

Is Forest Bioenergy Development Good or Bad to Sustainable Forest Management?

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Forest biomass has long been used as an energy source by humans though fossil fuels have played a major role in primary energy supply in the recent history of industrialized societies. Increasing concerns about sustainable energy supply and environmental protection have prompted many countries, particularly developed countries, to once again look into the potential for expanding forest bioenergy production and consumption. This paper discusses the opportunities and challenges for sustainable forest management as a result of forest bioenergy development in the United States. The sources, qualities, and cost-competitiveness of forest biomass for energy are assessed; the implications of forest bioenergy development for forest management are discussed. Forest biomass/bioenergy production should be integrated into forest ecosystem management. In some cases, biomass/bioenergy production could complement sustainable forest management. Yet, not all forests should be tapped for bioenergy production; and many questions regarding the impacts of forest biomass/bioenergy production on the sustainability of forest ecosystems remain to be answered.