WORLD ENERGY CONGRESS 2010

Lofty Goals Bogged Down in Green Idiocy

by Robert Hux

The 21st World Energy Congress brought together 2,100 delegates from 137 countries, in Montreal, Sept. 12-16, to discuss how the nations of the world can collaborate to meet the urgent energy requirements of the 3.5 billion people who have little, or no access to electricity. Yet, many of the political, government, and industry leaders who addressed the conference seemed to be on an opposing or, at best, contradictory track, supporting policies that can only keep people in the dark.

Many speakers, for example, acknowledged the dominant role that fossil fuels play in meeting the world's energy requirements, now and probably for more than a few decades to come, at the same time that they promoted onerous economic policies based on the fantasy that the carbon dioxide (CO_2) resulting from burning these fuels must be prevented from entering the Earth's atmosphere, lest it cause a runaway global warming, melt the ice caps, and destroy human life on the planet.

Another common refrain was that we must use "all available energy sources." Thus, many speakers described the efforts of their nations to generate significant amounts of electricity from very low energy flux density sources, such as solar radiation or wind. Excluded from these unrealistic presentations, however, was any mention of the energy and labor investment to manufacture and maintain solar and wind installations, to build the back-up power plants needed to compensate for the intermittent performance of solar and wind, to increase the capacity of the transmission grid to accommodate intermittent sources, to acquire the necessary large land areas—the total of which vastly exceeds the amount of electricity that solar and wind might generate. In other words, the net energy generation from solar and wind is *negative*.

These contradictions did not go unchallenged. A small group of organizers associated with the Lyndon LaRouche political movement and *21st Century Science & Technology* were on hand to shake up the otherwise green-business-as-usual conference.

Ilko Dimov

A panel discussion chaired by Christian Paradis, Canada's Minister of Natural Resources. Paradis advocates privatizing Atomic Energy of Canada and its CANDU reactors.

The Green Dead End

The green agenda skewed the discussions away from the aim of bringing electricity to the entire world, starting at the beginning of the week-long conference. At the Sunday evening opening ceremonies, Quebec Premier Jean Charest welcomed the delegates, noting that Quebec is an appropriate place to hold such a conference because not only is 95 percent of all the electric power here generated from a renewable source [hydro power], but Quebec is also second in installed windmill power in North America!

Then, the head of the European Parliament, Jerzy Buzek, spoke about the Lisbon Treaty's requirement for "solidarity in energy supply," "the need to adapt public thinking," and "the benefit of building huge 10,000-megawatt wind farms to take advantage of economies of scale."

Buzek even expressed concern that some countries seem to be distancing themselves from the Copenhagen meeting on climate change. "If you want to keep temperature low, you must reduce carbon emissions.... There are two linked problems: fighting climate change, and growing energy demands."

Ban Ki-Moon, Secretary General of the United Nations, then informed us that the energy required for everyday life has yet to reach the undeveloped countries, and called for a 40 percent increase in energy efficiency by 2040. In other

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Quebec Premier Jean Charest is proud of Quebec's wind power.

European Parliament

European Parliament head Jerzy Buzek advocates more wind farms.

Pierre Gadonniex, chairman of the World Energy Congress, stressed the need for climate protection.

words, no increase in energy production, just more efficient use of the already inadequate supply.

Finally, Pierre Gadonniex, chairman of the World Energy Congress, and honorary chairman of Électricité de France, laid out for the conference delegates what he considered the agenda: "economic growth," "climate protection," and "social issues."

Concern for "global warming" shaped even the better presentations: Although the chairman of the Canadian Space Agency, Steve MacLean, had some fascinating observations on human activities in space, his concluding remarks focussed on the application of satellite technologies to accurately monitor changes on the Earth, including their application to monitoring carbon dioxide emissions.

Economic Reality

Our interventions as the Congress progressed were directed at bringing economic reality into the vacuous agenda elaborated by the Congress chairman.

In a session on African development, for example, *21st Century* correspondent Ilko Dimov told the World Bank Africa representative, "I am surprised at the pessimistic tone of the conference, and that there is no clear objective of fighting poverty."

Dimov gave two examples of how things could be changed positively. When the United States was collapsed in the Great Depression in 1929, he said, Franklin Roosevelt, as soon as he was elected to the Presidency, took swift action, by introducing the Glass-Steagall Act, to reorganize the banking sector and make credit available for the Tennessee Valley Authority and other projects that created employment and gave hope to the country.

"Within three weeks, Franklin Roosevelt reorganized the entire global system," Dimov said, cancelling the debts from the Versailles Treaty, creating a new currency. The second example, Dimov posed was the economic miracle in Europe, in Japan, South Korea, and Germany. "I want to hear your opinion," he asked the World Bank representative. "Today we have $1.4 quadrillion in financial derivatives. The biggest elephant in the room is the economic crisis. It will not end without swift reform. We have a fight in the U.S. Senate. I would like to see the representative of the World Bank address this. I would like to see what he thinks about these two examples."

But the World Bank representative ignored Dimov's question.

The Sept. 12 press conference of African Development Bank President Donald Kaberuka, was to define the focus of the conference about to begin, by looking at the case of the continent where a "child can go from birth to death without ever seeing [electric] light." He described

Africa Development Bank President Donald Kaberuka: Africa is a continent where a child can go from birth to death without ever seeing electric light, as the night map of the continent shows.

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Peter Voser, chief executive officer of Royal Dutch Shell plc, promoted natural gas from shale.

the largely untapped potential of the Congo River which could generate 40,000 megawatts with the construction of Grand Inga Dam, which is projected to cost $40 billion.

In response to a question from a journalist on the role of nuclear energy in the development of Africa, Kaberuka asked why Africa should be an exception.

This author then pointed to the fight in the United States to re-enact Franklin Roosevelt's Glass-Steagall banking act, which would make possible large amounts of government-generated credit to finance great infrastructure projects, such as the North American Water and Power Alliance (NAWAPA). "What are the great projects in Africa that would become possible, if it did not have to depend upon private financing and the markets? What about, for example, the project to divert the Congo River to replenish Lake Chad?"

Mr. Kaberuka replied: "if such legislation exists [Glass-Steagall], I would be very interested in seeing it. Lake Chad is a small proportion of what it used to be, but we have to be careful, we don't want to make a mistake."

Energy Flux Density

The keynote speakers on the first day, continued the green agenda of the conference, avoiding mention of advanced energy flux dense sources of power. Khalid Al-Falih, president and chief executive officer of the Saudi Arabian Oil Company, noted that for the foreseeable future the world will continue to rely upon traditional fossil fuels, and while the share of fossil fuels may decline over the longer term, the absolute quantities of energy from these sources will continue to rise because total energy demand will expand significantly.

Over the next five years, he said, Saudi Aramco will concentrate capital investment in the gas and downstream oil sectors with the objective of developing cleaner fuels from refineries, and a CO_2-enhanced oil recovery demonstration project, that boosts oil production by injecting CO_2 that otherwise would have been emitted into the atmosphere back into the reservoir.

Peter Voser, chief executive officer, Royal Dutch Shell, plc (the Netherlands), pointed to the increasing role natural gas will play, in part because it produces less carbon dioxide when burned, but also, he claimed, because of improvements in the production of natural gas from shale.

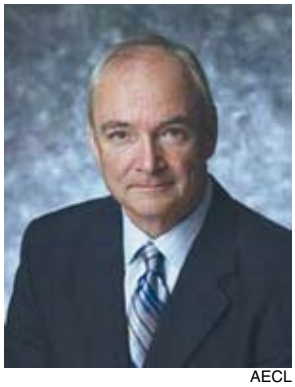
Voser noted that natural gas reserves in North America, which a few years ago were thought to be declining, are now known to be sufficient to last more than a century. There also has been a diversification of natural gas involving liquefied natural gas (LNG) and gas-to-liquid (GTL) technologies. Voser talked of the need for commitment to develop demonstration plants, especially those involving carbon capture.

We intervened here by noting the foolishness of the "19th Century dependence on chemical combustion," which the British empire, as indicated by these two keynote presentations, had stressed, instead of giving nations the power to develop with nuclear fission and fusion. In fact, we discovered that fission and fusion were what people attending the conference were interested in hearing, as indicated by the standing-room-only crowds at the presentations on nuclear energy.

Nuclear Highlights

Some highlights of the nuclear presentations:

- Hugh MacDiarmid, president of Atomic Energy of Canada Ltd., reported that "We are in the middle of a resurgence of nuclear technology, with nearly 60 reactors currently under construction."
- The former Energy Minister of Korea, Ssang-Su Kim, proudly described how Korea had transformed itself from a third world nation, to a modern industrial power by mastering the principles of nuclear energy (see box, p. 43).
- A representative from China proudly stated that his nation intends to build 28 nuclear plants.
- The Deputy Director General of Russia's State Atomic Energy Corporation (ROSATOM), Peter Shchedrovitskiy, reported that Russia currently has 27 nuclear reactors which produce 163 terawatt/hours per year of electricity, and they plan to double this in the next 5 years. He said Russia is developing a new fast nuclear reactor which has a closed fuel cycle reprocessing the spent fuel. In addition, a new small transportable nuclear reactor of 1 megawatt capacity is being developed (see interview).
- P. Uma Shankar, the Power Secretary for India, reported that 20 percent of the regions of India do not have access to electricity, as of 2005. "If you look at energy consumption," he said, "India has



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Hugh MacDiarmid: president and CEO of Atomic Energy of Canada: We are in the middle of a resurgence of nuclear technology.

Ilko Dimov

Sushilkumar Shinde, Union Minister of Power: India must use the clean power of nuclear.

17 percent of the world's population, but consumes only 4 percent of the world's energy. India must increase its energy use, he said, and plans to increase its energy consumption by a factor of six by the year 2035."

Shankar noted that, with "clean coal" technologies, the increase in carbon dioxide emissions would not exceed a factor of three.

• India's Union Minister of Power, Sushilkumer Shinde, referred to nuclear energy as a source of "clean power" which India must use.

Develop the Biosphere!

We found tremendous interest in LaRouche's development policies among the people with scientific and engineering backgrounds, as some of the interviews indicate.

A few delegates to the conference stopped to talk to our organizers outside the conference, to protest the reliance on fossil fuels and support of fission. They were acting upon their recognition of a fundamental principle of economics, whereby the power to accomplish work increases with the increase of energy flux density. As our organizers reminded them, the weight of the fuel required to produce a given quantity of energy, dramatically decreases as you progress from coal, to oil, to natural gas, to uranium (nuclear fission) to deuterium (for nuclear fusion). We stressed that by going to higher energy flux densities, we can accomplish something which would otherwise be impossible.

One organizer posed the following question to people he met: "What do you think about the plan to starve out the green plants, by taking away their carbon dioxide?" This allowed people to begin to consider that there is something going on inside green plants, a process called photosynthesis, which reflects this principle. As a result of a complex process centered around the chlorophyll molecule, visible light is able to split water into its components, hydrogen and oxygen, something that does not happen outside of living photosynthetic organisms.

In addition, carbon dioxide is combined with the hydrogen released from water to build sugars, and more complex carbohydrates. "You don't have to pay $100/ton to get rid of carbon dioxide! The plants will do it for free!"

Telling people, that "we are not interested in simply bringing electricity to people who don't have it, we have to develop the biosphere!", we introduced people to LaRouche's revival of the North American Water and Power Alliance (NAWAPA). We described how NAWAPA, by diverting about 20 percent of the freshwater runoff of the Yukon and Mackenzie river systems of Alaska and the Yukon, into a system of reservoirs, canals, tunnels, and pumping stations makes available 160 million acre feet of fresh water for distribution across Canada, the western United States, and northern Mexico.

Many of the conference delegates and others, including the directors of energy and engineering companies, were struck by the idea that covering large parts of the desert or arid regions of North America with trees or other green plants, would not only require large amounts of carbon dioxide, but that this would give man the power to deliberately change the climate by significantly increasing rainfall.

Over the week-long conference, it was clear that there was a great divide between the nations going with solar and wind, premised on global warming, vs. those nations going with nuclear fission, breeder reactors, and research on thermonuclear fusion. And in between are the many less-developed nations which want to develop more advanced technologies but are pressured to waste resources going with the so-called green alternatives.

Videograb from physicsworld1

Fusion was on the agenda for the WEC. Sir Chris Llewellyn Smith, former chairman of the ITER Council, called for an "Apollo-style" approach to fusion, in his talk, "Fusion—Will It Ever Be a Reliable and Competitive Source of Energy?" "We must pursue this option as soon as possible," he said. "We should start building the demonstration reactor in parallel with ITER. There is nothing like learning by building. Get on with it and show the world that we can produce energy." For a short video from the conference, see http://www.iter.org/newsline/148/438.

Ilko Dimov

Fatih Birol (left), Chief Economist of the International Energy Agency, told the conference that "whatever energy policy China, with its 1.3 billion people, follows will have a crucial impact on the global development." With Birol on the podium are Vinay Kumar Singh (center) and Thierry Vandal.