

Gracefully Reconciling Very Large Scale Bioenergy Production with Other Priorities: From Vision to Analysis to Action

Lee R. Lynd
Global Sustainable Bioenergy Project

The transition to a sustainable industrial society represents the third major resource revolution in human history, following the agricultural and industrial revolutions, and is the defining challenge of our time. The role of energy from plant biomass will be considered in this context with respect to very large scale supply (e.g. 20% of primary energy), emphasizing challenges and opportunities from a resource supply perspective.

Factors potentially impacting the feasibility of large scale bioenergy production from currently managed lands include:

Potential levers for increased bioenergy supply. Pasture intensification, double crops, alternative animal feed rations, use of currently burned lands, and high productivity energy crops including water-efficient crops.

Factors that could be either levers or constraints. Dietary choice and the efficiency of the food supply chain, productivity of crops used for food and feed.

Potential/perceived showstoppers. Conflicts with food security, accelerated depletion of fertilizer stocks.

Preliminary, simplistic calculations suggest that several of these levers could allow biofuel production at very large scale, in some cases meeting or exceeding global gasoline production from changes implemented in a single country. However more detailed analysis is required with respect to both levers and potential/perceived show stoppers, and greater clarity on the feasibility and desirability of bioenergy-intensive futures is needed.

In response to this situation, the Global Sustainable Bioenergy Project was initiated in 2009. Distinctive features of the project are its global scope and participation as well as a forward-looking approach unconstrained by current practices and trends. Having completed Stage 1 of the project, involving five continental conventions held in 2010, the vision and action plan for Stage 2 are being developed. Activities of the GSB project will be described in the context of a progression from vision to analysis to action.

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