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REPORT FROM COLOMBIA

LaRouche Movement Organizes For a Nuclear Renaissance

by Miriam Nelly Redondo

The way an audience can be transformed from today's pervasive pessimism, to technological optimism, was beautifully demonstrated at a July 28 forum in the capital of Colombia. Two hundred people attended the First Biofuel Workshop and Seminar in Bogotá, organized by the publication, *VirtualPRO*, and the Manuel Beltrán University. There they heard a presentation given by the guest speaker invited by Colombia's Lyndon LaRouche Association, Marjorie Mazel Hecht, managing editor of *21st Century Science & Technology*, who spoke on the theme "The World Nuclear Renaissance Is in Progress! Will Colombia Join In?"

Hecht's address infected the audience with the optimism generated by the revived worldwide turn to nuclear power as a source of energy that can replace today's fossil fuels, oil, coal, and natural gas.

In the afternoon, Maximiliano Londoño Penilla, president of the LaRouche Association, followed up Hecht's polemic during his participation in a panel discussion which also included Mauricio Rojas Quintan of Cenipalma,

Miriam Nelly Redondo is the General Secretary of the Lyndon LaRouche Association, Bogotá, Colombia.

Carlos Fernando Márquez of the Colombian Automobile Association (SCA), Marcela Bonilla of the Environment Ministry, and Carlos Díaz of Brazil's oil company Petrobras.

During the forum, the majority of the questions were focussed on how to solve Colombia's energy crisis, which opened the way for Londoño to elaborate on the idea—first developed in the morning by Hecht—that nuclear energy in Colombia is inevitable, while attacking the fraud of both global warming and of biofuels as a viable energy source. The other panel members were left with nothing to say.

Not to develop nuclear energy would pose for Colombia a serious risk of cutting itself off from opportunities that would mean an unlimited energy source for the country, Londoño argued. Since the era of U.S. President Dwight D. Eisenhower (1952-1960), Colombia has already received benefits from the U.S. "Atoms for Peace" program, which put atomic energy, the most valuable area of scientific-technological knowledge at the time, at the disposal of the underdeveloped countries of the world.

Colombia's Nuclear History

In Colombia, the institutionalization of nuclear technology followed directly

from the Atoms for Peace policy. It was initiated by President Gen. Gustavo Rojas Pinilla, who established the first nuclear institution in the country, the Colombian Institute of Nuclear Affairs (ICAN), which operated from 1956-1959, later replaced by the Institute of Nuclear Affairs (IAN). Rojas proposed collaborative efforts between the state and national industry, for the purpose of industrializing the country, taking advantage of the use of man-made nuclear radioisotopes in medicine, agriculture, and industry.

In the field of medicine, Colombia cooperated with France, which had been working since 1934 through the Radium Institute—now known as the National Institute of Cancerology—on the application of nuclear radioisotopes. Unfortunately, investment has been inadequate to meet the demand for application of this technology, with the result that there has been no program of modernization and expansion of equipment for urgent programs in the treatment of cancer patients in Colombia.

As director of ICAN, Maj. Gerardo Cabrera Apraéz (ret.) signed a bilateral agreement with the United States in June 1955, for the peaceful use of nuclear energy, which was considered the first

Panelists at the Biofuels workshop sponsored by VirtualPRO and the Manuel Beltrán University had nothing to say to Maximiliano Londoño Penilla's exposé of the bad economics of biofuels and his support for nuclear energy as Colombia's future. Londoño is second from left.

agreement of its kind. One year later, Colombia was visited by a geological mission of the U.S. Atomic Energy Commission, led by Glendon Collis and William Isaclasen, who reported on the possible exploitable reserves of uranium in Colombia's Santander province. Toward that end, the company Minuraniu was created.

In October 1959, the Institute of Nuclear Affairs was created under the direction of Tulio Marulanda, a chemical engineer, who specialized in metallurgy and nuclear energy at the University of Colorado. Four ministries made up the directorship of the Institute: Development, Health, Education, and War. Unfortunately, the role of the institute in education was marginal. There was no formal link with the National University, and the Institute operated initially with chemical engineers and agronomists who were to specialize in nuclear material, through scholarships abroad.

Here is where one can perceive a notable difference between the Institute and the National Atomic Energy Commission (CNA) of Argentina, which took on the challenge of higher education in the field of nuclear science from the very beginning, thereby guaranteeing its continuity and its current resurgence.

In July 1961, the Argentine nuclear chemist Sonia Nassif, representing the International Atomic Energy Organization, and in cooperation with the Institute's Marulanda, proposed the construction of a regional nuclear center, to carry out joint research. This was on the occasion of the arrival in Colombia of the IAN-R1 reactor, which, at the time, was considered the first in a series of developments that would keep the country up to date in nuclear technology.

But political nearsightedness killed Colombia's nuclear program when, in 1958, President Alberto Lleras Camargo labelled the nuclear commission a project of the Rojas Pinilla dictatorship, thereby freezing all budget transfers to the Institute, without any understanding that material development and human welfare urgently requires ongoing scientific research.

Time for a Nuclear Revival

It is time to correct these errors of the past. As *21st Century* editor Hecht explained, the world today is experiencing a nuclear renaissance, and it is urgent



Colombia's first nuclear reactor, the IAN R-1, operated in the early 1960s. But shortsighted political leaders sidelined Colombia's nuclear program.

that Colombia join in. Bilateral U.S.-Colombian relations need to be re-established on the basis of principles of cooperation for development, such as that seen during the period of Eisenhower's Atoms for Peace.

Hecht documented how the Asians have become the pioneers in nuclear development. China has 10 operating nuclear plants, producing 8.6 gigawatts

of energy, and intends to produce 40 gigawatts by 2020, and between 120 and 160 gigawatts by 2030. Taiwan is producing 22 percent of its energy with six nuclear reactors, and has two more under construction. India has 17 nuclear plants producing 3.5 gigawatts of energy. South Korea has 20 nuclear reactors that provide 40 percent of its electricity, 26.6 gigawatts. Japan has 55 reactors, which provide 30 percent of that nation's energy needs, or 47.5 gigawatts.

And the revival is not only going on in Asia. Russia has 31 nuclear plants which provide 16 percent of its energy, and it is planning to reach 25 percent by 2030. South Africa has two conventional nuclear plants in operation, which generate 6 percent of its electricity, and is carrying out an intensive program to develop the German-designed PBMR (pebble bed modular reactor) nuclear plant model.

The United States, on the other hand, although it has more than 100 plants generating about 20 percent of the nation's electricity, has not built a single new reactor since the 1970s, and its nuclear program is still struggling to escape from the barrage of environmentalist and deindustrialization propaganda.

In the rest of Ibero-America, Argentina and Brazil are returning to nuclear energy, after a long period of inactivity. Argentina will finish the Atucha 2 nuclear center by 2010, and has plans to build a



Colombian President Gen. Gustavo Rojas Pinilla, who established the first nuclear institution in the country, which operated from 1956 to 1959.

small reactor, CAREM, an Argentine design developed in the 1980s, which could be used to generate electricity and to desalinate water. Recently, one of the CAREM models was sold to Australia.

In Brazil, the government has made the decision to build a third nuclear plant, Angra 3; the three Angra plants combined will produce 1.896 gigawatts, nearly 4 percent of Brazil's electricity. Mexico has two nuclear reactors at Laguna Verde, and these produce 5 percent of its electricity. Chile and Peru have also shown interest in conducting nuclear research and are working toward that end.

What Colombia Must Do

We should remember that it was the narco-government of Ernesto Samper Pizano in Colombia which shut down the Institute of Nuclear Affairs, preventing our country from advancing in this field. Colombia should join with other nations that have begun or reactivated their nuclear programs. And since we have restarted the research reactor, we should promote anew the development of nuclear energy. We should reopen the Institute of Nuclear Affairs as an autonomous body, functioning directly under the executive branch, with the participation of the Ministry of Agriculture on its board of directors, and with total financial autonomy. Further, the nation should call on all Colombians and others who have specialized knowledge in the nuclear field, to come forward and join



The author (center) at a pedagogical exhibition sponsored by the LaRouche Association at Villamar College in Bogotá.

this national initiative.

Faculties of nuclear physics and nuclear engineering should be immediately created in the National University, so that Colombia can join the programs of Argentina, Brazil, and Mexico. There should also be efforts to establish a Regional Nuclear Institute, and this could be one of the challenges undertaken by President Alvaro Uribe, as part of a larger Ibero-American integration initiative.

Down with Biofuels

In Colombia, the lobbyists for biofuels seek to create a financial bubble, similar to the housing bubble which is currently blowing out in the United States, because biofuels could never be profitable without the huge subsidies that governments provide.

For example, it was for that purpose that Law 693 of 2001 was created in Colombia, which established that, by September 2005, all cities with more than 500,000 inhabitants—like Bogotá, Cali, Medellín, and Barranquilla—would have to use gasoline with at least 10 percent ethanol content. Law 788 of 2002 introduced exemptions to the Value-Added Tax for the ethanol component of oxygenated fuels, and introduced tariff exemptions for the import of equipment necessary to mount ethanol refineries. Together with this law, the Ministry of Mines and Energy

put out Resolution 1080836 of July 25, 2003, to establish the price structure for oxygenated regular gasoline.

If one does the calculations, it becomes clear that to satisfy the mix of 10 percent ethanol in gasoline required by law, they will have to build at least 10 to 12 ethanol refineries to produce 2.5 million liters a day. According to Agriculture Minister Andrés Felipe Arias, the idea is for Colombia to become the leading bio-fuel producer in Latin America, which would require an investment of half a billion dollars. But it appears that the Minister has not considered how this will directly affect the price of food, because he is not simultaneously projecting the preparation of new lands, with infrastructure and agricultural technology, to bring more food under cultivation—with the result that foods will dramatically rise in price.

He also is not considering the reduced tax revenues implied by this strategy, given the exemptions of 98.1 million pesos a year. Over the long term, this bubble too will burst, creating a new source of frustration for Colombians.

In sum, considering the ongoing global nuclear renaissance, and the failure of biofuels, the only solution to the high cost of fuel, and to the eventual exhaustion of oil reserves, is nuclear energy.

How To Build 6,000 Nuclear Plants by 2050

by James Muckerheide

Massachusetts State Nuclear Engineer

available at
www.21stcenturysciencetech.com