

Brasil Energy

Energy From Eucalyptus

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An alternative for the generation of energy from biomass is emerging through the eucalyptus reforestation programs in Brazil. In all 100 million tons of residues, such as bark, leaves and branches could generate somewhere around 3,000 MW in the biomass thermoelectric plants. The calculation was carried out by the Finnish consultancy company Pöyry that considered the non-industrial residues but excluded the part left in the soil for fertilization.

According to Lúcia Coraça, the director of Pöyry, this number could be greater if Brazil adopted the “energy forests” concept of planting trees of rapid growth for the biomass plants. The model is used in the United Kingdom designed to increase the renewable energy slice of its matrix by 20% by 2012. For Coraça Brazil could become a world reference in the sector.

“If Brazil sets up a differential tariff, this would increase the interest of the paper and pulp industry and others such as grains or even steel mills” defended the director of Pöyry.

The eucalyptus tree according to another study developed by Carlos Alberto Labate, a researcher at the University of São Paulo (USP) has greater productivity than sugarcane for the generation of biomass.

“While sugarcane produces 10.6 tons of bagasse per hectare in a year, eucalyptus can generate from 23 to 25 tons per hectare in the same period”, he said.

Within a favorable scenario eucalyptus biomass could become, in less than a decade, a source for cogeneration as important as sugarcane bagasse is today.

“A combination of bagasse and eucalyptus could supply the thermal plants between sugarcane harvests”, said Coraça.

Despite its energy potential, the raw material continues to be used almost exclusively by the paper and cellulose industry that already has around 1,000 MW installed, generated from eucalyptus biomass. The thermal plants are connected to the mills for their own consumption.

Brazil is the country that has most developed eucalyptus plantations in the world despite having its own large forest covering, according to Abraf - the Brazilian Association of Products of Planted Forests. Eucalyptus trees planted over 5 million hectares, also are champions in speed of growth: seven years against the world average of 12 years.

Brazil has already dominated the technology and forest management. Today there are mechanisms that allow the eucalyptus to enter into the adult phase in up to four years.

The potential of lands and climatic conditions favor the activity. There is no need to use plowable lands since eucalyptus trees can be planted in mountainous areas that are inadequate for grains or pastures. Idle areas add up to 106 million hectares.

Another favorable point for the expansion of the crop is the fact that a large part of the eucalyptus forests are distributed among the main centers of electric energy users in the country, such as São Paulo, Paraná, Rio Grande do Sul, Espírito Santo, Minas Gerais, Bahia and Mato Grosso do Sul.

BIOMASS

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The paper and cellulose industry forest residues have a 3,000 MW potential

By Elisângela Mendonça

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Eucalyptus forests: biomass more bountiful than sugarcane