

## List of Tables

Table 2.1	Electricity Demand Distribution by Grid in 2040	7
Table 2.2	Electricity Demand Distribution by Region in 2040	7
Table 2.3	Electricity Demand Distribution by Province in 2040: Luzon	8
Table 2.4	Electricity Demand Distribution by Province in 2040: Visayas	9
Table 2.5	Electricity Demand Distribution by Province in 2040: Mindanao	11
Table 2.6	Assumptions of Liquefied Natural Gas Demand Forecast	13
Table 2.7	Liquefied Natural Gas Demand by Grid in 2040	14
Table 2.8	Liquefied Natural Gas Demand by Secondary Liquefied Natural Gas Terminal in 2040	16
Table 3.1	List of Scenarios to Select Operation Model and Locations for Primary Terminals	23
Table 3.2	Capital Expenditure and Operational Expenditure Assumptions	24
Table 3.3	Navigation Distances between Ports (nautical miles)	25
Table 3.4	Cargo Pier Water Depth of Ports (metres)	26
Table 3.5	Key Results	26
Table 3.6	Decomposed Capital Expenditure and Operational Expenditure in Scenarios 1 and 5	28
Table 3.7	Decomposed Capital Expenditure and Operational Expenditure in Scenarios 5 and 6	29
Table 3.8	Required Terminal Capacity and Shipping Capacity in Scenarios 5 and 6	30
Table 4.1	Classification of Ports	34
Table 4.2	Barge Tank Capacity	34

Table 4.3	List of Scenarios	35
Table 4.4	Decomposed Capital Expenditure and Operational Expenditure in Scenario 5	35
Table 4.5	Primary Terminals, Subordinate Terminals, and Barges in Linear Programming Model Analysis	36
Table 4.6	Liquefied Natural Gas Consumption and Storage Capacity of Terminals	37
Table 4.7	Navigation Distances between Ports	37
Table 4.8	Primary Terminals, Subordinate Terminals, and Barges in Scenarios	38
Table 4.9	Comparison of Cases	40
Table 4.10	Terminal and Barge Allocation: Trial Case	42
Table 4.11	Results of Dynamic Simulation: Trial Case	44
Table 4.12	Terminal and Barge Allocation: Case 1	45
Table 4.13	Results of Dynamic Simulation: Case 1	46
Table 4.14	Detailed Operation Time by Barge: Case 1	47
Table 4.15	Barge Operational Expenditure: Case 1	47
Table 4.16	Terminal and Barge Allocation: Case 2	49
Table 4.17	Results of Dynamic Simulation: Case 2	50
Table 4.18	Detailed Operation Time by Barge: Case 2	50
Table 4.19	Barge Operational Expenditure: Case 2	51
Table 4.20	Dates of Typhoon Strikes, 2006 and 2013	53
Table 4.21	Terminal and Barge Allocation: Case 3	54
Table 4.22	Results of Dynamic Simulation: Case 3	54
Table 4.23	Detailed Operation Time by Barge: Case 3	55
Table 4.24	Barge Operational Expenditure: Case 3	56
Table 4.25	Terminal Storage Capacity by Case	58

Table 4.26	Terminal and Barge Allocation: Case 4	58
Table 4.27	Results of Dynamic Simulation: Case 4	59
Table 4.28	Detailed Operation Time by Barge: Case 4	60
Table 4.29	Barge Operational Expenditure: Case 4	60
Table 4.30	Terminal and Barge Allocation: Case 5	62
Table 4.31	Results of Dynamic Simulation: Case 5	63
Table 4.32	Detailed Operation Time by Barge: Case 5	63
Table 4.33	Barge Operational Expenditure: Case 5	64
Table 4.34	Terminal and Barge Allocation: Case 6	66
Table 4.35	Results of Dynamic Simulation: Case 6	66
Table 4.36	Detailed Operation Time by Barge: Case 6	67
Table 4.37	Barge Operational Expenditure: Case 6	67
Table 4.38	Summary of Simulation Results	70