

Electrifying Singapore

Data Driven Perspectives on the Singapore
Power Generation Market | Q1-2021



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The Singapore power generation market has undergone an extensive transformation in recent years. The sector has been privatised and opened up to new entrants in the context of a pivot to LNG to improve national energy security. New disruptive technologies are also emerging. In this edition of Restructuring Services Insights we explore data driven perspectives on the Singapore power generation market as well as the performance levers that generation companies should explore to stay ahead of the competition.

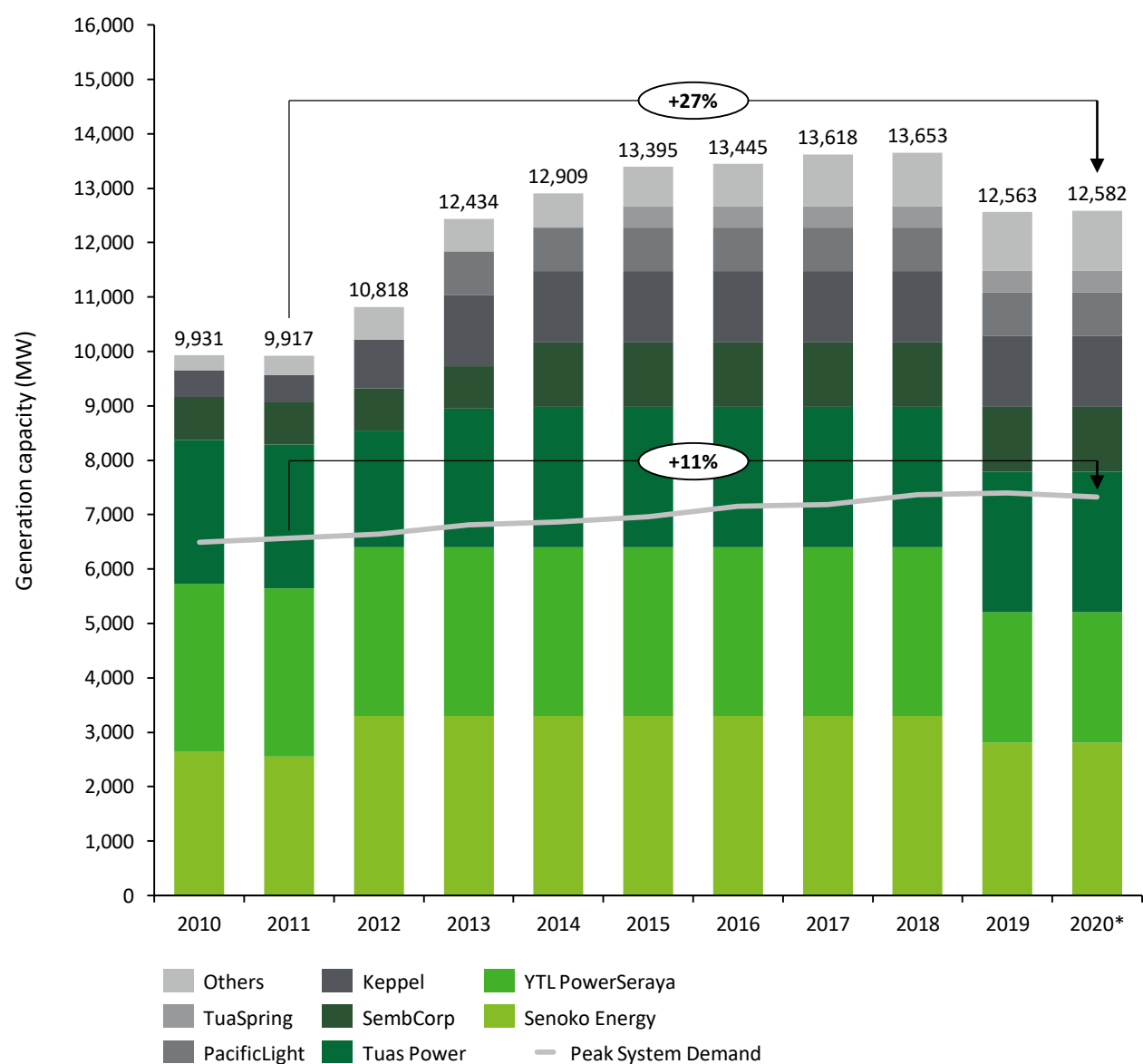
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Capacity and Demand

Enticed by record high spark spreads and electricity prices, between 2010 and 2012, existing generation companies and new entrants raced to expand capacity. An additional 3.7GW came online between 2011 and 2018. Supply growth significantly exceeded demand growth (27% increase in generation capacity versus an 11% increase in peak demand) despite capacity retirements of 1.1GW in 2019.

Singapore electricity generation capacity versus peak demand



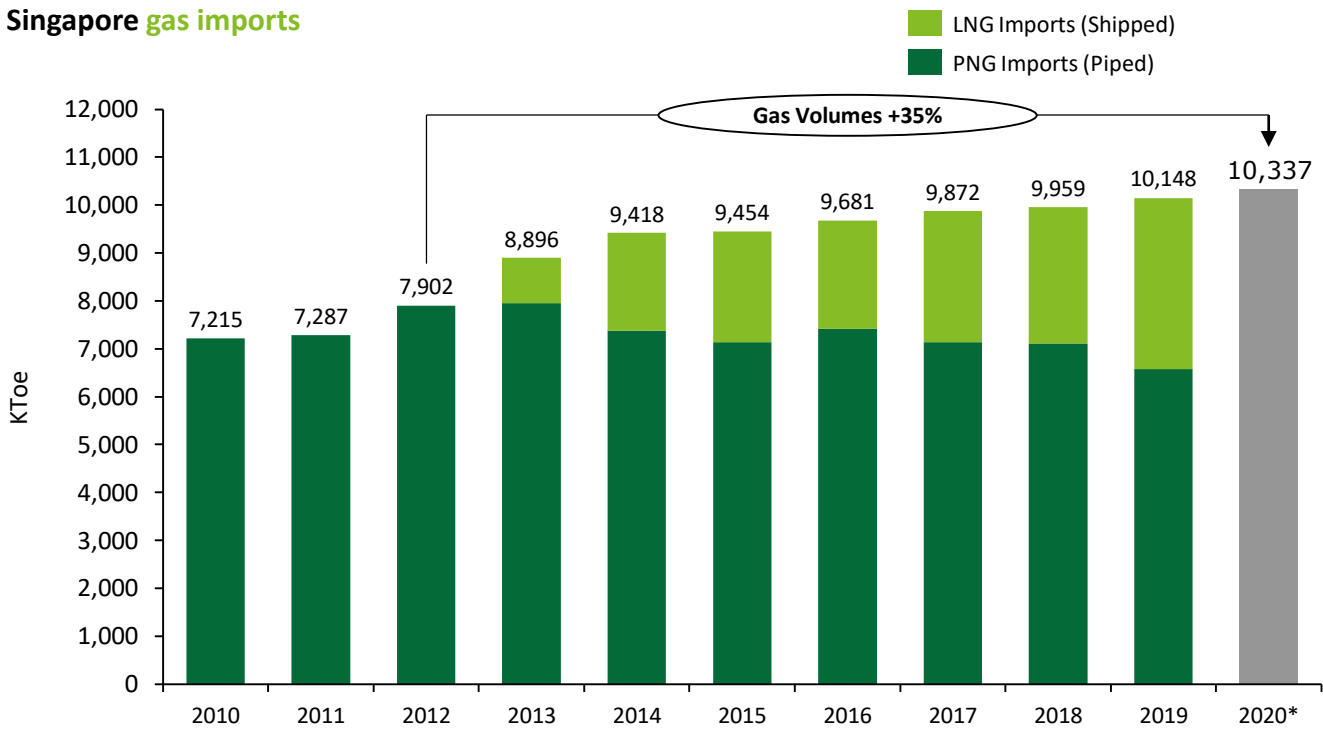
* 2020 estimate

Source: Energy Market Authority

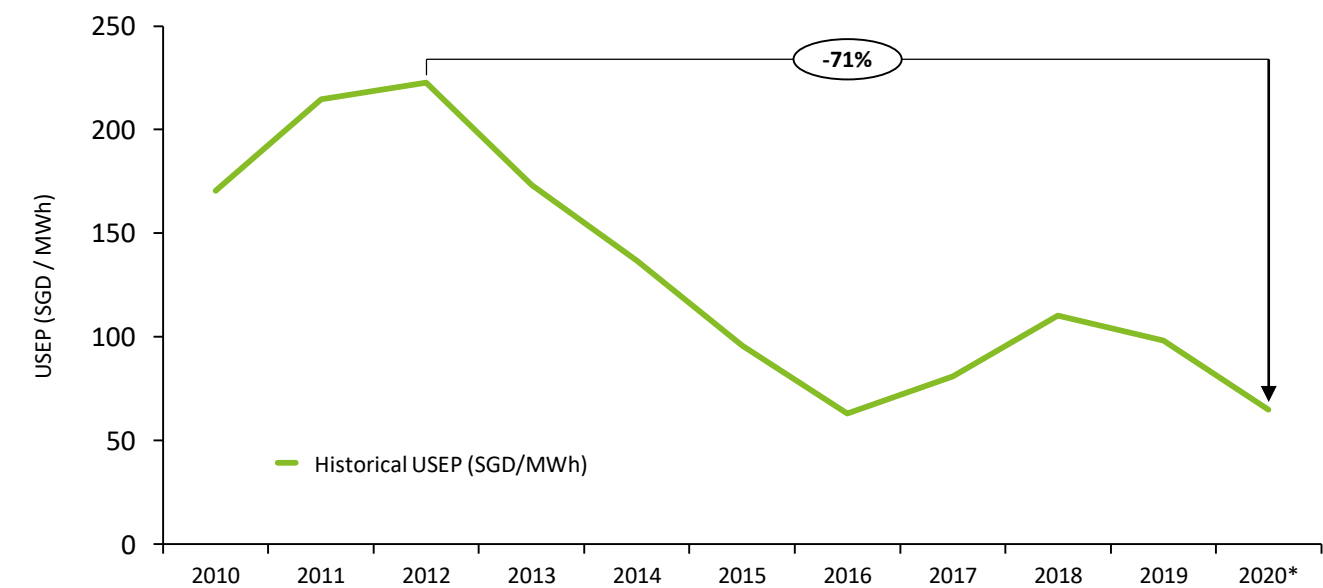
Gas Supply and Electricity Prices

Gas imports are up and electricity prices are down. Gas imports have increased by 35% since 2012 driven by the activation of the new Singapore Liquid Natural Gas (“SLNG”) Terminal. The SLNG Terminal was built to diversify supply from existing Indonesian and Malaysian Piped Natural Gas (“PNG”) to enhance national energy security (with LNG take up encouraged by vesting contracts). The structural oversupply of gas, generally on long tenor take-or-pay contracts, has in some cases led power generation companies (“GenCo’s”) to burn gas (even in low demand / low electricity price scenarios) putting downward pressure on electricity prices.

Singapore gas imports



Uniform Singapore electricity price



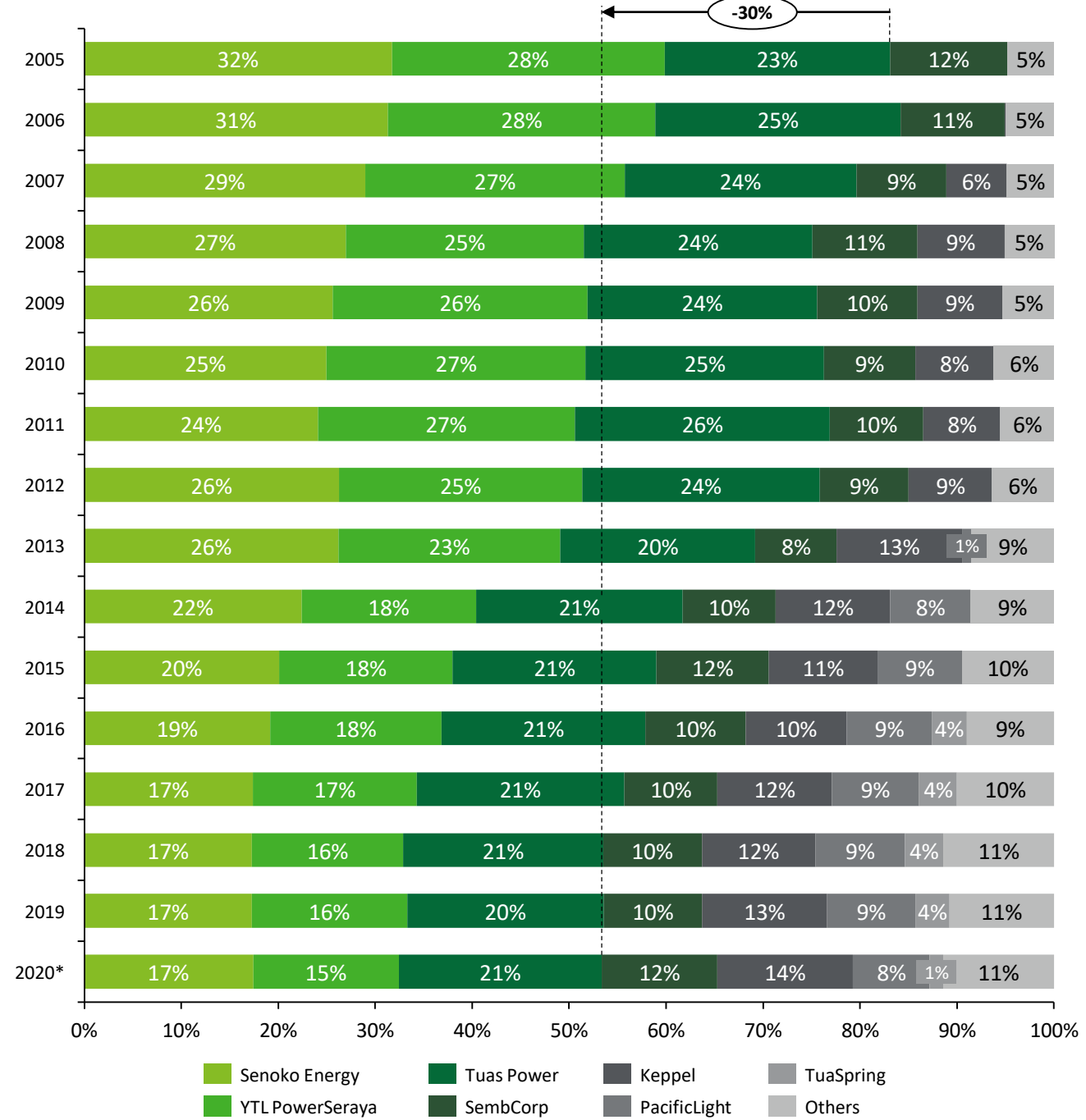
* 2020 estimate

Sources: Energy Market Authority, Enterprise Singapore

GenCo Market Shares

The “Big 3” GenCo’s have collectively conceded 30% of the market to new entrants (including Pacific Light, Keppel, Tuaspring and others) since 2005. In the absence of material demand growth, the declining market share is reflected in the “Big 3” Genco’s contraction in production volumes. A new entrant, Tuaspring (which is part of the Hyflux Group), failed to achieve viability and became subject to a formal insolvency process.

Singapore power generation market share

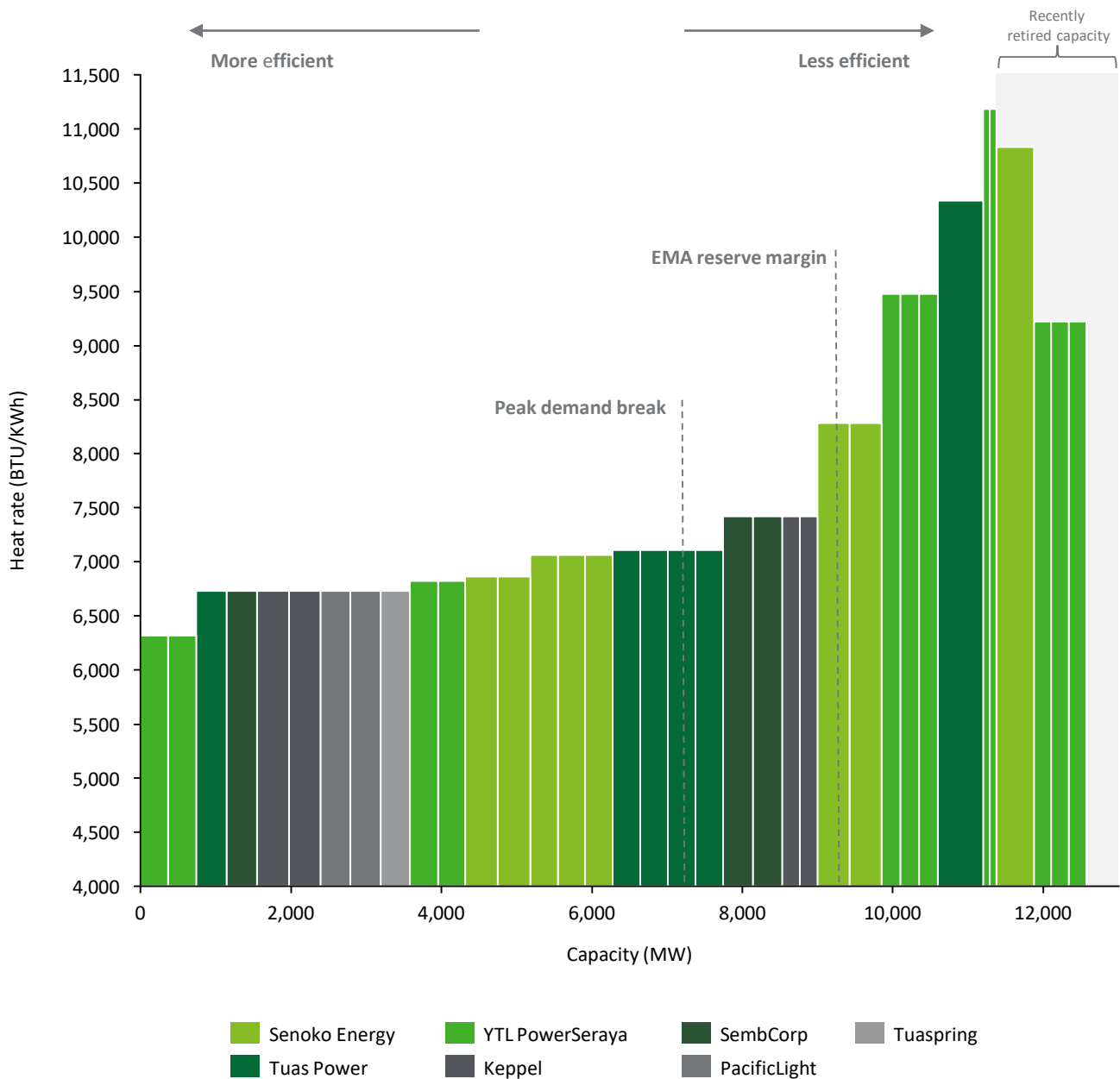


Source: Energy Market Authority

Merit Order Stack

The “merit order” ranks electricity generation based on the short-run marginal costs of production and the amount of energy generated. In a perfect market system, generators with the lowest marginal costs are first to fire up to meet demand whereas the plants with the highest marginal costs are the last to be brought online during peak periods. Approximately 36% of Singapore’s (legacy) generation capacity falls outside the peak demand break and 18% falls outside the government reserve margin resulting in significant capital lock up in unproductive assets.

Singapore GenCo generator efficiency based on heat rate



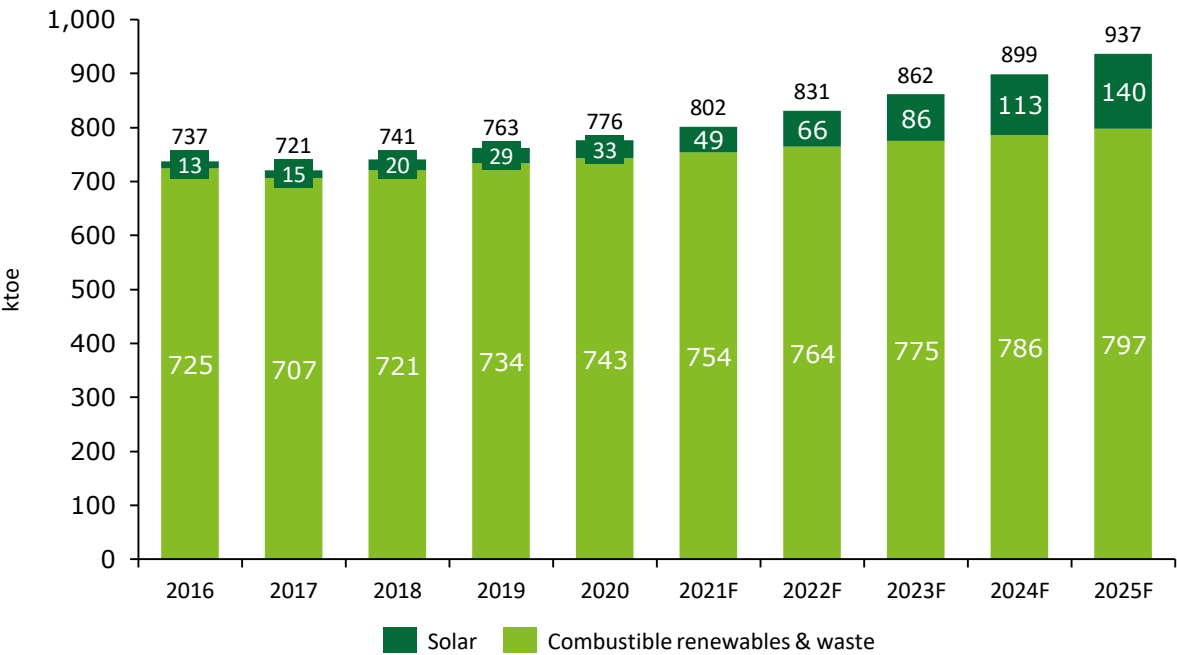
* 2020 estimate ...excludes generation capacity of Waste-to-energy plants and auto-producers

Source: Energy Market Authority and Deloitte Research

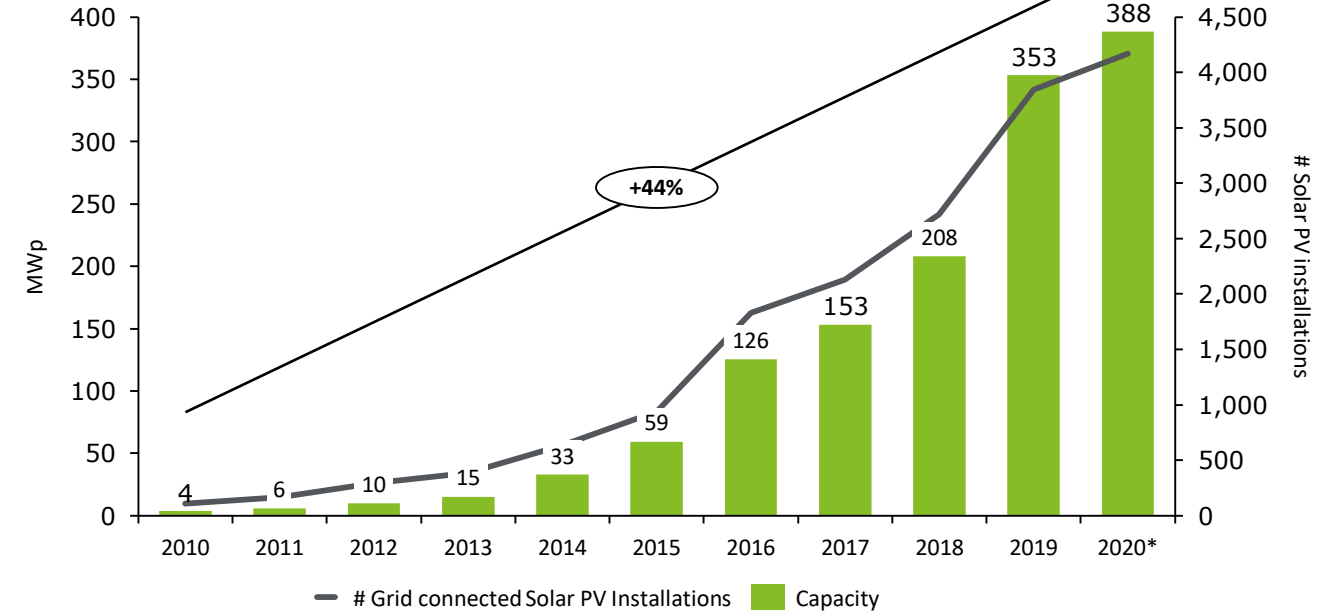
Market Disruption

The renewable energy sector in Singapore is evolving. Solar energy is the most viable renewable energy option and the Singapore Government has introduced various policies to encourage the adoption of solar energy. Solar generation capacity at mid-day is currently equivalent to ~5% of electricity demand. Continued accelerated growth is expected with a national target of 1.5GW solar deployment by 2025. Increased “clean” solar output is expected to directly impact existing gas-fired power generation sources. The Singapore Government is also unveiling plans for the national conversion to electric vehicles.

Projected renewable energy consumption



Solar generation capacity and number of solar photovoltaic systems



* 2020 estimate

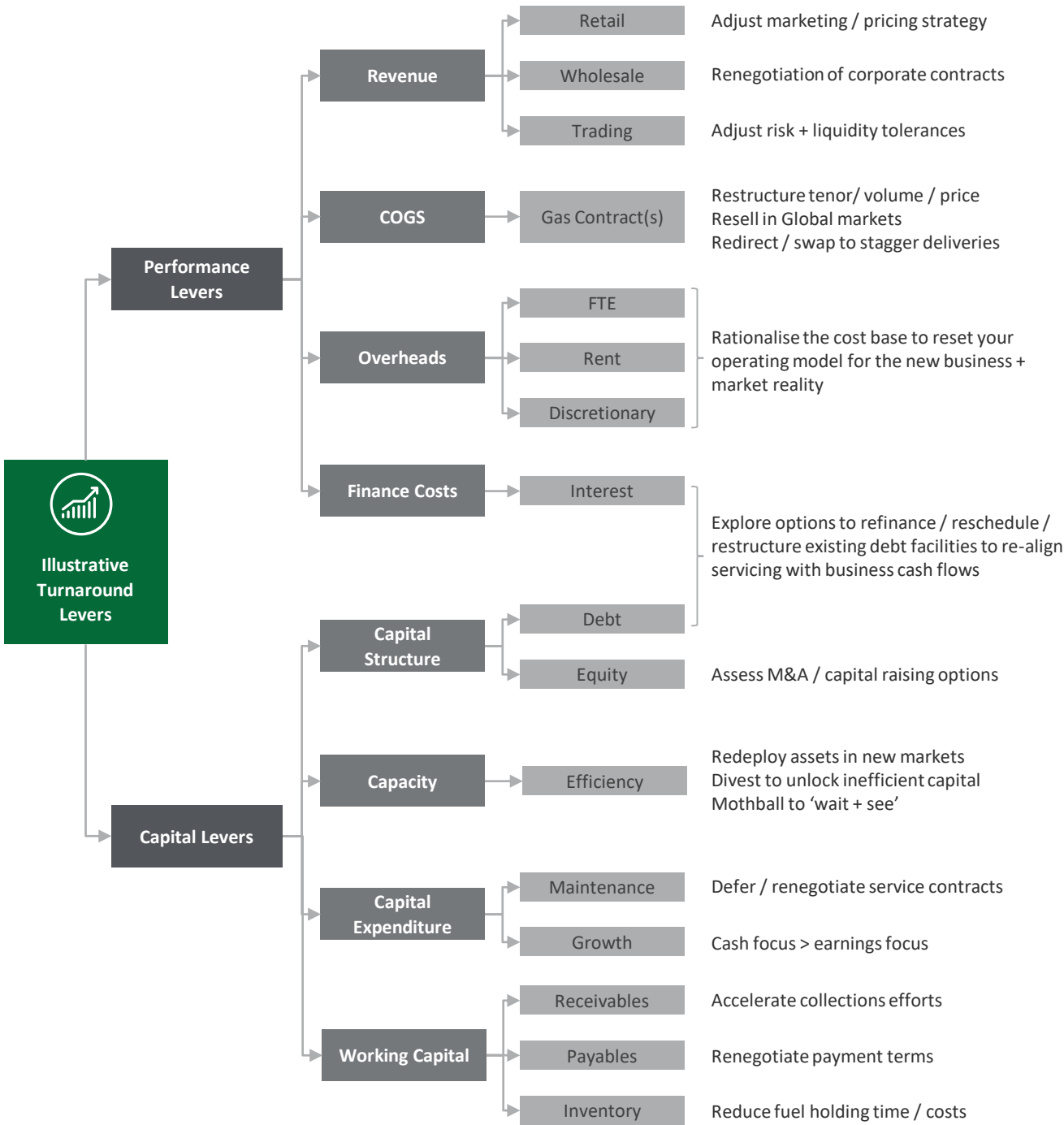
Sources: The Economist Intelligence Unit, Energy Market Authority, British Petroleum Company Limited

GenCo Survival Guide



GenCo’s need to acknowledge the extent of the challenges and take fast and meaningful action in order to survive and thrive. Our expert Value Creation and Restructuring Services teams combine Restructuring and M&A skillsets with private equity techniques to drive rapid earnings uplift and cash generation ...fast! Please contact any of our Deloitte Partners on page 10 to learn more

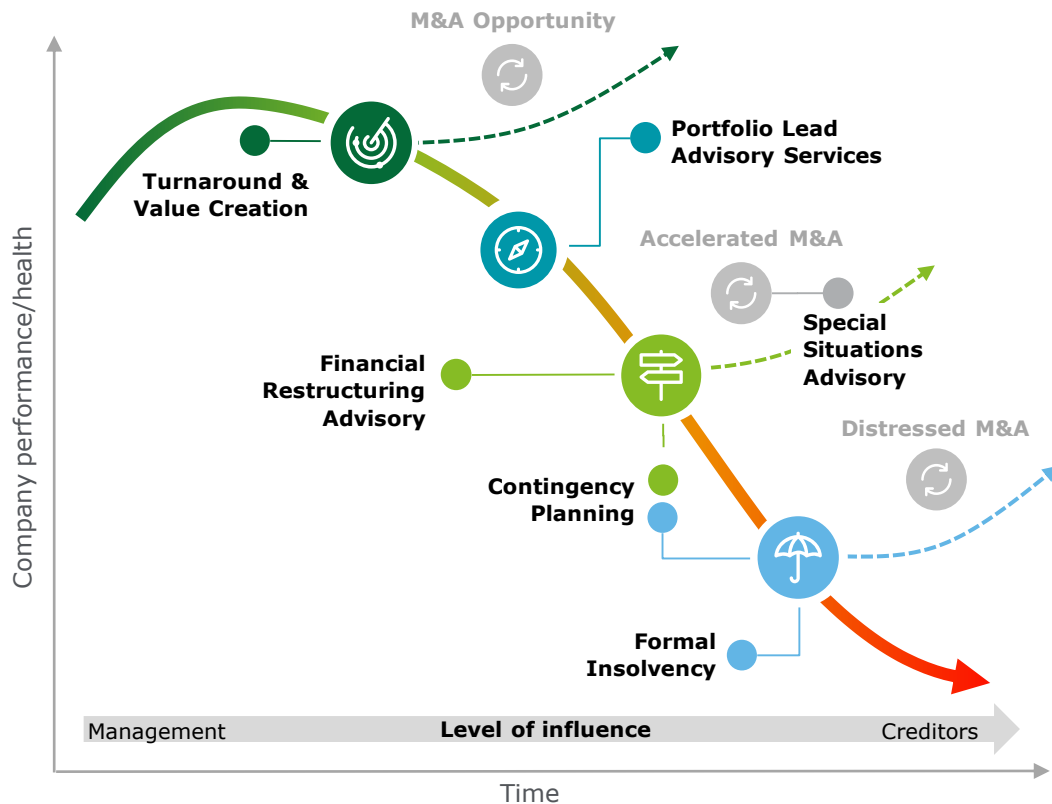
Illustrative Value Levers (not exhaustive)



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We work with clients to improve outcomes across the stress spectrum ranging from companies seeking to turnaround short term underperformance to those in deep financial distress requiring crisis management. We are actively helping businesses in Singapore and Southeast Asia to turnaround, transform and grow their businesses and to successfully navigate the financial impact of Covid-19. We have deep experience assisting to restructure and turnaround businesses the power generation sector.

Deloitte Restructuring Services



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- **Contingency Planning** before and during complex restructurings, supporting with options analysis and “plan B” scenarios to drive a consensual deal or provide a bridge into insolvency
- **Formal Insolvency** where a consensual restructuring is not possible; we can provide assistance to debtors and creditors through formal corporate insolvency processes

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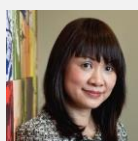


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