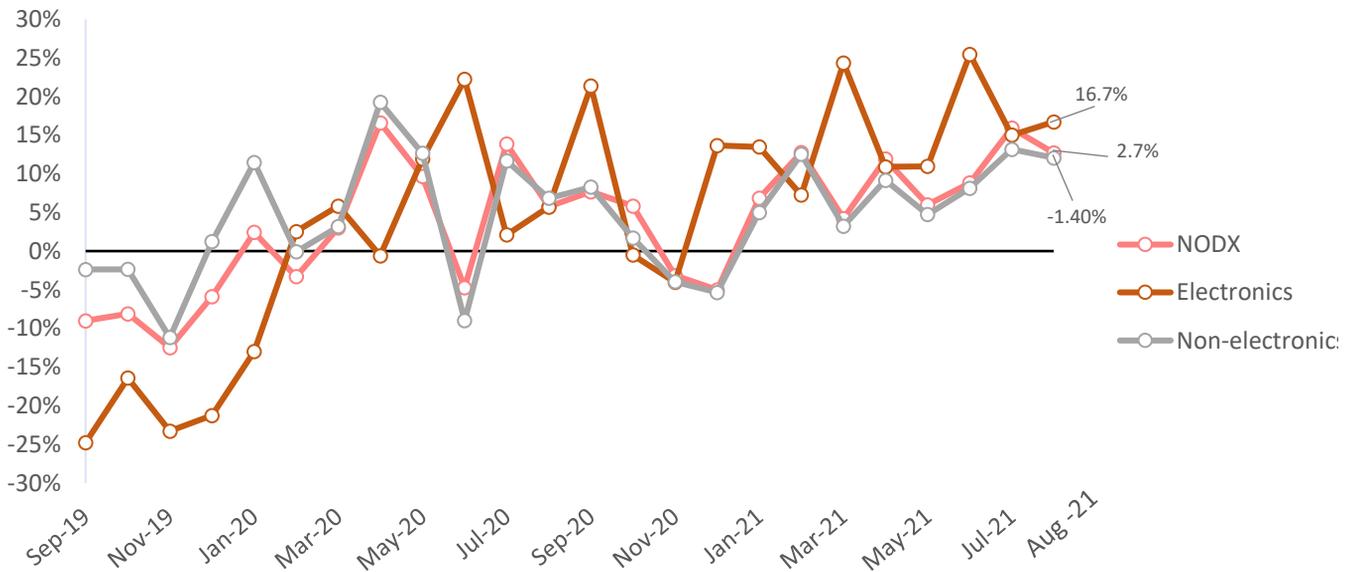


AUG 2021

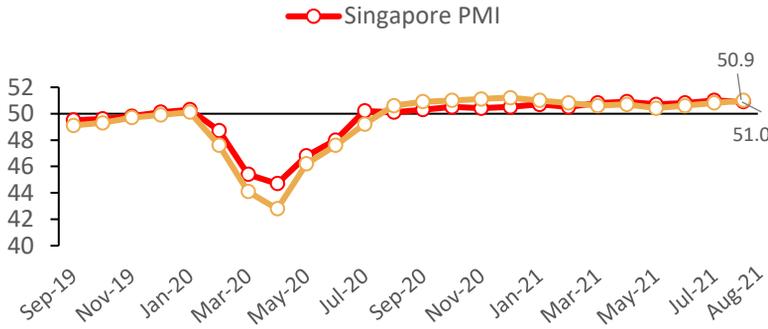
In August, despite growing concerns over supply chain disruptions, the manufacturing sector has continued to grow. Singapore's economy is still on track with its recovery, especially with the higher vaccination rate amongst the population. The government has also continued to develop stronger ties with its trading partners, as well as rolled out policies to facilitate the building of a talent pool.

Non-Oil Domestic Export (NODX)



- Trend:** NODX and electronics exports increased while non-electronics exports fell. Growth rate for NODX have expanded but slowed in electronics. Non-electronics, on the other hand, declined:
 - NODX rose by 2.7%, a fall from the 12.7% in Jul
 - Electronics rose by 16.7%, an increase from the 15.0% in Jul
 - Non-electronics declined by 1.4%, a decrease from the 12.1% growth in Jul
- Main contributors to growth (electronics):** PCs, ICs and diodes & transistors, which expanded by 65.6%, 42.8% and 14.1% respectively
- Main contributors to growth (non-electronics):** Specialised machinery, aircraft parts and nickel, which expanded by 74.2%, 21.6% and 739.0% respectively
- Going forward:** The strong demand for electronics related equipment as well as the semiconductor chips is likely to be the basis of growth for NODX for the rest of the year. However, NODX to China was down 17.5% in Aug 21. This slow down, coupled with the tight freight capacity, is likely to dampen NODX growth.

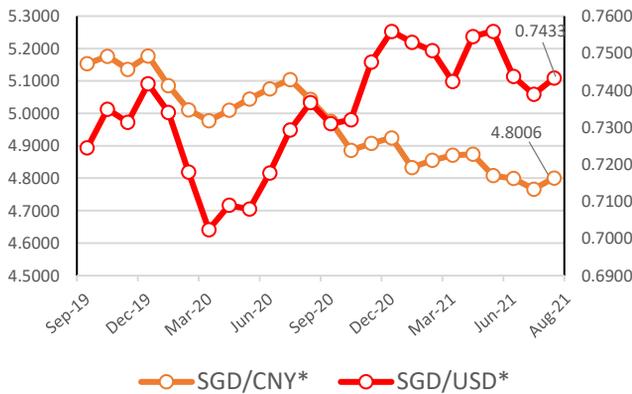
Purchasing Managers Index (PMI)



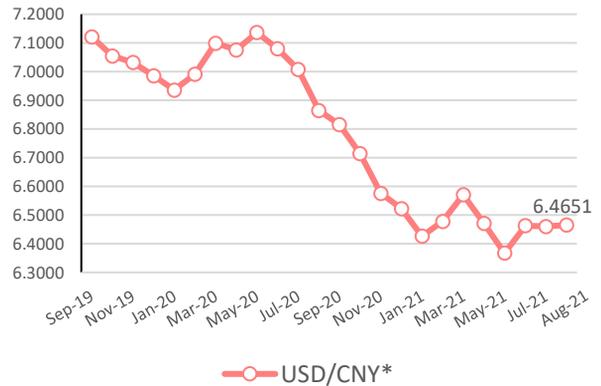
- **Trend:** PMI remains stable above the 50-point mark in Aug 2021. However, Singapore PMI decreased from 51 in July to 50.9 in August. Electronics PMI increased from July's 50.8 to August's 51.
- **Going forward:** The slowdown in manufacturing output might continue as concerns over supply chain disruptions heightened.

Foreign Exchange Rates (FX)

SGD/CNY

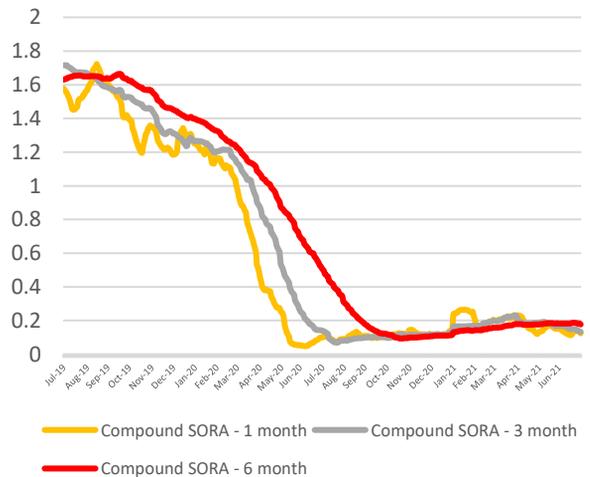
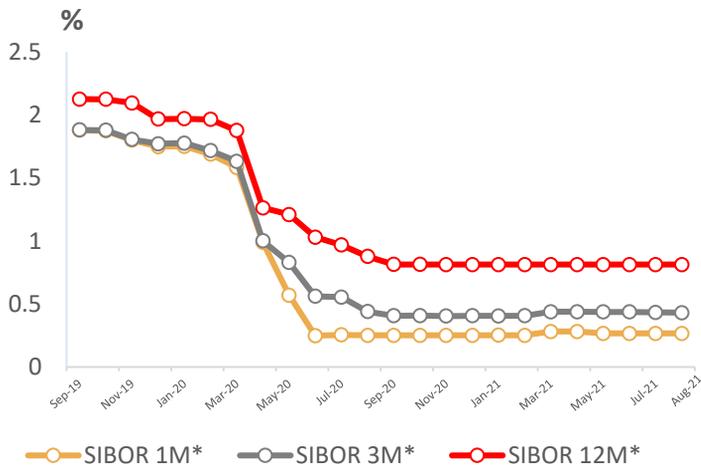


SGD/USD USD/CNY



- **SGD/USD:** SGD appreciated against USD in Aug 21 (at a rate of 0.7433).
- **SGD/CNY:** SGD appreciated against CNY in Aug 21 (at a rate of 4.8006).
- **USD/CNY:** USD appreciated against CNY in Aug 21 (at a rate of 6.4651).

Singapore Interbank Offered Rate (SIBOR) Singapore Overnight Rate Average (SORA)



- **SIBOR Trend:** The 1-month SIBOR, 3-months SIBOR, and the 12-months SIBOR remain stable at 0.265, 0.43, and 0.811 respectively.
- **SORA Trend:** All three compounded SORA rates have fallen slightly below 0.2 range.



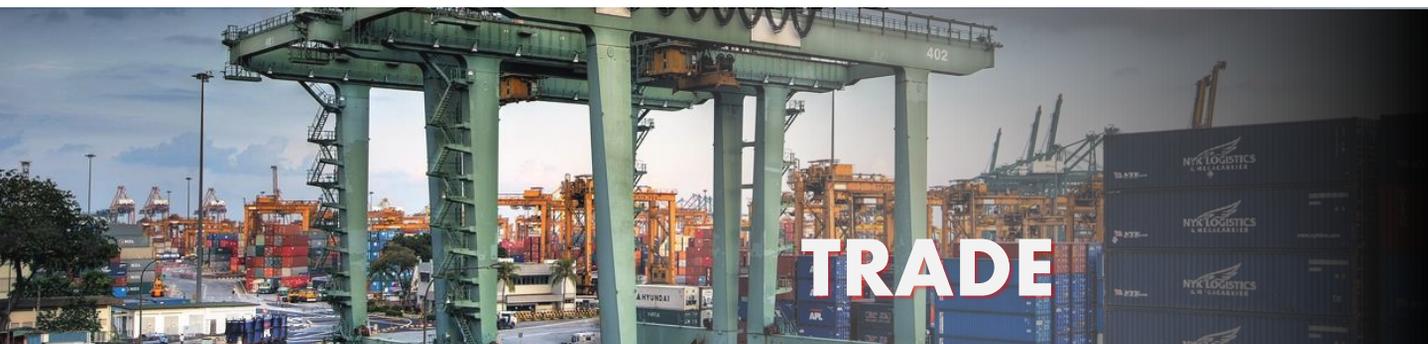
- **A faster economic recovery to be anticipated:** The gross domestic product (GDP) expanded by 14.7% year on year in Q2 2021. However, given the high base in 2020 in Q3 and 4, the growth rate is likely to be affected. The republic's growth forecast for its gross domestic product (GDP) has also increased 6-7% thanks to the high vaccination rate that allows for more economic activity.

Singapore has also allowed for vaccinated travellers from Germany, Brunei, Hong Kong, China (except for travelers from Jiangsu) and Taiwan to enter Singapore without quarantine. This marks a promising development for the recovery of the tourism industry.

- **Phasing out the London Inter-Bank Offered Rate (Libor):** Countries worldwide are shifting away from the use of Libor. Singapore is transiting to Singapore Overnight Rate Average (SORA), a more stable and predictable rate comparatively, given its backward-looking nature. SORA refers to "the volume-weighted average rate of borrowing transactions in the unsecured overnight interbank SGD cash market in Singapore."*

Currently, the financial agreements pegged to SORA is at S\$118.7 billion as of July 2021.

*Quoted from: <https://www.mas.gov.sg/monetary-policy/sora>



- **Further discussions of cooperation between China and Singapore:** The 6th Investment Promotion Committee (IPC) explored the deepening of bilateral economic ties between the two nations through finding ways to optimize investment as well as look for new initiatives for cooperation. The China-Singapore Free Trade Agreement (CSFTA) was also acknowledged as the cornerstone of economic cooperation, with both parties welcoming the enhancement of market access in services and investments made during the CSFTA Subsequent Negotiations. Both have come to the consensus to uphold a 'rules-based, multilateral trading environment'. This would be done through platforms such as Group of 20, the Asia-Pacific Economic Cooperation bloc and Regional Comprehensive Economic Partnership pact. China is currently Singapore's largest investment destination and trading partner.

COVID-19

- **Vaccination Rates:** 80% of Singaporeans have received both doses of vaccine. For individuals who are unable to travel to vaccine centers, Ministry of Health (MOH) have deployed volunteer doctors and nurses to aid them. Currently, over 4,300 housebound individuals have gotten their vaccination. To further encourage vaccination, the number of clinics offering Covid-19 jab will be increased to 100 in October, from the current 79 clinics. There are 37 operating vaccination centres now.

The high vaccination rate in the population would also prepare Singapore for the gradual transition into a 'Covid-resilient Nation', allowing for the eventual opening of the nation.

- **More facilities to house individuals with Covid-19:** To prevent the hospital from being overwhelmed if the pandemic worsens, Connect@Changi has been converted into a facility to house Covid-19 patients with mild symptoms and lower risk factors. There are seven operating facilities, able to house up to 5,500 affected individuals. This is also aligned with the goal of treating Covid-19 as an endemic.



Map data: Singapore Public Data

Fig 1: Map of clinics offering vaccine in Singapore
Source: *Straitstimes*



- **Rollout of new programs to meet manpower demands in growing sectors:** SkillsFuture Singapore (SSG) will launch four work-study programs in cooperation with higher learning institutions (IHL). The programs are:

- 1) Work-Study Post-Diploma (Specialist Diploma in AgriTechnology and AgriBusiness)
- 2) Work-Study Certificate (Part-time diploma in Design and Media – Digital Entertainment and Events)
- 3) Work-Study Post-Diploma (Specialist Diploma in Business Analytics)
- 4) Work-Study Post-Diploma (WSQ Specialist Diploma in Aerospace)

Currently, there are approximately 187 similar work-study programs with the aim to upskill workers to meet the demands of the economy. The Singapore government has also extended its support by granting employers with a Covid-19 wage support (for up to 12 months) when they hire a new trainee. The grant will be 45% of the gross monthly salary and for existing trainees who participated the WSP, it would be 70% of gross monthly salary (both inclusive of Job Support Scheme). The cut off date for this support will be 31 March 2022.

For more information on WSP: <https://www.skillsfuture.gov.sg/workstudy>

- Higher salary for local low wage employees:** Firms with S-Pass and Work Permit holders will now have to pay its local employees \$1,400 minimally. The tightening of the Local Qualifying Salary (LQS) requirement is also accompanied by the expansion Progressive Wage Model (PMW) to other sectors. PMW aims to increase the wages of the Singaporean and PR workers through outlining the minimum wages of each position as employees rise the ladder (refer to table 2.0). Under this scheme, employees are required to undergo training. Employers can make use of the Workfare Skills Support to cover up to 95% Absentee Payroll if qualified.

Group 1: Office and commercial sites e.g. offices, schools, hospitals, medical clinics, condominiums	Group 2: F&B establishments e.g. hawker centres, foodcourts, restaurants	Group 3: Conservancy e.g. town councils, public cleansing
Supervisors ≥ \$1,854	Supervisors ≥ \$1,854	Truck drivers (Class 4/5) ≥ \$1,957
Multi-skilled cleaners / Machine operators ≥ \$1,648	Multi-skilled cleaners / Machine operators ≥ \$1,648	Supervisors / Mechanical drivers ≥ \$1,854
Outdoor cleaners / Healthcare cleaners ≥ \$1,442	Dishwashers / Refuse collectors ≥ \$1,442	Multi-skilled cleaners / Machine operators / Refuse collectors ≥ \$1,648
General / Indoor cleaners ≥ \$1,236	Table-top cleaners ≥ \$1,339	General cleaners ≥ \$1,442
	General cleaners ≥ \$1,236	

Table 2: Sample of PWM
Source: MOM

While this scheme regulates the number of foreign workers that each firm would be able employ, the government has taken the stance that it will continue to welcome foreign talents coming to work in Singapore.

For more details of PWM: <https://www.mom.gov.sg/employment-practices/progressive-wage-model/cleaning-sector>

- New regulations for dental graduates in Singapore that are trained abroad:** Dental graduates trained abroad will be required to take an examination to qualify for conditional registration and fully registered dentist in January 2029. These changes were made to ensure a standard quality of practice in the dental industry. There will be no limit for the number of times the examination can be taken by Singaporeans and Permanent residents that were trained abroad. However, non-residents that were trained abroad would be limited to two attempts per paper. The second try must be done within a year of the first attempt. Dental students that will graduate before 2029 and qualified dentists that are foreign-trained will not be affected by this new regulation.

MANUFACTURING & TECHNOLOGY

- **Continued growth for Singapore’s manufacturing:** The manufacturing activity has continued to expand, despite the return to tighter restrictions in Singapore as well as the spread of Delta variant in other regions, possibly affecting supply chains. The employment index has also continued to grow.

However, the growth of manufacturing production has slowed, reaching 16.3% YOY with the biomedical sector being the key contributor. On the other hand, output for manufacturing have fallen to 2.6%, adjusted on a month-to-month basis.

Growth of output by sector*:

- Pharmaceutical production – 134.9%
- Medical technology – 17.4%
- Transport engineering – 33.1%
- Marine and offshore engineering – 52.6%
- Aerospace – 22.8%
- Precision engineer – 20.3%
- Machinery and systems – 26.8%
- General manufacturing production – 11%
- Chemical output - -5.6%
- Petroleum sector – 28.5%

*Data from quoted from Straits times

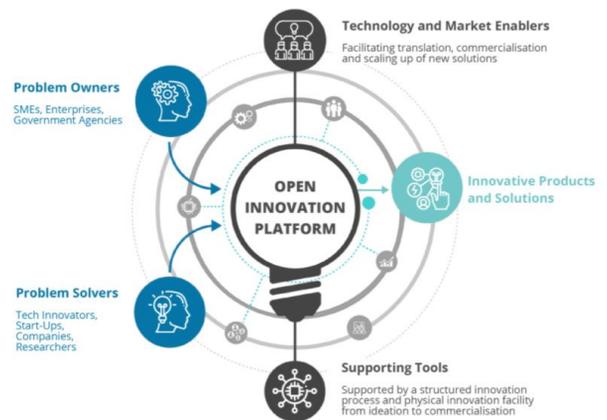


Table 3: How Open Innovation Platform Works

Source: IMDA

- **Initiative that encourages the development of creative solutions:** The Open Innovation Portal is a platform jointly established by the Infocomm Media Development Authority (IMDA) and Enterprise Singapore (ESG). This platform serves as a middleman, where companies can post their issues on the platform for tech-companies or startups to develop solutions to their problems. This initiative, known as the open innovation challenges, has allowed for SMEs and start-ups to produce solutions in cooperation with government agencies and corporations. In the past 5 years, S\$20 million has been awarded to enterprises by ESG to support the development of solutions and the trials of these solutions. \$40 million has also been reserved by the IMDA, ESG and the National Research Foundation Singapore (NFR) in efforts to assist innovation in 2020. There are currently 400 enterprises and government agencies leveraging on the open innovation platform.

For more information: <https://www.openinnovation.sg/imda>

- **Use of driverless tractors in Changi Airport:** To increase the productivity levels of its employees, Changi Airport has begun trials to use driverless vehicles to transport luggage from planes. This allows employees have more time to deal with other operations instead of transporting baggage. The vehicle currently can transport up to 6,000kg of luggage, equivalent to that of a driven vehicle. If trials are successful, more autonomous vehicles is likely to be deployed.

DIGITAL CONNECTIVITY & INNOVATION

- **Limited usage of artificial intelligence (AI) solutions in finance industry:** The adoption rate of AI across most of process in the finance sector stands only at 13%, despite estimates suggesting that AI solutions can add S\$2.7 trillion worth of value yearly. The study done across 39 firms from US, Europe, Singapore and Hongkong suggest that the lack of awareness for government regulations and AI ethics could point to the reason for low adoption rate of AI. Singapore, in its efforts to encourage more AI adoption, has released the Model AI Governance Framework. The framework, which comes under PDPC – an agency which protects the intellectual property in Singapore, provides a guide for companies to implement AI and to address ethical and governance issue when using these AI solutions.

From Principles to Practice

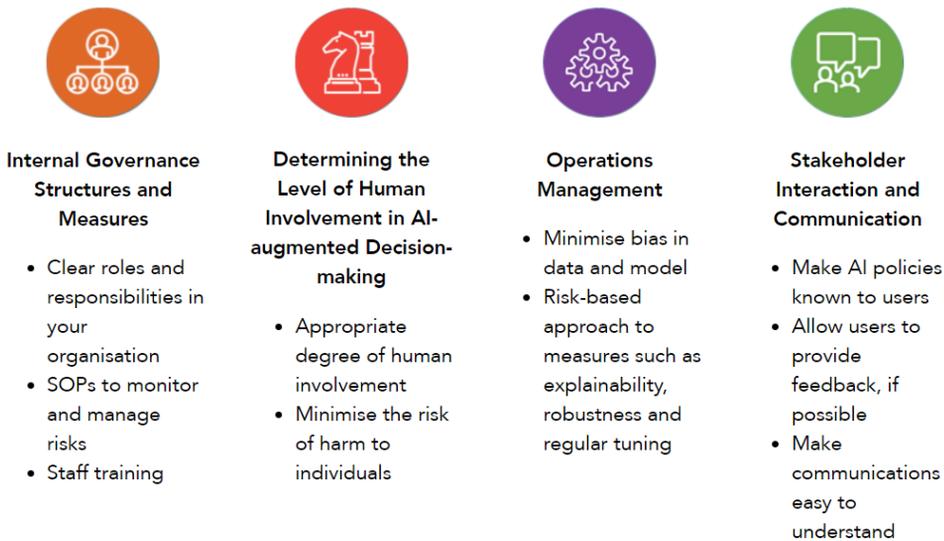


Fig 4: Guidelines of implementing AI

Source: PDPC

For more information on the Model AI Governance Framework: <https://www.pdpc.gov.sg/Help-and-Resources/2020/01/Model-AI-Governance-Framework>

- **Digital Payment tokens:** DBS Vickers, brokerage arm of DBS, is now allowed by Monetary Authority of Singapore (MAS) to provide trading services for digital payment tokens. DBS currently has over \$130 million in digital assets. This move will bring Singapore closer to the goal of being a digital hub in Asia.

Independent Reserve, a cryptocurrency exchange in founded Australia, was also given 'in-principle approval' by MAS to provide digital token services. There are around 170 applicants that have applied for the right to provide digital token service. Two applications have been rejected and there are currently 90 are providing digital token services under 'an exemption from holding a license'*

Quoted from Straits times: <https://www.straitstimes.com/business/crypto-exchange-gets-singapore-nod-on-digital-token-services>

- **MindFi to raise \$1 million in funds:** MindFi, a Singapore based mental health platform, has managed to raise S\$1.02 million from investors. The company offers customised self-care programs and matches individuals with suitable therapists based on the user's data and profile. Currently, the firm is offering its services to over 30 other enterprises across Asia.



TRANSPORTATION

- **Greener ways of transport:** SBS Transit has deployed 20 electric public buses, in line with the goal of having all public buses run on cleaner energy by 2040. The new buses will be charged using pantograph chargers, allowing fully charged buses to travel up to 130km. It takes 30 minutes for new buses to be fully charged, in comparison to other older electric buses where it takes 2 to 4 hours. Older buses, however, can travel 200km to 300km. In total, there are now 60 fully electric buses, and it is expected that carbon dioxide emissions will be reduced approximately 8,000 tones yearly.

Singapore Post have also started its trials of using electric scooters and vans. If successful, Singapore Post will gradually replace its petrol vans and motorcycles. The electric scooters emit 75% less greenhouse gases in comparison to petrol scooters and the electric van emits approximately 50% less carbon dioxide in contrast to petrol vans. Companies such as Wildlife Reserves Singapore and SMRT have started its transition to electric vehicles.

- **Increase in demand for Electric Vehicles (EV):** Higher taxes for petrol vehicles, accompanied by tax rebates for EV and tighter emission regulations have driven the increase in demand for EVs. Demand for EV is likely to further increase as infrastructures improve and more incentives for EVs roll out.



SUSTAINABILITY

- **Regulatory goals for recycling E-waste:** Recycling companies operating in Singapore are required to salvaged:
a) At least 50% of the e-waste raw material b) 70 % for information and communication technology 80% large appliances and lamps and d) 70% for solar photovoltaic panels that they have collected on a yearly basis

International waste management company Alba Group's subdivision Alba E-Waste Smart Recycling has been licensed, by National Environment Agency, to collect certain types of e-waste. Virogreen, another recycler, is also recovering its e-waste by fixing items still in reusable conditions. Items that are fixed will be donated while recovered raw materials will be passed on to manufacturers.

- **Renewable and reusable resources:** The Public Utilities Board (PUB) is now looking into floating solar farms to generate more renewable energy given the lack of land in Singapore. Singapore currently has one solar floating farm in Tengeh Reservoir which has a capacity of 60 megawatt, producing energy for 16,000 households. However, the energy generated from these floating solar farms would likely be less than 5% of what the city-state requires on an annual basis.

An innovation call – Jurong Island Renewable Energy Request-for Proposals – that focuses on finding solutions for energy storage and other forms of green energy, will also be rolled out in October. Furthermore, start-ups and SMEs will also receive grants up to \$2 million for the development of solutions and to facilitate adoption of green technology and/or resources.

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