

TABLES

Table 1.1	Annual Imports of Main Petroleum Products (tonnes)	2
Table 1.2	Asia's Large Refineries	6
Table 1.3	Roadmap	13
Table 2.1	Power Generation Development Plan	18
Table 2.2	Aggressive Generation Development Plan (revised existing plan)	18
Table 2.3	Power Generation Capacity in Case 1	19
Table 2.4	Power Generation Capacity in Case 2	21
Table 2.5	Summarised Pattern of the Power Generation Plan	23
Table 2.6	Natinal Transmission Master Plan (115 kV)	29
Table 2.7	Natinal Transmission Master Plan (230 kV)	30
Table 2.8	Natinal Transmission Master Plan (500 kV)	30
Table 2.9	Distribution Network Support Projects	34
Table 2.10	Time of Use Tariffs	44
Table 2.11	Number of Residents Categorised by Capacity of Supply in 2017	47
Table 2.12	Case Example of Cross-subsidy for Low Consumption from High Consumption in the Rural Areas	48
Table 2.13	Case Example of Cross-subsidy for Low Consumption from High Consumption in the Urban Areas	49
Table 2.14	Composition by Macro-economic Position in 2018	50
Table 3.1	Feed-in Tariff for Renewable Energy in Japan, 2012	65
Table 3.2	Summary of Advantages and Disadvantages of Reneable Portfolio Standards, Feed-in Tarrifs, and Net Metering	67

FIGURES

Figure 1.1	Real GDP Growth Rate of Cambodia	1
Figure 1.2	Demand Forecast by ERIA (1000 ktoe)	2
Figure 1.3	Example of a Promotion Method for Fuel Efficiency	4
Figure 1.4	Summary of the Issues and Policies on the Supply Side	7
Figure 1.5	China's Net Exports of Petroleum Products	8
Figure 1.6	The Republic of Korea's Net Exports of Petroleum Products (1000 kl)	9
Figure 1.7	Roadmap	13
Figure 2.1	Power Generation Capacity in Case 1	20
Figure 2.2	Power Generation Capacity in Case 2	22
Figure 2.3	Power Development Plan and Basic Energy Plan for Cambodia in 2030	24
Figure 2.4	Levelised Cost of Electricity of Coal and Hydro in 2015	25
Figure 2.5	Comparison of the Levelised Cost of Electricity with the Investment Cost (Hydro)	26
Figure 2.6	Levelised Cost of Electricity Component Ratio for Coal and Hydro in 2015	26
Figure 2.7	Historical Coal Price Change from 1998 to 2008	27
Figure 2.8	Goal of National Grid Development by 2020	29
Figure 2.9	Power Installed in Provinces via Several Voltage Interconnections from Neighbouring Countries	32
Figure 2.10	Transmission and Distribution Loss, 2013-2016	33
Figure 2.11	Distribution Losses	34
Figure 2.12	System Average Interruption Duration Index (minutes)	35
Figure 2.13	System Average Interruption Duration Index (times)	36
Figure 2.14	Number of Households and the Electrification Rate	37
Figure 2.15	Progress of Distribution Network Development and Village Electrification	40
Figure 2.16	Distribution of Licence Zones and the State of Electrification at the End of 2016	40
Figure 2.17	Difference in Tariffs by Percentage of Villages Covered by Electricity Licenced Areas	42

Figure 2.18	Electricity Tariff Differences for Households	43
Figure 2.19	Electricity Tariff Differences in the MV at 22 kV	45
Figure 2.20	Demand Differences	46
Figure 2.21	Tariffs for All Types of Residents' Electrical Consumption in 2017	47
Figure 2.22	Case Example of Cross-subsidy for Low Consumption from High Consumption in the Rural Areas	49
Figure 2.23	Case Example of Cross-subsidy for Low Consumption from High Consumption in the Urban Areas	50
Figure 4.1	The Multiple Benefits of Energy Efficiency	71
Figure 4.2	Historical Final Energy Consumption by Commercial and Residential Sectors	72
Figure 4.3	Historical Final Energy Consumption by All Sectors in Cambodia	72
Figure 4.4	Historical Electricity Consumption by the Commercial and Residential Sectors	73
Figure 4.5	Historical Electricity Consumption by the Residential, Commercial, Industry, and Other Sectors	73
Figure 4.6	Percentage Shares of Energy Sources for the Residential, Commercial, and Industry Sectors in 2015	74
Figure 4.7	Projected Percentage of Energy Sources for the Residential, Commercial, and Industry Sectors in 2030 Under the BAU Scenario	74
Figure 4.8	Historical and Projected Energy Demand and Energy Sources for the Residential Sector	75
Figure 4.9	Historical and Projected Energy Demand for the Residential Sector Under the BAU, EEF, and APS	76
Figure 4.10	Historical and Projected Energy Demand for the Commercial Sector Under the BAU, EEF, and APS	77
Figure 4.11	Historical and Projected Energy Demand for the Industry Sector Under the BAU, EEF, and APS	78
Figure 4.12	Strategic Framework for Formulating an EEC Plan	79
Figure 4.13	Historical and Projected Energy Demand in Cambodia Under the BAU, EEF, and APS	80
Figure 4.14	Suggested EEC Implementation Structure	85

Figure 6.1	Primary Energy Supply, BAU and APS	97
Figure 6.2	Final Energy Consumption by Sector, BAU and APS	98
Figure 6.3	Final Energy Consumption Share by Sector, BAU and APS	99
Figure 6.4	Energy Indicators, APS	100
Figure 6.5	Energy Import Dependency, BAU	100