



令和 4 年度補正脱炭素燃料サプライチェーン構築事業

(A S E A N 諸国におけるエネルギー分野の脱炭素動向等調査等)

調査報告書

【公表用】

Contents

1. ASEAN諸国におけるエネルギー分野の脱炭素動向調査	2
1.1. 調査報告書.....	2
1.2. 調査報告書別添資料.....	5
2. 会合などの当日運営について	8
2.1. 開催概要	8
3. CERA Week 2024 当日運営.....	9
3.1. 会議概要	9
3.2. 登壇プログラム.....	10

1. ASEAN諸国におけるエネルギー分野の脱炭素動向調査

1.1. 調査報告書

Project Title	: Support to the Development of the 8 th ASEAN Energy Outlook (AEO8)
Funding Agency	: Ministry of Economy, Trade and Industry (METI) Japan
Implementing Agency	: ASEAN Centre for Energy (ACE)
Project Duration	: August 2023 – January 2024
Reporting Period	: November 2023 – January 2024 (Final Report)

1. AEO8 Development

The Association of Southeast Asian Nations (ASEAN) includes ten Member States – Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam – that are home to about 667 million people, accounting for about 8.7% of the total global population. In 2022, the real combined GDP of the ASEAN Member States (AMS) is estimated to reach USD 8.5 trillion (2017 constant, PPP) and is expected to continue expanding as much as 3.6 times by 2050¹. Fuelling that growth will require significant amounts of energy.

These population and economic growth trends, combined with a shift from agriculture towards greater industrialisation and service-based economies, have defined the ASEAN region's development trajectory. They also impose numerous challenges, including how to meet the fast-growing energy demand. Ensuring prosperity and resilience across the region will require careful consideration of energy equality and environmental sustainability concerns. To achieve this, AMS are focusing on four priorities: energy security, accessibility, affordability, and sustainability, as outlined in the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016–2025², the regional blueprint for the energy sector in the framework of the ASEAN Economic Community (AEC). The APAEC plays a vital role in setting a sustainable future for the ASEAN energy landscape.

In order to equip the process of translating the national policies and plan, a regional energy Outlook becomes very important to achieve the aspirational targets. In Outlook, several projection scenarios are introduced to compare different possibilities. ASEAN Centre for Energy (ACE), as the intergovernmental organisation within the ASEAN structure that represents the ten AMS' interests in the energy sector, frequently publishes ASEAN Energy Outlook (AEO) as its flagship publication. Having a think tank role, ACE has published seven series of AEO, constantly improving its capacity to produce Outlook internally.

The last publication, AEO7, explores four scenarios – three of which were modelled in AEO5 and AEO6 as well, plus a new scenario focused on the least cost option in the power sector. The four scenarios explore different strategies and escalating levels of ambition and their implications: Baseline Scenario, AMS Targets Scenario (ATS), APAEC Targets Scenario (APS), and Least-Cost Optimisation (LCO) Scenario. To extend this accomplishment, ACE plans to develop AEO8 to provide deeper analysis and recommendations, especially as the region is approaching the 2025 targets and preparing for the next cycle of APAEC.

The objectives of AEO8 Development are presented as follows:

¹ <https://aseanenergy.org/the-7th-asean-energy-outlook/>

² <https://aseanenergy.org/asean-plan-of-action-for-energy-cooperation-apaec-phase-ii-2021-2025/>

1. Supporting AMS in attaining the committed regional targets of APAEC by identifying the needed actions for each AMS and the coordinated regional-scale contributions.
2. Supporting AMS in preparing new regional targets in the next cycle of APAEC (2026-2035) by acting as the official and reliable reference.
3. Expanding the ASEAN energy database, including knowledge sharing on data processing and standardisation.
4. Acting as the reference for international partnership initiatives in the energy sector for the ASEAN region.
5. Addressing potential activities, policies, and resources that can be beneficial to drive the region's sustainable energy development.

2. Summary of Status

As per the budget proposal (Annex 2), the METI support is mainly allocated to the personnel costs in the development of the AEO8, including one Manager, two Senior Officers, and three Technical Officers. Details of the experts' designation and the specific tasks and man-days allocation can be found in Annex 1. As of January 2024, ACE has conducted Workshop I, Country Visits to Myanmar and Indonesia, as well as preparation for the other Country Visits and Workshop II. The initial results on Baseline and ATS, and the modelling for other scenarios have been ongoing.

Workshop I on Scenario and Data

The Workshop I was conducted in a hybrid mode on 14-17 November 2023 in Bogor, Indonesia (see Annex 3). The objectives of the 1st AEO8 Workshop are as follows:

- a) To understand the energy projection scenarios in every AMS, the key assumptions, and how they are being developed.
- b) To identify the possible input on the ASEAN energy scenarios based on the information from various global perspectives on energy outlook, including but not limited to the concern of energy trajectory, technology penetration, climate change, socio-economic development, investment, jobs creation and the framework under the AEC.
- c) To define and agree on the design of the ASEAN energy scenarios that are responding to the directives of APAEC based on the national situation and global consideration, including developing a common understanding and the generally accepted assumption in setting the parameters for the modelling works.
- d) To update and verify the consistency of the database from the previous work on AEO7.
- e) To establish the network of energy data experts from all AMS, focusing on completing each AMS' data during and after the meeting, if necessary.
- f) To agree and finalise the data that would then be processed for AEO8 Modelling.
- g) To enhance the capability of ACE and AMS in developing a technology roadmap and utilising emerging digital technologies, specifically Big Data and Artificial Intelligence, as data analysis and policy planning tools.

Data Gathering and Processing

Workshop I on Scenario and Data was continued with rigorous updates on data availability from AMS, and further identification of data gaps. The data availability shared by the countries was followed up. Challenges remained in the responsiveness of AMS to provide the data. As measures, external sources were explored as data alternatives.

The data processing was conducted to synchronise the various forms of data input, check on potential issues, match with the historical data from AEO7, do pre-processing, document in a proper database system, and prepare the needed form of data inputs to the model. These activities were co-led by the Technical Officer on Modelling and Technical Officers on Data, in consultation with the Senior Officer on Modelling.

Modelling Basic Scenarios

Workshop I on Scenario and Data provided key insights on the inputs and comments from AMS on their expectation of the AEO8. Co-led by the Senior Officer and Technical Officer on Modeling, the modelling activities would expand the AEO7 and develop the first versions of AEO8. The formula and key parameters for demand sectors, including transport, industry, commercial, and residential, are being updated with inputs from AMS and a literature review. The data needs that arise from these updates are consulted with the Technical Officer on Data I. Additionally, external experts from research institutions and academia were consulted to explore and conduct the modelling improvements in AEO8.

The first basic scenario of AEO8 is the Baseline Scenario, which is a simulation of historical trends without policy intervention. The second one is ATS. For this scenario, policies from AMS were gathered, analysed, and translated into modelling parameters.

Country Visits to Myanmar and Indonesia and Preparation for Other Visits

The purpose of Country Visits to 10 AMS is to consult on the initial results of the modelling and to confirm the utilisation of data and assumptions. Based on the feedback, the AEO8 Team will continue to finalise the model. The aims of these Visits are as follows:

- a) To present the initial results of AEO8 modelling works.
- b) To gather input and consult with AMS on these results.
- c) To verify the coherencies of existing country data.
- d) To complete some data gaps and key assumptions for scenarios development.
- e) To gather input and consult with AMS on the next cycle of APAEC.

The virtual Country Visit to Myanmar was conducted on 18 January 2024 via Zoom platform (see Annex 4). Meanwhile, the Country Visit to Indonesia was held in person on 19 January 2024 in Bekasi, Indonesia, inviting 25 people from various backgrounds and institutions, including the Ministry of Energy and Mineral Resources, the National Energy Council, The Ministry of National Development Planning Indonesia, state-owned oil and gas and electricity companies, as well as National Research and Innovation Agency (see Annex 5).

Report Writing

Technical Officer on Data II leads this activity, with the consultation from Senior Officer - Lead. The outlines of the Report were structured and laid out in detail, including the guidelines and person in charge. Chapter 1 of the Report, concerning the Introduction and historical trends of ASEAN energy status, was being developed. A draft of the Report is to be circulated to AMS and key stakeholders, including METI Japan, by July/August 2024, prior to its finalisation and launch in September 2024. A tender call for proposals for Language Editor and Graphic Designer was also prepared.

Preparation of Workshop II on Result Finalisation

Senior Officer leads this activity along with Technical Officers on Modeling and Data. The initial findings for all scenarios are prepared to be presented and discussed in detail with all AMS. Workshop II on Result Finalisation is expected to be conducted in June 2024. It is a crucial agenda for the AEO8 Development, focusing on data and scenarios consultation with the AMS

Working Group. The objectives are:

- a) To present the updates on AEO8 modelling works and the general assumption
- b) To gather input and consult with AMS on the modelling results
- c) To give the updates on AEO8 Report writing and confirm the support of AMS to review

3. Action Plans

The current METI Support to AEO8 Development ended on 31 January 2024. However, the activities of AEO8 Development will continue until its official launch in the 42nd ASEAN Ministers on Energy Meeting (AMEM) hosted by Lao PDR, tentatively in September 2024.

The remaining activities include:

- **Other Country Visits**
Following up on the Country Visits to Myanmar and Indonesia, which were successfully conducted in January 2024, the AEO8 team will continue to visit the other AMS in February-March 2024: Brunei Darussalam, Cambodia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand, Vietnam. The dates of the visits will be subject to the availability of the AMS Focal Points and other invited relevant stakeholders. The visits are expected to provide insights directly from each AMS on the initial results of basic scenarios, data gaps and key assumptions for the other scenarios, namely LCO Scenario and Carbon Neutrality Scenario (CNS).
- **Workshop II on Results**
This Workshop will gather the representatives from each AMS in one venue, tentatively in June 2024. During the event, the AEO8 team will present and discuss the initial findings of all four scenarios to the AMS, especially to the AEO8 Working Group and the Regional Energy Policy and Planning – Sub-Sectoral Network Focal Points. The Workshop is also planned to include Capacity Building on Carbon Neutrality Measures, which will be beneficial not only for the ACE team to provide better analysis and policy recommendation in the AEO8 Report, but also for the AMS to bring back the knowledge to their home country and institution.
- **Finalisation of the Model**
The model for all scenarios is expected to be finished by May 2024, and will be fine-tuning in June-July 2024 upon the feedback received during the Workshop II, REPP-SSN Meetings, and Senior Officials Meetings on Energy (SOME) in June 2024.

- **Finalisation of Report Writing**

The report writing is on progress since January 2024, with the first draft is planned to be shared by July 2024 to AMS, experts, international organisations, and dialogue partners, including METI, for their kind review and feedback to enrich the draft. The language editing and graphic designing processes will be started in August 2024.

- **Pre-Launching and Launching Events**

In August 2024, there will be one public pre-launching webinar as a teaser towards the launching, to disseminate general findings and what to expect from the Report. The AEO8 Report will be launched during the 42nd AMEM in September 2024. There will be a special agenda session and media press release on AEO8 in the ASEAN Energy Business Forum (AEBF) 2024, which is held back-to-back with the 42nd AMEM in Lao PDR.

- **Findings Dissemination Events**

After the report launching, several dissemination events will be conducted, including specific in-house webinars and offline seminars on AEO8, or presentations and talks in external events.

We noted the initial plan of having AEO8 Development Support Phase II in 2024 from METI to support the rest of these activities. This is the same practice with the two phases support from METI to the AEO7. Nevertheless, proper acknowledgement of the support from METI Japan will be ensured in the AEO8 report and related activities.

1.2. 調査報告書別添資料

Annex 1. Activities Detail

		Activities	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Total
1	Manager - Supervisor	Kick-off meeting	1						
	Zulfikar Yurnaidi	Review of AEO7 model - structure and approaches	1	1	1				
		Modeling demand - residential and transport	1	1	1				
		Modeling demand - industry and commercial	1	1	1	1			
		Modeling supply - power	1	1	1	1			
		Modeling supply - optimisation	1	1	1	1			
		Scenario finalisation	2	2	1	1			
		Preparation of Workshop I		1	1	1			
		Data request to AMS			1				
		Workshop I				2			
		Data processing				1	1	1	
		Modeling the scenarios					2	1	
		Consultation with expert					3	1	
		Identification of alternative data sources					1	1	
		Preparation of Country Consultations					1	1	
		Country Consultations						3	
		METI Report preparation							
		Man-days	8	8	8	8	8	8	48
2	Senior Officer – Lead	Preparation and lead for kick-off meeting	3						
	Rika Safrina	Review of AEO7 model - structure and approaches	3						
		Review of data needs and data gaps	2	3					
		Modeling demand - residential and transport	2	2	2				
		Modeling demand - industry and commercial	2	3	2				
		Modeling supply - power	2	2	3				
		Modeling supply - optimisation	2	3	2				
		Scenario finalisation		3	2				

		Preparation of Workshop I			4				
		Data request to AMS			1	1	4	2	
		Workshop I				3			
		Data processing				3	2	1	
		Modeling the Historical				3	2	2	
		Modeling the Baseline Scenario				2	2	2	
		Consultation with expert				2	2	2	
		Identification of alternative data sources				2	2	1	
		Preparation of Country Consultations					2	2	
		Country Consultations						2	
		METI Report preparation						2	
		Man-days	16	16	16	16	16	16	96
2	Senior Officer - Modeler	Review of AEO7 supply model	4						
	Ambiyah Abdullah	Support in supply data identification	3	2	2				
		Modeling supply - power	2	3	3				
		Modeling supply - optimisation	3	4	2				
		Collaborate in scenarios design	2	2	3				
		Preparation of Workshop I		3	4	1			
		Workshop I				3			
		Support in data gathering and processing				1	2		
		Modeling the Historical				3	3	3	
		Modeling the Baseline Scenario				3	3	2	
		Consultation with expert				1	2	2	
		Identification of alternative data sources				2	2	2	
		Preparation of Country Consultations					2	2	
		Country Consultations						2	
		METI Report preparation						1	
		Man-days	14	14	14	14	14	14	84
3	Technical Officer - Modeler	Review of AEO7 demand model	4						
	Michael Petalio	Support in demand data identification	3	2	2				
		Modeling demand - industry and commercial	2	3	3				
		Modeling supply - residential and transport	3	4	2				
		Collaborate in scenarios design	2	2	3				
		Preparation of Workshop I		3	4	1			
		Workshop I				3			
		Support in data gathering and processing				1	2		
		Modeling the Historical				3	3	3	
		Modeling the Baseline Scenario				3	3	2	
		Consultation with expert				1	2	2	
		Identification of alternative data sources				2	2	2	
		Preparation of Country Consultations					2	2	
		Country Consultations						2	
		METI Report preparation						1	
		Man-days	14	14	14	14	14	14	84
4	Technical Officer - Data 1	Preparation and support the kick-off meeting	2						
	Silvira Ayu Rosalia	Identification of data need in supply sector	4	3					
		Cleaning up AEO7 data - supply	4	4	2				
		Cleaning up AEO7 data - socioeconomics	4	4	4				
		Preparation of Workshop I - data gaps & template		3	4	1			
		Data collection to AMS			4	1	2		
		Workshop I				3			
		Data processing - supply				3	3	1	
		Data processing - socioeconomics				3	2	1	
		Consultation with expert				2	2	2	
		Identification of alternative data sources				1	2	3	
		Preparation of Country Consultations					3	1	
		Country Consultations						5	
		METI Report preparation						1	
		Man-days	14	14	14	14	14	14	84
5	Technical Officer - Data 2	Identification of data need in demand sector	4	3					
	Amira Bilqis	Cleaning up AEO7 data - demand	5	3	2				
		Cleaning up AEO7 data - policy	5	3	2				
		Preparation of Workshop I - data gaps & template		3	5				
		Data collection to AMS		2	5	1	3		
		Workshop I				3			
		Data processing - demand				4	3	2	
		Data processing - policy				3	3	2	
		Consultation with expert				1	2	1	
		Identification of alternative data sources				2	1	1	
		Preparation of Country Consultations					2	2	
		Country Consultations						5	
		METI Report preparation						1	
		Man-days	14	14	14	14	14	14	84

Annex 2. Budget Detail

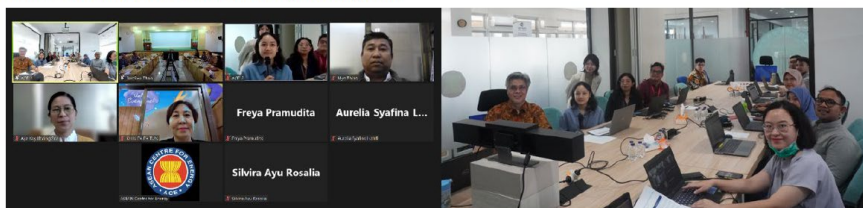
Budget Line	Description		Unit Cost (USD)	Quantity 1	Unit 1	Quantity 2	Unit 2	Total Cost (USD)
A. Personnel Cost								
A.1	Manager	Supervise and coordinate the study	640	1	person	48	day	30,720
A.2	Senior Officer	Manage and lead the study	400	1	person	96	day	38,400
A.3	Senior Officer - Modeler	Lead and conduct the modeling work	400	1	person	84	day	33,600
A.4	Technical Officer - Modeler	Conduct the modeling work	200	1	person	84	day	16,800
A.5	Technical Officer - Data I	Conduct data gathering and processing work	200	1	person	84	day	16,800
A.6	Technical Officer - Data II	Conduct data gathering and processing work	200	1	person	84	day	16,800
Total Budget for Personnel Cost								153,120
B. Activities								
B.1	Expert Consultation	Meeting support	1,500	1	package	2	time	3,000
B.2	Data Consultation & Purchase	Consultation and purchase on data provision	2,500	1	package	1	unit	2,500
Total Budget for Activities								5,500
C. Others								
C.1	Equipment	Computing workstation	5,000	1	package	1	time	5,000
C.2	Software	Software, including for data processing, visualisation, and writing	5,000	1	unit	1	time	5,000
Total Budget for Others								10,000
SUB TOTAL OF PROGRAMME COST (I)								168,620
Overhead cost 10%								16,862
TOTAL								185,482

Annex 3. Documentation of AE08 Workshop I



Picture 1 – Participants of AE08 Workshop I on Scenario and Data

Annex 4. Documentation of AE08 Virtual Country Visit to Myanmar



Picture 2 – Participants of AE08 Virtual Country Visit to Myanmar

Annex 5. Documentation of AE08 Country Visit to Indonesia



Picture 3 – Participants of AE08 Country Visit to Indonesia

2. 会合などの当日運営について

2.1. 開催概要

- ◆ 会議名称：第3回アジアグリーン成長パートナーシップ閣僚会合
- ◆ 会期：2023年9月25日（月）13：15～17：05
- ◆ 会場：ホテルニューオータニ東京「鶴西の間」
- ◆ 実施形式：オンライン開催（招待者・関係者・プレスは来場）
- ◆ 参加国数：22か国（日本含む）
- ◆ 視聴者数：合計190名
招待参加者：53名
オンライン参加者：137名
プレス参加者：7名
- ◆ アジェンダ

	セッション	登壇候補
第1部：閣僚セッション（13：15～14：10）		
13:15～13:20 （5分）	開会挨拶	・西村大臣
13:20～13:25 （5分）	写真撮影	・参加閣僚、ERIA渡辺総長
13:25～13:37 （12分）	金融当局による基調講演 （5分×2人＋バッファー）	・金融庁 堀本審議官 ・シンガポールMAS Denise Wong国際部長
13:37～14:07 （30分）	エネルギー当局による基調講演 （5分×5人＋バッファー）	・タジキスタン Daler Jumaエネルギー・水資源大臣 ・キルギス Turgunbaev, Melis Zhusupzhanovich天然資源・エコロジー・技術監督大臣 ・フィリピン Giovanni Carlo J. Bacordo次官 ・ブルネイ Shahbudin Haji Musa在京大使 ・UAE Suhail Al-Mazroueiエネルギー大臣（ビデオ）
14:07～14:10 （3分）	閣僚セッションⅡの御挨拶	岩田副大臣
14:10～14:20 （10分）	転換・休憩	

第2部：個別セッション（14:20-17:05）		
14:20～14:25 (5分)	日UAE間のJDI	西村大臣 ジャーベル大臣
14:25～14:30 (5分)	アジアのエネルギー・トランジションの課題と展望	ERIA渡辺総長
14:30～14:35 (5分)	転換	
セッション①：トランジション・ファイナンスに関するセッション		
14:35～14:45 (10分)	ATF SGの活動報告	MUFG 中濱氏
14:45～15:55 (70分)	アジアのグリーンイノベーションと現実的なトランジションのための金融セクターと産業界の対話	SFIA Eugene氏 ICMA Mushtaq氏 Aboitiz Lisa氏 Summit Wu氏 MUFG 中濱氏 モデレーター：ATF 事務局
セッション②：研究機関とのセッション		
15:55～17:05 (70分)	アジアの現実的なトランジションのために研究機関が果たす役割と政府への期待	ERIA 有馬先生 CSIS Jane Nakano氏 みずほ銀行 産業調査部 田村氏 モデレーター：CERA WEEK事務局 Nirmal氏

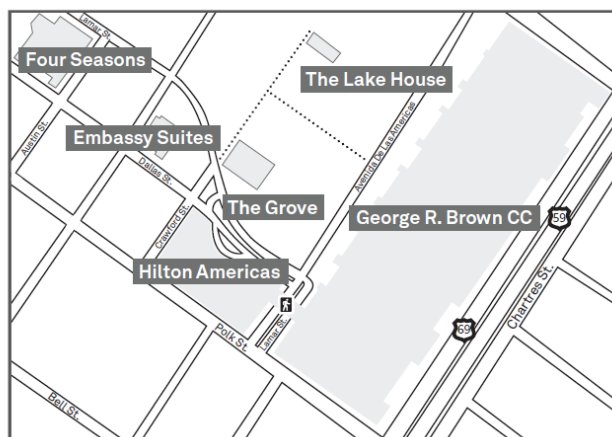
3. CERA Week 2024 当日運営

3.1. 会議概要

会期：2024年3月18日（月）～3月22日（金）

※AGGPM 関連セッションは3月18日～3月20日に実施

会場：Hilton Americas Houston/ George R. Brown Convention Center



3.2. 登壇プログラム

Date	Time	Session	Session Title	Location	Speaker
3/18	9:30-10:10	Agora Studio	Integrated Low Carbon Hubs across the Globe	GRB L3 Studio 1 - 361	Yuya Hasegawa Director of Energy Resources Development Division Ministry of Economy, Trade and Industry (METI), Japan
3/18	11:00-11:40	AGGPM Ministerial Dialogue Panel Discussion (public)	Spotlight Asia Green Growth Partnership Ministerial	Hilton L2 Spotlight (A/D)	Shin Hosaka Vice-Minister for International Affairs Ministry of Economy, Trade and Industry (METI), Japan
3/18	14:30-15:00	Agora Carbon Hub Panel Discussion (public)	Methane: Post COP28 roadmap	GRB L3 Carbon Hub	Masataka Yarita Head, Methane Management Taskforce JOGMEC Japan Organization for Metals and Energy Security
3/18	15:30-16:15	Agora Lyceum Workshop (public)	Transition Finance towards Net-Zero in Asia and Its Challenges	GRB-Agora Lyceum 2	Sho Hayashi Project Officer on Energy ERIA (Economic Research Institute for ASEAN and East Asia)
3/18	16:45-18:15	APAC Energy Forum Roundtable (private)	COP28's 'transition away from fossil fuels': What's Next for Asia?	GRB-Agora Salon 1	Shin Hosaka Vice-Minister for International Affairs Ministry of Economy, Trade and Industry (METI), Japan
3/18	17:30-18:00	Agora Pod Presentation (public)	NEDO Cleantech Innovation: Japan's Green Transformation Policies and Projects	GRB L3 Pod 3	Mika Takagi Director General New Energy and Industrial Technology Development Organization, Japan (NEDO)
3/18	18:30	Energy Asia Reception Networking (hybrid)	Hosted by PETRONAS with CERAWEEK as Exclusive Knowledge Partner	GRB-Agora Carbon Hub	Shin Hosaka Vice-Minister for International Affairs Ministry of Economy, Trade and Industry (METI), Japan

3/18	19:30-21:00	Insight Dinner Panel Discussion (public)	Supplying the Minerals for the Energy Future	Hilton L2 Room B	Hajime Wakuda President & Managing Director, Carbon Neutrality Promotion Headquarters JOGMEC Japan Organization for Metals and Energy Security
3/19	07:30-08:15	Japan Super EPIC Roundtable (private)	Energy Partner Informal Conversation with Hon. Shin Hosaka, METI, Japan	Hilton-R24 (24階ラウンジ利用)	Shin Hosaka Vice-Minister for International Affairs Ministry of Economy, Trade and Industry (METI), Japan
3/19	13:30-14:00	Executive Insight Interview Digital (online)	-	Hilton, Level 4, Studio 2	Shin Hosaka Vice-Minister for International Affairs Ministry of Economy, Trade and Industry (METI), Japan
3/19	11:30-12:00	Agora Hydrogen Hub Panel Discussion (public)	Japan's Hydrogen Strategy: Technology exports and low-carbon fuel imports	GRB L3 Hydrogen Hub	Mika Takagi Director General New Energy and Industrial Technology Development Organization, Japan (NEDO)
3/19	17:00-17:30	Agora Carbon Hub Panel Discussion (public)	Unlocking CCUS and Low-Carbon Solutions in Asia	GRB L3 Carbon Hub	Masumi Takanashi Project Director Japan Organization for Metals and Energy Security
3/20	07:15-08:20	Strategic Breakfast Dialogue Panel Discussion (public)	Asian Gas: Delivering Security of Supply	Hilton L2 Spotlight (A/D)	Hiroyuki Mori Executive Vice President JOGMEC Japan Organization for Metals and Energy Security
3/20	19:30-21:00	Hydrogen Dinner Panel Discussion & Dinner (by invitation)	Hydrogen Dinner	GRB L3 George Bush Ballroom B	Jin Yamaguchi Ministry of Economy, Trade and Industry (METI), Japan