

Economic and Environmental Aspects in Energy Supply. A Socio-Economic Analysis of Bioenergy System

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ABSTRACT

Energy plays a crucial role in the development of economies and their people. To ensure energy to meet needs for economic growth and sustainable development more emphasis should be given to energy efficiency, renewable energy and technologies for both energy end-use and supply. Renewable energy generally depend on energy flows through the earth's ecosystem fed by solar radiation and the geothermal energy of the earth. A major advantage is that they can be extracted in a “renewable” mode, i.e. their rate of extraction is lower than the rate at which new energy is arriving or flowing into the reservoirs. Moreover, the transition towards a low a carbon economy has important implications for the sustainable use of resources beyond energy resources. Reducing emissions from fossil fuels tends to coincide with significant reductions in pollutants other than GHGs. This reduction in local air pollutants has significant co-benefits; not only impacting positively human health, but also reducing pressures on our ecosystems and additionally decreasing the costs of air pollution specific polices. This paper discusses, the perspective of renewable energy in the making of strategies for a sustainable energy supply. Such strategies involve a number of aspects: the demand and supply side, employment-creation, social and environmental issues and replacement of fossil fuels by renewable energy (i.e. biomass). Evidence is given to bioenergy as a tool able to guide the energy system through an energy sustainable system, to the links between international bioenergy trade and socio-economic development and how sustainable bioenergy production could be realized.