MEMORANDUM OF UNDERSTANDING BETWEEN ASEAN AND THE INTERNATIONAL RENEWABLE ENERGY AGENCY

Background

At the 35th ASEAN Ministers on Energy Meeting in Manila, the Philippines, held in September 2017, ASEAN and the International Renewable Energy Agency (IRENA) agreed to develop a Memorandum of Understanding (MOU) to support the realisation of the ASEAN Plan of Action for Energy Cooperation (APAEC) 2016-2025. The MOU would facilitate the scaling up of renewable energy deployment in the region to support ASEAN's aspirational target to increase the component of renewable energy in the ASEAN Energy Mix to 23% by 2025.

ASEAN-IRENA MOU and Action Plan

- The ASEAN-IRENA MOU will be signed by the ASEAN Secretary-General Dato Lim Jock Hoi and IRENA Director General Adnan Amin at the 11th Singapore International Energy Week on 30 October 2018.
- Under the MOU, ASEAN and IRENA will hold regular high-level dialogues for Ministers and Senior Officials to exchange views on key renewable energy issues and facilitate stronger cooperation.
- The MOU will be accompanied by an Action Plan, which outlines joint activities between ASEAN and IRENA to further scale up renewable energy deployment in ASEAN. There are six key areas for these joint activities:
 - i. Energy planning in the context of integration of high shares of renewable energy sources into the ASEAN energy mix;
 - ii. Assessments and roadmaps for accelerated renewable energy deployment;
 - iii. Renewable energy policy and regulatory frameworks;
 - iv. Renewable energy technology and innovation;
 - v. Training and capacity building on renewable energy-related topics; and
 - vi. Development of bankable renewable energy projects and support for project facilitation.
- Specifically, IRENA will contribute to capacity building in ASEAN and provide technical support for renewable energy planning, policy support mechanisms and technology. This will take the form of workshops, webinars and reports.

- IRENA will also provide ASEAN with tools to support the development and financing of renewable energy projects such as through its Sustainable Energy Marketplace¹ platform.
- These activities will contribute to ASEAN's efforts to achieve its aspirational target of increasing the share of renewable energy to 23 percent of its energy mix by 2025, under the APAEC 2016-2025.

Next Steps

• The first activity following the signing of the MOU is the Renewable Energy Policy Support Mechanism Workshop. This will be organised by the ASEAN Centre for Energy and IRENA from 21 – 22 November 2018 in Kuala Lumpur, Malaysia. The workshop will train ASEAN energy officials on various policy instruments to support renewables in power and end-use sectors. These will include designing and implementing renewable energy incentives such as auctions.

The Sustainable Energy Marketplace aims to scale up investments – both public and private – in renewable energy and energy efficiency in developing and emerging countries to meet global climate and sustainable development goals.

CAPACITY BUILDING ROADMAP ON ENERGY INVESTMENT AND FINANCING FOR ASEAN

Background

- ASEAN's energy demand is expected to increase by almost two-thirds from 2018 to 2040 as its population grows in tandem with rapid industrialisation. At least US\$2.7 trillion of cumulative investment would be needed to meet this energy demand and to improve energy access within the region².
- To enhance regional capabilities in attracting investments and developing sustainable financing models, Singapore and the International Energy Agency (IEA) have co-developed a Capacity Building Roadmap on Energy Investments and Financing for ASEAN.

Capacity Building Roadmap for Energy Investment and Financing

- The Roadmap outlines four priority areas for enhancing capabilities in energy investments and financing for ASEAN over the next three years:
 - Optimising investment frameworks through enhancing expertise in developing conducive regulatory environments and planning for allocation of capital across technologies;
 - ii. **Ensuring power sector financial sustainability** to upgrade skills required to assess the financial sustainability of domestic power generation systems, and to mitigate vulnerabilities on investments for the power sector;
 - iii. **Utilising tools to assess risk and investment options** to enhance competency in project financial tools to better assess investment options, financing requirements and project risks; and
 - iv. Developing mechanisms and business models for project de-risking and bankability to develop a platform to deepen public-private engagement, including with financial institutions, which could also serve to equip policymakers with knowledge of new and emerging business models to de-risk projects.
- An inaugural activity under the Roadmap was held in Singapore from 28 to 30 August 2018. The "Singapore-IEA Clean Energy Investments and Financing

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Estimates from the IEA World Energy Investment 2018 report.

Training Programme" featured 18 speakers from the IEA, World Bank, Sumitomo Mitsui Banking Corporation, and Singapore government agencies. Over 100 participants from 16 countries attended the programme, which was well received by participants.

 The IEA also developed a Toolkit on Energy Investments and Financing for ASEAN. The Toolkit is an online repository of resources for ASEAN Member States, and includes financial tools and templates for legal documents relating to energy infrastructure investments.

Next Steps

 Singapore and the IEA will organise a regional training programme on risk management for energy infrastructure in 2019. The ASEAN Centre for Energy will also explore collaborations with Dialogue Partners, International Organisations, Financial Institutions and other relevant stakeholders to develop further activities for ASEAN under the Roadmap.

RECOMMENDATIONS ON THE DEVELOPMENT OF GREEN BUILDING CODES FOR ASEAN

Background

- According to the 5th ASEAN Energy Outlook by the ASEAN Centre for Energy (ACE), a quarter of the increase in the region's energy demand from now to 2040 is expected to come from its growing buildings sector.
- To realise cost-effective energy savings and efficiency gains in the buildings sector, ASEAN is working towards the development of green buildings. This will contribute to the region's aspirational target to reduce its energy intensity by 20 percent in 2020 and by 30 percent in 2025, based on 2005 levels.
- This will also help drive the building industry to develop strong capabilities in the
 entire building lifecycle. This will, in turn, create new demand for innovative
 solutions and products developed from local and sustainable resources suited
 for the region's climate.

Recommendations on Development of Green Building Codes

- Under the ASEAN-German Energy Programme, ACE embarked on a study of the current status of green building codes in the region to identify challenges in developing and implementing green building codes in ASEAN Member States.
- The study found that among the 10 ASEAN Member States, Singapore and Thailand have already implemented mandatory green building codes and energy efficiency measures. In addition, some ASEAN Member States were also highlighted as having made good progress in the implementation of green building codes in their respective countries.
- The study identified several key recommendations that ASEAN Member States should focus on when developing green building codes. These include:
 - i. Improving coordination within the government: ASEAN Member States should develop a comprehensive roadmap on green building codes with clear targets and objectives based on data collected at the respective country level. All relevant ministries should be involved in the development of such a roadmap. This would provide a coordinated direction of the government's policies on green buildings to the building industry;

- ii. Improving coordination between public and private stakeholders: Governments should set up mechanisms to receive inputs and feedback from the private sector in the development of policies and regulations related to green building codes. This would help ensure that all stakeholder views are considered when developing the codes;
- iii. Incorporating energy efficiency measures and passive design concepts in the initial stages of building design: In addition to energy efficiency measures, passive design features such as shading, use of natural daylight, orientation and landscaping should also be included in green building codes as these measures could affect building energy efficiency in the longer term;
- iv. Establishing a central institution to handle green building code certification, monitoring and verification in each implementing country: This would help to ensure compliance with the codes and maintenance of standards; and
- v. **Developing skilled manpower in the building sector:** Training institutions should include green building codes and building energy efficiency as part of their curriculum for new and existing workers in the building industry.

Next Steps

 ACE, together with the ASEAN Energy Efficiency and Conservation Sub-sector Network, will develop a roadmap of activities in 2019 and 2020 to raise awareness on green building codes and build the necessary capabilities in ASEAN Member States to implement the recommendations of the study.

RECOMMENDATIONS ON ENHANCING LIQUEFIED NATURAL GAS COOPERATION AND TRADE IN ASEAN

Background

- The ASEAN Council of Petroleum (ASCOPE)³ developed the Gas Advocacy White Paper to enhance liquefied natural gas (LNG) cooperation and trade in ASEAN. The Paper addressed:
 - i. Opportunities in promoting the use of natural gas and LNG;
 - ii. Measures to accelerate efforts on increasing connectivity and integration for the ASEAN gas market; and
 - iii. Areas of cooperation to develop the natural gas and LNG markets in ASEAN.

The executive summary of the Paper is available at www.ascope.org.

- Natural gas constitutes 23 percent of ASEAN's energy mix in 2018, and its share
 is expected to grow by 1.5 percent per annum until 2035. This increase is
 attributed primarily to the power and industrial sectors.
- The use of natural gas brings multiple benefits for ASEAN. First, natural gas enhances greater energy security in the region through diversification from coal and oil, a traditional fuel mix in the region. Second, natural gas is an economical choice for power generation in terms of fuel, operating and capital costs. Third, natural gas is one of the cleanest fossil fuels, and it can play a key role in mitigating the region's carbon emissions.
- Beyond indigenous natural gas resources, LNG imports will help to meet the growing demand for gas in ASEAN's industrial and power sectors. There are currently eight regasification LNG terminals in ASEAN with a total combined capacity of 36.3 million tonnes per annum. ASEAN is also exploring new technologies such as floating storage regasification units and LNG trucking.

Key Recommendations on Enhancing LNG Cooperation and Trade

 The Gas Advocacy White Paper outlines several recommendations to optimise the use of natural gas and LNG, and to seize opportunities for regional cooperation. These include:

The ASCOPE is a specialised energy body under the framework of ASEAN energy cooperation. Members include ASEAN National Oil and Companies and ASEAN government bodies overseeing petroleum and natural gas. The list of ASCOPE members is available at www.ascope.org.

- Developing a communication strategy and public campaign to promote awareness on the benefits of natural gas and its importance in the ASEAN energy landscape;
- Enhancing capability building on technical and commercial issues related to LNG in new and emerging markets;
- iii. Increasing technical assistance to improve infrastructure and commercial readiness to facilitate greater natural gas and LNG trading in the region;
- iv. Accelerating pricing reforms to encourage the discovery of the "true" cost of gas and provide the right market signals for sustainable investments;
- Tightening environmental regulations to incentivise the use of natural gas and LNG over other fossil fuel power generation; and
- vi. Increasing government support measures to promote and incentivise the use of natural gas and LNG.

Next Steps

- ASCOPE and ASEAN will incorporate the key recommendations in the ASEAN Plan of Action on Energy Cooperation (APAEC) 2016-2025. This will include capacity building activities and technical assistance to improve infrastructure and commercial readiness.
- In 2019, ASCOPE will develop a further study on small-scale LNG infrastructure and break-bulking to identify commercial opportunities for the ASEAN LNG market. Small-scale LNG enables the use of LNG as a cleaner fuel alternative for maritime vessels and opens up possibilities for LNG to be used in other industrial applications. Furthermore, it will also enable access to electricity for isolated and off-grid communities in ASEAN.



JOINT MINISTERIAL STATEMENT OF THE 36th ASEAN MINISTERS ON ENERGY MEETING

29 October 2018, Singapore

"Transforming Energy: Invest, Innovate, Integrate"

- 1. The 36th ASEAN Ministers on Energy Meeting (AMEM) was held on 29 October 2018 in Singapore. H.E. Mr. Chan Chun Sing, Minister for Trade and Industry of Singapore, officiated and chaired the Meeting. H.E. Dr. Siri Jirapongphan, Minister for Energy of Thailand was the Vice Chair. The Heads of the International Energy Agency (IEA) and the International Renewable Energy Agency (IRENA) were invited to participate in the 36th AMEM for the first time.
- 2. In his opening address, Minister Chan Chun Sing highlighted the need for continued strong cooperation within ASEAN, to ensure that ASEAN is able to live up to its economic potential and promise to its people and that ASEAN's growing energy needs are met in a sustainable way. Advances in technology are also reshaping the global energy landscape, and ASEAN would need to transform its energy sectors to address the challenges and seize opportunities that arise due to such changes. Minister Chan noted the ASEAN Energy Track's key achievements to date, which included good progress made on implementing the ASEAN Plan of Action for Energy Cooperation (APAEC). To implement the remaining measures, Minister Chan said that ASEAN Member States would need to continue to work closely together, and with our dialogue partners and international organisations, to build an affordable, sustainable and reliable energy future for ASEAN.
- 3. The Ministers welcomed the overall progress in the implementation of the APAEC 2016-2025 Phase 1: 2016-2020 as highlighted in the APAEC Mid-Term Review (MTR) Report. The overall score of 3.65 out of 5 in the APAEC MTR demonstrates that ASEAN is on track to achieve the collective energy targets by 2020 towards a secure, accessible, affordable and sustainable energy future. The Ministers looked forward to the development of Phase 2 of the APAEC 2016-2025, based on the recommendations of the MTR.

Working to achieve ASEAN's energy intensity reduction targets

4. The Ministers welcomed the good progress towards realising ASEAN's energy intensity reduction targets of 20% by 2020 and 30% by 2030, noting that ASEAN had achieved a 21.9% reduction in energy intensity compared with 2005 levels in 2016. The Ministers lauded the achievement as a milestone, having exceeded ASEAN's

2020 target. They looked forward to sustaining this positive momentum with increased energy efficiency (EE) efforts in buildings, home appliances, as well as in new areas such as transportation.

- 5. In particular, the Ministers noted that energy demand in the buildings sector is expected to grow significantly over the next decade and highlighted the potential for energy savings with the implementation of cost-effective EE measures. In this regard, the Ministers welcomed the progress towards the development of green building codes for ASEAN and endorsed the key recommendations of the study conducted by the ASEAN Centre for Energy (ACE) under the ASEAN-German Energy Programme (AGEP). The recommendations include (i) developing a comprehensive roadmap on regional green building codes, (ii) improving coordination between public and private stakeholders, (iii) incorporating EE measures in the initial stages of building design, and (iv) including green building codes and EE measures training to address the lack of skilled manpower in the buildings sector. As the next step, the Ministers looked forward to the convening of a training programme for policy makers to raise awareness on green building codes in 2019.
- 6. The Ministers acknowledged the efforts in building a conducive environment for wider energy efficiency and conservation (EE&C) adoption, including strengthening of energy management systems and certification programmes in ASEAN, and the enhancement of the ASEAN-Standards Harmonisation Initiatives for Energy Efficiency platform. The Ministers also welcomed the ongoing cross-sectoral collaboration between the EE&C Sub-Sector Network and the Joint Standard Committee on Electrical Electronic Equipment (JSC EEE) of the ASEAN Consultative Committee on Standards and Quality (ACCSQ) on harmonised EE performance testing standards for household air-conditioners under the existing ASEAN Electrical & Electronic Equipment Mutual Recognition Arrangement (ASEAN EE MRA). The Ministers looked forward to further efforts to include lighting, motors, television, refrigerators, electric fans and transformers into the MRA.

Working with IEA towards an energy resilient future through building capacity for energy investments and financing for ASEAN

- 7. The Ministers underscored the importance of sustainable investments and financing to facilitate the transformation of ASEAN's energy landscape. They endorsed the initiative on the Capacity Building Roadmap on Energy Investment and Financing, which aimed to enhance regional capabilities to attract investments in energy and develop sustainable financing models. The Ministers expressed appreciation to the IEA for co-developing the Roadmap with the Regional Energy Policy and Planning Sub-Sector Network (REPP-SSN). They also acknowledged the first activities under the Roadmap, namely the convening of the Singapore-IEA Clean Energy Investment and Financing Training Programme held from 28 30 August 2018 in Singapore and the completion of the IEA Toolkit on Energy Investments and Financing as an online resource for ASEAN Member States.
- 8. The Ministers discussed the global energy landscape and ways to address ASEAN's challenges of rising energy demand, improving grid connectivity and

enhancing energy efficiency. They also spoke about new opportunities arising from digitalisation in the energy sector and emerging risks in the security of energy systems. In particular, the ASEAN Ministers and the IEA Executive Director discussed how ASEAN can respond to disruptions to the global energy landscape and tap on innovation to develop robust policies to strengthen the region's energy resilience for the future.

9. The Ministers expressed their appreciation to the IEA for their continued support to ASEAN, including through the ASEAN-IEA Dialogue platform and the initiatives under the ASEAN-IEA Memorandum of Understanding (MOU) on Energy Cooperation. The Ministers also looked forward to building stronger institutional ties with IEA, to assist the region to meet its energy priorities, including by way of projects discussed during the 36th AMEM on regional power system integration, renewables integration, energy efficiency for cooling/air conditioning, investments and digitalisation.

Cooperating with IRENA and bolstering efforts to attain ASEAN's aspiration on renewables

- 10. The Ministers welcomed the signing of the MOU on Energy Cooperation between ASEAN and IRENA to strengthen cooperation and assist ASEAN in scaling up renewable energy (RE) deployment and advancing the transition to a sustainable energy future. To implement the ASEAN-IRENA MOU, the Ministers endorsed the accompanying Action Plan, which outlined key areas of cooperation such as (i) strengthening dialogue between ASEAN and IRENA, (ii) developing roadmaps to accelerate the deployment of renewables, (iii) building capacity on RE policy support mechanisms, (iv) providing technical support on technology and innovation, and, (v) developing bankable RE projects and support to project facilitation.
- 11. To this end, the Ministers tasked SOME to deepen efforts to address the gaps and challenges in meeting the region's aspirational goal of 23% share of renewables in the ASEAN energy mix by 2025, noting the 12.4% renewables share achieved in 2016. The Ministers expressed confidence that the ASEAN-IRENA MOU would contribute towards closing this gap.
- 12. The Ministers also discussed with IRENA on the progress of global energy transition towards a low-carbon future. IRENA highlighted that global power capacity additions from new RE exceeded conventional power in 2017, that the cost of RE technologies are declining considerably, and there is potential to step up deployment in the heating and transport sectors. The Ministers and IRENA discussed the policies and strategies that could help ASEAN, such as innovative business and financing models, and, enhanced bankability of RE projects to help drive the deployment of renewables which can yield significant socio-economic benefits in the region, including in remote areas.
- 13. On further efforts to develop regional capabilities on RE policies and financing, the Ministers noted the continued support of AGEP which complements the ASEAN-IRENA cooperation on RE.

Enhancing Liquefied Natural Gas (LNG) cooperation and trade in ASEAN

- 14. The Ministers noted that natural gas would continue to play an important role in ASEAN's energy future and commended the ASEAN Council on Petroleum (ASCOPE) for their efforts towards enhancing intra-ASEAN LNG cooperation and trade, which would help to increase energy security in the region.
- 15. The Ministers were pleased with the continued progress in enhancing the capacity of the region's regasification infrastructure to 36.3 million tonnes per annum and noted the current Trans-ASEAN Gas Pipeline length of 3,673 km connecting six (6) countries. The Ministers also noted ASCOPE's efforts to develop templates for commercial agreements, transactions, and gas quality. This will contribute to the region's commercial and infrastructure readiness to facilitate greater LNG cooperation and gas trade.
- 16. The Ministers welcomed the completion of the Gas Advocacy White Paper, which identified key recommendations to promote the use of natural gas and LNG in the region, through a well-coordinated and connected common gas market. In particular, the Ministers endorsed the recommendations to (i) enhance capacity building and technical assistance amongst ASCOPE members, (ii) improve the regulatory framework and speed up price reforms to set the right signals for sustainable investments, and, (iii) support the commercial sector, through fiscal or tax incentives, to realise the economic benefits of greater LNG supply security and flexibility as well as environmental benefits. In addition, the Ministers looked forward to ASCOPE's study on the business opportunities for small-scale LNG deployment in ASEAN for 2019.

Building ASEAN Member States capabilities on civilian nuclear energy

- 17. The Ministers discussed the key findings and recommendations of the Study on Nuclear Legal and Regulatory Framework in ASEAN and the Pre-Feasibility Study on the Establishment of a Nuclear Power Plant in ASEAN, which was completed this year by the ACE-Canada Nuclear & Radiological Programme Administrative Support (NRPAS).
- 18. In the light of these recommendations, the Ministers affirmed the continuing need to build ASEAN's capabilities on policy, technology and regulatory aspects of civilian nuclear energy. The Ministers noted the convening of the Regional Nuclear Security and Emergency Preparedness: Security Culture and HRD programme in March 2018 in Malaysia.
- 19. On the collaboration with the International Atomic Energy Agency (IAEA), the Ministers looked forward to the conclusion of the proposed ASEAN-IAEA Practical Arrangement in 2019 led by the ASEAN Network of Regulatory Bodies on Atomic Energy (ASEANTOM).

Promoting clean coal technologies and energy security in ASEAN

- 20. Given the rising demand for coal use for power generation in the region till 2040, the Ministers acknowledged the efforts by the ASEAN Forum on Coal (AFOC) to share and build technical capacity for (i) the deployment of low emission coal technologies, (ii) carbon capture storage and utilisation, (iii) best practices in coal handling and clean coal use and technology innovation, and, (iv) corporate social responsibility (CSR) programmes to improve the image of coal and advance carbon capture initiatives for the region.
- 21. The Ministers appreciated the convening of the High-Level Policy Dialogues for Coal in ASEAN in Malaysia in April 2018 and encouraged regular exchanges to discuss and consider regional action towards enhancing intra-ASEAN coal trade, coal security and the promotion of clean coal technologies (CCT). They encouraged the AFOC to continue fostering collaboration with other ASEAN sectoral bodies, Dialogue Partners, International Organisations, international financial institutions, and the energy business community to advance CCT in ASEAN.
- 22. The Ministers noted the initiatives such as the application of coal upgrading technologies by Indonesia, business and financing models to promote coal trade by Viet Nam, and workshops by Thailand to address the image of coal in the light of global environmental concerns.

Widening multilateral electricity trade in the ASEAN Power Grid (APG)

- 23. The Ministers welcomed the multilateral electricity trade among Lao PDR, Thailand and Malaysia which commenced in January 2018 under the Energy Purchase and Wheeling Agreement (EPWA) the first of its kind in ASEAN. The Ministers noted that 15.97 gigawatt hours of electricity was traded as of October 2018. These transactions represent Phase 1 of the pathfinding Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP) to study the cross-border power trade of up to 100 MW electricity power from Lao PDR to Malaysia through Thailand's existing transmission grid. They welcomed the initiatives to expand participation to more ASEAN Member States and to explore commercial arrangements which would enable transactions for firm power.
- 24. The Ministers also noted that the Heads of ASEAN Power Utilities/Authorities (HAPUA) and the ASEAN Power Grid Consultative Committee (APGCC) have commenced the APG studies to examine the institutions, market mechanisms, and interconnection infrastructure to advance multilateral electricity trade. They looked forward to the findings of the APG studies at the next AMEM.
- 25. The Ministers requested HAPUA to synergise the studies on the APG, with considerations to integrate renewables into power grid planning. In this regard, the Ministers encouraged HAPUA to explore ways of deploying smart grid and digitisation technologies not only to integrate variable RE supply but also to capture cost and energy efficiencies.

Motivating best practices through the ASEAN Energy Awards

- 26. The Ministers congratulated the 63 awardees of the ASEAN Energy Awards 2018 recognised for best practices in energy efficiency and conservation, renewable energy and excellence in energy management. The awards were given in the areas of (i) ASEAN Energy Management in Buildings and Industries with 14 awards from five (5) countries, (ii) ASEAN Energy Efficient Building with 12 awards from five (5) countries, (iii) ASEAN Green Building with seven (7) awards from five (5) countries, (iv) ASEAN Renewable Energy with 19 awards from six (6) countries, and, (v) Awards for Excellence in Energy Management by Individuals conferred to 11 senior energy officials in recognition of their significant contributions to advance ASEAN's energy cooperation goals. A Special Submission Category on Zero Energy Building will be added in 2019.
- 27. Following the 36th AMEM, the Ministers looked forward to participating in the discussions at the 11th Singapore International Energy Week on 30 October 2018.

37th AMEM

28. The Ministers agreed to convene the 37th AMEM in September 2019 in Bangkok, Thailand.

The Ministers expressed their sincere appreciation to the Government and people of Singapore for the warm hospitality accorded to the delegations and the excellent arrangements made for the 36th AMEM and associated meetings.

ASEAN MINISTERS FOR ENERGY

- 1. The Hon. Dato Mat Suny Hussein, Minister of Energy, Manpower and Industry, Brunei Darussalam
- 2. H.E. Suy Sem, Minister of Mines and Energy, Cambodia
- 3. H.E. Dr. Arcandra Tahar, Vice Minister of Energy and Mineral Resources, Indonesia
- 4. H.E. Dr. Khammany Inthirath, Minister of Energy and Mines, Lao PDR
- 5. The Hon. Yeo Bee Yin, Minister of Energy, Science, Technology, Environment and Climate Change, Malaysia
- 6. H.E. U Win Khaing, Union Minister for Electricity and Energy, Myanmar
- 7. H.E. Alfonso G. Cusi, Secretary of the Department of Energy, Philippines
- 8. H.E. Chan Chun Sing, Minister for Trade and Industry, Singapore
- 9. H.E. Dr. Siri Jirapongphan, Minister of Energy, Thailand
- 10. H.E. Dang Hoang An, Vice Minister of Industry and Trade, Vietnam
- H.E. Dato Lim Jock Hoi, Secretary General of ASEAN