

## **Environmental Sustainability: A Renewable Energy Prospect with a Biofuel Alternative**

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**Abstract :** With regard to the future energy strategy and vision, this study aimed to find the drawbacks of proposed energy diversification policy for 2020. To have a clear picture of the drawback and competitive alternative, this study has explored two scenarios, namely Scenario a and Scenario b. The Scenario a indicates that in the year 2020 the GHG emissions would be 823,498.00 million tons (Mt) with a 2020 final demand and proposed fuel mix such as by the Five-Fuel Diversification Strategy. In contrast, as an alternative, the Scenario b with biofuel potentials indicates that the substitution of coal energy by 5%, 10%, and 15%, respectively, with biofuel, would reduce the GHG emissions from 374,551.00, 405,118.00, and 823,498.00 million tons to 339,964.00, 329,834.00, and 305,288.00 million tons, respectively, by the present fuel mix, business-as-usual fuel mix, and proposed fuel mix up to the year 2020. Therefore, this study has explored a healthy alternative by introducing biofuel renewable energy option instead of conventional energy utilization in the power generation with environmental aspect in minds. This study effort would lessen the gap between GHG mitigation and future sustainable development and would useful to formulate effective renewable energy strategy in Malaysia.

**Keywords :** energy, environmental impacts, renewable energy, biofuel, energy policy

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