

THE LAST BIOFUELS CHALLENGE

Mostafa Esmaeili Shayan

TMU School of Renewable and Sustainable Energy Systems, Tehran, Iran

Abstract

Plant biomass currently accounts for 10 % of global primary energy and is generally predicted to supply a quarter of primary energy in influential low-carbon scenarios by 2050. Biomass produces as much energy as petroleum, natural gas and coal together in Shell's net-zero energy scenario, as well as potential for carbon reduction to be deployed on a broad scale in order to achieve more than a 50% chance of meeting the 2 ° C goal. Cellulose feedstocks are thought to have the greatest potential for climate change mitigation among different types of plant biomass and are widely available at a lower cost per unit energy than oil. Recent studies identify the vast number of jobs generated by green energy technology, including biofuels. Bioenergy is responsible, directly and indirectly, for almost 3 million workers worldwide — about the same as solar energy and three times that of wind — with liquid biofuels accounting for just over half of the total and solid biomass and biogas that make up the balance. Forecasts for specific liquid biofuel jobs in the United States range from 100,000 to 300,000, compared with approximately 370,000 direct workers in the U.S. solar industry and about 70,000 for coal mines. Sugarcane production in Brazil, nearly half of which is used for ethanol, is the country's main agricultural employer. Similar to other farm workers, cane workers have the highest presence in the formal economy and higher levels of employment. Towns with ethanol plants in Brazil have higher tax revenues than comparable cities that do not.

Biography :

Mostafa esmaeili Shayan has completed his PhD at the age of 29 years from University of TMU and also received the London Best Book Award for Renewable Energy and Physics. Currently, he is the reviewer of a number of highly regarded scientific journals. He is the author of the academic book Principles of Design and Application of

Solar Systems in Iran. With more than 10 years of experience in the field of sustainable energy, 35 national projects have been successfully completed. Today, he is involved in the Atlas Power Supply Project in Ghana. He has published more than 20 papers in reputed journals and has been serving as an editorial board member of repute.