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HEARING ON NUCLEAR POWER

DANISH PARLIAMENT, 16 November 2023 (online meeting)

Presentation (speech) of the European Commission

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Timeframe:

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Title of the presentation:

Nuclear energy in the EU:

State of play, challenges and opportunities

to contribute to the delivery on key energy policy aspects -

decarbonisation,
security and affordability of power supply,
and EU technological leadership

Speech

(Check against delivery)

[Intro]

- Dear Honourable members of the Parliament, it is my great honour to be here and discuss with you the current state-of-play of the nuclear energy in the EU, the opportunities and challenges related to nuclear energy, as well as its role in the wider energy context.
- As you are very well aware, in the EU, the use of nuclear energy is solely a national choice, and Member States remain fully competent in deciding their own energy mix.

- The European Commission's long-standing position is to be technology neutral, as long as technologies chosen by the Member States guarantee the highest level of safety for the EU citizens. The application of the highest safety standards in all steps of the nuclear life cycle remains a key pre-requisite for the use of nuclear power in the EU, including with regard to the development of new technologies.
- Today, particularly in the EU, we are witnessing a **renewed interest in nuclear energy** that is driven by three factors:

  1) Decarbonisation: ***ambitious climate and energy targets*** in line with the Paris Agreement call for strong commitment to deliver, using all available low-carbon technologies and solutions;

  2) Need to ensure ***security of power supply and affordability*** reinforced by the current geopolitical situation; and

  3) Strong need to keep our ***technological leadership and*** continue building our ***strategic energy autonomy****,* which involves also the enhancing of skills and the active support for research.

- Let me expand on each of these while stressing that our commitment to nuclear safety remains unchanged and no future use of nuclear can be contemplated without continued and strict adherence to the highest levels of nuclear safety which Europe has maintained over decades thanks to a robust regulatory framework developed under the Euratom Treaty:

[1. Climate and energy targets, European nuclear ecosystem]

- On the eve of the COP28 in Dubai, **climate change remains one of the most significant challenges**. The EU has already set its own climate framework. Several EU Member States acknowledge that the ambitious targets to reach **climate neutrality by 2050** and **reduce greenhouse gas emissions by at least 55 % by 2030** require **contribution of all low-carbon sources, including nuclear**.

- Over the past 50 years, nuclear power has been playing a key role in those Member-States which relied on it. Today **100 reactors (installed capacity of 97 GWe) in operation in 12 Member-States** provide about **35% of the low-carbon** and **22% of EU's total electricity generation**. Two reactors have been commissioned recently in Finland (Olkiluoto 3) and Slovakia (Mochovce 3) and two more are expected to come online in the near future (Flamanville in France, Mochovce 4 in Slovakia) while other constructions are under way (Paks II in Hungary) or in preparation.
- Factors such as the Russian aggression against Ukraine, dynamics of the global energy markets and **geopolitical instability impacted the national energy policies accelerating the clean energy transition in Europe**.

- This trend is also evidenced by the information provided by Member States in their updated draft National Energy and Climate Plans.
- However, **I would like to stress** again **that the use of nuclear energy is solely a national choice**, and **Member States remain fully sovereign in deciding their own energy mix in accordance with the provisions of the Treaty on the Functioning of the EU**.
- The Commission recognizes the role nuclear energy can play in our decarbonization efforts while it also recognizes that only some Member States wish to make use of it and complement with it their plans for renewable energies in line with agreed EU targets.
- Our objective is to ensure that the policy debate in Europe on decarbonization paths and on the future shape of the EU's energy system **brings everybody together** – and **does not create divisions** between different low-carbon technologies. The decarbonization challenge is a mighty one and Europe will need all low-carbon sources to play their role while fully respecting each Member State's right to decide on the sources in its energy mix.
- The EU relies for achieving its targets on a well-functioning and **secure internal energy market**, fit for decarbonisation and for innovation.
- Just a month ago [*on the 17 October*] EU energy ministers adopted their position on the Commission's proposal to improve the internal Electricity Market Design and further protect EU households and SMEs from energy price vulnerability. While the proposal focuses mainly on achieving a high level of renewable energy, it explicitly recognises the role of nuclear power. The proposed Electricity Market Design tools (Contracts for Difference and Power Purchase Agreements) **are designed to be equally accessible for both existing and new projects in nuclear and in renewables**.

- As you are certainly aware, the Commission has also defined the criteria for sustainable investments in nuclear energy activities under the **Taxonomy Complementary Delegated Act or the Net-Zero Industry Act (NZIA) proposal**.

- To assess the **fitness of the EU nuclear energy ecosystem**, the Commission also launched a study involving stakeholders from nuclear industry, research organisations and education. The publication of the results is foreseen for early 2024 and will serve as a foundation for discussions on appropriate measures at both national and EU levels. The preliminary outcomes together with recommendations were presented and discussed at the last European Nuclear Energy Forum meeting that took place on 6-7 November in Bratislava, bringing together all stakeholders interested in nuclear energy.

[2. Security of supply, diversification across the nuclear value chain]

- When it comes to the security of power supply and affordability, nuclear in the EU has a specific set of challenges.
- Almost two years into the Russian aggression against Ukraine, the **EU has acted to reduce the high energy dependency on Russia**, in line with the Commission's REPowerEU Plan.
- In the nuclear energy sector, **five utilities from the concerned Member States** (Bulgaria, Czechia, Finland, Hungary, and Slovakia) which operate Russian designed reactors **have made progress to diversify fuels.** Four of them have signed contracts with alternative suppliers.
- **Alternative fuels are now to be delivered for the VVER-1000** type of Russian designed reactors. A **licensing process is ongoing for the VVER-440 reactor fuel** which has already been loaded for the first time at the Rivne plant in Ukraine.

- The Commission is now assessing any potential **additional dependencies**, notably related to **spare parts, components and maintenance services for Russian-designed reactors**. It is key to evaluate well the possible impact of any such dependencies and address them timely.
- Finally on this matter, no less disturbing is the **western dependency on Russia for nuclear fuel services**, such as conversion and enrichment.
- To address the issue of conversion and enrichment services, we are working with our EU industrial operators as well as with international partners to increase alternative capacity.

[3.Technological leadership, advanced nuclear technologies, in particular SMRs, skills, research]

- The last focus area is preservation of European technological leadership in the nuclear industry, and the direction in which we wish to steer development of this industry.
- The challenges we must tackle require **continued development of climate-friendly, reliable and independent energy** offers. **Advanced nuclear technologies** are part of it.
- Several utilities, industrial actors, research organisations and public authorities from at least 10 Member States have shown interest in new nuclear technologies such as **small and modular reactors (SMRs) both for production of decarbonised electricity and other energy products**, as industrial and district heating, and hydrogen.
- SMRs should represent an opportunity to support **high penetration of renewables and contribute to the decarbonisation of hard-to-abate sectors**, such as transport, chemical and steel industry, and district heating, as well as to **maintain workforce and jobs** in

the energy sector where other jobs might disappear (from closing coal-fired plants for example).

- At EU level, the Commission has been actively facilitating the process of setting up a European SMR Partnership since beginning of 2022. A broad support from stakeholders was confirmed at a dedicated **Forum in Brussels on 26 October**.
- On 6 November 2023, on occasion of the European Nuclear Energy Forum, the EU energy Commissioner, Ms Kadri Simson had an opportunity to discuss in detail with European Industry representatives the readiness of launching a **European SMR Industrial Alliance**. Acknowledging the wide stakeholder support for setting up this Alliance, the Commissioner announced that she **will work towards its establishment in the earliest possible timeframe**.
- In the next decades, the nuclear energy sector and various uses of nuclear energy will require **highly educated staff** with very specific skills, knowledge and competences.
- In this perspective, the Commission has set up a **number of initiatives**, such as the EU European Human Resources Observatory for the Nuclear Energy Sector, or measures introduced in the Net Zero Industry Act.
- The **Euratom Research and Training Programme** is the EU key tool to coordinate nuclear research. In the current multiannual budget, it offers €1.38 billion.
- All these EU initiatives are being complemented by national ones.
- A **notable part of EU research is also dedicated to fusion** energy. Fusion has the potential to provide a major contribution to sustaining climate neutrality on economically favourable terms after 2050.
- Our **flagship fusion energy project**, ITER, which is the largest of its kind in the world, is key to getting this new technology up and

running and this is why the EU together with international partners is strongly engaged in ITER.

- The overall investment in fusion technology, and in particular in ITER, aims at creating a new source of energy**, in full respect of the national energy mix decided by each Member State.**
- Let me conclude by reiterating that the use of nuclear energy is solely a **national choice**, and Member States remain **fully competent in deciding their own energy mix.** The European Commission's long-standing position is to be technology neutral, as long as technologies chosen by the Member States guarantee the highest level of safety for the EU citizens. For this, the use of best available technology needs to be ensured in any case, together with continuous improvement as far as reasonably practicable.