

Development of MAC-GREEN for Green Economy Assessment in Malaysia

Topic: Computable General Equilibrium Modeling and Social Accounting Matrices III (Chair: Mohd Yusof Saari, University Putra Malaysia)

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Integration of the economic, environment and social is the key in the green economy pillars that aimed to achieve sustainable development targets. There is, in general, widespread acceptance of why the integration of these three pillars is necessary; but there are also many questions as to how this integration to be achieved and monitored. This paper develops an Excel-based Macro Model on Green Economy (MAC-GREEN) that is specifically designed as a computational tool for baseline and simulation analyses on the green economy in Malaysia for the periods 2020-2040. The MAC-GREEN is built based on augmented Input-Output-Econometric models that inter-connections between four blocks of structural relationships—economic, social, environment and policy responses—with gives 35 green economy indicators in total. There are three main datasets used to run the MAC-GREEN which include monetary national accounts data (e.g., input-output tables and social accounting matrix); monetary and non-monetary socio-economic data (e.g., employment and wages); and monetary and non-monetary environmental data (e.g., water and wastewater treatment cost). Results for the baseline projection indicate that there is existence of decoupling among selected economic, social and environment indicators. For example, decoupling trend is found between gross domestic product, solid waste and CO₂ emission, which implies that the economy is developed with less harm on the environment.