ABSTRACT

Energy especially electrical is needed to support development and improving the welfare in the country. In order to support the Government’s policy on energy development, particularly the Government’s policy in the electricity sector it is necessary the utilization of renewable energy policy to meet national energy needs and reduce petroleum consumption of total energy consumption in Indonesia.

With a population of 238 million people (BPS, 2008), Indonesia has one of the biggest contributors to CO2 emissions are 2.1 giga tons of CO2 in 2005 (Ministry of Environment, 2008). Meanwhile, according to the use of primary energy dependence on fossil fuels is still very high, judging from the proportion of fossil generation by 88% (RUPTL, 2011). With the green economy concept, which targets high economic returns but minimize environmental impact, energy transition to renewable energy is needed to ensure supply of clean energy and a positive impact on economic benefits and resource efficiency.

The model was developed through a systems approach and the dynamic simulations performed between 2005-2025. Scenario simulations performed with the imposition of carbon taxes, the elimination of fuel subsidies for electricity, the provision of investment incentives for renewable energy development. From the third simulation, the carbon tax scenario as an investment incentive to the development of renewable energy scenario chosen by the energy cost savings of 16.68% and an increase in environmental benefits of reducing CO2 emissions by 11.92%. Carbon tax is imposed coercive variables for renewable energy investments.

Keyword: Energy Transition, renewable energy, green economy, dynamic systems, energy policy