

## **Future prospects and policy implications for biodiesel production in Malaysia: a system dynamics approach**

### **ABSTRACT**

Malaysia targets biodiesel as a renewable energy source to achieve its low carbon economy. This paper examines biodiesel and crude palm oil productions in Malaysia using a system dynamics approach. It aims to develop a model for the Malaysian biodiesel industry by capturing the relationship between major elements in the system such as supply, demand, inventory and price. The system dynamics approach is used as it enables one to capture feedback relationships, non-linearity, and delay in commodity markets including palm oil. The model has been simulated for 44 years, from 1982 to 2025 and the results indicate that crude palm oil demand for biodiesel will double requiring better strategy and policies to manage the stock and production of palm oil. Given biodiesel production in Malaysia is largely dependent on palm oil, Malaysia needs policies for development strategies of biodiesel production for coming years to meet its increasing demand.

**Keyword:** Biodiesel; Crude oil; Crude palm oil; Simulation; System dynamics