

# Beneficial, Respo

by Yukiya Amano

**M**ore than twenty new states, including many developing countries, could bring their first nuclear power plants online within two decades. This is a cause for celebration. Nuclear power can make a major contribution to economic development and helps to mitigate climate change. Its use should not be the sole prerogative of the rich.

But introducing nuclear power is a highly complex business. Ever closer international cooperation will be needed to ensure that it is done properly. As the use of nuclear power increases, suppliers of technology have a special responsibility which goes well beyond the handover of a nuclear plant. They must be reliable partners for operators throughout the lifetime of power plants.

The new customers, for their part, have a responsibility to put the infrastructure in place and to implement the highest standards of safety and security, create a sound legal framework and establish an independent regulatory structure. They must be aware that they are taking on a responsibility stretching hundreds of years ahead, if we take nuclear waste disposal into account.

Nuclear power is a mature technology. Its performance and economics have improved in the last two decades, and the greatly strengthened safety and security record of nuclear power in the aftermath of the Chernobyl disaster has added to its attractiveness.

Deciding whether to introduce nuclear power is a sovereign national choice. For those countries which are interested in introducing nuclear power, the IAEA provides assistance at all stages of the process. The IAEA has developed basic concepts to ensure that nuclear energy is developed beneficially, responsibly and sustainably.

*Beneficially* means that nuclear energy must be cost-effective and reliable and offer clear benefits such as reducing carbon emissions.

*Responsibly* means countries must abide by the highest safety and security standards and implement IAEA safeguards so the Agency can verify that nuclear materials are being used exclusively for peaceful purposes. All countries with nuclear power should adhere to the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. All countries are encouraged to implement a so-called *Additional Protocol* to their safeguards agreement with the IAEA, which boosts transparency by giving the Agency's inspectors more authority.

*Sustainably* means that nuclear energy must be available on a predictable basis over many decades to justify the enormous costs of building nuclear power reactors, and in a manner which is not harmful to the environment.

Sustainability also requires that countries considering nuclear power have confidence that they will have access to a supply of nuclear fuel. In 2009, the IAEA's Board of Governors approved a Russian proposal to create a reserve of uranium that the Director General could make available to a country if it was cut off from its supplies for other than commercial reasons.

## The IAEA's Role

The IAEA plays a key role in helping to share the advantages of nuclear power with interested countries. In doing so, the IAEA pays special attention to ensuring high standards of nuclear safety and security and implements safeguards to verify that all nuclear activities in Member States are exclusively peaceful.

The IAEA does this through key areas of its work.

First, it provides practical guidance to countries considering whether nuclear power might be suitable for them. Two key Agency documents spell out, simply and clearly, everything which they need to do.

# nsible, Sustainable

***The IAEA is well-placed to assist countries embarking on nuclear power to do so knowledgeably, profitably, safely and securely.***

One is entitled *Considerations to Launch a Nuclear Power Programme*. It lays out all issues that decision makers need to consider to ensure that nuclear energy is developed beneficially, responsibly and sustainably.

The other is called *Milestones in the Development of a National Infrastructure for Nuclear Power*. It systematically defines all the milestones that should guide a country's preparation of the infrastructure for nuclear power. These cover the appropriate legal and regulatory framework, engineering, financial and environmental concerns, safety and security, as well as the appropriate safeguards regime. These milestones are designed to help countries make progress, not to put obstacles in their way.

Our second key role is as a *reviewer*. At the request of a Member State, we assemble teams of experts to conduct detailed reviews of, for example, the operational safety of its nuclear facilities, the effectiveness of its regulatory system or its overall progress in preparing for nuclear power. This system of peer review — which involves experts sharing information and experience with other experts — is of immense value. It helps to increase transparency, to the benefit of all.

The IAEA provides a broad range of training to Member States. For example, we organize highly specialised technical training for nuclear engineers and scientists. In Montpellier, we help to run courses in nuclear law. This training helps countries to build up their own expertise so they can make informed decisions and are well prepared in dealing with vendors, consultants, industry associations and other governments.

The IAEA plays an active role in contributing to technological development. A good example is the International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO). Continual innovation in nuclear technology is essential. Fast reactors, for example, make it possible to extend the lifetime of uranium resources from hundreds of years



to thousands of years, to lower costs and to reduce nuclear waste.

## Conclusion

Let me state again that our shared goal is to assist countries embarking on nuclear power to do so knowledgeably, profitably, safely and securely. I have no doubt that this conference will lead to improved coordination and help to achieve the IAEA's statutory objective, which is "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world." ☸

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*This article is based on public statements he made in March 2010 at the International Conference on Access to Civil Nuclear Energy. The event, held in Paris, France, was hosted by the Nuclear Energy Agency/Organisation for Economic Cooperation and Development and the French Government.*

IAEA Director General  
Yukiya Amano speaking  
at the International  
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(Photo: NEA/OECD)