

Bioenergy: Changing the Water Playing Field



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The rapidly increasing interest in bioenergy is changing the water playing field. This spike in attention was evident in Stockholm, where one seminar focused specifically on the topic. Moreover, dozens of informal but passionate discussions took place in the conference corridors, not to mention with the media. The unofficial conclusion: it seems that all sectors, including the water sector, need to be reminded that any talk of agriculturally produced energy supplies begins and ends with water.

Often framed as part of a “carbon cure,” bioenergy is now sought as a means to increase economic viability in agricultural areas and increasing national energy security. Yet, as political and economic interest in bioenergy soars, its role in the overall energy mix and as a reliable source in truly sustainable development must be considered carefully as we assess the water implications of their widespread agricultural production.

While bioenergy is indeed renewable, the conference’s diverse experts agreed that the use of bioenergy will not necessarily lead to an improved environmental and socioeconomic situation. Some bioenergy options may only marginally contribute to

a reduction in greenhouse gas emissions. Certain liquid biofuels for transport, for example, may contribute as much to the enhanced greenhouse effect as the fossil alternatives they replace, as they require large amounts of fossil resources to make fertilisers, run agricultural machinery and refine biofuel.

It is crucial that practices are found that assure that the reduction of one environmental impact does not increase another. Strategies that enable farmers to capture a larger share of rainfall and effectively use both green and blue water, must be developed to take advantage of the opportunities bioenergy production presents.

According to the week’s experts, demand side approaches to impact human behaviour and consumption patterns of energy and food, as well as improved water efficiency in agriculture and industry, are among the most important steps towards feeding a growing population while sustaining ecosystems and the economy. Governments, industry and individuals must all take action to distinguish our “wants” from our “needs.” To achieve the needed goals of ending hunger, maintain ecosystems, and adapting to climate change there must be a collective want to shift to more sustainable consumption patterns.

Finding the Balance

Food feeds our bodies while bioenergy heats our homes, powers our cars and helps us prepare our meals; ecosystem services sustain our planet. The SIWI seminar “Water for Food, Bio-Fuels or Ecosystems” raised the challenging question: is there enough water to maintain all three? According to Prof. Jan Lundqvist of SIWI, the number of people living in countries that have a median annual per capita income with purchasing power of USD 10,000 will increase from 800 million today to as many as 7 billion in 2050. While the MDGs correctly focus on the unmet needs of the world’s poor, it is the unsatisfied wants of the upcoming generation that will have the most significant implications on consumption patterns. “Poverty is no longer the (only) problem,” he stated as he proposed a 9th Millennium Development Goal of a 50 percent reduction in the losses and waste of agricultural production.

Dr. Vaclav Smil of the University of Manitoba, Canada, noted that with increased quantities of food and bioenergy, “production is no longer the problem. Its impact is the problem.” Those impacts range from nitrogen and carbon increases to declining services from water starved ecosystems. The experts concluded dramatic reductions in water lost during production processes and changes in consumer behaviour are keys to ensuring water security.