

## Preface

The total primary energy supply of the Association of Southeast Asian Nations (ASEAN) will increase by 2.8 times from 2017 to 2050, and its share of fossil fuels in 2050 will be just less than 90% in the business-as-usual case and 80% in the Alternative Policy Scenario (APS) case, which will include ambitious targets for promoting energy efficiency and conservation (EEC) activities and the deployment of variable renewable energy (VRE), such as solar photovoltaics. The main use of coal and gas will be as fuels for power generation, and the share of power generation for both will be 80% for the BAU and 70% for the APS. On the other hand, oil is and will be consumed mainly for road transport activities, such as vehicles. Consequently, carbon dioxide (CO<sub>2</sub>) emissions will increase by 3.2 times (1.2 billion tonnes of carbon in 2050) from 2017 to 2050 under the BAU. If ASEAN can achieve EEC and VRE aggressively, CO<sub>2</sub> emissions will decrease to 0.9 billion tonnes of carbon in 2050 and this could be significant (a 28% reduction) but will not be sustainable compared to the current levels (0.4 billion tonnes of carbon in 2017). Many of the ASEAN Member States will need to accomplish higher economic growth in order to catch up with developed countries, and, thus, they will surely need electricity to accelerate their economic growth. Considering these matters, one of the solutions for ASEAN will be the application of carbon capture, utilisation, and storage (CCUS).

ASEAN will continue to consume coal and gas for its power generation but will be able to reduce CO<sub>2</sub> emissions from coal and gas combustion with CCUS in future. However, CCUS is not currently available as an energy technology in terms of the economic aspect (cost). Thus, ASEAN has to start collaborating and cooperating with Organisation for Economic Co-operation and Development (OECD) countries and joining discussions on CCUS. In addition, ASEAN has to seek CCUS value chains covering the capture of CO<sub>2</sub>, the application of technology for reducing CO<sub>2</sub>, and the storage of CO<sub>2</sub> in ASEAN or the East Asian Summit region. I hope this report encourages ASEAN Member States to work towards the implementation of CCUS.



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