

International Summit on Past and Present Research Systems of Green Chemistry

August 25-27, 2014 Hilton Philadelphia Airport, USA

The emerging biomass economy

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The biomass economy represents the best expression of the mechanism for the technological transition for society to a practical, reliable, sustainable and responsible energy/material economy. The expectation that petroleum feedstocks can perpetually supply this demand is unrealistic. Biomass and recent developments in the broad fields of chemistry and engineering have opened the possibility of this area to replace the petroleum economy. By comparing the market economies of petroleum and biomass, it will be shown that sustainable agriculture with a variety of biomass supported by a lifecycle analysis is possible and inevitable. Given this conclusion, the argument can be made that if biomass is to fulfill this need, then it must be researched and developed with the same professional and scientific rigor that is applied to the development of medicines. When seen in the perspective of history, the ability to isolate and extract both feedstocks and energy from agricultural sources will provide the best path toward the desired goal of a sustainable biomass economy.

Biography

William Nelson is an organic chemist, and has been involved with Green Chemistry since 1995. He earned a Doctorate in Organic Chemistry from The Johns Hopkins University, during which he studied the synthesis and photobiology of analogs of the environmental carcinogen benzo[a]pyrene. He has worked in industry as a research chemist, in government (both state of Illinois and US EPA) in environmental protection and pollution prevention, and in education (teaching and directing research). Currently, he is an Adjunct Professor in the Chemistry Department at the University of Illinois, while he consults and writes in the areas of green and sustainable chemistry.

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