

## Foreword

There is an increasing interest in natural gas demand potential and its implications in the East Asia region. This study, proposed by Japan at the 10th East Asia Summit Energy Ministers Meeting in 2016, focuses on markets in the Association of Southeast Asian Nations (ASEAN) and India to understand the future natural gas demand, estimates the size of market on the demand side, and correspondingly derives the necessary investment in infrastructure on the supply side. The challenges and policy options are drawn from both the demand and supply sides.

On the demand side, expanded gas demand will lead to some increases in fuel costs in the power generation sector, as it mostly substitutes cheap coal. But this could be partly offset by the reduction of construction costs since natural gas-fired power plants have lower capital costs. Other sectors will see significant benefits in fuel costs since natural gas could be much cheaper than oil products. Reduction in carbon emission is also expected in all sectors. Various policies are needed for maximizing demand potential. They include clear policy indications for promoting natural gas use, enhancing economic competitiveness of natural gas, supporting the development of supply infrastructure, and institutional and capacity building. Volume I of this report is dedicated to the demand side analysis.

On the supply side, the study identified the most suitable and feasible supply chain solutions based on the size of demand, the main users of natural gas, the technical constraints, geographical constraints, as well as available existing transport infrastructures such as road, rail, and ports. Even with the existing and planned primary liquid natural gas (LNG) terminals, more primary LNG terminals are still needed by 2030.

The study also found that primary LNG terminals in ASEAN can cover other countries' area. It is therefore recommended that natural gas infrastructure be shared for cost saving. The estimated investment for additional LNG supply chain by 2030 is US\$81 billion. Volume II of this report is dedicated to the supply side analysis.

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