

# Implementasi Biodiesel HVO di Indonesia: Metode Economic Benefit Cost Analysis = Implementation of HVO Biodiesel Blending in Indonesia: Economic Benefit Cost Analysis Method

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## Abstrak

Dalam forum United Nation Framework Convention on Climate Change (UNFCCC) – Conference of Parties (COP) ke-21 pada Desember 2015, Presiden Republik Indonesia menyampaikan komitmen nasional terkait penurunan emisi gas rumah kaca (GRK) salah satunya melalui pengembangan energi terbarukan. Komitmen nasional ini ditindaklanjuti dengan pengembangan roadmap energi nasional yang dikenal dengan Grand Strategi Energi Nasional (GSEN) oleh Dewan Energi Nasional (DEN) dimana Indonesia memiliki target Nationally Determined Contributions (NDC) sebesar 314 juta ton CO<sub>2</sub>e per tahun penurunan emisi karbon dari sektor energi yang harus dicapai pada tahun 2030 (hingga 2020 telah tercapai 64,4 juta ton CO<sub>2</sub>e per tahun).

Salah satu upaya yang dilakukan terkait pengembangan energy terbarukan adalah dengan implementasi biodiesel yang sejak tahun 2019 telah mulai diimplementasikan dengan pencampuran bahan bakar diesel dengan Fatty Acid Methyl Ester (FAME) yang saat ini dikenal dengan B30 (blending 30% bahan bakar nabati dengan 70% bahan bakar diesel). Namun Secara teknis B30 dengan blending FAME tidak bisa melebihi 30% karena keterbatasan teknis (water content, monoglyceride, dll). Sedangkan Presiden Republik Indonesia memiliki target yang cukup ambisius yaitu tingkat blending yang lebih tinggi yaitu B40 bahkan hingga B50. Untuk itu, Hydrotreated Vegetable Oil (HVO) muncul sebagai solusi yang dapat memenuhi dari sisi kriteria teknis. Namun terdapat beberapa pertimbangan dari sisi keekonomian nya.

Setelah penelitian ini mengukur kelayakan dari sisi finansial proyek, serta mempertimbangkan pula beberapa aspek benefit lain yang muncul antara lain seperti kontribusi terhadap target pencapaian NDC sebesar 521,000 ton reduksi CO<sub>2</sub>e per tahun, penghematan current account deficit dan lain sebagainya maka proyek ini layak dari sisi Economic Benefit Cost Analysis.

.....In the 21st United Nations Framework Convention on Climate Change (UNFCCC) – Conference of Parties (COP) forum in December 2015, the President of the Republic of Indonesia conveyed national commitments related to reducing greenhouse gas (GHG) emissions, one of which is through the development of renewable energy. This national commitment was followed up with the development of a national energy roadmap known as the Grand National Energy Strategy (GSEN) by the National Energy Council (DEN) in which Indonesia has a Nationally Determined Contributions (NDC) target of 314 million tons of CO<sub>2</sub>e per year to reduce carbon emissions from the energy sector. must be achieved by 2030 (by 2020 64.4 million tonnes of CO<sub>2</sub>e per year have been reached).

One of the efforts made related to the development of renewable energy is the implementation of biodiesel, which since 2019 has begun to be implemented by mixing diesel fuel with Fatty Acid Methyl Ester (FAME) which is currently known as B30 (30% blending of biofuels with 70% of biofuels). diesel fuel). However,

technically, B30 with FAME blending cannot exceed 30% due to technical limitations (water content, monoglyceride, etc.). Meanwhile, the President of the Republic of Indonesia has a fairly ambitious target, namely a higher blending level of B40 and even up to B50. For this reason, Hydrotreated Vegetable Oil (HVO) emerged as a solution that can meet the technical criteria. However, there are some considerations from an economic point of view. After the study of the financial feasibility of the project also the implementation of HVO Biodiesel, by also considering other several aspects of benefits arise, such as the contribution to the NDC target of 521,000 tonnes CO<sub>2</sub>e reduction per year, savings in the current account deficit and so on. Thus, this project considered as feasible by the Economic Benefit Cost Analysis conducted