

Chapter 4

Recommended Road Maps of Oil Stockpiling System

1. Summary of the Discussion

The year 2022 highlights a renewed interest in oil supply security because of the war in Ukraine. IEA member countries released an unprecedented amount of oil to address supply insecurity. Therefore, this study sought appropriate stockpiling methods for Myanmar at affordable costs, appropriate stockpiling levels, and a sharing ratio between the public and private sectors.

Chapter 1 set the scene for the discussion, explaining why oil stockpiling is necessary and describing the history of oil stockpiling, mainly in IEA member countries. Oil supply was disrupted many times and will likely happen mainly due to geopolitical risks, accidents, and natural disasters. Among other countermeasures, stockpiling is considered a last resort and immensely important in securing the oil supply. Oil stockpiling has been in place for decades in many advanced economies. Some major oil-importing countries like China and India are expanding their stockpiling. The importance of oil stockpiling is well recognised in ASEAN countries, too. The IEEJ assumes that most ASEAN countries hold 20–50 days of demand, significantly lower than the level of IEA member countries.

Chapter 2 outlined the basic concept of the oil strategic stockpiling system and described a stockpiling scheme in IEA countries. Oil strategic stockpiling systems can be differentiated by ownership (industry or public); storage options (onshore, offshore, or underground); and nationality (national or international initiatives). Government intervention in the form of SPR is justified and implemented in many IEA countries due to the ‘publicness’ of stable oil supply. While onshore tanks by national initiatives are the mainstream, underground storage and international initiatives like a ticket or joint stockpiling offer cheaper options. Earlier studies by the IEA and ERIA concluded that the benefit of oil stockpiling exceeds the cost, given the probability of oil supply disruptions. Stockpiling systems in IEA member countries vary, depending on the oil fundamentals of each country, such as import dependency, refining capacity, and interconnection with neighbouring countries.

Chapter 3 described Myanmar’s oil fundamentals and outlook and presented an appropriate oil stockpiling system. Oil demand in Myanmar will grow steadily at 3% per annum to reach 18 Mt (350 kb/d) in 2050.

Considering oil fundamentals, current stock level, infrastructure, and possible financial constraints, it seems reasonable for Myanmar to expand oil stockpiling to 60 days in 2040, mainly in the form of oil products. With the possibility of a new refinery, option 1 assumes no refinery will be built, and option 2 envisages new refineries with 5 Mt/y capacity that will be operational in 2028. The importance of oil supply stability justifies establishing SPR. The cost of building up oil stockpiling for Myanmar is estimated at US\$922 million for option 1 and US\$710 million for option 2. Whether Myanmar can see this substantial cost as an insurance policy will determine

the future of oil stockpiling and the degree of oil security or insecurity for the country.

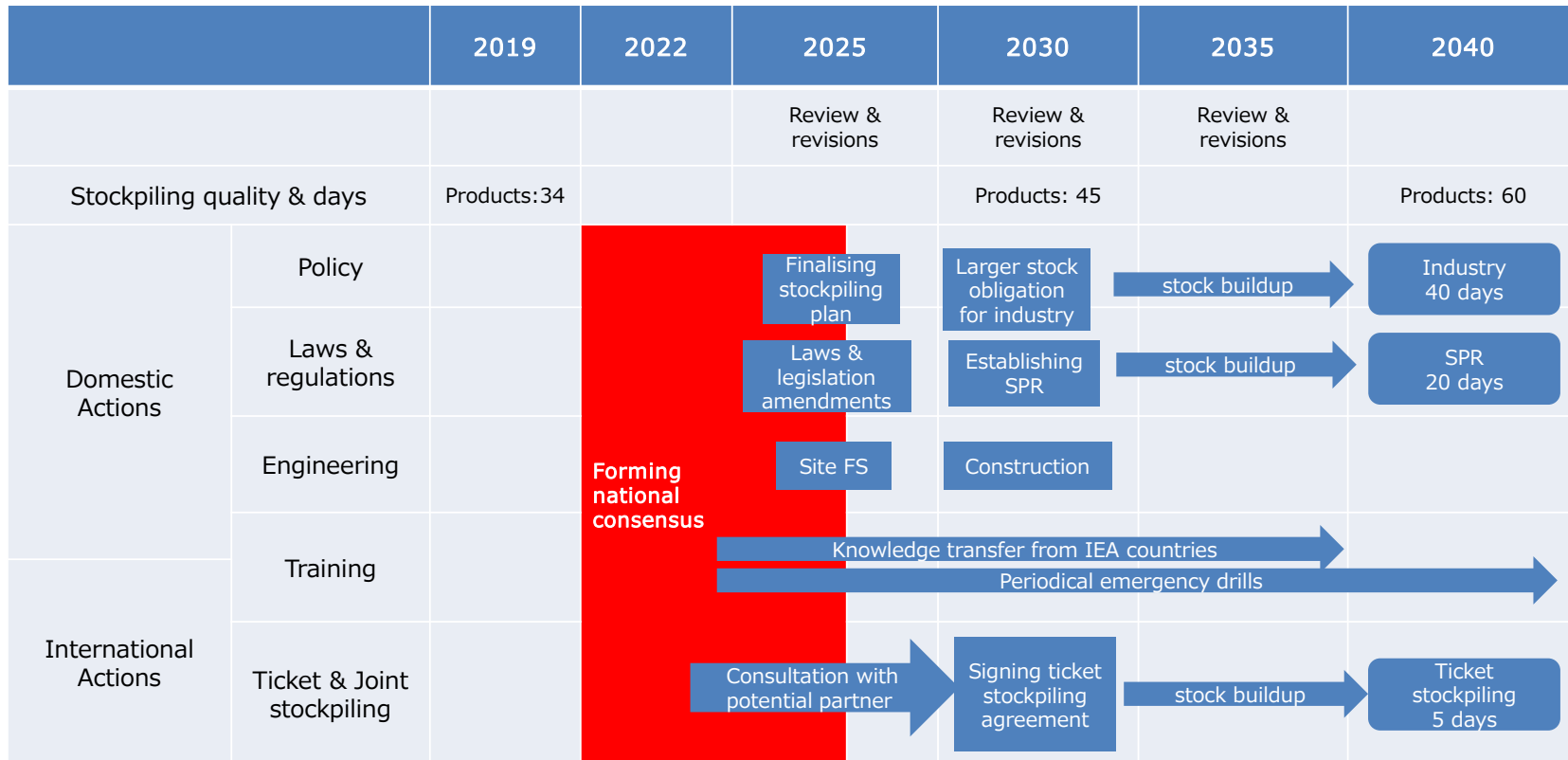
2. Recommended Road Maps

This study conducted three workshops to understand, deepen, and discuss what oil stockpiling scheme might be desirable for Myanmar. The basic scheme features 60 days of stockpiling to be achieved in 2040. ERIA suggested introducing SPR to Myanmar's Ministry of Energy. Building up stockpiling of this scale requires a lot of policy arrangements to create a necessary environment for stockpiling development. A road map would be useful to visualise what to do and when. Figure 4.1 presents a road map for option 1 and Figure 4.2 for option 2.

Before implementing any road map items, the first and probably the hardest hurdle might be forming a strong national consensus for oil stockpiling. Since the benefit of oil stockpiling becomes a reality only when oil disruptions happen, it is easy for any government to sideline and postpone oil stockpiling projects. However, many supply disruptions have always occurred and will likely happen. Therefore, the importance of fostering a mindset of oil stockpiling as an insurance policy cannot be emphasised enough in the first place. That mindset would enable broad consensus amongst all the policymakers and government agencies on why expanding oil stockpiling is necessary. The sooner and the firmer the consensus are made, the more oil security can be improved. The road maps here set the target year of 2025 for Myanmar to form a national consensus.

Building a national consensus needs detailed feasibility studies to assess the economics, engineering of stockpiling, and political, social, and environmental impacts and implications. Especially a detailed cost–benefit study specifically for Myanmar would be essential. For the sake of national consensus, the Ministry of Energy could conduct a similar and more detailed analysis to accommodate all the specificities of Myanmar. Such analysis would enable quantifying and articulating the cost and benefit of oil stockpiling. With the results of feasibility studies, government agencies could work on necessary laws and legislations, budget allocations, or other financial arrangements. As pointed out in Chapter 3, if a suitable underground structure is available, the stockpiling cost can be reduced significantly. Internationally, government agencies should assess which country could be a counterpart for ticket and joint stockpiling schemes and start initial negotiations with potential partner(s) regarding quantity, location(s), investments, and incentives.

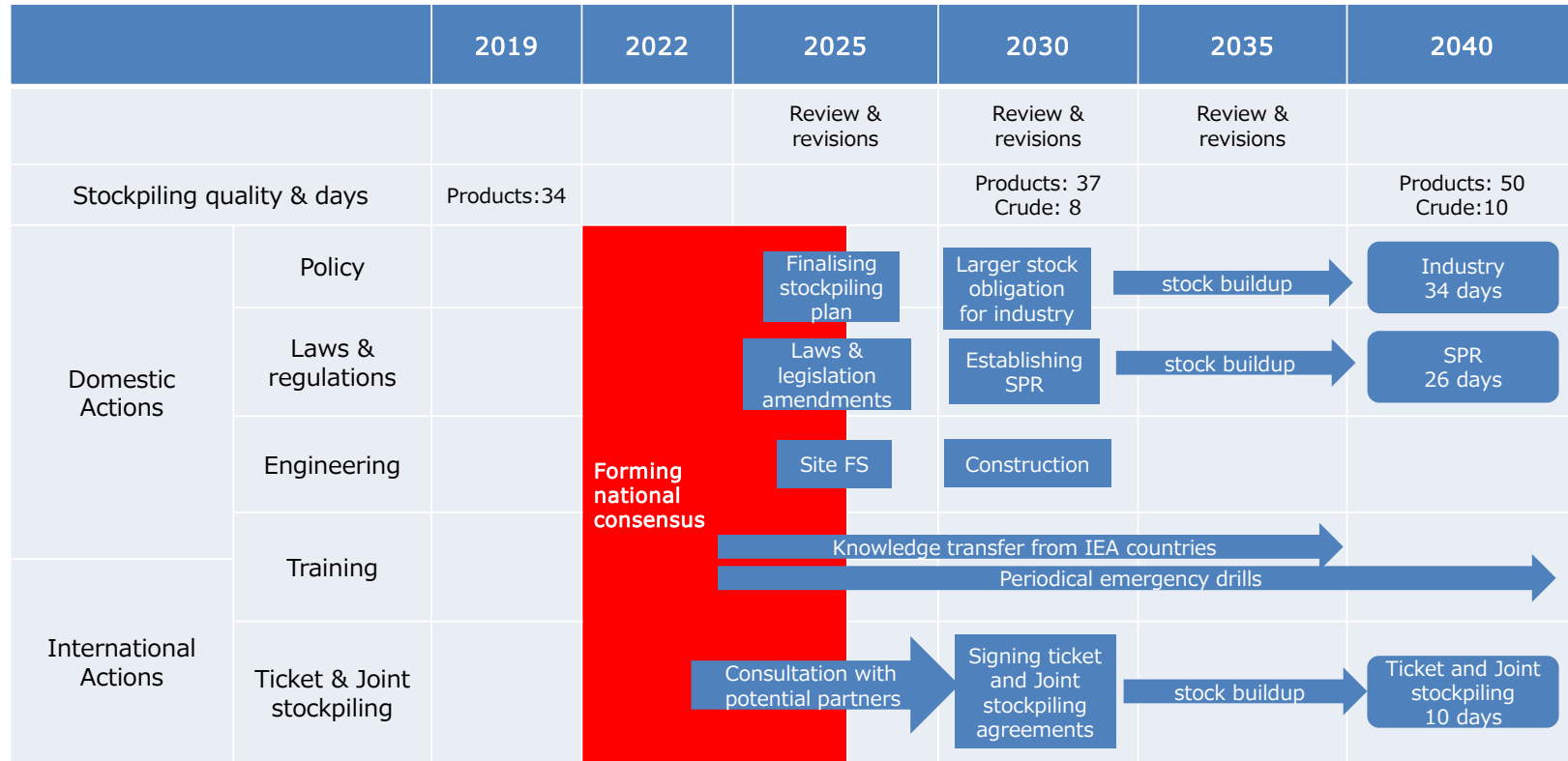
Figure 4.1. Road Map for Oil Stockpiling Development in Myanmar (Option 1)



Remark: Ticket stockpiling 5 days is a part of SPR.

Source: Authors.

Figure 4.2. Road Map for Oil Stockpiling Development in Myanmar (Option 2)



Remark: Ticket and joint stockpiling 10 days is a part of SPR.

Source: Authors.

With data, conclusions, and implications, the government is required to work on a wide range of issues, forming a concrete stockpiling policy that covers the size of oil stockpiling, stockpiling entity and its responsibility, the roles of government and industry, and incentives for industry. With a concrete policy, a detailed stockpiling plan should be published by 2025 to share the vision of the policy. Necessary laws and regulations should follow around 2025 to legislate all the policy items. Such laws would feature a more significant stock obligation for industry and the establishment of SPR. In addition, the government should adequately incentivise oil companies through tax exemptions, subsidies, and soft loans for infrastructure development. On the engineering side, feasibility studies on SPR site(s) could start shortly after the plan's publication. It is worth mentioning again that the government should pursue the possibility of underground storage and utilisation of the Kyaukpyu Terminal. Both larger stock obligations for industry and the establishment of SPR could be targeted around 2030 so that stock could be built up throughout the 2030s.

This study suggested considering ticket and joint oil stockpiling with other countries to supplement stockpiling. There are several partner countries for ticket stockpiling. For instance, Japan could offer spare storage capacity. However, considering Myanmar relies on imported oil products, not crude, higher storage costs and long shipping distances (thus, higher shipping costs) would hinder the potential economic benefits of joint stockpiling. Perhaps, neighbouring countries like Thailand and/or China might be good partners for joint stockpiling. These countries are already oil trading partners. Thailand exports products to Myanmar, China imports crude from Myanmar, and the China National Petroleum Corporation owns the Kyaukpyu Terminal. Deepening trade relationships and contributing to oil supply security enhancement, it is reasonable to seek the possibility of joint stockpiling with these countries. Since option 2 assumes new refinery development, joint crude oil stockpiling could be included. Most of the additional crude flowing into Southeast Asia will be from the Middle East. Major crude exporters like Saudi Aramco, ADNOC, and KPC already implement joint stockpiling with Asian countries. Therefore, Saudi Arabia, Abu Dhabi, and Kuwait will be obvious joint stockpiling partners for Myanmar. The Myanmar government could spend the latter half of the 2020s discussing joint stockpiling with these international partners before signing agreement(s) around 2030.

Developing human resources is also important at physical stockpiling sites, laws and regulations, monitoring, and other decision-making processes. Stock-releasing procedures in an emergency are essential for the oil stockpiling system to function properly. Emergency drilling exercises will contribute to streamlining the decision-making process on when and how oil stock should be released when supply is disrupted.

Building stockpiling is a long-term process. It is natural to assume many changes during development in economics, domestic and international politics, society, and the environment. Thus, the government should be ready to accommodate all the necessary changes and demands from relevant parties during development. Feasibility studies will need to continue, perhaps through 2040, if any delays or project changes happen. The road maps are subject to periodic revisions.

More officially, the road map could be revised every 5 years to share all the changes and a goal to achieve 60 days of stockpiling in 2040.