# Bolivia Opens First Two Units of Nuclear Tech Complex Built with Russia's Rosatom

by Cynthia Rush

Aug. 20-With pride and excitement, Dr. Hortensia Jimenez, Executive Director General of Bolivia's Nuclear Energy Agency (ABEN), and Evgeny Pakermanov, President of Rusatom Overseas JSC, a subsidiary of Russia's nuclear energy agency, Rosatom, participated in the Aug. 5 commissioning ceremony of the first two units of the Nuclear Technology Re-

pected to be fully operational in a matter of weeks, pending final inspection and licensing. Construction and installation work continues on CIDTN's third and fourth units; the 200 KW research reactor complex, due to be commissioned in 2024; and the training center and laboratory buildings. By 2025, Rosatom will hand over all of CIDTN's installations to ABEN, which will over-



Rosatom

search and Development Center (CIDTN), which the two agencies are building in the city of El Alto, Bolivia's secondlargest city with close to

one million people.

The Cyclotron Radio-

pharmacy Preclinical Complex (CCRP), which will produce isotopes and radiopharmaceuticals to diagnose and treat oncological, cardiac, neurological, and other diseases, and the Multipurpose Irradiation Center (CMI), providing Bolivia with a food-irradiation capability, will initially operate on a trial basis, but are ex-

After passing inspection Aug. 5, the Cyclotron Radiopharmacy Preclinical Complex and the Multipurpose Irradiation Center have been put into operation.

Dr. Hortensia Jimenez, executive director, Bolivia's Nuclear Energy Agency (ABEN), and Evgeny Pakermanov, President of Rosatom Overseas, at the commissioning ceremony of the first two units of the Nuclear Technology Research and Development Center in El Alto.

see their operations.

ABEN/informa/Twitter

This outstanding project is a source of enormous pride and optimism for Bolivians. Being built at 4,061 meters above sea level, it is an architectural marvel, according to Rosatom officials. In a press release posted to its Telegram channel, Rosatom emphasized

that "there is nothing analogous" to Bolivia's CIDTN in the world. Pakermanov told Sputnik News in an interview, that Bolivia "is on its way to being one of the most important countries in Latin America in the use of nuclear technology." Moreover, he said, these centers, with their state-of-the-art technology, will provide important "impetus to Bolivia's economic development." Three additional nuclear medicine centers are also being built, in El Alto, La Paz, and Santa Cruz.

## A Choice for Scientific Excellence and Development

Former President Evo Morales has been the driv-

ing force behind Bolivia's adoption of nuclear energy for peaceful uses. He envisioned the CIDTN as a guarantee of a future of scientific development and optimism for coming generations. From the time he took office in January of 2006 until he was illegally ousted in a Maidan-style coup, orchestrated by the international Project Democracy apparatus in November of 2019, he fought to transform Bolivia from one of the Western Hemisphere's poorest nations into a modern industrial state with access to advanced science technology—nuclear and energy—for the betterment of his country's majority indigenous population.

In his 13 years in office, using directed credit and sovereign control over his country's natural resources—he nationalized oil and gas reserves in May of 2006—Morales succeeded in producing a thriving economy reaching a sustained annual growth rate of 12.2% by 2016. He also reduced poverty from 38.2% in 2005 to 15% in 2019. Extreme poverty, measured as an average income of \$1.90 per person per day, had dropped from 25% in 1999 to 6% in 2017.

The Russian and Chinese governments have been Morales's partners in shaping a development perspective free from the IMF and neoliberal shackles that had

kept Bolivia immiserated for decades prior to 2006. Current President Luis Arce, who served as Morales's Finance Minister for most of his 13 year-presidency and oversaw his economic policy, has continued with this same policy orientation.

In describing his achievements in August of 2019, Morales said he was most proud of having "left the past behind, having buried the colonial state...having stopped being that beggar State, a pauper people. Now we have a dignified and sovereign people.... [M]y challenge, fundamentally, since I come from the poorest families, is to keep reducing poverty. I would not like for there to be children like in the 1960s and 1970s. That's my great hope."



The Center for Nuclear Medicine and Cancer Treatment in El Alto has scanners that use nuclear energy to accurately detect cancer through images. It also has two linear accelerators, a brachytherapy area, another for chemotherapy, a simulation scanner, and a pharmacy.

### **Defying the Malthusian Elites**

As Morales said after he was forced from office, barely escaping with his life, the coup was directed against his successful economic model, which included his plans to create a scientifically advanced sovereign nation. Bolivia's and other Western Malthusian elites considered it effrontery for an indigenous leader of coca producers who became President to dare to aspire to such a future for his nation. Morales's Vice President, Alvaro Garcia Linera, had even gone so far as to suggest, in a July 13, 2019 speech, that Bolivia should consider research into fusion energy.

There will be a group of scientists, he said at that time, "who will study the atom, its composition; we've already asked Russia and France. We want to be co-participants in the study of electric energy from nuclear fusion, so that 20 or 30 years from now, we'll be rubbing shoulders with the Russians, the Argentines, the French..." And, he emphasized, with the CIDTN, "we are forging Bolivia's development for the 21st, the 22nd and 23rd centuries. Never again will we be last; we're going to be first!"

The fascist regime that was illegally installed following Morales's ouster—the State Department labeled it a "democracy"—halted all projects related to CIDTN and planned to privatize them. An entire year was lost in the project's construction, and work was only resumed when President Luis Arce took office on November 4, 2020. Some of the coup regime's most brutal repression was visited upon the indigenous population of El Alto, Morales's most devoted supporters and staunch backers of the CIDTN project.

Hortensia Jimenez pointed out that the CIDTN's projects were stopped just at the point
that the Cyclotron-Radiopharmacy complex
and the Multipurpose Gamma Irradiation Center were
about ready to become operational. The delay caused
by the CIDTN's shutdown meant the loss of countless
numbers of lives that might have been saved by the use
of this advanced technology, especially in the treatment of cancer. The opening of the network of three
nuclear medicine centers was also delayed, and valuable research carried out by scholarship students was
lost

### A Long-Term Strategy

Morales's commitment to science has been long-standing. In a July 18, 2021, interview with *La Epoca* magazine, ABEN's Jimenez reported that Morales had established the Bolivian Nuclear Program (PNB) in 2014 to promote the peaceful use of nuclear technology in various areas of national development. On Jan. 20, 2016, by executive action, he declared the PNB to be of a strategic character and a national priority, whose goal was to "empower scientific and technological advances in the country, using nuclear technology for peaceful



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Meeting in April 2016 with Russian President Vladimir Putin and Rosatom officials, then President Evo Morales discussed the \$300 million project to build the Nuclear Technology Research and Development Center in El Alto.

purposes and to build an inclusive scientific-technological culture" with applications in healthcare, and agroindustry, as well as in the training and education of human resources.

In March and April of 2016, Morales met with Russian President Vladimir Putin and with Rosatom officials to discuss the project to build the Nuclear Technology Research and Development Center (CIDTN) in El Alto, Bolivia's second-largest and highest-altitude city. In September of 2017, the contract to build the \$300 million CIDTN was signed in Vienna by Vyacheslav Galushkov, director general of the Rosatom group company, State Specialized Design Institute (SSDI), and ABEN's Hortensia Jimenez.

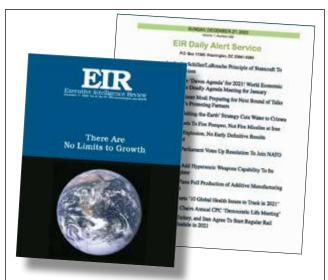
Speaking in Sochi in May of 2018, during the X Atomexpo International Forum, Jimenez explained that Bolivia isn't interested in "buying technology or knowledge, but advancing in our own abilities, promoting education for our country's youth and our specialists' own research." As she later explained to *La Epoca*, the training and education of young scientists is a center-

piece of the CIDTN'S work. At that time, she said, ABEN was granting scholarships to 260 young people for training in a variety of medical specialties as well as in the fields of nuclear science and technology. Young scientists and doctors are also being trained in Russia and Argentina.

#### The Future is a 'Scientific Bolivia'

At a July 26, 2021, ceremony for the laying of the foundation of the building that will house CIDTN's research reactor, attended by Hortensia Jimenez, Rosatom executive Kirill Komarov, and other dignitaries, President Arce movingly expressed the vision which the CIDTN project has inspired in Bolivians.

"Thanks to the cooperation of our Russian friends and partners," he said, "we are overcoming the enormous technological gaps that exist to launch this ambitious project, which will place Bolivia at the threshold of cutting-edge technology, benefitting our population with the application of nuclear technology for



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peaceful purposes. It will be our own Bolivian professionals who in the near future will oversee this technology with sovereignty and dignity. It will be our future generations that will inherit and harvest what we do here today. They will be the standard bearers of a scientific Bolivia." And, he proudly added, in a reference to Bolivia's ancient civilization, "a people with a thousand years of history and advanced technology is invincible."

The capabilities of the two operating units are impressive. The Multipurpose Irradiation Center (CMI) is equipped with a gamma irradiation facility, containing an industrial irradiator and a self-shielded irradiator. Rosatom emphasizes that these will greatly improve food safety and extend the shelf life of many different types of agricultural products, in addition to being able to process more than 70 tons of products daily to maintain their quality. It's expected that the CMI will be able to irradiate 2,000 tons of food products annually, facilitate safe export of foods internationally, improve seeds, and help in pest control.

The Cyclotron Radiopharmacy Preclinical Complex (CCRP) is equipped with a cyclotron, or particle accelerator, and will be able to produce enough isotopes and radiopharmaceuticals to supply the three additional nuclear medicine centers being built in the country in conjunction with Argentina's renowned INVAP company. The center in El Alto, which is separate from the one at CIDTN, was inaugurated on March 6, and is now fully operational. According to Rosatom, the cyclotron will provide enough radiopharmaceuticals to allow 5,000 Bolivian patients a year to undergo medical examinations using advanced nuclear medicine products without having to travel abroad.

Speaking on Aug. 5, Evgeny Pakermanov, President of Rusatom Overseas, reported that Bolivian students who had already passed a complete cycle of training at the cyclotron complex are already producing fluorodeoxyglucose, a very important radiopharmaceutical used to diagnose certain types of cancer. On Aug. 4, he said, "for the first time in Bolivian history, we obtained technetium, another radiopharmaceutical that can only be produced in a few countries in the world." Bolivia, he said, "is now becoming one of the leading nations in Latin America in the application of nuclear technologies, something that is our joint success."