

2nd International Congress and Expo on**Biofuels & Bioenergy**

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Uncertainties about global petroleum reserves and oil prices, increasing energy demands and concerns about global warming have accelerated research and development programs in alternative renewable energy. Plant biomass is the single most abundant and renewable resource on earth that has the potential to supplant the use of fossil-derived transportation fuels and help create a more stable energy future. Forestry is traditionally a strong economic sector in North America that comprises about a third of the biomass resources in the US and approximately 50% of the biomass available for bio-refining in Canada. However, due to the strong off-shore competition and growing global movement for green fuels and chemicals, the North American pulp and paper and other fiber processing industries need to create additional revenues and diversify their products and markets to remain competitive. To achieve this, these industries need to evolve into integrated forest biorefineries (IFBR)-our oil refineries of the future where oil is inevitably replaced by lignocellulosic biomass. IFBR are viewed as one of the economic pillars of the emerging global Bio-economy, however, less than 10% of the total global fuels and chemicals production is currently bio-based. This presentation provides an overview of the IFBR production and conversion platforms. The major research needs for IFBR deployment through process integration and waste utilization will be summarized, with a critical assessment of recent progress and remaining challenges that we currently face in our endeavors to transition to a bio-based economy and society.

Biography

Lew P Christopher holds a Master's degree in Chemical Engineering and a PhD degree in Biotechnology. He has more than 25 years of industrial and academic experience in the field of bioprocessing of lignocellulosic biomass. Currently he serves as Director of the Biorefining Research Institute leading an interdisciplinary team of faculty and researchers from several Science and Engineering departments at Lakehead University in Canada. His research mission is to add value to the global Bio-economy by applying an integrated bio-refinery approach. He is a Member of the Editorial Board of several international biotechnology journals, advisory boards, and professional societies. He has made over 400 scientific contributions to the field of biomass bio-refining.

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