

Chapter 1

Introduction

1.1 Objective

All countries' energy policies aim to supply energy at an affordable price. Electricity as a secondary energy source is used in all economic activities by industries, institutions, and households. Thus, electricity prices will considerably affect these industries' competitive edge in the global market. In developing countries, the impact on the low-income groups is an important consideration as well, making it imperative that electricity rates be kept affordable. Power supply at affordable prices has, in fact, become an important political agenda.

Since economic development stages, national income levels, and industrial structures are different across the Association of Southeast Asian Nations (ASEAN) region, the level of acceptable electricity rate also differs. In addition, due to the differences in the procurement cost of power generation fuels and power generation mixes, the power supply cost will naturally differ. The electricity rates in the Philippines, in particular, are relatively higher than those in other countries. Such relatively expensive electricity rates are not the problem of the Philippines alone; they are also the concern of the entire ASEAN area that is aiming for economic integration. An extreme difference in energy cost will hinder the realisation of a well-balanced economic development in the ASEAN region.

This study compares the power supply cost structures of selected ASEAN member countries and explores the possibility for cost reduction. It particularly focuses on the reduction of power supply cost in the Philippines, comparing it with that in Indonesia, Malaysia, and Thailand. It aims to make a policy proposal that will contribute to the reduction of the power supply cost.

It should be noted that the analysis handles cost but not price. Price includes factors that cannot be compared with those of other countries, such as cross-subsidies amongst sectors. Therefore, this study directs its analysis not on the design of prices or tariffs, but on the comparison of power supply costs and the possibility of reducing these.

1.2 Study Method

This study is composed of three major steps: (i) data collection; (ii) breakdown of cost factors; and (iii) comparative analyses.

1.2.1 Data Collection

Information on the power supply cost in the Philippines as well as in Indonesia, Malaysia, and Thailand from 2012 to 2016 was collected. Data collected were for over a five-year period as single-year data only could distort the analysis due to factors specific to each relevant year. Specifically, the survey of literature covers (i) annual financial reports of major power companies; and (ii) Customs statistics (e.g. cost of imported fuels).

For information that could not be obtained from existing literature, the research team turned to regulatory bodies, power utility companies, and research institutes in each of the countries in this study.

1.2.2 Breakdown of Cost Factors

Next, power supply costs are broken down into factors. The team also analysed underlying factors that could influence each cost factor. In actual business operations, power supply costs are further subdivided into smaller factors, and a wide variety of underlying factors are dealt with. However, this study's results rely on published information, and the study thus bases its analysis on as much information available.

Cost Factors	Underlying Factors
Power generation cost	<ul style="list-style-type: none">● Growth of power demand● Power generation mix● Fuel cost● Generating-end thermal efficiency
Power transmission/distribution/retail cost	<ul style="list-style-type: none">● Power transmission/distribution loss rate● Electrification rate

Capital cost	● Weighted average cost of capital
Tax, surcharge	● Value-added tax (VAT)
	● Other taxes

1.2.3 Comparative Analyses

From the data obtained, the power costs' structure and underlying factors in the Philippines as well as Indonesia, Malaysia, and Thailand were analysed and compared.

Key questions in the analyses are as follows:

- Overall
 - * What are the largest cost factors?
 - * Can the cost differences amongst countries be explained in a convincing manner?
 - * Is there any room to reduce the power supply cost? How can the cost be reduced?
- Power generation cost
 - * What is the share of power generation in the total cost?
 - * What impact does the difference in power generation mix have?
 - * What impact does the fuel cost have on power generation cost?
 - * What is the generating-end thermal efficiency of existing thermal power generation plants? Is there any room for improving the efficiency?
- Power transmission/distribution/retail cost
 - * How much is the difference in the power transmission/distribution loss rate between the selected countries?
 - * How much is the current electrification rate?
 - * How much investment is expected to be required in the future? And how will that expectation influence the cost?

- Capital cost
 - * How much is the approved weighted average cost of capital (WACC) of each country?
 - * What is the level of WACC compared with the long-term prime rates?
 - * Is cost reduction possible?
- Tax, surcharge
 - * How much is the difference in value-added tax?
 - * Isn't there any difference in other tax or surcharges?