Abstract Title: Bioenergy perspectives in the prism of the Bioeconomy frame

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Abstract

In the current climate of several global crises, namely, climate change, finances, food shortage and energy, the impact of the biomass conversion to fine chemicals and biofuels took the concept of biorefinery. This process provides unique opportunities for innovation via product substitution, new feedstock generation, alternative fuels, utilizing biomass or waste as a new resource. Large-scale production of biofuels from crops requires large land areas, so liquid biofuels can only replace fossil fuels to a very limited extent. The factors influencing the biofuels development are the oil prices, the crop and fuel markets, the land availability and of course the governmental policies on all above. The environmental impacts from the use of Biofuels has been detected and largely discussed: Reduction of fossil energy use and greenhouse gas emissions, are the obvious effects on the first side. Environmental sustainability should be an unnegotiable factor. Sustainability principles apply also in the Financial and Social levels. In the longer term, biofuel production could revitalize the agriculture sector and alleviate poverty by raising rural incomes. Establishing the Bioeconomy concept, a great potential becomes achievable: it can maintain and create economic growth and jobs, reduce fossil fuel dependence and improve the economic and environmental sustainability of primary production and processing industries. If the potential of modern Biotechnology expands, lateral issues like regulatory frames, harmonized legislation, public perceptions and communications, ethical or moral issues are becoming more demanding and requiring. In this whole new context, obtaining the full benefits of the Bioeconomy will require purposive goal- oriented policy both by governments but also by leading firms, to put in place the structural conditions, to obtain regional and international agreements; and to develop mechanisms to ensure that policy can flexibly adapt to new opportunities.

Keywords—*Bioeconomy, Circular Economy, Biorefinery, Bioenergy, Biofuels, Sustainability*

Professional Biography (100-150 words)

Dr. Sakellaris is the scientific Director of the Biotech company Biocon Ltd. based in Prague Czech Republic and a consultant at the University of South Bohemia. In the past he was Research Director at the National Greek Research Foundation in Greece and the Academy of Sciences in Czech Republic. His domain of expertise is Bioeconomy and Bio-Based Economy, particularly working on bioenergy and biofuels domains. He has been appointed in ad hoc positions as an expert (European Parliament, EFSA, ICBA, PRRI, EU-US Task Force on Biotechnology) or invited as lecturer in International Institutions. (Qatar Foundation, Charles

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Any Comments: *Interest for participating in the Organizing Committee as well as giving a Keynote presentation in plenary session*