

Clean energy for a sustainable future: the role of nuclear power

By Yukiya Amano, Director General, IAEA

Energy is the engine of development and prosperity. All countries need to secure sufficient energy to drive economic growth while working to mitigate the effects of climate change.

Renewable sources of energy such as wind and solar power will play an important role in the future. At the same time, use of nuclear power will need to increase to provide the steady supply of baseload electricity. As one of the lowest-carbon technologies for generating electricity, nuclear power will also help countries meet their goals of reducing greenhouse gas emissions.

This edition of the *IAEA Bulletin*, published for the International Ministerial Conference on Nuclear Power in the 21st Century, covers some of the most relevant topics on nuclear power and its role in contributing to sustainable development.

We highlight the way in which operators of nuclear power plants in the United States of America are seeking licence renewals to extend operation beyond 60 years; how China is undertaking the largest expansion of a nuclear power programme of any country; and why the United Arab Emirates has embarked on a nuclear power programme.

Nuclear power plants require significant upfront capital investment, but once they are up and running, they are comparatively inexpensive to operate. We examine the United Kingdom's model for financing nuclear power plant construction as one example of how financial risks can be managed.

Remarkable research is under way on a new generation of nuclear reactors, which will

have inherent safety features, will be more efficient and will generate less waste. The latest developments in the field of small modular reactors are explored on page 18.

The nuclear industry has been managing waste disposal successfully for more than half a century. Dozens of facilities for low-level and intermediate-level nuclear waste are in operation throughout the world. As far as the long term management of high level radioactive waste and spent fuel is concerned, good progress has been made in recent years. You can learn about Finland's construction of the first deep geological repository for spent nuclear fuel, which is likely to become operational early in the next decade.

In many countries that are considering launching a nuclear power programme, public acceptance remains an important issue. The story on page 6 summarizes the approach taken by Ghana and Kenya. Investing in young people is important to bridge the skills gap and sustain nuclear power in the future. You can read about how the United Kingdom is implementing programmes in this area.

Women in nuclear

This edition includes a special section featuring eight exceptional women working in the nuclear field. We are proud to highlight their achievements and present their perspectives.

I am confident that nuclear power will make a growing contribution to sustainable development in the coming decades. The IAEA will play its part to assist countries in the safe, efficient and sustainable use of this remarkable resource.

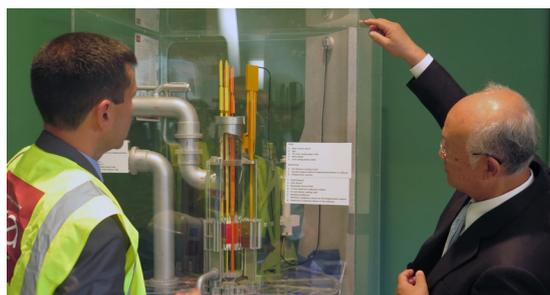


"I am confident that nuclear power will make a growing contribution to sustainable development in the coming decades. The IAEA will play its part to assist countries in the safe, efficient and sustainable use of this remarkable resource."

— Yukiya Amano, Director General, IAEA



(Photo: Expo 2017 Astana)



(Photo: C. Brady/IAEA)



(Photo: ITER)