The Nuclear Reality Check

International Release: *The World Nuclear Industry Status Report 2014*

Paris, London, Washington, 29 July 2014

"The 2014 World Nuclear Industry Status Report brings clear, careful, honest, and transparent reporting to a topic often obscured by spin and wishful thinking. Any serious student of this complex industry will reach first for this admirable volume."

Amory B. Lovins, Chief Scientist, Rocky Mountain Institute

The world's nuclear statistics are distorted by an anomaly whose cause is not technical but political. Three years after the Fukushima events started unfolding on 11 March 2011, government, industry and international institutional organizations continue to misrepresent the effects of the disaster on the Japanese nuclear program. In statistical documents on the issue, with the exception of the six units at Fukushima Daiichi, the entire Japanese reactor fleet of 48 units is considered operating. The International Atomic Energy Agency (IAEA) classifies all of these Japanese reactors as "in operation"—11 percent of what the IAEA considers the world nuclear fleet—despite the fact that none of them have generated power since September 2013, only two produced electricity in 2013 and just ten in 2012. The *average* outage of these Japanese "operational" units is over three years, as this report documents. In fact, three units have not generated power for the past *seven* years. To find a more appropriate way to deal with this situation, the *World Nuclear Industry Status Report 2014* proposes a new category called Long-Term Outage (LTO).[1]

Taking into account reactors in LTO, the number of operational reactors in the world drops by 39 (9 percent) from 427 in July 2013 to 388 in July 2014—50 fewer than at the peak in 2002— and brings world nuclear statistics into closer alignment with reality.

Mycle Schneider, Project Coordinator and Lead Author of the WNISR, states: "It is time to match the international nuclear statistics to the industrial reality. The introduction of the new category Long-Term Outage (LTO) more appropriately represents the operational status of nuclear power plants and provides industry analysts, political decision-makers and investors with a tool that mirrors empirical facts rather than wishful thinking."

The *World Nuclear Industry Status Report 2014 (WNISR)* provides a comprehensive overview of nuclear power plant data, including information on operation, production and construction. The WNISR assesses the status of new-build programs in existing as well as in potential newcomer nuclear countries and looks in detail at how the changing market conditions are affecting the economics of nuclear power. WNISR2014 also updates a Fukushima Status Report featured for the first time in 2013 that triggered widespread media and analyst attention. While the Nuclear Power vs. Renewable Energy chapter provides comparative data on investment, capacity, and generation and assesses how nuclear power performs in systems with high renewable energy share.

Finally, a detailed country-by-country analysis provides an overview of all 31 countries operating nuclear power plants, with extended sections on China, Japan, and the United States.

Some of the key features of the *World Nuclear Industry Status Report 2014* include:

• **Declining role.** Nuclear power's share of global commercial primary energy production declined from the 2012 low of 4.5 percent, a level last seen in 1984, to a new low of 4.4 percent.

• **Aging.** The average age of the world's operating nuclear reactors to increase and by mid-2014 stood at 28.5 years.

---

[1] The definition is simple and purely empirical: A nuclear power reactor is considered to be in LTO, if it has not generated any power in the entire previous calendar year and in the six months of the current calendar year. This classification decision leads to some significant retroactive adjustments in nuclear statistics, as many reactors—mainly in Japan but also one in South Korea and one in India—have generated no power for several years.

• **Construction Delays.** At least 49—including three quarters of the Chinese projects—of the total of 69 construction sites have encountered delays, many of them multi-annual. Construction of two units in Taiwan was halted.

• **Project Cancellations.** Several projects have been cancelled and new programs indefinitely delayed, including in the Czech Republic and in Vietnam.

• **Operating Costs Soar.** Nuclear generating costs jumped by 16 percent in real terms in three years in France, and several units are shut down in the U.S. because income does not cover operating costs. The economic survival of nuclear plants is also threatened in Belgium, Germany and Sweden.

• **Renewables vs. Nuclear.** In 2013 alone, 32 gigawatts (GW) of wind and 37 GW of solar were added to the world power grids. By the end of 2013, China had 91 GW of wind power and 18 GW of solar capacity installed, solar exceeding for the first time operating nuclear capacity. China added four times more solar than nuclear capacity in the past year. And Spain generated more power from wind than from *any* other source, outpacing nuclear for the first time. It is also the first time that wind has become the largest electricity generating source over an entire year in any country. Spain has thus joined the list of nuclear countries that produce more electricity from new renewables—excluding large hydro-power—than from nuclear power that includes Brazil, China, Germany, India and Japan.

For further information and full copies of all previous reports see www.WorldNuclearReport.org.

Lead Authors' Contacts

Mycle Schneider
Currently in Washington DC
USA
Cell: +33-620 63 47 37
Email: mycle@orange.fr

Antony Froggatt
London
United Kingdom
Phone: +44-79 68 80 52 99
Email: a.froggatt@btinternet.com