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**No. 280**

**ASSESSING THE PROGRESS OF AEC PROJECTS:  
A NEW APPROACH**

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Maria Theresa Anna Robles**

**S. Rajaratnam School of International Studies  
Singapore**

**5 September 2014**

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## Abstract

ASEAN governments put forth the vision for the ASEAN Economic Community (AEC) with high ambition. As stated in the 2007 Blueprint, the AEC aims to achieve a single market and production base, a competitive economic region, equitable economic development and integration into the global economy. The Scorecard system was set up to gauge the implementation of the AEC initiatives, but it contains limitations. This paper offers an alternative rating system to complement the existing Scorecard system in tracking the progress of the AEC projects. We have designed a star-rating system and applied our rating criteria to the selected projects to evaluate their progress. This paper conducts in-depth studies on the three projects (the ASEAN Single Window, the ASEAN Highway Network and the ASEAN Power Grid) to identify the projects' major challenges, and give recommendations on how they can be further advanced. The study's limitations and suggestions for future research are discussed.

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## **I. Introduction**

For the past few decades, the world economy has witnessed major changes. Due to deepening global production networks and supply chains, national economies are now intertwined. At the same time, economic development gaps have widened among countries. ASEAN is no exception. In its attempt to deal with contemporary developments, the ASEAN Economic Community (AEC) was created due to the “increasing interdependence of the ASEAN economies within the region as well as with the rest of the world and the need to narrow development gaps”.<sup>1</sup> The AEC aims “to achieve higher levels of economic dynamism, sustained prosperity, inclusive growth and integrated development.”

The history of the AEC can be traced back to the year 1997. In December 1997, at the ASEAN Summit in Kuala Lumpur, Malaysia, the leaders pledged to form an economic region where “there is a free flow of goods, services and investments, a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities” by 2020.<sup>2</sup>

In October 2003, the ASEAN Summit in Bali, Indonesia advanced the ASEAN Vision 2020 by endorsing the Declaration of ASEAN Concord II (Bali Concord II). The Bali Concord II established the three pillars of the ASEAN Community, namely the ASEAN Security Community, AEC and the ASEAN Socio-Cultural Community. In regard to the AEC, the ultimate goal is to create “a stable, prosperous and highly competitive ASEAN economic region in which there is a free flow of goods, services, investment and a freer flow of capital, equitable economic development and reduced poverty and socio-economic disparities in year 2020.”<sup>3</sup>

At the ASEAN Summit in January 2007, the leaders adopted the AEC Vision 2015, which pushed forward the deadline to establish the AEC from 2020 to 2015. This Vision was articulated in the AEC Blueprint issued in November 2007. The Blueprint can be seen as a roadmap for setting up the AEC by 2015. The Blueprint outlines four pillars, which are: (i) single market and production base; (ii) competitive economic region; (iii) equitable economic development; and (iv) integration into the global economy. The Blueprint also outlines 17 core elements and 176 priority actions.<sup>4</sup>

To monitor the progress of the AEC, the ASEAN Secretariat created the AEC Scorecard to gauge the implementation of the AEC initiatives within the timeframes specified in the Blueprint. According to the latest Scorecard released in 2012, 67.5 per cent of the targets under Phase I (2008-2009) and Phase II (2010-2011) have been reached.

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<sup>1</sup> ASEAN (2008) ASEAN Economic Community Blueprint. Jakarta: ASEAN Secretariat.

<sup>2</sup> ASEAN (1997) ASEAN Vision 2020. Kuala Lumpur, Malaysia. 15 December.

<sup>3</sup> ASEAN (2003) Declaration of ASEAN Concord (Bali Concord II), Section B, Paragraph 1. Bali, Indonesia. 7 October.

<sup>4</sup> ASEAN (2008) ASEAN Economic Community Blueprint. Jakarta: ASEAN Secretariat.

The Scorecard system is not without criticism. Scholars have highlighted that the system possesses certain limitations. For example, the Scorecards rely on the self-assessments of individual countries. It has cast doubt on the usefulness of the Scorecards, namely, the degree to which they capture actual achievements. Tempted to meet the 2015 deadline, certain states may overrate their progress.<sup>5</sup> Moreover, the Scorecard only presents the data on progress. It neither explains the data nor explores the reasons why certain projects are more advanced than the others.<sup>6</sup>

The subject of the AEC warrants a study for the following reasons. First, the impact of the AEC on ASEAN's economies and beyond is real and large. Several studies have shown the benefits of the AEC in several areas. Plummer and Chia demonstrate that the formation of the AEC is beneficial to both public and private sectors.<sup>7</sup> For example, deeper ASEAN economic integration can enhance the efficiency of trans-national production networks. The abolishment of tariffs and Non-Tariff Barriers (NTBs) boosts intra-ASEAN trade, growth and employment. Free allocation of skilled labour will increase the region's attractiveness to foreign corporations and transfer of knowledge and best practices across borders. Advanced financial and capital market development can contribute to economic growth and higher wages.

Petri et al. ran a Computable General Equilibrium (CGE) model to assess the effect of the AEC.<sup>8</sup> These authors find that the full implementation of the AEC would contribute to the rise of ASEAN real income by US\$69.4 billion or 5.3 per cent of ASEAN GDP, using the year 2004 as the baseline. Although the biggest beneficiaries of eliminating trade barriers are highly protected economies such as Indonesia and Cambodia, relatively open economies also receive significant gains from enhanced liberalisation.

In addition, Petri et al. evaluated the benefits of the future AEC if certain ASEAN Dialogue Partners such as Europe and the United States are incorporated into the AEC (AEC+ and AEC++ scenarios). The simulations reveal that such expansions will double the benefits of the AEC. The ASEAN real income would increase by US\$151 billion or 11.6 per cent of ASEAN GDP.

Another reason why the AEC deserves to be studied is that although achievements have been made, there is a long way to go in realising the full potential of the AEC. In short, the AEC is an on-going project that requires both cooperation and coordination of the involved stakeholders. Among the oft-cited achievements of the AEC so far has been the liberalisation of trade among ASEAN Member States (AMS). Thanks to the ASEAN Free Trade Agreement (AFTA), tariffs on all imports for the ASEAN-5 members have been lowered to zero, with the exception of certain sensitive products. The

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<sup>5</sup> Asian Development Bank (2013) "Toward an ASEAN Economic Community—and Beyond," In *Asian Economic Integration Monitor October 2013*, pp. 34-46. Manila: Asian Development Bank.

<sup>6</sup> Basu Das, S. (2012) "A Critical Look at the ASEAN Economic Community Scorecard." *East Asia Forum*. 1 June.

<sup>7</sup> Plummer, M. G., and C.S. Yue (eds.). (2009) *Realizing the ASEAN Economic Community: A Comprehensive Assessment*. Singapore: Institute of Southeast Asian Studies.

<sup>8</sup> Petri, P. A., M.G. Plummer and F. Zhai (2012) ASEAN Economic Community: A General Equilibrium Analysis. *Asian Economic Journal*, 26(2), pp. 93-118.

average tariff rate is now at less than 5 per cent. However, the progress made in other areas has been far from impressive. For example, the reduction of NTBs and behind-the-border barriers has been a sticking point in furthering trade liberalisation as countries increasingly employ these measures to protect their economies.<sup>9</sup>

Trade in services is another area where progress has been slow. Despite numerous rounds of negotiations since the ASEAN Framework Agreement on Trade in Services in 1995, ASEAN has been unable to advance the liberalisation of trade in services among themselves. The cooperation in this area has been trivial compared to that of the World Trade Organization (WTO). In addition, Nesadurai observes that weak regional institutions contribute to the delay in the AEC implementation.<sup>10</sup> ASEAN states have been reluctant to support regional institutions that can overcome domestic interests.

The sluggishness of the progress yields important implications. If the underlying obstacles are not dealt with, it will be difficult for the AEC to move forward. This can prevent both public and private sectors from receiving further benefits of the complete AEC.

In sum, the AEC needs to be studied more because its effects on AMS' economies are real and large. Also, research which examines the existing challenges and obstacles that the AEC is facing can help policymakers better plan their actions to lessen such hindrances in order to achieve a complete AEC.

The organisation of our paper is as follows. Section II discusses the aims and contributions of our study. Section III introduces our own progress rating system (a "star-rating system") which aims to complement the existing Scorecard system. In Section IV, we conduct three case studies to identify hindering factors and challenges, and provide recommendations to improve the implementation. The last section concludes our findings and outlines issues for future research.

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<sup>9</sup> Wermelinger, M. (2011) "Features of Post-Crisis Protectionism in Asia and the Pacific". *ARTNet Working Paper Series No. 97*.

<sup>10</sup> Nesadurai, H. E. (2013). "Enhancing the Institutional Framework for AEC Implementation: Designing Institutions that are Effective and Politically Feasible." In Basu Das, S., J. Menon, R. Severino and O.L. Shrestha (eds.) *ASEAN Economic Community: A Work in Progress*, pp. 411-441. Singapore: Institute of Southeast Asian Studies.

## **II. Aims and Contributions of the Study**

This working paper attempts to create a progress-rating system to complement the existing Scorecard system. Our interest in composing the rating system sparks from our literature survey conducted for the preparation of a paper titled “A Vision Paper on the AEC beyond 2015” that was commissioned by the ASEAN High-Level Task Force on ASEAN Economic Integration (HLTF-EI). We conducted our literature survey by looking at major works on the AEC, and found that there has been no rating system to capture the progress of a wide range of AEC projects involving different objectives, outputs and processes. This inspired us to embark on building a progress-rating system which can assess the progress of AEC projects across the board. Specifically, our study aims to achieve the following:

- To develop a “star-rating” system to measure the progress of AEC projects;
- To systematise via the star-rating system, the results concerning the progress of AEC projects laid out by the recent AEC literatures; and
- To more effectively compare and contrast the progress made in AEC projects.

As a result of this study, policymakers and scholars can use our star-rating system to better assess the progress of various AEC projects in a more systematic way. This will enable policymakers to compare and contrast more clearly the differences in the projects’ progress, which can be useful to identify obstacles and challenges faced by the projects and coin appropriate policy responses.

## **III. Our Star-Rating System**

Bearing in mind the variety in the nature of the AEC projects, we decided to create a system that can assess the progress of the AEC programmes across the four pillars. Thus, using broad rating criteria enables us to capture and differentiate the development of various AEC projects.

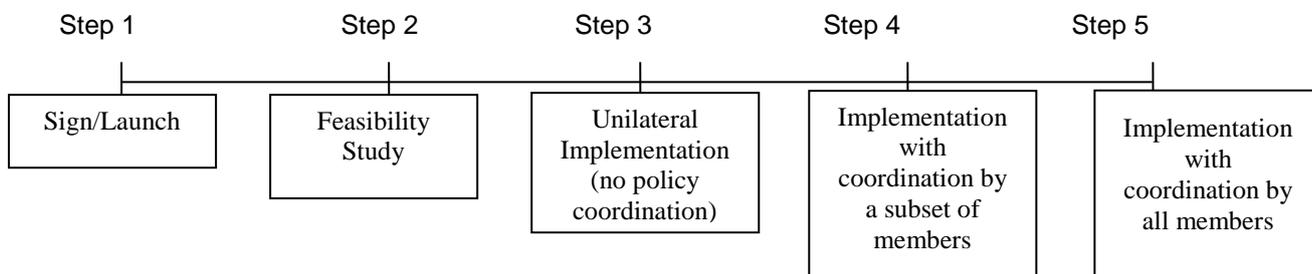
To ensure that our criteria are broad enough, our system is built on the natural progression of international cooperation. Due to concerns over its own sovereignty, international cooperation is usually moved forward step-by-step. There are different kinds of cooperation with most ranging from “shallow” to “deep”. For example, in the area of information-sharing, shallower kinds of cooperation can be unilateral submission of data by individual states while deeper kinds of cooperation may involve peer review or surveillance.

We have outlined five steps of how international cooperation is advanced. The five steps are:

- Step 1: The agreement is signed and the project is launched.
- Step 2: Feasibility or research studies are conducted to figure out how to carry out or implement the project.
- Step 3: The projects are implemented unilaterally. Each individual member implements the projects with no cooperation or policy coordination between countries.
- Step 4: The projects are implemented with certain policy coordination among members. However, only some members, or a subset of members, carry out such implementation. The other countries still implement the projects without policy coordination with others.
- Step 5: The projects are fully implemented by all members with policy coordination among them. The projects are carried out completely by all participants at a multilateral, region-wide scale.

These steps of cooperation are presented in Figure 1 below.

**Figure 1: Steps of international cooperation**



The creation of this rating system hinges on certain assumptions. First, we assume that the AEC projects will one day progress according to the steps outlined in Figure 1. In order to achieve the four AEC pillars, the projects will eventually pursue the end-goal of full implementation by all AMS with policy coordination (Step 5). As for certain projects that have relatively modest goals at this moment (e.g. no agreement on or consideration of undertaking multilateral cooperation), we presume that as the AEC advances further, the leaders will push the current goals higher to reach the ultimate objective of multilateral cooperation with policy coordination by all AMS. As we had considered possible changes in the AEC project's goals over time, our rating system is resilient as it is designed to capture the future progress of the AEC projects whose goals may be adjusted to become more ambitious.

Based on the steps above, our star-rating system is executed as follows: It is an ordinal scale, ranging from one to five stars. Each of the selected AEC projects will be given at least one star to indicate its progress. To be illustrative, the projects that were only launched (Step 1) are given one star. The projects in which feasibility studies were conducted (Step 2) are given two stars. The projects that have been implemented unilaterally without policy coordination among members are assigned three stars. We then give four stars to the projects wherein some members (the subset) have implemented policy coordination. Finally, we assign five stars to the projects wherein all members have implemented with policy coordination among them.

After distinguishing the differences in terms of progress of the AEC projects, we have selected three projects where we explore factors that enable their progress as well as those hindering it. We chose these three because of data availability and the variety of project outputs (i.e. cases involve both institutional and physical outputs) which allows us to assess the different dimensions of cooperation.

The three case studies are: (i) ASEAN Single Window (ASW); (ii) ASEAN Highway Network; and (iii) ASEAN Power Grid.

Table 1 lists the AEC projects under study and the corresponding rating using the above criteria. Details on the progress, delays and recommendations for future action are discussed in the following section

**Table 1: Progress of selected AEC projects**

Project	Objectives (based on original ministerial agreements)	Rating
ASEAN Single Window	<ul style="list-style-type: none"> <li>• Provide a legal framework to establish and implement the ASEAN Single Window</li> <li>• Ensure the implementation of regional commitments by ASEAN to establish and implement the ASEAN Single Window</li> <li>• Strengthen the coordination and partnership among ASEAN Customs Administrations and relevant line ministries and agencies and economic operations (importers, exporters, transport operators, express industries, customs brokers, forwarders, insurers and those relevant to the international supply chain) to effectively and efficiently implement the ASEAN Single Window</li> </ul>	★★★★
ASEAN Highway Network	<ul style="list-style-type: none"> <li>• Provide the institutional mechanism to formalise the strategic route configuration and the uniform technical design standards of the ASEAN Highway Network, being the major road (interstate highway) component of the overall trans-ASEAN transportation network</li> <li>• Formulate the ASEAN Highway Infrastructure Development Plan consisting of priority highway projects of regional significance, for funding and implementation through Official Development Assistance (ODA), project financing by the private sector or by joint public-private sector arrangement, or by the individual ASEAN Member Countries, as may be necessary</li> <li>• Promote cooperation with other international and regional organisations, so as to ensure technical compatibility of ASEAN's road standards and road safety requirements and create stronger road transport links and connections within ASEAN and those with neighboring or adjoining regions; and</li> <li>• Intensify cooperation in the facilitation of international road traffic throughout the ASEAN region</li> </ul>	★★★★◆
ASEAN Power Grid	<ul style="list-style-type: none"> <li>• Establish cooperation on a bilateral and/or multilateral basis, on the various aspects of the development of the common ASEAN policy on power interconnection and trade and the realisation of the ASEAN Power Grid</li> <li>• Initiate studies and updates either on a bilateral or multilateral basis, to support and encourage the implementation of the power interconnection projects in ASEAN, having reference to, among others, the 2003 Final Report of the ASEAN Interconnection Master Plan Study</li> <li>• Encourage cooperation and pooling of resources by the governments and/or private sector for joint projects subject to commercial viability pertaining to the ASEAN Power Grid</li> <li>• Subject to, and consistent with, the national laws of each Member Country, take individual and collective initiatives to study, assess, and review national and regional legal and institutional frameworks for power interconnection and trade, concerning cross-border issues relative to the commercial and economic feasibility, construction, financing, operation, and maintenance of the ASEAN Power Grid</li> </ul>	★★★★

Note: ◆denotes half a star

## IV. Case Studies

### Case study 1: ASEAN Single Window

#### ***What is the ASEAN Single Window?***

In order to transform ASEAN into a fully integrated region, trade liberalisation focusing only on reducing tariffs is not enough. Beyond tariffs, customs and administrative procedures related to trade serve as other kinds of obstacles to the free flow of goods across borders as they can cause delays or a rise in the cost of moving commodities across borders. Hence, to reduce transaction costs and further enhance international trade, there is a need to tackle the issue of trade facilitation.

ASEAN has been stepping into the right direction as more attention has been paid to trade facilitation. The AEC aims to create “simple, harmonised and standardised trade and customs, processes, procedures and related information flows... to reduce transaction costs in ASEAN”.<sup>11</sup>

One of the projects to achieve the objective above is the ASW. All ten AMS signed an “Agreement to Establish and Implement the ASEAN Single Window” (ASW Agreement) in 2005. A year later in 2006, a “Protocol to Establish and Implement the ASEAN Single Window” (ASW Protocol) was signed. According to the 2006 ASW Technical Guide issued by ASEAN Secretariat, the ASW is

“a trade-facilitating environment operating on the basis of standardized information parameters, procedures, formalities, international best practices as relevant to the release and clearance of cargoes at entry points of ASEAN under any particular customs regime (imports, exports and others)”.<sup>12</sup>

To achieve the ASW, the National Single Windows (NSWs) are used as building blocks. Article 1 of the ASW Agreement states that the ASEAN Single Window is “the environment where National Single Windows of Member Countries operate and integrate.”

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<sup>11</sup> ASEAN (2008) ASEAN Economic Community Blueprint, p. 8. Jakarta: ASEAN Secretariat.

<sup>12</sup> ASEAN (2006) Protocol to Establish and Implement the ASEAN Single Window Annex 1: The Technical Guide of ASEAN Single Window and National Single Windows Implementation (ASW Technical Guide). Bangkok, Thailand. 21-22 March, p. 1.

The National Single Window (NSW) is a system which enables:

- a single submission of data and information;
- a single and synchronous processing of data and information; and
- a single decision-making for customs release and clearance. A single decision-making shall be uniformly interpreted as a single point of decision for the release of cargoes by the Customs on the basis of decisions, if required, taken by line ministries and agencies and communicated in a timely manner to the Customs.<sup>13</sup>

In sum, the ASW aims to build a network of NSWs. Thus, NSWs are crucial in achieving the full implementation of the ASW.

The original deadline for completing the NSW for the six countries (Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand) was 2008, while the initial timeline for Cambodia, Laos, Myanmar and Vietnam (CLMV) was 2012.<sup>14</sup> Later, the deadlines were postponed to 2012 and 2015 respectively.

In terms of governance, the ASW Steering Committee is the main body taking care of the development of the ASW. The Committee is assisted by technical and legal working groups, which help in setting up technical and legal architectures relating to the ASW.

### ***Assessing the progress***

The ASW has been advanced since the signing of the ASW Agreement in 2005. For instance, the first meeting of the ASW Steering Committee was held in 2007. Between 2009 and 2013, the ASW Pilot Project was undertaken. The ASW Pilot Project comprises of three components. Component 1 is devising the practical structure of the ASW that enables the exchange of information on cargo clearance. Component 2 is establishing the infrastructure related to the implementation of the pilot project as outlined in Component 1. Component 3 is assessing the outcomes of the pilot project and providing recommendations for the future implementation of the region-wide ASW.<sup>15</sup> Seven ASEAN countries, namely Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam had participated in this project. The preliminary assessment of this programme was conducted in 2013 and concluded that it successfully achieved its objectives. Additionally, the ASW web portal was put in place in 2013.

Notwithstanding several recent developments, the ASW is still a work-in-progress. ASEAN countries are still experimenting with the implementation of the self-certification schemes. These schemes allow

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<sup>13</sup> ASEAN (2005) Agreement to Establish and Implement the ASEAN Single Window. Kuala Lumpur, Malaysia. 9 December.

<sup>14</sup> ASEAN (2008) ASEAN Economic Community Blueprint. Jakarta: ASEAN Secretariat.

<sup>15</sup> The Royal Malaysian Customs Department (2013) "ASEAN Single Window: The ASEAN Connectivity Towards ASEAN Economic Community." Presented at the Asia and the Pacific and the Americas: Customs Leaders' Partnership Dialogue - Efficient and Secure Trade for Shared Prosperity. Panama City, Panama. 4-5 April.

exporters to certify by themselves the origin of their products. This programme also reduces the paperwork related to trade facilitation. For instance, exporters put less information in the invoice declaration than what is required in the existing ASEAN Trade in Goods Agreement (ATIGA) Form D. The first self-certification pilot project has been implemented since 2010, with four AMS—Brunei, Malaysia, Singapore and Thailand—as participants. This is an experiment at best, as only trials of information exchange had been undertaken. The second pilot project has been developed since 2012 and is expected to finish in 2015. Upon completion, two pilot projects will merge in 2015 to create the implementation of the self-certification system at the ASEAN-wide scale. Although the Memorandum of Understanding on the second scheme was signed by Indonesia, Laos and the Philippines and entered into force on 10 May 2013,<sup>16</sup> it has not been implemented yet.

Moreover, ASEAN members are still contemplating the possibility of exchanging in digital form for particular certificates such as the Sanitary and Phytosanitary Certificates under the ASW framework.<sup>17</sup> In addition, the Legal Framework Agreement concerning the ASW is still being drafted to synchronise national laws and regulations with those under NSW and ASW. The main body responsible for drafting the document is the Working Group on Legal and Regulatory Matters for the ASEAN Single Window (LWG). Although the LWG has met regularly, no official agreement text has come out yet.<sup>18</sup>

To measure the overall progress of the AWS based on our rating criteria, we give the ASW Project four stars. This is because there has been no implementation of the ASW with coordination by all members. However, some degree of coordination among states exists, as reflected in the implementation of the pilot projects mentioned above. In short, as the ASW project has reach a stage where only the subset of all AMS has implemented it, the project deserves four stars from our rating system.

### **Remaining challenges**

The ASW has been encountering several challenges. First, the implementation was slowed down by different priorities given by each AMS. Some have made more progress while others are facing lags in developing NSWs. According to the study conducted by Intal et al., the implementation score of NSW for Indonesia, the Philippines, Singapore and Thailand is 87.7, while that of CLMV is 20.<sup>19</sup> The main reasons explaining this difference include poor quality transportation infrastructure and logistics equipment, and limited personnel expertise.

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<sup>16</sup> ASEAN (2013) Joint Statement of the 45<sup>th</sup> ASEAN Economic Ministers' Meeting. Bandar Seri Begawan, Brunei Darussalam. 19 August.

<sup>17</sup> Koh, J. and Mowerman, A.F. (2013) "Towards a Truly Seamless Single Windows and Trade Facilitation Regime in ASEAN Beyond 2015." *ERIA Discussion Paper No. DP-2013-29*.

<sup>18</sup> Almonte, L. (2013) "ASEAN Single Window Takes Regional Grouping Closer to Integration." *Portcall Asia*, 20 May 2013.

<sup>19</sup> Intal, P., D. Narjoko, M. Simorangkir (2011) *ERIA Study to Further Improve the ASEAN Economic Community Scorecard Phase II: Toward a More Effective AEC Scorecard Monitoring System and Mechanism*. Jakarta: Economic Research Institute for ASEAN and East Asia (ERIA).

Only ASEAN-5 (Indonesia, Malaysia, the Philippines, Singapore and Thailand) have put in place operational NSWs. Functional NSWs in this case refer to customs systems where business-to-government (B2G) and government-to-government (G2G) are integrated. These systems enable all agencies involved in trade facilitation to interact with the private sector.<sup>20</sup>

In contrast, CLMVB are lagging behind as they also face their own challenges. This is despite the fact that Brunei and Vietnam had established their Customs Single Window by setting up a one-stop service via the consolidation of all centres related to customs procedures under the same unit. However, their centralisation is not fully completed as certain unit agencies, such as technical control units which take care of the issuance of licenses, are not incorporated into this scheme. Furthermore, the customs systems of Cambodia and Myanmar do not have B2G and G2G communication in operation yet.<sup>21</sup>

Among the ASEAN-5 countries, some duplication of data on cargo shipment and clearance persists even though they possess functional NSWs. This problem emerges because there has been no streamlining of their NSWs to weed out duplications. The main reason lies in the countries' reluctance to adopt a single system to expedite trade facilitation processes further.<sup>22</sup>

### **Recommendations**

Taking into account the above progress and challenges so far, how can ASEAN improve the implementation of the ASW? We make the following recommendations as ways to push the ASW forward.

First, priority should be given to accelerate the implementation of NSWs for CLMVB. Technical and financial assistance are needed to lessen such constraints in these countries. Best practices should be sought not only from ASEAN-5 but also from other countries beyond the ASEAN region.

Second, because NSWs are building blocks for the ASW, more efforts should be made to standardise or streamline existing NSWs. For example, countries should work on reducing or even eliminating the document duplication problem. Streamlining not only better the existing NSW in ASEAN-5 but it also helps speed up the progress of carrying out functional NSWs in CLMVB.

Third, more concrete actions should be undertaken to increase documentation digitalisation. This is needed so that online data can be accessed faster than paperwork. In this current economic environment where speed plays a major role in facilitating trade across borders, digitalisation of customs documents and other related paperwork can enhance the usefulness of the ASW.

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<sup>20</sup> Koh, J. and Mowerman, A.F. (2013) "Towards a Truly Seamless Single Windows and Trade Facilitation Regime in ASEAN Beyond 2015." *ERIA Discussion Paper No. DP-2013-29*.

<sup>21</sup> *Ibid.*

<sup>22</sup> Piewthongngam, N. and P. Vjijttopparat (2014) "Trade Facilitation: Cost of Non-Cooperation to Consumers in the ASEAN Economic Community" San Francisco: The Asia Foundation.

The fourth effort should be geared towards the development of personnel with skills necessary for carrying out the ASW. Training is required for both legal and technical staff and can be done in several forms such as seminars, exercises and workshops. Skills training should be conducted on a regular basis to ensure that the involved personnel perform their tasks promptly as speed plays a major part in trade facilitation. Additionally, handbooks should be written for these specialists to serve as guidelines on how to operate the ASW on a day-to-day basis.

Fifth, as AMS have different customs regimes and legislations, more coordination among ASEAN states is necessary. Countries must work together to adjust their customs systems so that they are compatible with one another. Overlapping rules and regulations must be eliminated. Moreover, coordination among AMS should occur at all levels—not only among the involved agencies at national level but those at sub-national level as well. Doing so is crucial for developing a feasible environment for the ASW.

Sixth, AMS should seek more consultations with businesses to get their feedback on how to improve NSW and/or how to advance the ASW further. It is because businesses are the main beneficiaries and the success of the ASW project largely hinges on how well it serves the private sector. Hence, ASEAN governments should listen more to the business sector regarding their needs, and design the ASW that can best serve their needs.

Lastly, the ASW framework should be expanded to incorporate non-ASEAN members in future. Because production networks have spanned beyond the ASEAN region, cooperation on trade facilitation should expand to non-ASEAN states to further reduce transaction costs of such trans-national networks. Hence, a feasibility study should be conducted to assess the possibility and practicality of having the ASW include non-ASEAN members, especially ASEAN's major trade partners. Also, studies can be conducted on which modalities ASEAN should adopt to expand the ASW beyond the Southeast Asian region.

## **Case Study 2: The ASEAN Highway Network**

### ***What is the ASEAN Highway Network?***

Physical connectivity is integral to the promotion of cross-border trade and efficient land transport plays an important role in facilitating trade with and within ASEAN. In addition to enhancing efficiency and reducing trading costs, improvements in land transport can also increase opportunities for tourism and strengthen linkages with regional and global supply chains. Although there have been notable improvements in recent years, certain areas in the ASEAN region are still beset by poor roads and incomplete road networks, making it difficult to connect the region's total land area of around 4.4 million km<sup>2</sup>.<sup>23</sup>

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<sup>23</sup> ASEAN (2012) *ASEAN Connectivity Project Information Sheets*. Jakarta: ASEAN Secretariat.

In recognition of the importance of fostering cross-border connectivity, the ASEAN Highway Network (AHN) is listed as one of the top priority projects under the Master Plan on ASEAN Connectivity. The completed network will link all AMS by connecting 23 designated routes with a total length of 38,400 km. The Ministerial Understanding on the Development of the ASEAN Highway Network Project signed in September 1999 includes specifications for the route configuration and uniform technical design standards of the AHN to ensure that all the connected roads are safe and environmentally sustainable. Roads are divided into four major categories: (i) Primary roads refer to access-controlled highways used exclusively by automobiles; (ii) Class I roads are those made of asphalt, cement or concrete and are four or more lanes wide; (iii) Class II are double bituminous treated roads with two lanes; and (iv) Class III is considered the minimum acceptable standard.<sup>24</sup> Following this classification, AMS agreed to the following phased development timeframe:<sup>25</sup>

1. Phase 1 (tentative completion date – 2000)
  - Network configuration and designation of national routes
2. Phase 2 (tentative completion date – 2004)
  - Installation of road signs at all designated national routes
  - Upgrading of all designated routes to at least Class III standards
  - Construction of all missing links and designation of cross-border points
3. Phase 3 (tentative completion date – 2020)
  - Upgrading of all designated routes to at least Class I. Class II standards are allowed for low traffic, non-arterial routes.

### ***Assessing the progress***

Phase 2 is yet to be completed as the latest available United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) data show that many roads in Laos, Myanmar, the Philippines and Vietnam still do not meet Class III standards (Table 2). Myanmar in particular has a lot of catching up to do with over 35 per cent of its designated AHN roads still below Class III. With only six years left before the tentative completion date for Phase 3, it appears that most AMS need to move faster and intensify their efforts to upgrade remaining AHN routes to Class I. Only Singapore and Thailand have a sizable share of their designated AHN routes (42 per cent and 60 per cent, respectively) classified as Class I roads.

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<sup>24</sup> UNESCAP (2014) ESCAP Online Statistical Database. Available at: <http://www.unescap.org/stat/data/statdb/DataExplorer.aspx>.

<sup>25</sup> ASEAN (1999) Ministerial Understanding on the Development of the ASEAN Highway Network Project. Hanoi, Vietnam. 15-16 September. Available at: <http://www.asean.org/communities/asean-economic-community/item/ministerial-understanding-on-the-development-of-the-asean-highway-network-project>.

**Table 2 - Below Class III roads (km)**

Area/Country	2004	2006	2008	2010
Cambodia	199	3	2	0
Indonesia	0	55	0	0
Laos	0	285	107	306
Malaysia	0	0	0	0
Myanmar	1729	1271	1216	1064
Philippines	451	388	388	451
Singapore	0	0	0	0
Thailand	0	2	2	2
Vietnam	251	190	137	264

Source: UNESCAP (2014)

To facilitate transport of goods and support the ASEAN Free Trade Area, ASEAN identified 35 sections of the AHN as transit transport routes. Road construction and improvement of these sections located in Laos and Myanmar have been prioritised for completion by 2015. In Laos, this includes a 132 km road linking Banlao to Nam Phao which is only 65 per cent complete. Another section stretching 202 km and links Oudomxay with Tai Chang still needs funding worth US\$40.4 million.<sup>26</sup>

With regard to the construction of missing links, the Master Plan on ASEAN Connectivity shows that there are still missing links in Myanmar. These are found along the Lehnya-Khlong Loy (60 km) and Dawei-Maesamee pass routes (150 km) (*ibid.*).

### **Remaining challenges**

Delays in the construction and upgrading of the remaining sections of the AHN can be attributed to two main factors: access to financing and domestic connectivity priorities.

On the more pressing problem of funding constraints, this is an issue not just for the AHN but for overall ASEAN infrastructure investment as well. However, despite the fact that the scale of investment requirements in this sector is significant relative to other infrastructure sectors (i.e. energy, information and communication technology or ICT and water/sanitation), the transport sector does not attract as much private sector investment as the others do. It is estimated that ASEAN will need US\$1.08 trillion in infrastructure investments from 2010-2020. Of this amount, developing ASEAN (i.e. excluding Brunei and Singapore) will require over US\$450 billion for new construction and maintenance of the transport sector, or 40 per cent of the total projected infrastructure requirements. From 1990-2008, only 13 per cent of total private sector investments in ASEAN went to the transport sector.<sup>27</sup> Clearly, it is critical that AMS are able to effectively address the problem of chronic underinvestment in the transport sector.

<sup>26</sup> ASEAN (2012) *ASEAN Connectivity Project Information Sheets*. Jakarta: ASEAN Secretariat.

<sup>27</sup> Bhattacharyay, B.N. (2010) Infrastructure for ASEAN Connectivity and Integration. *ASEAN Economic Bulletin*, 27(2), pp. 200-220.

Domestic connectivity priorities also come into play as some AMS choose to strengthen nationwide connectivity before moving ahead with the AHN. In Indonesia, the plan to build a bridge connecting Dumain and Malacca was rejected as the government felt that the cost would outweigh the benefits if the construction was carried out without improving local infrastructure first. National Development Planning Agency (Bappenas) transportation director, Bambang Prihartono, felt that this was the right decision as construction of the bridge “would be more harmful than beneficial to us if we haven’t fully integrated our own connectivity.”<sup>28</sup>

As far as assessing the extent of regional cooperation in the AHN goes, the usual issue of standards and specifications harmonisation was not a hindrance to the progress of the project as these details were already finalised and agreed on in the Ministerial Understanding on the Development of the ASEAN Highway Network Project in 1999. The remaining problems are due to inadequate infrastructure financing sources. This covers a multitude of issues including the expansion and deepening of regional financial markets, and legal and regulatory reform concerning private sector participation among others, which do not necessarily require full policy coordination to be effective and are not part of the AHN project anyway.

From the progress cited above, the AHN deserves 4.5 stars from our rating system as there has been some degree of policy coordination among all AMS as seen in the harmonisation of standards and specifications. However, we docked half a star from the AHN because the projects are not fully completed or implemented.

### **Recommendations**

Financing the construction and upgrading of the remaining AHN designated routes and missing links is the most important roadblock delaying the completion of Phase 3 by 2020. Grants, public funds, official development assistance and loans from multilateral development banks will still be the main source of funding for infrastructure projects but this will not suffice. ASEAN already has several initiatives in place to support infrastructure financing, including the US\$13 billion ASEAN Infrastructure Fund. Development of the local currency bond market is also critical to ensure that currency and maturity mismatches are avoided. In this regard, the ASEAN Bond Market Initiative and the Asian Bond Fund have also made some headway.

Despite such efforts, there is still a significant gap in infrastructure financing especially in terms of public private partnership (PPP) projects. As previously mentioned, the relatively low private sector investment in the transport sector between 1990-2008 highlights the urgent need to encourage PPP projects. Road construction and upgrading are usually long-term projects, thus making it more difficult to develop “bankable” projects given the many risks when undertaking such projects. Member states need to step up and work on creating an enabling environment for private sector participation (e.g. by facilitating ease of business processes and implementing legal and regulatory reforms to remove restrictions on private sector participation) and ensuring a fair and transparent tendering process,

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<sup>28</sup> Natahadibrata, N. (2014) “ASEAN Connectivity Challenged by Domestic Blocks.” *The Jakarta Post*. 28 April.

among others. AMS should also work on boosting institutional capacity to develop and execute PPP projects. Among ASEAN members, Indonesia, the Philippines and Thailand have more advanced experience in PPP projects, albeit with mixed success. Less developed members stand to benefit from the experience as they embark on their own PPP projects. Capacity building should encourage sharing of regional best practices in PPP.

### **Case study 3: The ASEAN Power Grid**

#### ***What is the ASEAN Power Grid?***

As ASEAN takes its place as one of the fastest growing regions in the world, its economic ascent is fuelling a rapid rise in energy demand. Ensuring a secure and stable supply is becoming a major concern, with total energy consumption in ASEAN projected to rise from 375 mtoe (metric tons of oil equivalent) in 2007 to 1,018 mtoe in 2030.<sup>29</sup>

The ASEAN 2020 Vision adopted in 1997 called for the establishment of the ASEAN Power Grid (APG) to ensure regional energy security and the efficient utilisation of electricity resources. The APG allows AMS rich in natural resources but with relatively low electricity requirements to generate income from their surplus power. Neighbouring countries with higher power requirements can meet demand by importing electricity at reasonable prices.<sup>30</sup> The APG is divided into three systems:

1. System A (Upper West System) – This covers the Greater Mekong Sub-region (GMS). Phase I of the GMS Power Interconnection Project involves the establishment of power systems connecting Cambodia, Laos, Thailand and Vietnam. Myanmar will be included later on.
2. System B (Lower West System) – System B includes Indonesia, Peninsular Malaysia, Singapore and the southern power grid of Thailand.
3. System C (East System) – The East System comprises Brunei, Sabah, Sarawak, West Kalimantan and the Philippines. Given the location of the latter, the Philippines will be a stand-alone system. The country will be able to join through an undersea cable connecting Palawan to Borneo but its construction before 2020 is not economically feasible.<sup>31</sup>

The ASEAN Plan of Action for Energy Cooperation 2010-2015 lists the strategic goals for the APG and envisions the APG to evolve first on cross-border bilateral terms before expanding at a sub-regional level, then gradually moving to a completely integrated regional system. Full implementation

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<sup>29</sup> Malik, M.S. (2012) "Roundup: ASEAN Energy Ministers Agree to Further Enhance Cooperation. *Philippine News Agency*." 13 September.

<sup>30</sup> Hung, N.M. and B. Suryadi (2013) "Integration of Energy Infrastructure towards ASEAN's Connectivity," in Basu Das, S. (ed.) *Enhancing ASEAN's Connectivity*, pp. 121-141. Singapore: Institute of Southeast Asian Studies.

<sup>31</sup> Doshi, T.K. (2013) "ASEAN Energy Integration: Interconnected Power and Gas Pipeline Grids." In Basu Das, S. (ed.) *Enhancing ASEAN's Connectivity*, pp. 142-162. Singapore: Institute of Southeast Asian Studies.

of the APG also involves harmonisation of all technical standards, operating procedures and regulatory frameworks across AMS.<sup>32</sup>

### **Assessing the progress**

The ASEAN Economic Community Blueprint indicates that the initial target for the finalisation of the institutional arrangements and implementation of the APG is 2015. However, the latest schedule released by the APG Consultative Committee (APGCC) shows that only seven interconnection lines will be operational by 2015 (Table 3). As the APG requires a total investment of US\$5.9 billion, the delays can partially be explained by the lack of economic viability of some of the interconnection lines. Some projects already have funding lined up: For example, the Thailand-Laos line will be financed by the Asian Development Bank (ADB) while the Sarawak-West Kalimantan is covered by the ASEAN Infrastructure Fund. Malaysia's Serawak Energy Berhad and Indonesia's state-run PT PLN have agreed to work together on the Sarawak-West Kalimantan interconnection.<sup>33</sup> However, there are concerns that the remaining required funds will not be secured as scheduled.<sup>34</sup>

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<sup>32</sup> ASEAN Centre for Energy (2009) ASEAN Plan of Action for Energy Cooperation (2010-2015). Jakarta: ASEAN Centre for Energy.

<sup>33</sup> Hung, N.M. and B. Suryadi (2013) "Integration of Energy Infrastructure towards ASEAN's Connectivity." In Basu Das, S. (ed.) *Enhancing ASEAN's Connectivity*, pp. 121-141. Singapore: Institute of Southeast Asian Studies.

<sup>34</sup> Watanabe, S. (2013) "ASEAN Eyes Unification of Power Grids." *Nikkei Weekly*. 26 August.

**Table 3 - ASEAN Power Grid interconnection status (as of August 2013)**

Interconnection Line	Earliest Commercial Operation Date
1. Peninsular Malaysia-Singapore (new)	2018
2. Thailand-Peninsular Malaysia	
Sadao-Bukit Keteri	existing
Khlong Ngae-Gurun	existing
Su Ngai Kolok-Rantau Panjang	2015
Khlong Ngae-Gurun (2nd phase, 300MW)	2016
3. Sarawak-Peninsular Malaysia	2015-2021
4. Peninsular Malaysia-Sumatra	2017
5. Batam-Singapore	2015-2017
6. Sarawak-West Kalimantan	2015
7. Philippines-Sabah	2020
8. Sarawak-Sabah-Brunei	
Sarawak-Sabah	2020
Sabah-Brunei	not selected
Sarawak-Brunei	2012, 2016
9. Thailand-Laos	
Roi Et 2-Nam Theun 2	existing
Sakon Nakhon 2-Thakhek-Then Hinboun	existing
Mae Moh 3-Nan-Hong Sa	2015
Udon Thani 3-Nabong (converted to 500KV)	2018
Ubon Ratchathani 3-Pakse-Xe Pian Xe Namnoy	2018
Khon Kaen 4-Loei 2-Xayaburi	2019
Thailand-Laos (new)	2015-2023
10. Laos-Vietnam	2011-2016
11. Thailand-Myanmar	2016-2025
12. Vietnam-Cambodia (new)	2017
13. Laos-Cambodia	2016
14. Thailand-Cambodia (new)	2015-2020
15. East Sabah-East Kalimantan	2020
16. Singapore-Sumatra	2020

Source: HAPUA (2014)

Progress is even slower in terms of the APG's institutional infrastructure. Work is on-going on various aspects of institutional support including studies on the removal of barriers to interconnection and cross-border trade and investment but these are still at its early stages.<sup>35</sup> The Forum of the Heads of ASEAN Power Utilities/Authorities (HAPUA) has been assigned to promote and support the creation of power interconnection projects through information exchange, development of appropriate technology and methodology for interconnected systems, and conduct of joint studies on electrical energy transfer. They recently worked with ADB on a project on "Harmonisation of the Technical Standards, Codes and Guidelines in the Area of Planning and Design, System Operation and

<sup>35</sup> Shi, X. and C. Malik (2013) Assessment of ASEAN Energy Cooperation within the ASEAN Economic Community. *ERIA Discussion Paper 2013-37*.

Maintenance of the APG.” HAPUA will also develop a framework for taxation and customs tariff to facilitate investment in APG projects.<sup>36</sup>

### **Remaining challenges**

While funding constraints is a concern, the bigger problem in the case of the APG is setting up the institutional support given the diverse conditions across AMS. Implementing the APG means dealing with 16 interconnection lines comprising varying power sector regulations, market structures and consumer protection and safety standards, among others. Issues such as third party access, investment recovery and power purchase and pricing agreements also need to be settled before the APG becomes operational.<sup>37</sup>

The electric utilities sector in ASEAN countries have evolved at different times and speeds. Liberalisation is an on-going process as some AMS still have a long way to go from unbundling electricity sectors and encouraging open and transparent energy trade. This means that policy preferences will obviously also differ across the region. As reform will hinge on domestic priorities, it is likely that progress in the APG will continue on a bilateral basis. Regional developments may occur in instances wherein there are strong incentives for a regional approach, as seen in the case of the GMS.<sup>38</sup>

These challenges are underpinned by the strong political interests inherent in energy sectors across ASEAN. Energy security is commonly viewed as an important component of national security and increasingly limited natural resources mean that international competition for energy sources becomes more intense. It has been emphasised in the past that interconnected power grids can improve efficiency due to economies of scale—HAPUA projects like the APG can save AMS around US\$788 million a year—but there are concerns that cannot be addressed by simply highlighting the economic benefits of the APG. As the ADB’s *Asian Development Outlook 2013* highlights: “The lack of regional cooperation and integration is all the more glaring as jointly promoting energy savings and energy security would not require new technology or pose the high cost and financial risk developing it might entail... but it does require the political will to cooperate and the mutual confidence that makes cooperation possible.”<sup>39</sup>

Moving the APG forward requires pushing regional cooperation beyond bilateral agreements to work together on specific interconnection lines and the conduct of joint studies on various dimensions of the APG institutional infrastructure. Given the aforementioned constraints, the APG is granted four stars.

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<sup>36</sup> ASEAN (2013) Joint Ministerial Statement of the 31<sup>st</sup> ASEAN Ministers of Energy Meeting. Bali, Indonesia. 25 September.

<sup>37</sup> Shi, X. and C. Malik (2013) Assessment of ASEAN Energy Cooperation within the ASEAN Economic Community. *ERIA Discussion Paper 2013-37*.

<sup>38</sup> Doshi, T.K. (2013) “ASEAN Energy Integration: Interconnected Power and Gas Pipeline Grids,” in Basu Das, S. (ed.) *Enhancing ASEAN’s Connectivity*, pp. 142-162. Singapore: Institute of Southeast Asian Studies

<sup>39</sup> Asian Development Bank (2013) *Asian Development Outlook: Asia’s Energy Challenge*, p. 100. Manila: Asian Development Bank.

## Recommendations

As the APG also grapples with limited funding options, the measures listed previously on encouraging greater private sector investment also apply here. In addition to this, ASEAN must boost its efforts to develop the institutional infrastructure and build political commitment to support it. Local governments need to prioritise “behind-the-border” reforms to harmonise technical standards on design and construction specifications, system operations and maintenance codes, and safety and environmental guidelines.<sup>40</sup> Both institutional reform and development of physical infrastructure must also be subjected to stronger implementing and monitoring mechanisms to ensure that the APG progresses as scheduled. As the group responsible for the overall development and implementation of the APG, the APGCC must follow the progress closely and provide periodic status updates.

It would also be helpful if ASEAN commissions a study to highlight the incentives for a regional power grid to foster deeper regional cooperation. The focus should not solely be on the economic benefits; instead, a compelling study on the benefits of the APG will take a more holistic approach. Sovacool finds that the traditional concept of energy security that only looks at supply issues overlooks important long-term dimensions. Policymakers making a case for the APG must also take local community development, macroeconomic and geopolitical stability, equity and affordability, and environmental sustainability into consideration.<sup>41</sup>

## V. Conclusion

ASEAN governments put forth the vision for the AEC with high ambition. As stated in the Blueprint, the AEC aims to achieve a single market and production base, a competitive economic region, equitable economic development and integration into the global economy. Although the deadline is set to be 2015, viewing 2015 as the end year is a major misconception. Realising the advancement of the AEC is, in fact, an on-going process. It will definitely develop and evolve beyond 2015 as ASEAN becomes more integrated with the global economy. Moving beyond 2015, there is a pressing need for studies on the AEC, especially those that assess the progress of AEC projects and design recommendations to help improve the development of the projects leading to and beyond 2015.

Our contribution to the AEC literature as a whole is to create an alternative way of tracking the progress of the AEC projects. Taking into account that the projects vary largely in nature, we designed a star rating system with criteria broad enough to capture the progress of the projects with different characteristics. We applied our rating criteria to the selected AEC projects to evaluate and distinguish their progress from one another. We selected three projects, which were the ASEAN Single Window, the ASEAN Highway Network and the ASEAN Power Grid, to conduct in-depth case studies. For these cases, we have teased out major hindering factors and challenges which the

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<sup>40</sup> Shi, X. and C. Malik (2013) Assessment of ASEAN Energy Cooperation within the ASEAN Economic Community. *ERIA Discussion Paper 2013-37*.

<sup>41</sup> Sovacool, B. K. (2009) Reassessing Energy Security and the Trans-ASEAN Natural Gas Pipeline Network in Southeast Asia. *Pacific Affairs*, 82(3), pp. 467-486.

projects have been facing. We also gave recommendations on how the projects can be advanced further.

Admittedly, our study contains certain limitations which can pave the way for interested scholars to conduct future studies. First, the AEC projects assessed in this paper are the ones with sufficient data publicly available. Thus, we have neither rated the other projects nor undertaken in-depth analysis to identify their challenges and provide recommendations. As information on the other projects not covered in our study becomes available, we can continue our research by using the star rating system to investigate the progress of other AEC projects in future. The outcomes of the application could lead to the refinement of our rating system for better assessment of AEC implementation.

Another limitation lies in our methodology. Because we attempted to measure the progress of AEC projects across the board, our rating system assumes that full policy cooperation is the ultimate objective of all AEC projects. Further studies should embark on developing a more robust method of measuring progress which takes into consideration the differences in projects' objectives.

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