ABSTRACT

There are three objectives for this research include, first development of optimum transportation energy structure model for the Ministry of Energy use to guideline in national and region energy planning, second surveying and analysis of important transportation indicators such as VKT (Vehicle kilometer of Travel) and proportion of fuel consumption in each vehicle type, third review paper and searching for transportation database that collect by other organization. Period for this research are two years in first year have 4 sections: (1) review paper about transportation energy model in Thailand and abroad. From studying model in Thailand using LEAP (Long run Energy Alternative Planning) and regression analysis. The model developed in other countries to develop with several methodologies such as LEAP, regression analysis, artificial neural network, genetic algorithm, linear programming, in each method uses different data. The data used in model development are socio-economics, including fuel price, GDP, people income, population density, etc., and travel information, including travel distance for each vehicle type, frequency of travel, purpose of travel, etc. (2) Data searching related to model development that collected by various organizations such as Department of Energy Business, Office of Energy Policy and Planning, Office of Transport and Traffic Policy and Planning. National Statistical Office, etc. (3) Travel household survey in 3 province, including Nakhon Ratchasima, Prachinburi, Ayutthaya, amount 2,800 sample (4) the survey portion of fuel consumption in each vehicle type at gas stations , 31 stations in Nakhon Ratchasima, 2 stations in Prachinburi, 2 stations in Ayutthaya. For the second year development appropriate energy transportation model for Thailand and create the database needed to power the energy transportation sector.