

## LANGUAGE

The working language of the Forum will be English.

## REGISTRATION AND FUNDS

No registration fee is charged to participants.

## CONFERENCE SECRETARIAT

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## CONFERENCE WEB PAGE

Detailed information on administrative procedures including participation and registration is provided on the Forum web site:

<https://www.iaea.org/scientific-forum>



International Atomic Energy Agency  
Scientific Forum

# Nuclear Technology for Climate:

*Mitigation, Monitoring  
and Adaptation*

**18–19 September 2018**

Vienna International Centre

Board Room D

C Building

4th Floor

Organized by the



CN-264

## BACKGROUND

Combatting climate change is one of the biggest environmental challenges faced by humanity today. Its impacts are becoming more visible with more frequent extreme weather events, rising sea levels, and the spread of plant and animal diseases and insect pests. Nuclear technologies play a vital role in addressing these challenges. They are instrumental in monitoring changes in climate and in helping countries adapt to their impacts. This year's Scientific Forum will examine the ways in which nuclear science and technology can contribute to addressing the challenges of climate change following the adoption of the Sustainable Development Goals in 2015 and of the Paris Agreement in 2016.

IAEA Director General Yukiya Amano will open the Forum which will be attended by several other high-level speakers. In three sessions over two days, leading scientists and experts from around the world will highlight the many ways in which nuclear techniques can help countries to reduce greenhouse gas (GHG) emissions and adapt to new climatic conditions.

## SESSION 1

### ROLE OF NUCLEAR POWER IN LIMITING CO<sub>2</sub> EMISSIONS

The first session will highlight the role nuclear power plays in simultaneously reducing GHG emissions and securing sufficient energy generation to drive economic growth. In our energy-hungry world where 70 per cent of electricity comes from burning fossil fuels, 80 per cent of electricity will need to be produced by a low-carbon source if climate change goals are to be met by 2050. Today, nuclear power produces

11 per cent of the world's electricity and a third of the world's low-carbon electricity. Nuclear power plants produce virtually no GHGs or air pollutants during their operation. Apart from these benefits, this session will also explore the main challenges facing nuclear power, including public acceptance and financing. Newcomer countries to nuclear power will share their perspectives, and the role of innovation in its future expansion will also be highlighted.

## SESSION 2

### MONITORING AND MEASURING THE CHANGE

Climate change is caused by increased levels of GHGs in the atmosphere. Long-term records of GHG concentrations are being studied to evaluate these changes and to inform the development of mitigation strategies. The second session will focus on the need for accurate and timely data, and how nuclear techniques are advancing our understanding of climate change and its impacts. Nuclear and isotopic techniques are used to measure ocean acidification and ocean warming and can further assist Member States in monitoring and managing global freshwater supplies and to better understand the effects of agriculture on the environment. This session will highlight the relevance of nuclear technology in assessing climatic effects.

## SESSION 3

### ADAPTING TO A CHANGING ENVIRONMENT

The planet is facing global warming realities such as food scarcity and the loss of ecosystems. Economic and social sectors need to adapt to a changing environment, in particular the agricultural sector. The third session will explore how nuclear techniques can be used to breed more resilient crops, enhance animal productivity, address risks to food safety, and fight insect pests and animal diseases. The vital role that nuclear science plays in assisting countries to adapt to the consequences of climate change will be highlighted.

## CLOSING SESSION

IAEA Director General Yukiya Amano will lead the final session of the Forum with high-level panelists to underline findings and draw conclusions for Member States and the IAEA.

