

The legacy of Richard Lugar and lessons for the nuclear sector

As the U.S. nuclear power industry approaches a crossroads, building bipartisan support for continued investment may hinge on national security interests.



By Vickram Singh

Former U.S. senator Richard Lugar, who passed away on April 28 of this year, left behind an impressive legacy of nonproliferation advocacy. His educational background, military service, experience in running a family business, and political career allowed him to develop a unique perspective on the nature of the United States' role in the world. Lugar strove to realize his vision of America as a global leader in post-secondary education, technological innovation, and international security. In the Senate, Lugar developed bipartisan agendas focused on addressing the world's most pressing problems. As we confront the issues of a declining domestic nuclear industry, the emergence of Russia and China, and the spread of nuclear technologies to regions such as the Middle East, Lugar's legacy of bipar-

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tisanship and placing country over party deserves remembrance.

Born in Indiana in 1932, Lugar graduated at the top of his class from an Indianapolis high school and Denison University in Granville, Ohio. After completing a bachelor's degree in economics at Denison, Lugar earned additional bachelor's and master's degrees at Oxford University, where he studied politics, philosophy, and economics as a Rhodes Scholar. In 1957, shortly after graduating from Oxford, he joined the U. S. Navy and served as an intelligence briefer for three years, reporting directly to Adm. Arleigh Burke, chief of naval operations. Upon returning to Indiana, Lugar helped run his family's food production and farming businesses. He launched his political career in 1964, when he was elected to the Indianapolis Board of School Commissioners. In 1967, Lugar successfully ran for mayor of Indianapolis, remaining in that office until 1975. He became a U.S. senator in 1976 and served until 2013, becoming Indiana's longest-serving senator.

As his career in the Senate progressed, Lugar established himself as a leading voice in foreign relations, national security, energy policy, agriculture, public health, and economic growth. In particular, Lugar es-

tablished himself as one of the Republican Party's leaders in foreign affairs, serving as chairman of the Senate Committee on Foreign Relations for six years. Respected on both sides of the political aisle, Lugar believed in a policy of out-innovating global competitors and negotiating effective foreign partnerships. He authored legislation aimed at addressing some of the greatest challenges of his time: foreign energy dependence, apartheid in South Africa, the integration of African economies into the global economy, nuclear stockpile management, and the enlargement of the North Atlantic Treaty Organization.

These experiences in the Senate allowed Lugar to develop a political philosophy that resonated with both Republicans and Democrats and helped develop programs crucial to international security. The Cooperative Threat Reduction (CTR) program established under the auspices of the Soviet Nuclear Threat Reduction Act of 1991, commonly referred to as the Nunn-Lugar Act, is arguably his greatest achievement. The CTR program embodied Lugar's political philosophy and, together with former Democratic senator Sam Nunn of Georgia, he received a Nobel Peace Prize nomination in 2005.

The Lugar philosophy

Lugar's time in office coincided with a series of critical inflection points in world affairs, among them the 1979 oil crisis, the denuclearization of South Africa, the fall of the Soviet Union, arms control treaties with Russia, and the September 11 attacks. Coupled with his education and military service, these global events shaped Lugar's political philosophy, which centered on bipartisanship, national security, and foreign relations. Often considered a moderate or centrist, Lugar realized that governance must remain flexible, allowing legislators to adapt and respond to a shifting geopolitical landscape. He realized that partisan squabbling paled in comparison to the potential consequences of national security threats such as nuclear terrorism. Lugar's personal view of bipartisanship, a foundation of his political philosophy and the CTR program, is well illustrated by a statement of his from 2008: "Bipartisanship is not centrism, and it is more than compromise. It is a way of approaching one's duties as a public servant that requires self-reflection."

To Lugar, self-reflection was essential to realizing that problems facing the nation and the world supersede partisan political commitments. For Lugar, self-reflection was the act of understanding that one's commitments to political party-driven agendas can be outweighed by commitments to public service that require compromise when serving the nation's interests. Lugar's enduring prioritization of concrete, substantive progress against pressing global crises over lofty rhetoric informed his preference for strengthening existing international pro-



Photo: U.S. Senate

Sens. Sam Nunn (left) and Richard Lugar leave the White House in 1991 after briefing President George H. W. Bush on their cooperative threat reduction legislation.

tion under its jurisdiction. Bipartisan cooperation early in the program's development was vital to its success. Both parties recognized the need for investment in WMD security, not because it would offer any financial return, but because of its inherent value to international security, including that of the United States. After all, any loss of WMD material could result in catastrophic consequences for Russia or the United States.

The CTR program would prove resilient and remained in place through changes in administration and geopolitical events such as the 2008 Russo-Georgian War, during which the program was responsible

for the destruction of 10 SS-25 missiles.* Rather than proposing new foreign policy, the CTR program bolstered arms control agreements already in place, such as arms control treaties and chemical weapons conventions. It provided a verification mechanism for international commitments, eliminating threats to national security and creating a platform for scientific dialogue between the United States and Russia.

The CTR program eventually resulted in the deactivation of approximately 7,600 nuclear warheads, 791 intercontinental ballistic missiles, 669 submarine-launched ballistic missiles, 194 nuclear

test tunnels, and 32 nuclear submarines. In addition, nearly 1,395 metric tons of chemical weapons material was destroyed, and the countries of Ukraine, Kazakhstan, and Belarus were certified to be free of nuclear weapons.†

Today's nuclear industry

The United States' domestic nuclear energy industry has experienced a sharp decline in activity over the past 15 years. A number of factors have contributed to this decline: advances in renewable energy technologies, high capital costs of nuclear reactor projects, decreased domestic energy needs, concerns about spent nuclear fuel and radioactive waste disposal, and inconsistent domestic energy policies. Renewable energy technologies, mainly solar and wind energy, have undergone improvements in fabrication and generation methods, allowing them to become financially attractive options for power utilities. Furthermore, the need for power-dense energy systems such as nuclear has decreased in the United States. The energy needs of Americans have lessened as the nation's economy becomes less industrial and improvements in energy efficiency have been made. Domestic politics have made addressing the question of spent fuel disposition challenging and obtaining financing opportunities for nuclear power projects in the United States and overseas extremely difficult.

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grams rather than creating them anew. And he tirelessly strove to ensure the longevity of programs by focusing on shared interests among erstwhile opponents, whether they be Democrats and Republicans or Russians and Americans. The respect of his fellow legislators was earned through his commitment to excellence in governance, which he saw as achievable only through political self-reflection and compromise.

The CTR program was a clear manifestation of Lugar's political philosophy. Beginning with a small bipartisan group of senators led by Lugar and Nunn, a unifying solution was developed to address a Soviet Union on the brink of collapse and the unsecured weapons of mass destruc-

* 2009 interview with Richard Lugar, published by the Georgetown University Press.

† Sen. Mitch McConnell's remarks to the U.S. Congress on December 11, 2012.

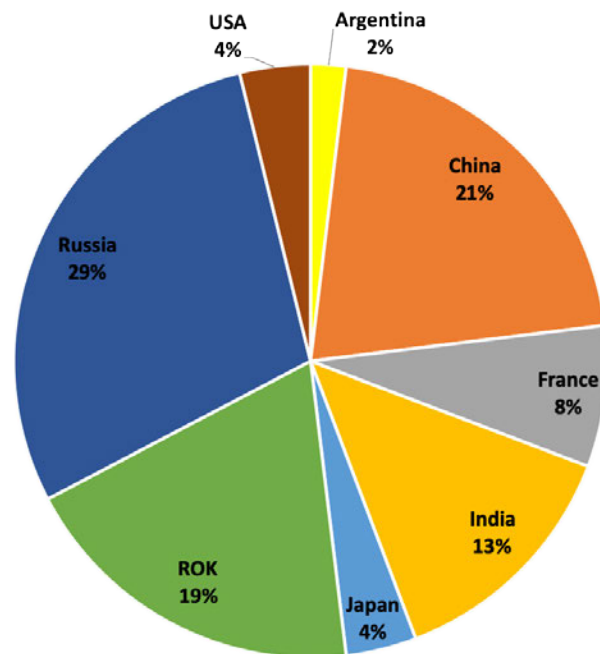
Nevertheless, there are some promising aspects to nuclear energy's future. The United States remains in possession of the world's largest operating reactor fleet and is a leader in the development of advanced reactor technologies—small modular reactors and Generation IV designs.* Furthermore, emerging energy markets—mainly in Asia, the Middle East, and Eastern Europe—are growing their nuclear energy capacities at promising rates. Advanced reactor development has also commenced around the world, with Russia, China, India, and Canada emerging as leaders in the field, alongside the United States.

Throughout all of these shifts in nuclear landscapes, a historically active Russia has remained a steadfast builder of nuclear power plants, both domestically and internationally. The fastest growing nuclear reactor fleet in the world is that of China's, whose nuclear ambitions are now beginning to result in exports of indigenous reactor technology and financing of foreign nuclear reactor projects. While Russia and China have strengthened their domestic and international programs, the decrease in the United States' domestic nuclear energy investment has translated to a lack of involvement on the global stage. Once considered a top choice for nuclear infrastructure purchase and program development, the United States is now unable to compete with Russia's and China's attractive financing options and Russia's ability to repatriate spent fuel for reprocessing and minimize the volume of waste products imposed on the host nation.

Among other factors, such as the 2011 Fukushima Daiichi accident, domestic politics in the United States has slowed any realistic attempts at reinvigorating its domestic nuclear industry. The leadership in this arena is minimal, with many historic proponents of nuclear power, including Sen. Lamar Alexander (R., Tenn.), approaching retirement. In fact, the policies garnering public excitement today often call for a complete phaseout of nuclear power in the United States—see Alexandria Ocasio Cortez's proposed Green New Deal. Moreover, there has been no contextualization of the argument in ways that spur interest across the political aisle. Perhaps in the face of all of these challenges, lessons from Lugar's political career and the CTR program can inspire a resurgence in nuclear power investment here in the United States.

* Generation IV International Forum reactor designs defined by the International Atomic Energy Agency include the gas-cooled fast reactor, lead-cooled fast reactor, molten salt reactor, sodium-cooled fast reactor, supercritical water-cooled reactor, and very high-temperature gas reactor.

Nuclear Reactor Construction Market Share



Statistics compiled from the International Atomic Energy Agency's Power Reactor Information System and the World Nuclear Association's Reactor Database.

Applying Lugar's lessons

In the spirit of Lugar's comments on bipartisanship, political self-reflection by both Democrats and Republicans may change the current political lethargy regarding nuclear power. First, there will always be a need for carbon-free and power-dense baseload generating capacity when considering the United States' diverse energy portfolio. Although energy storage may shift this argument slightly in the future, most experts agree that relying solely on renewable energy sources has the potential to endanger national energy security. Without robust storage technology, the nation could be forced to rely on foreign electricity imports to meet its baseload generation needs at peak consumption hours as it phases out nuclear and fossil fuel power plants—an issue already facing countries such as Germany and Italy. Nuclear power, apart from coal and natural gas, is the only power source capable of meeting those baseload needs. Therefore, it is important to both maintain domestic excellence in nuclear technology expertise for the foreseeable future and incentivize students to pursue education in the nuclear arena. Lugar believed that America's fundamentals in education, innovation, and global competitiveness must be nurtured to ensure a leadership role in today's geopolitical climate.

International security and geopolitical influence are often unifying concepts in U.S. politics. In the context of today's global competition with Russia and China, the innovation and export of nuclear technology may be yet another battle-

ground. Lugar committed a large portion of his political career to nonproliferation efforts, with the ultimate goal of making the world a safer place. In today's nuclear energy export markets, Russia and China pose what many argue is a substantial threat to global nonproliferation efforts. Secretary of Energy Rick Perry communicated these concerns to the Senate Armed Services Committee earlier this year. He argued that the United States must engage in emerging nuclear reactor export markets, specifically the Middle East, because our commitment to nonproliferation is far greater than that of Russia and China. In these uncertain times, Lugar's commitments to nonproliferation, bipartisanship, and program resiliency should be taken under consideration.

Framing the argument for increased investment in both domestic and exported nuclear energy around the security concerns associated with a global competition with Russia and China may help establish early bipartisan support for investment. If legislators are to truly live up to Lugar's prioritization of global security concerns over domestic partisanship, they should strongly consider how nuclear technology export translates to geopolitical influence, and whether Russian and Chinese export models strengthen nuclear nonproliferation and security governance. If Russia and China's geopolitical influence continues to increase and nuclear governance strength decreases, the international security consequences could prove far-reaching and catastrophic. In response, the United States' domes-

tic and foreign nuclear energy policies deserve reevaluation.

The CTR program was built upon existing bilateral and multilateral frameworks, such as the Strategic Arms Reduction Treaty (START). Although slightly different in scope, bilateral frameworks under Section 123 of the U.S. Atomic Energy Act may provide a platform for developing more concrete nuclear investment programs. Agreements are already in place with emerging nuclear nations such as India, Turkey, and the United Arab Emirates. Shared domestic interests centered on national security and geopolitical influence must be emphasized to foster bipartisanship, followed by the establishment of investment strategies that target the concerns of partner nations. Programmatic shared interests was the platform upon which the CTR program ensured the longevity of initiatives and will be necessary for any proposed programs to last the full life cycle of nuclear infrastructure development.

A path forward

In an age of decreased domestic support for nuclear, new challenges in global competition from Russia and China, and associated nonproliferation concerns, Lugar's political legacy offers useful perspectives worth revisiting. First, bipartisan support for nuclear energy investment will emerge from the development of new arguments for nuclear investment centered on national and international security. These arguments must focus on geopolitical influence, competition with Russia and China, and international security. Second, existing bilateral frameworks, such as the 123 Agreements, must be built upon with partner nations. The United States has a history of promoting strong nuclear governance when engaging in foreign nuclear projects, while Russia's and China's commitment to these ideals is uncertain. Commitment to international nuclear nonproliferation and security will allow bilateral agreements to remain resilient during the prolonged timelines associated with nuclear infrastructure development. Third, although government investment in nuclear may not necessarily result in an economic return on investment, it will strengthen national security. However, if we as a nation can foster the innovative culture Richard Lugar valued, the United States could very well reemerge as a leader in the nuclear industry, especially in advanced reactor development and export. **■**

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