



Towards 60-30

SUSTAINABILITY REPORT FY20/21

Who We Are

YTL PowerSeraya Pte. Limited. (YTL PowerSeraya) is a wholly-owned company of YTL Power International Berhad, which is listed on the Bursa Malaysia Berhad. YTL PowerSeraya owns and manages power generation and desalination plant assets in Singapore.

YTL PowerSeraya's vision

To be the leading provider of integrated utilities and energy solutions for a sustainable future.

Primary revenue stream

YTL PowerSeraya retails electricity under its consumer facing brand Geneco, which includes both its business and retail portfolio. Its main revenue stream includes the sale of electricity and gas to commercial, industrial and residential customers. It also includes oil storage tank leasing and blending activities.

YTL PowerSeraya Group is supported by two wholly owned subsidiaries:

Seraya Energy

While Seraya Energy is the electricity retail arm of YTL PowerSeraya, the Group sells electricity to commercial, industrial and residential customers under its retail brand Geneco.

Primary revenue stream: sale of electricity to commercial, industrial and residential customers.

PetroSeraya

PetroSeraya is the oil storage tank leasing arm of YTL PowerSeraya. It owns and manages the oil terminal and oil tank farm assets on Jurong Island, Singapore. In addition, it sources and secures fuel supplies for the power generation business of YTL PowerSeraya.

Primary revenue stream: Oil storage tank leasing and retailing, fuel sourcing, fuel management and fuel-related services.

The above mentioned entities are included in the Company's consolidated financial statements.

Externally-developed charters and other subscribed or endorsed initiatives

Signatory to the 5 Principles of Fair Employment Practices subscribed by the Tripartite Alliance of Fair & Progressive Employment Practices, Singapore

Founding member of World Energy Council, Singapore Chapter activities.

Memberships

Member

Sustainable Energy Association of Singapore



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This year’s Sustainability Report is an externally assured report prepared in accordance with the ‘GRI Standards: Core Option’ reporting framework. The reporting period is for the financial year starting 1 July 2020 to 30 June 2021. It covers the business operations of YTL PowerSeraya, PetroSeraya and Seraya Energy, collectively known as the ‘Company’.

While the Company produces reports on an annual basis, full reports (such as this year’s FY20/21 report) are published biannually. In between, a condensed version of the full report known as the Sustainability Bridging Report is published. The last report, known as Corporate Accountability Report, for FY19/20 (ended 30 June 2020) is available and can be downloaded from the Company website.

This report has endeavoured to adhere to the AA1000 Accountability Principles. Taking into account the company’s sustainability context and its direct stakeholders, it covers key items to provide readers with a good understanding of the company’s goals and operations and aims to provide an accurate and balanced account of the

Company’s sustainability performance. Where possible, industry benchmarks and historical data are provided to allow a comparative analysis of the Company’s performance.

There were no significant changes to the organisation and its supply chains. There were also no changes to the report from previous reporting periods. This report is compiled in consultation with internal stakeholders across the organisation to gather information and input on areas specific to their areas of business, work or function.

Figures in this report may differ slightly from reports published by the Company’s parent companies due to timing and rounding differences.

The report is reviewed by the Head (HSE, Security & Sustainability), including the material topics contained in this report, and endorsed by the CEO and several members of the Senior Management Team.

For any questions on this report, please channel them to corpcomm@pseraya.com.sg.

ASSURANCE STATEMENT

YTL PowerSeraya appointed CSRWorks International to provide assurance on this report. The external assurance statement can be found at the end of this report.

RESTATEMENTS

Energy Consumption Within the Organisation (GRI 302-1) : The heavy oil & diesel consumed for FY18/19 and FY19/20 is restated to be 153,089 GJ and 68,023 GJ respectively after taking into account the blackstart gas turbine diesel consumption figures.

FY18/19 & FY19/20 Scope 2 & 3 GHG Emissions (GRI 305-2, 305-3 & 305-5) is reinstated after corrections to grid emission factors used for the GHG emission calculations.

Messages from the Top

Chairman's Message

YEAR IN REVIEW

As the global energy landscape goes through major shifts, businesses continued to face various challenges. For the financial year under review, YTL PowerSeraya sold 8,766* GWh of electricity, while generation market share saw an increase of 9.2% as compared to the last financial year. YTL PowerSeraya's retail arm, Geneco, held a market share of 13.8%** for FY20/21 in the electricity retail market, comprising of customers from the residential, commercial and industrial sector.

POWERING PROGRESS

As global power demand seeks to increase over the coming years, fueled by emerging new business trends and needs, it is imperative we take proactive steps to improve energy efficiency and more sustainable methods of electricity production.

The YTL Group aspires to reach carbon neutrality by 2050. We are also excited for the 60-30 vision set by YTL PowerSeraya, which targets a 60% reduction in GHG emissions from power plant operations by 2030. This forms part of our commitment to mitigate emissions

through various ways which include energy efficiency measures and expanding our energy portfolio mix to include renewable energy.

In working towards achieving this vision, Geneco, YTL PowerSeraya's retail brand, has already started offering carbon credits and renewable energy certificates to customers under the "Power Eco" add-on plan. This encourages and offers the community a chance to play their part and contribute to the environment with ease.

In collaboration with YTL-SVC, Geneco also offers GHG inventory services for commercial and industrial customers and helps to identify energy efficiency and renewable energy solutions to mitigate emissions such as waste heat recovery and solar photovoltaic (PV) installations. YTL-SVC is the biggest Clean Development Mechanism (CDM) consultancy in Malaysia and the fifth biggest in ASEAN with strong experience in renewable energy projects under the YTL Group.

It will be an exciting journey as the Group continues to serve the growing needs of its community, and the Nation.

Overall, I am confident the YTL PowerSeraya Group is well-positioned to support sustainable growth, while operating in a dynamic, competitive and highly regulated environment.

WORD OF APPRECIATION

I would like to put in a word of thanks to the Directors, the Senior Management team and staff of YTL PowerSeraya for staying resilient as a team and working extremely hard during these times of rapid change to deliver results. While we operate in a business landscape that continues to demand innovation and transformation towards the future of work, I am confident that the commitment and capabilities of our people will continue to 'power' the Nation, albeit doing so in a sustainable fashion.






I would like to also express my deepest appreciation to our customers and business partners for their continued support towards YTL PowerSeraya.

Thank you and God bless all of you.

TAN SRI (SIR) FRANCIS YEOH SOCK PING PSM, KBE
Chairman



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* This includes 1,685 GWh of electricity generated by Tuaspring Pte. Ltd. under a gas tolling agreement.

** Calculated based on retail volume as a percentage over total system demand.

CEO's Message






The COVID-19 pandemic over the last financial year continues to impact businesses and cause disruptions to the energy industry. Yet within this backdrop, our YTL PowerSeraya team rose to the challenge and continued to stay the course in providing essential energy and related services. Through their efforts, we have managed to keep our operations running 24/7, while still achieving high safety and plant reliability performance.


Despite such extraordinary times, it can be a key transition point for businesses seeking to adapt and create positive impact in the industry. I believe this is a decade of action for change, where we as a business can seek to build and shape the progress for Singapore's power industry towards a lower carbon energy future.


POWERING THE FUTURE: TOWARDS 60-30

FY20/21 saw a record low in our Greenhouse Gas (GHG) emissions to 3.19 mil tCO₂e¹. This is a 9% decrease from last FY, reflective of the subdued energy demand brought about by the on-going COVID-19 pandemic. However, YTL PowerSeraya recognises the need to do more on this front. We are on a sustainability push to further reduce our carbon emissions and have set in motion a journey to further decarbonise our power plant operations. This is fully anchored upon our 60-30 vision which we have set amidst a year of industry challenges. We aim to reduce our GHG emissions by 60% from our 2010 levels, by 2030. This is a goal which compares well with the Intergovernmental Panel

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¹ tCO₂e refers to metric tonnes of carbon dioxide equivalent. GHG Emissions are Scope 1.

on Climate Change (IPCC)’s projections to limit global warming to 1.5°C by the end of the century². Alongside this 60-30 vision, we continue to benchmark ourselves against the Singapore 2030 climate change target³. We are on track to reach this target with a GHG Intensity of about 35% below 2005 levels from our power plant operations.

Taking a step further, we aim to be carbon neutral by 2050. As one of Singapore’s key power generators, it is an ambitious but necessary goal we will embark upon. These require stretching the efficiencies of our existing power generating plant assets and increasing our share of using renewable sources for energy production.

Exploring the adoption of low-carbon technologies will also be key. Dealing with short-term business challenges while transiting progressively to a low-carbon business model in the medium to long term will require commitment to climate action by current and future leaders and motivating our people to this purpose.

POWERING LIVES: OUR PEOPLE AND THE COMMUNITY

Safety and health of our people continues to be a key focus. We are proud to achieve zero accidents, injuries and COVID-19 infections among our workforce. With three planned maintenance activities in the last quarter of our FY20/21, the effort that our staff, contractors and service partners have put in to achieve what we set out to do while keeping safe and healthy in the midst of a pandemic is truly commendable.

The ongoing pandemic situation has also brought to light increasing conversations around mental wellness. With the majority of our workforce as frontliners doing their part to keep the lights on for the nation, it was especially pertinent that our company took thoughtful approaches — through internal campaigns held, resources shared as well as reminders and tips pushed out — to support our people in building their mental resilience.

We continue to serve the communities during the COVID-19 pandemic alongside our Changemakers partners. Through our electricity retail brand Geneco, we collaborated with FoodBank to advocate zero food waste during this period. More than 6,700 kg of food was saved through this effort.

APPRECIATION






I wish to extend my heartfelt appreciation for our employees’ commitment during a time of unprecedented challenges. Many thanks to our Board of Directors and Senior Management Team as well for their unwavering support to the company. In addition, I would like to extend my gratitude to our customers, business partners and UPAGE (Union of Power and Gas employees).

How we were able to rise to the challenges over the last financial year gives me great confidence that we will be able to do so once again. With a strong foundation underpinning our strategy to reach our 60-30 vision, we remain committed to playing our part in building a sustainable energy future.



JOHN NG
Chief Executive Officer
YTL PowerSeraya

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² According to the Intergovernmental Panel on Climate Change (IPCC) 2018 Special Report on Global Warming of 1.5°C, global CO₂ emissions need to decline by about 45% below 2010 levels by 2030, reaching net zero around 2050, to be on track to limit global warming to 1.5°C by the end of the century.

³ Singapore climate change target: Achieve 36% reduction in GHG Emissions Intensity (tCO₂e per \$GDP) from 2005 levels by 2030.



We continue to push boundaries and look beyond conventional means of energy. By breaking through possibilities and expanding our capabilities, we are realising aspirations to power more sustainably.

Powering Possibilities

Into the Future



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Singapore signed the Paris Agreement in 2015 where it committed to its Nationally Determined Contribution (NDC) of a 36% reduction in the country’s GHG Emissions Intensity from 2005 levels by 2030. The Company has since benchmarked its GHG Emissions Intensity (Scope 1) to this NDC and fared well with a close to 35% reduction from 2005 levels.

In 2020/21, Singapore updated its climate change plans with the Singapore Green Plan 2030 and its long-term Low Emissions Development Strategy (LEDS). At around the same time, the IPCC (Intergovernmental Panel on Climate Change) report forecasted a grim picture of accelerated climate change risks that countries would face should the world fail to limit global warming below 1.5 degrees. Amidst the COVID-19 pandemic, the huge fiscal stimulus provided by USA and EU governments to support their weakened economies, flooded the economic system with excess liquidity, causing a flight of capital to companies with better ESG credentials. The confluence of the above events led to the reallocation of capital to companies that contribute to the climate change goals and spurred the sudden growth in sustainability-linked financing instruments by banks and financial institutions in 2021.

Societal values are meanwhile shifting in the general population with millennials and Gen Z expecting companies to be more responsible in managing their businesses. This generation of people are more inclined to align themselves with companies that do good for the society and the environment.

The world is also getting increasingly connected and digital. While information security and cybersecurity threats present risks to any business, it also provides opportunities for better collaboration and productivity gains across the organisation. The Company thus recognises the importance to be resilient against such risks for business continuity or effectiveness. The Company also needs to digitalise its business operations in order to stay ahead of the competition or risk being ‘disrupted’ by others.

With hybrid work becoming a norm caused by the COVID-19 pandemic, it has also resulted in mental health issues. Companies are also finding it challenging to engage their employees with fewer in-person meetings and social gatherings at the workplace.

The 60-30 Vision



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With these recent developments, the Company conducted an internal review of its sustainability strategy in 2021 to focus on what is material to the Company to deliver positive climate change action. The review concluded with a framework comprising the 4 Sustainability Thrusts and how it contributes to the UN SDGs (Sustainable Development Goals). The prioritisation of material issues and the significant impact to/by key stakeholders for higher priority material topics is found in the [Materiality Review](#).

The ultimate aim is to realise the 60-30 Vision—Achieve 60% reduction in GHG Emissions from 2010 levels by 2030. From internal projections of the GHG Emissions scenario from now to 2030, the Company will see an increase in GHG Emissions in the post-covid pandemic period (2022–2025) with emissions peaking sometime in 2026–2027 and finally tapering downwards to attain the 60% reduction goal.




The 60-30 will be fulfilled by


- i) Maximising the energy efficiencies of the existing combined cycle and cogeneration plants,
- ii) Increasing the renewables energy share via a mix of solar PV investments locally and renewable energy imports through the ASEAN power grid,
- iii) Investing in low-carbon power technologies such as a blended or 100% H2-fired power generation plants.


Sustainability Thrusts

Sustainability Thrust	 <p>Reduce GHG Emissions & Resources</p>	 <p>Strengthen Resilience</p>	 <p>Nurture an Engaged, Inclusive Workforce</p>	 <p>Empowering Customers & Communities</p>	
Material Topics	<p>Energy & Water Efficiency Renewable Energy</p>	<p>Climate-related Transition Risks Cybersecurity & Data Governance Business Continuity</p>	<p>Talent Development Fair Employment Purpose & Values Driven Health, Safety, Well-being</p>	<p>Enable Customers and Communities to Go Green Foster Green Partnerships</p>	
Desired Outcomes	<p>Reduce Environmental Impact Reduce Carbon Tax Liabilities Align with Singapore Green Plan</p>	<p>Minimise Transition Risk Minimise Info-Cyber Risk Minimise Business Disruption</p>	<p>Grow & Innovate Increase Trust & Teamwork Increase Staff Motivaton</p>	<p>Align with Societal Issues Increase Customer Engagement & Retention</p>	
SDG Alignment	  				

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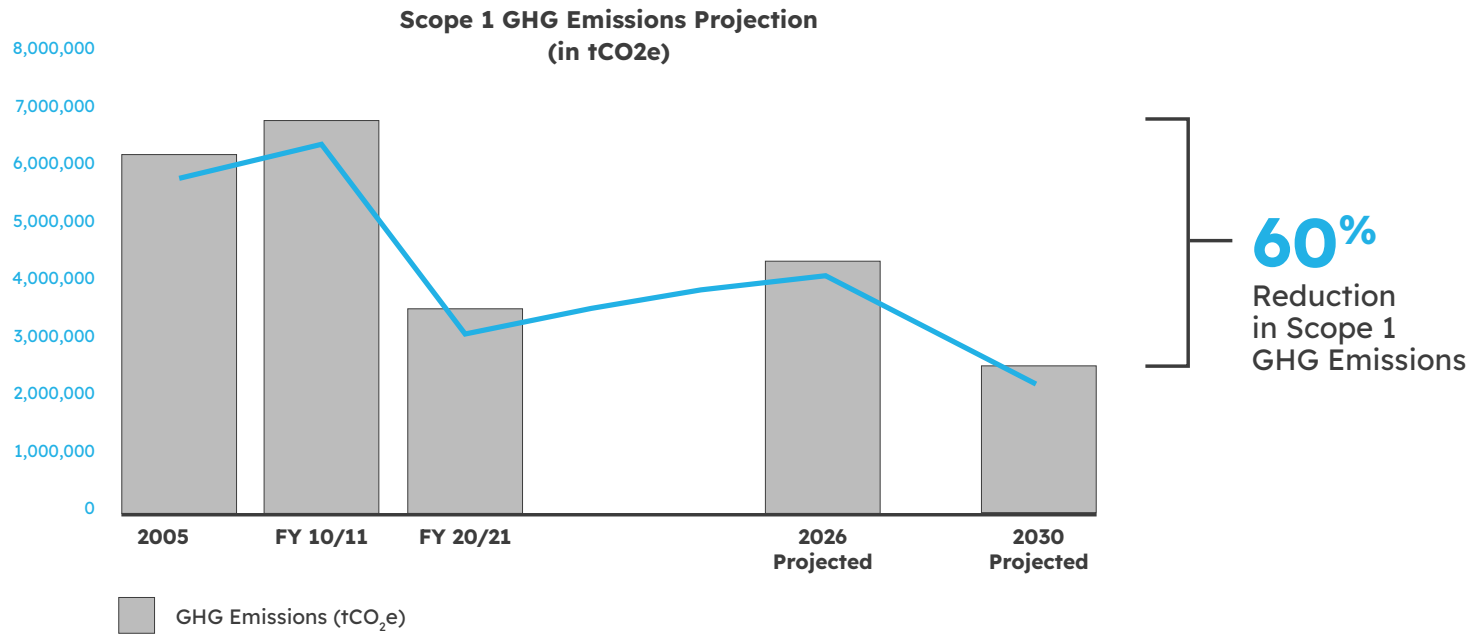
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GHG Projections Under the '60-30 Vision'



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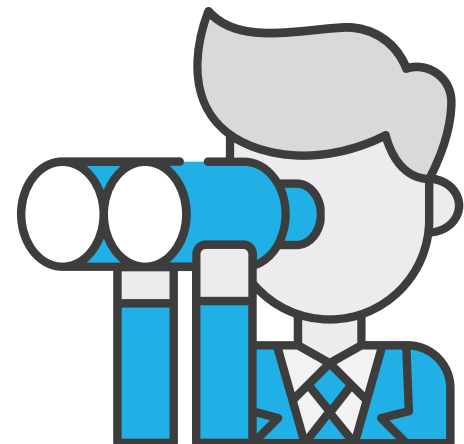
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Powering Performance

We consistently seek to drive value and performance with strategic planning, taking purposeful actions to navigate risks as we transit to a lower-carbon future for generations to come.

Key ESG Performance for FY20/21



Our businesses emerged overall stronger from the low base of COVID-19 pandemic in 2020 while keeping the ESG momentum.

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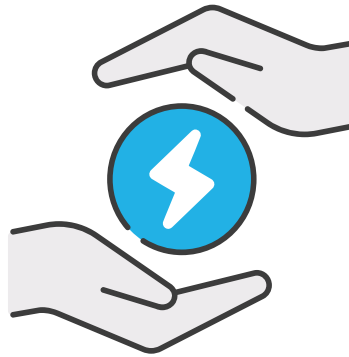
POWERING THE NATION

8,766 GWh of electricity was generated and sold to the wholesale electricity market. Generation market share increased 9.2% (vs last FY) due to a rise in electricity demand with the progressive re-opening of economy as Singapore exited the COVID -19 'Circuit Breaker' on 1 June 2020.

The power station registered reliability and availability percentage improvements of 1.0% and 4.6% respectively (vs last FY).

EMPOWERING CUSTOMERS WITH GREENER ELECTRICITY CHOICES

Electricity retailer Geneco held a market share of 13.8% for FY20/21 in the electricity retail market of Singapore. As of 30 April 2021, Geneco was one of the leading electricity retailers by market share for the residential sector and received a 4 Star* rating in the Open Electricity Market customer satisfaction survey conducted by the Energy Market Authority (EMA).



In FY20/21, Geneco helped customers reduce close to 40,000 metric tons of GHG emissions* and powered homes and businesses with about 5,400 MWh of renewable energy^ in the FY.




*via carbon offsets
^via Renewable Energy Certificates (RECs)


The Power Eco Total Solution for residential customers gave them opportunities to reach 100% carbon-neutrality for the electricity they consume either through solar energy purchased via Renewable Energy Certificates (RECs) or by offsetting the carbon emissions from the electricity they consume through the purchase of Carbon Credits.


Another product offering is BizSunny Plan for commercial and industrial customers to choose the level of renewable solar energy (i.e. 1.0%, 5.0% or 10.0%) to incorporate into their electricity price plan.



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* EMA's customer satisfaction survey uses a 5-point rating scale (5 stars being the highest level of satisfaction achieved) based on the responses of contracted consumers.

SUPPORTING THE LOCAL ECONOMY

As a major power sector player in Singapore’s open electricity market, YTL PowerSeraya has an important role in providing reliable and energy efficient electricity to power the country’s economy while contributing to the Singapore 2030 climate change goals. The company’s contribution to the local economy (through the workforce it employs, the goods and services purchased from local suppliers and the taxes it pays the government) can be seen from the revenue it generates annually. In FY20/21, the Company purchased about S\$ 62.36 million of non-oil related goods and services, 95% of which are from local suppliers*.



In FY2021, the Company purchased about **S\$62.36 million of non-oil related goods and services, **95%** of which are from local suppliers.**

In FY20/21, the company’s revenue and total assets was S\$1.96 billion and S\$3.84 billion respectively. NPAT was S\$74 million, an increase of S\$122 million from the prior year of S\$48 million.

The company has a Responsible Procurement Policy that takes into account the environmental, safety and quality aspects of a supplier’s ability to provide cost effective products and services that deliver sustainable outcomes. This is facilitated through the Approved Vendor Programme (AVP), a pre-qualification process that screens supplier against their QHSE (Quality, Health, Safety & Environment) credentials. For more information, please go to the company website: [Governance — YTL PowerSeraya Pte. Limited](#)

Suppliers with significant contract values of S\$100,000 and above are obliged to declare their environmental credentials. This constituted 8.5% of the total value of goods and services (measured by goods/services receipts value) transacted by the Company in FY20/21.

Since the start of FY20/21, all vendors providing the following work activities were screened for their safety and health performance. Only those with bizSAFE level 3 criteria are allowed to work at the power station:

- Manpower services to support plant maintenance works
- Manpower services to support oil terminal work
- Mooring services
- Security services
- Cleaning services
- Landscaping services

As part of the company’s procurement policy, employees (including members of the Board) are required to declare if there are any conflict of interests involved in the purchases they requisite, support or approve. This ensures all goods and services are procured in a fair and responsible manner.

Suppliers are subject to the Code of Conduct for Contractors and Contract Workers and certain terms and conditions (see list below) in their provision of goods and services to the Company. These are made known to them during the RFQ (Request for Quotation) stage of the procurement process.

- Use of child labour
- Fair wage for workers
- Use of illegal foreign labour
- Freedom of workers to join trade unions
- Compliance to environmental, safety and health laws

* Local suppliers are those to whom the purchase order is issued to a Singapore registered company.

The Company, whose operations are based solely in Singapore (a country with no natural resources, including oil and gas), has no choice but to rely on overseas suppliers to fulfil its oil related (e.g. natural gas) supply needs.

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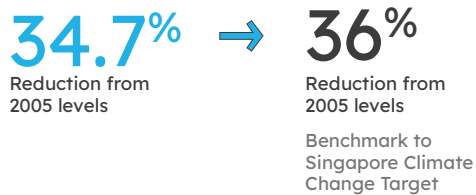
GHG Emissions from Power Plant Operations (Scope 1)

FY20/21 Performance **2030 Target**

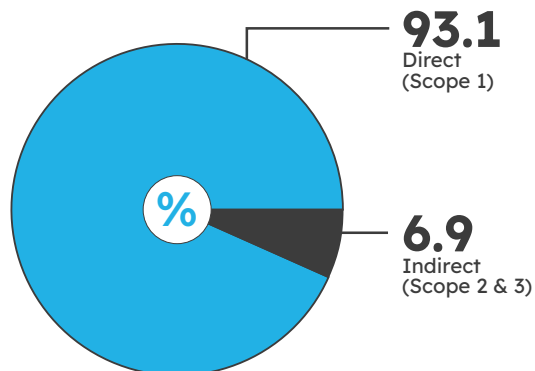
ABSOLUTE EMISSIONS



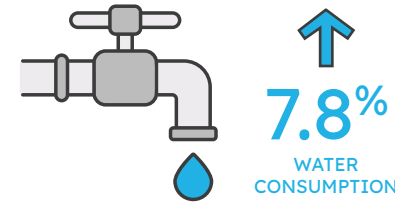
EMISSIONS INTENSITY



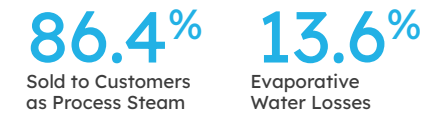
FY20/21 Direct & Indirect GHG Emissions (Scope 1, 2 & 3)



FY20/21 Power Plant Water Consumption

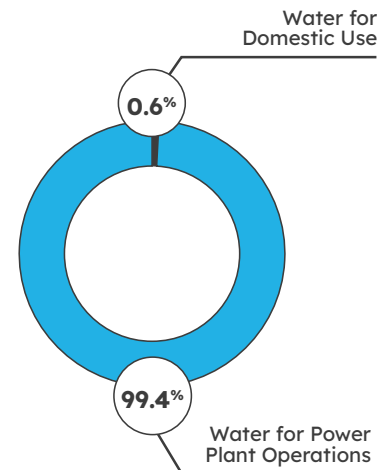


PROPORTION OF WATER CONSUMPTION

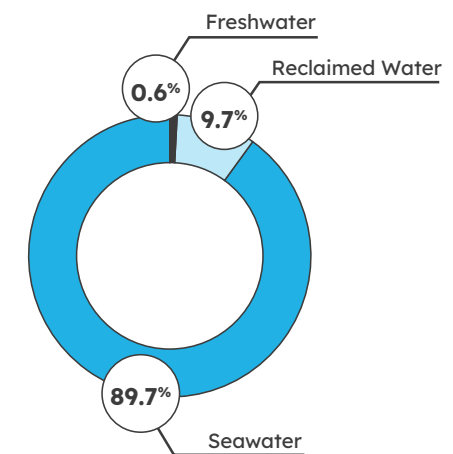


Almost 100% of Water Used for Power Plant Operations is from Seawater and Reclaimed/Recycled Water Sources

Water Usage at Power Station



Water Sources



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Governance

ZERO



Data Security & Privacy Breaches



Labour & Human Rights Violations



Incidence of Workplace Discrimination



Incidence of Conflict of Interests in Procurement



Incidence of Corruption



Environmental Non-Compliance

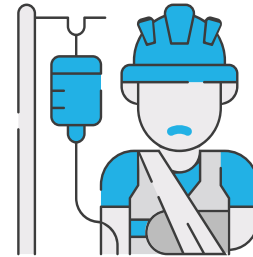


Cybersecurity Incidents



Whistle Blowing Incidents

Safety & Health



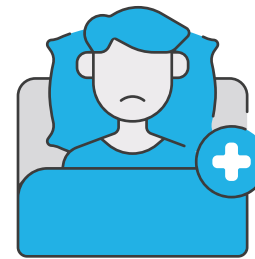
0 Work-related Fatalities

0 Work-related Minor Injuries

0 Work-related Major Injuries

0 COVID-19 Cases

0 Occupational Health Cases



Human Capital Performance

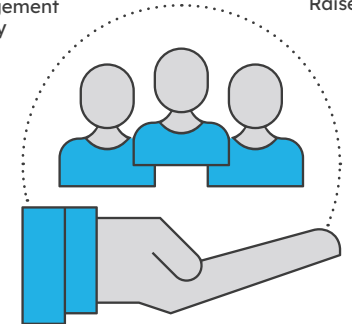
↓ **7.4% points** Staff Turnover

↑ **2-fold** Training Hours

↑ **154%** Training Expenditure per Employee

74% Participation in Employee Engagement Survey

0 Formal Grievances Raised



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Environmental Performance

As a major power generation company and an energy provider in Singapore, the company recognises the vital role it plays in climate change action and its part in contributing to the GHG reduction target of the Singapore Green Plan. Power plant GHG emissions has been on a downward trajectory and further accelerated with the drop in electricity demand since the onset of the COVID-19 pandemic. Energy and water efficiency at the power station continues to be the focus for existing power plant units while we keep an eye for opportunities to deploy renewables. Although market forces and regulatory requirements predominantly influence the number and type of power plant units to be deployed in the power system, maintaining power plants units at high reliability and running them at high efficiency place the Company in a better situation to operate all plant units confidently and at a lower carbon footprint.

Singapore is one of the most water stressed countries in the world according to rankings compiled by the World Resources Institute. With the Company's power plant operations entirely based out of Singapore, water self-sufficiency through less reliance on freshwater

resources is not only strategic but also good for the environment. Close to 90% of the water used for power plant operations (also known as demineralised water from our in-house desalination plant) is from seawater with almost the rest from reclaimed water sources. Most of the demineralised water used in the power plant operations is either used for energy recovery or to produce high pressure steam that is sold to neighbouring chemical plants.

About 27.6% of the total quantity of water withdrawn is discharged to the open sea within the environmental limits regulated under the Environmental Protection and Management (Trade Effluent) Regulations of Singapore. Water samples of the trade effluent are tested periodically by an independent test laboratory to ensure water quality standards is in compliance to stipulated regulatory limits.

A combination of preventive and corrective maintenance programmes is in place to minimise the water losses arising from power plant processes which account for 9.9% of the total water withdrawn. Total water withdrawn for power plant operations is about 2.13 mil cubic metres in FY20/21.

The Company adopts the ISO 14001 environmental management system which sets targets for energy use, water use, GHG emissions as well as chemical & oil spills.



Total solar energy generated was **1.14 GWh**, a **10.9%** decrease from the previous FY.



The overall power station* efficiency dipped slightly by **0.64** percentage points to **53.02%** as the wholesale electricity market conditions provided fewer opportunities to optimise the combined efficiencies of the power plant units compared to the previous FY.

*refers to Pulau Seraya Power Station



The electric van which replaced our diesel van in 2019, clocked a mileage of **3062km** and abated CO₂ emissions of around **0.5 tCO₂e** in the year.



Water use for power plant operations* increased **7.8%** over the previous FY as more demineralised water were used for boiler purging and drainage in efforts to maintain water chemistry in the boiler.

89.7% of the total water use at the power station is desalinated water from the sea with the remaining from reclaimed water (i.e. NEWater)**. Only **0.6%** is from freshwater reservoirs^ used for domestic use (i.e. toilets, canteens).

**NEWater is high-grade reclaimed water produced from treated used water that is further purified using advanced membrane technologies and ultra-violet disinfection. (Source : PUB, Singapore)

^ In Singapore, NEWater is added to Singapore reservoirs to blend with raw water. The raw water from the reservoir is treated at the waterworks before it is supplied to consumers as tap water.

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DIRECT GHG EMISSIONS

This FY saw a drop in power generation volumes vs the previous FY. There was a **9.1%** decrease in GHG Emissions from power plant operations (Direct Emissions—Scope 1) even though power station efficiency was below previous FY levels.

GHG Intensity of power plant operations (tCO₂e/MWh) registered a **34.7%** reduction (from 2005 levels). This is in line with the Singapore 2030 climate change target trajectory of **36%** reduction (from 2005 levels).

INDIRECT GHG EMISSIONS

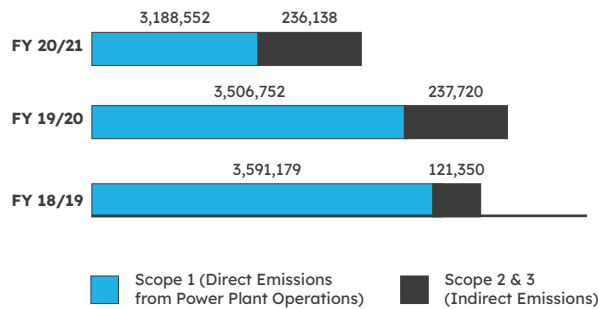
GHG Emissions from electricity consumed at the corporate headquarters (Indirect Emissions—Scope 2) reduced by **69.5%** (vs the previous year). The substantial reduction is due mainly to WFH arrangements.

GHG Emissions arising from the net purchase of electricity from the Singapore Electricity Pool (Indirect Emissions—Scope 3) to meet contractual obligations were at almost similar levels as the previous year.

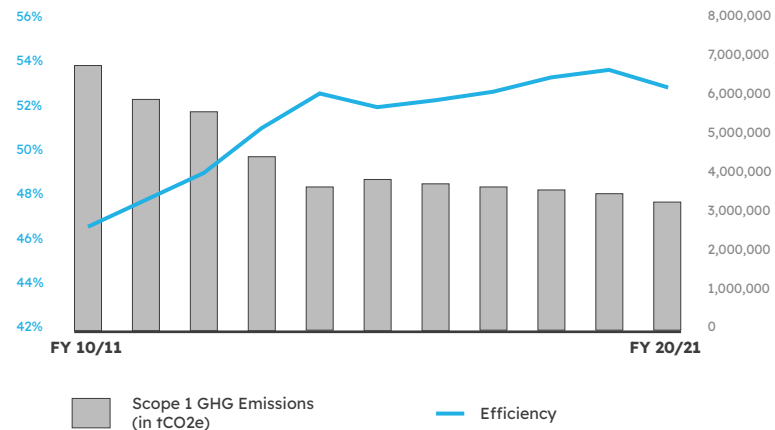
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Direct & Indirect GHG Emissions (in tCO₂e)



Overall Station Efficiency-GHG Emissions



Environmental Performance Indicators FY20/21

Env Theme	GRI Index	Environmental Performance Indicators	FY18/19	FY19/20	FY20/21	
Energy	GRI 302-1	Energy consumed within the organisation	Total Fuel Consumption (Non-Renewable Sources) in GJ	Natural Gas 63,933,618	Natural Gas 62,375,777	Natural Gas 56,716,874
				Heavy Fuel Oil & Diesel 153,089	Heavy Fuel Oil & Diesel 68,023	Heavy Fuel Oil & Diesel 52,174
			Total Fuel Consumption (Renewable Sources) in GJ	Nil	Nil	Nil
			Total Energy Consumption (in GJ)	Not reported previously	Not reported previously	27,521,775*
			Total Electricity Sold (in GJ)	Not reported previously	Not reported previously	25,490,372**
	Total Steam Sold (in GJ)	Not reported previously	Not reported previously	3,756,900^		
	GRI 302-3	Energy Intensity for Electricity & Steam (defined as energy consumed for electricity and steam generation operations (i.e. house load in MWh) divided by energy output (i.e. electricity and steam generated in GWh)	25.9	24.8	27.0	
GRI 302-4	Reduction in Energy Consumption (i.e. houseload consumption) versus Base Year FY12/13 for Electricity & Steam	239,000 MWh (860.40 TJ)	254,508MWh (916.23 TJ)	259,844MWh (935.44 TJ)		

* Energy consumed at corporate office is very small in comparison with the power plant and is thus not included in the calculation.

** Electricity sold is the quantity injected into the power grid, based on actual meter readings.

^ Steam sold is calculated based on metered steam flow and a fixed enthalpy value.

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Env Theme	GRI Index	Environmental Performance Indicators	FY18/19	FY19/20	FY20/21
Water	GRI 303-3	Surface Water	0	0	0
		Ground Water	0	0	0
		Seawater* (> 1,000 mg/L Total Dissolved Solids)	1,862.2	1,658.4	1,916.4
		Produced Water	0	0	0
		Third-Party Water (< 1,000 mg/L Total Dissolved Solids)	95.5	347.4	219.8
	GRI 303-4	Surface Water	0	0	0
		Ground Water	0	0	0
		Seawater	519.9	571.6	589.3
		Produced Water	0	0	0
		Third Party Water	0	0	0
	GRI 303-5	Water Consumption (in megalitres)**		1,437.7	1,434.2

* Excludes: a) seawater that is drawn into the condenser does not involve water consumption and is passed through the condenser (for cooling purposes) and subsequently discharged into the open sea, b) the portion of seawater that is drawn into desalination plant and subsequently rejected as brine (after undergoing reverse osmosis process) into the open sea.

** The two main water sources used for power plant operations is desalinated water (from seawater) and treated water from the state water utility PUB (third-party water). The water consumed is primarily the process steam which is sold to nearby chemical plants with a small proportion being evaporative losses.

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Env Theme	GRI Index	Environmental Performance Indicators		FY18/19	FY19/20	FY20/21
GHG Emissions	GRI 305-1	Direct (Scope 1) GHG Emissions in tCO ₂ e		3,591,179	3,506,752	3,188,552 [^]
	GRI 305-2	Indirect (Scope 2) GHG Emissions in tCO ₂ e		101.7	81.3	24.8*
	GRI 305-3	Other Indirect (Scope 3) GHG Emissions in tCO ₂ e		121,248	237,639	236,113*
	GRI 305-5	Reduction in GHG Emissions (from baseline year FY12/13 in tCO ₂ e)	Scope 1 Scope 2	1,956,171 93.9	2,040,598 114.4	2,358,798 170.8

* Scope 2 Emissions refers to emissions from electricity that is purchased for the corporate office. Scope 3 Emissions refers to emissions due to electricity that is purchased from external sources and excludes supply chain emissions. The latter information not readily available.

[^] IPCC emission factors and HHV are used in calculations. CO₂ is the only GHG considered in the calculations as the other GHG are either non-existent or insignificant in scale compared to CO₂. Natural gas figures, which is the predominant fuel contributing to GHG emissions, is from invoices.

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Env Theme	GRI Index	Environmental Performance Indicators		FY18/19	FY19/20	FY20/21
Air pollution	GRI 305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Sulphur Dioxide (SO ₂) in MT/MWh	0.0045	0.0025	0.00000121
			Nitrogen Oxides (NOx) in mg/Nm ³	Not reported previously	Not reported previously	10 - 42*
		Other Significant Air Emissions**	Nil	Nil	Nil	

* NOx figures are taken from reports by external laboratories engaged to analyse flue air samples taken from different power plant units in the Company.

** Volatile organic compounds, Particulate Matter are air emissions that are not material as the power generation business of the Company comprises predominantly natural gas-fired combined cycle and co-generation power plant units.

Env Theme	GRI Index	Environmental Performance Indicators	FY18/19	FY19/20	FY20/21
Water Pollution	Non-GRI	Significant spills	Zero chemical and oil spills consistently over the past 3 years		

Env Theme	GRI Index	Environmental Performance Indicators	FY18/19	FY19/20	FY20/21
Compliance	GRI 307	Non-compliance with environmental laws and regulations	Nil over the past 3 years		

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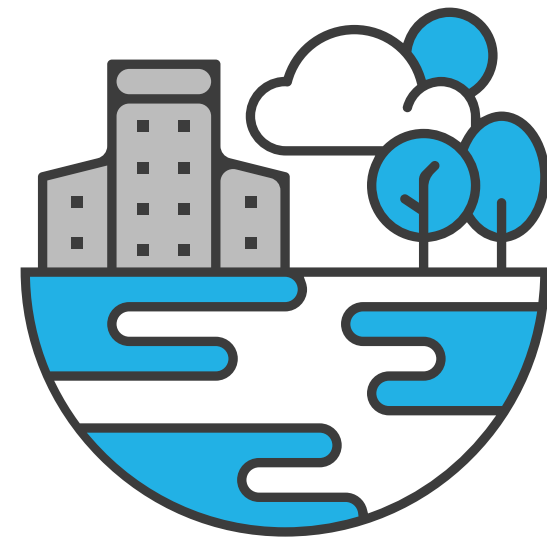
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Social Performance



NURTURING AN ENGAGED, OPEN & COLLABORATIVE WORKFORCE

To build an open and collaborative culture across the organisation where employees are willing to challenge the status quo, the company forged ahead with its transformation journey that began in 2020 despite the continuing COVID-19 pandemic. Learning and development continued to be a key focus for the year. Despite the constraints of COVID-19 safe management measures for physical classroom sessions, the company intensified learning and development programmes executed in FY20/21, optimising a myriad of online and on-site seminars, workshops, share and learn sessions by in-house commercial and technology experts, as well as on the job functional training. The leaders and people managers also extended stronger leadership and manager support to help staff maximise their development and potential, so that they would be able to achieve job fulfilment and growth.

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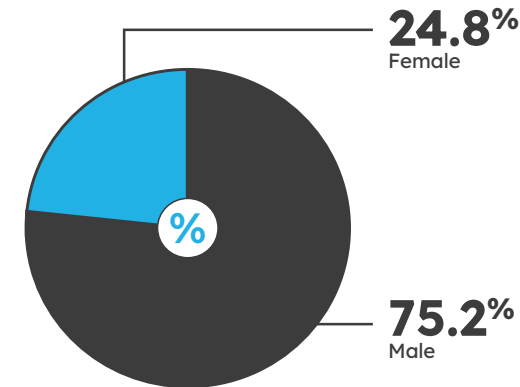
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At the power plant, experienced technical specialists were deployed to focus on technical engineering training development and execution to further enhance organisational capability building and ensure transfer of technical skills by retiring engineers. To inculcate a digital workforce with high productivity, technology trainings were ramped up beyond MS suites to enhance employee and organisational capabilities.

Supporting the health and mental well-being of staff during the COVID-19 pandemic was top on the agenda in the past financial year. In addition to annual health screening and audiometric examination sessions held for colleagues at the power plant, the company rolled out a series of programmes and initiatives focused on helping staff to cope with any challenges that they might be experiencing during the pandemic. Wellness activities were held to encourage staff to look after both their physical and emotional well-being. See [page 31](#) on 'Engaging Employees on Mental Health'.



Gender Composition



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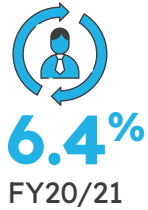
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Staff Turnover



Lowest staff turnover rate for past 5 years. A weaker job market in the energy sector arising from COVID-19 is a contributing factor. Greater investment on employee training and employee engagement initiatives is also another contributing factor.

FY20/21 Staff Turnover Rate

Staff Turnover Rate	FY18/19	FY19/20	FY20/21
YTL PowerSeraya			
Voluntary resignations, dismissal, medical board out, retirement & death in service	15.2%	16.7%	9.5%
Voluntary resignations only	12.9%	13.8%	6.4%
Manufacturing Industry*			
Voluntary resignations only	21.6%	16.8%	14.4%

*Source: Singapore Yearbook of Manpower Statistics 2021, Ministry of Manpower

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Employee Training

Training expenditure per employee more than doubled (vs last FY). The increase in training expenditure is due to the company's focus in developing its people managers through Leadership Development programmes and also in building up a continuous learning culture. All employees were also encouraged to upskill and sign up for courses to help develop their career.

4.4 hours per employee were spent on safety training in FY20/21. The training covers both certification and non-certification courses across a range of safety topics such as work-at-height, working in confined spaces, fire safety and first-aid. Annual training needs analysis for safety was also conducted to determine the safety training budget for the following year.

Training Expenditure per Employee

	FY18/19	FY19/20	FY20/21
YTL PowerSeraya	\$245	\$206	\$523
Singapore National Average*	\$410	\$410	\$410

* Singapore National Average is taken from the Ministry of Manpower (MOM) 2014 Report for Employer Supported Training (latest edition available).

Average Training Hours

Position	FY18/19			FY19/20			FY20/21		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Senior Management	40.8	0	40.8	33.9	0	33.9	106.9	0	106.9
Middle Management	36.4	31.2	34.3	20.6	27.3	22.9	66.9	85.4	74.1
Executive	35.7	9.9	25.2	22.3	15.9	19.7	37.1	32.6	35.3
Non-executive	12.4	1.1	11.0	10.0	10.1	10.0	8.5	5.4	8.1
Overall	24.2	11.8	20.8	16.3	17.2	16.5	29.1	36.3	31.2

Fair Employment

The Company is a signatory to the principles of the Tripartite Alliance of Fair & Progressive Employment Practices (TAFEP). The compensation policy in the Company is based on merit relative to the role held by an employee in the Company. Regardless of race, gender or nationality, employees in their respective roles are compensated based on their skills and experience, their performance and the market value of the position they hold.

To ensure a fair and inclusive working environment, a merit-based compensation system helps to track and minimise gender pay-gaps. In FY20/21, the gender pay disparity narrowed among the workforce registering the best overall score in 3 years and better than the Singapore Wage Equality score of 0.80. This ratio is fairly consistent across all employee levels in the organisation.

Note: Base Salary is the average salary of men and women excluding benefits, bonuses, allowances and any variable wage component.

Ratio of Base Salary





Position	FY18/19		FY19/20		FY20/21	
	Male	Female	Male	Female	Male	Female
Senior Management	1	0	1	0	1	0*
Middle Management	1	0.83	1	0.78	1	0.81
Executive	1	0.76	1	0.72	1	0.75
Non-executive	1	0.73	1	0.76	1	0.8
Overall	1	0.80	1	0.79	1	0.84

*There were no females in the senior management team, reflective of women participation in the workforce at the global levels where women only account for 22% of the labour force in the oil and gas sector (Source: Gender Diversity in Energy, International Energy Agency (IEA))

The company's 0.84 score comes near Singapore's Wage Equality Score[^] of 0.80.

[^] Source: World Economic Forum's Global Gender Gap Report 2021

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OCCUPATIONAL HEALTH & SAFETY

Health




The company did not have any COVID-19 infections among its workforce in FY20/21. The slew of COVID-19 safe management measures restricted plant maintenance works considerably. This contrasted with the last quarter of FY20/21 which saw back-to-back planned maintenance works for three power plant units.


The company had no confirmed case of employees being diagnosed as suffering from Noise Induced Deafness (NID), the company's top occupational disease concern*. This diagnosis arose after the annual audiometric examination process which also included a follow-up review by a designated doctor. In FY20/21, close to 38% of the 175 employees were diagnosed with some degree of NID. Every year, the company organises the annual health


screening exercise, which is subsidised, to encourage staff to take ownership of their health. In the FY20/21 health screening exercise which saw the participation of 131 employees, the blood pressure and body mass index (BMI) of this cohort of employees were higher than the national prevalence rate while blood sugar and cholesterol were lower than the national prevalence rate.

*Noise Induced Deafness (NID), the primary occupational disease in the Company, is the only likely cause of work-related ill-health in the Company.

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Safety

The company performed well in FY20/21 on the safety & health front clocking zero fatalities, zero injuries and zero incidence of ill-health at all workplaces under the company’s operational control (including non-employees such as contractors)*. The near-miss reporting programme which kickstarted in 2019 was well received at the power station with 119 near-misses reported in FY20/21. This is a 83% rise from the previous FY. This programme seeks to nurture a culture where employees openly raise any issue that has the potential to cause harm or ill-health via an online submission to the HSE Department for attention and rectification. As more near-misses are raised, fewer safety & health hazards^ will lead to less injuries or ill-health over time, thus making the workplace a safer and healthier place for employees. FY20/21 ended with close to 90% of the reported near-misses being attended to and rectified.

The HSE Department also launched a ‘Safety Sharing at Toolbox Meetings’ where learnings from accidents in Singapore were curated and disseminated to all department heads during the departmental toolbox meetings. Each accident learning is contextualised for relevance to the power station setting through a set of questions to help employees ‘connect the dots’ between the accident learning and their work activities in the power station.

* Total man-hours for employees and non-employees for FY20/21 is 411,944 and 505,088 respectively. Man-hours is for all workplaces except for the corporate office.

^ High consequence work-related hazards in the Company are typically from work activities that may result in high frequency and high severity risks such as electrocution risks, working at heights risks and confined space work risks.



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The company’s ISO 45001 occupational health and safety management system was audited by an accredited organisation under the Singapore Accreditation Council in FY20/21. There were no significant non-conformances arising from the audit. Under the requirements stipulated by the Ministry of Manpower, Singapore, the workplace covered under Pulau Seraya Power Station will need to undergo a safety and health management system audit in accordance with the SS 503 Part 3 or SS 651 standard every two years. The next audit is in FY22/23. Under the power station’s safety rule book, workers have

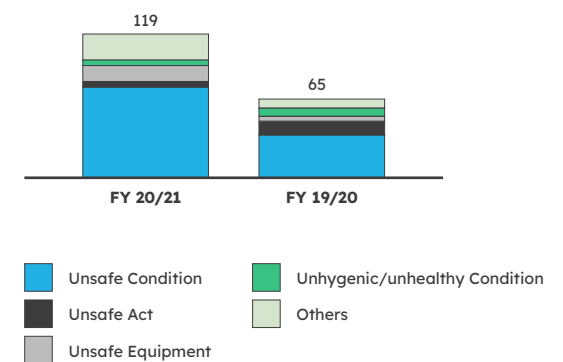
the right to remove themselves from hazardous situations, refuse unsafe work and participate in decisions regarding their workplace safety. Prior to any work commencement, it is mandatory for employees and contractors to carry out a risk assessment by identifying hazards and determining the control measures to be observed while work is carried out in order to mitigate potential risks that may arise. Any accidents that occur at all workplaces under the Company’s operational control are to be reported to the immediate supervisor and the HSE Department for attention. A thorough

Fatalities and Injuries	FY18/19	FY19/20	FY20/21
Overall (Employees & Non-Employees)			
Major Accidents	0	0	0
Minor Accidents	2	0	0
Workplace Injury Rate (Per 100,000 Workers)	643	0	0
Man-days Lost to work-related accidents	19	0	0

incident investigation and reporting process involving a root cause analysis to arrive at the preventive measures will be pursued for final closure.

As of 30 June 2021, about 17% of the total employee strength working at the power station are members of the Workplace Safety & Health (WSH) Committee. This committee which comprises employees in senior and junior positions and a representative from UPAGE (Union of Power & Gas Employees), meets monthly to discuss health and safety matters relevant to the power station.

Reported Safety Near-Misses (FY20/21 vs FY19/20)








Stakeholder Engagements

Stakeholder engagements are primarily driven by what is material to the organisation. Refer to the 60-30 Vision and Materiality Review respectively found on [page 8-11](#) and [page 43-45](#) of this report.

Target Stakeholder Group	Key Topics/Concerns	Engagement Channels	Engagement Frequency
Customers	<ul style="list-style-type: none"> Products that meet clients' needs Customer service 	Customer Satisfaction Surveys	Yearly
		B2C Call Centre interactions	On-going
		B2B Customer meetings	On-going
Employees	<ul style="list-style-type: none"> Business continuity in the on-going COVID-19 pandemic Employee engagement 	Staff-Management Dialogues	Quarterly
		Senior Management Meetings	Weekly
		CEO Messages	Monthly
		Skip-level meetings	At least once a year with targeted employee groups
	<ul style="list-style-type: none"> Job Fulfillment, Communication 	Employee Engagement Survey	Several years interval
	<ul style="list-style-type: none"> Carry out site work safely with COVID-19 measures 	Workplace Safety & Health Meetings	Monthly
<ul style="list-style-type: none"> Workload challenges with split team 	Power Generation Group Meetings	Weekly	
Contractors	<ul style="list-style-type: none"> Carry out site work safely with COVID-19 measures 	Workplace Safety & Health Meetings	Quarterly
Shareholders, Financial Institutions	<ul style="list-style-type: none"> Company's decarbonisation plans 	Dedicated Meetings	Upon request or need
Regulators	<ul style="list-style-type: none"> Changes/updates to policies, regulations and market rules 	Briefings or Consultation discussions with regulators	As per briefing or consultation sessions scheduled by regulators

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ENGAGING EMPLOYEES ON MENTAL HEALTH

In view of the ongoing pandemic situation, a mental well-being campaign was conducted in late 2020 as part of the company’s ongoing efforts to support the health and wellbeing of its people. Key highlights included a bingo game, where staff were encouraged and incentivised with prizes for submitting pictures of themselves in outside-of-work activities to ‘recharge’. Submissions also included pictures of bonding with fellow colleagues.

Staff sharing sessions and interviews of what they do to de-stress were also featured, serving as inspirations and reminders to other colleagues to take care of their mental health. As part of the campaign’s activities, related resources and articles were also shared company-wide, supplemented with weekly reminders and tips on relaxation and mental wellness.




GATHERING EMPLOYEE FEEDBACK


Regular staff management dialogues, skip-level meetings, fire-side chats, and social get-togethers were organised for staff engagement. The Company also conducted a comprehensive Employee Engagement Survey, to gather staff feedback and suggestions holistically covering 16 engagement drivers. The survey was well participated by the staff population and provided useful feedback on the Company’s areas of strengths. The company scored an overall engagement score close to the market benchmark, with “Relationship at Work”, “Teamwork” and “Clear Expectations” as our Top 3 engagement drivers.


Following the survey results, the leadership and people managers have plans to partner the staff further via focus group discussions to devise targeted action plans to enhance staff engagement level for productivity.



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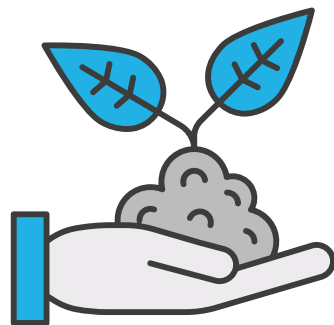
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ENGAGING CUSTOMERS DURING THE PANDEMIC



In August 2020, to encourage our customers to cultivate an eco-lifestyle and inspire our future generations, our retail brand, Geneco partnered its Changemakers partner, Cultivate Central to give away 550 micro-green kits. All kits were fully redeemed within 15 minutes online, and were hand-delivered to customers' homes as part of our effort to minimise social interaction during the pandemic.



As part of the Chinese New Year 2021 campaign, Geneco partnered with CRU, IUIGA, Tay Paper Recycling, as well as its Changemakers partner, REFASH, in a bid to encourage Singaporeans to recycle their used red packets. Dedicated recycling bins were placed at over 30 locations (including Geneco's office and partners' stores), which resulted in over 410kg of used and excess red packets being collected.








>410kg
red packets collected to be recycled

During Phase 2 and 3 (Heightened Alert) of the pandemic, The Food Bank Singapore had limited manpower and they were not able to increase food delivery efforts. This affected beneficiaries receiving food bundles, which may have led to food wastage as the items would be left on the shelves for a period of time. To support local communities during the pandemic and advocate zero food wastage, Geneco donated 1,500 food bundles as well as relieved Food Bank's operational costs to deliver these food bundles in June 2021, which prevented 6,700kg of food wastage.



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A series of green activities termed #JollyTogether was launched. 50 Micro-Green kits giveaways, 250 Coastal clean-up tool kit rentals and 2 repair workshop sessions were organised for customers in collaboration with Geneco's Changemakers partners Cultivate Central, Green Nudge and Repair Kopitiam. Following the completion of the #JollyTogether initiative, the clean-up tool kit rental was also extended for customers under Geneco's PowerUp Rewards programme.







ComCrop, Geneco Changemakers partner, experienced a greater strain to increase production due to disrupted international food supply chains caused by the pandemic. In support of their sustainability efforts, Geneco provided a \$700 monthly subsidy for ComCrop's electricity bills until April 2021.


Geneco pledged to plant 250 trees over the next 5 years to support the Nation's SG Green Plan 2030 by taking part in the OneMillionTrees movement by NParks. Geneco also took to social media to create awareness and education of the importance of restoring nature back into the city. The first 50 trees were planted at Windsor Nature Park on Earth Day 2021, together with Geneco's Changemakers and Standard Chartered partners.



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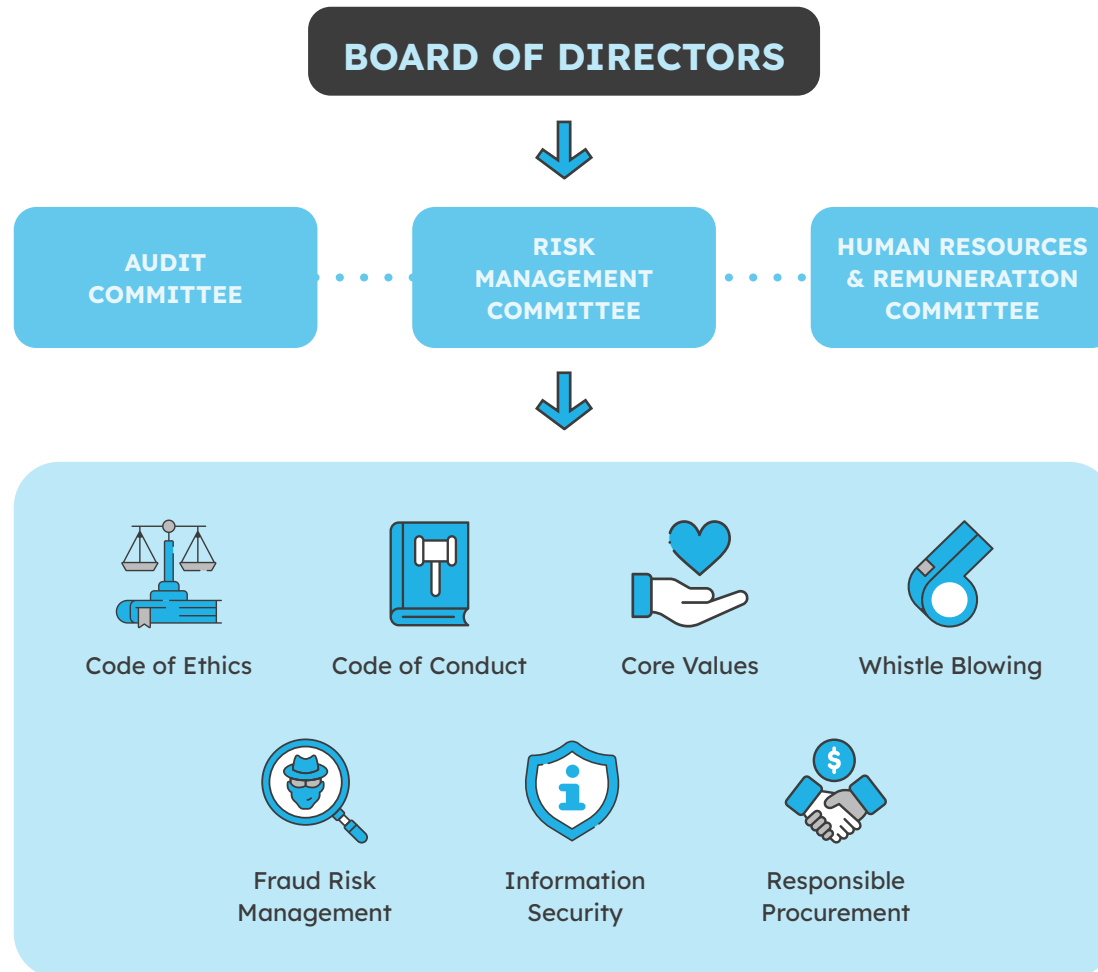
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Governance

The Board of Directors (via the Risk Management Committee) reviews the economic, environmental and social topics on a monthly basis which includes assessing risks and opportunities.

Find out more about the company's Governance structure and mechanism in YTL PowerSeraya's website [Governance – YTL PowerSeraya Pte. Limited.](#)



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HOW ESG IS MANAGED

The Company recognises that poor ESG practices pose environmental, reputation and other risks that can damage the company and its bottom line. A focus has been placed on being energy and water efficient as well as taking care of the health and safety and the development of its employees. The Quality, Health, Safety & Environment working committee is largely responsible for the proper function of the ISO management systems (i.e. ISO 9001, 14001, 45001) to ensure environmental and EHS metrics like GHG emissions and injury rates are tracked against targets.

The recent release of the Singapore Green Plan 2030 and the Low Emissions Development Strategy by the Singapore government, accelerated growth in sustainability-linked financing and the growing call by society for action on climate change has necessitated a stronger coordinated approach towards driving sustainability across the organisation. For the Company to manage the decarbonisation transition in the long term, shifting employee mindsets to more pervasive adoption of ESG practices will be vital.

MANAGING ENTERPRISE RISKS

YTL PowerSeraya is committed to upholding a high standard of corporate governance and has established risk management frameworks and policies to proactively manage the organisation's enterprise risks comprising, but not limited, to operational risk, financial risk, environmental and social risks and health and safety risks.

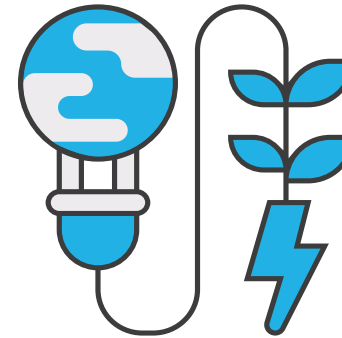
The Board of Directors (BOD) is responsible for and oversees the company's risk-taking activities to achieve the overall corporate strategy and delegates the authority to formulate, review and approve non-major policies on the monitoring and management of risk exposures to the Risk Management Committee (RMC). Reporting to the RMC are risk owners from different business groups.

The RMC is chaired by the Chief Executive Officer as well as other members such as the Chief Risk Officer, Chief Operating Officer (Commercial), the Group Head of Finance, the Group Head of Power Generation and a member from the BOD. A monthly meeting is held between the RMC and the respective risk owners of individual business groups to deliberate on enterprise-wide risk matters in addition to propose and recommend major risk-related policy decisions to the Board for approval.

POTENTIAL FUTURE RISKS

Macro Environment

COVID-19 has taken a significant toll across the globe, severely impacting economies. Lockdowns and restrictive measures to contain COVID-19 transmission and infection have hampered growth. The recovery of the global economy is projected to be patchy in the near future.








The energy crisis that unfolded in the last quarter of 2021 has fanned fears of rising inflation that could further exacerbate the slow and uneven economic growth globally. With piling debts and eroded reserves, the fiscal policies pursued by most countries to support their economies in the earlier phases of the COVID-19 pandemic, is not sustainable. This leaves little room for monetary policies to make a positive economic impact with rising inflation projected in the near future.

The urgency of climate change action amidst a COVID-19 pandemic situation has provided an opportunity for the governments to 'reboot' their economies by pursuing green growth areas. This has initiated the shift in financial capital towards investments that deliver ESG (Environmental, Social & Governance) outcomes and accelerated the energy transition to cleaner and greener energy sources like renewables. The extreme events as forecasted by the IPCC (Intergovernmental Panel on Climate Change) are taking place today as countries experience more floods and forest fires. Pacific Island nations like Fiji are already impacted significantly by sea-level rises. These are physical risks brought about by climate-related risks.



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Local Environment

The COVID-19 pandemic has restricted Singapore’s power market recovery. The market witnessed low non-fuel margins across wholesale and retail in 2020. Fortunately, Singapore handled the COVID-19 pandemic well by keeping COVID-19 infections to a manageable level and by rolling out a series of support measures to prop up the economy. This allowed the economy to reopen and recover strongly in the first half of 2021. Singapore’s economy expanded 14.7% year-on-year in the second quarter of 2021. Looking into the near future, Singapore’s economy may see a slowdown with the projected rise in inflation due to upward pressures on

interest rates as well as projected high fuel/gas prices arising from the energy crisis. The current risk management mechanisms such as the volumetric and financial limits, will continue to serve the company well and would be crucial in optimising portfolio returns.

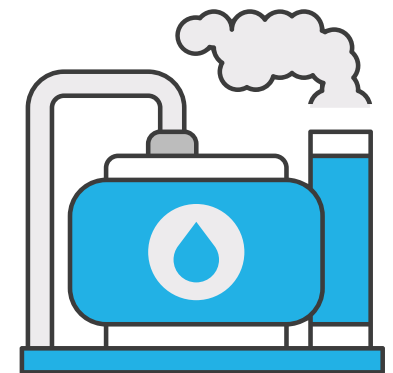
The continual emphasis on the reliability of our power plant units is key to managing operational risks. Each unplanned plant outage affects the company’s bottom-line. An in-depth root cause analysis is conducted for every unplanned plant outage to identify gaps and implement improvements with the aim of preventing future plant trips.

In medium to long term, the transition and physical risks relating to climate change impacts to the company’s business in Singapore’s context will need to be identified, tracked, and managed. The Singapore government has announced its intention to raise carbon tax by up to S\$80 per tCO₂e (tonne of CO₂ equivalent) by 2030 and established the Singapore Green Plan 2030 to align with its commitments to the Paris Agreement on climate change. At the same time, green technological advancements are growing at a fast pace and there are growing societal expectations for companies to operate responsible businesses. The policy,

market and technology risks require attention to future-proof the company for growth in the long run.

The Enterprise Risk Management (ERM) department aims to ensure that the risk management processes are adequate and effective in mitigating against potential risks through:

- Regular review and update of the corporate risk register and continuous monitoring of the implementation status of risk mitigation measures as well as reporting to the RMC on a periodic basis.
- Continual monitoring of market risk exposure, counterparty’s credit risk and overdue payments from customers.
- Identify climate-related risks and their impacts to the company.
- Periodic dialogues and workshops to highlight top risk concerns and inculcate positive risk culture among risk owners.
- Review of Business Continuity Plans (BCP) with the aim of ensuring both personnel and assets are protected in the event of any crisis.



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UPHOLDING DATA PROTECTION MANAGEMENT PRACTICES

The company registered zero data breaches and did not identify any substantiated complaints concerning breaches of customer privacy in FY20/21.




There were a few incidents of emails that were wrongly sent to customers in FY20/21. These incidents were not reported to PDPC (Personal Data Protection Commission) as they did not involve disclosure of any personal data. Nevertheless, the company took a serious stance on these incidences and launched a thorough investigation. The investigation found that a code error in a system caused the wrongly sent emails. The relevant code fixes were quickly deployed to rectify the problem and a comprehensive review of the system was subsequently conducted to ensure that the company had the necessary measures in place to maintain a high standard of data protection. As part of customer recovery, emails were sent to affected customers to notify them of the incident.





0 Data Security & Privacy Breaches



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INFORMATION & CYBER SECURITY RISKS


The Company has in place the ISO 27001 Information Security Management System to systematically assess the organisation’s information security risks, implement controls, monitor and review processes as part of the continual effort to improve the system. Every year, an audit of the Company’s ISO 27001 system is conducted by independent auditors. There were no significant non-conformances that arose during the audit conducted in FY20/21. Only one opportunity for improvement area was recommended by the auditor for execution in the following financial year. It pertains to the execution of the scheduled data restoration exercise which was not executed in a timely manner.



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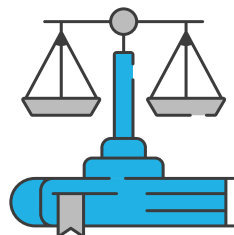
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The Employee Handbook contains the Code of Ethics where it includes information system security elements that place responsibility for every employee to protect computer hardware, software, data and documentation from misuse, theft and unauthorised access.

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The Company recognises the risks posed by cybersecurity threats to the organisation as it pursues its digitalisation journey. To address such threats, there were measures put in place in FY20/21:

- The 2-Factor Authentication (2FA) on Virtual Private Network (VPN) was established. The 2FA replaces the password validation mode to further protect against unauthorised access by a malicious actor.
- New employees were enrolled for a Security Awareness e-Training to equip them with the knowledge to deter Phishing attacks and scams.
- Malicious email alerts were sent out to warn users on any reported phishing email. This seeks to pre-empt users to look out for phishing emails in a timely manner.
- Email protection — Enhanced security checks on emails were implemented to check if the attachment or the URL link is malicious before delivering it to the reader.
- In FY20/21, the Company launched a total of 6 phishing campaigns to test the employee’s email security awareness. 97.6% of the total workforce did not fall trap into the 2,722 simulated phishing emails sent out in the year. The employees benefitted from such phishing campaigns as it educates them on the different phishing techniques deployed by threat actors.

MANAGING FRAUD RISKS

A Fraud Risk Management (FRM) framework and policy exists in the company to protect the interests of shareholders, employees as well as other stakeholders who have dealings with the company. The company has a zero tolerance policy for fraudulent and corruptions activities.

As part of fraud risk management, internal audit has been conducted in areas of cash and fixed asset management, procurement and contract management and payroll and claims processing. Policies and procedures were well established for the key processes. Key controls such as delegation of authority and approval limits, proper segregation of duties, periodic audit logs and monitoring were identified during the review. No incidence of any fraudulent transactions or major internal control weakness was discovered during the audit process for FY20/21.




There were also no confirmed incidents of corruption in the company. The percentage of operations assessed for risks related to corruption in FY20/21 is about 33%. Looking ahead, the Enterprise Risk Management team will focus on remaining 67% of the company operations in FY21/22.





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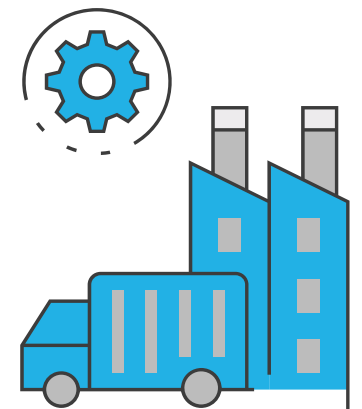
SUPPLY CHAIN RISKS

Singapore is a water stressed country with no natural resources. It is also renewable energy disadvantaged. Having reliable supplies of fuel and water are thus vital for Singapore’s energy and water security. The Company, whose power plant operations are based in Singapore, is reliant on natural gas for its power generation business. As contingency, it keeps a 60-day fuel oil stockpile as mandated by the Singapore government to cushion against fuel oil supply shocks or crisis that may arise. The Company has dual sources of natural gas (PNG & LNG) to run its baseload gas-fired combined cycled power plants as part of its business continuity. Water supply risks is mitigated by the Company’s in-house desalination plant which currently fulfills about 90% of the power plant needs.

About 95% of Singapore’s power generation is from natural gas (via pipelines from Indonesia and Malaysia and seaborne LNG (Liquefied Natural Gas) cargoes from around the world).

Among the gas contracts signed between Singapore and Indonesia, one of them expires in 2023. Singapore has prepared well for this eventuality with the construction and fully operational Singapore LNG Terminal (SLNG) since 2013. With the Indonesia gas contracts expiring in this decade, the Company, whose power stations are based in Singapore, is projected to increase its gas power supply from SLNG in the coming years. The Company is making preparations to secure LNG contracts for the coming years and is also making pipeline modifications at the existing gas receiving facilities of Pulau Seraya Power Station to ensure the supply switch to more gas from SLNG does not affect power plant operations in the near future.

In the more immediate future, a planned gas curtailment for maintenance from one of the Indonesian piped natural gas is scheduled in the second half of year 2021. The Company may have to manage this supply chain risk by switching to LNG to ensure power supply remains stable and reliable.



Materiality Review

Please refer to [page 7 to 11](#) of this report to appreciate the background associated with the materiality review below.

Priority	Material Issues	Significant Impact to/by Key Stakeholders				
		Employees	Customers	Regulators	Suppliers	Society
Higher	Climate Change (Energy, GHG Emissions & Water)	Y	Y	Y		Y
	Climate-related Risks	Y	Y	Y	Y	Y
	Cybersecurity & Data Governance	Y	Y	Y		
	Talent Management & Retention	Y				Y
	Fair Employment	Y				
	Employee Engagement	Y				
	Customer Engagement		Y			
	Health, Safety & Well-Being	Y		Y		
Lower	Diversity	Y				
	Sustainable Procurement	Y			Y	
	Waste Management	Y				Y
	Research & Development	Y				
	Labour & Human Rights	Y				
	Biodiversity					Y
	Noise Pollution	Y				Y

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Higher Priority Material Issues	Significant Impacts to/by Key Stakeholders that Influence the Management Approach of the Company				
	Employees	Customers	Regulators	Suppliers	Society
Energy, GHG Emissions & Water	✓	✓	✓		✓
	Improving the energy & water efficiency of the power plant operations and increasing the share of generation from renewables is important to the Company's decarbonisation efforts as this will reduce GHG emissions, lessen carbon tax liabilities and put the Company on the path to achieving its 60-30 Vision. By doing so, the Company will be in a better position to compete in the wholesale and retail electricity markets, maintain its share of customers and enjoy elevated brand reputation as a good corporate citizen. Customers also get to enjoy electricity plans that are green and competitive.				
Climate-related Risks	✓	✓	✓	✓	✓
	<p>The Company's ability to manage the climate-related transition risks will require employees to have the competency and agility to transform to a future energy world of renewables, low- carbon technologies, smart grids and dynamic pricing mechanisms to deliver a low carbon business model. Available decarbonisation technologies and tools will be integrated to enable power generation operations to be optimised for efficiency.</p> <p>Climate-related physicals risks such as sea-level rise and elevated temperatures will need to be assessed to determine its impacts to business operations and employees.</p> <p>Customers may be exposed to energy price adjustments arising from decarbonisation investments and may have to pay more for greater green energy mix in the electricity they consume. Suppliers will also have to adjust to changes brought about by the decarbonisation transition. Society as a whole, enjoy a sustainable planet where runaway climate change risks are averted.</p>				
Cybersecurity & Data Governance	✓	✓	✓		
	Singapore of the future will become increasingly digitalised. For the power sector, the country is looking at smart grids to connect energy producers and consumers, provide real-time information flows between parties to realise an optimised power sector ecosystem. In the current, fast moving business landscape, the Company will have to move in step in its digitalisation plans to stay ahead of the competition. Connecting people and businesses, putting out new products in the digital marketplace and managing huge quantities of data and at a fast pace do present potential vulnerabilities with the interconnected use of digital technology. This exposes the Company and its stakeholders to cybersecurity and information security risks such as the inadvertent leak of customer data and the disruptions to enterprise systems caused by attacks from computer hackers.				
Business Continuity	✓	✓	✓	✓	
	The COVID-19 pandemic highlighted the need for the Company to be resilient against potential emergencies at all times. Response plans for fuel supply disruptions, IT disaster recovery plans, power plant related emergency plans and the periodic drills/exercises of such response plans are important in helping the Company to bounce back from emergencies, restore business operations, gain customer confidence and in doing so, minimise disruption to business operations.				


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Higher Priority Material Issues	Significant Impacts to/by Key Stakeholders that Influence the Management Approach of the Company				
	Employees	Customers	Regulators	Suppliers	Society
Talent Management & Retention	✓				✓
	To support the Company’s transformation plans, having the right people and retaining them is vital to achieving desired business outcomes. With an aging workforce that is retiring in batches in future years, attracting and retaining the younger generation (i.e. millennials & Gen Z) will be important for the Company’s succession planning in order to realise the Company’s 60-30 Vision.				
Fair Employment	✓				✓
	Equal opportunity employers that hire and reward employees based on merit and their performance at work engenders an organisation where employees feel inclusive and are recognised for their contributions to the organisation regardless of age, ethnicity, gender or religion. The Company has adopted fair employment practices as it recognises that this is as an important human capital policy that motivates employees to contribute more to the organisation, results in fewer workplace grievances and fosters workplace harmony. In addition, it increases worker productivity, minimises employee turnover and also enhances employer branding.				
Employee Engagement	✓				
	The COVID-19 pandemic has disrupted traditional work patterns and resulted in employees working remotely and adopt more flexible work arrangements. This change in the way we work today has resulted in work anxieties and even mental health issues among employees. Work effectiveness may also suffer. With fewer in-person meetings, managers are finding it harder to lead teams and motivate them. With hybrid work arrangements becoming likely the norm, finding timely and effective ways to engage the workforce becomes even more important to galvanise employees towards achieving company goals.				
Customer Engagement		✓			
	With climate change becoming a major global issue, there will be growing demand for clean energy by commercial and industrial customers to meet their decarbonisation goals. Residential customers will similarly demand for clean energy as society look to power generators to operate responsibly by offering them clean energy options for their homes. The power sector, on the other hand, will need time to make the transition to a low carbon business model. More frequent engagement with customers and the community will help to facilitate an understanding of each other challenges and aspirations, align expectations and open doors of opportunities for collaborations between the Company and customers/communities on climate change action.				
Health, Safety & Well-Being	✓		✓		
	Providing employees with a safe work environment is a basic human right. Beyond safety, the Company sees the emphasis on employee health and well-being as important aspects that relate to employee motivation and productivity. By encouraging employees to take ownership of one’s health and organisations taking an interest in employee well-being, companies not only benefit from reduced loss man-days, reduced levels of absenteeism, elevated levels of work effectiveness, and even enjoy lower health insurance premiums. With working remotely from home becoming the norm due to COVID-19 pandemic, employee health, safety and wellbeing extended beyond the workplace becomes even more relevant.				

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INDEPENDENT ASSURANCE STATEMENT

To the management of **YTL PowerSeraya**

YTL PowerSeraya Pte Limited (“YTLPS”) engaged CSRWorks International (“CSRWorks”) to provide independent assurance of its Sustainability Report FY20/21 (“the Report”). The Report covers YTLPS’ Environmental, Social and Governance (ESG) performance from 1 July 2020 to 30 June 2021. This statement presents our opinion as independent assurance providers.

RESPONSIBILITY OF YTLPS

YTLPS was responsible for preparing the Report and the collection, collation, analysis and presentation of all information and data provided in the Report. YTLPS’ responsibility included establishing and maintaining internal controls over systems and processes that generate data and information contained in the Report.

RESPONSIBILITY OF CSRWORKS

CSRWorks was responsible for providing independent assurance of this Report according to terms of reference agreed with YTLPS. Our responsibility regarding this assurance engagement is only to the management of YTLPS.

ASSURANCE STANDARDS

The assurance engagement was undertaken in accordance with:

- a) The principles and requirements established in the AA1000 Assurance Standard v3 (AA1000AS v3); and
- b) Global Reporting Initiative’s GRI Standards.

ASSURANCE TYPE AND SCOPE

CSRWorks provided Type 2 assurance at the Moderate level in accordance with the AA1000AS v3. This level of assurance covered the nature and extent of YTLPS’ adherence to the AA1000 AccountAbility Principles (2008) and the reliability and quality of the specified sustainability performance information in the Report. Evidence gathering was primarily from internal sources and was restricted to management levels.

The scope of our assurance engagement, as agreed with YTLPS, included the review and verification of sustainability policies, practices, initiatives, and performance presented in the Report, an assessment of underlying management and reporting processes in accordance with the GRI Standards and an evaluation of the Report’s adherence to the “in accordance” criteria of the GRI Standards and verification of standard disclosures indicated in the GRI Content Index in the Report.

ASSURANCE OBJECTIVES

The assurance engagement’s objectives were to:

- Review adherence to the AA1000AP (2018) Principles of Inclusivity, Materiality, Responsiveness, and Impact;
- Review adherence to the “in accordance” criteria as stipulated in the GRI Standards 2016 and 2018;
- Content verification corresponding to all GRI General Disclosures and the GRI Topic Specific Standards included in the GRI Content Index in the Report;
- Review of sustainability policies, initiatives, practices and performance described in the Report;
- Verification of the reliability, accuracy and completeness of FY20/21 qualitative and quantitative sustainability performance information and data presented in the Report;
- Review and assess the processes, methods and tools for gathering, analyzing and reporting quantitative and qualitative sustainability information provided in the Report.

METHODOLOGY

This engagement was carried out from 7 December 2021 to 24 December 2021.

CSRWorks adopted a comprehensive approach to carry out the assurance engagement by examining and seeking evidence for each Standard Disclosure provided in the Report. We also assessed the robustness of the underlying data management processes, focusing on quality controls and data reliability. To obtain sufficient evidence for us to give a moderate level of assurance and to arrive at conclusions and recommendations, we undertook the following activities:

1. Conducting desk review of the Report draft to assess adherence to the GRI Standards and identify the Standard Disclosures covered in the Report for verification.
2. Developing an engagement plan based on the desk review that included the GRI General Disclosures and disclosures on material Topic Specific Standards in the Report for verification.
3. Interviewing YTLPS management executives that included Chief Executive Officer, Head of Human Capital, Senior Manager - Enterprise Risk Management, Manager - Infrastructure Operations & Cloud Architecture, Senior Manager - Procurement, Head of Legal and Regulation, Senior Engineer - Performance Excellence, Manager - Learning & Growth and Quality Assurance, Head - HSE, Security & Sustainability, and a senior official of the Union of Power & Gas Employees. The interviews focused on assessing YTLPS’ policies, principles, strategies, governance, and approaches to managing material issues and processes for gathering, compiling, analyzing and monitoring performance data. Due to the COVID-19 pandemic, the interviews were conducted remotely through virtual platforms.
4. Testing of limited samples of data points, documents, records and information to collect and evaluate evidence for the following material topics was undertaken:
 - **Economic topics:**
Economic Performance (GRI 201-1), Market Presence (GRI 202-2), Procurement Practices (GRI 204-1), and Anti-Corruption (GRI 205-1 and 205-3).
 - **Environmental topics:**
Energy (GRI 302-1, 302-3, 302-4), Water & Effluents (GRI 303-1 to 303-5), Emissions (GRI 305-1 to 305-3, 305-5, 305-7), and Environmental Compliance (GRI 307-1).

- **Social topics:**

Employment (GRI 401-1), Occupational Health and Safety (GRI 403-1 to 403-3), Training and Education (GRI 404-1 to 404-3), Diversity and Equal Opportunity (GRI 405-2), Non-discrimination (GRI 406-1) and Customer Privacy (GRI 418-1).

5. Reviewing random samples of source data for verifying YTLPS' information management systems and processes focusing on the reliability of reported data according to the requirements of AA1000AS v3 and the GRI Standards. The assessment of data reliability included a review of completeness and accuracy and the methods, practices and tools used in the collection, collation, analysis, and reporting of data and information. The assessment also included a review of internal quality control, data traceability, and calculations testing.

INDEPENDENCE AND COMPETENCIES

CSRWorks was not involved in preparing any part of the Report, except for this Assurance Statement. CSRWorks has not undertaken any prior work with YTLPS or its stakeholders on any engagements that could impair the independence, impartiality or objectivity of our findings, observations, conclusions and recommendations.

CSRWorks, a leading provider of sustainability services, has over 15 years of track record in assurance, advisory and training spanning sustainability reporting, integrated reporting, third-party verification, ESG assessment and ratings, climate change, and supplier assessment. This assurance engagement was carried out by three assessors led by a senior assessor with over 20 years of experience in sustainability in a range of industry sectors.

LIMITATIONS

Our assurance engagement and scope of work did not include verification of:

- Financial data other than that related to environmental, social and economic performance;
- The adequacy or effectiveness of YTLPS' strategy or management of sustainability issues;
- Content provided by YTLPS other than in the Report such as information contained on its website and web links in the Report;
- Historical data and information presented in the Report for the purpose of comparisons.

ADHERENCE TO AA1000 PRINCIPLES

Within the scope of this engagement, our observations about the adherence to the AA1000AP (2018) Principles of Inclusivity, Materiality, Responsiveness, and Impact are presented below.

Inclusivity

YTLPS has a good understanding of its stakeholders, and the report provides a fair account of how YTLPS engages with its customers, employees, contractors, shareholders, financial institutions, and regulators.

Materiality

YTLPS has a materiality assessment process to identify in place to identify and prioritize its material ESG impacts. YTLPS has also considered the time horizon of some of these material topics in its 60-30 vision.

Responsiveness

YTLPS demonstrates its responsiveness by disclosing sustainability strategies, goals and targets to address material ESG issues and stakeholder expectations. The Report provides a detailed account of its performance on the material issues.

Impact

YTLPS has adopted mechanisms and approaches to monitor, measure, and be accountable for how its actions affect its broader ecosystems. The mechanisms adopted include identifying, prioritizing, and addressing a range of material ESG impacts covering energy, GHG emissions, water consumption, water recycling, cybersecurity, data and governance, safety and health, business continuity, customer engagement and human capital.

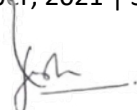
CONCLUSION

In our opinion, based on the engagement carried out, YTLPS' Sustainability Report FY20/21 provides a fair and reliable account of its material issues, sustainability strategies, management approach and performance. Based on our work, YTLPS' Report has met the conditions for adherence to the AA1000AP (2018) Principles, and the "In Accordance-Core" Criteria of the GRI Standards 2016.

RECOMMENDATIONS

We recommend that YTLPS considers reporting on its assessment of climate-related risks and opportunities and its climate strategy over various time horizons. We have submitted a more detailed confidential report to YTLPS management that contains additional recommendations for improvement in its future reporting.

On behalf of the assurance team
26 December, 2021 | Singapore



Rajesh Chhabara
Managing Director and Lead Assessor
CSRWorks International Pte Ltd



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GRI 102: General Disclosures 2016			
102-1	Name of organisation	Pg 2	
102-2	Activities, brands, products, and services	Pg 2	
102-3	Location of headquarters	https://ytlpowerseraya.com.sg/contact-us/	
102-4	Location of operations	Pg 2	
102-5	Ownership and legal form	Pg 2	
102-6	Markets served	https://ytlpowerseraya.com.sg/about-us/	
102-7	Scale of the organisation	Pg 15	Partial Disclosure Explanation: 1) Net sales comprise a component of a company's revenue figure and is not reflective of a company's scale. Revenue figures is disclosed instead. 2) Total Assets is disclosed instead of debt, equity breakdown to avoid being misunderstood by third parties who are not familiar with the company's nature of business.
102-8	Information on employees and other workers	Pg 25-26	
102-9	Supply chain	Pg 42	
102-10	Significant changes to the organisation and its supply chain	Pg 3	
102-11	Precautionary principle or approach	Pg 36-42	
102-12	External initiatives	Pg 2	
102-14	Statement from senior decision-maker	Pg 4-6	
102-16	Values, principles, standards, and norms of behavior	Pg 2	
102-17	Mechanisms for advice and concerns about ethics	https://ytlpowerseraya.com.sg/about-us/governance/	
102-18	Governance structure	https://ytlpowerseraya.com.sg/about-us/governance/	
102-22	Composition of the highest governance body and its committees	https://ytlpowerseraya.com.sg/about-us/governance/	
102-23	Chair of the highest governance body	https://ytlpowerseraya.com.sg/about-us/governance/	
102-25	Conflicts of interest	Pg 15	
102-30	Effectiveness of risk management processes	Pg 36-42	
102-31	Review of economic, environmental, and social topics	Pg 35	
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102-43	Approach to stakeholder engagement	Pg 30-33	
102-44	Key topics and concerns raised	Pg 30	
102-45	Entities included in the consolidated financial statements	Pg 2	
102-46	Defining report content and topic boundaries	Pg 3	
102-47	List of material topics	Pg 43	
102-48	Restatements of information	Pg 3	
102-49	Changes in reporting	Pg 3	
102-50	Reporting period	Pg 3	
102-51	Date of most recent report	Pg 3	
102-52	Reporting cycle	Pg 3	
102-53	Contact point for questions regarding the report	Pg 3	
102-54	Claims of reporting in accordance with the GRI Standards	Pg 3	
102-55	GRI content index	Pg 50-55	
102-56	External assurance	Pg 46-49	

GRI Standard Disclosure		Page Number and/or URL	Omission
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Economic Performance			
GRI 201: Economic Performance 2016			
GRI 103: Management Approach 2016			
103-1	Explanation of material topic and its boundary	Pg 13-15	
103-2	The management approach and its components	Pg 13-15	
103-3	Evaluation of the management approach	Pg 13-15	
201-1	Direct Economic value generated and distributed	Pg 15	

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GRI 103: Management Approach 2016			
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103-2	The management approach and its components	Pg 13-15	
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GRI 204: Procurement Practices 2016			
GRI 103: Management Approach 2016			
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GRI 205: Anti-Corruption 2016			
GRI 103: Management Approach 2016			
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103-2	The management approach and its components	Pg 41	
103-3	Evaluation of the management approach	Pg 41	
205-1	Operations assessed for risks related to corruption	Pg 41	
Climate Change (Energy)			
GRI 302: Energy 2016			
GRI 103: Management Approach 2016			
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103-3	Evaluation of the management approach	Pg 9 & 18	
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GRI 103: Management Approach 2016			
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305-5	Reduction of GHG emissions	Pg 22	
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Climate Change (Water) GRI 303: Water & Effluents 2018			
GRI 103: Management Approach 2016			
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418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Pg 38	
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GRI 401: Employment 2016			
GRI 103: Management Approach 2016			
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103-2	The management approach and its components	Pg 24-25	
103-3	Evaluation of the management approach	Pg 24-25	
401-1	New Hire Hires and Employee Turnover	Pg 26	Partial Disclosure Explanation: New hire information is not readily available in level of details required under the GRI reporting standard.
GRI 404: Training & Education 2016			
GRI 103: Management Approach 2016			
103-1	Explanation of material topic and its boundary	Pg 24-25	
103-2	The management approach and its components	Pg 24-25	
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