

Combating climate change: how nuclear science and technology are making a difference

By Yukiya Amano, Director General, IAEA

Climate change is the biggest environmental challenge of our time. As governments around the world prepare to negotiate a legally binding, universal agreement on climate at the United Nations Climate Change Conference in Paris at the end of the year, it is important that the contributions that nuclear science and technology can make to combating climate change are recognized.

Nuclear science, including nuclear power, can play a significant role in both climate change mitigation and adaptation.

Mitigation

Nuclear power, along with wind and hydro, is one of the lowest-carbon technologies available to generate electricity. According to the latest World Energy Outlook statistics, the use of nuclear power has already prevented the release of around 56 gigatonnes of carbon dioxide since 1971, equivalent to two years of global emissions at current rates. This is a very significant achievement, and shows the potential of nuclear power in climate change mitigation.

The IAEA works to increase global awareness of the role of nuclear power in relation to climate change, in particular by trying to ensure that the role that nuclear power can and does play in assisting countries to reduce their greenhouse gas emissions is properly recognized.

In line with its mandate, the IAEA will continue to help countries to use nuclear technology in a safe, secure and environmentally friendly manner.

Adaptation

Despite mitigation measures that have been implemented in a number of countries, global warming is already a reality which is having serious consequences in many parts of the planet.

As the articles in this edition of the *IAEA Bulletin* demonstrate, nuclear science and technology can play a vital role in assisting countries to adapt to the consequences of climate change. Better flood control in the Philippines, the development of new watering techniques in increasingly arid regions of Kenya, new technologies to measure the impact of climate change in Antarctica — these are just some of the areas where support from the IAEA is making a real difference.

Scientific progress is heavily dependent on the brilliance and passion of committed individuals. We are proud of the work of the scientists who, with the help of the IAEA, are developing new varieties of plants more suited to the changing climatic conditions of their countries. The work of IAEA fellows in Afghanistan, Mauritius and Pakistan, whom we profile in this issue, improves the lives of farmers whose livelihoods and food security would otherwise be threatened by the effects of climate change.

As these examples demonstrate, nuclear science and technology are making major contributions to sustainable development around the world. It is my hope that participants in the Paris climate talks will recognize their value.



“Nuclear science, including nuclear power, can play a significant role in both climate change mitigation and adaptation.”

— Yukiya Amano,
Director General, IAEA



(Photos: C.Brady/IAEA)