



Powering Progress: Utilities in Singapore

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KEY FINDINGS



KEY FINDINGS #1

Singapore's utilities sector is one of the most efficient globally



KEY FINDINGS #2

A major shift to renewables is targeted over the next decade



KEY FINDINGS #3

Sector market cap is concentrated in two large caps, but there are also small cap plays

OVERVIEW

Singapore's Utilities sector is one of the most efficient globally, with its GDP per unit of both electricity and water at some of the highest levels in the world, and it has been consistently profitable. This has been driven both by necessity and design, with the country importing virtually all its energy raw materials and needing to conserve water given limited freshwater resources.

While the country does refine oil from imports, including into domestically distributed LPG and products for export, the electricity grid is almost entirely fueled by pipelined natural gas imports from neighbours Indonesia and Malaysia. The country is a net energy importer and will likely remain so in the medium-term.

However, over the next decade the government targets a fundamental shift in its energy supply towards renewable sources, including a reduction in natural gas for electricity generation from over 90% to just 35%, with renewables rising to 30%. While solar power contributes a tiny amount of electricity currently, the capacity growth rate has been high.

Singapore's water comes from its 'Four National Taps', which includes the long-term sources of 1) domestically gathered freshwater resources and 2) water imports from Malaysia, but also from two industrially processed sources developed in the mid-2000s, 3) recycled NEWater and 4) desalinated saltwater.

The Singapore Utilities sector's market cap is mainly concentrated in the diversified large caps Sembcorp and Keppel. However, there are also several small caps, including natural gas supplier Union Gas, compressed natural gas seller Asian Micro Holdings, Gallant Ventures, generating revenue from utilities provided to domestic industrial estates, and Darco Water, which constructs and operates water projects in Asia.

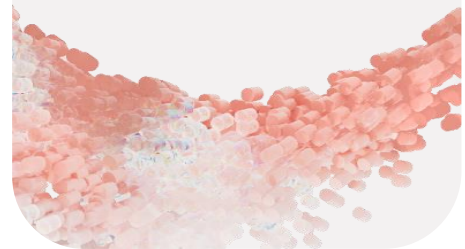
There are several global funds that offer a broader exposure to some of these themes, including plays on Singapore domestic equity market overall, a dual country fund with a 50/50 domestic/Malaysia split and regional ASEAN fund, and funds offering exposure to the global energy transition and water and waste management themes.

MAIN POINT SUMMARY

Singapore has developed one of the most efficient utilities sectors in the world over the past two decades given limited natural resources.

The government targets a fundamental shift over the next decade towards a higher proportion of renewables for energy generation, including a shift away from natural gas reliance for electricity generation

There are several equity plays on Singapore utilities, and the themes of domestic and regional growth, renewable energy and water can be accessed through a range of funds



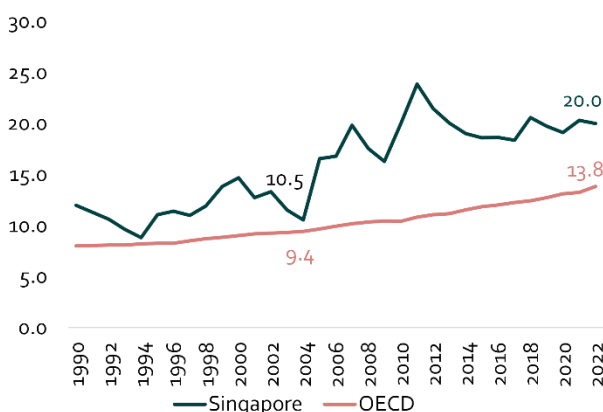
MACROECONOMIC OVERVIEW

Singapore's Utilities Sector Highly Efficient in Global Context

Singapore has a highly efficient utilities sector both by necessity, given scarce natural resources, and design, with optimization over several decades. The ratio of GDP/Unit of Energy Use of 20.0 in 2022 was substantially above the OECD at 13.8 and has been so for 20 years (Chart 1). Singapore's water productivity is also high, with GDP/cubic metre at US\$740 in 2021, far above the world average of just US\$22, and up substantially from US\$188 in 2010 (Chart 2).

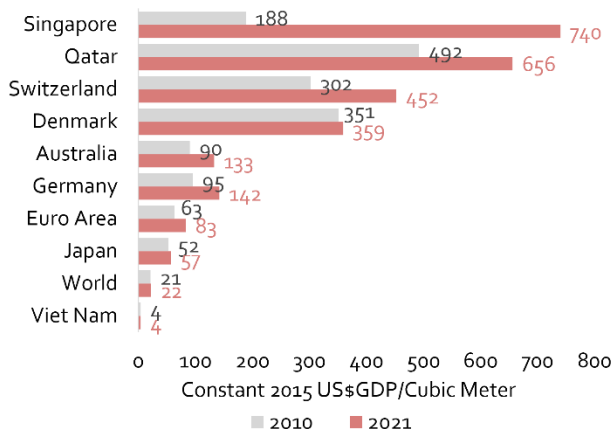
The demands of a rapidly growing economy with a small population has driven a high resource intensity, with electricity consumption/capita rising to 10,143 kWh in 2022, far above the OECD average of 7,741, with the two last at similar levels in 2001 (Chart 3). The country's water use intensity is also high, with withdrawals at 109% of internal resources in 2021, far above Europe at 15%, or regional comparable countries like Vietnam, at 23% (Chart 4).

Chart 1: GDP/Unit of Energy Use*



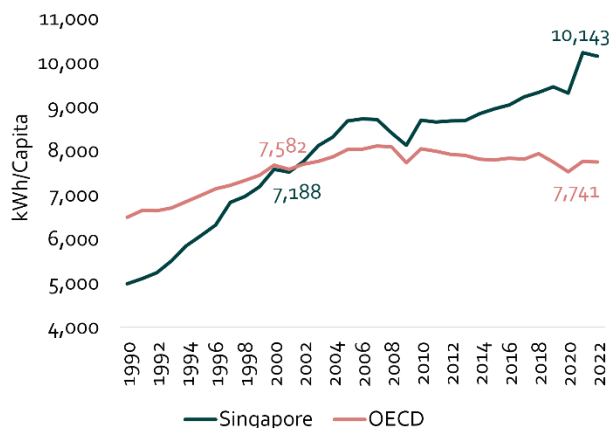
Source: World Bank, *2021 PPP/kg oil Equivalent

Chart 2: Water Productivity



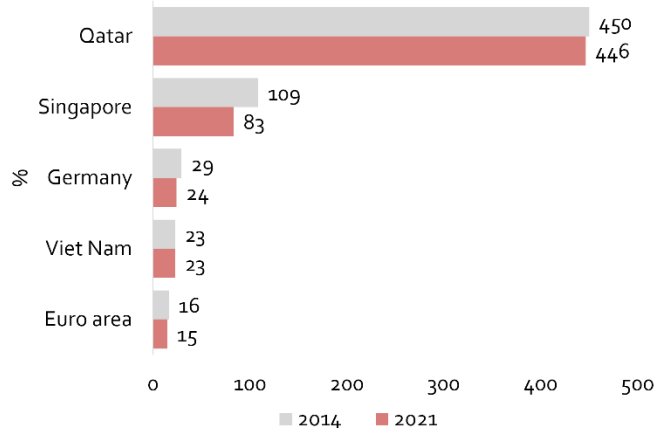
Source: World Bank

Chart 3: Electricity Consumption/Capita



Source: World Bank

Chart 4: Water Withdrawals to Internal Resources



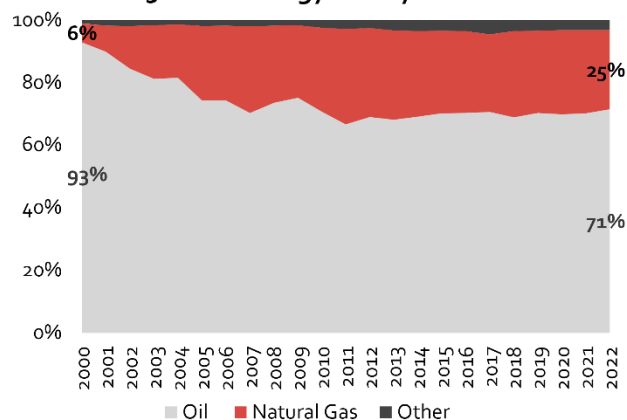
Source: World Bank

Singapore's imports for energy are high, but it refines and exports fossil fuels

Singapore is still heavily reliant on oil to meet its energy demand, with the fossil fuel accounting for 71% of supply in 2022, followed by natural gas, at 25% (Chart 5). Both are entirely imported from global markets, as the country has no domestic reserves and only limited sources of biofuel and waste for energy generation. While this does make the country a net energy importer, it still has sizeable energy exports, given a large refining industry, with oil production of 2.02mn Terajoules (TJ) in 2022 (Chart 6).

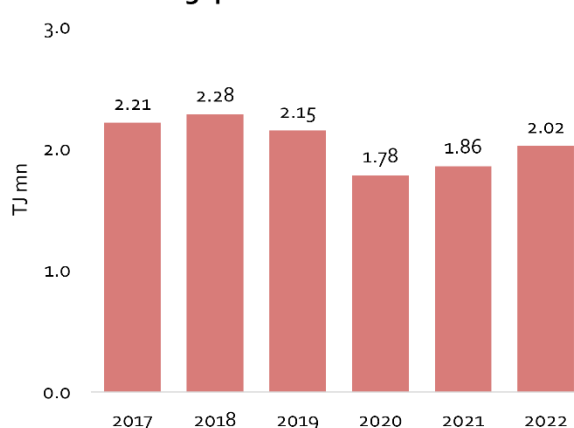
While much of this is sold domestically as end-products, including LPG to both households and industry, with sales at 99.2k tonnes in 2024 (Chart 7), the country does export refined oil products. However, the country's energy exports of 3.0 mn TJ in were offset by imports of 6.7 mn Terajoules (TJ) in 2022, for net energy exports of -3.8 mn TJ (Chart 8). Net energy imports are near flat from -3.9 mn TJ in 2017, as imports have consistently declined from 8.1 mn TJ but exports are also down from 4.3 mn TJ.

Chart 5: Total Energy Use by Source TJ



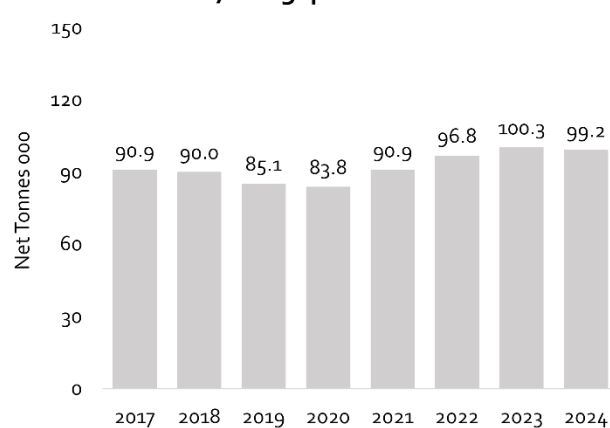
Source: International Energy Agency

Chart 6: Singapore Refined Oil Production



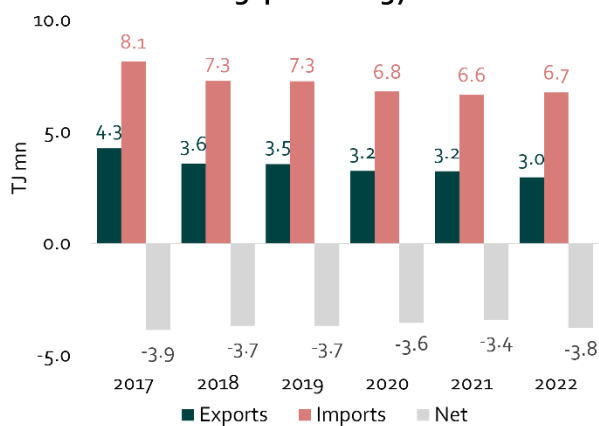
Source: International Energy Agency

Chart 7: Singapore LPG Sales



Source: International Energy Agency

Chart 8: Singapore Energy Trade



Source: International Energy Agency

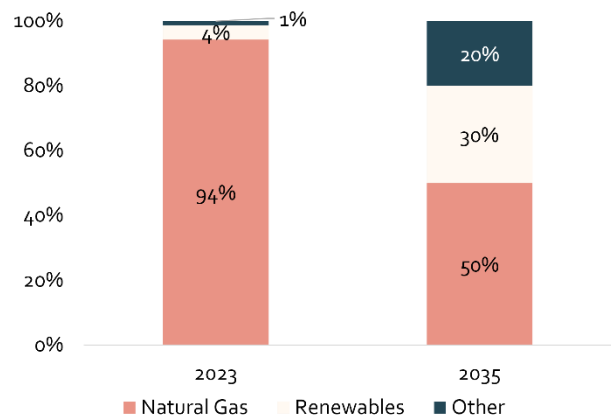
KEY REGULATORY DEVELOPMENTS IN THE SINGAPORE UTILITIES SECTOR

Planned shift to renewables for electricity generation

Utilities are a heavily regulated sector globally as they provide such a critical backbone for any economy, and for Singapore its careful development was always of particularly importance given limited domestic resources. While to a degree the exceptional efficiency discussed above shows the sector as ‘maximized’ to a degree, the government is now moving to the next major transition, which is towards greener sources of energy.

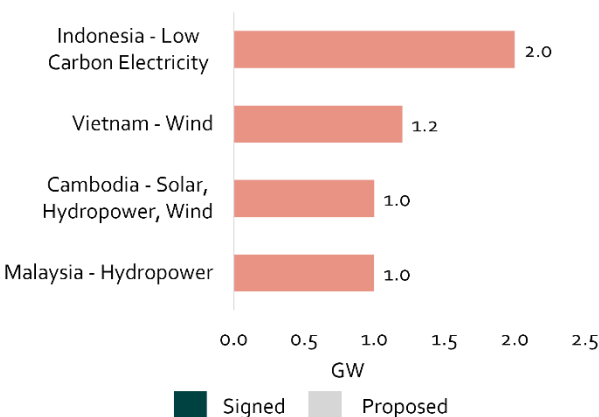
The last major change in this direction was a shift from power plants being mainly oil-fired to supplied by natural gas in the early 2000s, which was completed by the mid-2010s. The government’s current target is to shift electricity production to 30% from renewable sources, mainly solar and wind, from only 4% as of 2023, with natural gas declining to just 50% from 94% (Chart 9). Several regional deals have already been proposed including 2.0 GW of low carbon electricity from Indonesia, 1.2 GW of wind energy from Vietnam and 1.0 GW each of mixed source renewable energy from Cambodia and hydropower from Malaysia (Chart 10).

Chart 9: Electricity Production by Source Target



Source: Energy Market Authority

Chart 10: Singapore Electricity Supply Deals



Source: Energy Market Authority

Water recycling regulations for industry become more stringent

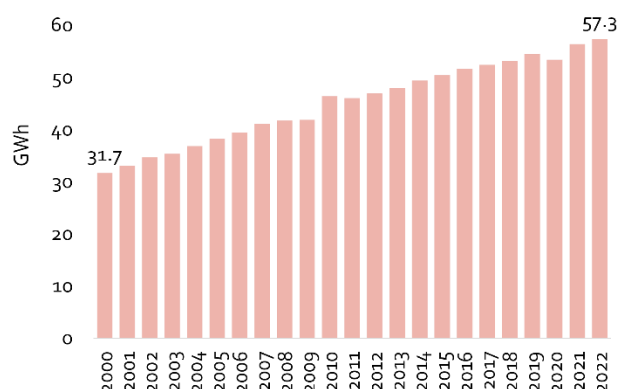
While the water sector has substantially improved output and efficiency over the past twenty years, it has a new hurdle with many growing industries operating in the country having particularly high water requirements, including semiconductors and data centers. Singapore’s National Water Agency, PUB, has addressed the issue of rising potential pressure on water resources from industrial uses through new regulations released in 2024. These include requiring water intensive industries to have high recycling rates, which can be up to 50% for some segments of the semiconductor industry. PUB also increased in 2023 the funding limit for projects backed by its Water Efficiency Fund to SGD5mn from SGD1mn.

UTILITIES SUB-THEMES: TRENDS AND DRIVERS

Singapore still heavily reliant on natural gas for electricity

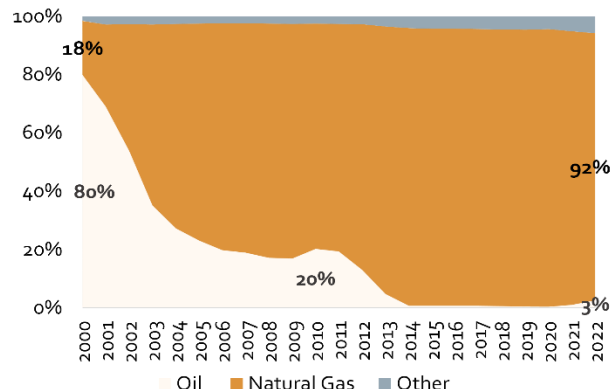
Singapore's electricity production has nearly doubled over the past twenty years to 57.3k GWh in 2022 from 31.7k GWh in 2000 (Chart 11). This period has seen a major shift in the composition of the sector's energy source, with oil declining from 80% of the total to just 3% as of 2022, and natural gas rising from 18% to 92% over the same period (Chart 12). Most of the natural gas is imported by pipeline, primarily from Singapore's closest neighbors with Indonesia, accounting for 69% of the total 2023, and Malaysia, at 31% (Chart 14). The country also started importing liquified natural gas, or LNG, in 2013, mainly from Australia, Qatar and the US, which is mainly used for power generation.

Chart 11: Singapore Electricity Production



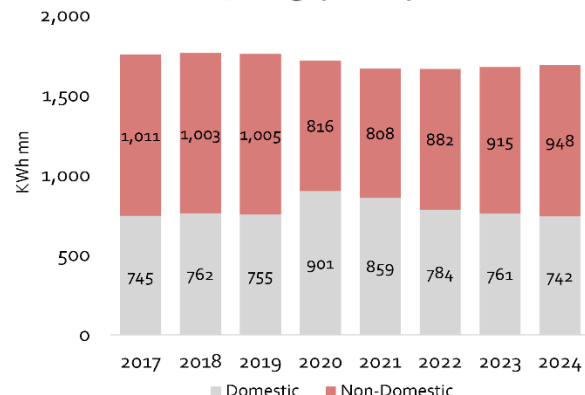
Source: Singapore Energy Market Authority

Chart 12: Electricity Production by Source kWh



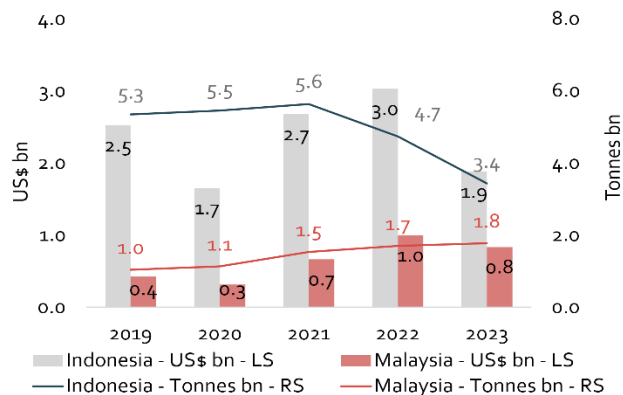
Source: International Energy Agency

Chart 13: Singapore Piped Gas



Source: Singapore Department of Statistics

Chart 14: Singapore Natural Gas Imports

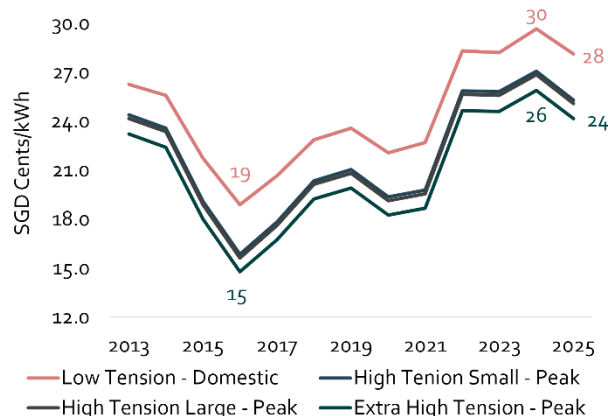


Source: UN Comtrade

Singapore electricity prices are therefore affected by movements in natural gas prices, which in turn are partly driven by global fossil fuels. However, natural gas by pipeline is a more 'local' business and not as exposed to world markets as oil or LNG imports. Prices have declined over the past two years from a peak of SGD0.30 for low tension domestic supply in 2023 to SGD0.28 in 2025 (Chart 15). The country's electricity prices are moderate in a global context, at US\$0.25/kWh as of March 2024, above lower cost countries like South Korea at US\$0.13/kWh, but below some European economies, with the UK at US\$0.37/kWh (Chart 16).

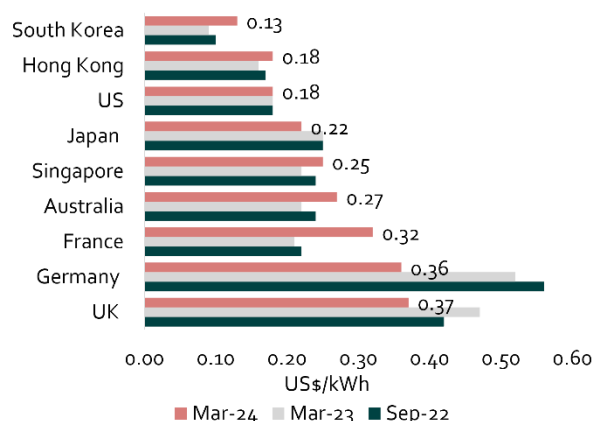
The shift towards a higher proportion of electricity supply from renewables will be a major factor affecting domestic electricity prices over the next decade. While the upside can be less influence from swings in global fossil fuels, and renewables can be inexpensive once capacity is established, there is the issue of very large upfront investment over the next decade to build out this infrastructure.

Chart 15: Singapore Electricity Prices



Source: Department of Statistics Singapore

Chart 16: Global Electricity Prices



Source: World Population Review

'Four National Taps' reduce pressure on water resources

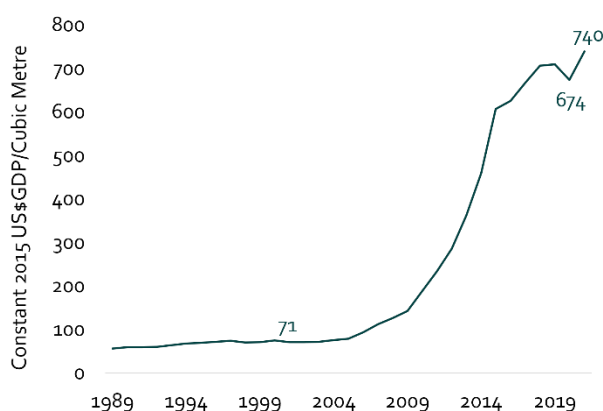
From the 1960s until the mid-2000s, Singapore's water supply had come from two main sources; domestically gathered water from reservoirs and imports from Malaysia. However, there was a significant shift from the mid-2000s, when two sources were added for 'Four National Taps'. The third National Tap, NEWater, or recycled water was launched in 2003 after a safety trial period from 2000, and there are now five plants with capacity for up to 40% of the country's water consumption. The fourth National Tap was the desalination of seawater, with a first plant operating from 2005, a second in 2013 and third in 2018.

The addition of these two Taps drove the sudden surge in water productivity from US\$71 of GDP/cubic metre in 2001 to US\$740/cubic metre by 2021 (Figure 17).

Domestic potable water sales still make up most sales, at 300 cubic metres, or 44.9% of the total in 2023, although this has declined from 321 cubic meters in 2020 (Figure 19). This has been offset by a rise in water imports to 209 cubic metres, or 31.3% of the total, from 181 cubic metres, while NEWater has risen only slightly to 145, or 21.7% from 141.

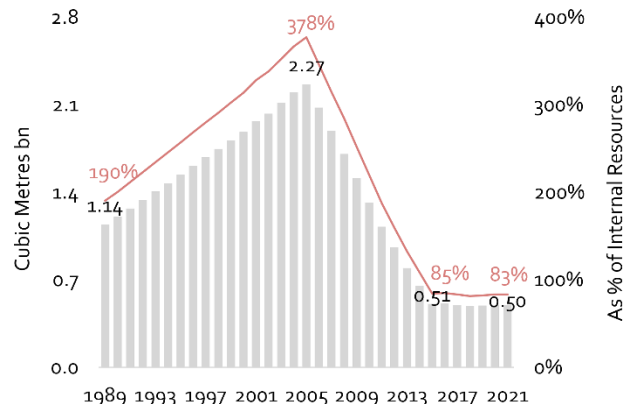
The country's water prices remained flat for the five years from 2019 to 2023, at SGD3.7/cubic metre for domestic potable water for volume above 40 cubic metres, after an increase in 2018 (Figure 20). However, prices have risen over the past two years, with a SGD0.20/cubic metre increase in 2024 and a SGD0.30/cubic metre increase in April 2025, for a total SGD0.5/cubic metre hike. With the rise representing around a 15% increase in water prices, lower and middle-income households will be provided with government assistance to cover some of this increase in the cost of living.

Chart 17: Singapore Water Productivity



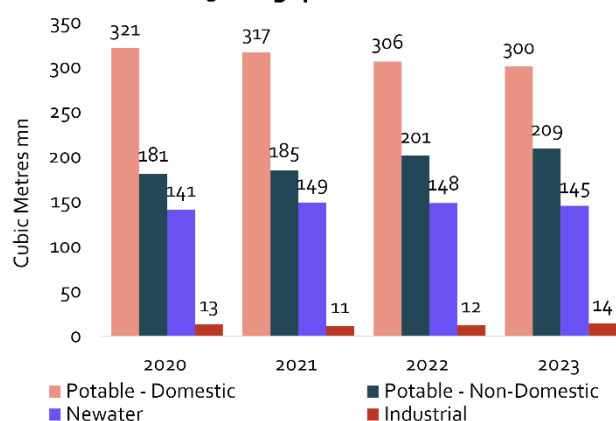
Source: World Bank

Chart 18: Singapore Water Withdrawals



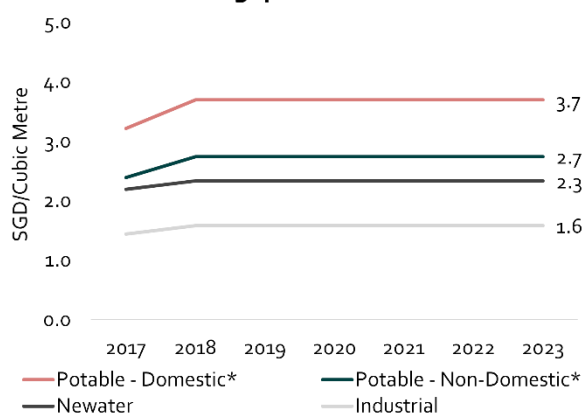
Source: World Bank

Chart 19: Singapore Water Sales



Source: Singapore National Water Agency

Chart 20: Singapore Water Prices

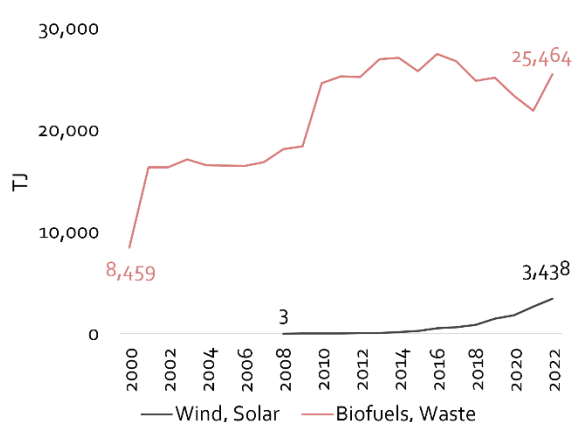


Source: Singapore National Water Agency, * >40 Cubic metres

Renewables growth from small, but rapidly rising, solar capacity

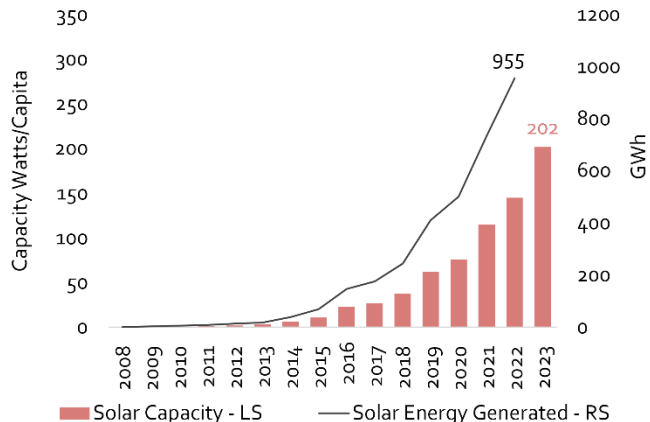
While Singapore's electricity production from renewable sources is tiny, it has grown rapidly. Biofuels and waste were the largest domestic sources of electricity production at 25,464 TJ in 2022, or 1.6% of the total, with wind and solar at 3,438 TJ, or 0.2% of the total (Chart 21). Both have seen high growth rates, with biofuels and waste up from 8,459 TJ in 2000 and wind and solar surging from just 3 TJ in 2008. Solar capacity has increased to 202 watts/capita in 2023, from 2.9 watts/capita just a decade ago in 2013, with solar electricity generated rising to 955 GWh from just 17 GWh in 2013 (Figure 22). Given government targets for expansion, solar is likely to be a major sector for investment, and there are also plans to develop wind capacity.

Chart 21: Renewables Electricity Generation



Source: International Energy Agency

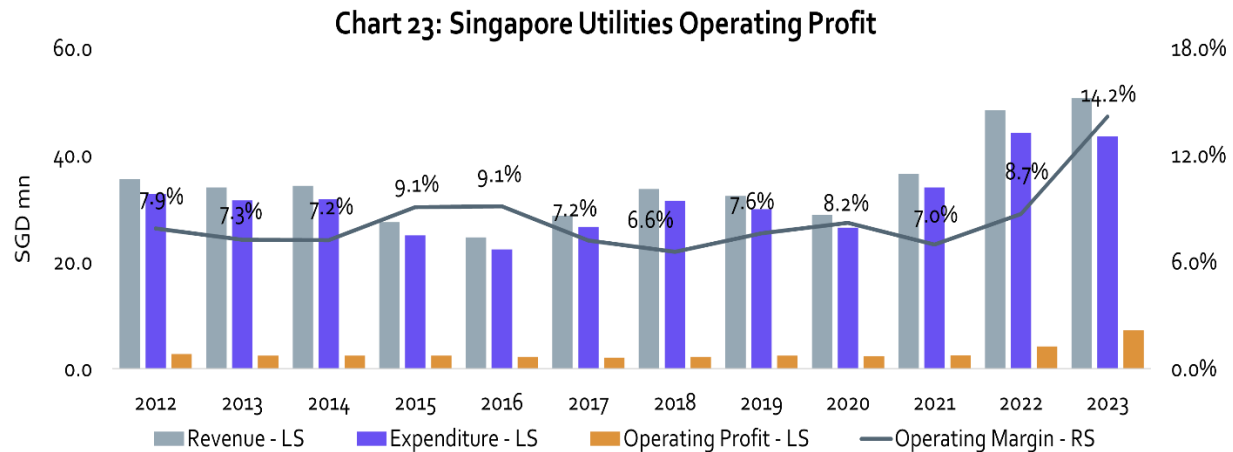
Chart 22: Solar Capacity, Electricity Generation



Source: International Energy Agency, Energy Market Authority

Utilities sector profitability rising

The Singapore Utilities sector overall has been consistently profitable, with an operating surplus averaging 7.7% of revenue from 2012 to 2021, and this margin increased to 8.7% in 2022 and 14.2% in 2023 (Chart 23). The country's two large, diversified utilities companies, Sembcorp and Keppel, operate at levels of profitability in line with the industry overall, with EBIT margins of 15.8% and 10.8% in 2024, respectively, and averaged 9.1% and 9.8% from 2019-2023.



Stocks listed on Singapore Stock Exchange that offer exposure to Utilities Theme

SGX: 1F2 NATURAL GAS UTILITIES: UNION GAS

Most of the revenue is from LPG distribution: Union Gas is a distributor of Liquefied Petroleum Gas (LPG), to households, commercial and industrial customers which accounted for 84% total sales and 98% of pretax profit in 2024, and it has smaller natural gas and diesel operations, at 4% and 12% of revenue and 5% of pre-tax profit

Revenue growth edged down in recent years: The company saw strong revenue growth over 40% in 2018, 2019 and 2021, but this slowed to 10% in 2022 and has turned moderately negative in 2023 and 2024 at -4% and -2%, with the decline last year driven mainly by a lower volume of LPG and natural gas sales

Margins stabilize after declines during crisis: EBIT margins dipped to 5% in 2021 and 2% in 2022 but have recovered to 12% in 2023 and 11% 2024, back near the pre-crisis margins of 12% in 2018 and 2019. However, ROE at 16.1% in 2024 is at about half pre-crisis levels of 25% and 27% in 2018 and 2019.

SGX: 585 NATURAL GAS UTILITIES: ASIAN MICRO HOLDINGS

Sells CNG and semiconductor packaging: The company's core businesses are its natural gas vehicle (NGV) segment which delivers compressed natural (CNG) and a segment selling clean packaging for finished products in the hard disk and semiconductor industries, and it has a small property leasing and development operation

CNG the largest segment and Singapore the main market: Most of the revenue is from the NGV segment, at 86% of the total in 2024, with manufacturing and trading at 13%, with Singapore the largest market, at 87% of revenue, with Thailand the other major market at 10%, with the Philippines at 3% and Malaysia at 0.3%

Revenue and earnings growth volatile: Revenue and earnings were relatively volatile even prior to the 2020-2022 crisis, and revenue dropped -33% in FY2023 (YE June) and rose 48% in FY2024 while operating profit increased 342% and then declined -5%. Operating and net margins and ROE have been negative for four years.

SGX: 5IG ELECTRIC UTILITIES: GALLANT VENTURES

Operates and services industrial parks: The company manages the Batamindo Industrial Park and Bintan Industrial Estates, and operates the power, water, waste management and telecoms services for these estates, and operates the property development and resort segments for the estates

Majority of revenue from utilities segment: Most of the company's revenue comes from providing utilities services, at 60% of the total in 2024, with industrial park revenue at 26% of the total, resort operations at 13% and the property development business the smallest, at 1% of the total

Rebound in operations since 2023: While operating earnings have rebounded, up 65% in 2023 and 33% in 2024, after contracting during the 2020-2022 crisis, net income has remained negative, partly on relatively large interest payments, while the major 2020 decline in revenue was from the deconsolidation of some operations

SGX: BLR WATER: DARCO WATER

EPC and BOO Water Projects: The company implements Engineering, Procurement and Construction (EPC) projects for water and wastewater treatment, performs project maintenance and sells related chemicals and products for the sector, and does Build Own Operate (BOO) projects.

Operates in several countries: The company operates in several countries, including China (32% of 2024 revenue), Singapore (27%) Malaysia (41%) and Vietnam (1%), with project revenue accounting for the largest proportion of revenue at 80%, with 20% coming from O&M services

Earnings volatile, P/B valuations low: The company's revenue and operating earnings tend to be volatile given that accounting for project revenue is not necessarily smoothed, and operating and net margins have been negative over the past seven years, and its price to book has been low at under 0.5x for the past six years

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FUND FEATURE

The following funds provide exposure to Utilities theme and can be found on the [GROW Fund Center](#)

IFAST-NAM PREMIER SINGAPORE EQUITY

Tracks STI Index, with one utility holding: The iFast-NAM Premier Singapore Equity fund is focussed on the country's large caps, and while it includes the diversified utilities company Sembcorp at 6.7% of its current holdings, this is its only investment in the sector

Large concentration in financials, in line with index: In line with the fund's benchmark, the broader STI Index, it has a large financials holding, at 49.8% of the total, with industrials the next largest, at 18.2%, followed by real estate, at 8.2% and communication services at 7.1%.

Tracks STI Index Closely: The fund tracks the benchmark closely with the cumulative return of the NAV over five years at 278.5% versus a 298.2% increase in the STI Index over the same period, and a -9.4% decline in the Fund in 2024 versus a -6.5% decline in the Index

BNP PARIBAS – ENERGY TRANSITION

Diversified across energy transition sectors: The Fund is focussed on energy transition sectors including communications infrastructure and renewables, but is concentrated mainly in the US and Canada at 57% and 12% of the Fund's holdings

Three of top five are solar: While the largest holding is communications infrastructure company Vertiv, at 6.7% of the total, three of top five are solar companies, First Solar, Nexttracker and GE Vernova, at 6.1%, 6.1% and 6.0%, with gas company Siemens Energy at 6.0%

Fund struggles over past five years: The Fund has struggled in recent years after a strong 2020 and 2021, with an average return of -2.60% over the past five years, versus 12.9% for the fund benchmark, which is the MSCI ACWI, and therefore not directly comparable to the energy sector

LIONGLOBAL SINGAPORE/MALAYSIA FUND

Tracks 50% of MSCI Singapore and Malaysia: The Fund is a play on Singapore and Malaysia, with the target benchmark based on 50% of the MSCI Index for both of these countries, with its current holdings at 55.6% of the former and 43.4% of the latter

Banks are nearly 50% of the holdings: Six of the top holdings are banks, with three each in Singapore and Malaysian, and financials are 48.4% of the total, with Communications the next largest sector, at 15.8%, with the second largest holding, tech company SEA, over half of this

Performance in line with 50%/50% Singapore/Malaysia: The Fund's annualized increase in NAV over the past five years of 7.0% is broadly in line with the 6.5% rise in the 50/50 MSCI Singapore/MSCI Malaysia benchmark

FIDELITY – ASEAN FUND

Invests across ASEAN markets: The Fund is well diversified across ASEAN, with 38% of the holdings in Singapore, 23% in Indonesia, 15% in Malaysia, 10% in Thailand and 7% in the Philippines

High weighting of financials: While there is a high proportion of financials, at 46%, in line with the region's large share of this sector, there is significant exposure to other industries, including communications and consumer staples

Outperforming ASEAN benchmark: The Fund's returns have been 7.8% annually over the past five years, which has outperformed the benchmark MSCI ASEAN index, which had an average return of 6.0% over the same period

FIDELITY – WATER & WASTE FUND

Water and waste management concentrated in US: The Fund invests globally in water and waste management companies, with the holdings concentrated in US at 65.7% of the assets, with smaller holdings in other countries with Japan at 5.1% and the UK at 3.4%

Diversified across company: While there is a concentration in the US, the holdings are still diversified across many companies, with even the largest holdings only at around 5.0% or less of the total, with Severn Trent at 5.6%, Veolia Environment at 4.3% and Xylem at 3.7%

Underperforming a very broad index: The Fund has risen 6.4%/year over five years, and while this underperformed the 13.1% of the comparable MSCI ACWI Index, this is a very broad index covering 85% of investable equities and not directly comparable to the water sector

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