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Biomass energy conversion technologies in México

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Biomass energy has the highest potential (2,635 to 3,771 PJ/year) and has been the subject of the highest number of research publications in the country during the last 30 years (1982-2012). Research investment in bioenergy in Mexico has been increasing during the last years (2004-2007), The summation of each year's approved budget during this period was 78.3 million USD with an increasing trend with the exception of year 2007. Biomass power has installed capacity of 548 MW in operation, 40 MW are from biogas and the rest from sugar cane bagasse biomass. There were 59 reported operating projects for co-generation and power supply in 2012. Energy Ministry has registered a potential for 3,000 MW power generation with biogas from recovery and use of methane from animal waste, municipal solid waste (MSW) and treatment sewage. The use of rural coal is almost nonexistent. An annual consumption of 650,000 t, equivalent to almost 3.2 Mt of charcoal (4.3 Mm3) is estimated by placing coal as the second timber forest product, only after the firing. Mexico is estimated that around 28 million people depend on wood to meet your requirements energy for cooking, heating and other needs. On the other hand the country research is focused on developing new biomasses for energy production, particularly different kinds of microalgae are being explored as sources for biofuels, biogas, specialized chemicals, while their production process offer opportunities for CO_2 capture, nutrients recovery and water remediation. This contribution also states opportunities to develop bioenergy and environmental businesses from microalgae-based technologies in strategy sectors for the Mexican economy, particularly cement industry and wastewater sanitation.

Biography

Parra-Saldivar is the Director of Environmental Bioprocess Chair at Centro del Agua, Tecnológico de Monterrey, Mexico. He has over 15 years of experience on environmental bioprocess and conducts research on the nexus water energy and food. He has more than 40 papers in scientific journals; 276 research references; 9 patents. He is senior consultant for professionals in the Wastewater Treatment sector in GEF Caribbean Regional Fund projects for Wastewater Management UNEP-CAR/RCU and he train professionals in wastewater treatment programs from 17 Central American and Caribbean.

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