

Peace, Profit, Progress

During the Cold War, we used to hear about the “peace dividend”, a slogan that referred to the benefits of cutting military spending and rolling the money into the fight against poverty. The phrase is not heard much anymore, though bank calculations valued the dividend at trillions of dollars.

It’s never too late for a revival. The fight against poverty too often looks like the wrong side is winning. Though money is not the answer, it would sure help to invest more to accelerate progress toward our shared goals of peaceful development. IAEA Director General and Nobel Laureate Mohamed ElBaradei senses the urgency.

“The pressing need for human development and for ensuring an effective system of international security is the major challenge of the 21st century,” he writes in this edition. “Maintaining the status quo is not an option.”

The message needs to reverberate. The peace dividend may be “old hat” as a political slogan. But it’s not old news. Peace and progress mix. Look at the latest Nobel Laureates—Muhammad Yunus and Grameen Bank shared the award for their years of work to loosen poverty’s grip by investing in people, becoming bankers for the poor. “We cannot achieve lasting peace unless people find ways to break out of poverty,” Mr. Yunus believes.

Peace produces progress we often do not see.

As featured inside, a little-known spin-off nuclear technology helps farmers protect billions of dollars in harvests from destructive pests every year. A series of short “success stories” profiles progress in Argentina, Chile, the USA—and in the Middle East through a science alliance of Israel, Jordan, and the Palestinian Authority that’s winning against the odds.

Other featured stories look at some specific challenges engaging the IAEA and international community, from nuclear safeguards and security to nuclear power prospects and climate change. Through the eyes of the IAEA’s top safeguards inspector, the world’s nuclear regime is being tested like never before, placing greater responsibilities on countries and the institutions that serve them. Through the eyes of an economist, the response to global warming looks like a market failure so far.

The IAEA officially turns 50 in July 2007, yet sometimes it seems as if its life is starting anew, recreated and retooled to better fit the times. A timeline inside this edition tracks selected events and developments over the IAEA’s first half century, right up to recent breakthroughs and setbacks. Already this year, scientists revisiting climate change issued a report more closely linking human actions to global warming trends. That heated up talk of a nuclear energy renaissance, which raised both hopes and fears among people who heard it. Developments in North Korea and Iran took some new twists and turns, including Dr. ElBaradei’s visit to Pyongyang in March 2007.

No one knows what the next months, years or half century will bring. But as futurist Alvin Toffler has aptly noted, expect something different. “Change is a process where the future invades our lives,” he has said. Let’s help to make sure, that the invasion is a peaceful one.

—Lothar Wedekind, Editor-in-Chief



IAEA BULLETIN

is produced by the

Division of Public Information

International Atomic Energy Agency

P.O. Box 100, A-1400 Vienna, Austria

Phone: (43-1) 2600-21270

Fax: (43-1) 2600-29610

IAEABulletin@iaea.org

www.iaea.org/bulletin

Division of Public Information

Director: Marc Vidricaire

Editor-in-Chief: Lothar H. Wedekind

Managing Editor: Linda R. Lodding

Assistant Editor/Layout: Ritu Kenn

Language Editions

IAEA Bulletin is also available in

Arabic, Chinese, French, Russian and Spanish.

IAEA BULLETIN is published twice a year and distributed without charge to a limited number of readers interested in the IAEA and the peaceful uses of nuclear energy.

Written requests should be addressed to IAEABulletin@

iaea.org. Extracts from the IAEA material contained

in the IAEA Bulletin may be freely used elsewhere

provided acknowledgement of their source is made. If

the attribution indicates that the author is not an IAEA

staff member, permission to republish other than for

the use of review must be sought from the author or

originating organization. Views expressed in any signed

article appearing in the IAEA Bulletin do not necessarily

represent those of the International Atomic Energy

Agency and the IAEA accepts no responsibility for them.

Cover Photo: Ilan Mizrahi for IAEA

IAEA Bulletin is printed in Vienna, Austria.

CONTENTS

CHANGING PROSPECTS

- 4 **Security Today and Tomorrow**
IAEA Chief and Nobel Laureate **Mohamed ElBaradei** foresees a stronger global framework for security and development if the right steps are taken today.
- 9 **Staying Ahead of the Game**
Olli Heinonen, who heads the IAEA's safeguards inspectorate, says the world's nuclear regime is being tested like never before.
- 12 **Nuclear Safeguards in Challenging Times**
Wan Sou Park and **Jan Hillerman** report on trends and developments in the world of nuclear safeguards and verification.
- 16 **Nuclear Power: How Competitive Down the Line?**

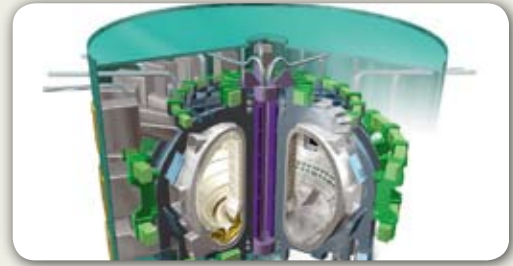


Energy analyst **Fatih Birol** offers insights and highlights from the World Energy Outlook of the International Energy Agency in Paris.

- 21 **A Hazy Nuclear Renaissance**
Victor Murogov of Russia says the future is far from clear in realizing global initiatives for nuclear power development and education.
- 25 **The Price of Change**
Highlights of a groundbreaking and controversial report by **Nicholas Stern** of the United Kingdom on the economics of climate change.
Sidebar: Who's to Blame?



- 29 **Is Fusion the Future?**



Mark Westra provides an update on ITER, a multinational project that has found a home in France for building a giant demonstration fusion machine.

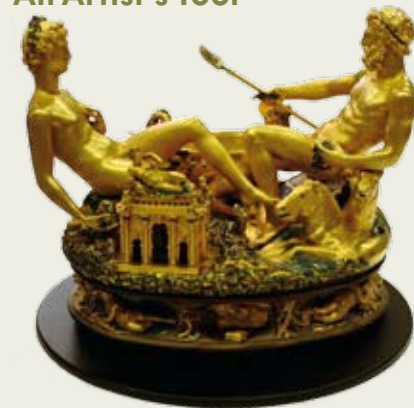
SITE STORIES & FEATURES

- 32 **Science, Sex, Superflies**



A series of stories by **Lothar Wedekind** and **Kirstie Hansen** shine a light on success achieved over the IAEA's first half century in Argentina, Chile, the USA, Jordan, Israel and other countries through applications of a spin-off nuclear technology.

- 41 **An Artist's Tool**



Kirstie Hansen and **Linda Lodding** report on how nuclear detectives and 21st century technology are helping an Austrian museum restore a 16th century renaissance masterpiece, the *Saliera*.
Sidebar: The Science Behind the XRF

VOICES, VIEWS, VISIONS

44 Nexus: Where Society Meets Science



The USA's **Shirley Ann Jackson** examines how the benefits of science and technology can best be passed on to future generations.

49 Nuclear Safeguards—How Far Can Inspectors Go?

George Bunn, a negotiator of the world's Nuclear Non-Proliferation Treaty, offers insights into the authority of IAEA safeguards inspectors.

56 Outsider Looking In/Insider Looking Out : A 50th Anniversary Reflection



Mr. Panyoyotis Papadimitropoulos of Greece reflects on his 50-year association with the IAEA on the eve of the Agency's official anniversary.

COMMUNICATION CHALLENGES

59 Talking My Language

Serge Golin looks at the changing and challenging world of communication and how it's affecting the nuclear scene.

62 Fixing the Flaws

Dr. Roz D. Lasker reports on a study showing why emergency planners have to engage the public much more to get ready for a radiological emergency.

66 Expecting the Unexpected

Warren Stern and **Elena Buglova** take a close look at the IAEA's Incident & Emergency Centre and guidance for "first responders" to a radiological emergency.

Sidebar: Step by Step: The IEC Provides Help for "First Responders"

70 Drop It and Run!



The IAEA has spearheaded the introduction of a new symbol to help warn people about the dangers of radioactive sources.

Sidebar: A Symbolic History

TIMELINES & DATELINES

50 Decisive Years: The IAEA's First Half Century



A timeline highlights trends and developments over the first half century of the IAEA's life. The IAEA officially turns 50 on 29 July 2007.