Chapter 1

Introduction

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Chapter 1

Introduction

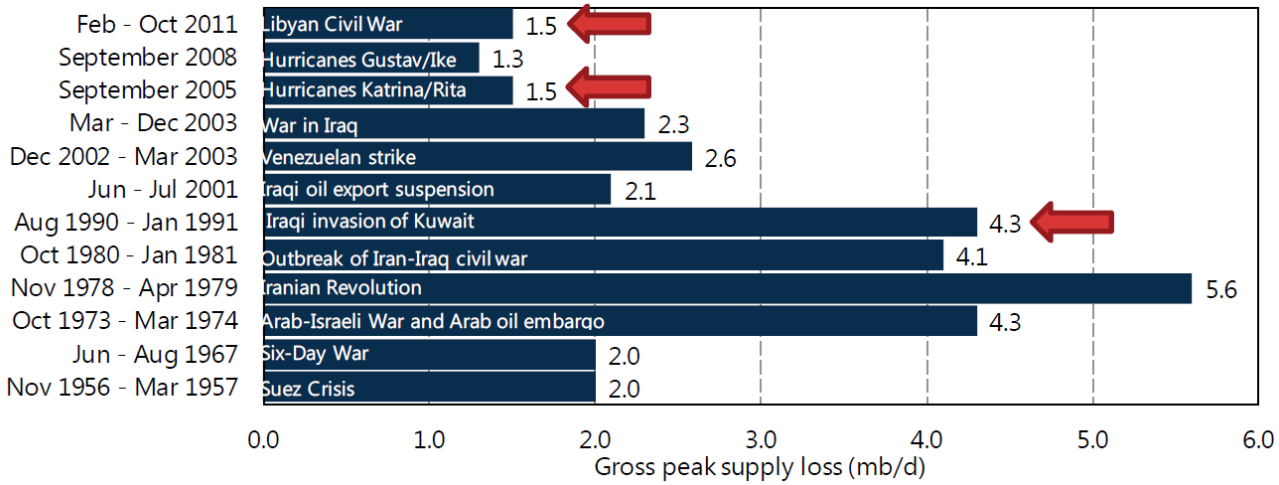
Oil demand is growing rapidly in Myanmar, and import dependency was as high as 95% in 2019. The demand growth will likely continue, albeit at a lower rate, towards 2050. Thus, oil supply security is and will be vulnerable, and one solution is to expand oil stockpiling for the country. This study seeks appropriate stockpiling methods for Myanmar at an affordable cost, appropriate stockpiling level, and appropriate sharing ratio between the public and private sectors. This introductory chapter intends to set the scene for the discussion, explaining why oil stockpiling is necessary and describing the history of oil stockpiling, mainly in IEA member countries.

1. Risks and Countermeasures of Oil Supply[1]

The year 2022 highlights a renewed interest in oil supply security because of the war in Ukraine. The Western countries introduced various sanctions on Russia to support Ukraine. More relevantly, for this study on oil stockpiling, IEA member countries released an unprecedented amount of oil to address supply insecurity.

Oil supply insecurity is nothing new. Figure 1.1 summarises major disruptions until 2011, often caused by revolutions, wars, or strikes in major oil-producing countries. The Arab–Israeli war and Arab oil embargo caused the first oil crisis. During the Iranian Revolution, as much as 5.6 million barrels per day (mb/d), or almost 9%, of the world's total supply was lost, directly causing the second oil crisis.

Figure 1.1. Major Oil Supply Disruptions



mb/d = million barrels per day.
Source: IEA (2014).

[1] This section draws heavily from ERIA (2022).

Supply disruptions continued after 2011. Sanctions by the United States (US) and the European Union (EU) on Iran decreased Iranian production by almost 1 mb/d from 2011 to 2013. Revived US sanctions in 2016 slashed Iranian production by nearly 1.5 mb/d from 2017 to 2019. The Houthi attack on Saudi oil facilities led to a 5.7 mb/d production loss in 2019 (Reuters, 2019). Similarly, US sanctions on Venezuela has decreased oil production in the county by more than 2 mb/d since the mid-2000s. The war in Ukraine and the anticipated oil supply reduction from Russia is the latest example of supply insecurity. Unfortunately, there is no denying the possibility of supply disruptions in the future.

Energy security is 'the uninterrupted availability of energy sources at an affordable price' (IEA, 2022a). Put differently, energy insecurity is caused by extreme tightening of demand and supply and skyrocketing prices. Table 1.1 summarises the major risks for energy security and countermeasures.

Table 1.1. Oil Supply Risks and Countermeasures

	Supply Disruption Risks	Countermeasures
Upstream (exporting countries)	• War • Terrorist (including cyber) attacks • Industry strikes • Underinvestment	• Security enhancement • Supply expansion
Midstream (transport)	• Piracy and terror (including cyber) attacks • Tanker accident • Sea blockage	• Security enhancement • Tanker re-routing
Downstream (importing countries)	• Natural disasters • Refinery accidents • Terrorist (including cyber) attacks	• Natural disaster–proof infrastructures • Demand control • Stockpiling

Source: Authors.

Considering past supply disruptions, various upstream risks such as wars, terrorist attacks, or industry strikes remain major. Underinvestment (or overinvestment) is arguably part of the market cycle. However, extreme underinvestment will surely deteriorate oil supply security. In importing countries, natural disasters and refinery accidents might be major risks. Natural disasters, such as earthquakes, tsunamis, volcanic eruptions, and floods, have often caused major supply disruptions in ASEAN countries (ERIA, 2017).

Countermeasures are mainly defensive, either in the form of security and infrastructure enhancement, re-routing of transport, or demand control. Stockpiling is a last resort and essential in securing oil supply.

2. History of Oil Stockpiling

Oil stockpiling has been in place for decades in many advanced economies. As far as the author can verify, France legislated stockpiling obligations onto oil companies as early as 1928; Italy followed shortly after in 1933 (JOGMEC, 1994). These two countries have been significant net importers concerned about oil supply security. Although the necessity of oil stockpiling was widely recognised by the 1960s, the first oil crisis in 1973 clearly urged many importing countries to stockpile. Indeed, the establishment of the IEA by the OECD in 1974 directly resulted from the crisis. From then on, the IEA supervised oil stockpiling and release in OECD countries.

The basis of the IEA oil stockpiling is summarised in the International Energy Programme (IEP) in 1974. It outlines four response measures to address supply shortages: stock release, demand restriction, fuel switching, and increasing domestic production to address supply shortages. It is also the IEP that obliged countries to hold net oil imports for 60 days (later enhanced to 90 days). One IEP article specifies that a 7% loss of oil supply during the most recent four quarters will activate emergency actions, such as oil sharing between IEA member countries.

However, even in the second oil crisis in 1979-1980, IEP measures were not activated since the loss was less than 7%. Some flexibility was called for to activate easily collective actions by the programme. As a result, the IEA formulated coordinated emergency measures (CERM) in 1984. CERM emphasises coordinated stock release because adequate stock had been built in the early 1980s, and stock release was immediately effective in covering the supply loss. With CERM, the IEA now recommends that its member countries implement action(s) like a stock release, not just once a significant supply disruption occurs but when one is 'likely to occur' in the 'very near future'.[2] Past stock releases by the IEA were implemented following CERM. The IEA stockpiling scheme will be detailed in the next chapter.

Oil stockpiling is widely introduced worldwide, although the details are often not disclosed to the public. China formulated an oil stockpiling policy in the 10th Five-Year Plan in 2001. Building up stocks since then, China reportedly held nearly 90 days of oil import as of December 2021 (Reuters, 2021). India also established an SPR in 2004. As of 2018, there were 46 days of oil stock, including SPR, in India (JOGMEC, 2020).

The importance of oil stockpiling is well recognised in ASEAN countries, too. It is not clear which country started and when, but now many ASEAN countries legislate and implement oil stockpiling, most of which is held by the industry. While the actual stockpiled amount is not often disclosed, The Institute of Energy and Economics, Japan, (IEEJ) assumes that most ASEAN countries hold 20–50 days of demand, mostly oil products.

[2] Note the flexibility in wording such as 'likely to occur' and 'very near future'.