

Speaker: Nazeri Abdul Rahman

Title: A comparison of multiple attribute decision makings (MADM) and cost benefit analysis (CBA) for sustainable bioenergy projects: A case study for Malaysia

Sustainability, as widely accepted, incorporate aspects related to the economic capability, environmental impacts, and social aspects. Integration of sustainability issues into decision-makings framework of project planning is inevitable and bioenergy project is not exempted. However, due the practice of “economic profitability first” culture in Malaysia and due to unavailability of proper decision-making tools which integrate complex sustainability aspects that are relevant to Malaysian context, inclusion of sustainability issues in the planning of bioenergy project are still at minimum stage in Malaysia. Therefore, the main objective of this study was to compare decision making frameworks in order to develop strategies for sustainable biomass power generation, which are pertinent to Malaysia perspectives. As such a case study have been developed, where two multiple attribute decision makings (MADM) have been selected; Analytical Hierarchical Process (AHP) and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), and compare with the conventional Cost Benefits Analysis. The study showed that the utilisation of MADM eases the inclusion of sustainability issues in bioenergy project planning despite some disadvantages observed.