



A Greener Catalyst For Syngas Production

TECHNOLOGY DESCRIPTION

This technology is the usage of heterogeneous catalyst with light chain hydrocarbon as a feedstock for the production of syngas.

TECHNOLOGY FEATURES

This technology is suitable for biogas that contains CH₄ and CO₂ and automatically helps in reducing greenhouse effects. It has several potential benefits in sustainable syngas production using light chain hydrocarbon such as biogas. Syngas is a key intermediate feedstock for a wide range of chemical and liquid fuels such as Fischer Tropsch synthesis, methanol synthesis and hydrogen for fuel cell. Biogas reforming reduces the GHG and provides a high economic potentials as energy or fuels and chemicals.

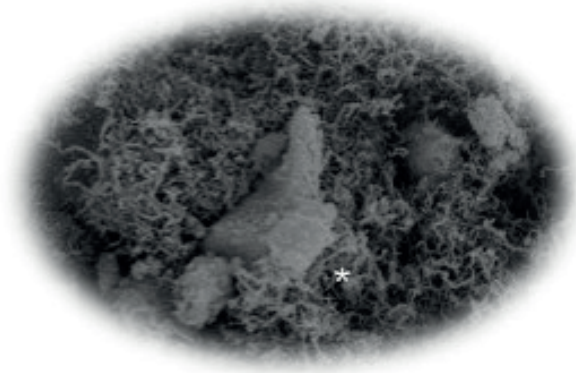
ADVANTAGES

- Creates high value added products
- Reduces the greenhouse gas emission
- Saves energy and cost

INDUSTRY OVERVIEW

Prospect: Palm Oil Industry

This technology offers catalyst for syngas production by utilizing biogas. Thus, this technology would be a potential and suitable product for the palm oil industry. Under one of the Entry Point Project (EPP) for palm oil industry, Malaysia aims to capture biogas in order to get high value added products and to reduce the greenhouse gas emission. Under this EPP, Malaysia will construct biogas capture facilities at 500 mills over the next ten years. As a result, Malaysia will capture POME and use GHG emissions from the waste to power mills, local communities, and even feed excess energy into the country. Malaysia currently accounts for 39 % of world palm oil production and 44% of world exports. As one of the biggest producers and exporters of palm oil and palm oil products, about 90 percent of palm oil currently goes into food and consumer goods applications and the remaining 10 percent goes into non-food applications. The palm oil industry is significant contributor to Malaysia's overall economy, providing both employment and income from exports. In 2011, the sector was the fourth largest contributor to Malaysia's economy, accounting for RM53 billion (USD16.8 billion) of Malaysia's Gross National Income (GNI). The industry directly employs more than 600,000 people, including both high-skilled and low-skilled labor. Research and innovation are adding new jobs to the Malaysian economy every year, while significant investment in the development of new downstream sectors and harnessing palm oil biomass. Under Malaysia's 1Malaysia Biomass Alternative Strategy (1MBAS), the country will create more than 66,000 new jobs and increase the industry's contribution to Malaysia's GNI by RM30 billion (USD9.5 billion).



Prof. Dr. Taufiq Yap Yun Hin
Faculty of Science