

Policy Recommendations

# Unlocking the Door towards Development

Improving Access to Electricity  
in South East Asia

Peter Hefele / Anthony Owen





# 1 Introduction

In recent years remarkable progress has been made in the electrification of South East Asian nations. But despite an astonishing electrification rate of 90 per cent throughout the region, enormous challenges lay ahead. Most of the progress had been made in urban areas; while leaving **large rural areas still poorly connected**. And the differences among ASEAN member states are still significant. 10–20 per cent of the population of South East Asia – which still sums up to 100–130 million people – do not have access to electricity. It is the **least developed countries of the region, Myanmar, Laos, and Cambodia, which are economically and socially most disadvantaged**. Moreover, it is those remote areas – e.g. islands, settlements in mountainous regions or ethnic minorities – that can be seen as the famous and always most challenging "last mile", as they are technically demanding and expensive to connect to a nation-wide grid.

In development policy, the **strong nexus between energy and other factors such as education, health, gender, environment, economic growth, food security, and water**, is well known and proven. Reliable and affordable access to modern energy services is critical. Improving the productive capacities and welfare of rural areas, eradicating poverty and triggering sustainable development – all are linked to energy, in particular, and increasingly to electricity. However, the sole extension of centralised grids in most countries is too expensive to cover these isolated areas. Thus, **new approaches have to be found. I.e. scalable renewable energy systems now offer unprecedented opportunities for practical, reliable, durable, and more and more affordable solutions**.

Electricity is only one part of the story. Other, mostly fossil, sources of energy remain important and come along with different challenges. However, **electricity in one or the other way will be the source of the future**: due to its safety, flexibility and potential for digitalisation.

Against this background, the Energy Studies Institute at National University of Singapore (ESI) and Konrad-Adenauer-Stiftung | Regional Project Energy Security and Climate Change in Asia-Pacific (KAS RECAP) drafted **this policy paper on improving electricity access in South East Asia**. The following findings and suggestions are based upon the results of a regional workshop, organised by ESI and KAS RECAP in April 2018 in Bangkok (Thailand):

This paper focuses on two main dimensions of how to improve electricity access.

- The **political and legal framework** of electricity markets
- **Financial and investment aspects** of electricity access

Conclusions and recommendations serve as a basis for next steps, in which we aim at further discussing the topic with representatives of politics, administration and energy business in several ASEAN member states to **better identify the specific national needs and options for action.**

## **2 Political and Legal Framework**

### **2.1 The Situation**

A review of the political and legal frameworks for energy infrastructure, set up in different South-East Asian countries, shows a picture far from being uniform. Different political systems, regulatory legacies and "philosophies", various institutional settings, and heterogeneous legal and administrative practices have led to an extremely diverse landscape of energy policy regulations. **This often makes policy and stakeholder coordination and action time-consuming and inefficient, prohibits stable expectations for investments and delays the necessary transformation of national energy systems towards a more green and sustainable one.** In general, governments possess insufficient governance capacities to implement and enforce policies. And these obstacles prevent deeper regional integration among the ASEAN member states, too.

Most scientific scenarios agree that the **share of electricity in the future energy mix will significantly increase** – globally and in particular in ASEAN, where the demand for electricity is steadily growing in tandem with ongoing economic and population growth. This energy carrier – if properly used – comes along with unique characteristics: **flexibility and versatility, safety and efficiency, reduced negative health impacts, and reduction of greenhouse gas emissions.** These advantages will further expand in the context of digitalisation, virtualisation, and new storage technologies.

However, **improving electricity access has to be seen as part of a broader development challenge.** This can only be successfully addressed if cross-sectoral interdependencies are taken into account: within the energy sector as a whole and with other fields of policy.

In many countries, **energy policy is still biased towards fossil sources,** despite promises to reduce carbon emissions. Those policies often come along with a preference for centralised energy production and distribution systems. In the light of strengthening the resilience of power networks and due to limited funds for infrastructure, **decentralised supply structures along with energy efficiency gains are**

promising alternatives, which are increasingly based on renewable energies (electricity and gas).

In building an ASEAN Economic Community (AEC), energy/electricity markets are one of the main pillars of further integration. Within the region and subregions, remarkable imbalances in energy demand and supply exist. Crossborder exchange would address these imbalances, by avoiding surplus investment and capacities, enhancing grid stability, and lowering prices. Existing initiatives, such as the ASEAN Power Grid (APG) or Greater Mekong Subregion (GMS), have not moved much beyond conceptualisation. But time is running out to avoid an external integration by China becoming the “Lord of the Rings”.

Local governments and communities in most of the ASEAN countries are often the weakest part of the chain. Due to their weak position in the constitutional system, lack of planning capacities, and stripping of financial assets, their interests are often neglected by dominant interest groups at the central state level. Yet, decentralisation is not a means by itself. And it cannot unleash its full potential in driving innovation and energy security, if it is seen as a purely technical issue. “Empowerment” has to be understood in a much broader sense, including strengthening local political entities (principle of “ownership”) and women from the bottom up.

## 2.2 Recommendations

- The capacity of the energy-related bodies in politics, administration and other regulatory agencies has to be increased.
- A deeper exchange of experiences and best practices among ASEAN member states is urgently needed to create a higher and equal level of expertise and foster mutual understanding within the region.
- We strongly recommend to speed up the process of regional energy market integration as laid out in various documents by ASEAN member states, in particular during the ASEAN energy ministers meetings.
- Only through sustainable electricity access, national development goal can be achieved. This is particularly important in fulfilling the Intended Nationally Determined (INDCs) goals, agreed in the COP21 Paris Agreement of 2015.
- National energy policies have to be formulated holistically by comprehensively taking the relationship between energy and other sectoral policies into account.
- To enable smooth and effective coordination amongst different governmental bodies, a top-level committee (or similar) is necessary to mainstream energy policymaking.

- Awareness of policymakers towards an integrated focus on energy transformation and climate change has to be increased.
- Various stakeholders, in particular, those at the local level, have to be integrated into the national policy-making process?

## 3 Financing Investment

### 3.1 The Situation

It is estimated that around 100 trillion USD have to be spent in the next 15 years on the low-carbon transition of global energy systems. The International Energy Agency has estimated that ASEAN needs to deploy 354 gigawatts (GW) of additional capacity for power generation by 2040 which would require investments of US\$618 billion in the generation and US\$690 billion in the transmission and distribution sectors. Against this backdrop, only joint efforts of public and private investment will be able to achieve the ambitious goal of providing comprehensive access to energy, and to electricity in particular – not to talk about the need for massive investments into decarbonising the current system in fulfilling the promises of the INDC/COP21.

The various institutional landscapes of energy policy are reflected in a rather intransparent and less coordinated fiscal and funding strategy, driven by vested interests and a lack of strategic coordination in (public) spending. Substantial funds from international partners and donor agencies have not been optimally used in facilitating rural electrification so far.

National electricity markets are under tremendous pressure to extend coverage of supply and to meet rapidly increasing demands. At the same time, domestic monopolists (state or quasi-state) are facing growing competition from inside and abroad. Foreign investors, in particular from China, are actively trying to increase their shares in domestic energy companies and become dominant players in ASEAN energy markets. Global green financing (i.e. GCF) has not contributed to the expansion of ASEAN power grids to any substantial degree.

But distortions of domestic markets and pricing mechanism also come from incumbent subsidisation schemes, which rather serve social policy ends than contributing to an accelerated energy transformation. Projects with considerable social benefits are often considered as economically not viable or unsustainable.

It is private small and medium enterprises which face the most significant obstacles in entering local electricity markets, in particular in the field of renewables. Lack of access to domestic and international capital, high premiums, unfavourable pricing models and incomprehensive legal frameworks make competing established markets almost impossible. New business models in the energy sector have to be created. Domestic entrepreneurs often lack technical, financial (“bankability”) and management capacities. The energy transformation process has to be understood as a unique opportunity for cross-sectoral innovation.

### **3.2 Recommendations**

- The region could profit from faster progress made in the global finance industry in regard to the standardisation of specific investments product, i.e. green bonds.
- Private solutions providers in production, transmission and distribution play on an equal playing field with state-governed/funded enterprises.
- Market reforms aim at lowering the threshold for market entry, in particular for small and medium enterprises (SMEs).
- Existing mechanisms have to be reformed to ensure effective use of official development assistance for energy development.

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