

The Negative Economic, Environmental, and Social Implications of Brazil's Energy Policy: The Case of the Belo Monte Dam Complex

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In 2011, renewable energy production accounted for 88.8 percent of Brazil's energy supply mix, the majority of which is generated from hydroelectric plants, making the country a global leader in renewable power generation. With millions of Brazilians being lifted out of poverty every year, electricity demands in Brazil are growing quickly, demanding rapid expansion of energy infrastructure. Energy shortages in the early 2000's attributed to a lack of effective planning, low investment in the energy sector, and a drought that reduced the capacity of hydro power reservoirs have led to renewed interest in expanding and diversifying the country's energy supply mix, and investment in large-scale energy generation infrastructure. However, the resulting expansion of low carbon energy generation, specifically hydroelectric, in Brazil has been met with criticism domestically and internationally. Hydroelectric power generation is considered to be a clean and low carbon form of energy, but due to large land-use requirements can have significant negative environmental and social impacts locally, raising questions regarding the science-policy-implementation interface. The Government of Brazil has set an energy policy driving the development and construction of several large-scale hydroelectric dams in the Amazon region. Despite controversy over the planning and development of the Xingu River Complex in particular, which will include the Belo Monte hydroelectric dam, the Brazilian Government has continued to defend its position that these projects are imperative to meet the future energy demands of the country through clean energy generation. This paper examines the development of the Belo Monte Dam, which will produce energy contributing to low carbon urban development in Brazil, and argues that the costs of Brazil's energy policy may be unreasonable due to displacement and lack of consultation with local indigenous people, underestimated and negative environmental impacts, and possible negative economic impacts locally and nationally. The Government of Brazil must reconsider its energy policy and examine the potential for reduction of electrical losses and the decentralization of electricity generation if it wishes to minimize the negative impacts of future energy development.