

Sustainability of products and processes using renewable feedstocks: dream or challenge

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The paper focuses on current and future potentials of renewable feedstocks for the production of biofuels and biobased products (chemicals, plastics, ...). Biofuels are expected to become one of the important forms of renewable energy and specific emphasis is given on the development of next generation biofuels as a sustainable solution for the future biobased industry. The opportunities and risks of exploiting renewable bio-feedstock for biofuels production are addressed from the point of view of sustainability of products and of related production processes with the specific focus on situation in developing countries. In this context, the integrated development of agriculture and production of biofuels, chemicals and plastics is believed to become the key factor for the viability of the emerging bio-based industry. Attention is given to an overview of the recent progress in science and technology in the field of next generation biofuels and bio-based chemicals and biobased plastics from waste biomass with the specific focus on the issues of sustainability.

In the final part, a brief survey of some global programs developed under umbrella of some international initiatives is presented. Selected projects in the field of advanced technologies for exploitation of bio-resources for production of biofuels, chemicals and bioplastics are illustrated within the global scenario of cooperation between developed and developing world.