OUR CLEAN ENERGY FUTURE

ENERGY MARKET AUTHORITY • ANNUAL REPORT FY2022/2023

ENERGY MARKET AUTHORITY

Our Clean Energy Future

About Us

The Energy Market Authority (EMA) is a statutory board under the Singapore Ministry of Trade and Industry. Through our work, we seek to build a clean energy future that is resilient, sustainable, and competitive. We aim to ensure a reliable and secure energy supply, promote effective competition in the energy market and develop a dynamic energy sector in Singapore.

Our Vision

Our Clean Energy Future:
Resilient, Sustainable, Competitive

Updated on 1 April 2023, our Vision statement encapsulates a shared aspiration belonging not just to EMA but everyone in Singapore. The statement also reflects the need to manage the Energy Trilemma, which forms the cornerstone of our work. Navigating the challenges to deliver resilient, sustainable, competitive energy will require the collective effort of all in Singapore.

Our Mission

Building sustainable, resilient, dynamic, and efficient energy markets and systems

Our Mission statement embodies the fundamental elements required in our energy markets and systems to achieve our Vision. We strive to create these building blocks as we perform our multifaceted role as developer and regulator of the energy industry, as well as the planner and operator of the energy system.

- **Building sustainable energy markets and systems:** Decarbonising our energy mix through the Four Switches, actively managing energy demand, and evolving our power grid to better balance demand and supply.
- **Building resilient energy markets and systems:** Strengthening our markets to secure fuel supply and power generation capacity, and enhancing our systems to maintain our world-class system reliability.
- **Building dynamic energy markets and systems:** Championing energy innovation, grooming talent in the energy sector, and collaborating with international partners to overcome energy challenges.
- **Building efficient energy markets and systems:** Promoting the use of efficient technologies, optimising our energy costs, and fostering a financially sustainable energy sector.

Watch video on our updated vision and mission

Authority Members

Chairman:

- **Mr Richard Lim Cherng Yih**
  Chairman
  ST Logistics

Members:

- **Mr Ngiam Shih Chun**
  Chief Executive
  Energy Market Authority

- **Professor Chua Kee Chaing**
  President
  Singapore Institute of Technology

- **Ms Paula Conboy**
  Senior Counsel, Sussex Strategy Group
  Board member, PJM Interconnection

- **Ms Lim Pek Suat**
  Group Chief Financial Officer
  PSA International Pte Ltd

- **Mr Ngien Hoon Ping**
  Group Chief Executive Officer
  SMRT Corporation Ltd

- **Professor Dipti Srinivasan**
  Professor, Department of Electrical & Computer Engineering,
  National University of Singapore
  Adjunct Researcher, Solar Energy Research Institute Singapore

- **Mr Tan Chuan Thye, Senior Counsel**
  Partner
  Rajah and Tann Singapore LLP

- **Mr Wong Hong Kuan**
  Deputy Secretary (Management)
  Ministry of Foreign Affairs

- **Professor Julian Wright**
  Lim Chong Yah Professor,
  Department of Economics,
  National University of Singapore

- **Mr Abdul Wahab Bin Mohamed Yusoff**
  Vice President, Asia Pacific & Japan
  Delinea

In appreciation

We would like to express our appreciation to our former Authority member — **Professor Liew Ah Choy**, for his guidance and contributions to EMA.

Senior Management

- **Mr Ngiam Shih Chun**
  Chief Executive
- **Mr Ralph Foong**
  Deputy Chief Executive
  Sustainable Supply
- **Mr Kng Meng Hwee**
  Deputy Chief Executive
  Energy Infrastructure
- **Mr Soh Yap Choon**
  Deputy Chief Executive
  Power System Operation
- **Mr Low Xin Wei**
  Assistant Chief Executive
  Market & Systems
- **Mr Soh Sai Bor**
  Assistant Chief Executive
  Regulation
- **Mr Eugene Toh**
  Assistant Chief Executive
  Corporate Services

Organisation Structure

Chief Executive's Office
- Human Resource & Organisational Development Department

Corporate Services Division
- Corporate Communications Department
- Data Analytics Department
- Finance Department
- Information Technology Department
- Legal & Administration Department

Energy Infrastructure Division
- Electricity System Department
- Gas System Department
- Land & Security Department

Markets & Systems Division
- Industry Ecosystem Development Department
- Market Development & Surveillance Department
- Policy & Planning Department

Regulation Division
- Economic Regulation & Licensing Department
- Inspectorate Department
- Strategic Procurement Department

Sustainable Supply Division
- Energy Connections Office
- Energy Technologies Department
- External Relations Department
- Hydrogen & Sustainable Energies Office

Power System Operation Division
- Energy Management Systems Department
- Gas System Supervision Department
- System Control Department
- System Stability & Planning Department

CONTENTS

SNAPSHOT OF OUR YEAR-IN-REVIEW

Snapshot of our Year-in-Review

1. Commenced our first cross-border electricity imports of up to 100 megawatts of hydropower from Lao PDR to Singapore via Thailand and Malaysia using existing interconnections in June 2022.

2. Jointly awarded with our partners $14 million in grants to advance the deployment of clean energy technologies at Energy Innovation 2022.

3. Announced the National Hydrogen Strategy to support Singapore's net zero commitment by 2050. EMA and the Maritime and Port Authority of Singapore (MPA) launched a call for Expression of Interest to explore the use of low or zero-carbon fuels such as hydrogen and ammonia for power generation.

4. Announced guardrails to enhance the competitive market structure for a more secure and resilient power sector at the Singapore International Energy Week 2022.

5. Achieved Singapore's 200 megawatt-hour energy storage target ahead of time, with the launch of the 285 megawatt-hour Sembcorp Energy Storage System in February 2023.

6. Granted the first Conditional Approval to import 1 gigawatt of electricity from Cambodia into Singapore supporting our ambition to import up to 4 gigawatt of low-carbon electricity by 2035.

7. Refreshed our vision and mission — Our Clean Energy Future: Resilient, Sustainable, Competitive — on 1 April 2023.

8. Announced the building of Meranti Power's Open Cycle Gas Turbine (OCGT) generation station at a groundbreaking ceremony in May 2023. The OCGT will enhance Singapore's power generation capacity to meet future demand.

FOUR SWITCHES FOR SINGAPORE'S ENERGY TRANSITION

Four Switches for Singapore's Energy Transition

Climate change poses a global threat, and Singapore is taking active steps to reduce emissions and foster a more sustainable future. The power sector, responsible for approximately 40% of Singapore's carbon emissions, plays a pivotal role in this endeavour. Our goal is to reduce emissions while ensuring the security, reliability and sustainability of the power system.

Singapore is harnessing Four Switches — Solar, Regional Power Grids, Low-carbon Alternatives and Natural Gas — to transform its energy supply while promoting energy efficiency to reduce demand.

Watch video on how EMA is harnessing the Four Switches for a more sustainable energy future.

At a Glance: Maximising Solar Adoption

In pursuit of a greener future, Singapore is maximising solar adoption as its most promising renewable energy source. We have since made significant progress with over 820 megawatt-peak of solar capacity installed as of 2022. That is more than the halfway mark of our 1.5 gigawatt-peak target by 2025.

Going forward, we remain steadfast in our vision. We aim to have at least 2 gigawatt-peak of solar capacity installed by 2030, which can meet the annual electricity needs of around 350,000 households.

Total installed solar capacity:

821.7MWp

No. of grid-connected solar installations:

6,629

*As of end 2022.

Sunny Days Ahead for Solar Adoption in Singapore

Sophie Gan and her team in the Hydrogen & Sustainable Energies Office work on developing and implementing plans for solar, hydrogen and other sustainable energy technologies.

Scan to read how Singapore is tackling our land constraints and weather conditions with innovative solar deployments and forecasting tools.

"We are looking at deployment sites which are more novel such as vertical solar installations on building facades and solar canopies over open areas like carparks, walkways and canals."

Sophie Gan, Senior Analyst

Going Greener with Solar

Solar power generation is dependent on Singapore's tropical weather which fluctuates with cloud cover and rain. This can lead to imbalances between electricity demand and supply output from solar photovoltaic (PV) systems.

Forecasting Solar Irradiance

In September 2022, EMA's Power System Control Centre completed a trial for a first-of-its-kind Solar Forecasting Model. This tool accurately predicts solar irradiance across Singapore up to an hour in advance. In doing so, it allows EMA to make proactive supply adjustments to meet demand should there be any fluctuations in solar power output. This enhances the reliability of our power grid.

Watch video on the Solar Forecasting Model developed by the Solar Energy Research Institute of Singapore (SERIS).

Greening the Pulau Ubin Micro-Grid

Over at Pulau Ubin, more of the island's residents and businesses will benefit from a cleaner and more reliable electricity supply with an upgraded micro-grid.

In June 2022, EMA appointed EDPR Sunseap APAC as the micro-grid operator to pilot a Solar Green Roof supported by an energy storage system. This roof will feature a 285 kilowatt-peak solar PV system that is co-located with greenery to regulate ambient temperatures and increase its efficiency. With these enhancements, 90% of the daily electricity demand in the main village of Pulau Ubin can be potentially met with solar power.

Top: A solar irradiance instrument at the floating solar photovoltaic testbed at Tengeh Reservor.
Bottom: Artist impression of the Solar Green Roof at the Pulau Ubin Micro-Grid.

Energy Storage for Grid Resilience

In Singapore's quest for a more reliable and resilient power grid, Energy Storage Systems (ESS) emerge as a pivotal technology to mitigate solar intermittency. Their ability to store and supply power within milliseconds will address dips in supply due to our tropical climate. ESS also serve as energy reserves for the power grid, freeing up standby power generation plants to generate electricity to meet demand.

Ahead of Our Target

In February 2023, Sembcorp Industries and EMA celebrated the official opening of the Sembcorp ESS. This was a significant milestone as we met our 2025 target of 200 megawatt-hour (MWh) of energy storage ahead of time.

The Sembcorp ESS has a maximum storage capacity of 285 MWh, which can meet the daily electricity needs of around 24,000 four-room HDB households, in a single discharge. Notably, it stands as Southeast Asia's largest ESS and was commissioned in six months, making it the fastest in the world of its size to be deployed.

Watch video of the Sembcorp Energy Storage System on Jurong Island.

Sustainable Cooling for Marina Bay District

EMA also partners industry stakeholders to pilot ESS solutions in Singapore.

In August 2022, EMA and SP Group announced an ice thermal ESS that will be piloted at the George Street Substation. When completed in 2026, it will contribute up to 1,500 Refrigeration ton-hour (RTH) of ice thermal energy to the Marina Bay district cooling network. This move extends sustainable cooling to more buildings in the Marina Bay vicinity and its surrounding areas, such as Boat Quay.

Left: The Sembcorp Energy Storage System (ESS) is Southeast Asia's largest ESS and the fastest in the world of its size to be deployed.

Building Sustainable Connections

To overcome our land constraints, Singapore is tapping on regional power grids to access cleaner energy sources beyond its borders. Our target is to have an import capacity of up to 4 gigawatts of low-carbon electricity by 2035. This would account for around 30% of Singapore's projected electricity supply then.

Measures to maintain energy security such as diversifying our import sources and maintaining back-up supply in the event of disruptions will also be taken to ensure our energy security.

Why Does Singapore Need to Import Electricity?

Tan Xin Yi, Deputy Director of the Energy Connections Office and her team work on policies and plans to achieve Singapore's ambitions for cross-border electricity trade.

Learn more about the benefits of electricity imports, including accelerating renewable energy development in the region and facilitating economic growth.

"Singapore does not have the land for large solar or wind farms, or fast flowing rivers for hydro-electric power. But countries in our region have access to different types of renewable energy ranging from solar, wind, geothermal and hydro. This creates a natural opportunity for clean energy trading."

Tan Xin Yi,
Deputy Director

Our Electricity Imports Journey

23 June 2022 marked a historical milestone with the commencement of Singapore's first cross-border import of up to 100 megawatts of hydropower from Lao PDR via Thailand and Malaysia. As part the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP) and the first multilateral cross-border electricity trade involving four ASEAN countries, it serves as a pathfinder towards realising the vision of the broader ASEAN Power Grid vision.

First Conditional Approval Granted

To pave the way for more imports, EMA granted the first Conditional Approval to Keppel Energy Pte Ltd to import 1 gigawatt (GW) of electricity from Cambodia into Singapore in March 2023. The Conditional Approval recognises that the project is preliminarily assessed to be technically and commercially viable.

The imported electricity will be transmitted from Cambodia to Singapore via new subsea cables of more than 1,000 kilometres, and will harness solar energy, hydropower and potentially wind power. It will be supported by energy storage systems or pumped storage hydropower.

Collaborations on Renewable Energy

In March 2023, Singapore and Indonesia signed a Memorandum of Understanding (MOU) on Renewable Energy Cooperation. The MOU, together with the Conditional Approval for the import of electricity from Cambodia, are positive steps forward in regional collaboration to enhance energy security, increase access to reliable, clean energy, as well as stimulate economic growth.

Towards Long-term Decarbonisation

Singapore is exploring emerging low-carbon technologies such as hydrogen, geothermal energy, and carbon capture, utilisation and storage (CCUS) to reduce Singapore's carbon footprint in the longer-term.

A Key Decarbonisation Pathway

In October 2022, Singapore announced its national strategy to develop hydrogen as a major decarbonisation pathway to meet our net zero commitments by 2050. Hydrogen and its derivatives can complement and diversify our power mix alongside solar, imported electricity and other potential energy sources such as geothermal energy.

Depending on technological advancements in the development of low or zero-carbon hydrogen supply chains, imported hydrogen could supply up to half of our power needs by 2050.

Low or Zero-Carbon Power Generation

In December 2022, EMA and the Maritime and Port Authority of Singapore (MPA) launched a call for Expression of Interest (EOI) to build, own and operate low or zero-carbon power generation and bunkering solutions in Jurong Island.

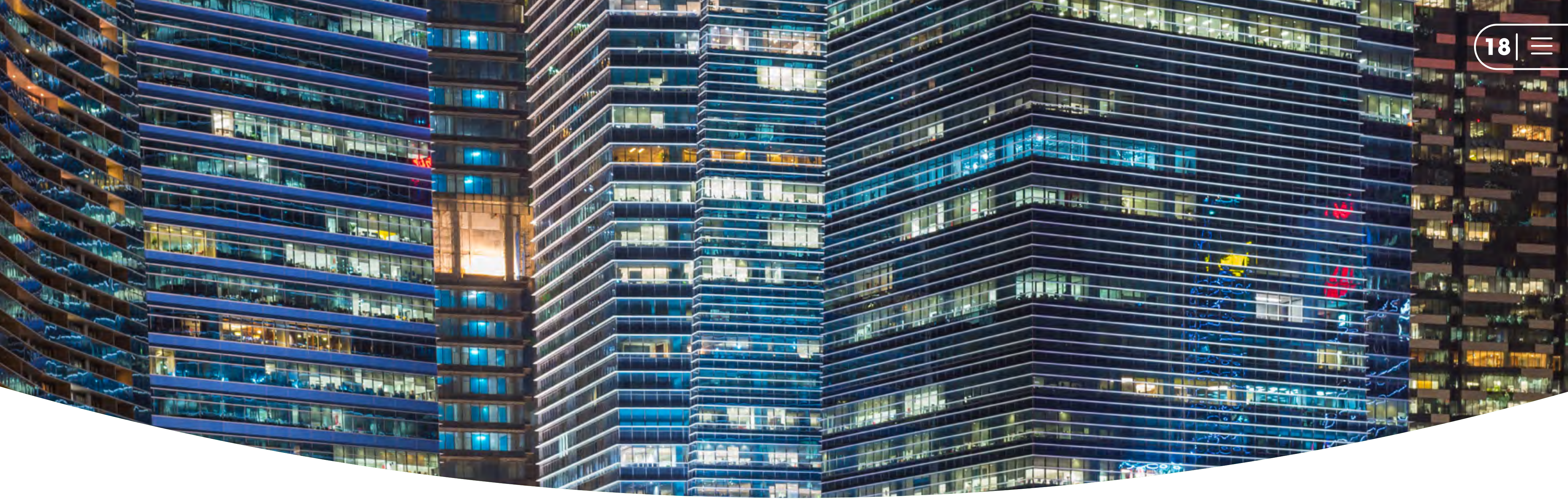
The EOI will enable us to explore the use of low or zero-carbon fuels such as hydrogen and ammonia for power generation. With this, the Government will work closely with the industry to develop and refine policies and regulations to ensure the safe use of ammonia and hydrogen.

Reducing Emissions from Natural Gas

As Singapore takes great strides in our clean energy transition, the need for a reliable supply remains. Natural gas will continue to be the dominant fuel for Singapore's electricity generation as we scale up the other three Switches.

New Emission Standards

To facilitate the deployment of clean power generation units over time, EMA will be introducing new emission standards for new and repowered fossil fuel-fired generation units. This ensures that new and repowered units utilise best-in-class technologies that are carbon-efficient and hydrogen-compatible. Over time, EMA will review and gradually tighten emission standards to ensure the power sector is on track to transition to net zero emissions by 2050.



Every Watt Counts

Energy demand has been increasing steadily over the years and is projected to rise with economic growth, electrification and digitalisation. Besides transforming the way we produce energy, optimising energy consumption underpins our efforts to lower carbon emissions.

Regulatory Sandbox Promote for Demand Management

To incentivise commercial and industrial companies to optimise their energy consumption, EMA started a two-year regulatory sandbox on 1 January 2023. Participating companies will be required to effectively manage their electricity demand when activated. In return, they will receive incentive payments for reducing the demand on the national grid.

Shifting Peak Demand

EMA also welcomed the collaboration between the national water agency PUB and SP Group in our Demand Response and Interruptible Load programmes.

As a participant, PUB will voluntarily reduce its energy usage by temporarily shifting electricity usage away from peak periods or during times when supply from renewable energy sources is intermittent. The Marina Raw Water Pumping Station will be the first facility to participate in this initiative.

SAFEGUARDING OUR ENERGY MARKETS AND SYSTEMS

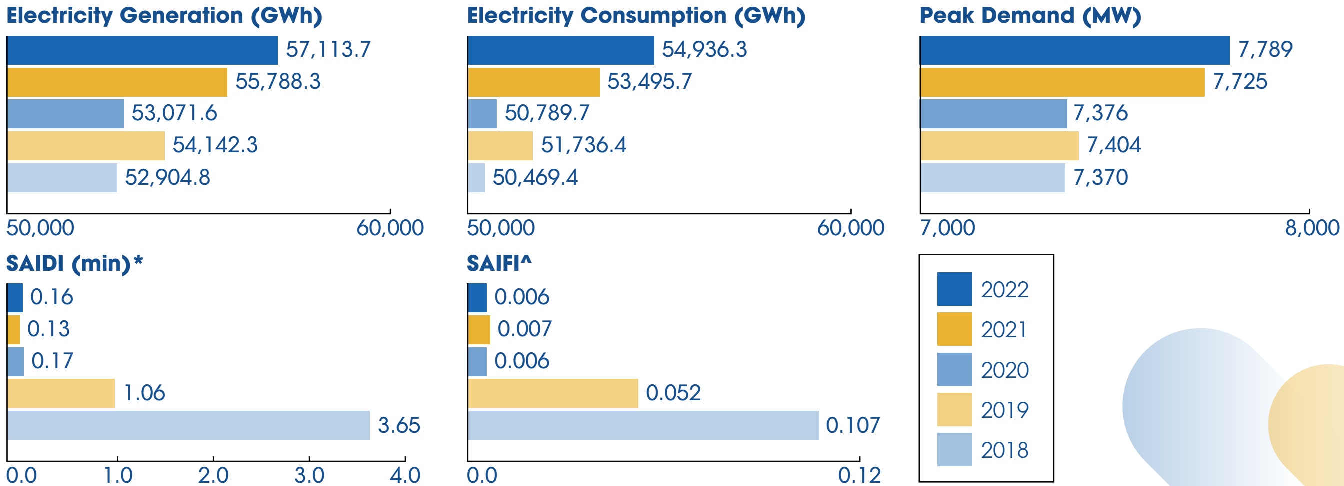
Building a Resilient Energy Sector

EMA plays a multifaceted role as a regulator, industry developer and power system operator in our energy sector. With Singapore importing almost all of its energy needs, it is crucial that we strengthen our markets to secure fuel supply and power generation capacity to enhance our systems and maintain world-class reliability.

At a Glance: Singapore's Power Generation

In 2022, Singapore's total electricity generation and peak demand increased by 1,325GWh and 64MW respectively as compared to 2021. The nation's total electricity consumption also increased by 2.7% over the previous year.

Singapore continues to maintain one of the most reliable power grids in the world. On average, each customer experienced an average of 0.006 interruptions lasting 0.16 minutes in 2022.



* SAIDI (System Average Interruption Duration Index) measures the average interruption time per customer in minutes.
^ SAIFI (System Average Interruption Frequency Index) measures the average number of interruptions per customer.

Powering up for the Future

With anticipated growth in energy demand, EMA has taken steps to ensure that Singapore will have sufficient generation capacity to meet future needs while ensuring the resilience of our energy supply.

Top: Artist impression of Meranti Power Open Cycle Gas Turbine generation station.

Enhancing Singapore's Power System Reliability

Dr Darwin Chia, Director of the Electricity System Department, and his team oversees the planning, development and timely implementation of new power generation plantings and the performance of the electricity system infrastructure.

Learn how the government steps in to ensure Singapore maintains its reliable electricity system.

"Singapore has one of the most reliable electricity systems in the world. This is made possible because we deploy different power generation technologies that complement each other."

Dr Darwin Chia, Director

Centralised Process for New Generation Capacity

Singapore's system peak demand is projected to increase over the next five years, driven by the growth in electricity-intensive sectors. Additional generational capacity will therefore be needed in 2028.

In April 2023, EMA sought public and industry feedback on a centralised process to facilitate and guide private investments in new generation capacity.

Following the consultation, EMA issued a Request-for-Proposal in July 2023 for interested companies to build, own and operate a new Combined Cycle Gas Turbine with a capacity of at least 600 megawatts by end-2027.

Fast-Start Generation for Reliability

To meet Singapore's needs, fast-start generation capacity is crucial in ensuring a secure and reliable supply of electricity for consumers.

Meranti Power — a wholly-owned subsidiary of EMA — has been commissioned to build, own and operate two 340 MW Open Cycle Gas Turbine (OCGT) units. The OCGT units will replace retiring generation units to provide sufficient fast-start generation capacity and are expected to be operationally ready by June 2025.

The groundbreaking ceremony took place on 19 May 2023, with Second Minister for Trade and Industry Dr Tan See Leng as the Guest-of-Honour.

Top: At the groundbreaking ceremony of Meranti Power Open Cycle Gas Turbine generation station on 19 May 2023.

Guardrails to Enhance the Competitive Market Structure

Today, Singapore has a liberalised power sector whereby private companies procure fuel, generate electricity and sell directly to consumers. While this competitive market structure has served us well for the past two decades, the evolving global energy landscape exposes us to challenges such as reliability risks and extreme price volatilities.

Enhanced Regulatory Framework for Electricity Retailers

To navigate the energy transition in a safe and secure way, EMA announced an enhanced regulatory framework for electricity retailers in July 2023. This framework strengthens consumer protection and ensures that retailers are sufficiently resilient against market volatility.

Enhancements include only allowing retailers with sufficient financial strength to enter the market and requiring retailers that impose early termination charges to similarly compensate their consumers if retailers initiate the early termination.

CREATING AN INNOVATION HUB

Singapore International Energy Week

The journey towards Singapore's energy transition requires a holistic approach spanning the entire energy value chain. To expedite pioneering advancements in Singapore, EMA actively collaborates with local and global stakeholders to foster partnerships that drive innovation.

The 15th edition of the Singapore International Energy Week (SIEW) was held from 25 to 28 October 2022. Themed "A Resilient and Sustainable Energy Future", the event gathered over 12,000 energy professionals, policymakers and commentators across the global energy sector.

SIEW 2022 witnessed the momentous launch of Singapore's national hydrogen strategy by Deputy Prime Minister and Minister for Finance Lawrence Wong. SIEW 2022 also co-hosted the Singapore-IEA Ministerial Roundtable on energy security and the 2nd Singapore-IRENA High-level Forum on green financing and decarbonisation opportunities.

To commemorate its 15th anniversary, SIEW was also officially registered as a trademark, symbolising its credibility and prestige as Asia's premier energy event. The SIEW TechTable was also launched to explore emerging and nascent low-carbon technologies that will accelerate the energy transition.

Highlights of SIEW 2022

Over
35,000,000
social media impressions across the week

Over
12,000
onsite participants

Over
450
ministerial and high-level speakers

Over
70
countries represented at SIEW

Watch the highlights of SIEW 2022

Top: Deputy Prime Minister and Minister for Finance Lawrence Wong unveiled the National Hydrogen Strategy at his Singapore Energy Lecture at SIEW 2022.
Bottom: Second Minister for Trade and Industry Dr Tan See Leng presented the Opening Address at the Asia Clean Energy Summit at SIEW 2022.

In Brief: International Collaborations

EMA actively promotes public-private partnerships and international cooperation to strengthen regional interconnectivity and enhance Singapore's energy thought leadership.

Left: Panel discussion on securing a resilient and sustainble energy future at SIEW 2022.

Right: More than 160 participants joined the Singapore-IEA Regional Training Programme 2023.

2022

February: Participated in the biennial International Energy Agency (IEA) Ministerial Meeting in Paris, France, to profile Singapore's energy transition and strengthen ASEAN-IEA cooperation on the clean energy transition.

May: Hosted Malaysia's Energy Commission (EC) CEO Abdul Razib Dawood and delegation for the 2nd EMA-EC Bilateral Dialogue.

June: Welcomed Thailand's Energy Regulatory Commission Secretary General Khomgrich Tantravanich and delegation to exchange views on cross-border electricity trading and developments in the electricity and gas market.

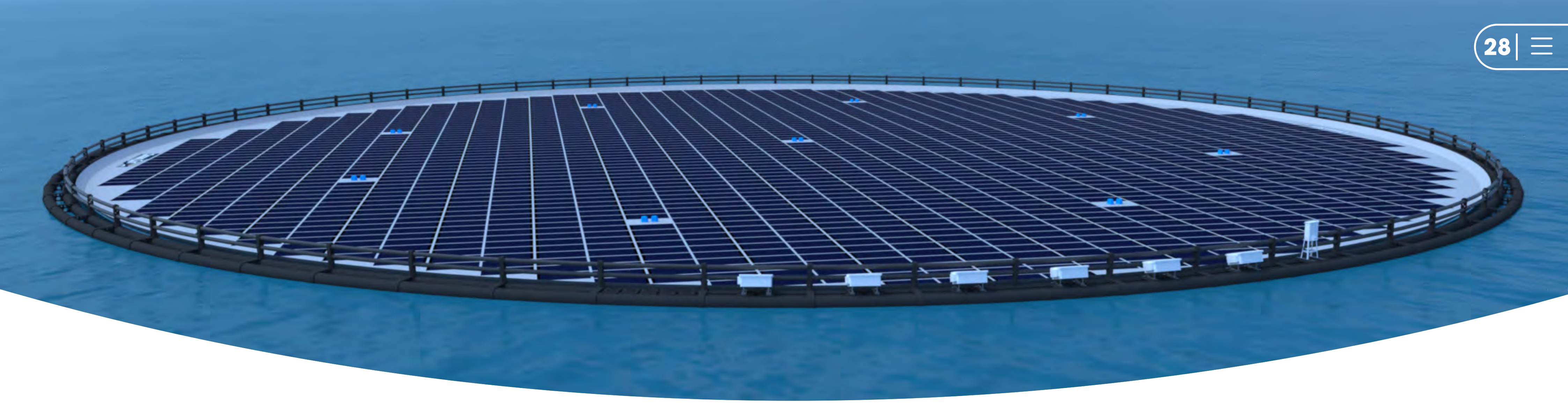
July: Co-hosted the Singapore-IEA Regional Training Programme on Efficient Grid-Interactive Buildings with over 180 participants from 33 countries.

October: Hosted the 15th Singapore International Energy Week (SIEW).

2023

January: Engaged key global energy thought leaders and industry stakeholders at the 13th International Renewable Energy Agency (IRENA) General Assembly and the Abu Dhabi Sustainability Week (ADSW).

May: Co-hosted the Singapore-IEA Regional Training Programme on Seizing Opportunities with Regional Power Grids.



A Vibrant Energy Ecosystem

Energy Innovation is an annual event organised by EMA to promote collaboration and knowledge exchange among industry experts and the research community. Minister of State for Trade and Industry Ms Low Yen Ling was the Guest-of-Honour of Energy Innovation 2022 on 15 July 2022.

Watch the highlights of Energy Innovation 2022 themed "Commercialising Clean Energy Technologies".

Accelerating New Clean Energy Innovations on Jurong Island

Demonstrating the shared commitment by the industry, technology partners and government agencies to advance clean energy technologies was the joint award of R&D funding to three projects, under the $6 million grant call by EMA and JTC, with support from Enterprise Singapore.

The awarded projects cover a diverse range of technologies, from floating solar deployment to utilising existing infrastructure for energy storage and developing a virtual ledger to support green hydrogen production. These solutions will be piloted to advance deployment of clean energy technologies on Jurong Island.

Nurturing the Local Start Up Community

During Energy Innovation 2022, EMA also awarded grants to two startups, BeeX Pte Ltd and SunGreenH2 Pte Ltd, to enhance and test-bed their sustainable solutions in underwater infrastructure inspection and low-carbon hydrogen production, respectively.

These grants were awarded under the $8 million partnership between EMA and Shell, supported by Enterprise Singapore, to nurture local startups and develop solutions to advance the energy sector's transition towards greener sources.

Top: Keppel Energy Nexus and its partner Ocean Sun AS will pilot an innovative patented nearshore photovoltaic system with grant support from the EMA-JTC partnership.

Growing our Clean Energy Workforce

With the evolving energy landscape, exciting growth opportunities are emerging in both domestic and regional clean energy sectors. EMA has identified three key areas for growth in solar, energy storage systems and smart grids.

Singapore has been actively accelerating solar deployment, deploying energy storage systems to manage solar intermittency, and bolstering grid stability and reliability to integrate a wider array of renewable energy sources.

Clean Energy Jobs-Skills Insights

A Clean Energy Jobs-Skills Insights (JSI) analysis, jointly developed by SkillsFuture Singapore and EMA, has identified the key growth areas that have emerged with the changing energy landscape and the skills with high growth demand. These include green skills for existing and new job roles and the rise of digital and Industry 4.0 skills to support Singapore's energy transition.

Singapore Energy Award 2022

In recognition of contributions to developing the capabilities of Singapore's local solar industry, EMA awarded Sembcorp Solar Singapore Pte Ltd the Singapore Energy Award 2022.

Empowering Youth as Our Future Leaders

To cultivate a competent workforce EMA is working closely with the industry to nurture talent and build a steady supply of manpower.

Energy-Industry Scholarship

The Energy-Industry Scholarships offered by EMA and its industry partners provide engineering students with a career head start in the energy sector. In 2022, Eigen Energy, Senoko Energy and Tuas Power sponsored four engineering students.

Singapore Energy Grand Challenge (Youth)

For the 3rd edition of the Singapore Energy Grand Challenge for Youth in 2022, EMA introduced a new category to engage students from Institutes of Higher Learning.

During the competition, finalist teams received mentorship from EMA's partners Keppel Infrastructure, Schneider Electric and Sembcorp Industries. The objective was to develop innovative solutions to address real-world challenges faced by these energy companies.

Teams from National University of Singapore, Singapore Institute of Technology and ITE College East emerged as champions. They impressed the judges with their holistic presentations on solutions to reduce energy demand, enhance power grid reliability and maximise solar deployment respectively.

Close to 90 student teams from 25 secondary schools and junior colleges also participated in the Junior and Senior categories. These innovative energy ideas were showcased using Minecraft: Education Edition.

Left: Four Singaporean engineering students were awarded the Energy-Industry Scholarship in 2022.
Right: Students from Institutes of Higher Learning presented their solutions for the Singapore Energy Grand Challenge at Youth@SIEW 2022.

CARING FOR CHILDREN AND YOUTH IN THE COMMUNITY

Our Heart for the Community

In 2022, we welcomed our new adopted charity, the Children's Wishing Well. The registered charity, founded in 2002, focuses on the holistic education of children and youth from disadvantaged backgrounds.

We kickstarted our Corporate Social Responsibility activities in the festive season with our colleagues granting the Christmas wishes of 30 children and raising over $13,700 in donations.

Giving Back to the Community with the Gift of Food

Hayden Lee, Senior Analyst in the External Relations Department, stepped out of his comfort zone to be a volunteer in the FRESH (Fresh Groceries for Every Student's Home) programme. He and other EMA volunteers went grocery shopping with children from disadvantaged families, guiding them on managing a budget and making healthy choices.

Learn more about his volunteering experience with Children's Wishing Well.

"Seeing the joy on the faces of those we helped reminded me of the importance of compassion and empathy in our daily lives. Even a few hours of our time can make a world of difference to someone in need. Moreover, working alongside fellow colleagues taught me the value of collaboration and teamwork in achieving common goals."

Hayden Lee,
Senior Analyst

Top: EMA volunteers and children beneficiaries of the FRESH programme organised by Children's Wishing Well.
Bottom: EMA colleagues brought Christmas gifts for children beneficiaries over the festive season.

A Night of Giving

Going once, going twice, sold!

EMA's first charity auction fundraiser was held in conjunction with our Dinner & Dance on 24 March 2023. Four creative young artists from the Children's Wishing Well, aged 10 to 12 years old, each painted an artwork inspired by the theme of our event, "Fiction Wonderland".

Through the generous contributions of our colleagues, more than $22,300 was raised that night and will go towards more than 1,000 children beneficiaries to support their education, living needs and programmes to equip them with skills for their future.

Top: EMA Directors raised funds by performing songs at EMA's Dinner & Dance 2023.

SUSTAINABILITY EFFORTS WITHIN EMA

Sustainability at EMA

Besides advancing Singapore’s green energy transition, EMA has pledged to be a champion to make Singapore a green, liveable and climate-resilient home.

Within our office premises, we have adopted several green measures such as replacing existing water fittings with water efficient fixtures, changing existing light fixtures to LED bulbs and maintaining our office’s air-conditioning temperature at 25°C. The use of single-use disposables has also been reduced during meetings and events. In an effort to reduce waste, we have replaced individual waste bins with centralised waste bins.

EMA has also taken the Green Nation Pledge to reinforce our commitments in going green in February 2023.

Our Environmental Sustainability Performance

EMA tracks our usage of electricity, water and paper and encourages all staff to reduce the consumption of these resources by adopting sustainable practices. In FY2022, EMA collected 2,682kg of recyclables from paper.

	FY2022
Electricity usage (MWh)	348.14
Water usage (cu m)	133.17
Paper recycling (kg)	2,682

FINANCIAL HIGHLIGHTS & STATEMENTS

Financial Highlights
For FY2022/23

On 16 June 2022, the Authority had incorporated a wholly-owned subsidiary, Meranti Power Pte. Ltd. For the year ended 31 March 2023, the Group recorded a net surplus of $13.59 million.

Financial results	Group	Authority	
	FY2022/23 $ Million	**FY2022/23 $ Million**	**FY2021/22 $ Million**
Operating revenue	89.08	89.08	80.32
Less: Operating expenses	79.79	78.33	82.72
Operating surplus/(deficit) before grant	**9.29**	**10.75**	**(2.40)**
Government grant	401.73	401.73	22.91
Less: Expenses funded by grant	401.73	401.73	22.91
Operating surplus/(deficit) after grant	**9.29**	**10.75**	**(2.40)**
Non-operating revenue	7.41	8.15	1.78
Surplus/(deficit) before contribution to Government Consolidated Fund ("GCF")	**16.70**	**18.90**	**(0.62)**
Less: Contribution to GCF	3.11	3.11	—
Surplus/(deficit) for the year and total comprehensive income/(loss)	**13.59**	**15.79**	**(0.62)**

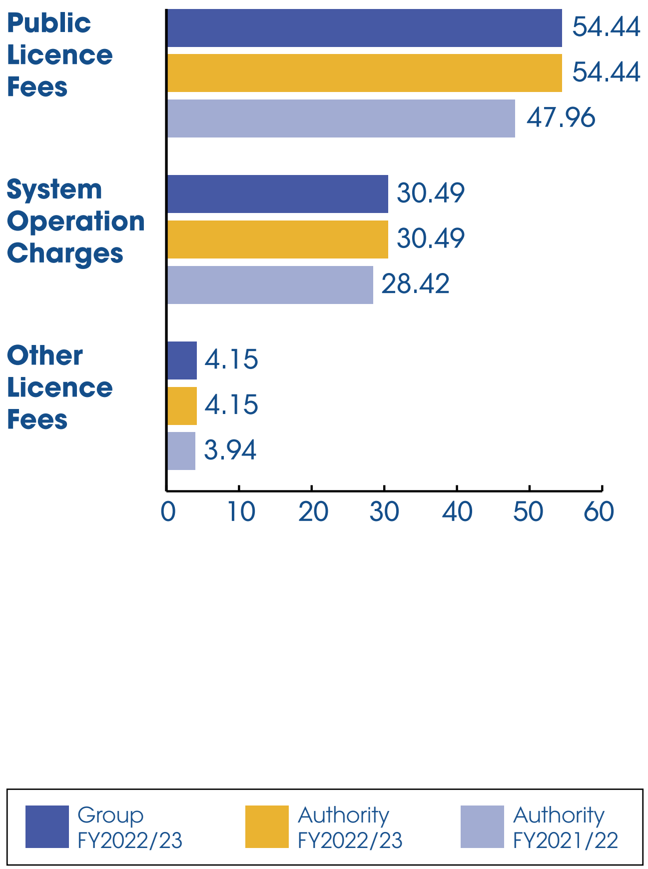
Capital Expenditure

Capital expenditure incurred for the Group was $87.61 million in FY2022/23. The Authority spent $7.27 million on computer systems ($7.22 million) and office equipment ($0.05 million). The subsidiary incurred $80.35 million on capital expenditure which included $64.69 million for the construction of the Open Cycle Gas Turbines, $15.55 million for the acquisition of land with 30-year tenor at Jurong Island and $0.10 million for computer software. During the year, the subsidiary also recorded $0.13 million Right-of-Use Asset for the lease of computer equipment.

Financial Highlights
For FY2022/23

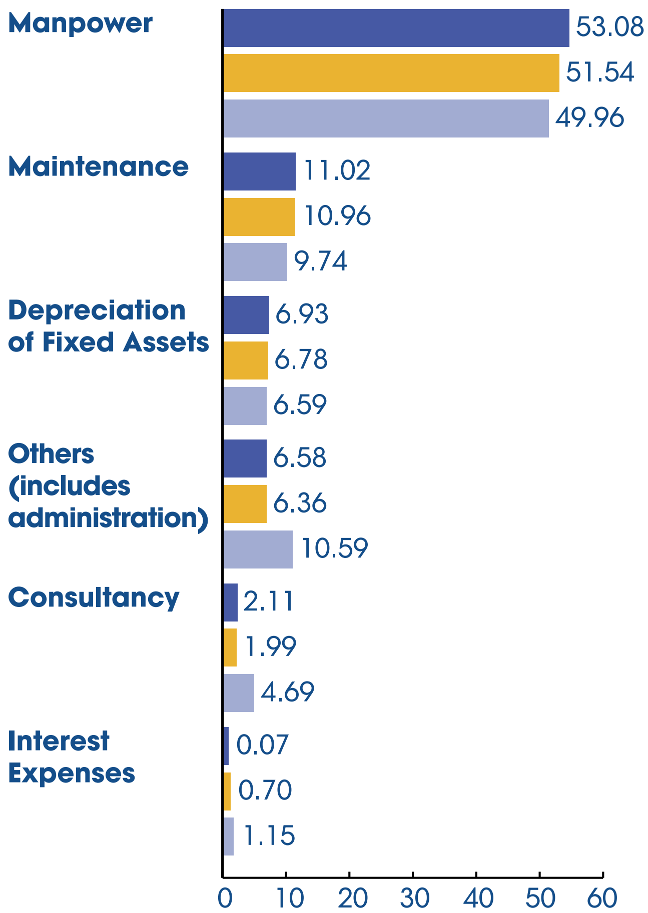
Operating Revenue

Operating revenue for the year amounted to $89.08 million for the Group and Authority. The subsidiary had not commenced revenue generation in FY2022/23.



Operating Expenses

Operating expenses for the year were $79.79 million and $78.33 million for the Group and Authority respectively.



Annual Financial Statements

For the financial year ended 31 March 2023

KLP LLP
13A MacKenzie Road
Singapore 228676
Tel: (65) 6227 4180
klp@klp.com.sg
www.klp.com.sg

Independent Auditor's Report to the members of Energy Market Authority of Singapore

Report on the Audit of the Financial Statements

Opinion

We have audited the financial statements of Energy Market Authority of Singapore (the "Authority") and its subsidiary (the "Group"), which comprise the consolidated statement of financial position of the Group and the statement of financial position of the Authority as at 31 March 2023, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated cash flows of the Group and the statement of comprehensive income and statement of changes in equity of the Authority for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements of the Group and the statement of financial position, statement of comprehensive income and statement of changes in equity of the Authority are properly drawn up in accordance with the provisions of the Public Sector (Governance) Act 2018, Act 5 of 2018 (the "Public Sector (Governance) Act"), the Energy Market Authority of Singapore Act 2001 (the "Act") and Statutory Board Financial Reporting Standards ("SB-FRSs") so as to give a true and fair view of the consolidated financial position of the Group and the financial position of the Authority as at 31 March 2023 and of the consolidated financial performance, consolidated changes in equity and consolidated cash flows of the Group and financial performance and changes in equity of the Authority for the year ended on that date.

Basis for Opinion

We conducted our audit in accordance with Singapore Standards on Auditing (SSAs). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Group in accordance with the Accounting and Corporate Regulatory Authority (ACRA) *Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities* (ACRA Code) together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation of financial statements that give a true and fair view in accordance with the provisions of the Public Sector (Governance) Act, the Act and SB-FRSs, and for devising and maintaining a system of internal accounting controls sufficient to provide a reasonable assurance that assets are safeguarded against loss from unauthorised use or disposition; and transactions are properly authorised and that they are recorded as necessary to permit the preparation of true and fair financial statements and to maintain accountability of assets.

A statutory board is constituted based on its constitutional act and its dissolution requires Parliament's approval. In preparing the financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless there is intention to wind up the Group or for the Group to cease operations.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

KLP LLP
13A MacKenzie Road
Singapore 228676
Tel: (65) 6227 4180
klp@klp.com.sg
www.klp.com.sg

Independent Auditor's Report to the members of Energy Market Authority of Singapore (continued)

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SSAs, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

KLP LLP
13A MacKenzie Road
Singapore 228676
Tel: (65) 6227 4180
klp@klp.com.sg
www.klp.com.sg

Independent Auditor's Report to the members of Energy Market Authority of Singapore (continued)

Report on Other Legal and Regulatory Requirements

In our opinion:

(a) the receipts, expenditure, investment of moneys and the acquisition and disposal of assets by the Authority during the year are, in all material respects, in accordance with the provisions of the Public Sector (Governance) Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Authority; and

(b) proper accounting and other records have been kept by the Authority and by its subsidiary corporation incorporated in Singapore of which we are the auditors, including records of all assets, whether purchased, donated or otherwise.

Basis for Opinion

We conducted our audit in accordance with SSAs. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Compliance Audit* section of our report. We are independent of the Authority in accordance with the ACRA Code together with the ethical requirements that are relevant to our audit of the financial statements in Singapore, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ACRA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on management's compliance.

Responsibilities of Management for Compliance with Legal and Regulatory Requirements

Management is responsible for ensuring that the receipts, expenditure, investment of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the Public Sector (Governance) Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Authority. This responsibility includes monitoring related compliance requirements relevant to the Authority, and implementing internal controls as management determines are necessary to enable compliance with the requirements.

Auditor's Responsibilities for the Compliance Audit

Our responsibility is to express an opinion on management's compliance based on our audit of the financial statements. We planned and performed the compliance audit to obtain reasonable assurance about whether the receipts, expenditure, investment of moneys and the acquisition and disposal of assets, are in accordance with the provisions of the Public Sector (Governance) Act, the Act and the requirements of any other written law applicable to moneys of or managed by the Authority.

KLP LLP
13A MacKenzie Road
Singapore 228676
Tel: (65) 6227 4180
klp@klp.com.sg
www.klp.com.sg

Independent Auditor's Report to the members of Energy Market Authority of Singapore (continued)

Auditor's Responsibilities for the Compliance Audit (continued)

Our compliance audit includes obtaining an understanding of the internal control relevant to the receipts, expenditure, investment of moneys and the acquisition and disposal of assets; and assessing the risks of material misstatement of the financial statements from non-compliance, if any, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. Because of the inherent limitations in any accounting and internal control system, non-compliances may nevertheless occur and not be detected.

KLP LLP
Public Accountants and
Chartered Accountants

Singapore,

STATEMENTS OF COMPREHENSIVE INCOME
For the financial year ended 31 March 2023

		Group	Authority	
	Notes	2022/23 $'000	2022/23 $'000	2021/22 (Reclassified) $'000
Operating revenue	3	**89,078**	**89,078**	80,318
Operating expenses	4	**(79,790)**	**(78,329)**	(82,723)
Operating surplus/(deficit) before grant		**9,288**	**10,749**	(2,405)
Government grant	5	**401,734**	**401,734**	22,906
Expenses funded by grant	5	**(401,734)**	**(401,734)**	(22,906)
Operating surplus/(deficit) after grant		**9,288**	**10,749**	(2,405)
Non-operating revenue	6	**7,408**	**8,152**	1,784
Surplus/(deficit) before contribution to Government Consolidated Fund ("GCF")		**16,696**	**18,901**	(621)
Contribution to GCF	7	**(3,111)**	**(3,111)**	-
Surplus/(deficit) for the year and total comprehensive income/(loss)		**13,585**	**15,790**	(621)

The financial statements as set out on pages 5 to 47 have been authorised for issue by the Authority.

RICHARD LIM CHERNG YIH
CHAIRMAN

NGIAM SHIH CHUN
CHIEF EXECUTIVE

The accompanying notes form an integral part of these financial statements.

STATEMENTS OF FINANCIAL POSITION
As at 31 March 2023

	Notes	Group 2022/23 $'000	Authority 2022/23 $'000	Authority 2021/22 (Reclassified) $'000
EQUITY				
Capital account	16	**86,674**	**86,674**	86,674
Accumulated surplus		**111,847**	**114,052**	98,262
Total equity		**198,521**	**200,726**	184,936
Represented by:				
ASSETS				
Non-current assets				
Fixed assets	9	**99,282**	**18,957**	19,794
Investment in subsidiary	8	**-**	**-**	-
Other receivables	13	**897**	**897**	1,004
Loan receivables	18	**-**	**87,007**	118,721
		100,179	**106,861**	139,519
Current assets				
Trade receivables	12	**376**	**376**	-
Other receivables and prepayments	13	**14,753**	**10,297**	62,825
Cash and cash equivalents	14	**1,391,961**	**1,389,792**	346,746
Loan receivables	18	**59,028**	**59,028**	330,482
Interest receivables	19	**348**	**943**	51
		1,466,466	**1,460,436**	740,104
Total assets		**1,566,645**	**1,567,297**	879,623
LIABILITIES				
Current liabilities				
Other payables and provisions	15	**1,210,374**	**1,208,937**	32,263
Contract liabilities	3	**134**	**134**	131
Lease liabilities	10	**3,643**	**3,602**	3,977
Provision for contribution to Government Consolidated Fund ("GCF")		**3,111**	**3,111**	-
Loan payables	18	**146,035**	**146,035**	530,482
Interest payables	19	**348**	**348**	272
		1,363,645	**1,362,167**	567,125
Non-current liabilities				
Loan payables	18	**-**	**-**	118,721
Lease liabilities	10	**2,924**	**2,849**	7,286
Provision for office reinstatement		**1,555**	**1,555**	1,555
		4,479	**4,404**	127,562
Total liabilities		**1,368,124**	**1,366,571**	694,687
Net assets		**198,521**	**200,726**	184,936

The accompanying notes form an integral part of these financial statements.

ENERGY MARKET AUTHORITY OF SINGAPORE AND ITS SUBSIDIARY

STATEMENTS OF CHANGES IN EQUITY
For the financial year ended 31 March 2023

	Capital account (Note 16) $'000	Accumulated surplus $'000	Total equity $'000
Group			
As at 1 April 2022	86,674	98,262	184,936
Total comprehensive income for the year	-	13,585	13,585
Balance as at 31 March 2023	**86,674**	**111,847**	**198,521**
Authority			
As at 1 April 2021	86,674	104,297	190,971
Total comprehensive loss for the year	-	(621)	(621)
Dividend paid to the Government (Note 17)	-	(5,414)	(5,414)
Balance as at 31 March 2022	**86,674**	**98,262**	**184,936**
Total comprehensive income for the year	-	15,790	15,790
Balance as at 31 March 2023	**86,674**	**114,052**	**200,726**

The accompanying notes form an integral part of these financial statements.

CONSOLIDATED STATEMENT OF CASH FLOWS
For the financial year ended 31 March 2023

	Notes	Group 2022/23 $'000
Cash flows from operating activities		
Surplus before contribution to Government Consolidated Fund ("GCF")		**16,696**
Adjustments for:		
- Depreciation of fixed assets	9	**6,925**
- Grants from the Government	5	**(401,734)**
- Interest income	6	**(4,275)**
- Interest expense	4	**72**
- Fixed asset written off	4	**217**
- Gain on lease modification	6	**(277)**
- Loss on sub-lease modification	6	**184**
		(382,192)
Changes in working capital:		
- Trade receivables		**(376)**
- Other receivables and prepayments		**48,216**
- Other payables and provisions		**1,178,111**
- Contract liabilities		**3**
Cash generated from operations		**843,762**
Payment to GCF		**-**
Net cash provided by operating activities		**843,762**
Cash flows from investing activities		
Purchase of fixed assets		**(86,980)**
Loans to SLNG Corp		**(239,028)**
Repayment of loans received		**629,203**
Interest received on sub-leases		**2**
Interest received on loans		**2,528**
Interest income received from funds managed under Centralised Liquidity Management		**4,273**
Net cash provided by investing activities		**309,998**
Cash flows from financing activities		
Grants received from the Government		**401,734**
Proceeds from loans		**146,035**
Repayment of loans		**(649,203)**
Payment of principal portion of lease liabilities		**(3,583)**
Interest paid on loans		**(3,458)**
Interest paid on lease liabilities		**(70)**
Net cash used in financing activities		**(108,545)**
Net increase in cash and cash equivalents		**1,045,215**
Cash and cash equivalents at beginning of year		**346,746**
Cash and cash equivalents at end of year	14	**1,391,961**

The accompanying notes form an integral part of these financial statements.

CONSOLIDATED STATEMENT OF CASH FLOWS
For the financial year ended 31 March 2023

Reconciliation of liabilities arising from financing activities

			Non-cash changes				
	1 April $'000	Principal and interest payments $'000	Lease modification $'000	Interest expense $'000	Addition - new leases $'000	Others $'000	31 March $'000
FY2022/23							
Lease liabilities							
- current	**3,977**	**(3,653)**	**(1,239)**	**70**	**126**	**4,362**	**3,643**
- non-current	**7,286**	**-**	**-**	**-**	**-**	**(4,362)**	**2,924**
	11,263	**(3,653)**	**(1,239)**	**70**	**126**	**-**	**6,567**
FY2021/22							
Lease liabilities							
- current	3,920	(5,088)	-	125	1,110	3,910	3,977
- non-current	11,196	-	-	-	-	(3,910)	7,286
	15,116	(5,088)	-	125	1,110	-	11,263

The accompanying notes form an integral part of these financial statements.

These notes form an integral part of and should be read in conjunction with the accompanying financial statements.

1. General information

Energy Market Authority of Singapore (the "Authority") is a statutory board established in the Republic of Singapore under the Energy Market Authority of Singapore Act 2001 and has its registered office at 991G Alexandra Road, #01-29, Singapore 119975.

The principal activities of the Authority are to create and regulate a competitive market framework for the electricity and gas industries as well as district cooling in designated areas. It also undertakes the system operation function of the electricity industry and energy development of Singapore.

The principal activity of the Authority's subsidiary is disclosed in Note 8 to the financial statements.

2. Significant accounting policies

2.1 Basis of preparation

The consolidated financial statements of the Group and the statement of financial position, statement of comprehensive income and statement of changes in equity of the Authority have been drawn up in accordance with the provisions of the Public Sector (Governance) Act 2018, Act 5 of 2018 (the "Public Sector (Governance) Act"), the Energy Market Authority of Singapore Act 2001 (the "Act") and Statutory Board Financial Reporting Standards ("SB-FRSs") prepared under historical cost convention, except as disclosed in the account policies below.

The preparation of these financial statements in conformity with SB-FRSs requires management to exercise its judgement in the process of applying the Authority's accounting policies. It also requires the use of certain critical accounting estimates and assumptions. There are no areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements.

Interpretations and amendments to published standards effective in 2022

On 1 April 2022, the Group adopted the new or amended SB-FRSs and Interpretations of SB-FRSs ("INT SB-FRSs") that are mandatory for application for the financial year. Changes to the Group's accounting policies have been made as required, in accordance with the transitional provisions in the respective SB-FRSs and INT SB-FRSs.

The adoption of these new or amended SB-FRSs and INT SB-FRSs did not result in substantial changes to the Group's accounting policies and had no material effect on the amounts reported for the current or prior financial years.

2.2 Basis of consolidation

The consolidated financial statements comprise the financial statements of the Authority and its subsidiary as at the end of the reporting period. The financial statements of the subsidiary used in the preparation of the consolidated financial statements are prepared for the same reporting date as the Group. Consistent accounting policies are applied to like transactions and events in similar circumstances.

All intra-group balances, incomes and expenses and unrealised gains and losses resulting from intra-group transactions and dividends are eliminated in full.

2. Significant accounting policies (continued)

2.2 Basis of consolidation (continued)

The subsidiary is consolidated from the date of incorporation, being the date on which the Group obtain control, and continue to be consolidated until the date that such control ceases.

Losses within a subsidiary is attributed to the non-controlling interest even if that results in a deficit balance.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction. If the Group loses control over a subsidiary, it:

- De-recognises the assets (including goodwill) and liabilities of the subsidiary at their carrying amounts at the date when control is lost;
- De-recognises the carrying amount of any non-controlling interest;
- De-recognises the cumulative translation differences recorded in equity;
- Recognises the fair value of the consideration received;
- Recognises the fair value of any investment retained;
- Recognises any surplus or deficit in profit or loss;
- Re-classifies the Group's share of components previously recognised in other comprehensive income to profit or loss or retained earnings, as appropriate.

2.3 Subsidiary

A subsidiary is an investee that is controlled by the Group. The Group controls an investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

In the Authority's separate financial statements, investment in subsidiary is accounted for at cost less impairment losses. On disposal of such investments, the difference between disposal proceeds and the carrying amounts of the investments are recognised in profit or loss.

2.4 Revenue

Revenue is recognised when the Group satisfies their performance obligation by transferring a promised good or service to a customer. Performance obligation can either be satisfied at a point in time, or over time, depending on the nature of the good or service to be transferred. Revenue of the Group is recognised as follows:

(a) Licence fees from public licensees are recognised over the year;
(b) Licence fees from inspectorate licensees are recognised as income upon issuance of licence (i.e. at a point in time);
(c) System operation charges are recognised as income over the year;
(d) Penalty revenue is recognised at the point of settlement (i.e. at a point in time);
(e) Interest income is recognised on an accrual basis; and
(f) Sponsorship revenue is recognised on an accrual basis.

2. Significant accounting policies (continued)

2.5 Employee compensation

Employee benefits are recognised as an expense.

(a) *Defined contribution scheme*

The Group makes contributions to the Central Provident Fund ("CPF") scheme in Singapore, as required by law. Contributions to national pension schemes are recognised as an expense in the period in which the related service is performed.

(b) *Employee leave entitlement*

Employee entitlements to annual leave are recognised when they accrue to the employees. A provision is made for the estimated liability for annual leave as a result of services rendered by employees up to the reporting date.

2.6 Leases

(a) When the Group is the lessee

At the inception of the contract, the Group assesses if the contract contains a lease. A contract contains a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Reassessment is only required when the terms and conditions of the contract are changed.

- Right-of-use assets

  The Group recognised a right-of-use asset and lease liability at the date which the underlying asset is available for use. Right-of-use assets are measured at cost which comprises the initial measurement of lease liabilities adjusted for any lease payments made at or before the commencement date and lease incentive received. Any initial direct costs that would not have been incurred if the lease had not been obtained are added to the carrying amount of the right-of-use assets.

  The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term.

  Right-of-use assets are presented within “Fixed assets” (Note 9).

- Lease liabilities

  Lease liability is measured at amortised cost using the effective interest method. Lease liability shall be remeasured when:

  - There is a change in future lease payments arising from changes in an index or rate;
  - There is a change in the Group’s assessment of whether it will exercise an extension option; or
  - There is modification in the scope or the consideration of the lease that was not part of the original term.

ENERGY MARKET AUTHORITY OF SINGAPORE AND ITS SUBSIDIARY

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 March 2023

2. Significant accounting policies (continued)

2.6 Leases (continued)

(a) When the Group is the lessee (continued)

- Lease liabilities (continued)

  Lease liability is remeasured with a corresponding adjustment to the right-of-use asset or is recorded in profit or loss if the carrying amount of the right-of-use asset has been reduced to zero.

- Short term and low value leases

  The Group has elected to not recognise right-of-use assets and lease liabilities for short-term leases that have lease terms of 12 months or less and leases of low value leases, except for sub-lease arrangements. Lease payments relating to these leases are expensed to profit or loss on a straight-line basis over the lease term.

(b) When the Group is the lessor

The accounting policy applicable to the Group as a lessor in the comparative period were the same under SB-FRS 116 except when the Group is an intermediate lessor.

In classifying a sub-lease, the Group as an intermediate lessor classifies the sub-lease as a finance or an operating lease with reference to the right-of-use asset arising from the head lease, rather than the underlying asset.

When the sub-lease is assessed as a finance lease, the Group derecognises the right-of-use asset relating to the head lease that it transfers to the sub-lessee and recognised the net investment in the sub-lease within “Other receivables and prepayments”. Any differences between the right-of-use asset derecognised and the net investment in sub-lease is recognised in profit or loss. Lease liability relating to the head lease is retained in the statement of financial position, which represents the lease payments owed to the head lessor.

When the sub-lease is assessed as an operating lease, the Group recognises lease income from sub-lease in profit or loss within “Non-operating revenue”. The right-of-use asset relating to the head lease is not derecognised.

2.7 Fixed assets

On 1 April 2001, with the establishment of the Energy Market Authority, the fixed assets of the former Regulation Department of the Public Utilities Board were vested in the Authority at net carrying amounts.

Fixed assets are recognised at cost less accumulated depreciation and accumulated impairment losses.

Subsequent expenditure relating to fixed assets that has already been recognised is added to the carrying amount of the asset only when it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. All other repair and maintenance expenses are recognised in profit or loss when incurred.

2. Significant accounting policies (continued)

2.7 Fixed assets (continued)

Depreciation is calculated using the straight-line method to allocate their depreciable amounts over their estimated useful lives as follows:

	Useful lives
Leasehold land	Lease period of 30 years
Right-of-use - Leasehold properties	1 to 6 years
Computer systems, hardware and software	1 to 5 years
Vehicles	10 years
Office setup/furniture and fittings	2 to 7 years
Office/work equipment	3 to 7 years

Projects-in-progress relate to capital expenditure for projects which are under construction as at financial year-end. Depreciation will commence upon the completion of the project with the asset used in operation.

Asset under construction are carried at cost, less any recognised impairment loss. Cost includes professional fees and, for qualifying assets, borrowing costs capitalised in accordance with the Group's capitalisation policy. Depreciation of these assets, determined on the same basis as other property assets, commences when the assets are ready for their intended use.

The residual values, estimated useful lives and depreciation method of fixed assets are reviewed, and adjusted as appropriate, at each reporting date. The effects of any revision are recognised in profit or loss when the changes arise.

The cost of an item of fixed assets initially recognised includes its purchase price and any cost that is directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management.

2.8 Impairment of non-financial assets

Fixed assets and right-of-use assets are tested for impairment whenever there is any objective evidence or indication that these assets may be impaired.

For the purpose of impairment testing, the recoverable amount (i.e. the higher of the fair value less cost to sell and the value-in-use) is determined on an individual asset basis unless the asset does not generate cash inflows that are largely independent of those from other assets.

If this is the case, the recoverable amount is determined for the cash-generating unit (CGU) to which the asset belongs.

If the recoverable amount of the asset or CGU is estimated to be less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount.

The difference between the carrying amount and recoverable amount is recognised as an impairment loss in profit or loss.

An impairment loss for an asset is reversed only if, there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognised. The carrying amount of this asset is increased to its revised recoverable amount, provided that this amount does not exceed the carrying amount that would have been determined (net of accumulated depreciation) had no impairment loss been recognised for the asset in prior years.

A reversal of impairment loss for an asset is recognised in profit or loss.

2. Significant accounting policies (continued)

2.9 Financial assets

The Group classifies its financial assets as held at amortised cost.

The classification of financial assets depends on the Group's business model for managing the financial assets as well as the contractual terms of the cash flows of the financial assets.

The Group reclassifies debt instruments when and only when its business model for managing those assets changes.

(i) At initial recognition

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

(ii) At subsequent measurement

Debt instruments

Debt instruments of the Group mainly comprise of cash and cash equivalents, trade and other receivables (excluding prepayments), interest receivables and loan receivables.

Debt instruments that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortised cost. A gain or loss on a debt instrument that is subsequently measured at amortised cost and is not part of a hedging relationship is recognised in profit or loss when the asset is derecognised or impaired. Interest income from these financial assets are recognised using the effective interest rate method.

(iii) Impairment

The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortised cost. The impairment methodology applied depends on whether there has been a significant increase in credit risk. Note 22 details how the Group determines whether there has been a significant increase in credit risk.

For trade receivables and lease receivables, the Group applies the simplified approach permitted by the SB-FRS 109, which requires expected lifetime losses to be recognised from initial recognition of the receivables. For cash and cash equivalents, other receivables (excluding prepayments), interest and loan receivables, the general three stage approach is applied. Credit loss allowance is based on 12-month expected credit loss if there is no significant increase in credit risk since initial recognition of the assets. If there is a significant increase in credit risk since initial recognition, lifetime expected credit loss will be calculated and recognised.

(iv) Derecognition

Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all risks and rewards of ownership.

2. Significant accounting policies (continued)

2.10 Payables

Other payables represent liabilities for goods and services provided to the Group prior to the end of financial year which are unpaid. They are classified as current liabilities if payment is due within one year or less (or in the normal operating cycle of the business, if longer). Otherwise, they are presented as non-current liabilities.

Other payables are initially recognised at fair value, and subsequently carried at amortised cost using the effective interest method.

2.11 Loan payables

Loans are presented as current liabilities unless the Group has an unconditional right to defer settlement for at least 12 months after the balance sheet date, in which case they are presented as non-current liabilities.

Loans are initially recognised at their fair values (net of transaction costs) and subsequently carried at amortised cost. Any difference between the proceeds (net of transaction costs) and the redemption value is recognised in profit or loss over the period of the loans using the effective interest method.

2.12 Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation and the amount has been reliably estimated.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimate. If it is no longer probable that an outflow of economic resources will be required to settle the obligation, the provisions are reversed.

2.13 Cash and cash equivalents

For the purpose of presentation in the statement of cash flows, cash and cash equivalents consist of cash on hand and at banks and cash with Accountant-General's Department ("AGD"), which are subject to an insignificant risk of changes in value. Cash with AGD refers to cash that are managed by AGD under Centralised Liquidity Management ("CLM") as set out in the Accountant-General's Circular No. 4/2009 CLM for Statutory Boards and Ministries.

2.14 Currency translation

(a) Functional and presentation currency

Items included in the financial statements of each entity in the Group are measured using the currency of the primary economic environment in which the entity operates ("functional currency"). The financial statements are presented in Singapore Dollars ("SGD" or "$"), which is the functional currency of the Authority.

(b) Transactions and balances

Transactions in a currency other than the functional currency ("foreign currency") are translated into the functional currency using the exchange rates at the dates of the transactions. Currency exchange differences resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at the closing rates at the reporting date are recognised in profit or loss.

2. Significant accounting policies (continued)

2.14 Currency translation (continued)

(c) Translation of Group entities' financial statements

The results and financial position of all the Group's entities (none of which has the currency of a hyperinflationary economy) that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

i. assets and liabilities are translated at the closing exchange rates at the reporting date;
ii. income and expenses are translated at average exchange rates (unless the average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated using the exchange rates at the dates of the transactions); and
iii. all resulting currency translation differences are recognised in other comprehensive income and accumulated in the currency translation reserve. These currency translation differences are reclassified to profit or loss on disposal or partial disposal with loss of control of the foreign operation.

There is no foreign operations within the Group, and the functional currencies of the Authority and its subsidiary are the same as the Group's presentation currency in the consolidated financial statements, that is SGD.

2.15 Capital

Ordinary shares issued are classified in capital account.

2.16 Dividends

Dividends to the Government are recognised when the dividends are approved for payment.

2.17 Government grants

Grants from the Government are recognised as a receivable at their fair value when there is reasonable assurance that the grant will be received and the Group will comply with all the attached conditions.

Government grants receivable are recognised as income over the periods necessary to match them with the related costs which they are intended to compensate, on a systematic basis. Government grants relating to expenses are shown separately in the Statement of Comprehensive Income.

Government grants relating to assets are deducted against the carrying amount of the assets.

2.18 Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of the time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.

All other borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognised in profit or loss, using the effective interest method, in the period in which they are incurred.

2. Significant accounting policies (continued)

2.19 Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the statement of financial position when there is a legally enforceable right to offset and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

3. Revenue from contracts with customers

(a) Disaggregation of operating revenue

	Group		
	At a point in time	Over time	Total
	$'000	$'000	$'000
2022/23			
Public licence fees	**-**	**54,444**	**54,444**
Other licence fees	**4,150**	**-**	**4,150**
System operation charges	**-**	**30,484**	**30,484**
	4,150	**84,928**	**89,078**

	Authority		
	At a point in time	Over time	Total
	$'000	$'000	$'000
2022/23			
Public licence fees	**-**	**54,444**	**54,444**
Other licence fees	**4,150**	**-**	**4,150**
System operation charges	**-**	**30,484**	**30,484**
	4,150	**84,928**	**89,078**
2021/22			
Public licence fees	-	47,956	47,956
Other licence fees	3,945	-	3,945
System operation charges	-	28,417	28,417
	3,945	76,373	80,318

ENERGY MARKET AUTHORITY OF SINGAPORE AND ITS SUBSIDIARY

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 March 2023

3. Revenue from contracts with customers (continued)

(b) Contract liabilities

	Group		
	31 March 2023	31 March 2022 (Reclassified)	1 April 2021
	$'000	$'000	$'000
Contract liabilities			
- Public licence fees	**-**	**-**	2,851
- System operation charges	**134**	**131**	131

	Authority		
	31 March 2023	31 March 2022 (Reclassified)	1 April 2021
	$'000	$'000	$'000
Contract liabilities			
- Public licence fees	**-**	**-**	2,851
- System operation charges	**134**	**131**	131

(i) Unsatisfied performance obligations

	Group	Authority	
	2022/23	2022/23	2021/22 (Reclassified)
	$'000	$'000	$'000
Aggregate amount of the transaction price allocated to contracts that are partially or fully unsatisfied as at 31 March			
- System operation charges	**134**	**134**	131

The Group expects that the transaction price allocated to unsatisfied performance obligations as at 31 March 2023 will be recognised as revenue in the next financial reporting period.

4. Operating expenses

	Notes	Group 2022/23 $'000	Authority 2022/23 $'000	Authority 2021/22 (Reclassified) $'000
Operating expenses				
Manpower	4a	**53,081**	**51,547**	49,962
Administration		**(371)**	**(574)**	3,271
Depreciation of fixed assets	9	**6,925**	**6,776**	6,594
Maintenance	4b	**11,020**	**10,961**	9,734
Consultancy		**2,109**	**1,985**	4,691
Interest expense on loan payables		**2**	**635**	1,022
Interest expenses on lease liabilities	10	**70**	**68**	125
Grant expense to SLNG Corp		**17**	**17**	389
Others		**6,937**	**6,914**	6,935
		79,790	**78,329**	82,723

(a) Manpower expenses include the following:

	Group 2022/23 $'000	Authority 2022/23 $'000	Authority 2021/22 $'000
Salaries and salary related expenses	**45,614**	**44,185**	42,556
CPF contributions	**5,859**	**5,758**	5,594

(b) Maintenance expenses include write-off of fixed assets of $0.217 million (FY2021/22: Nil).

5. Government grant and expenses funded by grant

The Government grants received during the financial year mainly comprised recovery of expenses incurred (reflected as "Expenses funded by grant") on projects relating to Transitional Funding for Energy Crisis and Singapore Energy Transition.

ENERGY MARKET AUTHORITY OF SINGAPORE AND ITS SUBSIDIARY

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 March 2023

6. Non-operating revenue

	Group 2022/23 $'000	Authority 2022/23 $'000	Authority 2021/22 $'000
Interest earned from deposits with AGD# and loan	**4,273**	**4,907**	854
Interest income on sub-leases	**2**	**2**	4
Sponsorships income	**1,499**	**1,499**	766
Other receipts	**1,541**	**1,541**	160
Rental income	**-**	**110**	-
Gain on lease modification	**277**	**277**	-
Loss on sub-lease modification	**(184)**	**(184)**	-
Non-operating revenue	**7,408**	**8,152**	1,784

\# Deposits managed by Accountant-General's Department ("AGD") under Centralised Liquidity Management.

7. Contribution to Government Consolidated Fund ("GCF")

In lieu of income tax, the Group is required to make contribution to the GCF in accordance with the Statutory Corporations (Contributions to Consolidated Fund) Act 1989. The contribution is based on 17% (FY2021/22: 17%) of the surplus of the Group for the financial year. The amount to be contributed is computed as follows:

	Authority 2022/23 $'000	Authority 2021/22 $'000
Surplus/(Deficit) for the year before donations and contribution to Consolidated Fund	**18,911**	(612)
Less: Accumulated deficits before donations carried forward	**(612)**	-
Surplus/(Deficit) for the year	**18,299**	(612)
Contribution to Consolidated Fund at 17% (FY2021/22: 17%)	**3,111**	N.A.

8. Investment in subsidiary

	Authority	
	2022/23	2021/22
	$'000	$'000
Shares, at cost	**-***	-

* The cost of investment of the Authority in the subsidiary is $1.

The Group has the following investment in subsidiary:

Name of subsidiary	Country of incorporation	Principal activity	Proportion (%) of ownership interest	
			2022/23	2021/22
			%	%
Meranti Power Pte. Ltd.	Singapore	Generation of electricity by fossil fuels	**100**	-

On 16 June 2022, the Authority had incorporated a wholly-owned subsidiary, Meranti Power Pte. Ltd., a private limited company incorporated in Singapore, with a share capital injection of $1.

9. Fixed assets

	Group								
	Right-of-use Leasehold properties	Leasehold Land	Computer systems, hardware and software	Vehicles	Office setup/ furniture and fittings	Office/work equipment	Project-in-progress	Asset under construction	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
2022/23									
Cost									
Beginning of financial year	19,970	-	29,777	140	4,374	1,037	1,987	-	57,285
Additions	-	15,552	4,028	-	-	50	3,414	64,695	87,739
Written off	-	-	(4,054)	-	(10)	(9)	(217)	-	(4,290)
Reclassification	-	-	1,153	-	-	-	(1,153)	-	-
Reclassification to sub-lease receivables	(147)	-	-	-	-	-	-	-	(147)
Lease modification	(3,634)	-	-	-	-	-	-	-	(3,634)
End of financial year	**16,189**	**15,552**	**30,904**	**140**	**4,364**	**1,078**	**4,031**	**64,695**	**136,953**
Accumulated depreciation									
Beginning of financial year	7,920	-	24,904	53	4,054	560	-	-	37,491
Depreciation charge for the financial year	3,904	129	2,585	14	141	152	-	-	6,925
Written off	-	-	(4,054)	-	(10)	(9)	-	-	(4,073)
Reclassification	-	-	-	-	(13)	13	-	-	-
Lease modification	(2,672)	-	-	-	-	-	-	-	(2,672)
End of financial year	**9,152**	**129**	**23,435**	**67**	**4,172**	**716**	**-**	**-**	**37,671**
Net book value									
End of financial year	**7,037**	**15,423**	**7,469**	**73**	**192**	**362**	**4,031**	**64,695**	**99,282**

The Group's asset under construction pertains to the capitalised construction costs that are associated with material, labour and other inputs such as borrowing costs used in the construction of the subsidiary's Open Cycle Gas Turbine (OCGT) power generating station.

9. Fixed assets (continued)

	Authority						
	Right-of-use Leasehold properties	Computer systems, hardware and software	Vehicles	Office setup/ furniture and fittings	Office/work equipment	Project-in-progress	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000
2022/23							
Cost							
Beginning of financial year	19,970	29,777	140	4,374	1,037	1,987	57,285
Additions	-	3,801	-		50	3,414	7,265
Written off	-	(4,054)	-	(10)	(9)	(217)	(4,290)
Reclassification	-	1,153	-	-	-	(1,153)	-
Reclassification to sub-lease receivables	(147)	-	-	-	-	-	(147)
Lease modification	(3,634)	-	-	-	-	-	(3,634)
End of financial year	**16,189**	**30,677**	**140**	**4,364**	**1,078**	**4,031**	**56,479**
Accumulated depreciation							
Beginning of financial year	7,920	24,904	53	4,054	560	-	37,491
Depreciation charge for the financial year	3,904	2,565	14	141	152	-	6,776
Written off	-	(4,054)	-	(10)	(9)	-	(4,073)
Reclassification	-	-	-	(13)	13	-	-
Lease modification	(2,672)	-	-	-	-	-	(2,672)
End of financial year	**9,152**	**23,415**	**67**	**4,172**	**716**	**-**	**37,522**
Net book value							
End of financial year	**7,037**	**7,262**	**73**	**192**	**362**	**4,031**	**18,957**

9. Fixed assets (continued)

	Authority						
	Right-of-use Leasehold properties	Computer systems, hardware and software	Vehicles	Office setup/ furniture and fittings	Office/work equipment	Project-in-progress	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000
2021/22							
Cost							
Beginning of financial year	18,904	28,316	140	4,184	958	361	52,863
Additions	1,110	2,004	-	78	100	1,884	5,176
Written off	(44)	(543)	-	(146)	(21)	-	(754)
Reclassification	-	-	-	258	-	(258)	-
End of financial year	**19,970**	**29,777**	**140**	**4,374**	**1,037**	**1,987**	**57,285**
Accumulated depreciation							
Beginning of financial year	4,002	23,118	39	4,061	431	-	31,651
Depreciation charge for the financial year	3,962	2,329	14	139	150	-	6,594
Written off	(44)	(543)	-	(146)	(21)	-	(754)
End of financial year	**7,920**	**24,904**	**53**	**4,054**	**560**	**-**	**37,491**
Net book value							
End of financial year	**12,050**	**4,873**	**87**	**320**	**477**	**1,987**	**19,794**

Right-of-use assets acquired under leasing arrangements are presented together with the owned assets of the same class. Details of such leased assets are disclosed in Note 10(a).

10. Leases – The Group as a lessee

Nature of the Group's leasing activities

Leasehold properties and computers

The Group leases office space and computers for its operations.

There are no externally imposed covenants on these lease arrangements.

(a) Carrying amounts of right-of-use assets presented within fixed assets

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Leasehold properties (Note 9)	**7,037**	**7,037**	12,050
Computer systems, hardware and software (Note 9)	**115**	**-**	-
	7,152	**7,037**	12,050

(b) Depreciation charge during the year

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Leasehold properties (Note 9)	**3,904**	**3,904**	3,962
Computer systems, hardware and software (Note 9)	**11**	**-**	-
	3,915	**3,904**	3,962

(c) Lease liabilities

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Lease liabilities:			
Current	**3,643**	**3,602**	3,977
Non-current	**2,924**	**2,849**	7,286
	6,567	**6,451**	11,263

10. Leases – The Group as a lessee (continued)

(d) Interest expense

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Interest expense on lease liabilities (Note 4)	**70**	**68**	125

(e) Lease expense not capitalised in lease liabilities

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Low-value lease expense	**247**	**247**	341

(f) The Group had total cash outflow for all leases of $3,900,000 in FY2022/23 (FY2021/22: $5,429,000).

(g) The Group and the Authority had additions of ROU assets of $126,000 and $Nil (FY2021/22: $1,110,000 and $1,110,000) respectively, in FY 2022/23.

(h) There were no future cash outflows which were not capitalised in lease liabilities.

11. Leases – The Group as an intermediate lessor

The Group's sub-lease of its right-of-use of the office space is classified as finance lease because the sub-lease is for the entire remaining lease term of the head lease.

ROU assets relating to the head leases with sub-leases classified as finance lease is derecognised. The net investment in the sub-lease is recognised as "Lease Receivables" under "Other receivables and prepayments" (Note 13).

Finance income on the net investment in sub-lease during the financial year is $1,955 (FY2021/22: $4,344), which has been recognised under "Non-operating revenue" (Note 6).

The following table shows the maturity analysis of the undiscounted lease payments to be received:

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Less than one year	**58**	**58**	67
Two to five years	**41**	**41**	122
Total undiscounted lease payments	**99**	**99**	189
Less: Unearned finance income	**(1)**	**(1)**	(5)
Net investment in finance lease	**98**	**98**	184

11. Leases – The Group as an intermediate lessor (continued)

There were three (FY2021/22: three) new sub-lease arrangements during the current financial year ended 31 March 2023. Included in the net investment in finance lease as at 31 March 2023 is $28,600 arising from the three new sub-lease arrangements.

12. Trade receivables

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Trade receivables - third party	**376**	**376**	-

Trade receivables are unsecured, non-interest bearing and are generally on 21 days (FY 2021/22: 21 days) terms.

Receivables that were past due but not impaired

The Group and the Authority had no trade receivables that were either past due or impaired as at 31 March 2023 and 31 March 2022.

Expected credit losses ("ECL")

There is no allowance for expected credit loss of trade receivables computed based on lifetime ECL.

13. Other receivables and prepayments

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Non-current assets:			
Lease receivables (Note 11)	**41**	**41**	120
Deposits	**856**	**856**	884
Total other receivables	**897**	**897**	1,004
Current assets:			
Accrued interest income	**3,721**	**3,721**	440
Grant receivables	**4,059**	**4,059**	40,894
GST receivable	**4,509**	**-**	-
Other receivables	**1,012**	**1,106**	20,420
Lease receivables (Note 11)	**57**	**57**	64
Deposits	**-**	**-**	2
Prepayments	**1,395**	**1,354**	1,005
Total other receivables and prepayments	**14,753**	**10,297**	62,825

ENERGY MARKET AUTHORITY OF SINGAPORE AND ITS SUBSIDIARY

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 March 2023

14. Cash and cash equivalents

	Note	Group	Authority	
		2022/23	**2022/23**	2021/22
		$'000	**$'000**	$'000
Cash with AGD	14(a)	**1,389,792**	**1,389,792**	346,746
Cash at bank balances		**2,169**	**-**	-
Cash and cash equivalents per statement of financial position		**1,391,961**	**1,389,792**	346,746

(a) Cash with the Accountant-General's Department ("AGD") refers to cash that are managed by AGD under Centralised Liquidity Management as set out in the Accountant-General's Circular No. 4/2009 Centralised Liquidity Management for Statutory Boards and Ministries; and

(b) The interest rate of cash with AGD, defined as the ratio of the interest earned to the average cash balance ranges from 0.49% to 2.85% per annum (FY2021/22: 0.28% to 0.41% per annum).

15. Other payables and provisions

	Group	Authority	
	2022/23	**2022/23**	2021/22 (Reclassified)
	$'000	**$'000**	$'000
Other creditors and accruals	**175,713**	**174,499**	12,537
Grant received in advance	**1,031,485**	**1,031,485**	15,970
Accrued capital expenditure	**153**	**153**	180
Accrual for employee expenses	**199**	**113**	538
Provision for unutilised leave	**2,561**	**2,424**	2,984
GST payables	**263**	**263**	54
	1,210,374	**1,208,937**	32,263

16. Capital account

The capital account comprises the accumulated reserves transferred from the Public Utilities Board ("PUB") to the Group for its establishment and for the financing of fixed and development assets acquisitions and injection by the Government.

Capital management

The Group's policy is to maintain a strong capital base so as to maintain market confidence and to sustain future development. There were no changes in the Group's approach to capital management during the financial year.

17. Dividends

	Group and Authority	
	2022/23	2021/22
	$'000	$'000
Ordinary dividends		
Dividends paid in respect of the financial year	-	5,414

18. Loan receivables and loan payables

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Loan receivables			
Current			
Loan receivable from SLNG Corp (a)	-	-	200,000
Loan receivable from SLNG Corp Standby LNG Facility (b)	**59,028**	**59,028**	-
Loan receivable from SPS – FSC (c)	-	-	41,020
Loan receivable from SPS – MDRS (d)	-	-	89,462
	59,028	**59,028**	330,482
Non-Current			
Loan receivable from SPS – FSC (c)	-	-	118,721
Loan receivable from subsidiary – MP (e)	-	**87,007**	-
	-	**87,007**	118,721
Total loan receivables	**59,028**	**146,035**	449,203

(a) Loan receivable from SLNG Corp

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**200,000**	**200,000**	187,615
Loan drawdown during the year	**180,000**	**180,000**	400,000
Loan repayment during the year	**(380,000)**	**(380,000)**	(387,615)
As at 31 March	-	-	200,000
Current	-	-	200,000

18. Loan receivables and loan payables (continued)

(a) Loan receivable from SLNG Corp (continued)

In prior financial year as at 31 March 2021, the Group had two outstanding back-to-back loan agreements signed between April 2014 to November 2014 with Singapore LNG Corporation Pte Ltd ("SLNG Corp") and the Government. Of these two loans, one loan facility of $281 million was to fund the costs for the SLNG Corporation terminal while the other loan facility of $300 million was for general working capital. The two loan facilities were unsecured and carried a fixed interest rate that approximated prevailing market rates at the time of issue. During the last financial year ended 31 March 2022, SLNG Corp had fully repaid the loan facility of $281 million while the other loan facility of $300 million was terminated.

The Group had separately granted a direct loan facility of $40 million to SLNG Corp in February 2013. This loan, fully drawn as at 31 March 2021, was unsecured and carried a fixed interest rate that approximated prevailing market rates at the time of issue. SLNG Corp had fully repaid the loan during the prior financial year ended 31 March 2022.

The Group had separately granted a bridging loan facility of $480 million to SLNG Corp in October 2021. This loan was fully drawn, is unsecured and interest-free. Partial repayment was made in prior financial year ended 31 March 2022, the outstanding amount as at 31 March 2022 is $200 million. To partially finance the loan to SLNG Corp, the Group obtained two unsecured bank loan facilities of $200 million each, totaling $400 million at floating interest rates (Note 18 (i)). During the current financial year ended 31 March 2023, SLNG Corp has further drawdown $180 million from the bridging loan facility and had fully repaid the outstanding loan amount of $380 million during the year.

(b) Loan receivable from SLNG Corp – Standby LNG Facility

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	-	-	-
Loan drawdown during the year	**59,028**	**59,028**	-
As at 31 March	**59,028**	**59,028**	-
Current	**59,028**	**59,028**	-

On 8 August 2022, the Group has granted SLNG Corp a new loan facility of up to $586 million to fund the operational costs and other costs incurred by SLNG Corp for managing the Standby Liquified Natural Gas ("LNG") facility. The loan is unsecured and carry a fixed interest rate.

To finance the loan to SLNG Corp, the Group obtained an unsecured loan facility of up to $586 million from the Government at a fixed interest rate. This is a back to-back loan arrangement with SLNG Corp and the Government.

18. Loan receivables and loan payables (continued)

(c) Loan receivable from SPS – FSC

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**159,741**	**159,741**	186,241
Loan repayment during the year	**(159,741)**	**(159,741)**	(26,239)
Loan extension fees	**-**	**-**	(568)
Amortisation of upfront and extension fees	**-**	**-**	307
As at 31 March	**-**	**-**	159,741
Current	**-**	**-**	41,020
Non-current	**-**	**-**	118,721

On 21 June 2016, the Group also granted to SP Services Limited ("SPS") a loan facility of $250 million to fund the settlement of payments, collections and associated costs relating to the Forward Sales Contract Scheme (FSC). The loan is unsecured and carries floating interest rate. As at 31 March 2022, the net loan balance was $160 million after amortisation of upfront and loan extension fees which were netted against the carrying amount of the loan at the inception of the loan and carrying amount of the loan upon approval of loan extension, respectively.

To finance the loan to SPS, the Group obtained an unsecured bank loan facility of up to $228 million. The option of a 3-year extension was exercised to extend the loan facility and the extension fee was paid in April 2021. During the current financial year ended 31 March 2023, SPS had fully repaid the loan facility balance of $160 million.

(d) Loan receivable from SPS – MDRS

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**89,462**	**89,462**	155,956
Loan drawdown during the year	**-**	**-**	83,170
Loan repayment during the year	**(89,462)**	**(89,462)**	(149,664)
As at 31 March	**-**	**-**	89,462
Current	**-**	**-**	89,462

18. Loan receivables and loan payables (continued)

(d) Loan receivable from SPS – MDRS (continued)

On 3 July 2020, the Group granted SPS a new loan facility of up to $250 million to fund the Market Development and Resilience Scheme (MDRS), a voluntary scheme to incentivise participating GENCOs (otherwise known as power generation companies) to ensure high operational reliability and develop the capabilities of their employees and adopt good labour management practices. The loan facility is unsecured and carry a fixed interest rate that approximated prevailing market rates at the time of issue.

To finance the loan to SPS, the Group obtained an unsecured loan facility of up to $250 million from the Government at a fixed interest rate which approximated to prevailing market rates at the time of issue. This is a back-to-back loan arrangement with SPS and the Government.

During the current financial year ended 31 March 2023, SPS had fully repaid the outstanding loan.

(e) Loan receivable from Subsidiary – MP

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**-**	**-**	-
Loan drawdown during the year	**-**	**87,007**	-
As at 31 March	**-**	**87,007**	-
Current	**-**	**-**	-
Non-current	**-**	**87,007**	-

On 27 July 2022, the Authority has granted its wholly-owned subsidiary, Meranti Power Pte. Ltd. ("MP"), an intercompany loan facility to finance the construction of Open Cycle Gas Turbine (OCGT) power generating station and operating costs. The intercompany loan facility is unsecured and carries a floating interest rate (based on the related funding cost incurred by the Authority). The loan repayment is expected to commence on 1 April 2025 with full repayment on 1 April 2032, and is to be settled in cash.

To finance the intercompany loan, the Authority had borrowed floating-rate financing facilities from commercial banks and subsequently, sources deemed viable by the Authority (Note 18(i)).

18. Loan receivables and loan payables (continued)

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Loan payables			
Current			
Loan payable to the Government – SLNG Corp (f)	**59,028**	**59,028**	-
Loan payable to the Government – MDRS (g)	**-**	**-**	89,462
Loan payable to the Bank – FSC (h)	**-**	**-**	41,020
Loan payable to the Bank – Uncommitted Loans (i)	**87,007**	**87,007**	400,000
	146,035	**146,035**	530,482
Non-Current			
Loan payable to the Bank – FSC (h)	**-**	**-**	118,721
	-	**-**	118,721
Total loan payables	**146,035**	**146,035**	649,203

(f) Loan payable to the Government – SLNG Corp - Standby LNG Facility

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**-**	**-**	147,615
Loan drawdown during the year	**59,028**	**59,028**	-
Loan repayment during the year	**-**	**-**	(147,615)
As at 31 March	**59,028**	**59,028**	-
Current	**59,028**	**59,028**	-

(g) Loan payable to the Government – MDRS

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**89,462**	**89,462**	155,956
Loan drawdown during the year	**-**	**-**	83,170
Loan repayment during the year	**(89,462)**	**(89,462)**	(149,664)
As at 31 March	**-**	**-**	89,462
Current	**-**	**-**	89,462

18. Loan receivables and loan payables (continued)

(h) Loan payable to the Bank - FSC

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**159,741**	**159,741**	186,241
Loan repayment during the year	**(159,741)**	**(159,741)**	(26,239)
Loan extension fees	**-**	**-**	(568)
Amortisation of upfront and extension fees	**-**	**-**	307
As at 31 March	**-**	**-**	159,741
Current	**-**	**-**	41,020
Non-current	**-**	**-**	118,721

(i) Loan payable to the Bank – Uncommitted Loans

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**400,000**	**400,000**	-
Loan drawdown during the year	**87,007**	**87,007**	400,000
Loan repayment during the year	**(400,000)**	**(400,000)**	-
As at 31 March	**87,007**	**87,007**	400,000
Current	**87,007**	**87,007**	400,000

As all the financing charges related to the Government and bank loans that involved back-to-back financing arrangements with SLNG Corp and SPS are recovered from SLNG Corp and SPS at cost, the expenses and revenue related to the three loan facilities are netted off in the statement of comprehensive income. Any other financing charges are recognised as interest expense under "Operating expenses" (Note 4), with a portion of the financing charges related to the financing of the Group's asset under construction capitalised as part of the fixed asset costs.

19. Interest receivables and interest payables

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Interest receivables			
Current			
Interest receivable from SLNG Corp (a)	**-**	**-**	-
Interest receivable from SLNG Corp - Standby LNG facility (b)	**348**	**348**	-
Interest receivable from SPS – FSC (c)	**-**	**-**	51
Interest receivable from Subsidiary – MP (d)	**-**	**595**	-
Total interest receivables	**348**	**943**	51
Interest payables			
Current			
Interest payable to the Government - SLNG (e)	**-**	**-**	-
Interest payable to the Government - SLNG Corp - Standby LNG facility (f)	**348**	**348**	-
Interest payable to the Bank – FSC (g)	**-**	**-**	51
Interest payable to the Banks – Uncommitted Loans (h)	**-**	**-**	221
Total interest payables	**348**	**348**	272

(a) Interest receivable from SLNG Corp

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**-**	**-**	13,666
Interest charged during the year	**349**	**349**	864
Interest repayment during the year	**(349)**	**(349)**	(14,530)
As at 31 March	**-**	**-**	-

(b) Interest receivable from SLNG – Standby LNG Facility

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**-**	**-**	-
Interest charged during the year	**348**	**348**	-
As at 31 March	**348**	**348**	-
Current	**348**	**348**	-

19. Interest receivables and interest payables (continued)

(c) Interest receivable from SPS – FSC

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**51**	**51**	98
Interest charged during the year	**2,128**	**2,128**	993
Interest repayment during the year	**(2,179)**	**(2,179)**	(1,040)
As at 31 March	**-**	**-**	51
Current	**-**	**-**	51

(d) Interest receivable from Subsidiary – MP

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**-**	**-**	-
Interest charged during the year	**-**	**633**	-
Interest repayment during the year	**-**	**(38)**	-
As at 31 March	**-**	**595**	-
Current	**-**	**595**	-

(e) Interest payable to the Government – SLNG Corp

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**-**	**-**	8,917
Interest charged during the year	**349**	**349**	815
Interest repayment during the year	**(349)**	**(349)**	(9,732)
As at 31 March	**-**	**-**	-

(f) Interest payable to the Government – SLNG Corp - Standby LNG Facility

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**-**	**-**	-
Interest charged during the year	**348**	**348**	-
As at 31 March	**348**	**348**	-
Current	**348**	**348**	-

19. Interest receivables and interest payables (continued)

(g) Interest payable to the Bank – FSC

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**51**	**51**	98
Interest charged during the year	**2,128**	**2,128**	993
Interest repayment during the year	**(2,179)**	**(2,179)**	(1,040)
As at 31 March	**-**	**-**	51
Current	**-**	**-**	51

(h) Interest payable to the Banks - Uncommitted Loans

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
As at 1 April	**221**	**221**	-
Interest charged during the year	**3,318**	**3,318**	1,022
Interest repayment during the year	**(3,539)**	**(3,539)**	(801)
As at 31 March	**-**	**-**	221
Current	**-**	**-**	221

Interest charged during the current financial year was partially funded by Government Grant amounting to $2.685 million for the Transitional Funding for Energy Crisis – Operating costs of the Standby LNG Facility, which form part of the "Expenses funded by grant" (Note 5).

20. Contingent liabilities

On 26 October 2021, the Group appointed SLNG Corp as Standby Liquified Natural Gas ("LNG") Manager for the Standby LNG Facility ("SLF") that EMA is implementing as a pre-emptive measure to secure Singapore's gas and electricity supply. As the appointed Standby LNG Manager, SLNG Corp inter alia procures, manages and facilitates the drawdown and replenishment of LNG supplied to Gencos under the SLF, and coordinates with the appointed Standby LNG Facilitator, the Gencos and the Gas Transporter to send out and convey gas as instructed by the Group to the relevant Gencos under the SLF. The SLF is currently expected to be in place as a permanent feature of Singapore energy market until further notice by the Group.

The Group has undertaken to keep SLNG Corp financially whole and shall indemnify SLNG Corp on demand against any and all incremental costs, expenses, losses, liabilities or penalties incurred by SLNG Corp arising from SLNG Corp fulfilling its role as a reasonable and prudent Standby LNG Manager, when such circumstances arise. As at the date of these financial statements, the Group is of the view that it is not probable that any significant liability will arise as a result of this undertaking as there is no actual or potential claims by SLNG Corp arising from this undertaking. Furthermore, such claims are part of the cost of enhancing energy supply security and recoverable from energy consumers.

21. Outstanding capital and loan commitments

The Group has procurement commitments for fixed assets incidental to its ordinary course of business. The outstanding capital commitments as at 31 March 2023 for the Group amounted to $9.4 million (31 March 2022: $7.5 million).

The Group has entered into loan agreements with SLNG Corp. The outstanding undrawn loan commitment amounted to $527.0 million (31 March 2022: Nil) which pertains to back-to-back agreements which the Group signed with the Government of the Republic of Singapore ("the Government").

22. Financial risk management

The Group is exposed to financial risks arising from its operations and the use of financial instruments. The financial risks include interest rate risk, credit risk and liquidity risk. The Group has established processes to monitor and manage these risks in a timely manner.

The following section provides details regarding the Group's exposure to the above-mentioned financial risks and the objectives, policies and processes for the management of these risks.

There has been no change to the Group's exposure to these financial risks or the manner in which it manages and measures the risks.

(a) Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of the Group's and the Authority's financial instruments will fluctuate because of changes in market interest rates. The Group's and the Authority's exposure to interest rate risk arises primarily from their variable rates financial instruments. At the end of the reporting period, the interest rate profiles of the variable rate interest-earning financial instruments were:

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Variable rate instruments			
Cash with AGD	**1,389,792**	**1,389,792**	346,746
Loan payable to Bank – Uncommitted Loans	**87,007**	**87,007**	400,000

Surplus cash are placed with AGD (under CLM as set out in the Accountant-General's Circular No. 4/2009 Centralised Liquidity Management for Statutory Boards and Ministries).

22. Financial risk management (continued)

(a) Interest rate risk (continued)

Sensitivity analysis for interest rate risk

The interest rates for Cash with AGD are based on deposit rates determined by the financial institutions with which the cash are deposited and are expected to move in tandem with market interest rate movements. If the variable interest rates had been 50 (FY2021/22: 48) basis points or 0.50% per annum (FY2021/22: 0.48% per annum) higher/lower at the end of the reporting period with all other variables held constant, the Group's net surplus before GCF (FY2021/22: net deficit before GCF) would have been higher/lower by approximately $6.9 million (FY2021/22: lower/higher by about $1.7 million). The assumed movement in basis points for interest rate sensitivity analysis is based on the currently observable market environment.

The interest rates for loan payable to banks – uncommitted loans are based on variable borrowing rates determined by the financial institutions and are expected to move in tandem with market interest rate movements. If the variable interest rates had been 7 (FY2021/22: 3) basis points or 0.07% per annum (FY2021/22: 0.03% per annum) higher/lower at the end of the reporting period with all other variables held constant, the Group's net surplus before GCF (FY2021/22: net deficit before GCF) will be lower/higher by approximately $61,000 (FY2021/22: higher/lower by about $138,000). The assumed movement in basis points for interest rate sensitivity analysis is based on the currently observable market environment.

At the end of the reporting period, the following loan pertains to FSC floating rate loan (Note 18(c) and 18(h)):

	Group	**Authority**	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Loan payable	**-**	**-**	(159,741)
Loan receivable	**-**	**-**	159,741

As all financing costs related to the loan payable to bank are recovered from SPS, there is no interest rate risk impact on the net surplus/deficit for the current and prior financial years.

(b) Credit risk

Credit risk refers to the risk that counterparty will default on its contractual obligations resulting in financial loss to the Group.

The Group's major classes of financial assets are trade receivables, cash and cash equivalents, other receivables, interest receivables and loan receivables.

ENERGY MARKET AUTHORITY OF SINGAPORE AND ITS SUBSIDIARY

NOTES TO THE FINANCIAL STATEMENTS
For the financial year ended 31 March 2023

22. Financial risk management (continued)

(b) Credit risk (continued)

For trade receivables, the Group has applied the simplified approach in SB-FRS 109 to measure the loss allowance at lifetime ECL. The Group determines the ECL by using a provision matrix, estimated based on historical credit loss experience based on the past due status of the debtors, adjusted as appropriate to reflect current conditions and estimates of future economic conditions. Accordingly, the credit risk profile of trade receivables is presented based on their past due status in terms of the provision matrix. As at 31 March 2023 and 31 March 2022, there were no trade receivables that were past due or impaired, and no allowance for expected credit loss of trade receivables computed based on lifetime ECL.

The Group has no significant concentration of credit risk other than those balances with one third party comprising 100% (FY2021/22: 100%) of trade receivables. The Group has credit policies and procedures in place to minimise and mitigate its credit risk exposure.

For other receivables, interest receivables and loan receivables, the borrowers, SLNG Corp and SPS, are established corporations with good financial standing. Management believes that these receivables are exposed to immaterial credit risks.

For cash and cash equivalents, these are placed with AGD. Management believes that minimal credit risks exist with respect to the funds placed with AGD.

The carrying amount of other receivables, loan receivables, interest receivables and cash and cash equivalents represent the Group's maximum exposure to credit risk. No other financial assets carry a significant exposure to credit risk.

(c) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting obligations due to shortage of funds. The Group's exposure to liquidity risk arises primarily from mismatches of the maturities of non-derivative financial liabilities. To manage liquidity risk, the Group monitors its net operating cash flows and maintains an adequate level of cash and cash equivalents.

22. Financial risk management (continued)

(c) Liquidity risk (continued)

Analysis of financial instruments by remaining contractual maturities

The table below summaries the maturity profile of the Group's and Authority's financial liabilities at the end of the reporting period based on contractual undiscounted repayment obligations:

	Group	
	Less than 1 year $'000	Between 2 to 5 years $'000
2022/23		
Interest payable to bank	870	-
Loan payable to bank#	87,007	-
Interest payable to the Government	426	-
Loan payable to the Government	59,028	-
Lease liabilities	3,686	2,937
Other payables*	176,065	-
Total net undiscounted financial liabilities	327,082	2,937

	Authority	
	Less than 1 year $'000	Between 2 to 5 years $'000
2022/23		
Interest payable to bank	870	-
Loan payable to bank#	87,007	-
Interest payable to the Government	426	-
Loan payable to the Government	59,028	-
Lease liabilities	3,641	2,860
Other payables*	174,765	-
Total net undiscounted financial liabilities	325,737	2,860
2021/22		
Interest payable to bank	3,426	2,446
Loan payable to bank#	441,342	119,123
Interest payable to the Government	358	-
Loan payable to the Government	89,462	-
Lease liabilities	4,066	7,351
Other payables*	13,255	-
Total net undiscounted financial liabilities	551,909	128,920

Excludes amortised upfront and extension fee
* Excludes provision, GST payables and grant received in advance

22. Financial risk management (continued)

(d) Fair value measurements

The carrying amounts of cash and cash equivalents, other current receivables, current loan receivables and interest receivables, other current payables, current loan payables and interest payables approximate their respective fair values due to the relatively short-term maturity of these financial instruments.

In FY2021/22, fair values of fixed-rate loans are calculated based on the present value of future cash flows, discounted at rates of 0.50% per annum, which are determined based on 1 year swap offer rates at the end of the reporting period plus an adequate credit spread. In FY2022/23, fair values of fixed-rate loans approximate their respective carrying amounts as they are expected to be settled within 12 months from the end of the reporting period.

The Group classifies fair value measurements using a fair value hierarchy that reflects the significance of the inputs used in making the measurements. The fair value hierarchy has the following levels:

(i) quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1);

(ii) inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices) (Level 2); and

(iii) inputs for the asset or liability that are not based on observable market data (unobservable inputs (Level 3)

The fair values are within level 2 of fair value hierarchy:

	Group and Authority Level 2 $'000
2022/23	
Fixed rate loan due from SLNG Corp, including accrued interests	59,376
Fixed rate loan due to Government, including accrued interests	(59,376)

	Authority Level 2 $'000
2021/22	
Fixed rate loan due from SPS, including accrued interests	89,718
Fixed rate loan due to Government, including accrued interests	(89,718)

22. Financial risk management (continued)

(e) Financial instruments by category

The carrying amounts of the different categories of financial instruments are as follows:

	Group	Authority	
	2022/23	2022/23	2021/22
	$'000	$'000	$'000
Financial assets at amortised cost			
Trade receivables	**376**	**376**	-
Other receivables#	**5,687**	**5,781**	21,930
Cash and cash equivalents	**1,391,961**	**1,389,792**	346,746
Interest receivables	**348**	**943**	51
Loan receivables	**59,028**	**146,035**	449,203
	1,457,400	**1,542,927**	817,930
Financial liabilities at amortised cost			
Other payables*	**176,065**	**174,765**	13,255
Lease liabilities	**6,567**	**6,451**	11,263
Interest payables	**348**	**348**	272
Loan payables	**146,035**	**146,035**	649,203
	329,015	**327,599**	673,993

Excludes prepayments, GST receivable and grant receivables
* Excludes provision, GST payables and grant received in advance

(f) Offsetting financial assets and financial liabilities

The Group has the following receivables and payables with a third party which both parties have an arrangement and intention to settle the net amount due to or from each other:

	Group		
	Gross carrying amounts before offsetting	Amounts offset	Net amounts in the statement of financial position
	$'000	$'000	$'000
2022/23			
Trade receivables	**1,928**	**(1,552)**	**376**
Other payables and provisions	**(1,552)**	**1,552**	**-**

22. Financial risk management (continued)

(f) Offsetting financial assets and financial liabilities (continued)

The Group has the following receivables and payables with a third party which both parties have an arrangement and intention to settle the net amount due to or from each other:

	Authority		
	Gross carrying amounts before offsetting	Amounts offset	Net amounts in the statement of financial position
	$'000	$'000	$'000
2022/23			
Trade receivables	**1,928**	**(1,552)**	**376**
Other payables and provisions	**(1,552)**	**1,552**	**-**
2021/22			
Trade receivables	1,357	(1,357)	-
Other payables and provisions	(2,351)	1,357	(994)

23. Related party transactions

Some of the Group's transactions and arrangements are with related parties and the effect of these on the basis determined between the parties is reflected in these financial statements. The balances are unsecured, interest-free and repayable on demand unless otherwise stated.

The Group had the following significant transactions with its related parties during the year:

	Group	Authority	
	2022/23	2022/23	2021/22
	$'000	$'000	$'000
Ministry of Trade and Industry			
Operating Grant	**401,734**	**401,734**	22,906
Staff secondment recharges paid to MTI	**1,396**	**1,396**	1,289
Singapore LNG Corporation Pte Ltd			
Public Licence Fees	**3,999**	**3,999**	3,477
Meranti Power Pte Ltd			
Staff secondment recharges	**-**	**1,087**	-

23. Related party transactions (continued)

Compensation of key management personnel

	Group	Authority	
	2022/23	**2022/23**	2021/22
	$'000	**$'000**	$'000
Salaries, bonuses and allowances	**3,280**	**2,627**	2,357
Group members' allowance	**148**	**146**	167
CPF contributions	**149**	**123**	74
	3,577	**2,896**	2,598

24. New or revised accounting standards and interpretations

Below are the mandatory standards, amendments and interpretations to existing standards that have been published, and are relevant for the Group's accounting periods beginning on or after 1 April 2023 and which the Group has not early adopted:

Amendments to SB-FRS 1 *Presentation of Financial Statements*: Classification of Liabilities as Current or Non-current (effective for annual periods beginning on or after 1 January 2023)

The narrow-scope amendments to SB-FRS 1 *Presentation of Financial Statements* clarify that liabilities are classified as either current or non-current, depending on the rights that exist at the end of the reporting period. Classification is unaffected by the expectations of the entity or events after the reporting date (e.g. the receipt of a waiver or a breach of covenant). The amendments also clarify what SB-FRS 1 means when it refers to the 'settlement' of a liability. The amendments could affect the classification of liabilities, particularly for entities that previously considered management's intentions to determine classification and for some liabilities that can be converted into equity. The Group does not expect any significant impact arising from applying these amendments.

25. Comparative information

Change in classification

During current financial year 2022/23, the Authority modified the classification of certain balances in "other payables and provisions" and "operating expenses" to reflect more appropriately the underlying nature of those balances for current year presentation. As a result, comparative amounts in the Authority's statement of financial position and statement of comprehensive income were reclassified for consistency purposes.

	Before Reclassification	Reclassification Made	After Reclassification
	$'000	**$'000**	**$'000**
2021/22			
Statement of Financial Position			
Other payables and provisions	32,394	(131)	**32,263**
Contract liabilities	-	131	**131**

25. Comparative information (continued)

	Before Reclassification	Reclassification Made	After Reclassification
	$'000	**$'000**	**$'000**
2021/22			
Statement of Comprehensive Income			
Operating expenses	105,629	(22,906)	**82,723**
Expenses funded by grant	-	22,906	**22,906**

26. Authorisation of financial statements

These financial statements for the financial year ended 31 March 2023 were authorised for issue in accordance with a resolution of the Authority on 4 July 2023.

Photo Credits

EDPR Sunseap APAC — Page 12 (2)
Meranti Power — Pages 22 and 23
Ocean Sun AS — Page 28
Sembcorp Industries — Page 13

ENERGY MARKET AUTHORITY

Our Clean Energy Future

991G Alexandra Road #01-29
Singapore 119975
T +65 6835 8000
F +65 6835 8020