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Utilities Sector

Overweight (new)

Harnessing Opportunities in Growing Energy Demand

Executive Summary

- **The Utilities Sector is primed for robust growth, driven by:**
  (i) Surging electricity demand from data centres,
  (ii) The increasing adoption of electric vehicles, and
  (iii) The energy transition, which necessitates the development of new gas-fired plants and grid upgrades.
- **We initiate coverage of the Utilities Sector with an Overweight stance. Our top picks are MALAKOF (TP: RM0.96) and TENAGA (TP: RM16.00).**

Sector Overview

History

Over the years, Malaysia's electricity utilities sector has undergone numerous reforms and changes to reach its current state. The Malaysia Electricity Supply Industry (MESI) reform initiatives have been pivotal in shaping the evolution of the sector. MESI 1.0, which began in the early 1990s, was primarily driven by the need to address electricity supply shortages and promote private sector participation in power generation. Key features of MESI 1.0 included the corporatisation of Tenaga Nasional Berhad (TENAGA) and the introduction of Independent Power Producers (IPPs).

The reform of Malaysia's electricity utilities sector formally started in 1990 when the National Electricity Board (NEB) was corporatised as TENAGA, effectively marking the start of TENAGA's privatisation process. TENAGA was subsequently listed on the Kuala Lumpur Stock Exchange in 1992. A year later, IPPs were introduced to allow private companies to build and operate power plants, fostering competition and efficiency. IPPs were granted long-term Power Purchase Agreements (PPAs) with TENAGA. Under these agreements, TENAGA retained its role as the Single Buyer, purchasing power from IPPs.

In 2001, the Energy Commission (EC), or Suruhanjaya Tenaga, was established under the Energy Commission Act 2001 as an autonomous regulatory authority. Its primary responsibilities include regulating the electricity and piped gas supply industries in Peninsular Malaysia, ensuring a secure, reliable, and efficient energy supply while protecting consumer interests and promoting sustainable energy practices. Later, the Incentive-Based Regulation (IBR) framework was introduced for TENAGA's regulated businesses in Peninsular Malaysia in 2014 and for Sabah Electricity Sdn Bhd (SESB) in 2022, enhancing transparency, cost recovery, and operational efficiency.

In the 2010s, Malaysia shifted its focus to renewable energy (RE). This shift was marked by the introduction of the Feed-in Tariff (FiT) in 2011 to promote solar, biomass, and small hydro projects. In 2016, the Large Scale Solar (LSS) programme was launched by the EC to encourage the development of large-scale solar photovoltaic (PV) plants through competitive bidding processes. In the same year, the Net Energy Metering (NEM) scheme was introduced with a quota allocation of 500MW up to 2020 to accelerate Malaysia's RE adoption. Fast forward to 2023, Malaysia launched the inaugural National Energy Transition Roadmap (NETR). The NETR outlines Malaysia's strategy to achieve net-zero emissions by 2050, emphasising RE, energy efficiency, and green technologies.

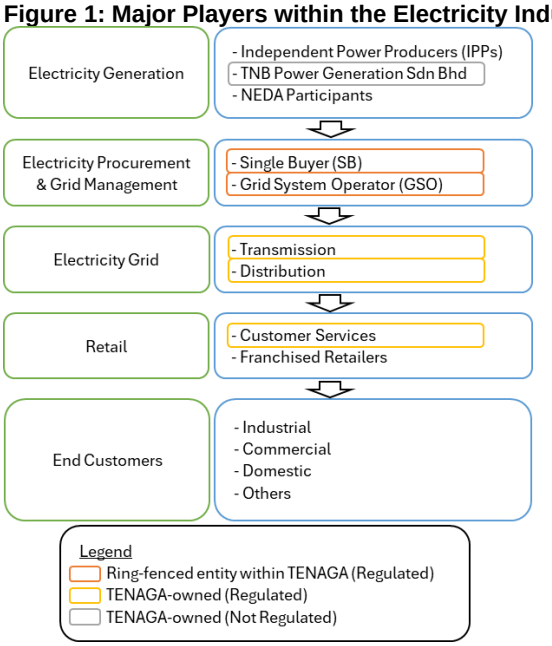
Current structure

A simplified structure of Peninsular Malaysia's electricity industry and its key players is illustrated in Figure 1. The primary players in electricity generation include TENAGA's power generation arm, TNB Power Generation Sdn Bhd (TNB Genco), and IPPs such as Malakoff Corporation Bhd (MALAKOF) and Edra Power. Electricity generated by these entities is procured by the Single Buyer (SB).

KDN PP13226/06/2024 (035469)

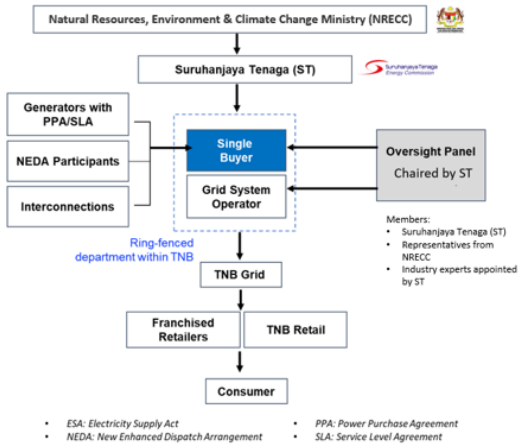
The procured electricity is then transmitted and distributed to end customers through the transmission and distribution networks owned by TENAGA, supported by the Grid System Operator (GSO), which plays a critical role in managing and operating the Peninsular grid system. Electricity procurement under the Single Buyer framework is carried out through the Single Buyer Market model (Figure 2), which is regulated by the EC to ensure compliance, efficiency, and transparency.

Figure 1: Major Players within the Electricity Industry



Source: Apex Securities

Figure 2: Single Buyer Market Model



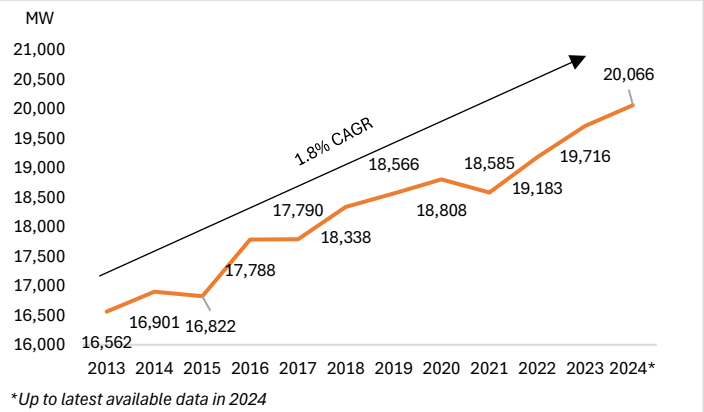
Source: Single Buyer

Electricity Supply and Demand

Peninsular Malaysia's peak demand reached 20.1GW in July 2024, reflecting a CAGR of 1.8% from 2013 levels (Figure 3). With an installed capacity of 27.7 GW as of 30 Sep 2024, the reserve margin stands at 38.0%, which is considered healthy and exceeds the optimal range of 20%-35% recommended by the International Energy Agency (IEA).

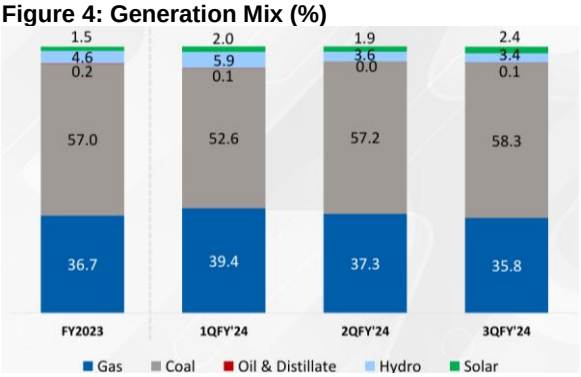
Over the past five years, TENAGA has maintained approximately 50% of the generation market share. In 2023, TENAGA's market share increased slightly to 51.1%, with the remaining share contributed by IPPs, NEDA participants, LSS developers, and others. In terms of the generation mix, for 2023, coal remained the dominant fuel source, contributing 57.0%, followed by gas at 36.7%, hydroelectricity at 4.6%, and solar at 1.5% (Figure 4).

Figure 3: Annual Peak Demand Capacity



Source: Company, Apex Securities

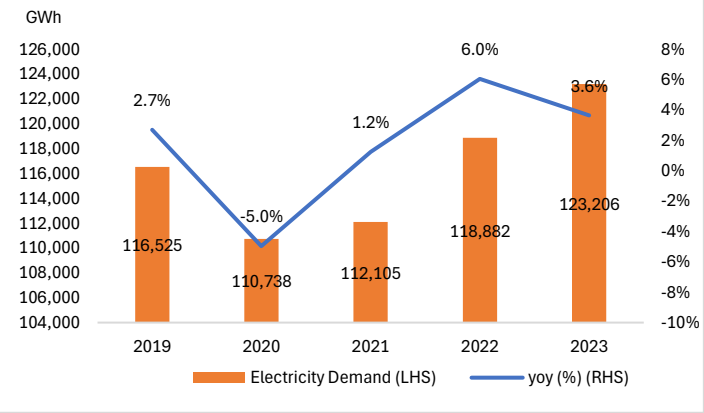
Figure 4: Generation Mix (%)



Source: Company

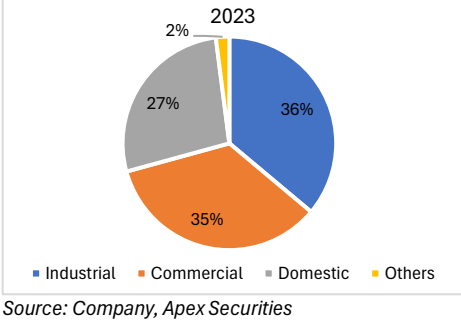
Meanwhile, total electricity demand grew by 3.6% yoy to 123,206GWh in 2023 (Figure 5). The Industrial Sector accounted for the highest electricity demand at 36%, followed by the Commercial Sector at 35%, and the Domestic Sector (households) at 27% (Figure 6).

Figure 5: Electricity Demand



Source: Company, Apex Securities

Figure 6: Electricity Demand by Sector



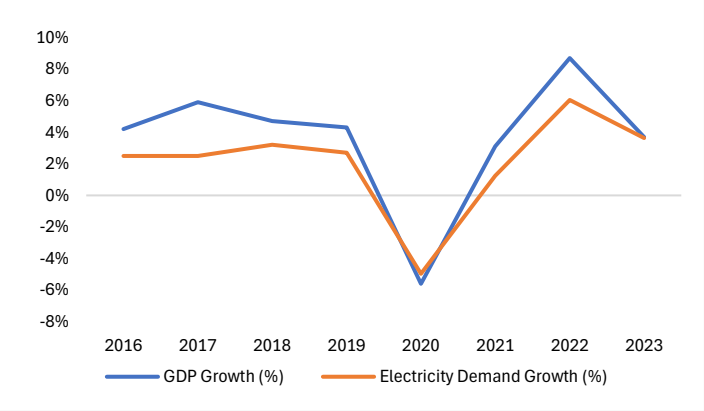
Source: Company, Apex Securities

Key Drivers

Surging Demand from Data Centres

Since Malaysia's economy transitioned towards a service-oriented growth model, electricity demand growth in Peninsular Malaysia has slowed relative to GDP growth. In fact, electricity demand has consistently grown at a rate below that of GDP, as illustrated in Figure 7.

Figure 7: Electricity Demand Growing at a Slower Pace Compared to GDP Growth



Source: Company, Apex Securities

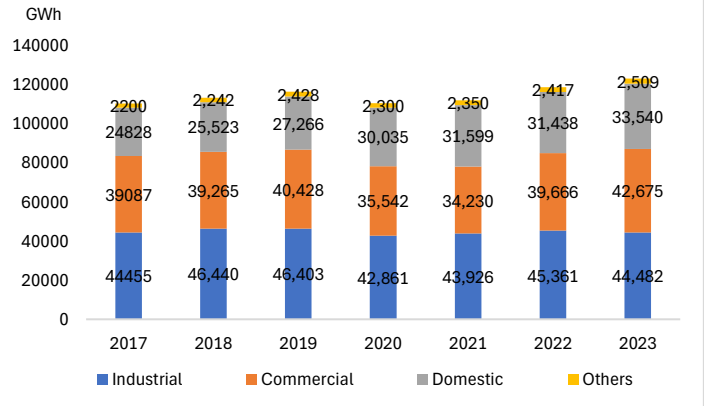
However, this dynamic shifted in 2023, driven by strong demand from data centres. Growth of the digital economy, cloud computing, and Malaysia's advantageous undersea cable connectivity has fuelled surging demand for energy-intensive data centres. This trend has been further bolstered by Malaysia's low cost of land and electricity, both of which are primary cost drivers for data centres.

Globally, the data centre market is set for rapid expansion. According to Fortune Business Insights, the market is projected to grow from USD242.7bn in 2024 to USD584.9bn in 2032, reflecting a CAGR of 11.6%. The Asia Pacific region, home to Malaysia, is expected to grow at the highest CAGR over the forecast period, with total supply projected to increase from 11.1GW in 2023 to 26.7GW by 2028, or a robust CAGR of 19.2%.

In Malaysia, Arizton Advisory and Intelligence forecasts that data centre market size will hit USD4bn by 2029, growing at a CAGR of 13.9% from 2024 levels. These projections underscore Malaysia's emerging role as a key player in the regional data centre landscape. Supporting this growth, Microsoft announced a USD2.2bn investment in May 2024 to enhance Malaysia's cloud and AI infrastructure. In the same month, Google committed USD2bn investment to establish its first data centre and Google Cloud region in Malaysia.

The surge in data centre growth has reinvigorated electricity demand. For the first time, electricity demand growth caught up with GDP growth in 2023 and is now expected to track closely with GDP growth in the coming years. As shown in Figure 8, electricity demand in the Commercial Sector (including data centre), has risen significantly, with 2023 levels surpassing 2019 levels by 5.6%.

Figure 8: Commercial Electricity Demand Surged past Pre-pandemic Levels

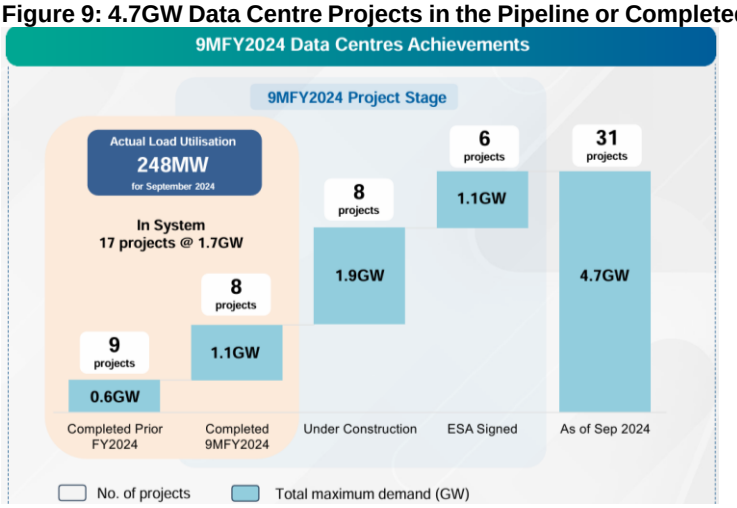


Source: Company, Apex Securities

As of 3QFY24, TENAGA has completed 17 data centre projects with a total installed capacity of 1.7GW (Figure 9). While the actual load utilisation was only 248MW as of September 2024, it is expected to gradually increase in the coming years. Under the terms of the Electricity Supply Agreement (ESA), data centres are committed to utilising 85% of installed capacity within five years. This means that for the 1.7GW completed capacity, data centres will be required to pay for at least 1.4GW of committed capacity, irrespective of actual utilisation, within five years. With a committed capacity of 4.7GW across 31 projects as of September 2024 (Figure 9), 4GW demand from data centre alone is expected by 2030.

Looking ahead, TENAGA expects potential electricity demand from data centres to exceed 5GW by 2035. Considering that data centres operate consistently, even at night, 5GW of electricity demand translates to 43,800GWh per year, which is equivalent to an impressive 35.6% of the total electricity demand recorded in 2023. Remarkably, this figure surpasses the electricity demand from the entire Commercial Sector in 2023.

Figure 9: 4.7GW Data Centre Projects in the Pipeline or Completed as of September 2024



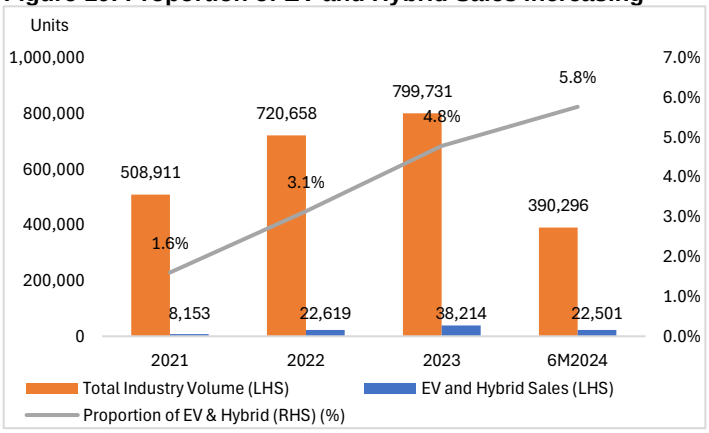
Source: Company

Electrification of Vehicles: A Frequently Overlooked Factor

In the pursuit of net-zero emissions, electric vehicles (EVs) play a pivotal role in reducing emissions from the transportation sector. Malaysia has set ambitious targets for EV adoption, aiming for EVs to account for 15% of the annual vehicle sales by 2030 and 80% by 2050, as outlined in the Low Carbon Mobility Blueprint (LCMB) and the National Energy Transition Roadmap (NETR).

To encourage EV adoption, the government has introduced measures such as import duty exemptions and income tax reliefs. Recognising the importance of robust infrastructure, the government has outlined plans under the NETR to install 10,000 EV charging stations nationwide by 2025. Further supporting this transition, national carmaker Proton recently launched its first EV, marking a significant milestone in Malaysia's EV journey.

Figure 10: Proportion of EV and Hybrid Sales Increasing



Source: MAA

These efforts are bearing fruit, with EV and hybrid sales growing steadily (Figure 10). In 6M2024, the proportion of EV and hybrid sales reached 5.8% of total vehicle sales, up from 1.6% in 2021. As EV adoption continues to gain momentum, EVs are expected to play an increasingly critical role in shaping future electricity demand.

In 2023, Malaysia consumed an estimated 17bn litres of petrol, with approximately 90% sold in Peninsular Malaysia, as most vehicles in Sabah and Sarawak are diesel-fuelled. If 5% of this petrol consumption were replaced by EVs, using a conversion factor of 8.9kWh/litre of petrol, this would result in an additional 6,808.5GWh of electricity demand, equivalent to 5.5% of the total annual electricity demand in 2023.

Adding diesel into the equation, Malaysia consumed approximately 10.8bn litres of diesel in 2023, with around 70% sold in Peninsular Malaysia. Assuming 5% of diesel consumption were replaced by EVs and using a conversion factor of 10.0kWh/litre of diesel, this would contribute an additional 3,780GWh of electricity demand, or 3.1% of annual electricity demand in 2023.

These estimates underscore the significant impact that EV adoption could have on Malaysia's electricity demand. As the nation progresses toward its EV adoption targets, it is crucial to prepare the electricity grid for this additional load.

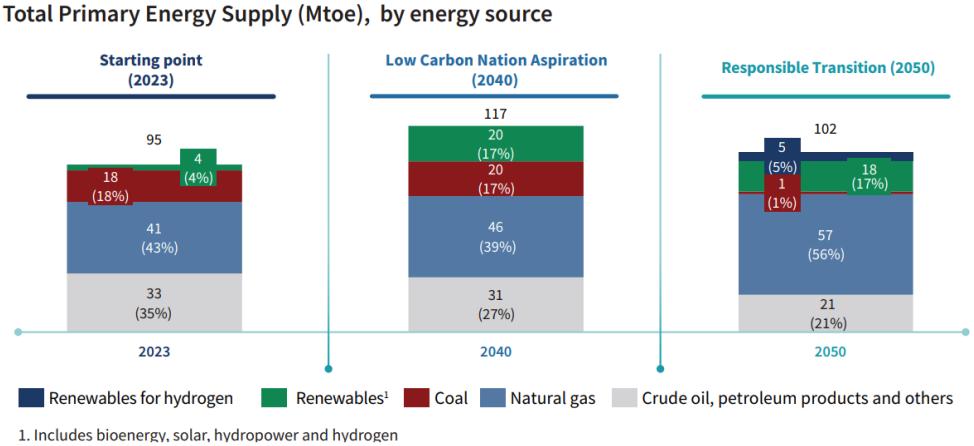
Gas as a Transitional Fuel

Following the ratification of the Paris Agreement in 2016, Malaysia has outlined a plan to phase out all coal-fired power plants, targeting a 50% reduction in coal capacity by 2035 and full retirement by 2044.

With surging energy demand and a growing emphasis on energy transition, natural gas has emerged as the most viable replacement for coal. This choice is driven by the intermittency and unreliability of RE sources, particularly solar energy. While battery energy storage systems (BESS) offer a potential solution for grid stability, their high cost of exceeding USD100/kWh remains a significant barrier to widescale adoption. Similarly, while nuclear energy is another clean alternative, stringent regulatory requirements and low public acceptance make its adoption in Malaysia unlikely in the near future.

In August 2023, Malaysia launched the National Energy Transition Roadmap (NETR) to accelerate its energy transition. The NETR emphasises the dual importance of natural gas as a transitional fuel and as the primary contributor to the total primary energy supply (TPES). By 2050, natural gas is projected to account for 57Mtoe, or 56% of the TPES (Figure 11). This represents a CAGR of 1.2% from 2023 levels.

Figure 11: Malaysia's Projected Total Primary Energy Supply by 2050



Source: NETR

To meet the surging electricity demand, consider the following scenario: assuming a 1.5% annual increase in peak demand (below the historical 1.8% CAGR from 2013 to 2024), peak demand would rise to 21.9GW by 2030. To maintain a 25% reserve margin, approximately 27.4GW of capacity will be required. However, with 3.6GW of coal plants retiring by 2030, the remaining installed capacity will drop to 24.1GW, leaving a shortfall of approximately 3.3GW that must be replaced.

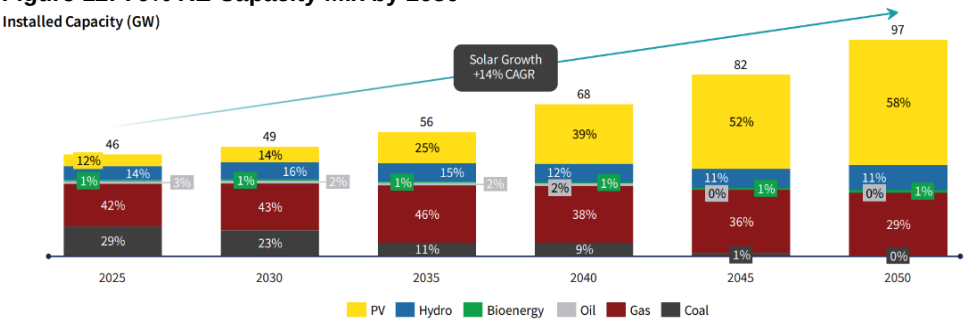
This estimate does not account for the 4.2GW of gas-fired power plants with PPAs or Service Level Agreements (SLAs) expiring by 2030. Additionally, it excludes the combined 1GW capacity from the gas-fired Prai Power Plant and Panglima Power Plant, both operating under temporary one-year extensions with options for one-year extension. While temporary extensions may address short-term gaps, these plants will eventually need to be replaced with newer, more efficient gas-fired plants.

Overall, our conservative estimate indicates that at least 8.5GW of new generation capacity will be required in Peninsular Malaysia by the end of 2030. Assuming 60% of this capacity is met by RE, the remaining 3.4GW will need to be supplied by gas-fired plants, which are essential to ensure grid stability and reliability.

Energy Transition Driving the need for Grid Upgrade

Under the NETR, Malaysia has set an ambitious goal to achieve a 70% RE capacity mix by 2050, equivalent to 59GW of installed RE capacity (Figure 12). To support this goal, the government has rolled out several key initiatives, including the Large Scale Solar (LSS) program, the Net Energy Metering (NEM) scheme, and the Corporate Green Power Programme (CGPP), among others.

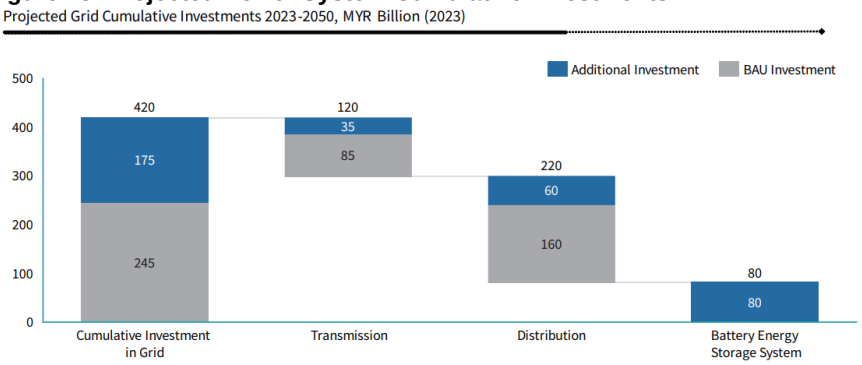
Figure 12: 70% RE Capacity Mix by 2050



Source: NETR

As the share of RE in both capacity and generation mix increases, the need to upgrade and modernise the grid becomes critical. This is driven by the intermittent and decentralised nature of RE, which requires a smarter grid with enhanced flexibility to manage fluctuating energy sources effectively. To achieve this, a total investment of RM340bn in transmission and distribution is required from 2023 to 2050, averaging RM12.1bn annually (Figure 13). This includes an additional RM95bn beyond the business-as-usual investments to address grid limitations and enable higher RE penetration.

Figure 13: Projected Power System Cumulative Investments



Source: NETR

Beneficiaries

The rising electricity demand is set to benefit players across the entire electricity supply chain. TENAGA, MALAKOF, and PETGAS stand out as top contenders to secure contracts for developing new gas-fired plants, which are critical to replace the estimated 3.4GW capacity shortfall in Peninsular Malaysia.

Besides, higher electricity demand and a greater share of RE in the generation mix necessitate grid upgrades. With an estimated RM12.1bn average annual investment required for grid modernisation (Figure 13), this trend is expected to benefit TENAGA through robust regulated asset base (RAB) expansion. Other beneficiaries include cables and wire suppliers like **SCGBHD (BUY, TP: RM1.27)** and underground utilities engineering players such as **UUE (BUY, TP: RM1.10)**.

The push for higher RE capacity mix under the NETR further positions solar EPCC players as key beneficiaries. The projected addition of approximately 50GW of installed solar capacity under NETR by 2050 (Figure 12) represents a potential orderbook exceeding RM100bn, or an annual average of over RM4bn. Solar EPCC companies such as **SLVEST (BUY, TP: RM1.98)**, **SAMAIDEN (BUY, TP: RM1.66)**, and **PEKAT (BUY, TP: RM1.17)** are well-positioned to capture opportunities arising from the growing adoption of solar energy solutions.

Recommendation

We initiate coverage of the Utilities Sector with an **Overweight** stance. Our top picks are **MALAKOF (TP: RM0.96)** and **TENAGA (TP: RM16.00)**. The sector is set for robust growth, driven by rising electricity demand from data centres, the electrification of vehicles, and the ongoing energy transition.

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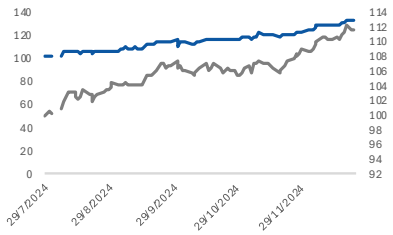
Recommendation:		BUY
Current Price:		RM 14.00
Previous Target Price:		N/A
Target Price:	↔	RM 16.00
Capital Upside/Downside:		14.3%
Dividend Yield (%):		3.4%
Total Upside/Downside:		**17.7%**

Stock information	
Board	MAIN
Sector	Utilities
Bursa/ Bloomberg Code	5347/ TNB MK
Syariah Compliant	Yes
ESG Rating	★★★
Shares issued (m)	5,812.9
Market Cap (RM' m)	81,381.3
52-Week Price Range (RM)	15.24-9.94
Beta (x)	1.0
Free float (%)	53.3
3M Average Volume (m)	9.9
3M Average Value (RM' m)	139.7

Top 3 Shareholders	(%)
Amanah Saham Nasional Bhd	21.3
Khazanah Nasional Bhd	20.9
Employees Provident Fund Board	18.2

Share Price Performance



	1M	3M	12M
Absolute (%)	0.0	-6.9	40.1
Relative (%)	-0.4	-2.6	27.7

Tenaga Nasional Berhad

Multi-year Growth Driven by Rising Energy Demand

Executive Summary

- **As a prominent player in the energy sector, TENAGA is poised for robust multi-year growth driven by rising energy demand.**
- **Earnings growth will be driven by (i) expansion of regulated asset base; (ii) 10GW of pipeline projects scheduled for completion by 2030; (iii) potential growth from low-carbon electricity exports to Singapore.**
- **We initiate coverage of Tenaga Nasional Berhad with a BUY recommendation and a target price of RM16.00 based on DCF valuation (WACC: 7.1%, g: 2.0%).**

Key Investment Highlights

Expansion of Regulated Asset Base (RAB). TENAGA's RAB is poised for sustained multi-year growth, driven by rising electricity demand from data centres and the increasing electrification of vehicles. The ongoing energy transition under the NETR serves as another significant catalyst for RAB expansion. Investments in grid modernisation, estimated at RM12.1bn annually through 2050, are critical for stabilising the grid. Based on our estimated capex of RM9bn per year, we project the RAB to expand at a 5.5% CAGR from FY24 to FY27. This growth is expected to generate an allowed return of RM5.2bn to RM5.8bn during RP4.

Greater Contribution from Power Generation Business. TENAGA's power generation business is set for sustainable and diversified earnings growth, underpinned by its 10GW pipeline projects scheduled for completion by 2030. The Group's ongoing coal phase-out initiative represents a strategic shift towards cleaner and more efficient energy sources. By retiring 3.6GW of coal plants by 2030, TENAGA is reducing its carbon footprint while enhancing the reliability of its generation fleet. Additionally, TENAGA's innovative Hybrid Hydro Floating Solar (HHFS) photovoltaic (PV) projects stand out as a key growth driver. The first HHFS project is expected to achieve commercial operations by 2026, with an estimated equity IRR of 9%-11%, reinforcing its financial viability and TENAGA's leadership in Malaysia's RE landscape.

Potential Growth from Electricity Exports to Singapore. Singapore's plan to import 6GW of low-carbon electricity by 2035 presents a significant opportunity for Malaysia, given its abundance of cost-competitive RE and low-carbon energy. The price differential between two countries creates a compelling arbitrage opportunity for Malaysia to export low-carbon energy to Singapore. Investment by TENAGA in new interconnections to meet the export demand is anticipated to yield better returns for the Group, either through RAB expansion or via unregulated profits from wheeling charges.

Valuation & Recommendation. We initiate coverage of Tenaga Nasional Berhad with a **BUY** recommendation and a target price of **RM16.00** based on DCF valuation (WACC: 7.1%, g: 2.0%). No ESG premium or discount has been applied, given the company's three-star ESG rating.

Earnings Summary

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Revenue	50867.7	53066.9	56369.3	66643.5	74204.2
EBITDA	20588.5	18413.1	19784.6	20339.2	21747.0
Pre-tax profit	5348.6	3373.6	5041.9	5385.9	5911.8
Net profit	3463.3	2770.3	3731.0	3985.5	4374.7
Core net profit	3931.9	3069.3	3731.0	3985.5	4374.7
Core EPS (sen)	68.5	53.2	64.2	68.6	75.3
P/E (x)	23.2	29.2	21.8	20.4	18.6
P/B (x)	1.4	1.4	1.4	1.3	1.3
EV/EBITDA (x)	8.4	8.4	7.7	7.8	7.6
Dividend Yield (%)	3.3%	3.3%	3.4%	3.4%	3.5%
Net Gearing (%)	151%	120%	115%	123%	128%

Source: Company, Apex Securities

KDN PP13226/06/2024 (035469)

Company Background

Background. Tenaga Nasional Berhad (TENAGA) is Malaysia's largest electricity utility provider and a prominent player in the energy sector. The company is primarily involved in the generation, transmission, and distribution of electricity across Peninsular Malaysia, Sabah, and Labuan. TENAGA holds a monopoly on the transmission and distribution of electricity in Peninsular Malaysia and Sabah. In addition, the Group operates a diverse portfolio of power plants, including thermal (coal and gas), hydroelectric, and renewable energy (RE) facilities, making it a key contributor to Malaysia's power supply. In recent years, TENAGA has actively diversified into RE and invested in RE initiatives in international markets to align with the global energy transition. As of 2023, TENAGA owns and operates 198 power plants with a total effective generating capacity of 16,283MW. TENAGA also owns more than 29,000km of transmission lines and more than 500 substations in Peninsular Malaysia, Sabah, and Labuan.

History. TENAGA's origins trace back to the establishment of the Central Electricity Board (CEB) in 1949, which was responsible for generating, transmitting, and distributing electricity in Peninsular Malaysia. The CEB became the owner of power stations as well as transmission and distribution systems. In 1965, the CEB was rebranded as the National Electricity Board (NEB), continuing its role in electrifying the nation. On 1 Sep 1990, the NEB underwent privatisation and was renamed Tenaga Nasional Berhad, marking a significant transformation in Malaysia's energy sector. TENAGA was subsequently listed on the Kuala Lumpur Stock Exchange in 1992. Today, TENAGA stands as the largest publicly listed utility company in Southeast Asia, serving over 10m customers and managing assets worth approximately RM200bn.

Business Overview

Business Segments. TENAGA's business can generally be classified into regulated and non-regulated categories. Regulated businesses include Single Buyer Operations, Grid System Operator, Transmission, Distribution, and Customer Services for Peninsular Malaysia. These businesses have been regulated under the Incentive-Based Regulation (IBR) framework since 2015. Additionally, TENAGA owns an 80% stake in Sabah Electricity Sdn Bhd (SESB), which recently adopted the IBR framework in 2022. Meanwhile, non-regulated businesses primarily comprise domestic power generation through thermal power plants, hydroelectric plants, and solar facilities, as well as TENAGA's international ventures (Figure 1).

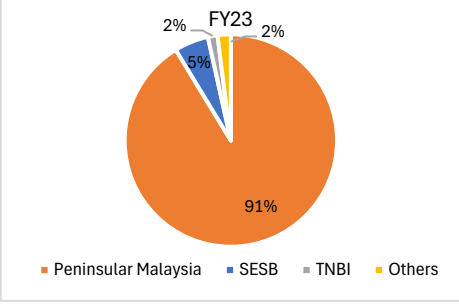
Figure 1: Business Categories

Category	Explanation
Regulated	Includes Single Buyer Operations, Grid System Operator, Transmission, Distribution, and Customer Services in Peninsular Malaysia. This category also includes 80%-owned SESB.
Unregulated	Includes domestic power generation and international businesses.

Source: Company, Apex Securities

Revenue Breakdown. TENAGA generates the majority of its revenue domestically, as depicted in Figure 2. In 2023, 91% of its revenue was generated in Peninsular Malaysia, 5% from SESB, 2% from TNB International Sdn Bhd (TNBI), its international RE business, and the remaining 2% from other sources, including goods and services and construction contracts.

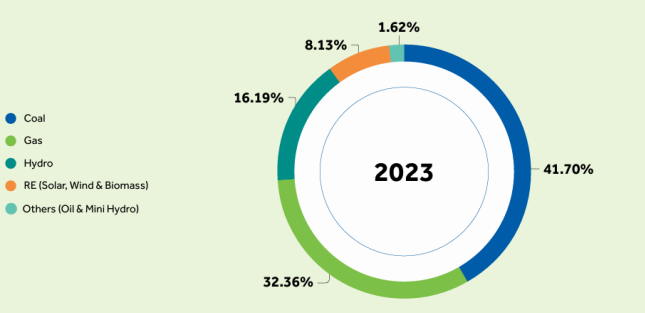
Figure 2: Revenue Breakdown



Source: Company's 2023 Annual Report, Apex Securities

Generation Mix Breakdown. In 2023, at the Group level, coal was the largest contributor to the generation mix, accounting for 41.7%, followed by gas at 32.4%, with the remainder coming from RE and oil (Figure 3).

Figure 3: Generation Mix Breakdown

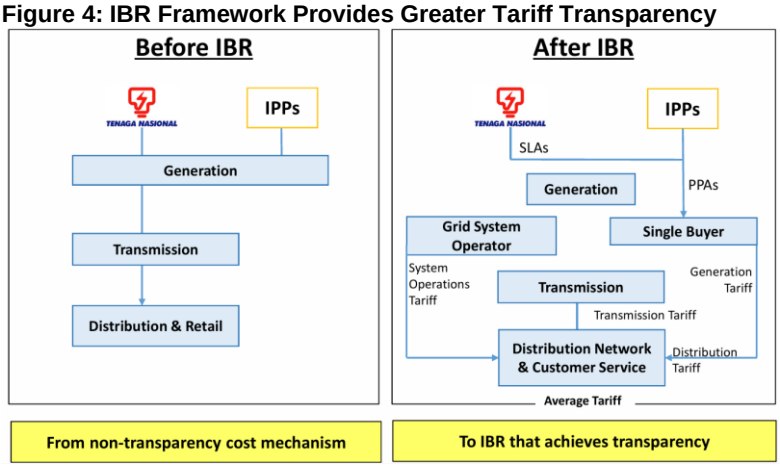


Source: Company's 2023 Annual Report

i) Regulated Business

TENAGA's regulated businesses are governed by the IBR framework and are subject to oversight by Malaysia's energy regulator, the Energy Commission (EC). The IBR framework was implemented for TENAGA's regulated businesses in Peninsular Malaysia since 2015 to provide greater transparency for customers and improve TENAGA's operational efficiency (Figure 4).

Figure 4: IBR Framework Provides Greater Tariff Transparency



Source: Energy Commission

Under the IBR framework, the regulated businesses include:

1. The operation, maintenance, and investment in the electricity transmission system.
2. The operation, maintenance, and investment in the electricity distribution system.
3. The wholesale purchase and sale of electricity.
4. The retail sale of electricity to consumers.

The following entities under TENAGA are classified as regulated business entities (RBEs):

1. **Single Buyer:** Responsible for pooling electricity from Independent Power Producers (IPPs) and TNB Genco to meet demand at the lowest cost. It also prepares demand forecasts and dispatch schedules, ensuring energy security and affordability.
2. **Transmission:** Manages the planning, investment, operation, and maintenance of the electricity transmission network, including lines, substations, and equipment at 132kV and above.
3. **Grid System Operator:** Oversees system security, operational planning, the dispatch of generating units, real-time operation and control of the power system, and coordination with all parties connected to the grid.
4. **Distribution:** Handles the planning, investment, maintenance, and real-time operation of the electricity distribution system, which includes lines, substations, and related equipment below 132kV.
5. **Customer Services**: Focuses on supplying and selling electricity to end-users and managing the interface with final consumers.

Under the IBR framework, base average tariffs are determined for each regulatory period (RP), which spans three years, with the latest being RP3, covering 2022 to 2024. For the unbundled allowed average tariff, the base tariff is the sum of the tariffs for the five RBEs and the average forecasted generation costs (fuel and non-fuel) for the RP. The generation cost is also referred to as the Single Buyer Generation.

The costs of electricity generation are not directly regulated under the IBR framework but are treated as a pass-through item. This pass-through cost consists of the average generation cost and the Imbalance Cost Pass-Through (ICPT) adjustment. Further details on the ICPT mechanism will be provided later.

Under the IBR, the allowed revenue is calculated using the "building block" methodology. The simplified formulae for allowed revenue and allowed return for each RBE (except for the Customer Services) are as follows:

Allowed Revenue = Allowed Return + Operating Expenditure (Opex) + Working Capital + Depreciation + Tax + Opex Efficiency Carry-Over + Capex Efficiency Carry-Over + Quality of Service Incentive/Penalty

Allowed Return = Regulated Asset Base (RAB) × Weighted Average Cost of Capital (WACC)

Based on the formula for allowed revenue:

- **Opex**, **Working Capital**, **Depreciation**, and **Tax** cover the business expenses.
- Efficiency Carry-Over incentives encourage operational and cost efficiencies:
  - **Opex Efficiency Carry-Over:** Retained 100% by RBE over the three years following the year of Opex savings. The Opex Efficiency Carry-Over is only applicable to the Transmission, Distribution, and Customer Services RBEs.
  - **Capex Efficiency Carry-Over:** By default, 30% is retained by RBE, with the remaining 70% returned to customers. The efficiency carry-over amount will be adjusted to exclude the additional allowed return arising from the unspent Capex.
- **Quality of Service Incentive/Penalty** ensures that cost reductions are not achieved at the expense of service quality. Key Performance Indicators (KPIs) are set by the EC prior to each RP. Incentives or penalties are imposed in the following RP, depending on RBE's performance in the preceding RP.
- Essentially, the **allowed return** for regulated businesses depends on the **RAB** and **WACC**. RAB depends on the demand for electricity, while WACC is determined by the EC.

The simplified formula for the allowed revenue for Customer Services is similar, but the Allowed Return is replaced with the Retail Margin:

Allowed Revenue = Retail Margin + Operating Expenditure (Opex) + Opex Efficiency Carry-Over + Capex Efficiency Carry-Over + Quality of Service Incentive/Penalty

The allowed revenue is then divided by the forecasted electricity sales to calculate the base tariff for each RBE. The sum of the tariffs for the five RBEs and the Single Buyer Generation, representing the forecasted average generation cost, constitutes the base tariff for the RP (Figure 5).

Figure 5: Historical Base Tariffs for Each RP

Entity (sen/kWh)	Category	RP1 (2015-2017)	RP2 (2018-2020)	RP2 (Ext) (2021)	RP3 (2022-2024)
Single Buyer Operations	Revenue-Cap RBE	0.19	0.19	0.10	0.09
Grid Sytem Operator	Revenue-Cap RBE	0.05	0.07	0.06	0.06
Transmission	Revenue-Cap RBE	3.66	4.03	4.13	4.16
Distribution Network	Revenue-Cap RBE	7.87	7.07	7.81	8.28
Customer Services	Price-Cap RBE	0.00	1.04	1.55	1.16
Single Buyer Generation	Non-RBE	26.76	27.05	25.80	26.20
Total Base Tariff		**38.53**	**39.45**	**39.45**	**39.95**

Source: Energy Commission, Company, Apex Securities

In addition to the base tariffs, annual adjustments are made through two forms of controls:

1. **Price-Cap:** The average allowed revenue (expressed in sen/kWh) is fixed for the duration of the RP. Any excess return above the Price-Cap for Price-Cap entities is returned to customers through an annual Price-Cap adjustment to the base tariff. This adjustment is applicable to **Customer Services** under unbundled tariffs.
2. **Revenue-Cap:** The total allowed revenue (expressed in RM) is fixed for the duration of the RP. Any excess return above the Revenue-Cap for Revenue-Cap entities is returned to customers through an annual Revenue-Cap adjustment to the base tariff. This control applies to the four RBEs: **Single Buyer Operations, Grid System Operator, Transmission, and Distribution.**

Imbalance Cost Pass-Through (ICPT)

As mentioned above, generation cost is treated as a pass-through item, with the cost fully passed on to customers. Actual generation costs may differ from the forecasted average generation cost due to fluctuations in fuel prices (such as coal and natural gas) and foreign exchange rates. In such cases, TENAGA may implement ICPT adjustments, applying a surcharge or rebate to reflect changes in generation costs from the original forecast.

ICPT is a six-monthly pass-through mechanism that accounts for variations in uncontrollable fuel costs and other generation-specific expenses incurred during the preceding six months. The ICPT adjustment compensates for differences between the actual and forecasted generation costs used to determine the average generation cost for each RP.

The ICPT Adjustment consists of two components:

1. **Generation Cost Adjustment:** Accounts for the difference between actual and forecasted generation costs.
2. **Fund Contribution:** Represents the net contribution from the Electricity Industry Fund (EIF) over the six-month period. The EIF is managed by the EC to mitigate the impact of generation cost fluctuations:
   - When generation cost is below forecast: The EC may require the Single Buyer to contribute the surplus to the EIF.
   - When generation cost exceeds forecast: The EC may authorise payments from the EIF to the Single Buyer to offset the increase.

This mechanism ensures that variations in uncontrollable generation costs are managed transparently and fairly, maintaining cost-reflective tariffs for customers. Any under-recovery of ICPT adjustments is borne by the government through subsidies, thus ensuring that the ICPT framework remain intact. However, as it takes time for the government to disburse subsidy payments to TENAGA, the Group may face cash flow constraints when the subsidy amount is substantial. This can lead to higher borrowing and increased interest expenses, significantly impacting TENAGA's profitability.

In its announcement on 20 Dec 2024, the government stated that the ICPT adjustment for 1H2025 will remain unchanged (Figure 6).

Figure 6: ICPT Adjustments

	User Category	2H24	1H25
Domestic	≤600kWh	2sen/kWh rebate	2sen/kWh rebate
	>600kWh but ≤1,500kWh	None	None
	>1,500kWh	10sen/kWh surcharge	10sen/kWh surcharge
Non-Domestic	Low Voltage (B,D)	2.7sen/kWh surcharge	2.7sen/kWh surcharge
	Medium and High Voltage	16sen/kWh surcharge	16sen/kWh surcharge
Government	Subsidies (RM bn)	2.2	2.4

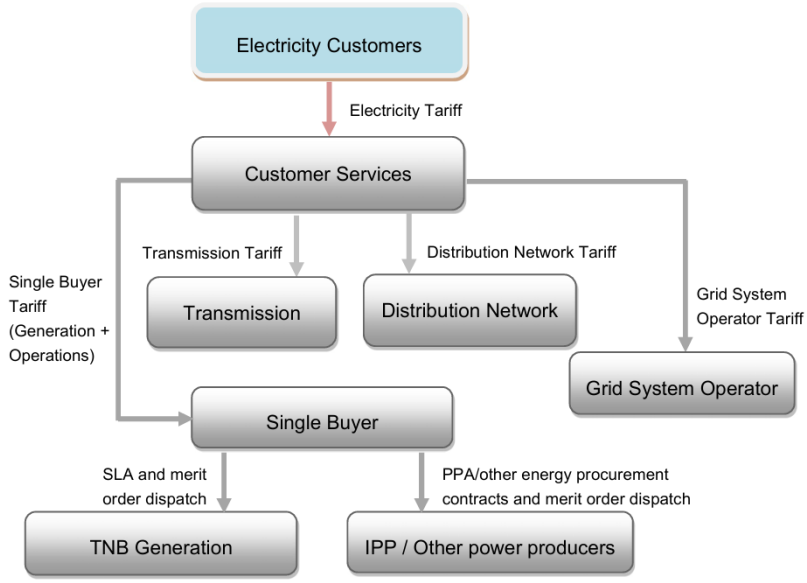
Source: PETRA, Apex Securities

Flow of Funds

The flow of funds from customers to the RBE is illustrated in Figure 7. Initially, Customer Services charges a bundled tariff to electricity customers, which incorporates all power generation costs

(for IPPs and power producers), as well as the costs of the five RBEs. Customer Services then distributes the collected revenue to the Single Buyer, Transmission, Distribution Network, and Grid System Operator entities based on the approved tariffs for each business entity. Notably, the Single Buyer tariff includes generation costs and operational costs. The Single Buyer retains its operational share and uses the generation component to pay TNB Genco, IPPs, other power producers, and fuel suppliers.

Figure 7: Flow of Funds from Customers to Regulated Business Entity



Source: Energy Commission

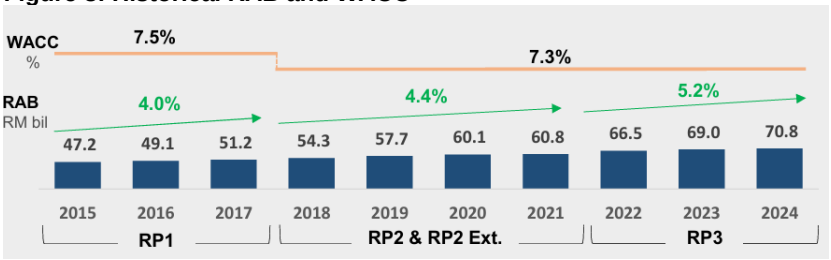
Outlook

Although not explicitly disclosed, we estimate that the regulated business contributes more than 90% of TENAGA's earnings. Under the IBR framework, the allowed return during each RP remains relatively stable. A significant boost typically occurs at the start of a new RP when a revised RAB and WACC are determined. The EC sets the WACC, while the RAB is influenced by electricity demand.

We believe TENAGA's RAB is poised for strong multi-year growth, supported by rising electricity demand from data centres, the increasing electrification of vehicles, and the ongoing transition to RE under the NETR. Investment in grid modernisation is particularly crucial to stabilise the grid and address the intermittent nature of RE. All eyes will be on RP4, as its parameters will set the stage for TENAGA's future growth.

In the latest update on RP4, announced on 20 Dec 2024, the government stated that the RP3 tariff will be maintained from 1 Jan 2025 to 30 Jun 2025, pending the finalisation of the new base tariffs for RP4. According to the latest guidelines, the present value of any over-recovery or under-recovery of allowed revenue during this period will be either returned to customers or paid to TENAGA's RBEs through base tariff adjustments for the remainder of the RP.

Figure 8: Historical RAB and WACC



Source: Company

Figure 9: Historical Regulatory Period (RP) Parameters

Parameter	RP1 (2015-2017)	RP2 (2018-2020)	RP2 (Ext) (2021)	RP3 (2022-2024)
Base Tariff (sen/kWh)	38.53	39.45	39.45	39.95
WACC	7.5%	7.3%	7.3%	7.3%
Closing RAB (RM bn)	51.2	60.1	60.8	70.8
Allowed Capex (RM bn)	18.5	18.8	7.3	20.6
Coal Price Forecast (USD/MT)	87.50	75.00	67.45	79.00
USD/MYR Forecast	3.10	4.21	4.21	4.12
Coal Price Forecast (RM/MT)	271.3	315.9	284.1	325.7
Gas Price Forecast (RM/mmBTU)	15.2-22.7	24.2-27.2	27.20	26-33

Source: Company, Apex Securities

ii) Domestic Power Generation Business

TENAGA's domestic power generation business is primarily managed through its power generation arms, TNB Power Generation Sdn Bhd (TNB Genco) and TNB Renewables Sdn Bhd. TNB Genco owns and operates coal, gas, and large hydroelectric plants, while TNB Renewables focuses on solar, mini-hydro, biomass, biogas, and waste-to-energy projects.

As of 2023, TENAGA had a total effective generating capacity of 16.3GW globally (Figure 10), with 15.1GW attributed to its domestic power generation business. This is equivalent to approximately 55% of domestic generating capacity. During the same period, the Group's domestic generation market share stood at 51.1%.

Figure 10: Power Generation Assets (Including Domestic and Foreign)

Type	Number of Power Plants 2023	Total Installed Capacity (MW) 2023	Equity Capacity (MW) 2023	Electricity Sent Out (GWh) 2023	Capacity Under Construction (MW)
Wholly owned					
Coal	2	4,080	4,080	25,980	-
Gas	6	3,521	3,503	17,445	-
Non-carbon	97	3,691	3,677	6,807	102
Others	50	203	169	520	-
Majority-owned					
Coal	2	3,600	2,360	21,854	-
Gas	2	2,040	1,368	10,088	-
Non-carbon	24	365	201	343	-
Minority-owned					
Coal	1	1,400	350	8,929	-
Gas	2	1,545	398	5,071	-
Non-carbon	11	319	106	754	-
Others	1	1,191	71	7,425	-

Source: Company's 2023 Annual Report

Under the Service Level Agreement (SLA) framework with Single Buyer, TENAGA's coal plants, gas-fired plants, and hydroelectric plants generate revenue through both capacity income and energy income. In contrast, solar farms earn only energy income, based solely on energy output.

Capacity Income

Capacity income is paid based on the available capacity of a power plant. Its purpose is to ensure the availability of generating capacity and to cover fixed costs such as depreciation, maintenance, debt servicing, and a return on investment. Capacity income is guaranteed as long as the Unscheduled Outage Rate (UOR) remains below the threshold specified in the SLA. Each plant is allocated a maximum allowable downtime within a given period. As long as both planned and unplanned outages remain within the allowable limits, the UOR will not exceed the threshold, and the plant will receive the full capacity payment.

Energy Income

Energy income is paid based on the power output of a plant and is primarily designed to cover variable costs, with fuel costs comprising the majority. An exception applies to solar farms, where the energy income is intended to cover not only variable costs but also fixed costs and a return on investment.

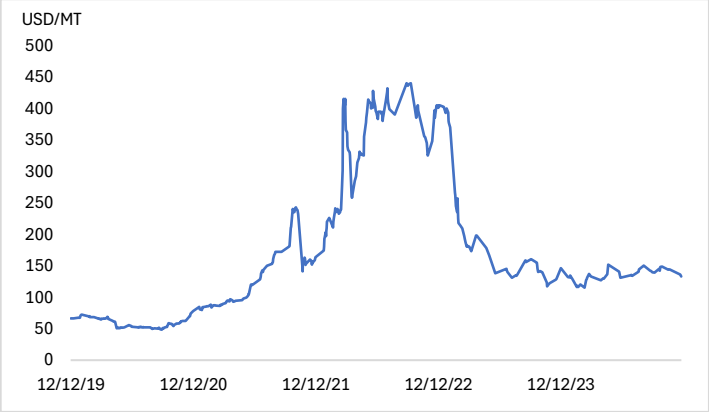
Fuel Margin

Under the SLA, as long as the UOR remains below the threshold, power plants can generally expect stable profits, as fuel costs are fully passed through. However, this stability has not been consistent for TENAGA's coal plants in Malaysia during periods of rapid coal price fluctuations, resulting in the emergence of fuel margins. The fuel margin is calculated as:

Fuel Margin = Fuel income – Fuel Cost.

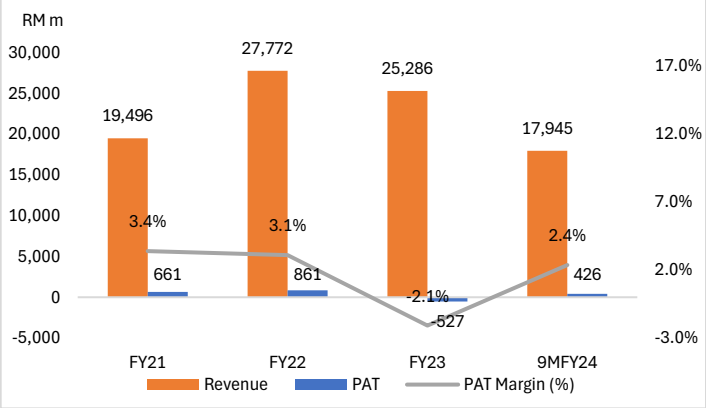
In 2022, following the Russia-Ukraine war, coal prices surged rapidly, leading to extraordinary profits for TENAGA from positive fuel margins. This was followed by significant negative fuel margins in 2023, as coal prices declined sharply (Figure 11 and 12). Fuel margins arise exclusively for coal plants due to the requirement to maintain coal inventories. As a result, fuel costs, represented by the weighted average cost of coal realised, lag behind changes in fuel income, which is based on market prices or the Applicable Coal Prices (ACP). In essence, TENAGA benefits from sharp increases in coal prices but faces challenges when coal prices decline significantly.

Figure 11: Newcastle Coal Prices



Source: Bloomberg, Apex Securities

Figure 12: Historical Financial Performance of TNB Genco



Source: Company, Apex Securities

Outlook

Considering that coal prices have stabilised in recent months (Figure 11), TNB Genco's business is unlikely to face significant impacts from fuel margins in the near term. Additionally, the Manjung 4 Power Plant, which experienced an unplanned outage since December 2023, resumed operations on 5 Nov 2024. TENAGA had previously estimated a capacity income loss of approximately RM400m for 2024. With operations restored, the UOR is expected to improve, and capacity income should return to optimal levels.

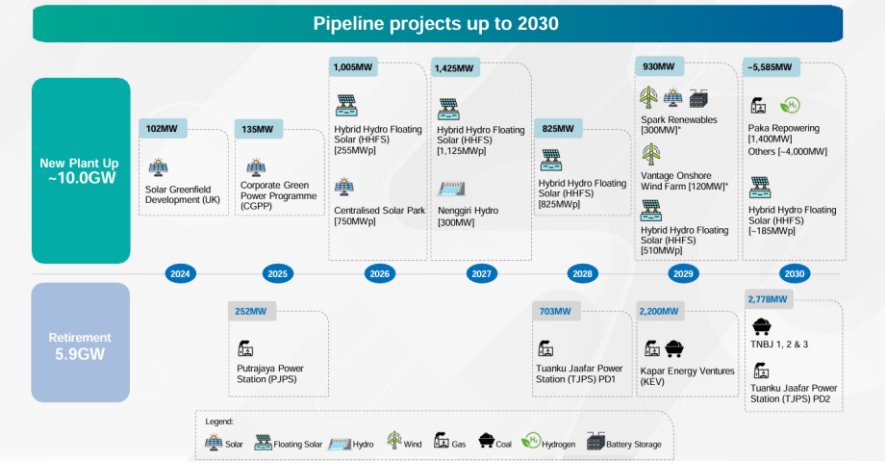
Several hydroelectric plants with a combined capacity of 649MW from the Sungai Perak Hydro Scheme are set to have their SLAs expire in August 2027. These plants from the scheme is

undergoing a Life Extension Programme to extend their SLAs for another 40 years. We anticipate a similar approach for the 400MW Sultan Mahmud Kenyir Plant (SLA expiring in August 2025) and the 262MW Cameron Highlands Hydroelectric Plant (SLA expiring in August 2027) as TENAGA continues to expand its RE portfolio. While the Internal Rate of Return (IRR) for these SLA extensions is likely lower than the original SLAs, the programme offers TENAGA an opportunity to continue generating recurring income from its power generation business.

In addition, SLAs for two coal plants with a combined capacity of approximately 3.6GW and gas-fired plants with a combined capacity of approximately 2.3GW are set to expire by 2030 (Figure 13). These retiring plants will be replaced by an estimated 10GW of pipeline projects scheduled for completion by 2030. Key contributors include catalytic projects under the NETR, such as five 150MWp centralised solar park projects and the 2.9GWp hybrid hydro floating solar (HHFS) photovoltaic (PV) project (Figure 14).

Overall, we remain confident about the outlook for TENAGA's power generation business, as the Group increasingly shifts towards RE projects, which are generally less prone to breakdowns compared with coal plants.

Figure 13: Pipeline Projects and Plant Retirement Schedule Through 2030



Source: Company

Figure 14: Pipeline Projects

Projects			
GenCo	Sungai Perak Hydro Life Extension Programme	649MW	COD: 1st unit 2026 (8MW)
	Nenggiri Hydro Project	300MW	COD: 2Q2027
	Hybrid Hydro-Floating Solar PV (HHFS) - Updated	~2,900MWp by 2040	1st COD: 2026 (255MWp) Chendereh : 105MWp Kenyir : 150MWp
	Paka Repowering	1,400MW	COD: 2029
	New Combined Cycle Power Plant (Kapar)	2,100MW	COD: 2031
	Co-firing of Hydrogen & Ammonia		
NED	Solar Greenfield Development (UK)	102MWp	COD: 4Q2024
	Corporate Green Power Programme (CGPP)	135MWp	COD: 2025
	Centralised Solar Park (CSP)	5 x 150MWp	COD: 2026

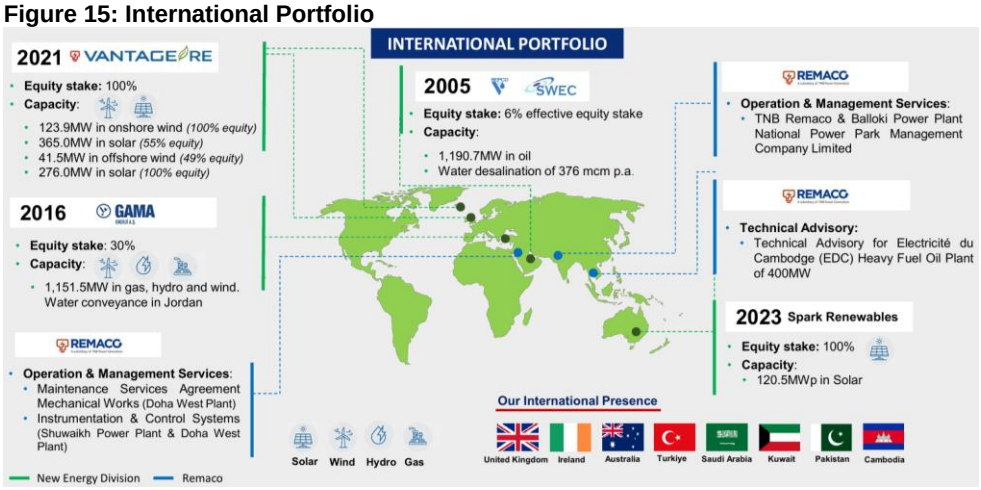
Source: Company

iii) International Business

In recent years, TENAGA has refocused its international business strategy towards RE. This strategic pivot is highlighted by TENAGA's recent acquisition of Spark Renewables Pty Ltd in Australia, which has a pipeline exceeding 6GW of solar and wind projects.

As of March 2024, TENAGA's foreign businesses had an effective generating capacity of 1.2GW, with the majority concentrated on RE. The Group's international RE operations are managed by TNB International Sdn Bhd (TNBI). A summary of the Group's international ventures is presented in Figure 15 below.

Figure 15: International Portfolio



Source: Company

Management and Shareholders

Management. Datuk Ir. Megat Jalaluddin Megat Hassan has been serving as the President and Chief Executive Officer (CEO) of TENAGA since March 2024. Prior to this role, he was the Chief Operating Officer (COO) of TENAGA. Datuk Megat Jalaluddin first joined TENAGA in 2006, briefly left for Celcom in 2008, and returned to the company in 2009. Meanwhile, Nazmi Othman has been the Chief Financial Officer (CFO) of TENAGA since August 2018. His employment contract is set to expire on 31 Dec 2024, upon which he will be succeeded by Badrulhisyam Fauzi, effective 1 Jan 2025.

Shareholders. Khazanah Nasional Berhad is the largest shareholder, holding a 20.4% stake, followed by the Employees Provident Fund (EPF) with an 18.2% stake.

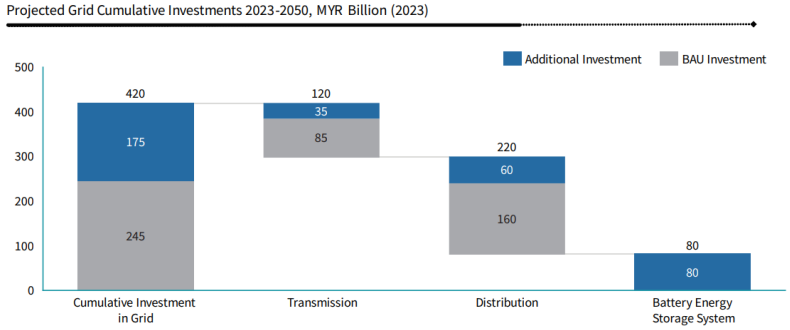
Investment Highlights

Expansion of Regulated Asset Base

TENAGA's RAB is poised for sustained multi-year growth, driven by rising electricity demand from data centres and the increasing electrification of vehicles. This is reflected in TENAGA's projected demand growth of 5.8%-6.3% for RP4, surpassing the anticipated GDP growth of 4.8%-5.3%. The ongoing energy transition under the NETR serves as another significant catalyst for RAB expansion. Investments in grid modernisation, estimated at RM12.1bn annually through 2050 (Figure 16), are critical for stabilising the grid and managing the intermittent nature of RE sources.

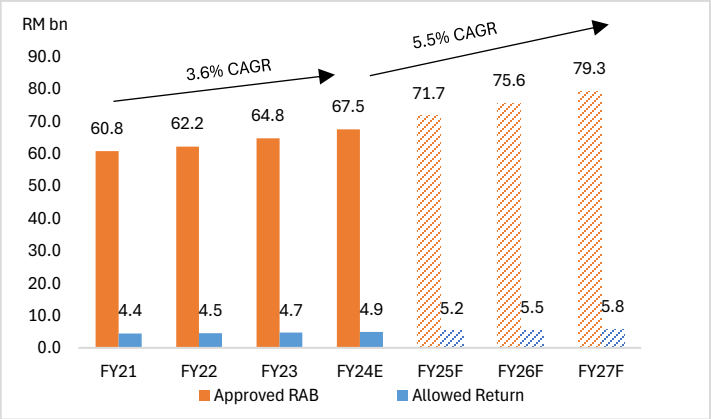
Based on our estimated capex of RM9bn per year for TENAGA's regulated business and maintaining a WACC of 7.3% for RP4, we project the RAB to expand at a 5.5% CAGR from FY24 to FY27. This growth is expected to generate an allowed return of RM5.2bn to RM5.8bn during RP4 (Figure 17). When discounted to present value using a WACC of 7.3%, the estimated average allowed return per year in RP4 is RM4.8bn, representing a 16.5% increase compared to RP3. This demonstrates TENAGA's robust growth trajectory and its ability to capture value from increasing investments in its regulated business.

Figure 16: Projected Power System Cumulative Investments



Source: NETR

Figure 17: Projected RAB and Allowed Return



Source: Company, Apex Securities

Sustainable Earnings Growth from Power Generation Business

TENAGA's power generation business is set for sustainable and diversified earnings growth, underpinned by its 10GW pipeline projects scheduled for completion by 2030 (Figure 13). This pipeline comprises a balanced mix of RE systems and gas-fired plants, ensuring stability and resilience in the Group's earnings base.

The Group's ongoing coal phase-out initiative represents a strategic shift towards cleaner and more efficient energy sources. Unlike coal plants that are more prone to breakdowns due to complex fuel-handling and higher maintenance requirements, gas-fired plants and RE systems are characterised by higher uptime and operational efficiency. By retiring 3.6GW of coal plants by 2030, TENAGA is reducing its carbon footprint while enhancing the reliability of its generation fleet.

TENAGA's innovative Hybrid Hydro Floating Solar (HHFS) photovoltaic (PV) projects stand out as a key growth driver, offering both financial and strategic benefits. These projects leverage Malaysia's abundant hydro resources to integrate floating solar PV systems, maximising land use efficiency while reducing system intermittency. The first HHFS project is expected to achieve commercial operations by 2026, with an estimated equity IRR of 9%-11%, reinforcing its financial viability and TENAGA's leadership in Malaysia's RE landscape.

Potential Growth from Electricity Exports to Singapore

Singapore's plan to import 6GW of low-carbon electricity by 2035 presents a significant opportunity for Malaysia, given its abundance of cost-competitive RE and low-carbon energy. The price differential between two countries further enhances this opportunity. Adding an ICPT surcharge of 16sen/kWh on top of Malaysia's base tariff results in an average tariff of 55.95sen/kWh, which is significantly lower than Singapore's electricity tariff of approximately RM1.05/kWh. Notably, the LSS4 tariffs offer an even more competitive cost base, ranging from 17.68 sen to 24.81 sen per kWh. This creates a compelling arbitrage opportunity for Malaysia to export low-carbon energy to Singapore.

In alignment with its export ambitions, TENAGA recently signed an agreement to supply 50MW of RE to Sembcorp Power Pte Ltd in Singapore. This maiden RE export from Malaysia to Singapore is the outcome of a bidding process conducted through Energy Exchange Malaysia (Enegem) in June, underscoring TENAGA's potential to tap into Singapore's growing demand for low-carbon energy.

Currently, Malaysia's existing 1GW interconnection with Singapore falls under the RAB, meaning it does not yield additional profit beyond the allowed return. The profitability of future exports hinges on whether new interconnections between Malaysia and Singapore will also be regulated under the RAB. If these interconnections are unregulated, they could unlock greater returns for TENAGA through wheeling charges.

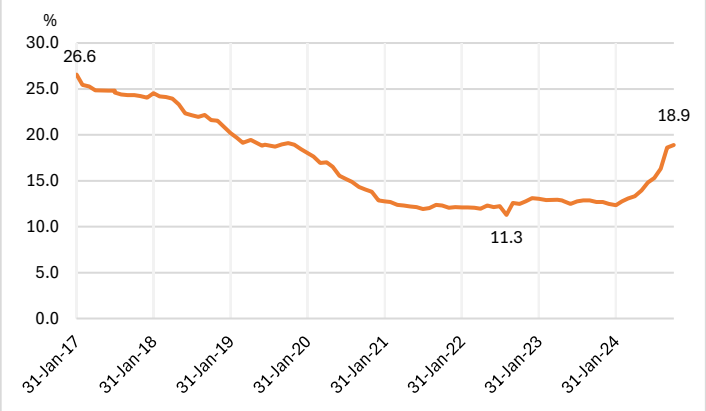
Expanding electricity exports also presents an opportunity for TENAGA to diversify its revenue base, reducing its reliance on domestic electricity demand, which currently accounts for more than 90% of its revenue. This aligns with TENAGA's long-term growth strategy, offering a hedge against domestic demand fluctuations while strengthening its position in the regional energy market.

Return of Foreign shareholders

Foreign shareholding in TENAGA declined from 26.6% on 31 Jan 2017 to a low of 11.3% on 30 Aug 2022 (Figure 18), driven by global ESG investment trends that reduced exposure to coal-dependent utilities. This decline was further exacerbated by the slowing electricity demand growth in Malaysia. However, foreign shareholding has since rebounded to 18.9% as of 31 Oct 2024, reflecting renewed investor confidence.

Despite this recovery, foreign shareholding remains below the pre-2019 levels of over 20%, indicating room for further growth. With the anticipated increase in electricity demand, supported by the growth of data centres and EV adoption, as well as TENAGA's commitment to decarbonising its operations, we expect foreign investors to show greater interest in the company moving forward. This shift aligns with TENAGA's ongoing transition to a cleaner energy mix and its pivotal role in Malaysia's energy transition goals.

Figure 18: Foreign Shareholding Level Still has Room for Further Growth



Source: Company, Apex Securities

Financial Highlights

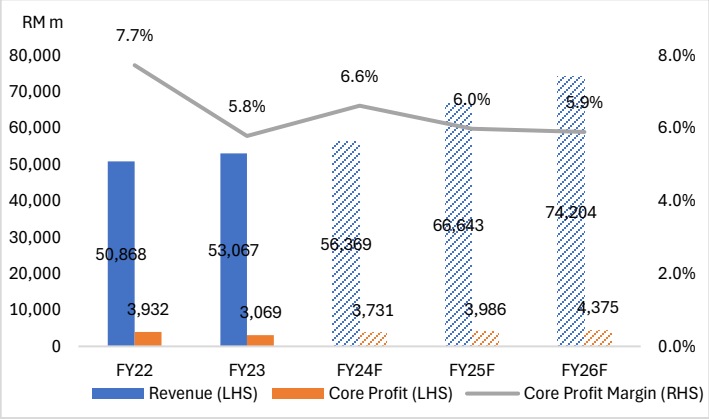
9MFY24: TENAGA's 9MFY24 core profit increased by 16.8% yoy to RM3.1bn, primarily driven by a 10.6% reduction in finance costs following loan repayments and improved contributions from TNB Genco, attributed to the absence of substantial negative fuel margins, which amounted to RM767.9m in 9MFY23.

Earnings Outlook. We forecast the Group's core profit to grow by 21.6% yoy in FY24, driven by the minimal impact from negative fuel margins as coal prices stabilise and lower finance costs as the Group continues to reduce its debt. Meanwhile, we expect earnings to rise by 6.8% in FY25 and 9.8% in FY26, supported by higher allowed returns under RP4 and greater

contributions from TNB Genco, as capacity income from Manjung 4 returns to optimal levels. However, we anticipate that FY25 earnings may not fully capture the potential growth from RP4, due to the delay in implementing the new base tariff. Any shortfall is expected to be accounted for over the remainder of the RP (Figure 19).

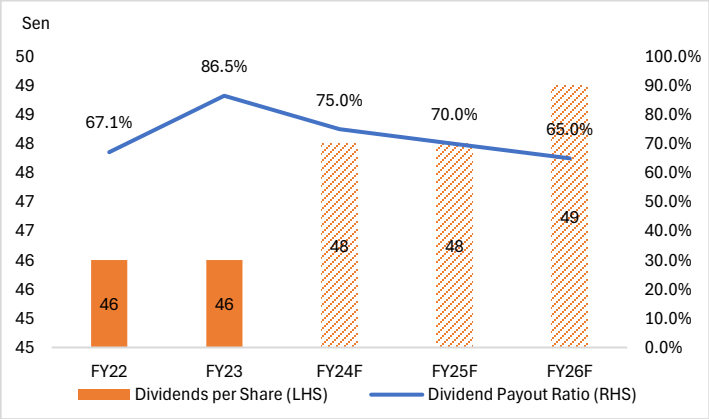
Dividend Policy. TENAGA has a dividend policy to distribute 30%-60% of its adjusted profit after tax and minority interest (PATAMI). We forecast a dividend payout ratio of 75%/70%/65% for FY24/FY25/FY26, respectively, translating into a dividend per share (DPS) of 48sen, 48sen, and 49sen (Figure 20). We anticipate a gradual decline in the dividend payout ratio to preserve cash flow for higher Capex. Nonetheless, our forecasted payout ratios remain above the Group's committed minimum payout range.

Figure 19: Earnings Forecasts



Source: Company, Apex Securities

Figure 20: Dividend Payout



Source: Company, Apex Securities

Environment, Social, and Governance (ESG)

★★★ We assign TENAGA an overall ESG score of 3 out of 5 stars. The detailed assessment is outlined in the ESG Matrix Framework below.

Valuation & Recommendation

Initiation Coverage. We initiate coverage of Tenaga Nasional Berhad with a **BUY** recommendation and a target price of **RM16.00** based on DCF valuation (WACC: 7.1%, g: 2.0%). No ESG premium or discount has been applied, given the company's three-star ESG rating.

Peers Comparison

Company	Market Cap (RM m)	Share Price (RM)	TP (RM)	Potental Upside	P/E (x) CY24	P/E (x) CY25	EPS Growth (%) CY24	EPS Growth (%) CY25	ROE (%) CY24	ROE (%) CY25	Div Yield (%) CY24	Div Yield (%) CY25	ESG Rating
Tenaga Nasional Bhd	81,381	14.00	16.00	14.3%	21.8	20.4	33.7	6.8	6.2	6.5	3.4	3.4	★★★
YTL Power International Bhd *	33,748	4.11	5.31	29.2%	10.5	10.9	-4.8	-4.0	16.1	13.5	1.8	1.9	N/A
Malakoff Corporation Bhd	3,836	0.79	0.96	22.3%	11.4	10.7	nm	7.3	7.4	7.9	6.4	7.0	★★★

**Based on Bloomberg Consensus*

Source: Apex Securities

Investment Risks

Rapid Plunge in Coal Prices. TENAGA faces the risk of negative fuel margins in the event of a sharp decline in coal prices as costs typically lags behind fuel income.

Unplanned Shutdowns. The power plants owned by the Group are at risk of unscheduled outages, which could affect capacity income and profitability.

Weakening of Ringgit. A portion of TENAGA's borrowings is denominated in USD, which leads to higher borrowing principal and interest expenses when the Ringgit weakens.

Policy Risk. TENAGA's regulated business is exposed to policy risk, with its earnings growth contingent on the government's approval of tariff adjustments.

Financial Highlights

Income Statement

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Revenue	**50,867.7**	**53,066.9**	**56,369.3**	**66,643.5**	**74,204.2**
EBITDA	**20,588.5**	**18,413.1**	**19,784.6**	**20,339.2**	**21,747.0**
Depreciation & Amortisation	-11,402.5	-11,265.7	-11,343.5	-11,270.5	-12,010.9
EBIT	**9,186.0**	**7,147.4**	**8,441.0**	**9,068.8**	**9,736.2**
Net Finance Income/ (Cost)	-3,935.0	-3,836.2	-3,495.7	-3,788.2	-3,935.4
Associates & JV	97.6	62.4	96.5	105.3	111.1
Pre-tax Profit	**5,348.6**	**3,373.6**	**5,041.9**	**5,385.9**	**5,911.8**
Tax	-1,791.2	-770.0	-1,210.0	-1,292.6	-1,418.8
Profit After Tax	**3,557.4**	**2,603.6**	**3,831.8**	**4,093.3**	**4,493.0**
Minority Interest	94.1	-166.7	100.8	107.7	118.2
Net Profit	**3,463.3**	**2,770.3**	**3,731.0**	**3,985.5**	**4,374.7**
Exceptionals	-468.6	-299.0	0.0	0.0	0.0
Core Net Profit	**3,931.9**	**3,069.3**	**3,731.0**	**3,985.5**	**4,374.7**

Key Ratios

FYE Dec	FY22	FY23	FY24F	FY25F	FY26F
EPS (sen)	60.4	48.0	64.2	68.6	75.3
P/E (x)	23.2	29.2	21.8	20.4	18.6
P/B (x)	1.4	1.4	1.4	1.3	1.3
EV/EBITDA (x)	8.4	8.4	7.7	7.8	7.6
DPS (sen)	46.0	46.0	48.0	48.0	49.0
Dividend Yield (%)	3.3%	3.3%	3.4%	3.4%	3.5%
EBITDA margin (%)	40.5%	34.7%	35.1%	30.5%	29.3%
EBIT margin (%)	18.1%	13.5%	15.0%	13.6%	13.1%
PBT margin (%)	10.5%	6.4%	8.9%	8.1%	8.0%
PAT margin (%)	7.0%	4.9%	6.8%	6.1%	6.1%
NP margin (%)	6.8%	5.2%	6.6%	6.0%	5.9%
CNP margin (%)	7.7%	5.8%	6.6%	6.0%	5.9%
ROE (%)	5.9%	4.7%	6.2%	6.5%	7.0%
ROA (%)	1.7%	1.4%	1.9%	1.9%	2.0%
Gearing (%)	159.4%	151.6%	138.1%	140.0%	144.8%
Net gearing (%)	138.0%	117.3%	112.3%	120.1%	125.4%

DCF Valuation	Value (RM m)	Valuation method
Enterprise Value	171,869.8	WACC: 7.1%, g: 2.0%
(-) Net Debt/(Cash)	76,199.4	
(-) Minority Interests	2,465.5	
Total Equity Value	**93,205.0**	
Enlarged share base (m share)	5,826.9	
Equity Value/share (RM)	**16.00**	
ESG premium/discount	0.0%	
Fair Value (RM)	**16.00**	

** Gearing Ratio includes lease liabilities*

Source: Company, Apex Securities

Balance Sheet

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Cash	4,893.4	19,390.5	14,451.2	11,017.6	11,053.6
Receivables	22,827.0	10,408.2	12,046.0	12,050.6	13,214.5
Inventories	3,290.8	2,758.0	2,432.3	2,329.9	2,633.4
Other current assets	14,045.0	8,091.5	8,217.9	8,611.0	8,900.3
Total Current Assets	**45,056.2**	**40,648.2**	**37,147.4**	**34,009.1**	**35,801.8**
Fixed Assets	116,577.1	121,932.1	124,067.5	129,003.1	133,488.9
Intangibles	0.0	0.0	0.0	0.0	0.0
Other non-current assets	44,289.0	42,163.3	38,986.0	41,425.7	44,531.5
Total Non-Current Assets	**160,866.1**	**164,095.4**	**163,053.5**	**170,428.7**	**178,020.4**
Short-term debt	13,262.2	7,330.6	4,830.6	4,330.6	5,080.6
Payables	11,509.7	12,830.7	13,697.5	13,073.4	14,776.1
Other current liabilities	12,825.4	12,677.3	12,779.6	13,097.8	13,332.0
Total Current Liabilities	**37,597.3**	**32,838.6**	**31,307.7**	**30,501.8**	**33,188.7**
Long-term debt	50,620.0	54,439.6	51,939.6	51,439.6	52,189.6
Other non-current liabilities	56,738.8	56,382.7	54,817.8	59,057.6	63,302.2
Total Non-Current Liabilities	**107,358.8**	**110,822.3**	**106,757.4**	**110,497.2**	**115,491.8**
Shareholder's equity	58,517.1	58,825.8	59,778.1	60,973.4	62,557.9
Minority interest	2,449.1	2,256.9	2,357.7	2,465.5	2,583.7
Total Equity	**60,966.2**	**61,082.7**	**62,135.8**	**63,438.8**	**65,141.6**

Cash Flow

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Pre-tax profit	**5,348.6**	**3,373.6**	**5,041.9**	**5,385.9**	**5,911.8**
Depreciation & amortisation	11,402.5	11,265.7	11,343.5	11,270.5	12,010.9
Changes in working capital	-8,117.6	15,703.8	-239.4	98.2	-66.6
Others	744.4	1,900.3	2,777.3	2,904.4	2,910.8
Operating cash flow	**9,377.9**	**32,243.4**	**18,923.3**	**19,658.9**	**20,766.9**
Capex	-8,428.9	-10,599.2	-10,000.0	-13,000.0	-13,000.0
Others	-5,937.3	4,814.5	0.0	0.0	0.0
Investing cash flow	**-14,366.2**	**-5,784.7**	**-10,000.0**	**-13,000.0**	**-13,000.0**
Dividends paid	-2,181.3	-2,537.5	-2,778.7	-2,790.2	-2,790.2
Others	5,590.2	-10,774.3	-11,083.8	-7,302.3	-4,940.7
Financing cash flow	**3,408.9**	**-13,311.8**	**-13,862.5**	**-10,092.5**	**-7,730.9**
Net cash flow	**-1,579.4**	**13,146.9**	**-4,939.3**	**-3,433.6**	**36.0**
Forex	0.6	22.2	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0
Beginning cash	5,634.9	4,056.1	19,390.5	14,451.2	11,017.6
Ending cash	**4,056.1**	**17,225.2**	**14,451.2**	**11,017.6**	**11,053.6**

ESG Matrix Framework:

Environment

Parameters	Rating	Comments
Climate	★★	Scope 1 and Scope 2 GHG emissions totaled 39.3m tCO^2e in 2023, marking a 1.1% yoy increase from 2022. TENAGA aims to reduce its GHG emissions intensity by 35% by 2035 and achieve Net Zero Emissions by 2050.
Waste & Effluent	★★★★	Implemented the Scheduled Waste Roadmap 2018-2030 to strengthen hazardous waste management. In 2023, a 47% recycling rate for hazardous waste was achieved, surpassing the 30% target set for 2025.
Energy	★★	Generation mix in 2023 remained dominated by fossil fuels, with coal accounting for 41.7% and gas 32.4%. The Group plans to reduce its coal capacity by 50% by 2035 and fully phase it out by 2050. In 2023, TENAGA's renewable energy capacity reached 4.4GW, reflecting a 15.7% yoy increase, though still significantly below its target of 8.3GW by 2025.
Water	★★	In power generation operations, 80% of water consumption is used for steam generation and power plant cooling systems. Total water consumed amounted to 10,096 ML in 2023, reflecting a 4.1% yoy reduction.
Compliance	★★★	The Group is in compliance with local and international environmental regulations.

Social

Diversity	★★★	Established the TNB Diversity & Inclusion policy in 2022. As of 2023, 15% of non-executive staff and 41% of executive staff are female.
Human Rights	★★	TENAGA is poised to introduce the Group's comprehensive stance on labour rights.
Occupational Safety and Health	★★	In 2023, four work-related fatalities were reported. The Lost Time Incident Rate (LTIR) stood at 0.74, below the target of 1.0.
Labour Practices	★★★	TENAGA complies with all relevant labor laws and supports the rights to freedom of association and collective bargaining.

Governance

CSR Strategy	★★★★★	Aspire to bring positive impact to the community by allocating 1% of its PAT for various corporate responsibility programmes. In 2023, the Group invested over RM99m in community initiatives.
Management	★★★	In 2023, women made up 26% of the senior management team, falling short of the 30% female representation target set for 2025. Among the board members, 42% (5 out of 12) were female, while 50% (6 out of 12) were independent directors.
Stakeholders	★★★★	Regularly engages with stakeholders to understand and address their needs. For instance, the Group organises annual one-to-one engagements with NGOs, annual feedback sessions with government bodies and regulators, annual general meeting (AGM) for investors, and quarterly results briefings for analysts.

Overall ESG Scoring: ★★★

Recommendation Framework:
BUY: Total returns* are expected to exceed 10% within the next 12 months.
HOLD: Total returns* are expected to be within +10% to – 10% within the next 12 months.
SELL: Total returns* are expected to be below -10% within the next 12 months.
TRADING BUY: Total returns* are expected to exceed 10% within the next 3 months.
TRADING SELL: Total returns* are expected to be below -10% within the next 3 months.
*Capital gain + dividend yield

Sector Recommendations:
OVERWEIGHT: The industry defined by the analyst is expected to exceed 10% within the next 12 months.
NEUTRAL: The industry defined by the analyst is expected to be within +10% to – 10% within the next 12 months.
UNDERWEIGHT: The industry defined by the analyst, is expected to be below -10% within the next 12 months.

ESG Rating Framework:
★★★★★ : Appraised with 3% premium to fundamental fair value
★★★★ : Appraised with 1% premium to fundamental fair value
★★★ : Appraised with 0% premium/discount to fundamental fair value
★★ : Appraised with -1% discount to fundamental fair value
★ : Appraised with -5% discount to fundamental fair value

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As of **Tuesday, 24 Dec, 2024**, the analyst(s), whose name(s) appears on the front page, who prepared this report, has interest in the following securities covered in this report:
(a) nil.

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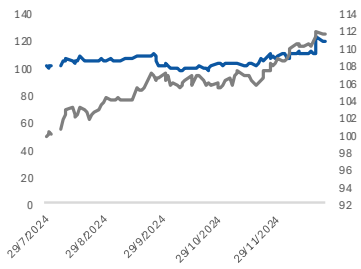
Recommendation:		BUY
Current Price:		RM 0.79
Previous Target Price:		N/A
Target Price:	↔	RM 0.96
Capital Upside/Downside:		21.5%
Dividend Yield (%):		7.0%
Total Upside/Downside:		**29.3%**

Stock information	
Board	MAIN
Sector	Utilities
Bursa / Bloomberg Code	5264 / MLK MK
Syariah Compliant	Yes
ESG Rating	★★★
Shares issued (m)	4,887.0
Market Cap (RM' m)	3,836.3
52-Week Price Range (RM)	1.02-0.605
Beta (x)	1.1
Free float (%)	36.7
3M Average Volume (m)	3.2
3M Average Value (RM' m)	2.8

Top 3 Shareholders	(%)
Anglo Oriental Annuities Sdn Bhd	20.1
Mmc Corp Bhd	18.4
Employees Provident Fund Board	11.4

Share Price Performance



	1M	3M	12M
Absolute (%)	-1.3	-19.1	25.6
Relative (%)	-1.7	-15.3	14.4

Malakoff Corporation Berhad

Frontrunner to Secure New Gas Plants

Executive Summary

- **As the largest IPP in Malaysia, MALAKOF is the top contender to secure new gas plants amidst the rising demand for electricity.**
- **Earnings growth will be driven by (i) PPAs for new gas plants; (ii) tariff adjustments for the concession solid waste management business; (iii) the completion of acquisition of E-Idaman, and (v) the new waste-to-energy (WTE) plant.**
- **We initiate coverage of Malakoff Corporation Berhad with a BUY recommendation and a target price of RM0.96 based on Sum-of-Parts (SOP) valuation.**

Key Investment Highlights

Frontrunner to Secure New Gas Plant. As the country transitions away from coal-fired power plants, gas-fired plants are emerging as the preferred option in the near to medium term. As Malaysia's largest IPP, MALAKOF is well-positioned to secure PPAs to address the estimated 3.4GW capacity shortfall in gas-fired plants. We estimate that MALAKOF will secure a 1.2GW gas-fired plant, which at an equity IRR of 10%-11%, is projected to unlock a return of approximately RM100m annually.

Beneficiary from Short-term Extension PPAs. To maintain a 25% reserve margin in 2030 under a projected 1.5% annual peak demand growth, approximately 8.5GW of retired capacity from coal and gas-fired plants will need to be replaced. MALAKOF's Prai Power Plant has secured a one-year PPA extension. The extension not only extends the operational lifespan of the plant, but is also expected to contribute an additional RM15-18mn EBITDA annually.

Expanding Waste Management Capabilities. MALAKOF is in the process of completing the acquisition of a 49% equity interest in E-Idaman, which holds the concession for solid waste management in Kedah and Perlis. Upon finalisation, E-Idaman is expected to contribute an additional 3%-5% to MALAKOF's annual profit. Further upside is anticipated from a potential tariff adjustment in FY26, which could significantly enhance profitability for MALAKOF's concession business. These ventures align with MALAKOF's strategy to diversify its revenue streams and capture value from growing demand for integrated waste management solutions.

WTE to Complement the Business. MALAKOF is nearing the finalisation of the concession agreement for its waste-to-energy (WTE) plant, which underscores the Group's commitment to diversifying its energy portfolio and capitalising on sustainable waste management solutions. While the WTE plant may not be operational in the near term, it represents a strategic asset for MALAKOF, providing a dual source of revenue and aligning with sustainability trends.

Valuation & Recommendation. We initiate coverage of Malakoff Corporation Berhad with a **BUY** recommendation and a target price of **RM0.96** based on Sum-of-Parts (SOP) valuation. No ESG premium or discount has been applied, given the company's three-star ESG rating.

Earnings Summary

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Revenue	10355.2	9067.0	9068.1	9249.9	9284.2
EBITDA	2284.9	1027.6	1986.5	1971.1	1983.9
Pre-tax profit	736.8	-954.9	546.0	595.3	701.8
Net profit	302.2	-837.2	335.1	359.7	432.1
Core net profit	624.5	-463.3	287.9	312.5	384.9
Core EPS (sen)	12.8	-9.5	5.9	6.4	7.9
P/E (x)	12.7	-4.6	11.4	10.7	8.9
P/B (x)	0.7	0.9	0.8	0.8	0.8
EV/EBITDA (x) *	4.5	9.1	4.8	4.3	4.0
Dividend Yield (%)	6.7%	3.8%	6.4%	7.0%	8.3%
Net Gearing (%)	107.6%	112.4%	101.0%	81.3%	69.7%

**Based on the year-end closing price*
Source: Company, Apex Securities

KDN PP13226/06/2024 (035469)

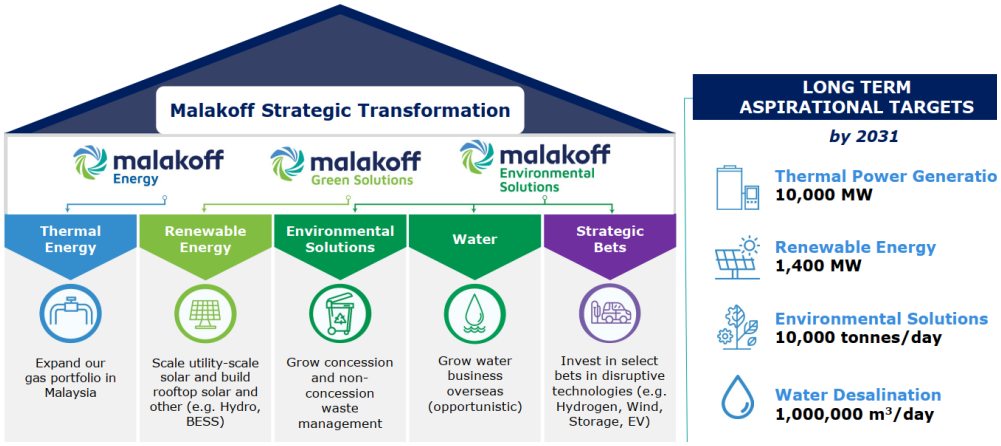
Company Background

Background. Malakoff Corporation Berhad (MALAKOF) is a multinational energy generation and environmental solutions company. The Group is Malaysia' largest Independent Power Producer (IPP), involved in thermal generation in Malaysia and internationally with an effective generating capacity of 5930MW and renewable energy (RE) generation with an effective generating capacity of 134MW. In addition, MALAKOF provides environmental solutions and solid waste management services through concession and non-concession businesses via its subsidiary Alam Flora Sdn Bhd. Internationally, the Group is also involved in water desalination and power generation via its associates in the Middle East.

History. Established in 1975, MALAKOF initially operated as a plantation-based company. Over the decades, the company underwent significant transformations, shifting its focus to the power sector in the 1990s. In 2007, MALAKOF was privatised by MMC Corporation Berhad, which was majority-owned by billionaire Syed Mokhtar Albukhary. MALAKOF was subsequently relisted on Bursa Malaysia in 2015. Following the acquisition of Alam Flora Sdn Bhd in 2019, MALAKOF made its initial foray into the environmental solutions business and solid waste management business.

Rebranding and Renewed Direction. In May 2023, MALAKOF rebranded with a new logo and a renewed business direction towards sustainability and a greener future. This is in line with the Group's pivot in business direction towards sustainability and a circular economy. Under this initiative, MALAKOF created three new entities, namely Malakoff Green Solutions for renewable energy, Malakoff Environmental Solutions for waste management and Malakoff Energy for energy management solutions (Figure 1).

Figure 1: MALAKOF's Strategic Transformation



Source: Company

Business Overview

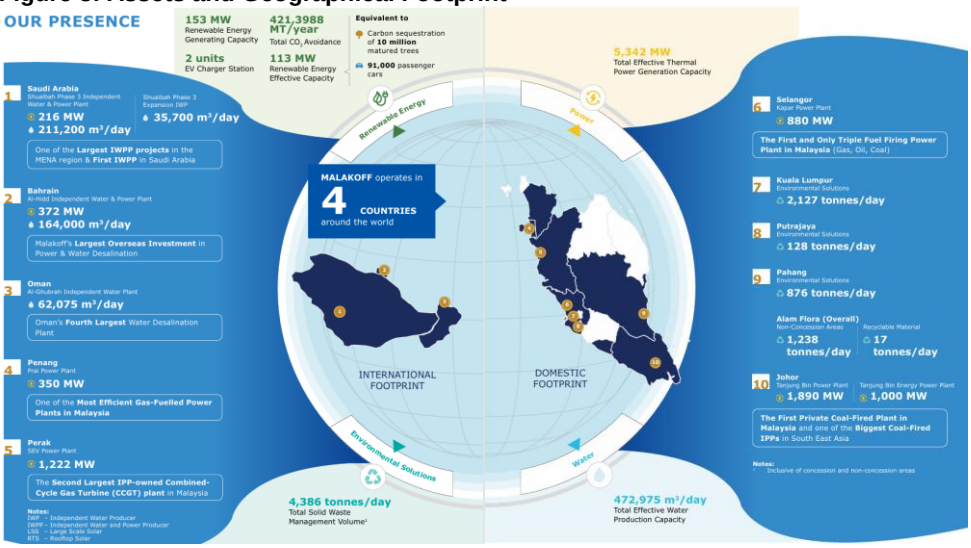
Business Segments. MALAKOF is mainly involved in three business divisions, namely the Power Generation segment, the Waste Management and Environmental Services segment, and Others, as shown in Figure 2. The Group's assets and geographical footprint are illustrated in Figure 3 below.

Figure 2: Business Segments

Business Divisions	Explanation
Power Generation	Includes power generation business and water desalination services.
Waste Management and Environmental Services	Includes waste management services and environmental services via concession and non-concession business domestically.
Others	Includes RE business, operation and maintenance services that mainly support the power generation segment, rental of investment property and investment holding.

Source: Company, Apex Securities

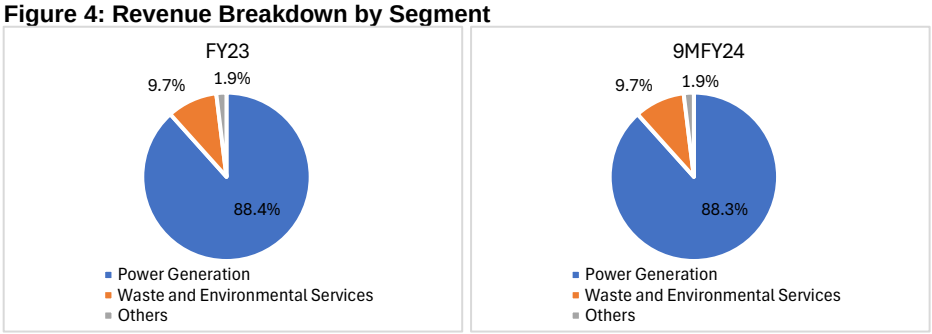
Figure 3: Assets and Geographical Footprint



Source: Company's 2023 Annual Report

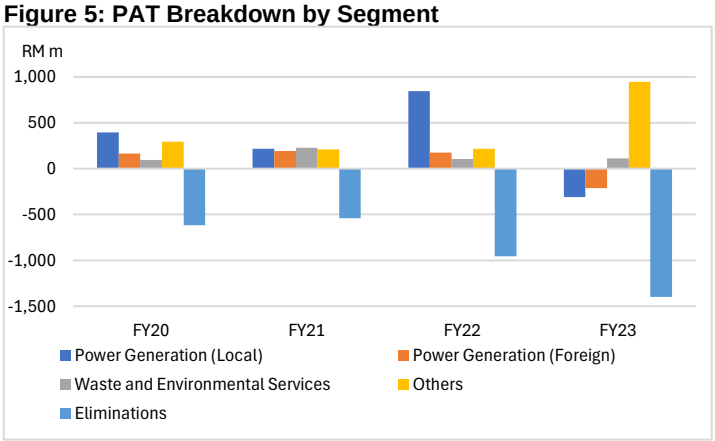
Revenue and PAT breakdown. MALAKOF generates all of its revenue locally, as the Group's foreign businesses operate through its associates. The Power Generation division is the largest contributor to the Group's revenue, accounting for approximately 88% in FY23 and 9MFY24, followed by the Waste Management segment, which contributed around 10% during the same periods (Figure 4). In terms of the bottom line, the Power Generation segment is also the primary contributor to PAT, with the Waste Management segment providing a relatively stable contribution, as illustrated in Figure 5. An exception occurred in FY23, when the local Power Generation segment was significantly impacted by negative fuel margins, and the foreign Power Generation segment was affected by the impairment of one of its plants.

Figure 4: Revenue Breakdown by Segment



Source: Company, Apex Securities

Figure 5: PAT Breakdown by Segment



Source: Company, Apex Securities

i) Power Generation

MALAKOF holds stakes in five power plants in Malaysia, as well as two independent water and power plants (IWPPs) and two independent water plants (IWPs) in the Middle East. Within this segment, the Group primarily focuses on power generation and water desalination services. MALAKOF has a total effective power generating capacity of 5,930MW and an effective water production capacity of 472,975m^3/day. Details of these assets are shown in Figures 6, 8, and 9.

a) Domestic Thermal Generation Business

MALAKOF is the largest IPP in Malaysia, generating approximately one quarter of Peninsular Malaysia's electricity needs in 3QFY24. The Group's effective generating capacity of 5.3GW is 19.3% of Peninsular Malaysia' installed capacity of 27.7GW as of 30 Sep 2024 (Figure 6). MALAKOF's thermal power plants in Malaysia generate revenue in the form of capacity income and energy income under the Power Purchase Agreement (PPA) framework. This is similar to the Service Level Agreement (SLA) between TNB Genco and the Single Buyer.

Figure 6: Domestic Thermal Generation Assets

Plant	Stake	Capacity (MW)	Effective Capacity (MW)	Plant description	PPA Expiry	Location	Status
Segari Energy Ventures (SEV)	93.75%	1303	1222	Combined-Cycle Gas Turbine (CCGT)	2027	Perak	Active
Kapar Energy Ventures (KEV)	40%	2200	880	Multi-fuel thermal power plant, capable of generating electricity from coal, oil and gas	2029	Selangor	Active, but carrying value fully impaired
Prai Power Plant (PPP)	100%	350	350	CCGT	2025	Pulau Pinang	Active
Tanjung Bin Power (TBP)	90%	2100	1890	Sub-critical coal	2031	Johor	Active
Tanjung Bin Energy (TBE)	100%	1000	1000	Ultra supercritical coal	2041	Johor	Active
Total		6953	5342				

Source: Company, Apex Securities

Capacity Income

Capacity income is paid based on the available capacity of the plants. Its purpose is to ensure the availability of generating capacity and to cover fixed costs such as depreciation, maintenance, debt servicing, and a return on investment. Capacity income will be paid as long as the unscheduled outage rate (UOR) stays below the threshold set under the PPA. Every plant has a maximum number of downtimes allowed within each period. As long as both planned and unplanned outages remain within the allowable limits, the UOR will not exceed the threshold, and the plant will receive the full capacity payment.

Energy Income

Energy income is paid based on the power output and generally covers the variable costs, with the bulk being fuel costs.

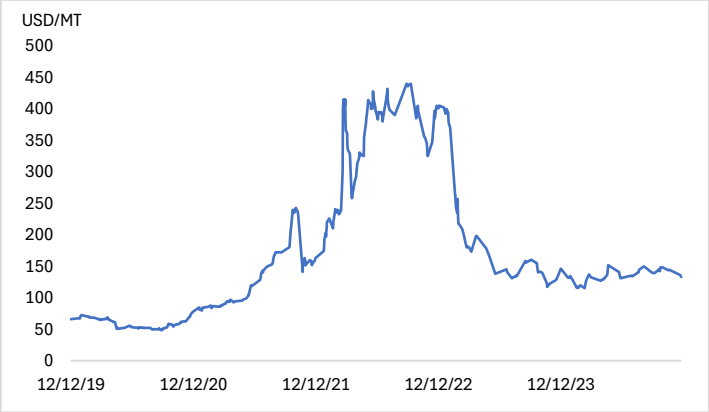
Fuel Margin

Under the PPA, as long as the UOR does not breach the threshold, the profit for power plants is expected to be stable, as fuel costs are fully passed through. However, this has not been the case for MALAKOF's coal plants in Malaysia during periods of rapid coal price fluctuations, resulting in the emergence of fuel margins. Fuel margin is calculated using the following formula:

Fuel Margin = Fuel income – Fuel Cost.

When coal prices surged rapidly following the Russia-Ukraine war in 2022 (Figure 7), MALAKOF experienced extraordinary profits from positive fuel margins. This was followed by significant negative fuel margins in 2023 when the coal prices slumped. Fuel margins arise exclusively for coal plants due to the requirement to maintain at least one month's worth of coal inventory under the PPA. As a result, the fuel costs, represented by the weighted average cost of coal realised, lag behind changes in fuel income, which is based on the market prices or the applicable coal prices (ACP).

Figure 7: Newcastle Coal Prices



Source: Bloomberg, Apex Securities

In essence, MALAKOF benefits from sharply escalating coal prices but suffers when coal prices plunge. To minimise the impact, MALAKOF began making provisions for its coal inventories at their net realisable value if the ACP drops below the inventory costs.

Outlook

A few of MALAKOF's plants will have their PPAs expiring in the next few years. Despite this, due to high demand for electricity, Prai Power Plant (PPP) has had its PPA renewed for one year starting 1 Sep 2024, with a one-year extension option. We expect PPP to receive the optional extension, given the long lead time needed to build a new gas plant. With its strong track record, MALAKOF is well-positioned to be the frontrunner in securing PPAs for new gas plants needed to meet the electricity demand in Peninsular Malaysia.

b) Foreign Thermal Generation and Desalination Business

MALAKOF is involved in power generation and seawater desalination in the Middle East through IWPPs and IWPs (Figure 8 and 9). IWPPs are power plants that also serve as water desalination plants. IWPPs produce potable water from seawater through desalination technology using thermal energy. On the other hand, IWPs are standalone seawater desalination plants that produce potable water through reverse osmosis technology.

Figure 8: Foreign Thermal Generation Assets

Plant	Stake	Capacity (MW)	Effective Capacity (MW)	Plant description	PPA Expiry	Location	Status
Shuaibah Phase III IWPP	24%	900	216	Crude oil-fired thermal power plant	2030	Saudi Arabia	Active
Al-Hidd IWPP Bahrain	40%	929	372	CCGT	2027	Bahrain	Active
Total		1829	588				

Source: Company, Apex Securities

Figure 9: Foreign Desalination Assets

Plant	Stake	Capacity (m^3/day)	Effective Capacity (m^3/day)	Plant description	PPA Expiry	Location	Status
Shuaibah Phase III IWPP	24%	880,000	211,200	Crude oil-fired thermal power plant and thermal seawater desalination utilising MSF technology	2030	Saudi Arabia	Active
Shuaibah Phase III Expansion IWP	23.8%	150,000	35,700	Seawater desalination plant utilising Reverse Osmosis technology	2029	Saudi Arabia	Active
Al-Hidd IWPP Bahrain	40%	410,000	164,000	CCGT and desalination plant utilising Multi Stage Flash and Multi Effect Desalination technology	2027	Bahrain	Active, not expected to contribute any profit or loss for the remainder of the PWPA
Al Ghubrah IWP Oman	32.5%	191,000	62,075	Seawater desalination plant utilising Reverse Osmosis technology	2034	Oman	Active
Total		1,631,000	472,975				

Source: Company, Apex Securities

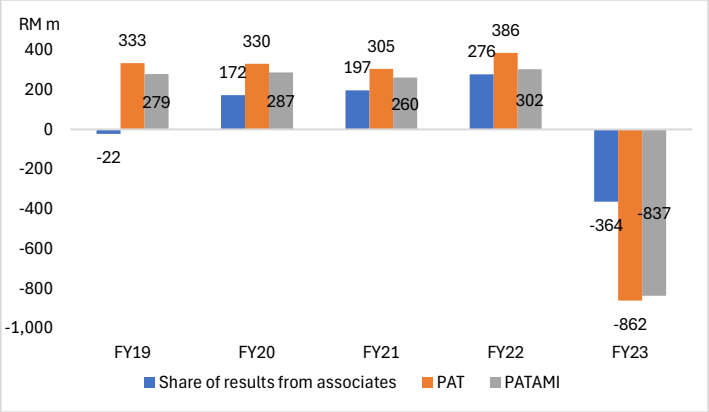
Revenue

IWPPs generate revenue from capacity income, energy income, and water income under the Power and Water Purchase Agreement (PWPA), while IWPs generate revenue from capacity income and water income under the Water Purchase Agreement (WPA). Similar to arrangements under PPAs, capacity income is based on the availability of capacity, while energy income is tied to the power output. Water income is determined by the volume of potable water produced and generally covers the variable costs of water production.

Contribution to Earnings

The foreign business accounts for the majority of the share of profit from associates, following the full impairment of the carrying value of 40%-owned Kapar Energy Ventures (KEV) in FY19. The share of results from associates contributes significantly to the earnings, accounting for more than 50% of PAT from FY20 to FY22 (Figure 10).

Figure 10: Share of Results from Associates Contributes Significantly to Earnings



Source: Company, Apex Securities

Impairment of Foreign Assets

In FY23, the Group recorded a significant share of loss from associates due to the impairment of the Al-Hidd IWPP in Bahrain, triggered by the earlier-than-expected expiry of its PWPA. MALAKOF had anticipated an extension beyond the expiry in 2027. Bahrain is transitioning to more energy-efficient desalination methods, such as reverse osmosis, rather than the thermal desalination technology used by Al-Hidd. Following the impairment, Al-Hidd is not expected to contribute profit or loss for the remainder of the PWPA.

The impairment of MALAKOF's only other IWPP using thermal desalination technology, the Shuaibah Phase III IWPP, is unlikely, as MALAKOF expects the PWPA to conclude without extensions. In summary, further impairment of other foreign operations are considered unlikely.

Outlook

Looking ahead, associates are unlikely to be the primary driver of growth, as MALAKOF plans to focus on its domestic business.

ii) Waste Management and Environmental Services

MALAKOF provides environmental solution services exclusively within Malaysia through its subsidiary, Alam Flora. The waste management segment operates under concession and non-concession business. The concession business is the main earnings contributor, accounting for more than 95% to its segmental profit in FY22.

Concession Business

Alam Flora holds the concession to provide solid waste management and public cleansing services in the Federal Territories of Kuala Lumpur and Putrajaya, as well as in Pahang. The concession is set to expire in August 2033. As Alam Flora is compensated based on the number of households served rather than the tonnage of waste collected, the concession business acts as a proxy for new property development projects. The migration of residents from other states to Kuala Lumpur, driven by its status as Malaysia's financial and economic hub, is expected to increase the number of households in the city. The concession fee, fixed at RM8 per household since 2011, remained unchanged during its first review in 2018. We expect an increase in the fee during the upcoming review in 2025.

Non-concession Business
The non-concession business is carried out by Alam Flora Environmental Solutions (AFES), the wholly-owned subsidiary of Alam Flora. AFES is primarily involved in private waste collection and cleansing services, as well as recycling activities.

Outlook
The segment has contributed significantly to MALAKOF's earnings since the acquisition of Alam Flora in 2019, replacing the contributions from the expired Port Dickson and GB3 plants (Figure 5). Moving forward, the segment's earnings are expected to grow with the completion of the acquisition of a 49% equity interest in E-Idaman, which holds the concession for solid waste management in Kedah and Perlis. We anticipate E-Idaman to contribute an additional 3%-5% to MALAKOF's annual profit. Additionally, the highly anticipated 22MW waste-to-energy (WTE) project in Melaka is expected to complement the segment's earnings upon achieving commercial operation. Furthermore, MALAKOF foresees growth opportunities in port reception facilities that manage marine waste, as well as sustainable facilities and eco-park centres that provide scheduled waste management services.

iii) Others
The segment includes electricity distribution and district cooling system, operations related to the RE business, operation and maintenance (O&M) services, rental of investment properties, and investment holding. The contribution from this segment is considered insignificant.

Electricity Distribution & District Cooling System
MALAKOF's wholly-owned subsidiary, Malakoff Utilities Sdn Bhd (MUSB) is a key player in electricity distribution and district cooling infrastructure. MUSB exclusively distributes power in the 72-acre Kuala Lumpur Sentral, with a capacity of up to 153MW. MUSB also owns and manages a district cooling plant in KL Sentral.

RE Business
MALAKOF has an effective RE generating capacity of 134MW, comprising 84MW from small hydroelectric plants in Kelantan, a 29MW large-scale solar (LSS) facility in Johor, and the remainder from rooftop solar. Notably, MALAKOF has proposed to acquire the remaining 51% stake in ZEC Solar Sdn Bhd, the owner of the 29MW LSS facility with a 21-year solar PPA effective until 2040. While the acquisition is not expected to contribute materially to earnings, it aligns with the Group's goal of achieving 1.4GW of RE capacity by 2031.

O&M Services
The O&M activities are handled by its wholly owned subsidiary, Malakoff Technical Solutions Sdn Bhd (MTSSB). MTSSB primarily provides O&M services for power and desalination plants, both domestically and internationally. These include plants owned by MALAKOF.

Management and Shareholders

Management. Anwar Syahrin Abdul Ajib has served as the Managing Director (MD)/Chief Executive Officer (CEO) of MALAKOF since December 2020. Prior to this, he was the MD/CEO of UEM Sunrise Berhad from September 2014 to October 2020. Meanwhile, Mohd Nazersham Mansor has held the position of Chief Financial Officer (CFO) since December 2017. He began his career as an auditor with KPMG in 1997 and brings over 20 years of experience in finance and accounting.

Shareholders. MMC Corporation Berhad, owned by billionaire Syed Mokhtar Albukhary, is the largest shareholder with a 38.5% stake.

Investment Highlights

Frontrunner to Secure New Gas Plant

The rising demand for electricity, driven by the rapid growth of data centres, underscores the urgent need for new power plants in Peninsular Malaysia. As the country transitions away from coal-fired power plants, gas-fired plants are emerging as the preferred option in the near to medium term. As Malaysia's largest IPP, MALAKOF is well-positioned to secure PPAs to address the estimated 3.4GW capacity shortfall in gas-fired plants. These plants will play a crucial role in replacing the earnings contributions of the Prai Power Plant (PPP) and Segari Energy Ventures (SEV), whose PPAs will expire in 2025 and 2027, respectively.

We estimate that MALAKOF will secure a 1.2GW gas-fired plant, which at an equity IRR of 10%-11%, is projected to unlock a return of approximately RM100m annually, a substantial 30% boost to its profitability. This addition not only reinforces MALAKOF's position as a key player in Malaysia's energy landscape but also ensures a stable earnings base as the nation transitions toward cleaner and more efficient power generation.

Beneficiary from Short-term Extension PPAs

To maintain a 25% reserve margin in 2030 under a projected 1.5% annual peak demand growth, approximately 8.5GW of retired capacity from coal and gas-fired plants will need to be replaced. Given the lengthy lead times for constructing new power plants, MALAKOF's PPP has secured a one-year PPA extension, with an optional additional year. The extension not only extends the operational lifespan of the plant, but is also expected to contribute an additional RM15-18mn EBITDA annually. We anticipate that the optional extension will be exercised, providing a near-term earnings boost.

Similarly, SEV, whose PPA is set to expire in 2027, is also likely to receive a short-term extension to address Peninsular Malaysia's electricity shortfall, ensuring continued earnings contribution during the transition to new capacity. In addition to extensions, discussions are ongoing to repower the GB3 power plant, whose PPA expired in 2022. This offers an opportunity for MALAKOF to retain and enhance its generation portfolio in the near term.

Expanding Waste Management Capabilities

MALAKOF is in the process of completing the acquisition of a 49% equity interest in E-Idaman, which holds the concession for solid waste management in Kedah and Perlis. Upon finalisation, E-Idaman is expected to contribute an additional 3%-5% to MALAKOF's annual profit, bolstering its earnings base through stable, concession-based revenue streams.

Further upside is anticipated from a potential tariff adjustment in FY26, which could significantly enhance profitability for MALAKOF's concession business. Beyond the concession business, there are growth opportunities for MALAKOF in the non-concession business. These include port reception facilities for managing marine waste, as well as sustainable facilities and eco-park centres offering scheduled waste management services.

These ventures align with MALAKOF's strategy to diversify its revenue streams and capture value from the growing demand for integrated waste management solutions. As Malaysia places greater emphasis on sustainability and circular economy initiatives, MALAKOF's strategic investments position it to play a pivotal role in addressing the nation's waste management challenges while driving long-term growth.

WTE to Complement Earnings

MALAKOF is nearing the finalisation of the concession agreement for its waste-to-energy (WTE) plant in Sungai Udang, Melaka, which underscores the Group's commitment to diversifying its energy portfolio and capitalising on sustainable waste management solutions. The plant is expected to have a waste management capacity of 960MT/day and an installed power capacity of 22.1MW. Revenue will be derived from two primary sources: tipping fees for waste management and electricity sales.

While the WTE plant may not be operational in the near term, it represents a strategic asset for MALAKOF, providing a dual source of revenue and aligning with sustainability trends. Importantly, the plant is expected to mitigate the earnings loss from MALAKOF's expiring power plants, such as PPP and SEV. The successful operation of this WTE plant positions MALAKOF to tap into Malaysia's growing emphasis on circular economy initiatives while strengthening its foothold in the RE and waste management sectors.

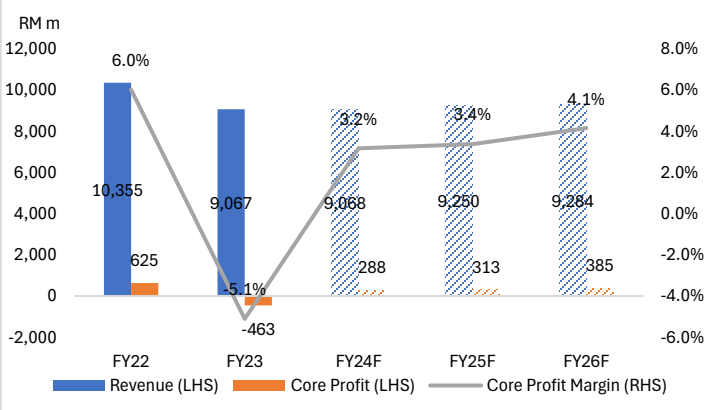
Financial Highlights

9MFY24: MALAKOF recorded a core profit of RM194.9m in 9MFY24, marking a turnaround from a core loss of RM533.1m in 9MFY23. The turnaround was primarily driven by higher contributions from Tanjung Bin Power (TBP) and Tanjung Bin Energy (TBE), as both plants were severely impacted by negative fuel margins in the corresponding period last year.

Earnings Outlook. We expect the Group to achieve a turnaround in FY24, followed by 8.5% and 23.2% growth in earnings for FY25 and FY26, respectively. The earnings improvement will be driven by: i) minimal impact from negative fuel margins as coal prices stabilise; ii) lower finance costs as the Group gradually reduces its debt; and iii) higher earnings contributions from Alam Flora, assuming a 10% tariff increase from FY26 onwards (Figure 11). We have not yet factored in the contribution from the WTE plant in Melaka or the acquisition of E-Idaman in our forecasts.

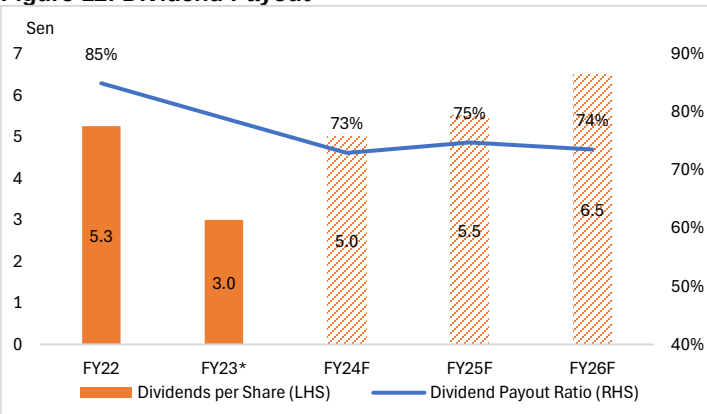
Dividend Policy. MALAKOF has a dividend policy to distribute 70% of its consolidated profit after tax and minority interest (PATAMI). We forecast a dividend payout of 73%-75% for FY24 to FY26, translating into a dividend per share (DPS) of 5.0sen/5.5sen/6.5sen for FY24/FY25/FY26, respectively (Figure 12).

Figure 11: Earnings Forecasts



Source: Company, Apex Securities

Figure 12: Dividend Payout



**Dividend Payout Ratio not shown as MALAKOF registered loss in FY23*
Source: Company, Apex Securities

Environment, Social, and Governance (ESG)

★★★ We assign MALAKOF an overall ESG score of 3 out of 5 stars. The detailed assessment is outlined in the ESG Matrix Framework below.

Valuation & Recommendation

Initiation Coverage. We initiate coverage of Malakoff Corporation Berhad with a **BUY** recommendation and a target price of **RM0.96** based on Sum-of-Parts (SOP) valuation. No ESG premium or discount has been applied, given the company's three-star ESG rating. Our valuation methodology incorporates DCF valuation for MALAKOF's power plants up to their firm expiry dates, as well as DCF valuations for Alam Flora and O&M business, assuming a terminal growth rate of 2%, with expectation that Alam Flora will retain its solid waste management concession beyond its expiry in 2033. We also value the Group's associate based on its FY23 book value.

Peers Comparison

Company	Market Cap	Share Price	Target Price	Potental	P/E (x)		EPS Growth (%)		ROE (%)		Div Yield (%)		ESG
	(RM m)	(RM)	(RM)	Upside	CY24	CY25	CY24	CY25	CY24	CY25	CY24	CY25	Rating
Malakoff Corporation Bhd	3,836	0.79	0.96	22.3%	11.4	10.7	nm	7.3	7.4	7.9	6.4	7.0	★★★
Tenaga Nasional Bhd	81,381	14.00	16.00	14.3%	21.8	20.4	33.7	6.8	6.2	6.5	3.4	3.4	★★★
YTL Power International Bhd *	33,748	4.11	5.31	29.2%	10.5	10.9	-4.8	-4.0	16.1	13.5	1.8	1.9	N/A

**Based on Bloomberg Consensus*

Source: Apex Securities

Investment Risks

Rapid Plunge in Coal Prices. MALAKOF faces the risk of negative fuel margins in the event of a sharp decline in coal prices as costs typically lags behind fuel income.

Unplanned Shutdowns. The power plants and desalination plants owned by the Group are at risk of unscheduled outages, which could affect capacity income and profitability.

Non-renewal of Concession. Alam Flora holds the concession that is set to expire in 2033. Failure to renew the concession will result in the loss of a substantial portion of the Waste Management segment's earnings.

Financial Highlights

Income Statement

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Revenue	**10,355.2**	**9,067.0**	**9,068.1**	**9,249.9**	**9,284.2**
EBITDA	**2,284.9**	**1,027.6**	**1,986.5**	**1,971.1**	**1,983.9**
Depreciation & Amortisation	-1,302.0	-1,124.9	-1,098.3	-1,064.1	-1,041.6
EBIT	**983.0**	**-97.3**	**888.2**	**907.1**	**942.3**
Net Finance Income/ (Cost)	-522.6	-494.1	-432.3	-402.8	-332.4
Associates & JV	276.4	-363.5	90.1	91.0	91.9
Pre-tax Profit	**736.8**	**-954.9**	**546.0**	**595.3**	**701.8**
Tax	-350.9	93.0	-163.8	-178.6	-210.5
Profit After Tax	**385.9**	**-861.9**	**382.2**	**416.7**	**491.3**
Minority Interest	83.7	-24.8	47.1	57.0	59.2
Net Profit	**302.2**	**-837.2**	**335.1**	**359.7**	**432.1**
Exceptionals	-322.3	-373.9	47.2	47.2	47.2
Core Net Profit	**624.5**	**-463.3**	**287.9**	**312.5**	**384.9**

Key Ratios

FYE Dec	FY22	FY23	FY24F	FY25F	FY26F
EPS (sen)	6.2	-17.1	6.9	7.4	8.8
P/E (x)	12.7	-4.6	11.4	10.7	8.9
P/B (x)	0.7	0.9	0.8	0.8	0.8
EV/EBITDA (x)	4.5	9.1	4.8	4.3	4.0
DPS (sen)	5.3	3.0	5.0	5.5	6.5
Dividend Yield (%)	6.7%	3.8%	6.4%	7.0%	8.3%
EBITDA margin (%)	22.1%	11.3%	21.9%	21.3%	21.4%
EBIT margin (%)	9.5%	-1.1%	9.8%	9.8%	10.1%
PBT margin (%)	7.1%	-10.5%	6.0%	6.4%	7.6%
PAT margin (%)	3.7%	-9.5%	4.2%	4.5%	5.3%
NP margin (%)	2.9%	-9.2%	3.7%	3.9%	4.7%
CNP margin (%)	6.0%	-5.1%	3.2%	3.4%	4.1%
ROE (%)	5.5%	-16.7%	7.4%	7.9%	9.4%
ROA (%)	1.3%	-4.0%	1.7%	1.9%	2.4%
Gearing (%) *	130.6%	158.7%	148.1%	119.8%	102.9%
Net gearing (%) *	107.6%	112.4%	101.0%	81.3%	69.7%

*Gearing includes Perpetual Sukuk

Sum of Parts Valuation	Equity Value (RM m)	Valuation method
SEV	255.0	DCF, WACC: 8.4%
Prai	17.6	DCF, WACC: 8.4%
TBP	3,114.6	DCF, WACC: 9.7%
TBE	3,827.9	DCF, WACC: 9.5%
Alam Flora	1,721.7	DCF, WACC: 7.5%, g: 2.0%
O&M	650.3	DCF, WACC: 7.7%, g: 2.0%
Associate	586.1	FY23 Book Value
(-) Net Debt/(Cash)	4,665.7	
(-) Perpetual Sukuk	800.0	
Total Equity Value	**4,707.5**	
Enlarged share base (m share)	4,887.0	
Equity Value/share (RM)	**0.96**	
ESG premium/discount	0.0%	
Fair Value (RM)	**0.96**	

Source: Company, Apex Securities

Balance Sheet

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Cash	1,539.6	2,571.0	2,660.5	2,206.0	1,948.9
Receivables	2,086.9	1,563.3	1,666.4	1,628.1	1,678.6
Inventories	1,681.3	846.9	1,024.4	884.5	1,031.5
Other current assets	802.6	719.2	719.2	719.2	719.2
Total Current Assets	**6,110.5**	**5,700.5**	**6,070.5**	**5,437.8**	**5,378.3**
Fixed Assets	10,956.8	10,454.2	9,938.4	9,438.3	8,911.1
Intangibles	2,527.2	2,260.1	1,972.6	1,705.4	1,462.3
Other non-current assets	2,389.3	1,885.8	1,960.2	2,035.4	2,112.6
Total Non-Current Assets	**15,873.3**	**14,600.1**	**13,871.2**	**13,179.2**	**12,486.1**
Short-term debt	972.2	926.7	1,252.8	1,030.8	905.4
Payables	1,599.4	1,453.6	1,457.5	1,511.9	1,468.5
Other current liabilities	636.3	586.9	586.9	586.9	586.9
Total Current Liabilities	**3,208.0**	**2,967.2**	**3,297.2**	**3,129.6**	**2,960.9**
Long-term debt	7,771.2	7,878.4	7,098.9	5,840.9	5,130.7
Other non-current liabilities	4,308.8	3,908.2	3,908.2	3,908.2	3,908.2
Total Non-Current Liabilities	**12,080.0**	**11,786.6**	**11,007.1**	**9,749.1**	**9,038.9**
Shareholder's equity	5,561.1	4,489.7	4,533.3	4,577.0	4,644.3
Perpetual Sukuk	800.0	800.0	800.0	800.0	800.0
Minority interest	334.7	257.1	304.2	361.1	420.3
Total Equity	**6,695.8**	**5,546.8**	**5,637.5**	**5,738.2**	**5,864.6**

Cash Flow

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Pre-tax profit	**736.8**	**-954.9**	**546.0**	**595.3**	**701.8**
Depreciation & amortisation	1,302.0	1,124.9	1,098.3	1,064.1	1,041.6
Changes in working capital	-2,269.6	1,014.1	-276.6	232.7	-241.0
Others	290.4	552.5	178.4	133.2	30.0
Operating cash flow	**59.6**	**1,736.5**	**1,546.1**	**2,025.3**	**1,532.4**
Capex	-301.2	-275.6	-279.3	-281.0	-256.6
Others	2,112.4	1,354.1	71.3	70.6	63.5
Investing cash flow	**1,811.2**	**1,078.5**	**-208.0**	**-210.4**	**-193.1**
Dividends paid	-234.6	-193.0	-244.3	-268.8	-317.7
Others	-1,665.4	-1,590.6	-1,004.3	-2,000.6	-1,278.7
Financing cash flow	**-1,899.9**	**-1,783.6**	**-1,248.6**	**-2,269.4**	**-1,596.4**
Net cash flow	**-29.2**	**1,031.4**	**89.5**	**-454.5**	**-257.1**
Forex	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0
Beginning cash	1,568.8	1,539.6	2,571.0	2,660.5	2,206.0
Ending cash	**1,539.6**	**2,571.0**	**2,660.5**	**2,206.0**	**1,948.9**

ESG Matrix Framework:

Environment

Parameters	Rating	Comments
Climate	★★	Scope 1 and Scope 2 GHG emissions totaled 16.6m tCO^2e in 2023, representing a 2.1% yoy reduction from 2022. MALAKOF aims to reduce its GHG emissions intensity by 30% by 2031 from 2019 baseline and achieve net zero emissions by 2050.
Waste & Effluent	★★★★	MALAKOF's subsidiary, Alam Flora operates as a concessionaire for solid waste collection and public cleansing services. The Group aims to achieve a 15% to 20% recycling rate for waste collected by Alam Flora by 2025.
Energy	★★	As an IPP, MALAKOF primarily consumes coal and natural gas for power generation. The Group is committed to reducing its carbon footprint by enhancing the efficiency of conversion rates at its plants and implementing energy-efficient systems.
Water	★★	For MALAKOF, water is extensively used in power generation and district cooling systems. In 2023, the Group utilised 2,532,082m^3 of water. MALAKOF strives to minimise water consumption through various initiatives, including the implementation of rainwater harvesting systems for housekeeping and landscaping purposes.
Compliance	★★★	The Group is in compliance with local and international environmental regulations.

Social

Diversity	★★★	In 2023, 6.6% of employees were non-Malaysians, while only 16% of the workforce were female. At the management level, 84% of top management and 76% of senior management were Malays, with the remaining positions held by non-Malays.
Human Rights	★★★	MALAKOF enforces various frameworks to uphold human rights and labour relations across its operations, including the Malakoff Code of Conduct.
Occupational Safety and Health	★★	In 2023, 1,626 employees received training on health and safety standards. However, one non-employee fatality was recorded, and the Lost Time Incident Rate (LTIR) rose to 0.73, compared to 0.29 in the previous year.
Labour Practices	★★★	MALAKOF is committed to eliminating child labour, forced labour, and compulsory labour, in alignment with international standards, ethical principles, and guidelines, including the International Labour Organisation's (ILO) Forced Labour Conventions and the 2014 Protocol.

Governance

CSR Strategy	★★★★	MALAKOF invested RM240,500 in sustainability programmes in 2023, with a focus on education and community enrichment initiatives. The Group also organised recycling awareness programmes through talks and school engagements.
Management	★★★	In 2023, 19% of the management team were female. Among the board members, 11% (1 out of 9) were female, while 56% (5 out of 9) were independent directors.
Stakeholders	★★★	The Group organises quarterly analyst briefings for analysts and an annual general meeting (AGM) for investors.

Overall ESG Scoring: ★★★

Recommendation Framework:
BUY: Total returns* are expected to exceed 10% within the next 12 months.
HOLD: Total returns* are expected to be within +10% to – 10% within the next 12 months.
SELL: Total returns* are expected to be below -10% within the next 12 months.
TRADING BUY: Total returns* are expected to exceed 10% within the next 3 months.
TRADING SELL: Total returns* are expected to be below -10% within the next 3 months.
*Capital gain + dividend yield

Sector Recommendations:
OVERWEIGHT: The industry defined by the analyst is expected to exceed 10% within the next 12 months.
NEUTRAL: The industry defined by the analyst is expected to be within +10% to – 10% within the next 12 months.
UNDERWEIGHT: The industry defined by the analyst, is expected to be below -10% within the next 12 months.

ESG Rating Framework:
★★★★★ : Appraised with 3% premium to fundamental fair value
★★★★ : Appraised with 1% premium to fundamental fair value
★★★ : Appraised with 0% premium/discount to fundamental fair value
★★ : Appraised with -1% discount to fundamental fair value
★ : Appraised with -5% discount to fundamental fair value

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As of **Tuesday, 24 Dec, 2024**, the analyst(s), whose name(s) appears on the front page, who prepared this report, has interest in the following securities covered in this report:
(b) nil.

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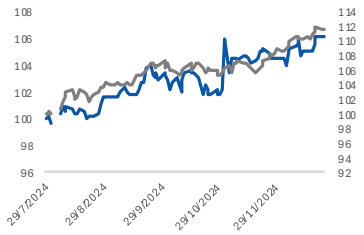
Recommendation:		HOLD
Current Price:		RM 17.54
Previous Target Price:		N/A
Target Price:	↔	RM 17.80
Capital Upside/Downside:		1.5%
Dividend Yield (%):		4.1%
Total Upside/Downside:		**5.6%**

Stock information	
Board	MAIN
Sector	Utilities
Bursa/ Bloomberg Code	6033/ PTG MK
Syariah Compliant	Yes
ESG Rating	★★★
Shares issued (m)	1,978.7
Market Cap (RM' m)	34,707.0
52-Week Price Range (RM)	18.8-17
Beta (x)	0.7
Free float (%)	39.3
3M Average Volume (m)	0.7
3M Average Value (RM' m)	11.8

Top 3 Shareholders	(%)
Petroliam Nasional Bhd	51.0
Employees Provident Fund Board	12.5
Kumpulan Wang Persaraan	10.0

Share Price Performance



	1M	3M	12M
Absolute (%)	-0.3	-2.0	0.5
Relative (%)	-0.7	2.5	-8.5

Petronas Gas Berhad

Proxy for Increasing Gas Demand

Executive Summary

- **PETGAS, as a critical player in Malaysia's gas infrastructure, is well-positioned to benefit from the increasing demand for gas as a transitional fuel.**
- **Earnings is expected to grow supported by: i) higher reservation charges and performance based structure incentives under the third-term GPA; ii) higher allowed returns for the regulated business, driven by higher RAB; iii) higher earnings from the Utilities segment, supported by lower IGC costs due to lower gas prices; and iv) higher contributions from the JVs once the Sipitang Power Plant and Kimanis Power Plant II achieve COD.**
- **We initiate coverage of Petronas Gas Berhad with a HOLD recommendation and a target price of RM17.80 based on Sum-of-Parts (SOP) valuation.**

Key Investment Highlights

Proxy for Increasing Gas Demand. As a central player in Malaysia's gas infrastructure, PETGAS is well-positioned as a proxy for the country's growing natural gas demand. The Group is set to benefit from RAB expansion, particularly in the Gas Transportation and Regasification segments. These expansions are driven by rising domestic demand for natural gas and increased reliance on natural gas import.

Contender for PPAs of New Gas Plants. Leveraging its expertise with the Kimanis Power Plant, PETGAS is the leading contender to secure PPAs for new gas plants in Peninsular Malaysia. The Group has demonstrated offtakers' confidence through recent wins, including the 52MW Sipitang Power Plant and the 100MW Kimanis Power Plant II in Sabah.

Defensive Business Model. With more than 85% of its operating profit derived from its regulated business and the Gas Processing segment, PETGAS's business model is highly defensive.

Consistently High Dividend Payout Supported by Strong Free Cash Flow. Over the past five years, the dividend payout ratio has remained above 70%, supported by its strong operating cash flow of over RM2.9bn annually. Looking ahead, PETGAS is expected to sustain a dividend payout of over 70%, translating into a dividend yield of 4% for FY24-FY26.

Emerging Opportunities in Hydrogen. Hydrogen holds significant potential as an alternative to natural gas across various sectors. As Malaysia accelerates its efforts to develop a hydrogen economy, PETGAS could repurpose pipelines and facilities for hydrogen transportation, thereby expanding its role in Malaysia's energy value chain.

Valuation & Recommendation. We initiate coverage of Petronas Gas Berhad with a **HOLD** recommendation and a target price of **RM17.80** based on Sum-of-Parts (SOP) valuation. No ESG premium or discount has been applied, given the company's three-star ESG rating.

Earnings Summary

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Revenue	6160.2	6445.4	6614.6	6685.4	6838.2
EBITDA	3235.4	3265.9	3402.1	3383.0	3456.2
Pre-tax profit	2269.4	2386.0	2465.3	2475.2	2557.5
Net profit	1645.4	1819.6	1889.1	1896.3	1961.3
Core net profit	1723.5	1875.5	1889.1	1896.3	1961.3
Core EPS (sen)	87.1	94.8	95.5	95.8	99.1
P/E (x)	21.1	19.1	18.4	18.3	17.7
P/B (x)	2.6	2.6	2.5	2.4	2.3
EV/EBITDA (x) *	10.4	10.6	10.3	10.3	10.0
Dividend Yield (%)	4.7%	4.1%	4.1%	4.1%	4.2%
Net Gearing (%)	Net Cash	0.9%	Net Cash	Net Cash	Net Cash

**Based on the year-end closing price*
Source: Company, Apex Securities

KDN PP13226/06/2024 (035469)

Company Background

Background. Petronas Gas Berhad (PETGAS), a subsidiary of Malaysia's national oil and gas company, Petroliam Nasional Berhad (PETRONAS), is a gas infrastructure and centralised utility company operating within the natural gas supply chain. The Group focuses on the processing, transportation, and regasification of natural gas, contributing to Malaysia's energy infrastructure and ensuring a reliable supply of natural gas for both domestic and industrial use. In addition, PETGAS operates several utility complexes, delivering electricity, steam, and industrial gases to its customers.

History. PETGAS was incorporated in 1983 as a wholly-owned subsidiary of PETRONAS. In 1984, PETGAS commissioned the Peninsular Gas Utilisation (PGU) 1 project, a large-scale infrastructure initiative that laid the foundation for Malaysia's natural gas network. This marked the start of its gas transportation business. In the same year, the Group also ventured into the gas processing business through the commissioning of Gas Processing Plant (GPP) 1.

In 1992, PETGAS conducted its first salesgas (methane) delivery to Senoko Power Station in Singapore via a submarine pipeline. Three years later, PETGAS was listed on the main board of Bursa Malaysia. In 1998, PETGAS made its maiden entry into the utility business with the execution of its first Sale and Purchase Agreement with Centralised Utility Facilities (CUF). The following year, PETGAS delivered its first electricity from CUF Kertih and CUF Gebeng to its customers.

Fast forward to 2010, PETGAS announced the development of Malaysia's first liquefied natural gas (LNG) Regasification Terminal in Sungai Udang, Melaka (RGTSU). RGTSU commenced operations in 2013, marking PETGAS's initial foray into the regasification of natural gas. This was followed by the commencement of operations at the LNG Regasification Terminal Pengerang (RGTP) in Johor in 2017.

In 2016, the Gas Supply (Amendment) Act 2016 was introduced and passed in the Malaysian Parliament. The amendment marked a significant milestone in Malaysia's efforts to liberalise its gas industry, aligning with the government's broader goals for energy sector reforms. Key changes introduced by the Act include the regulation of Gas Transportation and Regasification businesses and the introduction of third-party access, thus allowing parties other than PETRONAS and its affiliates to access and utilise the gas transportation pipelines and regasification terminals. Since then, the Gas Transportation and Regasification businesses of PETGAS have been classified as regulated businesses, with tariffs determined and regulated by the Energy Commission.

Over the years, PETGAS has continued to develop its gas infrastructure network and expand its utility services, cementing its position as the leading natural gas and utility provider in the region.

Business Overview

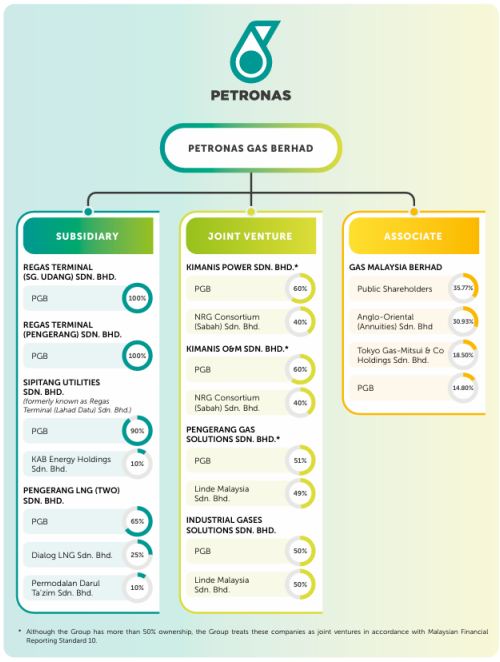
Business Segments. PETGAS operates through four business segments: i) Gas Processing, ii) Gas Transportation, iii) Regasification, and iv) Utilities, as shown in Figure 1. PETGAS's business, particularly the Gas Transportation and Regasification segments, operates as a monopoly, with no other companies possessing the same assets as the Group. The Gas Transportation and Regasification segments are classified as regulated businesses with regulated returns following the introduction of the Gas Supply (Amendment) Act 2016, while the remaining businesses are considered unregulated businesses. In addition to these four business segments, the Group holds a 14.8% stake in Gas Malaysia Berhad, another publicly listed natural gas distribution company in Malaysia, as well as a 60% stake in the 285MW Kimanis Gas-fired Power Plant in Sabah. The corporate structure of PETGAS is illustrated in Figure 2, while the Group's assets and presence are depicted in Figure 3.

Figure 1: Business Segments

Segment	Regulation	Explanation
Gas Processing	Unregulated	Processing of natural gas into salesgas (methane) and other by-products such as ethane, propane, and butane.
Gas Transportation	Regulated	Transportation of processed gas to gas shippers' end customers, primarily through the gas pipelines and provision of operations and maintenance services.
Regasification	Regulated	Regasification of LNG and provision of ancillary services, including LNG reloading, truck loading, and gassing up and cooling down services.
Utilities	Unregulated	Manufacturing, marketing, and supplying industrial utilities, primarily through the provision of electricity, steam, and industrial gas.

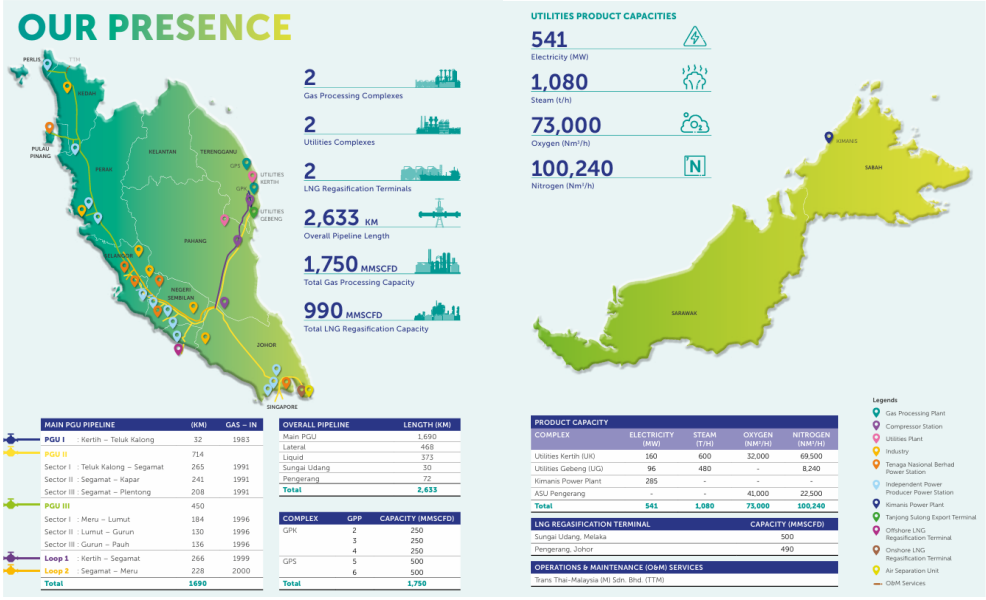
Source: Company, Apex Securities

Figure 2: Corporate Structure



Source: Company's 2023 Annual Report

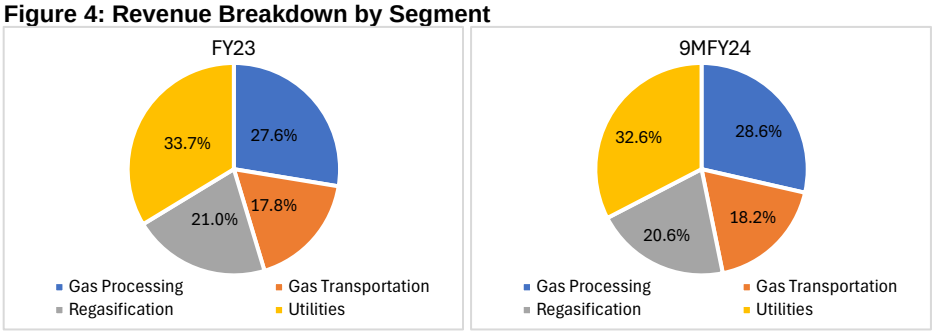
Figure 3: Assets and Presence



Source: Company's 2023 Annual Report

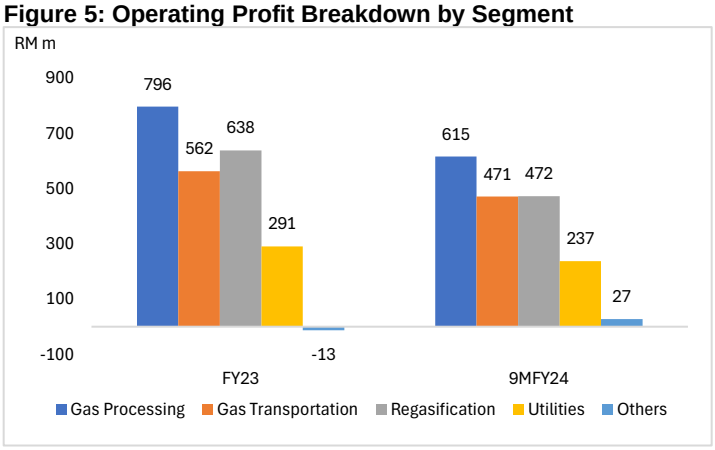
Revenue and Operating Profit Breakdown. PETGAS operates its business exclusively in Malaysia. As illustrated in Figure 4, the Utilities segment is the primary source of revenue (32.6% in 9MFY24), followed by the Gas Processing segment (28.6% in 9MFY24), the Regasification segment (20.6% in 9MFY24), and finally the Gas Transportation segment (18.2% in 9MFY24). In terms of operating profit, the Gas Processing division is the largest contributor, followed by the Regasification division, the Gas Transportation division, and lastly the Utilities division (Figure 5). Considering that the returns from Gas Transportation and Regasification segments are regulated, and the Gas Processing segment has long-term contract that underwrites capacity regardless of utilisation, PETGAS's business is highly defensive, with more than 85% of its operating profit contributed by these three defensive segments.

Figure 4: Revenue Breakdown by Segment



Source: Company, Apex Securities

Figure 5: Operating Profit Breakdown by Segment



Source: Company, Apex Securities

Regulated Business

The allowed return and allowed tariffs for the Gas Transportation and Regasification segments are both determined under the incentive-based regulation (IBR) framework. Under this framework, base tariffs are determined for each regulatory period (RP), which lasts for three years, with the latest being RP2 from 2023 to 2025.

Under the IBR, the simplified formulae for allowed revenue and allowed return are as follows:

Allowed Revenue = Allowed Return + Operating Expenditure (Opex) + Internal Gas Consumption (IGC) Cost + Working Capital + Depreciation + Tax + Opex Efficiency Carry-Over + Capex Efficiency Carry-Over + Quality of Service Incentive/Penalty

Allowed Return = Regulated Asset Base (RAB) × Weighted Average Cost of Capital (WACC)

Based on the formula for allowed revenue:

- Opex, IGC Cost, Working Capital, Depreciation, and Tax cover the business expenses.
- Efficiency Carry-Over incentives encourage operational and cost efficiencies:
  - Opex Efficiency Carry-Over: Retained 100% by PETGAS over the three years following the year of Opex savings.

- Capex Efficiency Carry-Over: By default, 30% is retained by PETGAS, with the remaining 70% returned to customers. The efficiency carry-over amount will be adjusted to exclude the additional allowed return arising from the unspent Capex.

- Quality of Service Incentive/Penalty ensures that cost reductions are not achieved at the expense of service quality. Key Performance Indicators (KPIs) are set by the Energy Commission (EC) prior to each RP. Incentives or penalties are imposed in the following RP, depending on PETGAS's performance in the preceding RP.
- Essentially, the return for regulated businesses depends on the RAB and WACC. RAB depends on the demand for gas transportation and regasification, while WACC is determined by the EC.

From the allowed revenue, the base tariff for each RP is then calculated by dividing the allowed revenue by the forecast reserved firm capacity, which refers to the forecast of volume reserved by customers. In addition to the base tariff, there are annual tariff adjustments to account for:

1. Revenue-Cap Adjustment
2. Excluded Services Adjustment
3. Unpredictable Opex Adjustment
4. Unpredictable Capex Adjustment
5. Internal Gas Consumption Adjustment

These annual adjustments differ from the ICPT, which is adjusted on a half-yearly basis. The Revenue-Cap Adjustment accounts for differences between the forecast volume reserved and the actual volume reserved, while the IGC Adjustment ensures that additional IGC costs due to fluctuations in gas prices (but not volume) are fully borne by customers. It is important to note that all annual tariff adjustments are based on data from two years prior to ensure the availability of audited figures. Consequently, due to delayed adjustments for IGC costs, PETGAS may temporarily benefit from a decrease in gas prices, but may temporarily suffer from an increase in gas prices. These fluctuations are eventually passed through to customers and will be reflected in tariff adjustments two years later.

i) Gas Transportation

Within this segment, PETGAS primarily transports salesgas (methane), ethane, propane, and butane to its customers via the PGU pipeline network. The network spans Peninsular Malaysia, with a total pipeline length of 2,633 km, according to the Group's 2023 annual report (Figures 3 and 6). In addition, operations and maintenance services, particularly for the trans-Thai Malaysia pipeline, form part of the Segment, although their contribution is insignificant. Under the IBR framework, customers who utilise the PGU network are charged based on the tariffs determined for each RP. The base tariffs and adjusted tariffs for RP2 are shown in Figure 7.

Figure 6: Assets and Services under Gas Transportation

MAIN PGU PIPELINE	(KM)	GAS – IN
PGU I : Kertih – Teluk Kalong	32	1983
PGU II	714	
Sector I : Teluk Kalong – Segamat	265	1991
Sector II : Segamat – Kapar	241	1991
Sector III : Segamat – Plentong	208	1991
PGU III	450	
Sector I : Meru – Lumut	184	1996
Sector II : Lumut – Gurun	130	1996
Sector III : Gurun – Pauh	136	1996
Loop 1 : Kertih – Segamat	266	1999
Loop 2 : Segamat – Meru	228	2000
Total	1690	

OVERALL PIPELINE	LENGTH (KM)
Main PGU	1,690
Lateral	468
Liquid	373
Sungai Udang	30
Pengerang	72
Total	2,633

OPERATIONS & MAINTENANCE (O&M) SERVICES
Trans Thai-Malaysia (M) Sdn. Bhd. (TTM)

Source: Company's 2023 Annual Report

Figure 7: Base Tariffs and Adjusted Tariffs for Gas Transportation

Gas Facilities	RP2 Base Tariffs (1 Jan 2023 – 31 Dec 2025)	Adjusted Tariffs (1 Jan 2024 – 31 Dec 2024)
PGU Transportation Tariff	RM1.063/GJ/day	RM1.096/GJ/day
Tariff for the supply of high-pressure gas to Singapore	RM1.614/GJ/day	RM1.701/GJ/day

Source: Company, Apex Securities

Capacity Reservation Underwriting Volume. For both PGU transportation and the supply of high-pressure gas to Singapore, capacity reservations guarantee payment for the reserved volume, irrespective of usage. This means that, whether or not the reserved capacity is utilised, PETGAS will still receive payment for the reserved capacity from its customers. Consequently, the revenue for this segment remains very stable during each RP, with variations occurring only due to tariff adjustments within the RP.

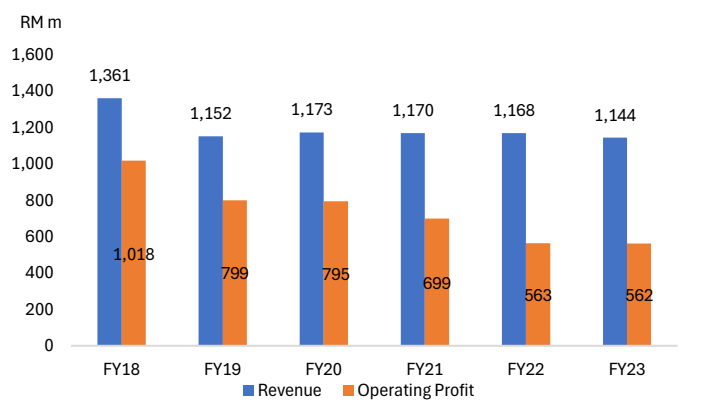
Migration from Optimised Replacement Costs to Historical Costs. Under the IBR framework, the RAB should be valued at the historical cost of purchase, less customer contributions. However, prior to the start of RP1, PETGAS applied tariffs under a Gas Transportation Agreement with PETRONAS, which were calculated using an asset base valued at optimised replacement cost (ORC). Starting with RP1, PETGAS began gradually migrating the valuation of its RAB from ORC to historical cost, as illustrated in Figure 8. Since assets valued using ORC are higher than those valued using historical cost, the RAB, and consequently the allowed return, has declined over the years for the Group's Gas Transportation segment (Figure 9). This process is expected to continue until 2025, by which time all the RAB will be valued using historical cost.

Figure 8: Migration of Opening RAB Valuation Method

Opening Regulated Asset Base	RP1				RP2	
	2020	2021	2022	2023	2024	2025
Historical Cost	0%	20%	40%	60%	80%	100%
Optimised Replacement Cost	100%	80%	60%	40%	20%	0%

Source: Energy Commission

Figure 9: Declining Operating Profit Since FY20



Source: Company, Apex Securities

Outlook. Gas Transportation is an extremely defensive business due to capacity reservations and the regulated returns allowed under the IBR framework. However, the allowed return is expected to continue declining until 2025, when all RAB will be valued using historical cost. Thereafter, the RAB, and consequently the allowed return, is anticipated to grow in line with the increasing demand for gas and its transportation.

ii) Regasification

Within this segment, PETGAS primarily receives, stores and converts LNG to salesgas at the Regasification Terminal Sungai Udang (RGTSU) and Regasification Terminal Pengerang (RGTP). RGTSU has a capacity of 500mmscfd while RGTP has a capacity of 490mmscfd (Figure 3). In addition, the Group provides LNG ancillary services, but the contribution is insignificant. Under the IBR framework, customers who utilise the regasification terminals are charged based on the tariffs determined for each RP. The base tariffs and adjusted tariffs for RP2 are shown in Figure 10.

Figure 10: Base Tariffs and Adjusted Tariffs for Regasification

Gas Facilities	RP2 Base Tariffs (1 Jan 2023 – 31 Dec 2025)	Adjusted Tariffs (1 Jan 2024 – 31 Dec 2024)
RGTSU Regasification tariff	RM3.455/GJ/day	RM3.465/GJ/day
RGTP Regasification tariff	RM3.165/GJ/day	RM3.150/GJ/day

Source: Company, Apex Securities

Capacity Reservation Underwriting Volume. The Regasification segment operates similarly to the Gas Transportation segment, where capacity reservations guarantee payment for the reserved volume, irrespective of actual usage. This ensures that, whether or not the reserved capacity is utilised, PETGAS will still receive payment from its customers for the reserved capacity. Consequently, revenue for this segment remains highly stable during each RP, with variations occurring only due to tariff adjustments within the RP.

Foreign Exchange Risk. The segment is exposed to foreign exchange risk through its lease liability for jetty usage at its LNG regasification terminal in Pengerang, Johor, amounting to USD122.8m. Weakening of RM against USD will lead to foreign exchange translation losses. This is one of the few foreign exchange risks the Group faces, along with the foreign exchange risk tied to the long-term cash flow hedge for its maintenance contract at the Kimanis Power Plant.

Outlook. With the phasing out of coal plants and the growing demand for natural gas as a transitional fuel, Malaysia may need to import more natural gas in the future. Consequently, a new regasification terminal is likely to be established, with PETGAS being the most probable operator given its expertise in managing RGTSU and RGTP. Looking ahead, earnings are expected to grow in tandem with the expansion of the RAB.

iii) Gas Processing

Within this segment, PETGAS primarily processes natural gas into salesgas (methane) and by-products such as ethane, propane, and butane for PETRONAS under a long-term Gas Processing Agreement (GPA). These operations are conducted at five plants located across two complexes in Terengganu, namely Gas Processing Kertih (GPK) and Gas Processing Santong (GPS) (Figure 3). Together, these plants have a total capacity of 1,750mmscfd.

Third Term GPA. The latest GPA, the 3rd term GPA, is effective from 1 Jan 2024 to 31 Dec 2028. Under this agreement, PETGAS is responsible in owning, operating, and maintaining its facilities at GPK, GPS, Liquid Hydrocarbon pipelines, Kertih Shared Marine Facilities, and Tanjung Sulong Export Terminal. Additionally, PETGAS will provide services for the processing of natural gas and the subsequent delivery of dry gas, liquid hydrocarbon, and condensate. Key changes from 2nd term GPA include a 5.7% increase in the annual reservation charge (RC) and increase in performance based structure (PBS) incentive from RM90m to RM120m per annum (Figure 11).

Figure 11: Key Terms for 3rd Term GPA

Components	2nd Term GPA (1 Jan 2019 – 31 Dec 2023)	3rd Term GPA (1 Jan 2024 – 31 Dec 2028)
Reservation Charge (RC)		
- Basis	Capex and Opex recovery	Capex and Opex recovery
- Measurement	Salesgas	Salesgas
- Tariff	RM2,524 per mmscf	RM2,668 per mmscf
- Threshold	1,750mmscfd	1,750mmscfd
- Implied Annual RC	RM1,612m	RM1,704m
Flow Rate Charge (FRC), for salesgas > 1,750mmscfd	RM0.20/GJ	RM0.20/GJ
Performance Based Structure (PBS)	Based on Overall Equipment Effectiveness (OEE) of C2, C3 and C4 - up to RM90m per annum	Based on OEE of C2, C3 and C4 - up to RM120m per annum
Internal Gas Consumption (IGC)	PETRONAS bears IGC costs within agreed operating parameters	PETRONAS bears IGC costs within agreed operating parameters

Source: Company, Apex Securities

Under the 3rd term GPA, PETGAS will receive payments for the salesgas produced. The capacity reservation is set at 1,750mmscfd, guaranteeing payment for this volume irrespective of actual usage. The implied annual reservation charge (RC) is RM1,704m, ensuring PETGAS receives this minimum payment annually. For any production exceeding 1,750mmscfd, PETGAS will earn a flow rate charge (FRC) of RM0.20/GJ. It is worth noting that PETGAS has a gas processing capacity of 1,750mmscfd. However, the Group has room to improve its salesgas recovery and utilise backup plants to accommodate flow rates above 1,750mmscfd.

Additionally, PETGAS is entitled to a Performance-Based Structure (PBS) incentive of up to RM120m per year, which is calculated based on the overall equipment effectiveness (OEE) of C2 (ethane), C3 (propane), and C4 (butane). Lastly, any IGC costs will be borne by PETRONAS, provided PETGAS operates within the agreed operating parameters, which are understood to be within ±2% of the agreed operating conditions.

Outlook. Earnings for the segment are expected to remain stable from 2024 to 2028, given that the terms of the 3rd term GPA are fixed for this period. Any potential upside could arise from higher flow rates exceeding the 1,750mmscfd reservation capacity.

iv) Utilities

Within this segment, PETGAS produces, markets, and supplies industrial utilities, such as electricity, steam, and industrial gases, to various petrochemical businesses and third-party customers in Kertih and Gebeng. These operations are primarily conducted at two utilities complexes: Utilities Kertih (UK) and Utilities Gebeng (UG) (Figure 3). According to the Group's 2023 annual report, PETGAS has utilities production capacities of 541MW of electricity, 1,080 t/h of steam, 73,000 Nm^3/h of oxygen, and 100,240 Nm^3/h of nitrogen.

NEDA. In 2021, PETGAS implemented the New Enhanced Dispatch Agreement (NEDA) to export excess electricity to the grid. Under this agreement, the Group can export up to 30MW of electricity to the grid when the system marginal price is attractive, typically during periods of peak demand during the day. This provides the Group with an additional avenue to generate profit from its excess power plant capacity.

ICPT and IGC Cost. The electricity prices PETGAS charges its customers are determined by the tariffs set by the Energy Commission (EC) and fluctuate with the ICPT surcharge or rebate. Revenue increases with a rise in tariffs or the ICPT surcharge and decreases accordingly. Meanwhile, the main expense is the IGC cost, which is based on the Malaysia Reference Price (MRP). Consequently, any increase in gas prices will erode the earnings of the segment.

Outlook. The Utilities segment is the least defensive among the four segments but offers the highest growth potential. Growth at its two existing utilities complexes may be constrained, as petrochemical businesses face narrow product spreads due to a supply glut, which is unlikely to improve in the near term. Nonetheless, PETGAS is exploring PPAs for new gas plants in Peninsular Malaysia, leveraging its expertise gained from operating the Kimanis Power Plant.

v) Associates and Joint Ventures

Associate. PETGAS holds a 14.8% stake in its associate, Gas Malaysia Berhad (Figure 12). Gas Malaysia is a natural gas distribution company that, unlike PETGAS, owns the natural gas it transports. Gas Malaysia earns a margin on top of the cost of the natural gas it distributes, and therefore benefits when gas prices rise. This contrasts with PETGAS, which experiences earnings erosion due to higher IGC costs. Higher gas prices primarily impact the Utilities segment and, temporarily, the Gas Transportation and Regasification segments, as mentioned previously.

Figure 12: Associate

Associate	Principal Activities	Effective Stake
Gas Malaysia Berhad	Selling, marketing, distribution and promotion of natural gas	14.8%

Source: Company, Apex Securities

Joint Venture (JV). The Group's JVs include its 60%-owned Kimanis Gas-fired Power Plant, 51%-owned Pengerang Gas Solutions Sdn Bhd, and 50%-owned Industrial Gas Solutions Sdn Bhd (Figure 13). The Kimanis Gas-fired Power Plant is a 285MW CCGT facility located in Sabah, with its PPA set to expire in Nov 2035. Pengerang Gas Solutions primarily operates the air separation unit (ASU) in Pengerang, with a capacity of 41,000 Nm^3/h of oxygen and 22,500 Nm^3/h of nitrogen. Meanwhile, Industrial Gas Solutions focuses on marketing and distributing industrial gases. Among PETGAS's JVs, the first two are the primary contributors to earnings.

The Kimanis Power Plant is exposed to foreign exchange risk due to the long-term foreign exchange hedging of its maintenance contract. As long as the spot rate of the USD against RM is higher than the hedged rate, foreign exchange gains will be realised.

Figure 13: Joint Ventures

Joint Venture	Principal Activities	Effective Stake
Kimanis Power Sdn Bhd	Generation and sale of electricity	60%
Pengerang Gas Solutions Sdn Bhd	Own and operate air separation unit plant	51%
Industrial Gases Solutions Sdn Bhd	Selling, marketing, distribution and promotion of industrial gas	50%

Source: Company, Apex Securities

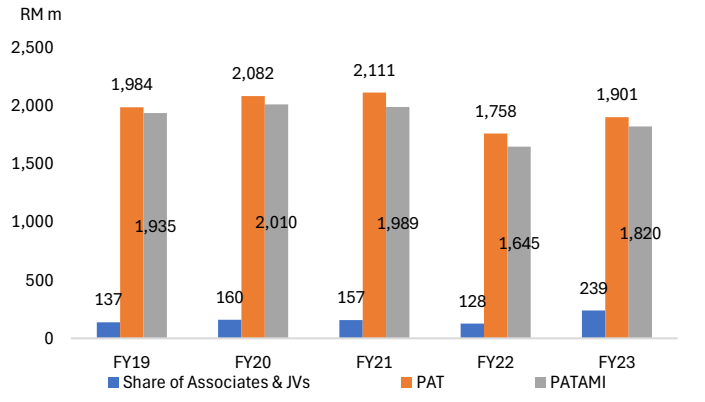
Outlook: The share of associates and JVs has contributed more than 7% to PETGAS's profit after tax and minority interests (PATAMI) since FY19, as illustrated in Figure 14. Notably, in FY23, extraordinary profits were achieved due to the utilisation of available tax benefits, a higher capacity factor at the Kimanis Power Plant resulting from disruptions at other IPPs, and a foreign exchange gain from long-term hedging on the maintenance contract at the Kimanis Power Plant.

Looking ahead, JVs may become a key driver of earnings growth for PETGAS. The Group has secured several gas plant projects in Sabah, including the 52MW Sipitang Gas-fired Power Plant (Capex: RM250m, Target COD: 1Q 2026) and the 100MW Kimanis Power Plant II (Capex: RM700m, Target COD: March 2026).

The Sipitang Power Plant, 90% owned by PETGAS, will supply power to PETRONAS's near-shore floating LNG facility in Sipitang, Sabah, under a 20-year PPA. Meanwhile, the Kimanis Power Plant II, owned by Kimanis Power (Dua) Sdn Bhd, with PETGAS tentatively holding a 60% stake, will operate as a peaking plant located at the existing Kimanis Power Plant site. It is expected to supply electricity to Sabah Electricity Sdn Bhd under a 21-year PPA.

Lastly, PETGAS secured a letter of intent for the Labuan Power Plant earlier this year. The Group is working toward a final investment decision and aims to finalise the PPA by the first quarter of next year. The capacity of the plant is tentatively set at 100MW.

Figure 14: FY19-FY23 Share of Results from Associates & JVs, PAT, and PATAMI



Source: Company, Apex Securities

Management and Shareholders

Management. Abdul Aziz Othman has been the Managing Director (MD)/Chief Executive Officer (CEO) of PETGAS since January 2021. He brings with him more than 30 years of experience at PETRONAS. Meanwhile, Shahrul Azham Sukaiman has served as the Chief Financial Officer (CFO) since July 2022. He began his career with PETRONAS in May 2002 and has over 20 years of experience in finance and accounting.

Shareholders. PETRONAS is the largest shareholder, holding a 51.0% stake.

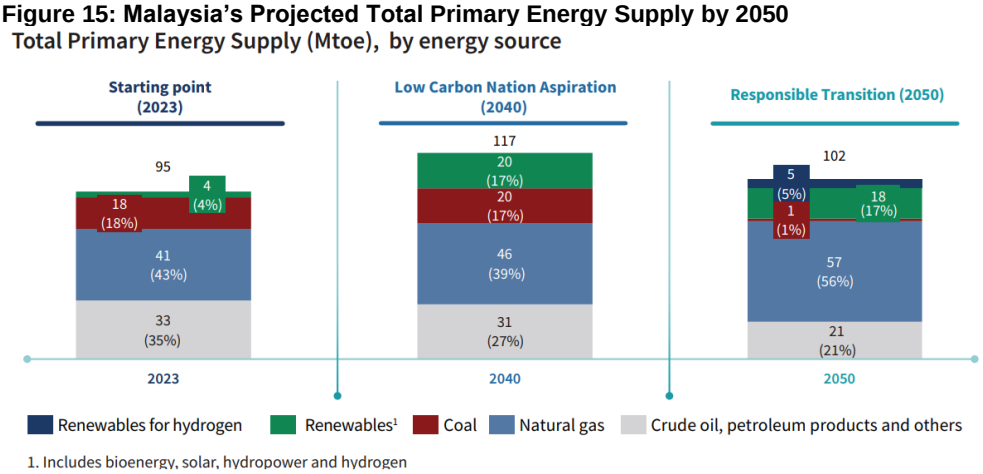
Investment Highlights

Proxy for Increasing Gas Demand

By 2050, natural gas is projected to account for 57Mtoe, or 56% of Malaysia's Total Primary Energy Supply (Figure 15), reflecting a CAGR of 1.2% from 2023 levels. As a central player in Malaysia's gas infrastructure, PETGAS manages gas processing, transportation, and regasification, positioning it as a proxy for the country's growing natural gas demand.

Gas is increasingly favoured as a transitional fuel, supported by Malaysia's ESG commitments. The Group is set to benefit from RAB expansion, particularly in the Gas Transportation and Regasification segments. These expansions are driven by rising domestic demand for natural gas and increased reliance on natural gas import, necessitated by the projected diminishing of Malaysia's gas reserve by 2050.

Figure 15: Malaysia's Projected Total Primary Energy Supply by 2050



Source: NETR

Securing Growth Through New Gas-fired Power Plants

Leveraging its expertise and experience with the Kimanis Power Plant, PETGAS is the leading contender to secure PPAs for new gas plants in Peninsular Malaysia. These plants are crucial for replacing retiring coal plants and addressing the estimated 8.5GW shortfall in capacity to maintain a 25% reserve margin by 2030.

PETGAS's proven track record reinforces its leading position in securing new gas plant projects. The Group has demonstrated offtakers' confidence through recent wins, including the 52MW Sipitang Power Plant and the 100MW Kimanis Power Plant II in Sabah. These two plants are projected to contribute c.RM20 annually to the groups bottom-line, further solidifying PETGAS's role as a reliable power producer.

The next milestone for PETGAS will be a large-scale gas-fired power plant in Peninsular Malaysia, potentially the largest project in the Group's history. With its net cash position and its backing as a subsidiary of PETRONAS, PETGAS is well-equipped to finance these multi-billion Ringgit projects.

Defensive Business Model

With more than 85% of its operating profit derived from its regulated business and the Gas Processing segment, PETGAS's business model is highly defensive. Under the IBR framework, PETGAS's regulated businesses are entitled to relatively stable returns annually during each RP, with all costs passed through to customers. This structure minimises volatility and protects profit margins.

Meanwhile, the Gas Processing segment operates under a long-term contract with PETRONAS that extends until FY33. This contract guarantees capacity payments irrespective of pipeline utilisation, providing revenue certainty and ensuring a steady cash flow.

Consistently High Dividend Payout Supported by Strong Free Cash Flow

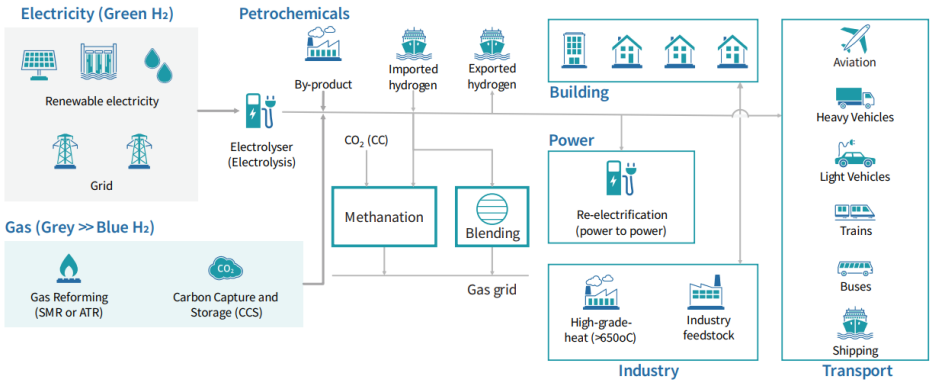
PETGAS has demonstrated a track record of high dividend payouts, consistently exceeding its 50% payout policy. Over the past five years, the dividend payout ratio has remained above 70%, even during the economic challenges of the COVID-19 pandemic, underscoring the Group's resilience and commitment to shareholder returns. The robust payout is supported by its strong operating cash flow of over RM2.9bn annually and a free cash flow to firm (FCFF) yield of 5%-7% during this period. These factors enable the Group to maintain a sustainable dividend policy without compromising growth investments.

Looking ahead, PETGAS is expected to sustain a dividend payout of over 70%, translating into a dividend yield of 4% for FY24-FY26 (Figure 19). Furthermore, the expansion of the RAB and continued earnings growth could further enhance shareholder returns, solidifying PETGAS's position as a compelling investment choice for income-focused investors.

Emerging Opportunities

Hydrogen holds significant potential as an alternative to natural gas across various sectors, including industry, transportation, and power generation (Figure 16). As Malaysia accelerates its efforts to develop a hydrogen economy, PETGAS is uniquely positioned to capitalise on this transition by leveraging its existing gas infrastructure. The Group could repurpose pipelines and facilities for hydrogen transportation, thereby expanding its role in Malaysia's energy value chain.

Figure 16: Hydrogen's Potential Supply Chain and End-use Applications



Source: NETR

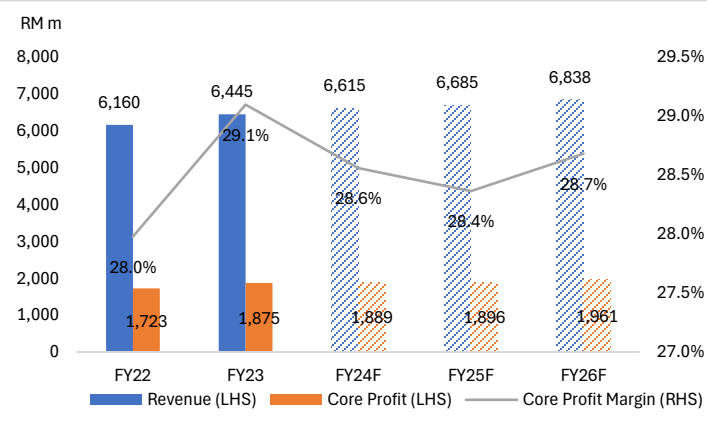
Financial Highlights

9MFY24: PETGAS achieved a core profit of RM1.4bn in 9MFY24, a decline of 3.8% yoy despite a marginal 1.2% yoy growth in revenue. This decrease is primarily driven by lower contributions from the Gas Processing segment (operating profit: -1.1% yoy) and the Regasification segment (operating profit: -3.1% yoy), both of which were impacted by higher maintenance costs.

Earnings Outlook. We expect core earnings to grow by 0.7%/0.4%/3.4% for FY24/FY25/FY26, respectively, supported by: i) higher reservation charges and performance based structure incentives for the Gas Processing segment under the third-term GPA; ii) higher allowed returns for the Gas Transportation and Regasification segments, particularly from FY26 onwards, marking the start of the new RP, driven by higher RAB as gas demand increases; iii) higher earnings from the Utilities segment, supported by lower IGC costs due to lower gas prices; and iv) higher contributions from the JVs from 2026 onwards, once the Sipitang Power Plant and Kimanis Power Plant II achieve COD (Figures 17 and 18).

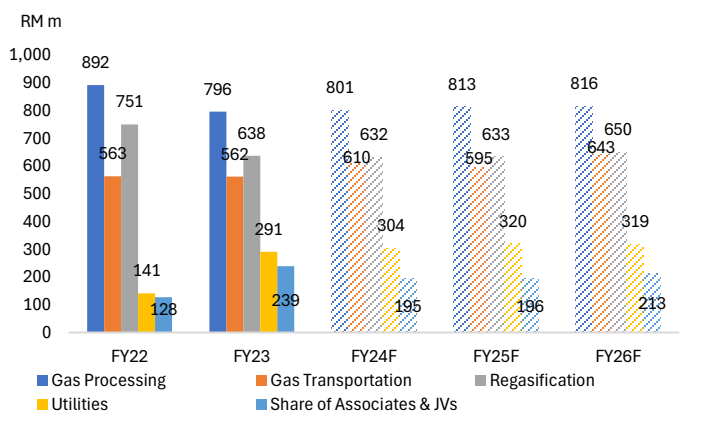
Dividend Policy. PETGAS has a dividend policy to distribute 50% of its consolidated profit after tax and minority interest (PATAMI). We forecast a dividend payout of 75% for FY24 to FY26, translating into a dividend per share (DPS) of 72sen/72sen/74sen for FY24/FY25/FY26, respectively (Figure 19).

Figure 17: Earnings Forecasts



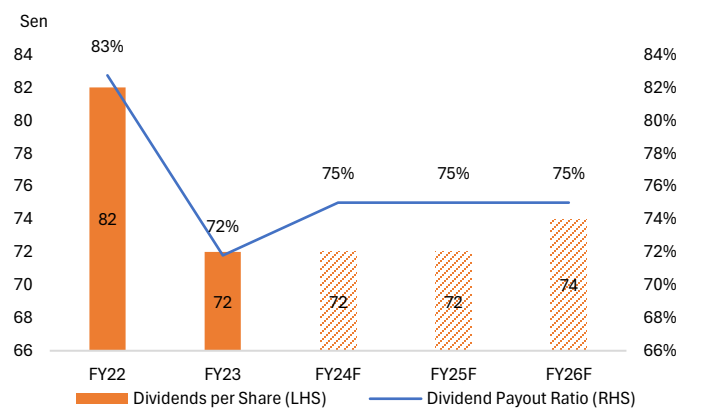
Source: Company, Apex Securities

Figure 18: Segmental Operating Profit & Share of Associates & JV Forecasts



Source: Company, Apex Securities

Figure 19: Dividend Payout



Source: Company, Apex Securities

Environment, Social, and Governance (ESG)

★★★ We assign PETGAS an overall ESG score of 3 out of 5 stars. The detailed assessment is outlined in the ESG Matrix Framework below.

Valuation & Recommendation

Initiation Coverage. We initiate coverage of Petronas Gas Berhad with a **HOLD** recommendation and a target price of **RM17.80** based on Sum-of-Parts (SOP) valuation. No ESG premium or discount has been applied, given the company's three-star ESG rating. Our valuation methodology includes DCF valuations for PETGAS's core business and its JVs, namely the Kimanis Power Plant, Kimanis Power Plant II, and Sipitang Power Plant. Additionally, we value the associate, Gas Malaysia Berhad, at its market price.

Peers Comparison

Company	Market Cap	Share Price	Target Price	Potental	P/E (x)		EPS Growth (%)		ROE (%)		Div Yield (%)		ESG
	(RM m)	(RM)	(RM)	Upside	CY24	CY25	CY24	CY25	CY24	CY25	CY24	CY25	Rating
Petronas Gas Bhd	34,707	17.54	17.80	1.5%	18.4	18.3	3.8	0.4	13.7	13.3	4.1	4.1	★★★
Gas Malaysia Bhd *	5,418	4.22	4.15	-1.7%	12.7	13.1	11.5	-3.6	29.3	26.4	5.9	5.9	N/A

**Based on Bloomberg Consensus*

Source: Apex Securities

Investment Risks

Escalation in Gas Prices. PETGAS suffers from earnings erosion when IGC costs increase. For its regulated businesses, higher gas prices are only passed through to customers through annual tariff adjustments, which take effect two years later.

Unplanned Shutdowns. The Group's power plants face the risk of unscheduled outages, which could impact capacity income and profitability. Additionally, its gas processing plants, gas pipelines, and regasification terminals are vulnerable to breakdowns, which could potentially affect reservation capacity and payments from customers.

Financial Highlights

Income Statement

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Revenue	**6,160.2**	**6,445.4**	**6,614.6**	**6,685.4**	**6,838.2**
Gross Profit	**2,347.7**	**2,287.0**	**2,395.6**	**2,379.5**	**2,441.8**
EBITDA	**3,235.4**	**3,265.9**	**3,402.1**	**3,383.0**	**3,456.2**
Depreciation & Amortisation	-1,035.5	-1,141.4	-1,158.6	-1,157.3	-1,171.8
EBIT	**2,199.9**	**2,124.5**	**2,243.5**	**2,225.7**	**2,284.5**
Net Finance Income/ (Cost)	-58.2	22.4	26.5	53.7	60.0
Associates & JV	127.7	239.1	195.2	195.8	213.0
Pre-tax Profit	**2,269.4**	**2,386.0**	**2,465.3**	**2,475.2**	**2,557.5**
Tax	-510.9	-485.0	-493.1	-495.0	-511.5
Profit After Tax	**1,758.5**	**1,901.0**	**1,972.2**	**1,980.2**	**2,046.0**
Minority Interest	113.0	81.4	83.1	83.9	84.7
Net Profit	**1,645.4**	**1,819.6**	**1,889.1**	**1,896.3**	**1,961.3**
Exceptionals	-78.0	-55.9	0.0	0.0	0.0
Core Net Profit	**1,723.5**	**1,875.5**	**1,889.1**	**1,896.3**	**1,961.3**

Key Ratios

FYE Dec	FY22	FY23	FY24F	FY25F	FY26F
EPS (sen)	83.2	92.0	95.5	95.8	99.1
P/E (x)	21.1	19.1	18.4	18.3	17.7
P/B (x)	2.6	2.6	2.5	2.4	2.3
EV/EBITDA (x)	10.4	10.6	10.3	10.3	10.0
DPS (sen)	82.0	72.0	72.0	72.0	74.0
Dividend Yield (%)	4.7%	4.1%	4.1%	4.1%	4.2%
EBITDA margin (%)	52.5%	50.7%	51.4%	50.6%	50.5%
EBIT margin (%)	35.7%	33.0%	33.9%	33.3%	33.4%
PBT margin (%)	36.8%	37.0%	37.3%	37.0%	37.4%
PAT margin (%)	28.5%	29.5%	29.8%	29.6%	29.9%
NP margin (%)	26.7%	28.2%	28.6%	28.4%	28.7%
CNP margin (%)	28.0%	29.1%	28.6%	28.4%	28.7%
ROE (%)	12.5%	13.6%	13.7%	13.3%	13.3%
ROA (%)	8.5%	9.3%	9.9%	10.1%	10.2%
Gearing (%) *	28.6%	22.8%	14.0%	12.8%	11.7%
Net gearing (%) *	Net Cash	0.9%	Net Cash	Net Cash	Net Cash

Sum of Parts Valuation	Value (RM m)	Valuation method
Core Businesses	33,705.5	DCF, WACC: 7.2%, g: 2.0%
Kimanis Power Plant	358.6	DCF, Cost of Equity: 9.6%
Kimanis Power Plant II	64.6	DCF, Cost of Equity: 13.0%
Sipitang Power Plant	31.1	DCF, Cost of Equity: 13.3%
Gas Malaysia	815.1	14.8% stake, market price
(-) Net Debt/(Cash)	-506.4	
(-) Minority Interests	267.1	
Total Equity Value	**35,214.3**	
Enlarged share base (m share)	1,978.7	
Equity Value/share (RM)	**17.80**	
ESG premium/discount	0.0%	
Fair Value (RM)	**17.80**	

Source: Company, Apex Securities

Balance Sheet

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Cash	4,026.2	3,027.9	2,145.6	2,388.9	2,519.9
Receivables	990.0	926.6	1,084.0	1,091.8	1,081.4
Inventories	42.6	38.7	49.2	45.2	46.3
Other current assets	20.9	520.0	520.0	520.0	520.0
Total Current Assets	**5,079.7**	**4,513.2**	**3,798.8**	**4,045.9**	**4,167.7**
Fixed Assets	13,408.4	13,630.5	13,615.8	13,625.2	13,795.3
Intangibles	0.0	0.0	0.0	0.0	0.0
Other non-current assets	1,200.2	1,175.6	1,246.8	1,343.4	1,478.7
Total Non-Current Assets	**14,608.7**	**14,806.1**	**14,862.6**	**14,968.6**	**15,273.9**
Short-term debt	172.9	1,293.3	160.2	150.6	142.6
Payables	1,203.6	1,097.4	1,121.9	1,119.6	1,144.9
Other current liabilities	0.0	0.0	0.0	0.0	0.0
Total Current Liabilities	**1,376.5**	**2,390.7**	**1,282.1**	**1,270.2**	**1,287.5**
Long-term debt	3,662.8	1,859.2	1,842.3	1,731.9	1,639.9
Other non-current liabilities	1,239.2	1,254.3	1,254.3	1,254.3	1,254.3
Total Non-Current Liabilities	**4,902.1**	**3,113.5**	**3,096.5**	**2,986.1**	**2,894.1**
Shareholder's equity	13,148.1	13,555.1	14,019.5	14,491.1	14,988.1
Minority interest	261.8	260.1	263.2	267.1	271.8
Total Equity	**13,409.8**	**13,815.2**	**14,282.7**	**14,758.2**	**15,259.9**

Cash Flow

FYE Dec (RM m)	FY22	FY23	FY24F	FY25F	FY26F
Pre-tax profit	**2,269.4**	**2,386.0**	**2,465.3**	**2,475.2**	**2,557.5**
Depreciation & amortisation	1,035.5	1,141.4	1,158.6	1,157.3	1,171.8
Changes in working capital	80.1	-3.4	-96.1	15.9	34.6
Others	-458.7	-518.9	-595.5	-622.9	-660.4
Operating cash flow	**2,926.3**	**3,005.1**	**2,932.3**	**3,025.6**	**3,103.5**
Capex	-1,169.2	-1,167.2	-1,143.9	-1,166.8	-1,341.8
Others	118.6	-263.0	76.7	77.1	77.7
Investing cash flow	**-1,050.6**	**-1,430.3**	**-1,067.2**	**-1,089.7**	**-1,264.1**
Dividends paid	-1,622.6	-1,424.7	-1,424.7	-1,424.7	-1,464.3
Others	-9.3	-1,148.4	-1,322.8	-268.0	-244.1
Financing cash flow	**-1,631.9**	**-2,573.1**	**-2,747.5**	**-1,692.7**	**-1,708.4**
Net cash flow	**243.8**	**-998.3**	**-882.3**	**243.3**	**131.0**
Forex	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0
Beginning cash	3,782.5	4,026.2	3,027.9	2,145.6	2,388.9
Ending cash	**4,026.2**	**3,027.9**	**2,145.6**	**2,388.9**	**2,519.9**

ESG Matrix Framework:

Environment

Parameters	Rating	Comments
Climate	★★★	Excluding exported energy, Scope 1 and Scope 2 GHG emissions stood at 4.7m tCO^2e in 2023, within the target limit of 5m tCO^2e (2022: 4.6m tCO^2e). PETGAS aims to achieve net zero emissions by 2050.
Waste & Effluent	★★★★	Implemented the Waste Hierarchy concept, which focuses on the 4R principles: Recover, Recycle, Reuse, and Reduce. In 2023, PETGAS achieved 74% recovery of hazardous waste through 4R initiatives, exceeding the annual target of 56%.
Energy	★★★	The Group achieved an Energy Index (EI) rating of 93.9 in 2023, compared to the annual target of below 95.7. This marks a decline in performance from 91.5 in 2022 and 91.3 in 2021.
Water	★★★	Saved 219,000m^3 in freshwater withdrawal in 2023 from water reduction initiatives.
Compliance	★★★★	The Group is in compliance with local and international environmental regulations. For instance, PETGAS reported zero incidents of non-compliance with discharge limits in 2023.

Social

Diversity	★★	In 2023, all employees were Malaysians, with 74% aged 43 or below, while only 12% of the workforce were female. Additionally, more than 95% of senior management, first-level management, and non-management staffs were Malays.
Human Rights	★★★	The Group enforces and adopts the Code of Conduct and Business Ethics (CoBE) and PETRONAS' Human Rights Commitment, which outline clear commitments and standards in human rights protection. PETGAS recorded zero human rights violations related to workplace harassment and zero non-compliance cases concerning labour standards in 2023.
Occupational Safety and Health	★★	PETGAS recorded one fatality in 2022. In 2023, there were no fatalities but the Group experienced an incident of Health, Safety, and Environment (HSE) regulatory non-compliance and a major Loss of Primary Containment (LOPC) incident.
Labour Practices	★★★	PETGAS ensures strict compliance with the minimum wage requirements established by the government.

Governance

CSR Strategy	★★★	Donated a total of over RM60,000 to several not-for-profit organisations in 2023, including Cancer Research Malaysia and Yayasan Hijau Malaysia. Additionally, the Group sponsored students in the Technical Energy Enrichment (TEP) Programme.
Management	★★★	In 2023, 30% of the leadership team were female. As for the board members, 38% (3 out of 8) were female, while 50% (4 out of 8) were independent directors.
Stakeholders	★★★★	PETGAS is committed to initiating frequent and effective dialogues with stakeholders to understand and address their needs. For example, the Group organises quarterly analyst briefings for analysts, an annual general meeting (AGM) for investors, monthly engagement sessions with employees, and annual consultative sessions with government agencies.

Overall ESG Scoring: ★★★

Recommendation Framework:
BUY: Total returns* are expected to exceed 10% within the next 12 months.
HOLD: Total returns* are expected to be within +10% to – 10% within the next 12 months.
SELL: Total returns* are expected to be below -10% within the next 12 months.
TRADING BUY: Total returns* are expected to exceed 10% within the next 3 months.
TRADING SELL: Total returns* are expected to be below -10% within the next 3 months.
*Capital gain + dividend yield

Sector Recommendations:
OVERWEIGHT: The industry defined by the analyst is expected to exceed 10% within the next 12 months.
NEUTRAL: The industry defined by the analyst is expected to be within +10% to – 10% within the next 12 months.
UNDERWEIGHT: The industry defined by the analyst, is expected to be below -10% within the next 12 months.

ESG Rating Framework:
★★★★★ : Appraised with 3% premium to fundamental fair value
★★★★ : Appraised with 1% premium to fundamental fair value
★★★ : Appraised with 0% premium/discount to fundamental fair value
★★ : Appraised with -1% discount to fundamental fair value
★ : Appraised with -5% discount to fundamental fair value

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(c) nil.