NEW ZEALAND
FOREIGN AFFAIRS & TRADE
Manatū Aorere

FORMAL MESSAGE – SINGAPORE: BUILDING ACCESS TO ESSENTIAL GOODS AND SERVICES

Market Report

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Rāpopoto - Summary

Increased economic volatility since the emergence of COVID-19 has given renewed impetus to Singapore's long-standing strategy of building supply chain resilience for essential goods and services – particularly water, food, energy and medical supplies. This strategy involves a combination of diversifying supply sources, looking for regional solutions, developing domestic production capability and changing consumer mind-sets.

Pūrongo – Report

We provide reporting on the current risks to vital inputs/imports into Singapore, and how these challenges are being mitigated in the near term. Our second message in this series (scheduled for August) will focus on the longer-term initiatives being undertaken by the Government to ensure Singapore's relevance as a regional and global hub for goods trade.

Overcoming the food-energy-water nexus

As a city-state significantly constrained by limited land and lacking natural resources, Singapore has historically been dependent on imports to provide water, food, and energy for its population. Moreover the country's economic success has also been dependent on remaining relevant as a hub / supply chain node for the movement of people, goods, services, and capital (and being an attractive regional base for multinational companies).

Since it is also surrounded by larger neighbours, Singapore's leaders are conscious of the existential and economic threats that external factors (e.g. supply chain shocks or regional conflict) could have on its population, and its country's economic resilience (particularly its position as an air and sea hub). Accordingly, Singapore's has pursued a four-pronged approach to mitigating risks to key inputs into its economy, involving:

- Building domestic production/storage capability – to provide both a domestic supply source and also opportunities for export to the SEA region and beyond;
- Diversifying supply, to ensure the country is not over-exposed to any single source/region;
- Establishing regional partnerships (e.g. for the supply of renewable energy); and
- Changing consumer mind-sets to foster acceptance of new products / sources.

'Water, water everywhere, and not a drop to drink'

Water supply is a useful starting point for understanding Singapore's overall de-risking strategy, as it was the first "security" issue to be tackled. Over the past two decades, Singapore has moved away from importing nearly 60% of its water needs from Malaysia (in 2010) to under 40% currently. To meet its goal to be fully water-secure by 2060, Singapore has designed and pursued its 'Four National Taps' strategy, which relies on four diversified water sources:

- Water from local catchment areas – these catchment areas have increased by 20% over the past decade.
- Imported water from Malaysia – this is currently about 40% of the water supply, and is the subject of a long-term supply deal, which includes a proportion of imported water being sold back to Malaysia after treatment.
- Highly-purified reclaimed water (NEWater) that is treated in 5 facilities across the country – this 'tap' meets 40% of the country's water needs and is typically used for industrial purposes (e.g. at semiconductor fabrication plants, industrial estates).
- Desalinated water that is currently domestically produced in 4 treatment plants – by 2060, 30% of Singapore's future water needs will be met by its desalination plants.

Singapore sees self-sufficiency of its water supplies as only a part of the longer-term resilience piece, given the threats posed by climate change to global water supplies and the anticipated rise in demand for water resources. By 2060, Singapore's own total water demand could almost double, with non-domestic water consumption accounting for about 70% (up from the current 55%).

Accordingly, the government has committed nearly S$700 million to encourage the research and innovation of water-technologies/infrastructure to support the entire water-value chain. This includes finding ways to reduce water wastage and to reuse water as much as possible. One example is the Keppel Marina East Desalination Plant which is the world's first dual-mode desalination plant that can treat both freshwater and sea water (depending on rainfall/water levels) while offering multiple land use (the area is also a park/green space).

The government has also worked to build public confidence in the use of NEWater, including for public consumption. The most recent campaign has involved the release of a beer, brewed using NEWater.

Charting the future of food

The food security of Singapore's 5.7 million residents depends on both complex global supply chains, which are responsible for over 90% of local food consumption, supplemented by limited local food production. The global economic and geopolitical volatility seen over the last two years has therefore only sharpened Singapore's awareness of risks to its food supply chain, which include: price volatility; food safety problems in the countries of origin; protectionist food producing countries prioritising their own needs over international commitment (and imposing export controls); emerging trends such as climate change; and, black swan events like the COVID global pandemic. The issue of price volatility is currently of concern to the government with food inflation in Singapore hitting 4.5 per cent in May (compared to 4.1 per cent in April) and expectations of continued rises in the second half of 2022.

To mitigate supply chain risks, Singapore is working to boost domestic food production to improve its self-sufficiency. Under its '30 by 30' strategy (released in 2019), Singapore plans to produce 30% of its food needs by 2030 (current domestic food production stands at 10%). To kick-start meeting this goal, a S$60 million government fund supports technology investment by farmers (e.g. for automated LED lighting/recirculating aquaculture systems) to ensure that this domestic production is both sustainable and cost effective, given Singapore's land and labour constraints. Singapore has also ramped up investment in the development of a domestic alternative protein ecosystem (i.e. taking products from research and development right through to commercialisation) as an economic development opportunity (given the projected long-term growth in demand for protein in South East Asia) and as a risk mitigation measure. One example is the opening, on 20 July, of a contract development and manufacturing centre (financed by Temasek, and German firm Cremer) in the city state that has the capacity to produce up to 13,000 tonnes of plant-based proteins per year.

Despite the development of domestic food production capacity, the majority of Singapore's food will continue to be imported for the foreseeable future. To mitigate the risks this entails, Singapore has worked to diversify source markets. Singapore now imports food from 170 countries and maintains a strong network of trade partnerships, such as ASEAN Plus Three (Southeast Asia-East Asia regional cooperation), and Free Trade

Agreements with several countries which are major exporters of food products (including New Zealand). However, officials acknowledge that challenges remain in steering individual importers away from relying heavily on just one or two countries, given the cost premiums attached to such diversification. They note, too, that large-scale buyers can be fickle – switching to different suppliers to take advantage of even the smallest cost margins, rather than placing value on the maintenance of long-term relationships. Challenges also remain in terms of consumer preferences – with officials noting that mind-sets will need to change in terms of getting the public to accept different types of food (e.g. frozen chicken over fresh, alternative protein instead of animal protein).

Averting a gastastrophe

In terms of energy diversification (and greening), Singapore had already shifted in recent years away from oil to primarily using liquefied natural gas to generate its domestic electricity supply (with supply diversified via sourcing from Indonesia and Malaysia, and seaborne LNG cargoes). This is now being supplemented by a small amount of solar power generation, with Singapore also continuing to look to ASEAN for regional opportunities to import renewably produced energy (the city state recently commenced a pilot scheme importing 100MW of renewable hydropower produced in Laos, and has also called for tenders for RE supplies originating in Indonesia), and with innovative developments like the Sun Cable in Northern Australia on the horizon.

The plethora of hydrogen MOUs Singapore has signed in recent years (including Memoranda with both Australia and New Zealand) reflect its view that this could be an important clean energy source for long-haul transport (e.g. shipping) in the future – allowing its current large-scale oil storage capacity to pivot once hydrogen is produced and exported on a commercial scale.

Tipping the scales on medical supplies

The procurement and supply chain needs of Singapore's healthcare system are managed via ALPs (a central coordinating body for public healthcare clusters). Post understands that since the start of COVID-19 in 2020, ALPs has sought to diversify Singapore's supply chain for essential medical goods.

Singapore has also continued to prioritise financial support for the development of a bio-medical research, development and manufacturing eco-system. There are currently more than 50 manufacturing facilities in the country, with eight of the world's ten largest pharmaceutical firms owning plants in Singapore (including Abbott, GlaxoSmithKline, Pfizer). This has resulted in Singapore being one of the few countries that are able to export more pharmaceutical products (approx. US$8.92 billion in 2020) than it imports (US$3.69 billion in 2020).

These investments are primarily driven by the projected growth of Asia's pharmaceutical markets due to mega-trends, which include an emerging middle class in Asia, increasing populations, ageing societies, and political pressure to expand healthcare services.

Since the pandemic, biotechnology firms such as Moderna, Merck and BioNTech have been incentivised to set up their regional base in Singapore. This is in addition to government investments into supporting the domestic production and scaling of vital pandemic medical supplies (such as masks/swabs/test-kits).

Tākupu - Comment

One of the hallmarks of Singapore is its long-term (10 – 20 years) approach to strategy and planning. This is apparent in the approach taken to securing the supply of essential goods and services, including water, food, energy and health supplies. Looking to the next 10 to 20 years, we assess that Singapore foresees an increased risk of supply chain disruption (with potential causes ranging from a regional conflict, climate change, protectionism by regional food producers to another pandemic). In the context of enhanced supply chain risk, building up supply chain connections with New Zealand (alongside Australia and other 'reliable source

countries') makes sense as a mitigation measure. New Zealand is seen as a reliable partner, a producer of safe, high-quality food and a country with which Singapore likes to do business. If we can leverage this in the areas we can help reduce its vulnerabilities, it should open the door for us to make some asks of Singapore in return – to reduce our supply chain exposure in complementary areas.

It is therefore timely for New Zealand to consider what role Singapore can play in supporting the resilience of New Zealand supply chains (imports and exports) in coming decades – and New Zealand's economic prosperity more generally. This is a subject we will explore further in our next message about opportunities for New Zealand to leverage Singapore's plans to evolve its hub economy (including through significant investments in upgrading aviation and maritime infrastructure).

Mutu – Ends

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