

DECLARATION FROM NUCLEAR SOCIETIES

MAY 13, 2019

JUAN-LES-PINS, FRANCE

WE THE UNDERSIGNED,

Women and men scientists, engineers, and professionals representing national, regional and international scientific societies, as well as numerous technical organizations dedicated to the development and peaceful use of nuclear technologies,

Gathered here today in Juan-les-Pins – France

ABOUT THE FUTURE ROLE OF NUCLEAR ENERGY:

AGREE that climate change is the most significant threat to our planet today, and with the objectives of the Paris Agreement to limit global warming by the end of this century to well below 2 degrees Celsius above pre-industrial levels, with further efforts to limit the increase to 1.5 degrees Celsius.

ARE CONCERNED that the world is not progressing quickly enough in meeting this goal.

- The latest Intergovernmental Panel on Climate Change (IPCC) report sends a clear warning that the 1.5°C temperature increase may be exceeded already by 2030.
- According to the International Energy Agency (IEA), in 2018 global energy-related CO₂ emissions rose 1.7% to a historic high of 33.1 Gt CO₂.

REMINDE that:

- Nuclear energy is recognized as one of the lowest carbon sources of electricity. According to the IPCC, the median lifecycle emissions from nuclear energy are 12g/kWh, similar to wind energy.
- International institutions (United Nations, Organization for Economic Cooperation and Development, European Union) believe that all low-carbon technologies (renewable, nuclear and carbon capture & storage) will need to be implemented in order to achieve deep decarbonization by the middle of this century. This is reflected in the latest 2018 IPCC report: the four 1.5°C illustrative pathways in the Summary for Policymakers include more nuclear energy, with a two-fold to six-fold increase in the use of nuclear power by 2050.

ABOUT THE NEED FOR INNOVATION FOR NUCLEAR ENERGY:

NOTE that:

- There is global consensus that accelerating clean energy innovation is essential for limiting the rise in global temperatures, and some progress has been made in that direction: according to the IEA, the amount of public R&D investment in clean energy has doubled since 2000. Also, the launch of the Mission Innovation initiative in 2015 includes the objective of another doubling of the investment for low-carbon energy research by the 2020 timeframe.

HIGHLIGHT that:

- The current level of public support for nuclear R&D (fission and fusion) has remained constant around 4 billion USD per year (in 2014 value) since 2000, in a “business as usual” situation. Additionally, in many countries, the private sector has been less eager to invest in nuclear R&D, for a variety of reasons including mixed or negative political signals, electricity market designs that have had a negative impact on the business case for nuclear energy, and perceptions on the level of financial risk required to be taken by private investors.

POINT OUT that:

- The nuclear industry is currently undertaking a new wave of creative projects around innovative reactor technologies (e.g. Small Modular Reactors, Gen IV reactors), cross-cutting technologies (e.g. digital transformation) and new applications (e.g. desalination, district heating, process heat for industry, hydrogen production), all requiring significant R&D investment and new innovative approaches.
- These projects are expected to open new market opportunities for the use of nuclear power together with other clean energy sources, often in sectors where they can make a decisive contribution to the decarbonization effort (e.g. the heating sector)
- At the same time, a large proportion of the R&D infrastructure is becoming obsolete and needs to be renewed not only to support the development of this new wave of innovative reactors, but also to produce the radioisotopes needed for the development of nuclear medicine.

Hereby declare that

WE ASK THAT

THAT THE CLEAN ENERGY MINISTERIAL CONFERENCE

TAKE NUCLEAR INNOVATION TO BROAD MULTILATERAL DISCUSSIONS ON CLEAN ENERGY AT BOTH THE MINISTERIAL AND WORKING LEVELS, SO THAT NUCLEAR ENERGY CAN MAKE ITS FULL EXPECTED CONTRIBUTION, AS PART OF THE CLEAN ENERGY PORTOLIO, TOWARDS DECARBONIZATION GOALS.

COMMIT TO A DOUBLING OF PUBLIC INVESTMENT IN NUCLEAR-RELATED R&D AND INNOVATION WITHIN THE NEXT 5 YEARS, WITH A FOCUS ON INNOVATIVE APPLICATIONS OF ADVANCED NUCLEAR SYSTEMS TO ENABLE THE CLEAN ENERGY MIX OF THE FUTURE

And

Have DECIDED to jointly sign this declaration and would like to bring it to the attention of decision-makers internationally.