Executive Summary

As ASEAN's oil imports continue to grow, oil supply security has become an acute issue for sound economic growth. The development of stockpiling, in particular, will play a central role in energy security policy. This is because oil is a commodity that is used for a variety of purposes and is difficult to substitute with another commodity. Oil therefore has a strategic importance that other commodities do not have, and a certain volume of oil should be separately stored to prepare for an unexpected supply problem. Stockpiling is in fact an established oil supply security measure in Organisation for Economic Co-operation and Development (OECD) countries, which have proved its effectiveness against sudden and unexpected supply disruptions in the past.

An oil supply disruption can occur for a range of reasons, from an unprecedented natural disaster to successive accidents in the oil supply chain. It can therefore happen at any time and will not wait until sufficient stockpiling is developed in ASEAN. A disruption can cause significant malfunctions in a country's economic activities and affect energy demand in multiple sectors, from the transportation, residential, and industrial sectors through to power generation. It may even lead to political uncertainty if the disruption is prolonged and causes discontent between the public and the government.

In developing oil stockpiling, the usual practice undertaken by many OECD countries is to build a permanent stockpiling base. There are four major types of oil stockpiling base in the OECD, namely onshore tank stockpiling, underground cavern stockpiling, salt cavern stockpiling, and floating stockpiling. Each stockpiling base has its own benefits and drawbacks. An ASEAN country intending to build a permanent stockpiling base may choose one of the types in accordance with the country's unique conditions, such as site availability, geological conditions, budgetary requirements, and resilience against natural disasters.

Some smaller ASEAN countries, however, may not have sufficient demand to justify developing a permanent stockpiling base, or may not be financially capable of funding the development of a stockpiling base. For such countries, lower cost options may be able to mitigate the effects of an unexpected supply disruption. There are five types of such lower-cost option: ticket stockpiling, upgrading commercial inventory to strategic stockpiling, joint stockpiling with a third party, regional stockpiling, and multilateral arrangements. Some small European countries prefer ticket stockpiling, but it cannot be a long-term solution for stockpiling development, especially for ASEAN countries, whose oil demand is likely to increase in the future. Upgrading commercial inventory may be a more viable option for ASEAN countries if cooperation from the oil industry can be obtained. Regional oil stockpiling can also be an effective option as benefits from economies of scale can allow even a smaller country to have a stockpiling base. A combination of ticket stockpiling arrangements may facilitate regional stockpiling.

In developing oil stockpiling, a successful relationship between the government and the oil industry will help greatly. Collaboration with industry brings industrial expertise on oil storage operations as well as the efficient management of oil supply logistics and financial and human resources. Examination of the history and management of oil stockpiling in OECD countries highlights several factors that are important and necessary for achieving a successful relationship between governments and the oil industry: 1) legal provisions that identify the roles and responsibilities of relevant players and mobilise domestic financial and human resources to proceed with stockpiling development; 2) international agreements and cooperation that provide external pressures to accelerate stockpiling development and ensure levelled competitive conditions across borders; and 3) close communication with the oil industry to understand the real intentions of the industry and create opportunities for economic benefits by the industry for developing stockpiling. The creation of economic incentives, where possible, will encourage the industry to join the stockpiling development efforts. Finally, government support in financing stockpiling development or regulatory arrangements to promote stockpiling development will also help to form a successful government-industry relationship.

ASEAN countries will follow the following steps as a template for an oil stockpiling development road map:

(1) Providing principles and legislation
(2) Founding a specialised organisation
(3) Financing
(4) Selecting an oil stockpiling option
(5) Securing a site and carrying out construction and operations

Providing principles is the first task to be undertaken in identifying the purpose of stockpiling and the specific target of stockpiling development. Oil stockpiling law will help to determine the roles and responsibilities of relevant players. The founding of a specialised organisation will be the next step, as the organisation will play a key role in developing stockpiling through coordination with the related agencies as well as foreign countries or organisations. The organisation will be a permanent one to accumulate expertise and information on stockpiling operations. The third step is securing finance. This can be achieved through government financing or private bank loans, subject to each country's political and economic conditions. Financing sources may also differ depending on the stage of stockpiling development. Selecting an oil stockpiling option is the next step. The chosen type of stockpiling can be based on each country's unique conditions. A lower cost and quicker option, such as ticket stockpiling, may be chosen first, then followed by a higher cost and more complex option, such as the upgrading of commercial inventory or regional stockpiling. Securing a site and carrying out construction is the final step. If a technically difficult option is chosen, assistance from foreign companies may be considered.

It is never easy to develop oil stockpiling. However, with increased uncertainty of current international oil demand and supply, and greater dependence on oil imports in the ASEAN region, its importance the importance of oil stockpiling is increasing day by day. To protect the domestic economies and populations from unexpected supply disruptions, oil stockpiling must be improved step by step, starting from where is most feasible.