

50 Gallons per Mile? What is the Water Footprint of Biofuels?

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Inexpensive and clean water is an overriding global challenge of the Millennium Development Goals of the United Nations. This challenge is being intensified by the increasing demand for biomass-derived fuels (i.e., biofuels) for transportation needs, because (1) large quantities of water are needed to grow many current fuel crops, and (2) water pollution is exacerbated by agricultural drainage containing fertilizers, pesticides and sediment. Current policies and related subsidies and mandates have essentially removed market factors and technological evolution of water- and environmentally-wise biofuel production practices and technologies, which are certainly needed. In addition to the well publicized 'Food versus Fuel' debates, the current biofuels policies have set-up a internal bidding process for lands, crops and water quality, and most alarmingly taxpayers' money is used on both sides of the bidding in the US. This internal bidding in the US are primarily the result of the Energy Independence and Security Act (EISA) of 2007 mandating the annual production of 57 billion liters of ethanol (15 billion gallons per year [BGY]) from corn by 2015 and an additional 61 billion liters (16 BGY) of biofuels from cellulosic crops by 2022 and the Conservation Reserve Program (CRP) that helps remove sensitive and minimally productive lands from row crop production.

Short term decisions, like EISA, appear to be reactionary due to the lack of a strategic energy policy and vision or investment in biofuels production. Policy towards biofuels' production needs to include vision and investment that considers multiple aspects of biofuel crop production and processing, including wise land and water use.