

Policies to improve biomass-electricity generation in Brazil

Suani T. Coelho, Marly F. Bolognini and David Zylbersztajn¹

University of São Paulo, National Reference Center on Biomass (CENBIO) Av. Prof. Almeida Prado, 925 - 05508-900 -, São Paulo -, Brazil Phone:+55-11-818-5064 - Fax: + 55-11-8185031

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Abstract

Electricity consumption in Brazil has grown twice from 1979 to 1994 and, for the future, official forecasts estimate high risks of deficit. Brazilian generation system presents highly seasonal characteristics due to its hydroelectric origin and sugar cane origin electricity could be used as complementation for the dry period, instead of conventional thermoelectric power plants, with the corresponding environmental advantages. Nowadays, most sugar/alcohol industries in the state of São Paulo are energy self-sufficient and some of them already "export" a small electricity surplus to the grid. The potential for such surplus is significant, moreover with the introduction of more efficient technologies, but prices are not yet attractive when compared to conventional market prices, besides the existing barriers related to the current legislation. On the other hand, existing studies show that more efficient technologies become competitive when externalities are included. This paper analyzes worthing methodologies, externalities-based decisions and policy mechanisms to guide governments, planners, decision-makers and managers in the correct evaluation of bioenergy use and production faced to other alternatives.

Author Keywords: Policy mechanisms; biomass; externalities; electricity production

¹ ANP - National Petroleum Agency