The Bioeconomy concept into the biomass conversion into biofuels: Technological, Economic and Social impact

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Abstract (300 word limit)

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.

Recent Publications (minimum 5)

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3. UN (2015b) The Global Goals for Sustainable Development. http://www.globalgoals.org/de/. Πρόσβαση: 5. Okt. 2016
4. EC (2012) Innovating for Sustainable Growth: A Bioeconomy for Europe. European Commission (EC), Brussels
5. EC (2014) What Next for the European Bioeconomy? The latest thinking from the European Bioeconomy Panel and the Standing Committee on Agricultural Research Strategic Working Group (SCAR). European Commission, Brussels, (http://ec.europa.eu/research/bioeconomy/pdf/ where-next-for-european-bioeconomyreport- 0809102014en.pdf)
6. EC (2015) Closing the Loop - An EU action plan for the Circular Economy. European Commission (EC), Brussels, (http://eur-lex.europa.eu/ legalcontent/ EN/TXT/?uri=CELEX%3 A52015DC0614)
7. OECD (2009) The Bioeconomy to 2030: Designing a Policy Agenda, Main Findings. Organisation for Economic Cooperation and Development (OECD), Paris, (http://www.oecd.org/futures/bioeconomy/2030)
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Biography (150-word limit)

George Sakellaris is currently consultant on the Bioeconomy Program, University of South Bohemia, Czech Republic. His educational background is Biochemistry. Research Director at the National Research Foundation in Athens (1986-2012), then IEM of the Czech Academy of Science Prague (2014-2016) Visiting professor in Charles University Prague (1994) and in Qatar Foundation (2011). Appointed as expert advisor at the European Parliament (2006-2009) and the EFSA (2003-2006), while he participates in numerous Committees and Task Groups in the EC. He is a regular evaluator of EC Research Proposals since 1998. Current member in the International Council of Biotechnology (ICBA), the European Federation of Biotechnology (EFB), the Public Research and Regulation Initiative (PRRI), the EU-US task force on Biotechnology. Participated in more than 20 EU Research projects, either as partner or coordinator. Author of more than 60 papers. Invited lecturer in more than 200 conferences worldwide.

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Notes/Comments