

## **Biodiesel: Issues and Challenges**

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### *Abstract*

The outcomes of the United Nations Climate Change Conference in Paris Convention (COP 21), steady escalating of global CO<sub>2</sub> concentration and the declaration of year 2016 as warmest year ever recorded (third year in a row), exhibiting human's unprecedented adverse impacts to nature that pressing achievable urgent resolutions to keep the earth fit to human habitation for years to come. While the convention reiterates the below 2 °C limit on global temperature increase, it advocating actions to limit it to 1.5 °C. The rate of deteriorating is seems getting accelerated than it was estimated and these consequences are probably worse than as predicted by the scientists. At this point, we do not have any options but to expedite actions in countering those environmental negative impacts. Delaying actions in opposing the trend will have significant destructive impacts on living things. One of the ways to reduce the harmful emissions is to use renewable energy sources.

Biodiesel, being one of the less environment-damaging option to fuel diesel engines, is making its way globally as a greener portion of diesel engines emissions. This greener fuel has been mandated of its usage in many countries across the continents in a blending range of 1 to 20% with petro-diesel. Producing biodiesel is viable, particularly for nations where the availability of vegetable oils is abundant, in addition creating new jobs. Production and the use of biodiesel is not without challenges; challenges are in term of feedstock and catalyst cost, engine warranty issues, cold performances (filter plugging), storage stability, government incentives and public perceptions.

Worth to note here that without an overall assessment and related policies, the benefits of biodiesel in not guaranteed.