

*Full Research Paper*

## **Biofuels for Clean and Sustainable Energy Future**

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*Received: / Accepted: / Published:*

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**Abstract:** The use of biofuels for energy production can be increased remarkably from the current level over the next decades, when fossil fuels become scarce and more expensive. The markets of biofuels are developing rapidly and becoming more international. Although biomass has the potential to become a more important source of energy, the remarkable increase in biomass use for energy requires parallel and positive development in several sectors, and there will be plenty of challenges to overcome. Vital and well-functioning international biomass market will be one of the key factors combining the production potential and growing demand for biomass. The decisions made by politicians, the strategies of market actors and the direction of research activities will have a significant influence on the future development of the biomass market, and because of this several parties and stakeholders have ambitions to contribute to the development of the market. To support the positive development of the market and to make the most of the development, the market dynamics must be understood. For instance, there is a need for awareness of factors affecting the future development and for knowledge of interactions between the markets of biomass and other bio-products. The main objective of the study is to clarify the alternative future scenarios for the international biomass market until the year 2020, and based on the scenario process, to identify underlying steps needed towards a vital working and sustainable biomass market for energy purposes.

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