



By Bruce Rich

## Whose Future, Whose Wants?

In recent years controversies over the environmental impacts of large scale, centralized energy infrastructure in developing countries have only grown. National governments and international funding agencies often justify such projects, and their trade-offs of massive ecological and social disruption, in the name of providing energy to help the poor.

The most recent example, highlighted by protests of Brazilian activists at the Rio+20 conference, is the four-mile-wide Belo Monte dam in the Brazilian Amazon. To feed its power turbines, the \$16 billion Belo Monte project would divert most of the flow of the Xingu River, a major tributary of the Amazon, into two 75-kilometer-long, half-kilometer-wide canals, excavating more earth than in the building of the Panama Canal, flooding more than 400 square kilometers of tropical rain forest, and displacing more than 20,000 people.

Belo Monte could produce a huge amount of electricity, some 11 gigawatts, but full generation would only be assured by the further construction of several more dams upstream to regulate water flow, including the proposed Babaquara project that would inundate a massive area of forest, 3,580 square kilometers. The reservoirs of these dams would exile the population of several indigenous tribes, and be a substantial

source of methane emissions fueling global warming.

But, according to Philip Fearnside of Brazil's National Institute for Amazon Studies, only 25 percent of Belo Monte's power would go for public consumption, and 30 percent or more would be sold at highly subsidized rates to fuel expansion of energy intensive processing of aluminum, copper, iron, and nickel for export to Japan and China. The poverty alleviation benefits of such energy priorities are dubious. For example, the Albras aluminum smelter in the Brazilian Amazon state of Para has only 1200 employees, but consumes more electricity than the state capital, Belem, with 1.2 million people.

In 2008, World Bank and Asian Development Bank funding of India's 4 gigawatt Tata Mundra coal fired power plant also aroused international protests. With 25 millions tons of annual carbon dioxide emissions, Tata Mundra will be one of the 50 largest point sources of greenhouse gas emissions for the next half century. But the power from Tata Mundra is destined for industrial use and consumers in large cities; only one tenth of one percent of its electricity was allocated to new households without power.

A similar controversy erupted in 2010 over World Bank and European Export Credit Agency funding for the 4.8 gigawatt Medupi coal plant, and the 2011 U.S. Export Import Bank financing of the 4.8 gigawatt Kusile project. Medupi and Kusile, both located in South Africa, will be the fourth and third largest coal fired electricity plants on Earth.

South African environmental and community activists have protested that the power from the plants would go mainly to multinational companies, many of which enjoy highly subsidized electricity rates formalized in agreements dating back to the apartheid era. On the other hand, to help pay for the massive plants, the South African state electric utility ESKOM secured a 137

percent tariff increase over a three-year period, which would double household electricity bills. Already in 2010 South African households were paying four times as much for electricity as giant mining multinationals like BHP Billiton. South African activists have pointed out that 20 percent of the South African population is not even connected to the electricity grid, and 10 million people have been cut off because they cannot pay.

The majority of the 1.4 billion poor without energy access live in rural areas in sub-Saharan Africa and South Asia. According to the International Energy Agency, linking them to a centralized electricity grid with power provided by large dams and coal plants is often more expensive than off-grid, or so-called mini-grid (village or district scale) local connections to local renewable energy sources such as wind, solar, and biomass. The IEA estimated that \$36 billion a year in new energy investments (the majority in off-grid and mini-grid solutions) could achieve global universal electricity access by 2030 — less

than 15 percent of the \$250 billion a year that developing countries provide for fossil fuel subsidies.

Last June, 193 governments at the Rio conference endorsed its declaration, *The Future We Want*.

Among scores of other vague promises, the agreement pledged to “renew our commitment to sustainable development,” and to support access to energy “services for the 1.4 billion people worldwide who are currently without them.” Meanwhile, hundreds of Brazilian Amerindians, from several threatened tribes, occupied the Belo Monte dam site in a gesture of defiance and desperation. Was anyone inside the conference center listening?

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