Chapter 1

Introduction

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Chapter 1
Introduction

The Economic Research Institute for ASEAN and East Asia (ERIA), in collaboration with the Oil and Gas Planning Department (OGPD), Ministry of Electricity and Energy (MOEE), published *Myanmar National Energy Statistics 2019*, which includes historical energy balance tables for 2000–2016. It is based on primary data and useful for analysing energy demand and supply historically.

To analyse future energy demand and supply, Myanmar needs energy outlook models. ERIA has regularly updated *Energy Outlook and Energy Saving Potential in East Asia,* which includes a chapter on Myanmar (published in 2019 but produced in 2017). The publication was the outcome of the Working Group of the Energy Outlook and Energy Saving Potentials of East Asia Summit (EAS), which used International Energy Agency energy balance tables to estimate energy demand formulas applying the ordinary least square method (OLS), and simulating future energy balance tables up to 2040 using the Long-range Energy Alternative Planning System (LEAP) and another software.

ERIA produced the Myanmar part of the EAS energy outlook on behalf of Myanmar because the Myanmar member of the working group lacked expertise in energy outlook modelling. ERIA suggested that the OGPD develop energy outlook models based on its national energy statistics in 2000–2016, not on International Energy Agency statistics in 2017, and build capacity in energy outlook modelling. As officially requested by the OGPD, ERIA started the Myanmar Energy Outlook Modelling Project. Through three working meetings and with ERIA's support, the OGPD successfully developed an energy outlook model, based on business as usual (BAU). The OGPD also conducted case studies: high and low gross domestic product (GDP), high crude oil price, and promotion of energy efficiency (EE) or renewable energy (RE). The working group meetings tackled the following:

(1) First meeting: Estimation of energy demand formulas applying OLS
(2) Second meeting: Development of future simulation model using LEAP
(3) Third meeting: Finalisation of BAU and case study results

This report describes the modelling process. Chapter 2 presents the main methodology used in producing the outlook, including the modelling work based on the use of the LEAP energy model. Chapter 3 introduces the data, which comprises mainly Myanmar national energy balance tables and socio-economic data. Chapter 4 explains how energy demand formulas from economic sectors are estimated and presents the formulas as well as the statistical values that demonstrate the estimates' reliability. Chapter 5 shows the main modelling assumptions. Chapter 6 presents the modelling results, which can be differentiated into the results of the BAU scenario and several alternative scenarios or case studies. Chapter 7 elaborates conclusions and a set of policy recommendations for the government.