

EIR joins the fight over the Brazilian national energy plan

by Dennis Small, Ibero-America Editor

A strange sight was observed at the early July meeting of the mis-named Brazilian Society for the Progress of Science, held at the prestigious University of Campinas just outside São Paulo, Brazil. There, 8,000 presumed representatives of the nation's scientific and technical elite met to explore the ridiculously unscientific theme "Resources are Finite," and listen to the Society's chairman, Rogerio Cerqueira Leite, argue that Brazilians are starving, uneducated, and dying because of the money "wasted" by the Brazilian government in developing nuclear and hydroelectric power sources in the country. The gathering resolved to press their fight to stop what remains of Brazil's commitment to rapid industrialization through energy growth.

Although the Society's views are perhaps extreme, they are nonetheless indicative of a broad assault now underway against Brazil's excellent prospects for industrial development, and against its energy sector in particular.

Energy for development

Over the decade of the 1970s, the electrical energy sector paced high rates of overall growth by expanding at an average annual rate of 12-13 percent. And in the early 1970s, Brazil adopted an ambitious program of nuclear energy development, in which an agreement was signed with West Germany for the joint construction of eight nuclear power plants in Brazil by the year 1990. The idea was to maintain high rates of energy growth through the year 2000, with increasing reliance on nuclear.

This general focus was preserved as late as 1978, when the Mines and Energy Ministry issued a "National Energy Balance" (NEB) plan, which projected a continuation of 12 percent rates of energy growth through 1990, and which would drop off only slightly in the subsequent decade. The NEB also strongly supported the need to go nuclear, and defended the full eight-plant deal with West Germany, arguing that "the program may not be reduced or sectioned if the feasibility of its implementation is to be maintained . . . [especially in terms of] the transfer of technology."

The NEB did suffer from a number of major flaws. It justified an expansion of Brazil's economically inefficient

program of producing alcohol from sugar cane. It tolerated destructively backward forms of energy generation—such as the use of firewood, charcoal, and cane bagasse—still producing nearly a fifth of all Brazilian energy at the end of the 1980s (see graph). And it gave credence to the conservationist argument put forward in various disguises by Malthusian theorists—that "the government considers 'conservation,' among all methods, to be the best source of energy." Would the NEB's authors extend this argument to the extreme of proposing the conservation of *all* energy in Brazil?

But even with these flaws, the NEB remains an essentially sound, if modest, document that proposed high rates of energy growth—led by simultaneous development of hydroelectric and nuclear facilities—in order to fuel a Brazilian economy growing at a rate of 7 percent per year.

Energy growth thrown out the window

The NEB, however, was in large measure thrown out the window in early 1982, when the state electricity monopoly, Eletrobras, issued a report called "Plan 2000" which significantly scaled down national projections for energy growth. The NEB's 12 percent annual energy growth rate was halved for the decade of the 1980s; a dozen or so of the large hydroelectric and coal-based thermoelectric plants that were to be constructed were put off by an average of two to four years; and Brazil's nuclear program was trimmed down to only four plants definitely to be constructed, with the others put on "hold."

The arguments used at the time to justify the Plan 2000, and which continue to dominate energy debate in Brazil today, are that the earlier high growth rates were "over-ambitious," and that there is now an "over-supply" of electrical capacity which must be reduced. The figures adduced to back up this argument are that electricity consumption in 1981 grew in Brazil by only 3.3 percent, which left over 20 percent electrical capacity unutilized.

The fact of the matter, of course, is that there is no such "over-supply" of energy in Brazil, but only a case of serious "under-consumption." Forgotten is the simple fact that a full 40 percent of the Brazilian population does not have

electricity to this day, and that per capita rates of energy consumption are a woeful 2,000 kg. coal equivalent per year—as compared to 11,000 kg. in the United States. These chronic problems have been aggravated by the world recession triggered by the late 1979 jump in interest rates brought about by U.S. Federal Reserve Chairman Paul Volcker.

The loudest exponent of the spurious theory of “excess supply” of energy in Brazil is Planning Minister Delfim Netto—Volcker’s best friend in Brazil. Delfim has the approach, and mentality, of a shrewd accountant, who specializes in concocting ever-more-clever ways of dismantling Brazil’s productive apparatus in order to keep the country’s balance sheet in shape satisfactory to his friends, the London and Wall Street banking interests that are Brazil’s creditors.

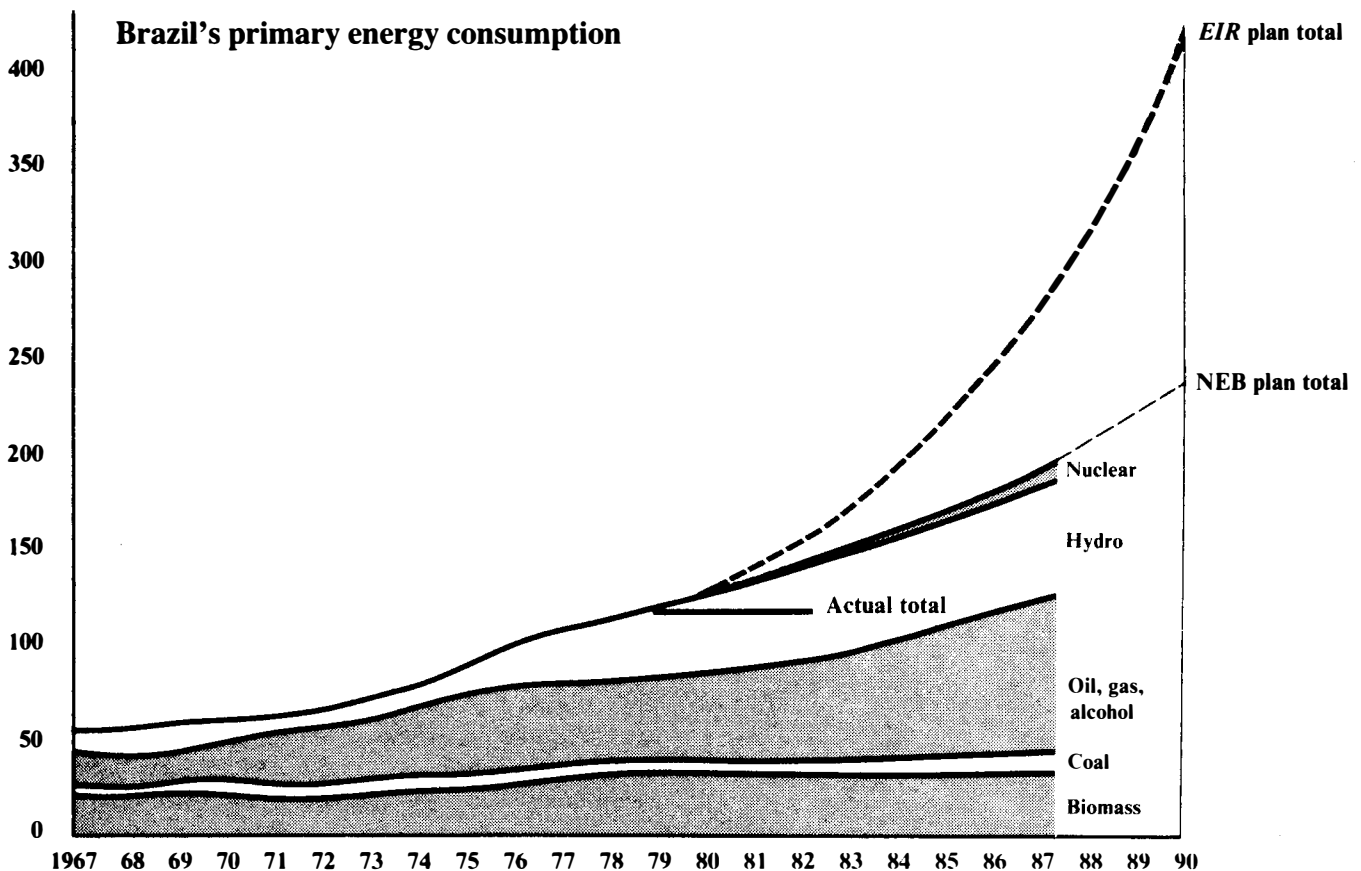
Rather than simply wielding a knife on the energy budget himself, Delfim has preferred to manipulate the country’s proponents of hydroelectricity and its advocates of nuclear energy to fight each other. The result has been a pathetic, sham debate over who should get the lion’s share of Delfim’s dwindling budget. A top official of Eletrobrás, for instance,

who talked to *EIR* earlier this year, ridiculously insisted that hydroelectricity can meet all of the country’s energy needs well into the 21st century—at which point he would presumably favor giving Nuclebrás, the state nuclear monopoly, a small line in the budget.

***EIR*’s draft energy plan**

The fact of the matter is that Brazil, if it is to achieve true modernization and industrialization by the 21st century, needs to rapidly develop *both* nuclear and hydroelectric energy—and Delfim and his banker pals be damned.

The table summarizes *EIR*’s draft proposal for a viable Brazilian energy plan, adequate for fueling a steady 10 percent per annum growth in GNP between now and the year 2000. To achieve this, total energy consumption will have to rise at a rate of about 11 percent per year immediately, reaching a 15 percent growth rate by the end of this decade. Within this, electrical energy will have to play an increasingly dominant role, which in turn dictates its growth at a rate rising from 13 to 17 percent per annum over the decade.



NEB total shows total energy consumption as planned in the National Energy Balance, prepared in 1978 by the Brazilian Ministry of Mines and Energy.
***EIR* total** shows total energy consumption as projected in the *EIR*’s draft

energy plan for Brazil, described in text.
Actual total shows stagnant consumption levels since 1979. Shaded areas show sources of electricity, as per NEB plan.

EIR's findings are that in the year 1990 Brazil will actually require 558,000 gigawatt-hours of electrical energy—fully two-thirds more than the 335,000 gigawatt-hours proposed in the 1978 NEB plan. Comparing this required output to potential hydroelectric sources, it becomes evident that, somewhere in the 1990-93 period, Brazil will have nearly exhausted this source of energy growth, and that all new expansion will have to come from nuclear energy plants. Even taking into consideration the “elbow room” that can be created by using natural gas and other complementary energy sources, this means that approximately five one-gigawatt nuclear plants will have to be coming on stream in 1990, rising to about 10 plants per annum by the mid-1990s. Considering that actual plant construction time can in all likelihood be reduced to six years (today’s delays are due in large measure to wasteful harassment by “environmentalist” forces), it is clear that *Brazil has no choice but to immediately embark on a major nuclear energy development program*, of far more ambitious proportions than the original West German deal for eight plants by 1990. Brazil in fact needs two nuclear starts *this year*, three in 1983, and so on, and needs to have well over 100 functional nuclear plants in existence by the year 2000.

This is not a luxury or an option: it is a necessity of development. Without it, Brazil simply will not be able to grow, nor its population pull itself out of the misery of underdevelopment that it now endures.

It is from this standpoint that we recommend the reader evaluate the thinking of the two individuals interviewed below by *EIR*, Cardinal Paulo Evaristo Arns, and Dr. José Goldemberg (a nuclear physicist who doubles as Delfim Netto’s energy adviser). They are two of the most vocal opponents of Brazil’s nuclear development.

Brazil’s potential energy growth

Year	Gross National Product (billions of 1980 \$)		Electrical energy (thousands gigawatt hours)	
	NEB	EIR	NEB	EIR
1980	238	238	138	138
1981	254	261	155	156
1982	272	287	172	176
1983	291	316	187	201
1984	311	348	203	229
1985	333	383	221	263
1986	356	421	241	303
1987	381	463	263	351
1988	408	509	287	408
1989	437	560	310	477
1990	467	616	335	558

Notes:

NEB is the National Energy Balance plan, prepared by the Brazilian Ministry of Mines and Energy in 1978.

EIR is the *EIR's* draft energy plan for Brazil, described in text.

Electrical energy is thousands of gigawatt hours (millions of kilowatt hours) consumed during the year.

Interview: Msgr. Paulo Evaristo Arns

Cardinal of São Paulo: the earth are limited,

EIR Ibero-American Editor Dennis Small had the opportunity to talk recently with one of that continent’s leading advocates of the radical, anti-development “Theology of Liberation” current in the Catholic Church, the Cardinal of São Paulo, Brazil, Msgr. Paulo Evaristo Arns.

*Arns has earned a name for himself organizing Brazil’s impoverished rural and urban masses into what are known as Ecclesiastic Base Communities—associations of parishioners organized as a battering ram against the attempts to modernize Brazil through the application of advanced technology to industrial development. Arns is also a godfather to the dissident labor movement in the country, and a number of sources told *EIR* that Arns has a similar connection to elements behind the pro-terrorist and pro-homosexual movements in Brazil, insofar as they are “social expressions” of anti-capitalist sentiment.*

*As he made clear in his April 28, 1982 conversation with *EIR* in his offices in Sao Paulo, Arns retains a special hostility toward Brazil’s nuclear-energy program. In his answers to our questions, the radical Cardinal also: 1) opposed accelerated industrial development; 2) attacked modern technology; 3) called for the preservation of backward cultures; 4) defended Malthusian zero-growth policies; and (5) endorsed population control, arguing that “human reproduction is not inevitable.”*

*Cardinal Arns also gave his unqualified backing to the fascist British theory that “small is beautiful,” which calls for eliminating all traces of modern society and returning to a “simpler” medieval world. Arns in fact told *EIR* that he thought that large segments of today’s urban society in Brazil should be encouraged to “return to the countryside;” 4*