ENERGY PRODUCTION

related for

MALAYSIA SUSTAINABLE DEVELOPMENT

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Preface

Economic growth for the country is synonymous with its energy usage by various sectors reflecting that country is level at a rapid pace of development. For ensuring that the developments remain uninterrupted, specifically for Malaysia, access to the security/sustainability and reliability of energy supplies is of utmost imperative. This book entitled *Energy Production Related for Malaysia Sustainable Development* covered the information about the conventional and renewable energy (RE) research and applications available in Malaysia. In an overall view, the original chapters presented by the authors are related to oil and gas, energy production/generation, and energy conversion.

The book consists of eight chapters. At the beginning of Chapter 1, we explained some of the energies (conventional and RE) available in Malaysia, government policy related to them, the current energy scenario, pros and cons of them in the generation of the energy mix, as well as issues and challenges encountered by them. In Chapter 2, we discussed the effects of different pyrolysis temperatures on different pineapple wastes (peels and leaves) focusing on their characterization of physicochemical, elemental, thermal degradation, and product yield, so that, their potential as a feedstock for biofuels generation could be identified.

For Chapter 3, we synthesize graphene from a rice husk, by adopting the one-stage pyrolysis method. While for Chapter 4 and Chapter 5, we used a rice husk ash (RHA) as the green catalyst in pyrolysis of empty fruit bunch (EFB) for potential

biofuel generation and investigate the effect of hydrogenation temperature on biofuel for high energy content, respectively.

In Chapter 6, we determine the effects of torrefaction pretreatment temperature of coconut copra on pyrolysis product yield of oil, char, and gas. In addition, the physicochemical properties, thermal degradation, and pyrolysis of coconut copra are also explained in detail. Chapter 7 evaluate the dicationic acidic ionic liquid as a potential heterogeneous catalyst for improved biodiesel production. Finally, in Chapter 8, we validate the experimental works involving conventional energy, which focuses on incremental oil recovery (IOR) obtained by the enhanced oil recovery (EOR) method of surfactant-polymer (SP) flooding via a simulation approach.

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