonisation path. Greater use of electricity is mainly expected for uses in the transport and building sectors, and in some areas also for industrial applications.
- Given the increased importance of electrification, Member States highlighted that the **share of renewables in the EU electricity mix needs to be increased substantially** in order to meet the Union's objective of climate neutrality by 2050. To enable continued growth in the supply of renewable electricity the Council has agreed on conclusions regarding the EU enabling conditions for cross-border renewable energy projects. Further cross-border potential could be harnessed in the area of renewable offshore energy in particular.
- Discussions showed, that **grid expansion** remains one of the greatest challenges for an increased electrification of energy demand. This concerns transmission and increasingly distribution, due to the rising importance of sector integration. Member States expressed the need for more flexibility both on the demand as well as storage side, supported by digitalisation, in order to smoothly integrate ever more variable renewable energy sources into the power grid. The grid of the future will link various sectors.
- Many Member States emphasised that for sectors which are difficult to electrify, **renewable and low carbon fuels** should be considered. These could take the form of bioenergy or hydrogen as well as synthetic fuels. Member States stressed that these energy carriers entail cost and capacity challenges when being generated on a large scale, and will need to fulfil reliable criteria with regards to sustainability and system stability. Hence these fuels should be prioritised in sectors that are harder to decarbonise and for which the option to electrify seems less attractive.

- Members States indicated that there is further potential for the development of **biofuels, biogas & biomethane**, but that the overall capacity for sustainable available biomass is limited, especially within the EU. As to the different sectors for utilisation, the transport sector was most widely seen as an area for further development, taking into account that the use of bioenergy is still an option for the heating sector.
- The promotion of **hydrogen especially from renewable sources**, is emphasised in the Council’s conclusions “Towards a European hydrogen market” as it is a crucial energy carrier of the future that is needed on the road to climate neutrality. Member States agree that the EU has great potential to become a global leader in these technology applications.
- Several Member States called for the introduction of an effective **EU wide greenhouse gas pricing mechanism** across all sectors. Carbon pricing is considered to play a vital role in advancing energy system integration, promoting in particular energy efficiency in all sectors including buildings and transport and thus decarbonising our economies. The assessment of the European Commission and experience by the Member States show that carbon pricing tools need to be flanked with targeted and ambitious energy policies to remove market barriers effectively and to tackle unwanted social challenges.
- Several Member States stressed, that long term **infrastructure investments** made today need to be aligned with the objective of climate neutrality by 2050 - in particular for investments in the energy and transport system, in order to avoid stranded investments and lock-in effects. The EU funds will need to contribute significantly to achieving the necessary decarbonised infrastructure on the ground, such as contributing to an EU-wide network of electric road charging points and the development of a grid infrastructure for the transport of hydrogen.
- Member States agreed that the **digitalisation of the energy system** is a facilitator for greater efficiency and transparency. A smart electricity and gas grid can facilitate a more flexible demand and supply, and as such reduce costs for the consumer. Member States want the EU to strive to become a global leader in the growing area of ‘smart energy’.

- **Consumer participation and empowerment via greater digitalisation** was also mentioned as a tool to achieve greater acceptance of the energy transition as well as increase cost-effectiveness. Consumer information on the sustainability of the energy and products they consume, together with empowerment and market participation remain important elements of the energy transition.
- Some Member States mentioned the need to revise **the State Aid framework** in light of the European Green Deal and the objective of a climate neutral EU by 2050. For example, the decarbonisation of district heating networks is difficult to trigger based on the current state aid rules. At the same time others highlighted the importance of having clear and long-term market rules.
- In order to accomplish all of these tasks, Member States agreed on the need to work closely together. The Energy Union must be equipped with an **effective governance framework** in order to deliver its ambitious common targets. System integration will likely follow different pathways in each EU Member State, depending on their respective starting points and policy choices. Some of these pathways are well reflected in the 2021- 2030 National Energy and Climate Plans which have been published. Looking ahead, the setting of increasingly ambitious common goals will require more and more effective and timely common responses.
- Member States agreed that the **energy transition must be a just transition**, that does not leave anyone behind. Only if the transition is carried and supported by the citizens of Europe will it be a success.

OUTLOOK

Discussions between Member States showed that a **balance needs to be struck between different approaches and principles** as regards to energy and climate policy. The EU should use market mechanisms, such as carbon pricing, but also make use of the effectiveness of sectoral regulatory approaches for renewables and energy efficiency. Common targets should be delivered by common efforts across the EU in the most cost-effective manner. All Member States will need to participate in this effort, taking into account national circumstances and considerations of fairness and solidarity, and thus being flexible in their national implementation.

Looking forward, central pieces of **EU energy legislation** will be revisited to bring forward energy system integration in light of the European Green Deal:

- Member States emphasised the importance of energy efficiency for achieving decarbonisation. The upcoming revision of the **Energy Efficiency Directive** has been welcomed by several Member States with a view to aligning the EU energy efficiency target for 2030 to the new EU climate target and to improving EU wide energy efficiency measures. It has also been underlined by Member States that the revision of the Energy Efficiency Directive needs to strengthen the effectiveness of its provisions. It should be complemented by revising and/or introducing additional EU legal acts to allow implementation of a wide range of effective and coherent energy efficiency measures in all sectors such as eco-design, labelling and carbon pricing.
- The plans of the European Commission for a revision of the **Renewable Energy Directive** were appreciated by several Member States. In their view, such a revision should aim at aligning the EU renewable energy target for 2030 to the new EU climate target and propose adequate policy measures particularly in the transport and heating & cooling sectors, as well as with regards to better integration of renewables and energy efficiency in buildings. Further potential can be found in the electricity sector, including in the area of offshore renewable energy. A comprehensive terminology and robust certification system based on full life-cycle emissions, including reliable criteria for target accounting, will be required for further use of renewable and other low-carbon fuels.
- Revision of the **Energy Performance of Buildings Directive** will be a key element of the renovation initiative. The provisions of this directive need to be revised with regard to the objective of climate neutrality by 2050. The revision should consider the principles of cost efficiency, competitiveness and technological neutrality. At the same time, it is crucial to ensure affordable construction and living environments.

- Revision of the **Third Energy Package for Gas** to regulate competitive decarbonised gas markets is another crucial stepping stone towards 2030. Our gas market framework and grids could be updated to allow for other renewable and low-carbon energy gases to play a role in decarbonising the energy system.
- Revision of the **State Aid Framework for Energy** will be of key importance for the transformation of the energy sector and for ensuring the competitiveness of European industry throughout the transformation process.
- The **taxation and levies charged on energy products and electricity** should be further aligned with EU environment and climate legislation, including ensuring harmonised taxation of both storage and hydrogen in order to avoid double taxation.

To achieve the next steps of realising the EU's energy and climate objectives, work will continue under the auspices of the European Green Deal towards the adoption of comprehensive and ambitious new policy initiatives in the coming years. At the end of the current year, when Germany hands over the Presidency of the Council to Portugal, a number of strategic steps will have been taken on the road towards ensuring a more sustainable and energy-resilient Europe. **Germany wishes its Presidency Trio Partners Portugal and Slovenia all the best in further pursuing these goals and stands ready to provide its continued support.**