

Chapter 8

Important Role of ACMECS in Multilateral Power Trade

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Chapter 8

The Important Role of ACMECS in Multilateral Power Trade

This study analysed the benefits of the Transmission Highway in the ACMECS region and identified the cross-border interconnections that would lead to the greatest benefits in ACMECS. However, to maximise the Transmission Highway benefits, multilateral power trade should be realised in the ASEAN region.

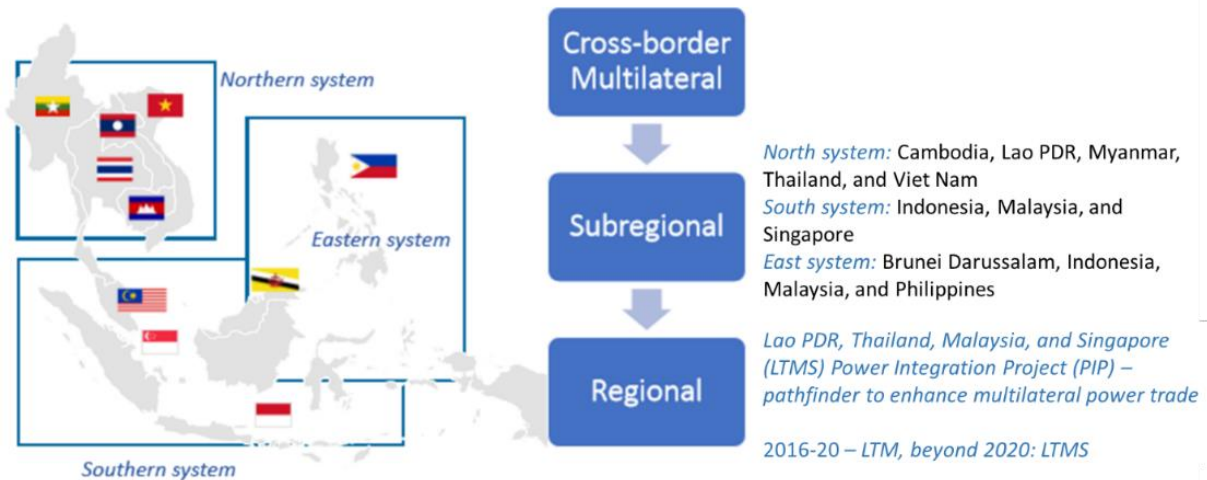
The AMSs have a long-standing goal of integrating their power systems via the common APG. There are numerous existing efforts to establish multilateral power trade amongst the AMSs as follows (IEA, 2019):

- ❖ ASEAN Power Grid (APG)
- ❖ Greater Mekong Subregion (GMS)
- ❖ Laos-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP)
- ❖ Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA) interconnectivity project

The APG and the GMS have had a lot of discussions over the years. The APG has been led by the Heads of ASEAN Power Utilities/Authorities (HAPUA), whose primary role is to ensure regional energy security by promoting efficient utilisation and sharing of resources. HAPUA has conducted several studies, the most representative of which is the 'ASEAN Interconnection Master Plan Study (AIMS)'. The AIMS focused on a comprehensive plan of regional cross-border interconnections linking AMS's power systems. The first study (AIMS I) was completed in 2003, and the second study (AIMS II), in 2010. The ASEAN Centre for Energy is currently conducting AIMS III.

The development of the APG so far has progressed only on a bilateral basis between neighbouring countries. However, the expectation has always been to move from bilateral interconnections to subregional power systems (focusing primarily on three subregions: Northern, Southern, and Eastern systems), and finally to a fully integrated regional system. The development of the full APG is critical for establishing full multilateral power trading amongst ASEAN countries, as trading cannot occur without sufficient supportive infrastructure (IEA, 2019).

Figure 8-1 Pathway to Establishing Multilateral Power Trade



Source: IEA (2019).

The GMS, established in 1992, involves six countries: five AMSs (Cambodia, Lao PDR, Myanmar, Thailand, and Viet Nam) and China. As mentioned in the previous chapter, the GMS countries are already interconnected and trade power bilaterally. The Regional Power Trade Coordination Committee (RPTCC) was established in 2002 to coordinate the implementation of regional power trade. To date, the RPTCC has held a lot of meetings. Some discussions and recommendations made in the context of the GMS through meetings are as follows:

- ❖ A set of draft harmonised grid codes were developed.
- ❖ The Regional Power Coordinating Centre was proposed to be an advisory body on regulatory issues and not a regional regulator.

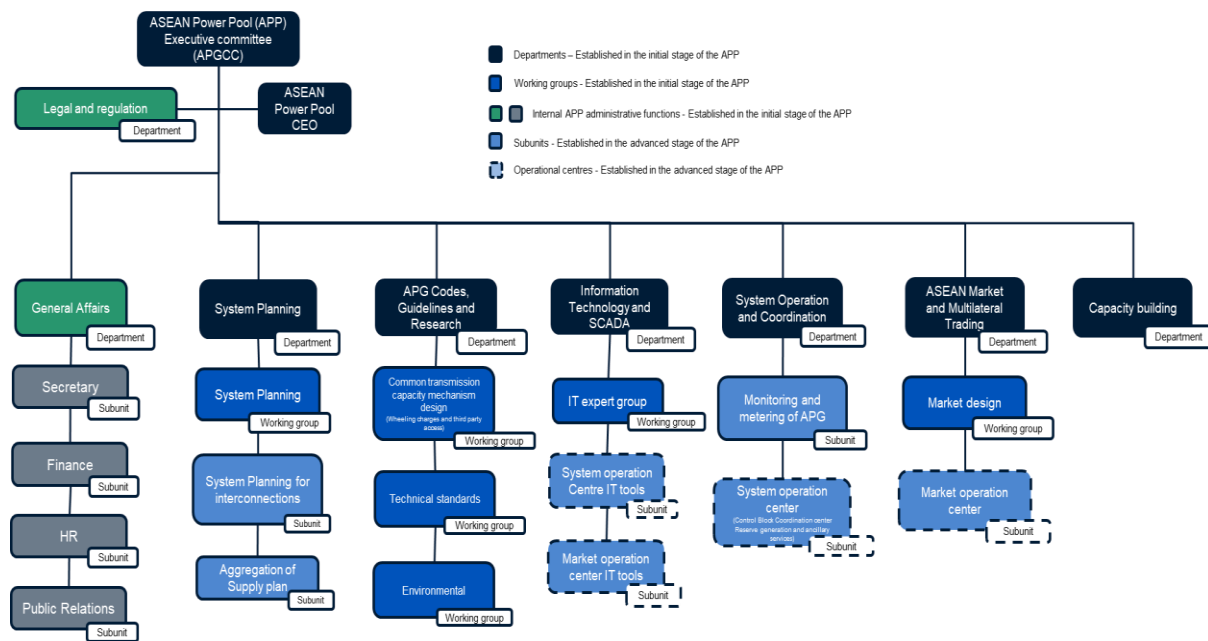
In the GMS, some AMSs have already been discussing harmonised grid codes and regional institutions. The GMS effort offers many important learning points for the APG. Most importantly, it offers a starting point for the AMSs from which to work, which could be beneficial in terms of accelerating the work within the ASEAN region (IEA, 2019).

One of the recent efforts is the LTMS-PIP, a pilot project of multilateral power trading in ASEAN. As a pilot project, the focus is primarily on identifying and resolving issues that could affect cross-border power trade amongst the AMSs more broadly. The LTMS-PIP started in January 2018. It is a multilateral trading arrangement that includes more than two countries. However, it is also a unidirectional trade, and so it is more limited than multilateral trading as defined by this study. However, certain key elements of the LTMS-PIP are very relevant to the broader goals of the APG. Two stand out in particular: the development of the wheeling charge and the underlying process for developing the LTMS-PIP in the first place (IEA, 2019).

The AMSs already have a lot of knowledge and experience through their existing efforts. Along with their efforts, several studies about multilateral power trade have been conducted. In collaboration with HAPUA, ERIA conducted two studies, 'Study on the Formation of the ASEAN Power Grid Transmission System Operator Institution (ATSO)' and 'Study on the Formation of the ASEAN Power Grid Generation and Transmission System Planning Institution (AGTP)' in 2017. These projects aim to

help the AMSs achieve consensus on the principles, building blocks, and framework of an integrated regional electricity market. From the two projects, it was concluded that the AGTP and ATSO functions should be placed in the same organisation to secure a close relationship between planning and system operation. The most important outcome of this study is the proposal of establishing the new regional institution. After thorough discussions during the project workshops, the AMSs agreed this new institution to be named the ASEAN Power Pool (ERIA, 2017a and 2017b).

Figure 8-2 Proposed ASEAN Power Pool Organisational Chart



Source: ERIA (2017a).

In addition, the IEA conducted a feasibility study on ‘Establishing Multilateral Power Trade in ASEAN’. This study identifies a set of minimum political, technical, and institutional requirements that the AMSs should meet to establish multilateral power trade in the ASEAN region.

At the 34th HAPUA council meeting held in 2018, the council recognised that the three studies done by ERIA, IEA, and the ASEAN Centre for Energy are related to support the APG realisation. They also requested for the studies to be synergised so that recommendations are well coordinated and holistically considered.

As noted above, many efforts and studies on multilateral power trade have been implemented in ASEAN. The information and road map necessary to realise multilateral power trade have also been presented. First, it is important to move power trade from the current bilateral basis to the subregional basis based on the LTMS-PIP. As Figure 8-1 shows, multilateral power trade will initially take place in three subregions. At this stage, the regional institution mentioned above should be established in each subregion. From the current efforts mentioned in this chapter, the subregion closest to the realisation of multilateral power trade amongst these three regions is the northern part, that is, ACMECS. ACMECS countries have been discussing multilateral power trade within the

framework of the GMS for many years and have accumulated knowledge. In addition, the Lao PDR and Thailand are included in the LTMS-PIP framework. Based on this experience, ACMECS as a pioneer will develop multilateral power trade on a subregional basis. The knowledge gained in ACMECS will be expanded to other subregions, which is the best way to realise the APG. After multilateral power trade is achieved in the three subregions, it will be developed throughout ASEAN, as the APG.