



SUSTAINABLE ENERGY  
DEVELOPMENT AUTHORITY  
(SEDA) MALAYSIA





# SEDA 2023 ANNUAL REPORT

**SUSTAINABLE ENERGY DEVELOPMENT  
AUTHORITY (SEDA) MALAYSIA**

**Sustainable Energy Development  
Authority (SEDA) Malaysia**

Galeria PjH, Level 9, Jalan P4W,  
Persiaran Perdana, Precinct 4,  
62100 Putrajaya, Malaysia.

Tel : +603 8870 5800

Fax : +603 8870 5900

Email : [enquiry@seda.gov.my](mailto:enquiry@seda.gov.my)

[www.seda.gov.my](http://www.seda.gov.my)



# COVER RATIONALE



Renewable energy sources, including Solar, Biogas, Biomass, and Hydro, present sustainable solutions harnessed from natural resources that renew perpetually. These sources not only yield environmental advantages but also drive economic prosperity.

Incorporating the GREEN colour signifies our unwavering commitment to ensuring clean energy as part of the eco-friendly future. This color, deeply intertwined with nature, instills a sense of tranquility and underscores our ongoing efforts towards growth and sustainability.

Similarly, the serene BLUE colour, mirroring the vastness of the ocean and the expanse of the sky, embodies stability, inspiration, and wisdom. Its calming presence and associations with reliability aptly symbolise our resilience and on-going effort in championing the energy transition agenda for the country.

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## SEDA MALAYSIA AT A GLANCE

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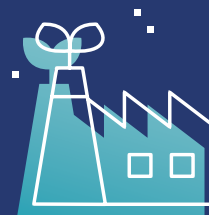
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# SEDA Malaysia at a Glance



## VISION



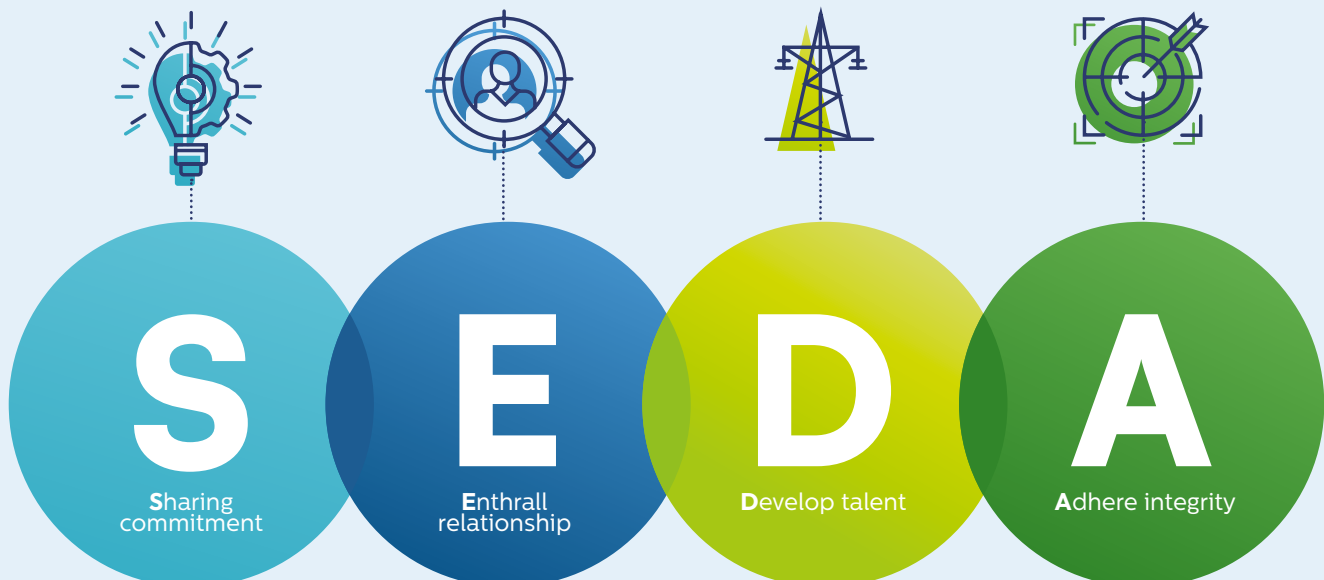
SEDA Malaysia aspires to become a globally respected thought leader on Sustainable Energy (SE)

## MISSION



Lead the development of SE in alignment with the overarching national policies to contribute to a sustainable future

## OUR VALUES



# SEDA Malaysia Strategic Pillars

## Three Strategic Objectives towards a more Pragmatic Goal

Our Strategic Objectives guide our efforts and initiatives, steering us towards fulfilling our purpose as Malaysia's statutory body in sustainable energy industry.

### TECHNOLOGY CATALYST STRATEGY



#### STRATEGIC GOAL 1

Accelerating RE Share  
to Support the Planned  
Energy Transition



#### STRATEGIC GOAL 2

Spearheading  
Comprehensive  
Solutions to Expand SE  
Adoption



#### STRATEGIC GOAL 3

Catalysing Innovation to  
Enhance SE Growth

## Enablers



FINANCIAL



HUMAN CAPITAL  
DEVELOPMENT



TECHNOLOGIES



PROCESS &  
PROCEDURE

## SDG Focus



SDG 1  
No Poverty



SDG 3  
Good Health &  
Well-being



SDG 4  
Quality Education



SDG 7  
Affordable &  
Clean Energy



SDG 9  
Industry,  
Innovation and  
Infrastructure



SDG 11  
Sustainable Cities  
and Communities

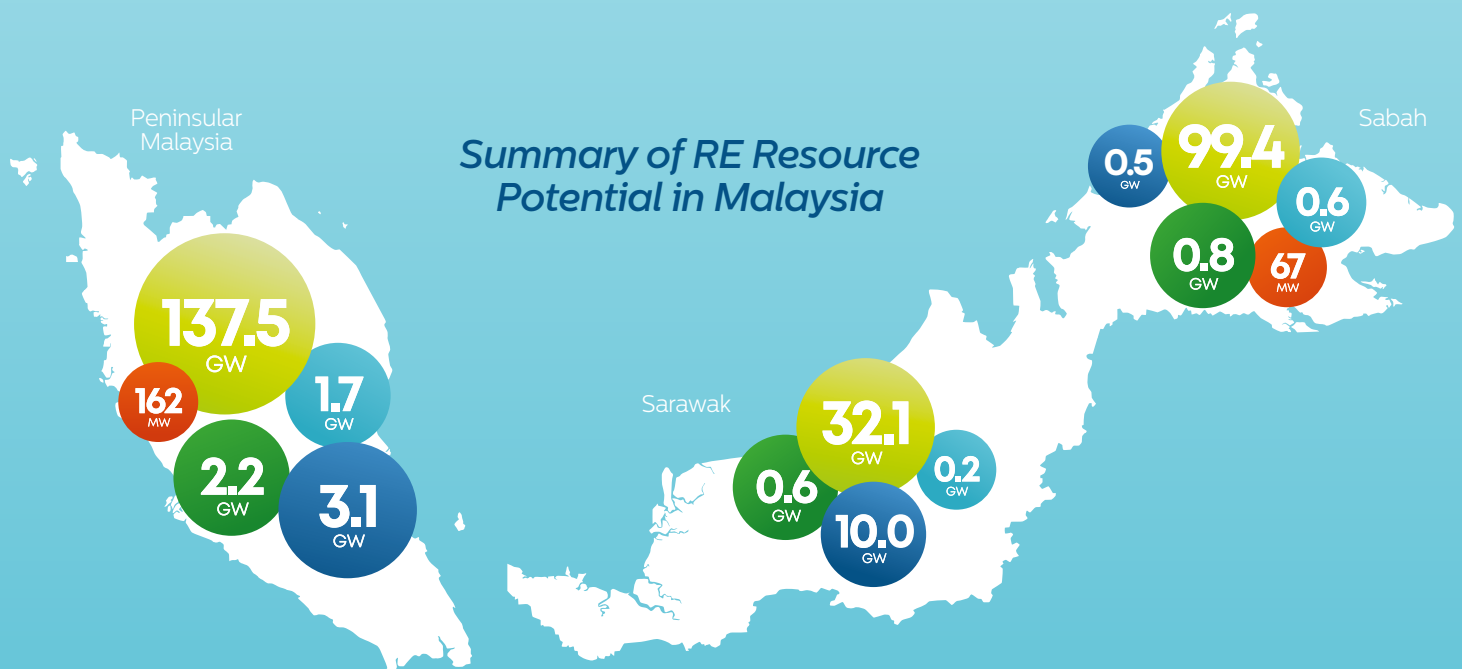


SDG 13  
Climate Action

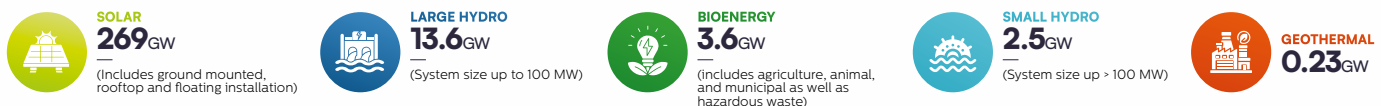


SDG 17  
Partnership for  
the Goals

SEDA MALAYSIA AT A GLANCE



**Total RE potential in Malaysia**



## Malaysia's RE Potential

Malaysia is poised to harness significant potential from renewable energy sources, given its favourable geographic and climatic conditions.

With abundant sunlight, the country is ideally suited for solar energy development, and ongoing investments in solar technology could vastly increase its energy output. Additionally, Malaysia's extensive river systems offer promising opportunities for hydroelectric power. Biomass, derived from the nation's substantial agricultural sector, represents another viable avenue for sustainable

energy production. By leveraging these resources, Malaysia could significantly reduce its reliance on fossil fuels, promote environmental sustainability, and drive economic growth through a cleaner energy future.



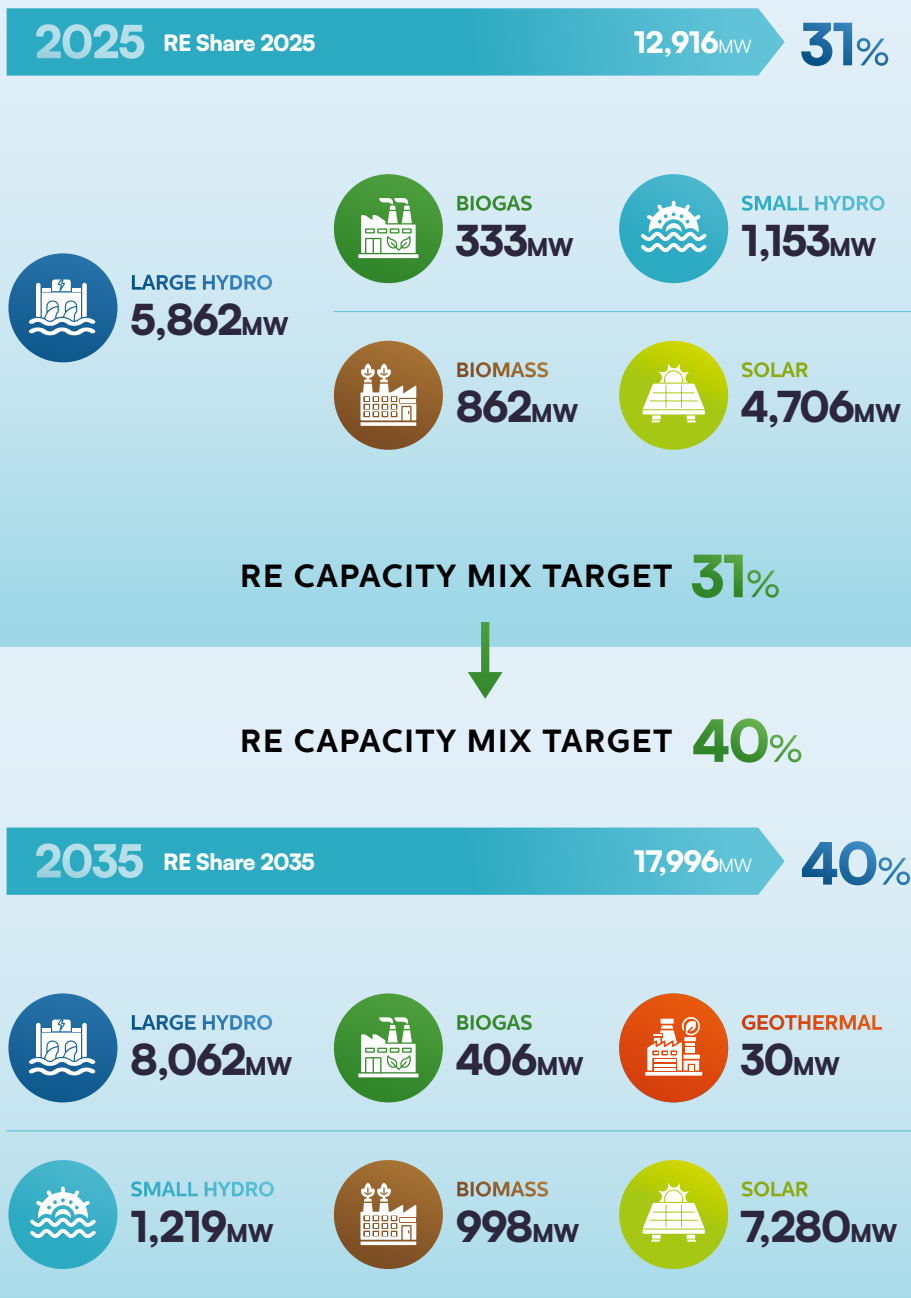
## Malaysia's RE Target

As Malaysia advances towards its 2050 energy goals, the country has set clear milestones for increasing its renewable energy (RE) capacity. Currently at 26%, Malaysia aims to reach 31% RE installed capacity by 2025, with Large Hydro and solar being the primary contributors. By then, Large Hydro is expected to account for 45.4% of the RE mix, followed by solar at 36.4%, and smaller

shares from Small Hydro, Biomass, and Biogas. Looking further ahead to 2035, Malaysia plans to expand its RE capacity to 40%, with a continued emphasis on Large Hydro and Solar, and the introduction of Geothermal energy. This strategic diversification and integration of variable renewables are crucial for ensuring a stable and reliable electricity supply as Malaysia transitions to a more sustainable energy system.

NETR aims to achieve

**70%**  
RE Mix by 2050



Source: Malaysia Renewable Energy Roadmap (MyRER) 2021.

SEDA MALAYSIA AT A GLANCE

# SEDA Malaysia Value Creation Model

## Our Strategy →



**SG 1**

### STRATEGIC GOAL 1

**Accelerating RE Share to Support the Planned Energy Transition**

Please refer to page **7** for more information



**SG 2**

### STRATEGIC GOAL 2

**Spearheading Comprehensive Solutions to Expand SE Adoption**

Please refer to page **7** for more information



**SG 3**

### STRATEGIC GOAL 3

**Catalysing Innovation to Enhance SE Growth**

Please refer to page **7** for more information

## Our Capitals →

### FINANCIAL CAPITAL (Net Worth)



SEDA MALAYSIA

**RM72.631 M**

Please refer to page **102** for more information



RE FUND

**RM4,513 B**

### MANUFACTURED CAPITAL

#### FIT AND NEM PROGRAMME

PLANT OPERATIONAL

**FiT**

**10,336** RE PLANTS | **692.59** MW

**NEM**

**24,665** SOLAR PROJECTS | **969.4** MW

IN PROGRESS

**FiT**

**124** RE PLANTS | **737.87** MW

**NEM**

**4,503** SOLAR PROJECTS | **365.06** MW

Please refer to pages **22-32** for more information

### INTELLECTUAL CAPITAL



**265** RPVSP  
**276** RPVI



**6,966** people trained  
under RE & EE



**949** registered for green  
buildings recognition

Please refer to pages **34-54** for more information

### SOCIAL & RELATIONSHIP CAPITAL

**RM850,000**

spent under the CSR activities

Please refer to page **68** for more information

## Values Created

### INSTALLED CAPACITY : FIT



### INSTALLED CAPACITY : NEM



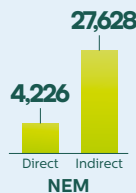
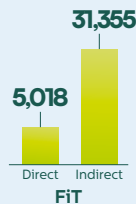
**TOTAL FIT**  
**1,430.46**

**TOTAL NEM**  
**1,334.48**

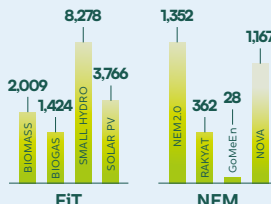
Please refer to pages 22-32 for more information

Amount of Recovery of Monies (RoM)  
**RM3.933 B**

### JOB CREATION



### CAPEX (RM) (MILLION)



### LOCAL ASSEMBLY/ MANUFACTURER OF RE EQUIPMENT

FIT		
Resources		
Biomass	Boiler	9
	Gasifier	1
Biogas	Gas Engine	11
Solar PV	Module	9
	Inverter	0

Please refer to pages 22-32 as well as page 102 for more information

## ENVIRONMENT

Amount of CO<sub>2</sub> emission reduction

**RENEWABLE ENERGY**  
**5.349 M tCO<sub>2</sub>eq**

**ENERGY EFFICIENCY**  
**496,452.78 tCO<sub>2</sub>eq**

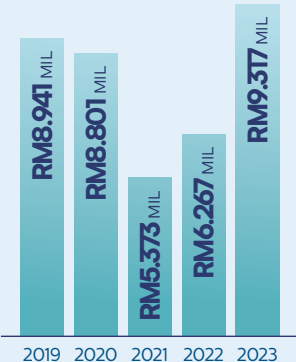
Please refer to pages 27-28 and 36-47 for more information

## Outcomes Achieved

**26%**  
of RE installed capacity

Please refer to pages 22-32 for more information

Operating Surplus for the last 5 years (2019 - 2023)



**SEDA MALAYSIA**

Please refer to page 102 for more information

**#1** in SE Asia  
by WEF

SEDA MALAYSIA AT A GLANCE

# Stakeholder's Engagement

The Authority is dedicated to fostering collaborative relationships through its comprehensive stakeholder engagement initiatives.

By actively involving diverse stakeholders, including government agencies, industry players, and community groups, the Authority ensures that renewable energy policies and programmes are effectively aligned with the needs and expectations of all parties. This engagement process not only facilitates

informed decision-making but also enhances the implementation and impact of sustainable energy initiatives across the country. Through transparent communication and active dialogue, the Authority strives to build consensus and drive collective progress towards a greener energy future.



Stakeholder

## Ministry and related agencies

### Mode of Engagement

- Meetings and Collaborations
- Monthly Gatherings

### Scope of Interest

- Achieving the SE target
- Developing a sustainable nation

### Strategic Objectives



### Related SDG



### Enablers



Stakeholder

## Industry Players and Institutions

### Mode of Engagement

- Meetings
- Speaking engagements
- Conferences
- Collaborations

### Scope of Interest

- Quota awards
- Registration and regulations for RPVSP & RPVI
- Training partners
- Support for projects

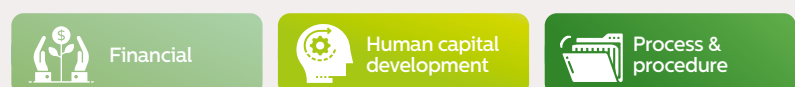
### Strategic Objectives



### Related SDG



### Enablers





Stakeholder

## Public

### Mode of Engagement

- Corporate website
- Social media
- Press release
- Events & Roadshows

### Scope of Interest

- Programmes introduced by the Government to achieve the SE goal
- Updates on the current SE landscape
- Education and Awareness on SE

### Strategic Objectives



### Related SDG



### Enablers



Stakeholder

## International organisations

### Mode of Engagement

- Engagements and meetings
- Collaborations
- Conference participations

### Scope of Interest

- Updates on the current SE landscape
- Collaborations and technology transfers

### Strategic Objectives



### Related SDG



### Enablers



Stakeholder

## Employees

### Mode of Engagement

- Trainings
- Staff Gatherings
- Social media

### Scope of Interest

- Developing a quality workforce
- Providing lifelong learning to staff

### Strategic Objectives



### Related SDG



### Enablers





*In 2023, Malaysia has been recognised as the best country in Southeast Asia in the Energy Transition Index 2023 by the World Economic Forum. This recognition marks a significant milestone in our journey towards sustainable energy.”*





## KEY MESSAGES

# Chairman's Welcome

**M**alaysia is making strategic strides towards a sustainable energy future through the unveiling of the comprehensive National Energy Transition Roadmap (NETR) in August 2023. The roadmap aims to achieve 70% renewable energy installed capacity by 2050.

The launch of NETR is a significant milestone to facilitate the country's transition to more sustainable and environmentally friendly energy sources, transitioning to a low-carbon economy and achieving net-zero emissions as early as 2050. It underscores the nation's commitment to reducing its carbon footprint and enhancing energy security, aiming to position Malaysia as a regional leader in the green energy sector.

As the Chairman of the Authority, I am pleased to present the Authority's Annual Report for 2023. The year 2023 showcased a promising outlook, with the World Health Organization declaring that COVID-19 was no longer considered a global health emergency. The International Monetary Fund's projected global Gross Domestic Product (GDP) growth to moderate to 3.0% in 2023 was also in line with Malaysia's GDP growth of 3.7% recorded in 2023.

Meanwhile, the energy market is experiencing the impact of ongoing conflicts in Ukraine and the Middle East, which had strong knock-on effects on power generation due to our strong dependence on fossil fuels. The heavy use of fossil fuels is also causing the world's acute climate crisis, including the record-breaking heat waves experienced worldwide in 2023.

## Strategic Partnerships for a Sustainable Energy Future

The need to transition to sustainable energy (SE) is more pressing than ever, and the Authority is committed to our mission to lead the development of SE in alignment with overarching national policies to contribute to a sustainable future. Accordingly, the Authority has been identified as one of the champions in three energy transition levers: Renewable Energy (RE), Energy Efficiency (EE), and Bioenergy. The Authority will also work together with the Ministry of Energy Transition and Water Transformation (PETRA) and Ministry of Plantation and Commodities (KPK) to develop biomass clusters with a centralised plant that utilises aggregated feedstock from multiple neighbouring mills, which is one of the ten flagship projects under NETR.

The realignment of Malaysia's Cabinet through establishing a new energy transition and public utilities ministry (now PETRA), alongside the recent energy policy update through NETR, signals the country's attention to its commitment towards a brighter, cleaner, and more resilient future. This effort also aligns with the Ekonomi MADANI framework introduced by Prime Minister Datuk Seri Anwar Ibrahim last year, with one of the fundamental principles being 'sustainability', which can be seen as broadly related to growing responsibly in energy transition and sustainable development.

*The International Monetary Fund's projected global GDP growth to moderate to*

**3.0%**  
in 2023



*This progress aligns with our national goals of reaching a 40% RE mix by 2035 and*



As the Authority responsible for advancing Malaysia's sustainable energy agenda by overseeing the implementation of renewable energy programmes and initiatives, we will continue to play our part in supporting the nation's net-zero agenda based on the mandate under the Sustainable Energy Development Authority 2011 [Act 726].

### ***Leading the Energy Transition in the Region***

In 2023, Malaysia has been recognised as the best country in Southeast Asia in the Energy Transition Index 2023 by the World Economic Forum. This recognition marks a significant milestone in our journey towards sustainable energy. This prestigious index considers both system performance and readiness to adopt environmentally friendly energy sources, highlighting our country's successful management of a fast, safe, and affordable energy transition.

The success can also be attributed to our strategic advantages, such as a prime geographic location, diverse renewable energy sources, and a highly skilled workforce, positioning Malaysia as a regional leader in energy transition.

To further affirm that we are on the right track in the energy transition agenda, as of 2023, Malaysia has achieved approximately 10GW, or 26% of its renewable energy installed capacity. This progress aligns with our national goals of reaching a 40% RE mix by 2035 and 70% by 2050. The Authority is proud to be part of this journey through our implementation of the Feed-in Tariff (FiT) mechanism and Net Energy Metering (NEM) programme.

The quota opening for these two programmes, with FiT quota offered for Biomass, Biogas, and Small Hydro that amounted to 180MW, the NEM quota for NEM Rakyat and NOVA, at 50MW and 200MW respectively, is a testament to the Government's commitment to developing the RE industry further.

Progress in the nation's energy transition agenda is a crucial step toward our decarbonisation efforts and achieving energy security. This ongoing commitment not only helps reduce our carbon footprint but also ensures a stable and sustainable energy supply for the future. By prioritising renewable energy, we are strengthening our resilience and paving the way for a greener, more secure energy landscape.







0.09MWac FiT project installed by Am Rich Constructions & Development Sdn Bhd in Kuala Pilah, Negeri Sembilan.

*“2024 will be another year to look forward to in terms of milestones for both the Ministry and the Authority through various rollouts of initiatives, with the highlight being the 6th International Sustainable Energy Summit (ISES) 2024.”*

## ***In Appreciation***

Since its inception, the Authority has continuously supported the Ministry of Energy Transition and Water Transformation (PETRA) in transitioning Malaysia's energy landscape. On behalf of the Authority, I would like to thank the Ministry for its support and for entrusting us with the mandate to develop and promote the sustainable energy industry.

Despite the worldwide pressing need to mitigate climate change and reduce the industrial carbon footprints of the current industrial complex while accelerating the energy transition as a solution, the Authority believes that with its expert staff and their capacity driven by clear goals, no hurdle is too large. 2024 will be another year to look forward to in terms of milestones for both the Ministry and the Authority through various rollouts of initiatives, with the highlight being the 6th International Sustainable Energy Summit (ISES) 2024. However, the Authority will always maintain its main function in supporting the country's energy transition goals.

As such, I also extend my heartfelt gratitude to the entire Authority's management team for their exemplary work and outstanding team spirit. Your dedication and collaborative efforts have been instrumental in driving the country's sustainable energy agenda. I hope this excellent work and team spirit will remain for years to come.

Thank you.

**YBrs. Tuan Ahmad Zairin Ismail**  
**Chairman of the Authority**

## ***Future Direction***

Thirteen years since its establishment, the Authority remains steadfast in its responsibility and mandate to accelerate the energy transition in the country. Our role includes advising Ministers on sustainable energy matters and providing recommendations on policies, laws, and actions to promote sustainable energy. Amid the worsening climate change crisis, the transition to sustainable energy is more urgent than ever, and we aim to be the SE industry's think-tank and reference point.

One of the challenges we face with the administration and implementation of the FiT mechanism is the low success rate for the committed quota by Feed-in Approval Holders (FiAH). While quota take-ups are excellent, execution has encountered issues such as financing and feedstock availability for bioenergy

resources. Grid connection is another challenge, particularly for bioenergy and small hydro projects located in rural and remote areas. To address these challenges, we are undertaking the FiT Review study with the aim of developing an enhanced version of FiT, dubbed FiT 2.0, to improve the current mechanism and help resolve industry issues.

In addition to the FiT Review study, we are embarking on the Hydrological Study on Hydro Potential in Peninsular Malaysia, the Displaced Cost (DC) Revision study and Bioenergy Clustering Potential study in Peninsular Malaysia. These studies aim to increase the capacity of renewable energy generation and improve the current FiT system. By addressing these challenges and continuing to innovate, we are committed to driving Malaysia's sustainable energy future forward.

## KEY MESSAGES

# CEO's Review



**F**or decades, Malaysia has been a nation of innovation and progress, committed to transforming its energy landscape to meet the evolving needs of its people. At SEDA Malaysia, we have been at the forefront of driving sustainable energy initiatives.

In an effort to focus the goals and aspirations of the Malaysian energy transition and its sustainability this year, the Ministry of Natural Resources and Climate Change has been reorganised into the Ministry of Energy Transition and Water Transformation (PETRA). As we navigate through 2023, I am pleased to share the Authority's strides and ongoing initiatives towards achieving our ambitious sustainable energy goals. Our collective efforts have been pivotal in shaping Malaysia's energy landscape, and I am confident that with continued collaboration, we will meet and exceed our targets.



*As of 2023, SEDA has approved 10,460 FiT projects, equivalent to 1,430.46MW contributing significantly towards the national renewable energy targets for 2025."*



## Malaysia's Progress towards Zero Carbon Emission

Our commitment to achieving net-zero carbon emissions as early as 2050 is unwavering. The energy sector (excluding Transport), contributing 59% of greenhouse gas (GHG) emissions in 2019, remains our focal point. Under the Paris Agreement, we aim to reduce our economy-wide carbon intensity by 45% by 2030, compared to 2005 levels. With key milestones includes the Malaysia Renewable Energy Roadmap (MyRER) goal of targeting a 31% share of renewable energy (RE) by 2025 and 40% by 2035 and the updated National Energy Transition Roadmap (NETR) goal of increasing installed RE capacity targets to 70% by 2050.

These targets are underpinned by robust modelling and strategic planning, with the NETR serving as our primary policy framework. The roadmap is a developed comprehensive plan aimed at transitioning to a low-carbon economy. It leverages strategic advantages, recognises the importance of energy sustainability, and sets ambitious goals for reducing GHG emissions, driving economic growth, and creating job opportunities. The successful implementation of NETR will position Malaysia as a leader in the global energy transition movement, ensuring a sustainable and resilient future.

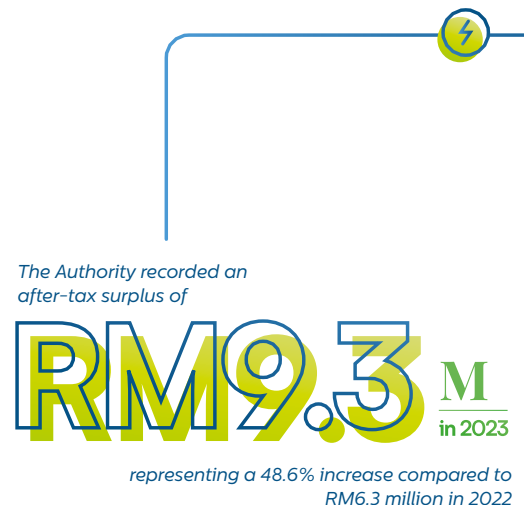
## Financial Performance

The Authority recorded an after-tax surplus of RM9.3 million in 2023, representing a 48.6% increase compared to RM6.3 million in 2022. This aligns with an increase in revenue from Exchange Transaction to RM29.7 million, a 7.1% rise from RM27.7 million in 2022. In effect, the Authority's financial position strengthened, with accumulated surplus rising to RM72.6 million as of 31 December 2023.

## Current Progress and Achievements

The Feed-in Tariff (FiT) mechanism introduced under the Renewable Energy Act 2011 [Act 725] is instrumental in developing the RE industry in Malaysia. The FiT programme is offered for generation of electricity via Solar Photovoltaic (PV), Biomass, Biogas, and Small Hydro resources with the main objective of achieving grid parity. 12 years since it's inauguration in 2011, Solar resources has successfully achieved grid parity and is no longer being offered under the FiT programme.

As of 2023, SEDA has approved 10,460 FiT projects, equivalent to 1,430.46MW contributing significantly towards the national renewable energy targets for 2025. The approved projects are distributed across various renewable energy sources with Solar PV at 10,233 projects with a total capacity of 321.50MWac, Biomass at 21 projects with a total capacity of 153.57MWac, Biogas at 136 projects with a total capacity of 248.51MWac and Small Hydro at 70 projects with a total capacity of 706.88MWac. These projects are instrumental in driving Malaysia towards its renewable energy goals, demonstrating the effectiveness of the FiT mechanism in fostering the growth of the renewable energy sector.





New quota opening was also exercised in 2023, with 180MW being offered for the Biomass, Biogas and Small Hydro resources cumulatively. The new quotas are expected to generate an investment of RM1.14 billion and create as many as 540 job opportunities in the RE industry.

As an extension of the FiT mechanism to continue the positive trajectory for Solar PV industry, the Net Energy Metering (NEM) programme continues to spur RE contribution into the energy capacity mix. As of 31 December 2023, a total of 1,334.48MW was approved, equivalent to 29,168 projects under both NEM2.0 and NEM3.0.

Additionally, the NEM programme also saw additional quota being added with NEM Rakyat 50MW and NOVA 200MW in 2023. The faster take-up rates seen came on the back of the government's decision to remove the blanket subsidy on electricity tariffs since the start of this year, with higher tariffs seen for high-voltage and high consumption users across both residential and non-residential groups implemented in the second half of the year.

The steady deployment of sustainable energy policies and initiatives has resulted in substantial growth of renewable energy capacity in the country. The two programmes have contributed to the RE installed capacity of 26% or approximately 10GW in 2023. This demonstrates that we are on track with the nation's commitment to achieve 31% of RE mix by 2025 and 40% by 2035 with an end goal of 70% RE mix capacity by 2050. With this pace, I strongly believe that Malaysia will be able to reduce our economy-wide carbon intensity and achieve the Responsible Transition Impact goals of the NETR across the energy trilemma.

## ***The Root of Sustainability***

The sustainable energy agenda will not be complete without the energy management and efficiency aspect. Therefore, while actively promoting the development of renewable energy and its technology to change the way energy is generated, the Authority is also vigorously building the human capability in the industry while transforming the commercial and industrial sectors to manage the building energy more efficiently.

The Authority offers technical facilitation and services to our stakeholders which largely comprises of the public sector. Under the Sustainable Energy Low Carbon Building Facilitation Programme, the Authority facilitated an increasing number of local authorities, with the recently concluded one with Majlis Bandaraya Petaling Jaya (MBPJ) through capacity enhancement and facilitation on development of low carbon cities. The programme is originally started in June 2020 and concluded in May 2023, but has been extended for an additional three years until May 2026.

As a follow through of an earlier memorandum of understanding (MOU) signed in October 2018, the Authority continued its effort in the introduction of Zero Energy Building (ZEB) Facilitation Programme. This is the product of a cooperation with the Japanese Business Alliance for Smart Energy Worldwide (JASE-W), an organisation assigned by the Ministry of Economy, Trade and Industry (METI) of Japan to promote and facilitate ZEB Programme in Japan and ASEAN countries.

Besides that, the Authority continues to provide similar facilitation to States that are collaborating with the Authority. Since inception, the Authority has collaborated with training institutions to carry out trainings in RE and Energy Efficiency (EE). In 2023, 4,285 individuals were trained in RE and 2,681 individuals in EE trainings. The Authority's continuous effort in building human capability through comprehensive training in SE underscores its dedication

to equipping individuals and industries with the necessary skills to contribute to a sustainable future. The extension of these programmes and ongoing collaborations highlights the Authority's long-term vision and proactive stance in driving Malaysia's sustainable energy transformation.

***“The Authority's continuous effort in building human capability through comprehensive training in SE underscores its dedication to equipping individuals and industries with the necessary skills to contribute to a sustainable future.”***

## ***Strengthening International Liaisons and Increasing Public Awareness***

In 2023, the Authority achieved significant milestones in promoting sustainable energy in Malaysia. During COP28 in Dubai, we highlighted our ongoing efforts and future plans under the National Energy Transition Roadmap (NETR), emphasising the commitment to adopting new technologies and fostering cross-sector collaborations. The key achievements of 2023 include the substantial Increase in renewable energy capacity where the Authority successfully increased the country's renewable energy capacity, marking significant progress towards Malaysia's goal of net-zero emissions by 2050.

*“Malaysia stands out within ASEAN for its advancements in solar and hydropower. To further cement its leadership in renewable energy development in Southeast Asia, Malaysia engages in several regional and international initiatives.”*

Our efforts were also recognised at International Forums as we were prominently showcased at international platforms like COP28, reinforcing Malaysia's position as a leader in sustainable energy within the region. Looking ahead, the Authority plans to sustain this momentum with a vision for 2024, which will be unveiled at the International Sustainable Energy Summit (ISES) 2024. This event will further outline the Authority's strategies and initiatives to advance Malaysia's energy transition.

Public interest in sustainable energy is steadily increasing, largely driven by the visible impacts of climate change. The Authority leverages this growing awareness through several initiatives

aimed at engaging and educating both the public and commercial sectors. These initiatives are namely the biennial International Sustainable Energy Summit (ISES). An event that serves as a platform for stakeholders to discuss and promote sustainable energy practices, technologies, and policies. The summit facilitates knowledge exchange and collaboration among industry leaders, policymakers, and researchers.

The Authority also conducts various engagement programmes to engage different segments of society. These include workshops, seminars, and interactive sessions designed to inform and inspire action towards sustainable energy. Recent campaigns have focused on combining education with entertainment (edutainment), the Authority's creative take to raise awareness about renewable energy and sustainability. Collaborations with organisations like Petrosains have been particularly effective in reaching younger audiences, fostering a new generation of environmentally conscious citizens.

Malaysia stands out within ASEAN for its advancements in solar and hydropower. To further cement its leadership in renewable energy development in Southeast Asia, Malaysia engages in several regional and international initiatives. One key initiative is the ASEAN Power Grid, which aims to enhance energy security and sustainability across member countries by promoting the integration of renewable energy sources. Additionally, Malaysia collaborates with international organisations such as the International Renewable Energy Agency (IRENA) and the ASEAN Centre for Energy (ACE). These partnerships facilitate knowledge exchange, technical assistance, and capacity-building activities, enabling Malaysia to leverage global best practices and innovations in renewable energy.

*Our efforts were also recognised at International Forums as we were prominently showcased at international platforms like*

**COP28**

*reinforcing Malaysia's position as a leader in sustainable energy within the region.*

## Appreciation

I would like to extend my heartfelt appreciation to the dedicated staff of the Authority for their hard work and commitment for the past year in delivering our mandate. Your unwavering commitment and collaboration have been crucial in driving our progress and achieving our goals. Together, we will continue to work towards a greener, cleaner, and more prosperous Malaysia. Sincerest appreciation to the Ministry and Authority members for their trust and support in my tenure as the CEO of the Authority. I am confident with the new leadership under YAB Dato' Sri Haji Fadillah Bin Haji Yusof, Deputy Prime Minister and Minister of PETRA, the Authority will be able to strengthen its efforts in promoting renewable energy, driving policy reforms, and enhancing inter-agency coordination to achieve national energy goals.

A sustainable future for Malaysian can be achieved, with robust policy and concerted efforts from all stakeholders. The Authority is steadfast in its mission to drive the nation's sustainable energy agenda. With your continued support, we are confident in our ability to overcome challenges and achieve our vision of a greener, more sustainable Malaysia.

Thank you.

**YBhg. Dato' Hamzah Hussin**  
Chief Executive Officer

## OUR BUSINESS

# Feed-in Tariff (FiT)

*The Feed-in Tariff (FiT) mechanism is a critical component of Malaysia's renewable energy policy, designed to promote the generation of renewable energy by providing long-term contracts and guaranteed pricing to energy producers.*

**BIOGAS**  
93.25MW  
56 Projects

**12.6%**

Administered by the Authority, the FiT mechanism incentivises investment in renewable energy projects by ensuring predictable returns and reducing financial risks for investors. This mechanism plays a vital role in accelerating the adoption of clean energy technologies, contributing to the national energy transition goals, and reducing Malaysia's carbon footprint.

Since its inception, the FiT mechanism has successfully facilitated the growth of various renewable energy sectors, including Solar, Biogas, Biomass, and Small Hydropower. By offering a stable and attractive framework, the FiT mechanism has attracted substantial private sector investment, leading to significant increases in renewable energy capacity and output. This progress

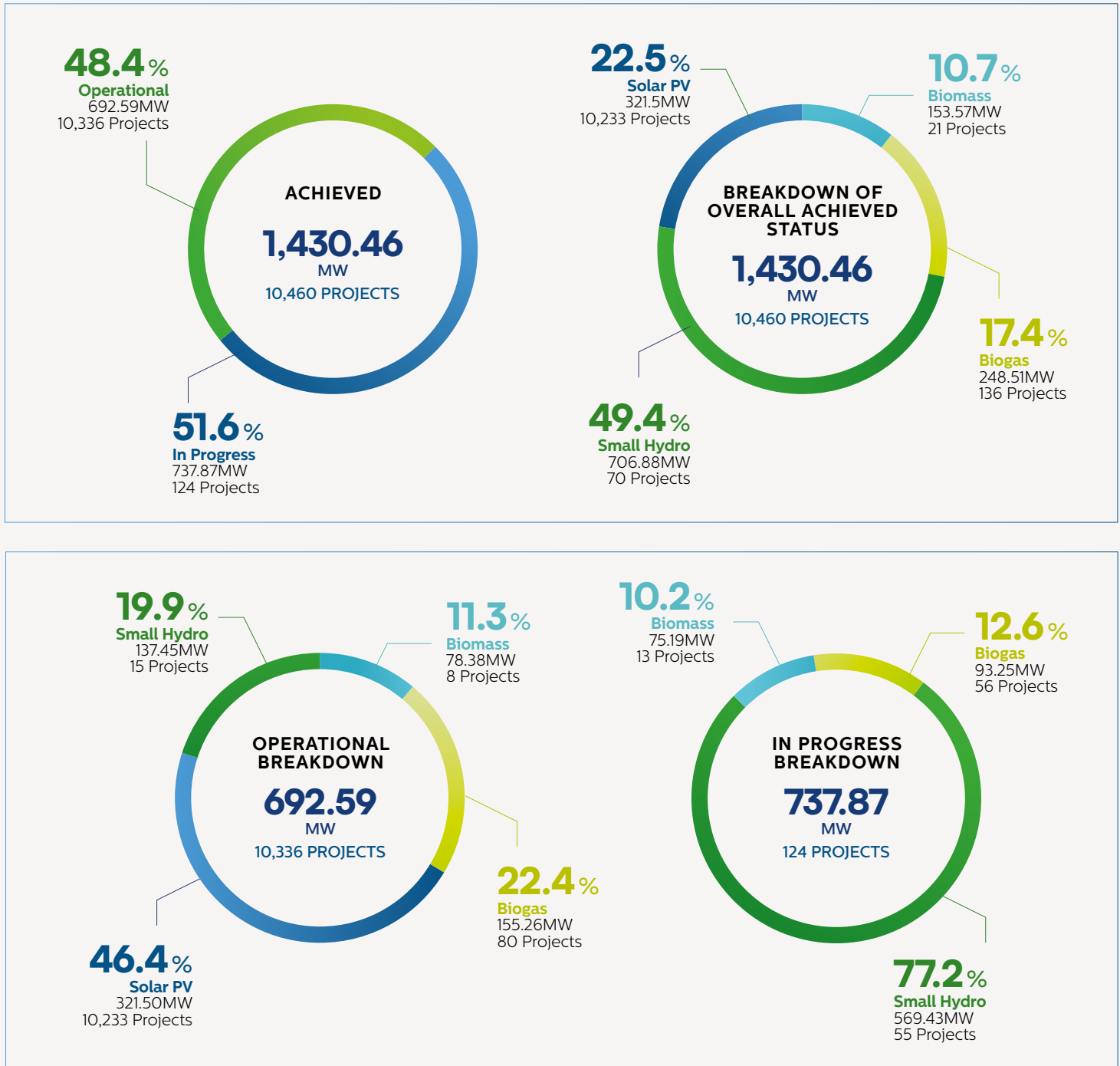
aligns with Malaysia's commitment to sustainable development and climate change mitigation.

In 2023, the FiT programme continued to demonstrate its effectiveness and impact. The year was marked by numerous milestones, including the commissioning of new renewable energy projects, technological advancements, and enhanced stakeholder engagement. As we review the performance and achievements of the FiT mechanism over the past year, it is essential to highlight the key statistics and notable developments that underscore the programme's ongoing success.

The key Statistics and Highlights of the FiT for year 2023 is detailed in **Exhibit 1**.

*Bukit Tagar Sanitary Landfill has one of the largest waste-to-energy project in the nation with a combined 10.5MWac gas engines to generate electricity.*





By the end of 2023, the Authority had approved 10,460 Feed-in Approval (FiA) applications, accounting for a total of 1,430.46MW in Renewable Energy (RE) installed capacities. Solar PV led the number of applications with 10,233 submissions.

When it comes to approved installed capacities, Small Hydro emerged as the largest contributor with 706.88MW, followed by Solar PV with 321.5MW, Biogas with 248.51MW, and Biomass with 153.57MW.



#### Exhibit 1

Feed-in Tariff Key Statistics as of 31 December 2023



## e-Bidding

On 10th March 2023, the Authority announced the FiT quota applications for Small Hydro, Biogas, and Biomass resources for the year 2023 via e-Bidding. The new quota offered via eBidding is as detailed below in **Exhibit 2**

The briefing on e-bidding applications was successfully organised by the Authority on 17th March 2023. For the bid window from 5th to 26th July 2023, the Authority received 34 applications with a total capacity of 84.834MW. The list of eligible producers who successfully submitted their e-bidding applications was published on the Authority website on 27th July 2023. Details of the applications and their capacities are as shown in **Exhibit 3**.

### Exhibit 2

New FiT Quota for year 2023

Renewable Resources	Quota Offered (MW)	Estimated Commercial Operation (Year)	Quota Opening Date	Reference price <sup>a</sup> (RM/kWh)
Biogas	40	2026	10.00 am, 5th July, 2023 to 1.00 pm, 26th July 2023	0.2467
Biomass	40	2026		0.2810
Small Hydro	100	2028		0.2414
<b>Total</b>	<b>180</b>			

Renewable Resources	No. of applications	Capacity(MW)
Biogas	26	38.534
Biomass	2	17.0
Small Hydro	6	29.3
<b>Total</b>	<b>34</b>	<b>84.834</b>

### Exhibit 3

Total New FiT Applications received for 2023

The Authority is dedicated to refining and overseeing the e-Bidding application process and its evaluation framework to ensure compliance with the Renewable Energy Act 2011 [Act 725] and its associated regulations. This involves thorough technical and financial evaluations to support the successful deployment and operation of renewable energy projects.

Each e-bidding application underwent a detailed review by the Technical Evaluation Committee and the Financial Evaluation Committee. As a result of this rigorous evaluation, 22 applications were approved, totalling a capacity of 36.534MW. The approved quotas and their respective capacities are outlined in **Exhibit 4**.



Renewable Resources	Quota (MW)	Application		Successful Bidder	
		Application Received	Capacity (MW)	Application Received	Capacity (MW)
Biogas	40	26	38.534	21	29.534
Biomass	40	2	17.0	1	7.0
Small Hydro	100	6	29.3	0	0
<b>Total</b>	<b>180</b>	<b>34</b>	<b>84.834</b>	<b>22</b>	<b>36.534</b>

The list of successful bidder companies according to renewable resource is as detailed below in Exhibit 5:



#### Exhibit 4

Total New FiT Applications and Approvals for 2023

#### BIOGAS

	Successful Eligible Producers	Installed Capacity (MW)	Basic FiT Tariff Bid Rate (RM/kWh)
1	ETAGREEN GLT SDN. BHD.	2.269	0.2511
2	GLT EVER SELAMA SDN. BHD.	1.560	0.2537
3	CONCORD NORTHERN BIOGAS SDN. BHD.	1.562	0.2565
4	MAWAR BIOGAS SDN. BHD.	2.400	0.2580
5	CENERGI LESTARI SDN. BHD.	1.200	0.2612
6	CENERGI YPPH SDN.BHD.	1.840	0.2613
7	LEMBING POWER SDN. BHD.	0.600	0.2615
8	RICH GREENWAY SDN. BHD.	0.400	0.2688
9	CENERGI TANAH MERAH SDN.BHD.	1.200	0.2710
10	CENERGI AYER ITEM SDN.BHD.	1.200	0.2711
11	CENERGI ALAM SDN. BHD.	1.200	0.2712
12	SHH BIOENERGY SDN. BHD.	2.400	0.2714
13	CENERGI LAWANG SDN. BHD.	1.200	0.2730
14	RENIKOLA BIOGAS (JENGKA) SDN. BHD	0.901	0.2740
15	ENGHOLA BIOBRIDGE FRONT SDN. BHD.	2.400	0.2750
16	FABULOUS SUNSTAR SDN. BHD.	1.200	0.2758
17	CENERGI ALAM SDN. BHD.	1.200	0.2805
18	CENERGI ALAM SDN. BHD.	1.200	0.2810
19	BAKRI GREEN ENERGY SDN. BHD.	1.202	0.2812
20	CENERGI ALAM SDN. BHD.	1.200	0.2813
21	BELL CENERGI LINGGA SDN. BHD.	1.200	0.2814
<b>Total</b>		<b>29.534</b>	

## BIOMASS

Successful Eligible Producers	Installed Capacity (MW)	Basic FiT Tariff Bid Rate (RM/kWh)
1 SAMAIDEN BIOMASS ENERGY SDN. BHD.	7.00	0.2800
<b>Total</b>	<b>7.00</b>	

**Exhibit 5**

Companies Approved for New FiT Biogas and Biomass quota in 2023

No bidders successfully secured a quota for the Small Hydro project as the applicants failed to meet the Authority's technical requirements after thorough evaluation.

## Renewable Energy capacity under Feed-in Tariff (FiT) Mechanism

Resources	Year												Percentage
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Biogas	7.41	11.73	12.83	20.23	35.69	61.76	69.94	107.09	110.59	124.30	137.60	155.27	22.42%
Biomass	52.30	50.40	55.90	76.70	87.90	87.90	95.55	70.65	70.65	70.65	58.65	78.38	11.32%
Small Hydro	15.70	15.70	15.70	18.30	30.30	30.30	50.30	70.30	70.30	83.80	96.80	137.45	19.85%
Solar PV	26.32	115.56	169.88	219.89	284.74	315.42	320.53	322.47	322.70	322.52	322.43	321.43	46.41%
<b>Total</b>	<b>101.72</b>	<b>193.39</b>	<b>254.32</b>	<b>335.12</b>	<b>438.63</b>	<b>495.38</b>	<b>536.32</b>	<b>570.51</b>	<b>574.24</b>	<b>601.27</b>	<b>615.49</b>	<b>692.52</b>	<b>100%</b>

**Exhibit 6**

Renewable Energy capacity under Feed-in Tariff (FiT) Mechanism for 2023

As of the end of 2023, the installed RE capacity under the FiT mechanism reached 692.52MW. Solar PV remains the largest contributor, with an installed capacity of 321.43MW followed by Biogas, Small Hydro and Biomass at 155.27MW, 137.45MW and 78.38MW respectively. The Authority is committed to supporting the growth of non-solar RE resources by opening up more quota, as outlined in earlier sections. These efforts are particularly important in light of recent global challenges, including the post COVID-19 pandemic and the ongoing Russia-Ukraine war, which have caused significant disruptions in supply chains and led to increased capital expenditure (CAPEX) and operational expenditure (OPEX) for RE projects globally. To address these challenges, the Authority is reviewing the FiT rates to ensure they remain attractive and viable for investors while promoting a balanced mix of RE resources. This review aims to adapt to the evolving market conditions and maintain the momentum of the energy transition.

## CO<sub>2</sub> Avoidance

The Authority is at the forefront of the nation's efforts to mitigate climate change through reducing the carbon emission via its RE initiatives. By promoting and facilitating the adoption of renewable energy sources, the Authority aims to significantly reduce carbon emissions across the country. These efforts are crucial in transitioning Malaysia towards a low-carbon economy, ensuring environmental sustainability, and meeting international climate commitments. Through strategic programmes, policies, and partnerships, the Authority is driving impactful reductions in CO<sub>2</sub> emissions, contributing to a cleaner and greener future for the nation. **Exhibit 7** details the total CO<sub>2</sub> avoidance up to year 2023 across all resources.

Year	Resources				Total
	Solar PV	Biomass	Biogas	Small Hydro	
2012	5,135	57,852	5,605	19,843	88,434
2013	40,439	119,904	18,148	54,007	232,497
2014	134,780	109,413	34,885	45,654	324,732
2015	181,978	145,884	40,491	36,559	404,912
2016	226,183	137,636	66,374	31,533	461,725
2017	316,555	160,855	157,035	55,432	698,877
2018	362,721	152,720	189,819	69,776	775,037
2019	354,677	151,729	232,881	170,394	909,231
2020	342,942	111,894	323,394	223,152	1,001,382
2021	339,596	111,520	246,664	221,133	1,018,913
2022	315,581	104,934	409,265	254,630	1,084,410
2023	318,452	155,544	434,840	311,757	1,220,593
<b>Total</b>	<b>2,939,038</b>	<b>1,519,435</b>	<b>2,259,401</b>	<b>1,493,869</b>	<b>8,211,743</b>
<b>Total %</b>	<b>35.8%</b>	<b>18.5%</b>	<b>27.5%</b>	<b>18.2%</b>	<b>100%</b>

Based on the total RE generated, the total amount of CO<sub>2</sub> emissions avoided from the conventional fossil fuels plants for the period of 2012-2023 was 8,211,743 tonnes. Solar PV has displaced most of the CO<sub>2</sub> emissions at 36%, followed by Biogas, Biomass and Small Hydro RE resources at 28%, 19% and 18% respectively.

## Positive Impacts of CO<sub>2</sub> reduction

The positive impact of CO<sub>2</sub> avoidance extends far beyond merely reducing greenhouse gas emissions. By actively pursuing strategies to minimise carbon dioxide output, we are fostering a healthier environment, promoting sustainable development, and securing a better quality of life

for future generations. CO<sub>2</sub> avoidance not only mitigates the adverse effects of climate change but also stimulates economic growth through the creation of green jobs and the advancement of clean energy technologies. These efforts contribute to a more resilient and sustainable planet, highlighting the critical role that proactive CO<sub>2</sub> avoidance measures play in preserving our natural resources and ensuring long-term environmental stability.

Thus the question arises, how significant is the impact of avoidance of 8 million tonnes of CO<sub>2</sub> released to the environment? **Exhibit 8** details the impact of avoiding 8,211,743 metric tonnes of CO<sub>2</sub> emissions and its magnitude by comparison.



### Exhibit 7

Total CO<sub>2</sub> Avoidance  
up to 2023 by  
Resource category

# 8,211,743 Metric Tons of Carbon Dioxide (CO<sub>2</sub>) equivalent

▼ **Exhibit 8**  
Positive Impact of Total CO<sub>2</sub> Avoidance

*This is equivalent to greenhouse gas emissions from:*



**1,954,410**

gasoline-powered passenger vehicles driven for one year



**21,002,087,312**

miles driven by an average gasoline-powered passenger vehicle

*This is equivalent to CO<sub>2</sub> emissions from:*



**924,017,441**

gallons of gasoline consumed



**806,654,519**

gallons of diesel consumed



**9,049,970,093**

pounds of coal burned



**108,708**

tanker trucks' worth of gasoline



**1,070,890**

homes' energy use for one year



**1,620,638**

homes' electricity use for one year



**45,165**

railcars' worth of coal burned



**19,011,921**

barrels of oil consumed



**377,239,870**

propane cylinders used for home barbeques



**2.1**

coal-fired power plants in one year



**21.9**

natural gas-fired power plants in one year



**542,112,044,078**

number of smartphones charged



**2,851,300**

tons of waste recycled instead of landfilled



**407,329**

garbage trucks of waste recycled instead of landfilled



**356,684,743**

trash bags of waste recycled instead of landfilled



**2,161**

wind turbines running for a year

*This is equivalent to carbon sequestered by:*



**135,781,877**

tree seedlings grown for 10 years



**52,665**

acres of U.S forests preserved from conversion to cropland in one year



**9,587,452**

acres of U.S forests in one year

# Site Visit Activities

## Acceptance Test & Performance Assessment (AT&PA)/Testing and Commissioning for Renewable Energy Plant under FiT Programme

The Authority has closely tracked the FiAHs slated for commissioning in 2023. By December 2023, nine Biogas projects and two Small Hydro projects had been successfully commissioned, with a total installed capacity of 58.789MW.

Of the nine Biogas projects, eight utilise Biogas extracted from Palm Oil Mill Effluent (POME), while the remaining project uses sewerage waste. Most of these Biogas power plants employ covered lagoon technology for methane capture.

The Small Hydro project, classified under the high head quota category, generates electricity using "run of the river" hydroelectric systems, harnessing the energy from flowing water. **Exhibit 9** below details the Biogas plants commissioned in 2023:

## Exhibit 9

Biogas Plants commissioned in 2023

Feed-in Approval Holder	Installed Capacity (MW)	FiTCD	Location	Source of fuel
FGV Palm Industries Sdn Bhd	2.404	24/2/2023	KKS Keratong 9, Keratong, Pahang	POME
Desa Kim Loong Palm Oil Sdn Bhd	2.404	10/06/2023	Keningau, Sabah	POME
Liziz Biogas Sdn Bhd	2.760	26/07/2023	Ladang Kuala Betis, Gua Musang, Kelantan	POME
Alliance Concord Green Sdn Bhd	2.103	14/07/2023	KKS Risda Ulu Keratong, Rompin, Pahang	POME
Solar Path Sdn Bhd	0.064	14/12/2023	Mukim Setapak, Kuala Lumpur	Sewerage Waste
Betatechnic Sdn Bhd	2.400	25/10/2023	Ayer Tawar, Perak	POME
GLT Intan Power Sdn Bhd	1.560	12/7/2023	Mukim Durian Sebatang, Hilir Perak, Perak	POME
Cenergi Langkap Sdn Bhd	1.560	20/3/2023	Jln Teluk Intan, Changkat Jong Langkap, Perak	POME
Telekosang Hydro One Sdn Bhd	24.652	16/02/2023	Sg. Telekosang, Sipitang, Sabah	Small hydro
Ladang Rakyat Trengganu Sdn Bhd	2.404	6/10/2023	Ladang Rakyat Terengganu, Kemaman	POME
Telekosang Hydro Two Sdn Bhd	16.478	26/12/2023	Sg. Telekosang, Sipitang, Sabah	Small hydro

Below are some pictures taken during the AT&PA activities carried out:

1. On-site gas sampling activity during electrical efficiency test for GLT Intan Sdn. Bhd. by accredited lab representative
2. On-site discussion on AT&PA procedure for FGV Palm Industries Sdn. Bhd.
3. Layout of a 0.64kW Biogas plant for Solar Path Sdn. Bhd. That is fueled by sewerage waste in IWK facility
4. The water intake for Telekosang One whose source is from the Lower Sg Telekosang





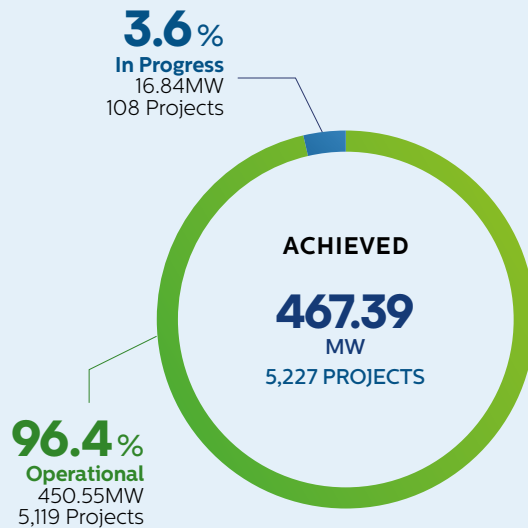
## OUR BUSINESS

# Net Energy Metering (NEM)

## **NEM2.0**

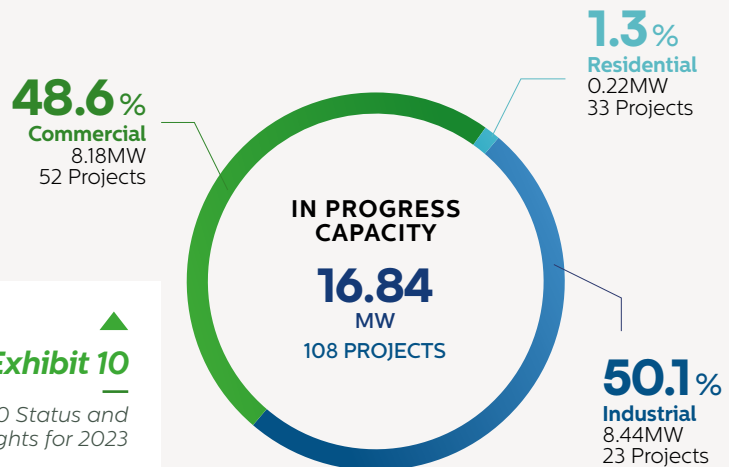
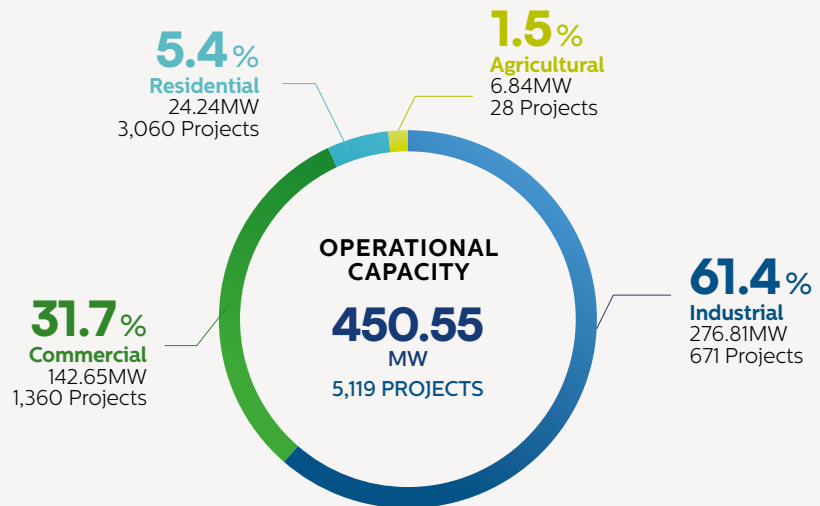
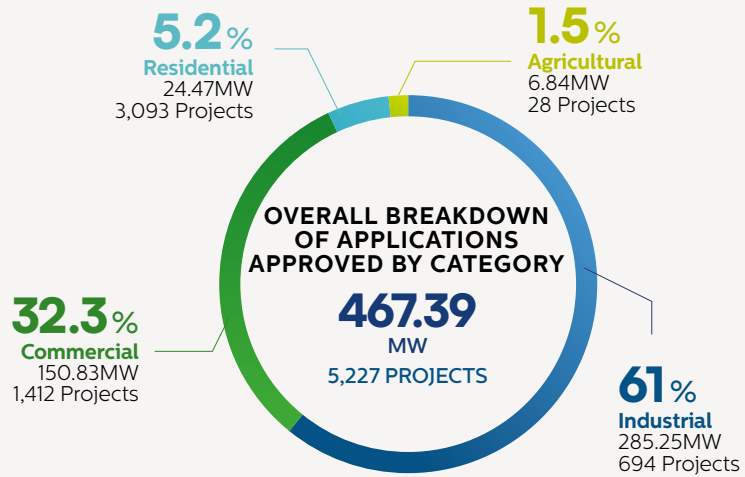
*The Authority's Net Energy Metering 2.0 programme (NEM2.0) represents a significant advancement in the nation's renewable energy strategy.*

Designed to enhance the integration of solar power into the grid, NEM2.0 allows consumers to generate and consume their own solar energy while exporting excess power back to the grid. This initiative aims to foster greater adoption of solar technologies, offer financial incentives for renewable energy investments, and contribute to a more sustainable energy landscape. Through NEM2.0, the Authority seeks to drive the growth of clean energy solutions and support Malaysia's transition to a greener future. The current status and highlights of NEM2.0 as of 31 December 2023 is detailed in **Exhibit 10**.



NEM2.0 approved projects:

**5,227**  
Projects



#### Exhibit 10

NEM2.0 Status and Highlights for 2023

As of 31 December 2023, the Authority had approved 5,227 applications under the NEM2.0 scheme, totaling a capacity of 467.39MW. Among these, the Residential category had the highest number of applications, with 3,093 submissions. In terms of approved

capacity, the Industrial category led with 285.25MW from 694 applications. This was followed by the Commercial category with 150.83MW, the Domestic category with 24.47MW, and the Agricultural category with 6.84MW.

## NEM3.0

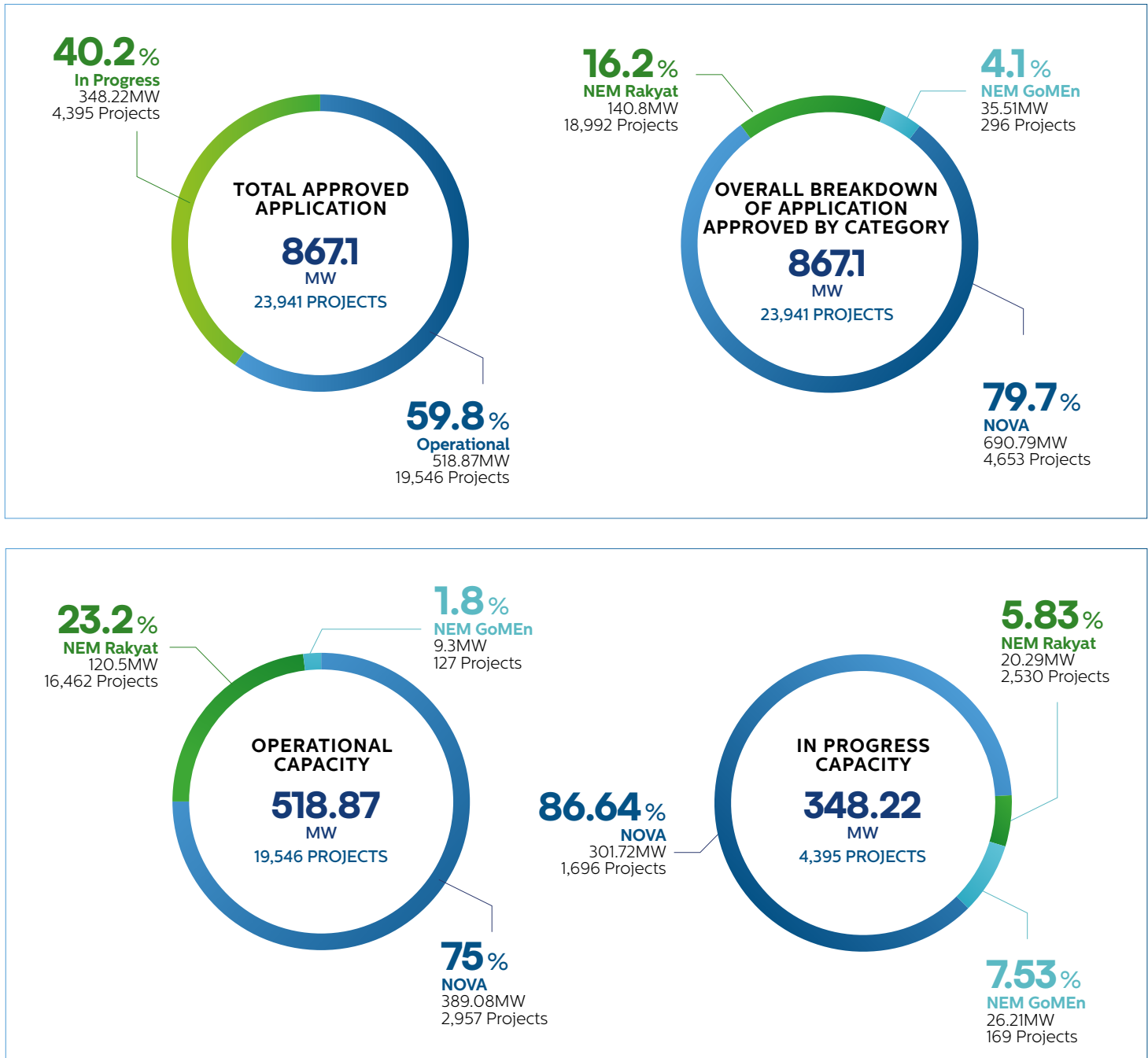
### Exhibit 11

NEM3.0 Status and Highlights for 2023



NEM3.0 represents the updated NEM framework, designed to further encourage the integration of renewable energy systems into the grid. Building on previous iterations, NEM3.0 introduces updated policies and mechanisms aimed at promoting energy efficiency, balancing grid demands, and promoting clean energy generation. NEM3.0

seeks to better align the benefits of solar energy with the broader goals of energy resilience and economic growth. The NEM3.0 is poised to impact both residential and commercial energy users, offering a more dynamic and equitable approach to net energy metering. The current status and highlights of NEM3.0 as of 31 December 2023 is detailed below in **Exhibit 11**.



As of 31 December 2023, a total of 23,941 applications across the three NEM categories had been approved, with a combined capacity of 867.1 MW. The NOVA category saw a remarkable

response, with 4,653 applications approved, totaling 690.79 MW out of the allocated 800 MW quota. In contrast, the NEM Rakyat category had 18,992 applications approved, representing a

capacity of 140.8 MW, while the NEM GoMEN category had 296 applications approved, totaling 35.51 MW.





675.3kWp rooftop solar project owned by Lean Lee Trading Company Sdn Bhd under the NEM programme.



# Registered PV Service Directories

*SEDA Malaysia's commitment to fostering a robust and sustainable renewable energy ecosystem is reflected in its comprehensive Registered PV Service Directories.*

These directories serve as essential resources for individuals and businesses seeking reliable and qualified photovoltaic (PV) service providers and investors. By maintaining and regularly updating these directories, the Authority ensures that stakeholders have access to credible and experienced professionals who can support the development, installation, and financing of solar PV projects across the country. This initiative not only promotes transparency and trust within the industry but also facilitates the seamless integration of Solar energy into Malaysia's energy mix.

## **Registered PV Service Providers Directory**

The Registered PV Service Providers (RPVSP) Directory is a meticulously curated list of certified companies who offer a wide range of services related to solar PV systems. This directory includes service providers specialising in system design, installation, maintenance, and consultancy. Each listed provider has undergone a stringent vetting process to ensure they meet the Authority's high standards for quality, safety, and performance. By utilising this directory, consumers and businesses can confidently engage with reputable service providers, knowing they will receive professional and reliable services tailored to their specific needs. As of 2023, a total of 265 PV service providers have registered with the Authority. The RPVSP Directory Summary is as detailed in **Exhibit 12**.

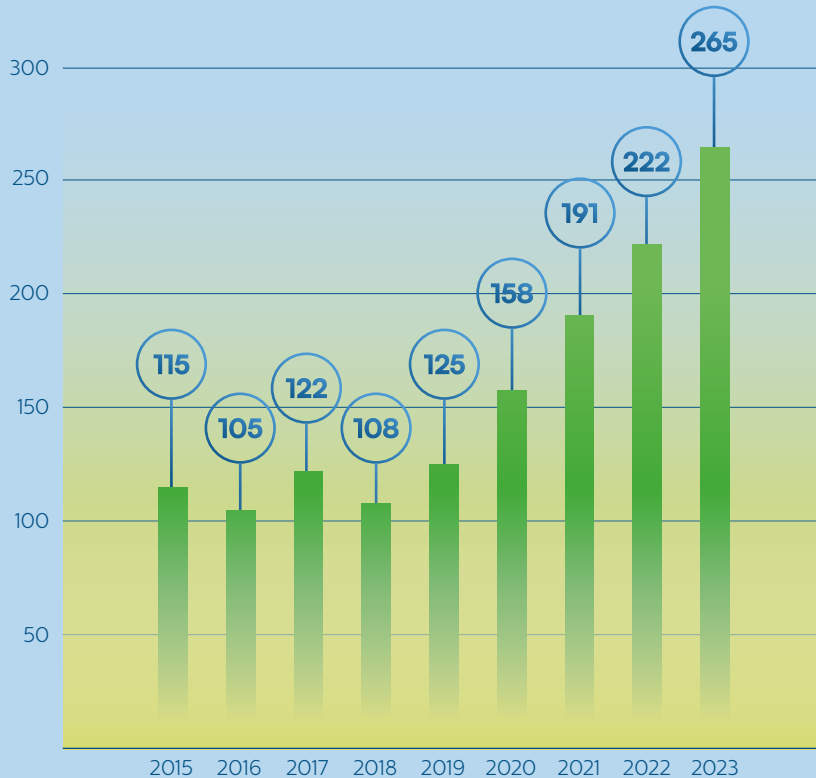


As of 2023, a total of

**265** PV

service providers have registered with the directory.

## RPVSP Directory Summary By Year



### Exhibit 12

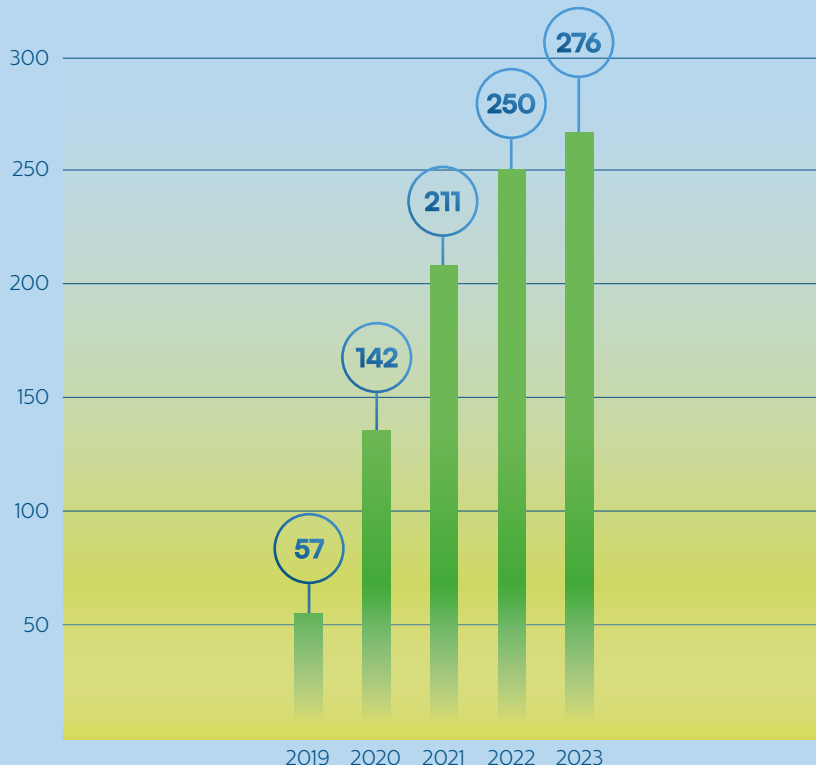
Number of Registered PV Service Providers as of 2023

## Registered PV Investor Directory

Complementing the Service Providers Directory is the Registered PV Investors (RPVI) Directory, which features a select group of investors committed to financing Solar PV projects. These investors bring essential capital and expertise, enabling the successful deployment of solar energy systems across various scales, from residential installations to large-scale commercial projects. By connecting project developers with these dedicated investors, the directory plays a crucial role in accelerating the growth of Malaysia's solar energy sector. This collaboration between service providers and investors is pivotal in achieving the nation's renewable energy targets and fostering a sustainable energy future. The RPVI Directory Summary is as detailed below in **Exhibit 13**.

As of 2023 the Authority recorded 276 investors that have successfully registered themselves via the online RPVI directory. Monthly payment for solar leasing/PPA can be made either directly by customers to their RPVI or via TNB's integrated billing system incorporating payment from customers to their RPVI through the SARE. Besides that, registered RPVI's are eligible to apply for green incentives from the Malaysian Investment Development Authority (MIDA).

## RSPVI Directory Summary By Year



### Exhibit 13

Number of Registered PV Investors on the online directory as of 2023

# Technical Development & Facilitation (TECH)

## **Energy Audit Conditional Grant (EACG) for Commercial and Industrial Sector (RMK-12)**

*Energy Audit Conditional Grant (EACG 2.0) is an Energy Efficiency Project for year 2021 – 2025 that has been introduced by the Government as a continuity from the Energy Audit Conditional Grant under RMK-11.*

This programme is supported by grants which were allocated for the year 2021 until 2025 to commercial and industrial sectors to collaborate with local Energy Service Companies (ESCO) which are registered with the Energy Commission (ST) to conduct energy audit in their buildings.

This programme is executed by the Ministry of Energy Transition and Water Transformation (PETRA), with the Energy Commission (ST) as the coordinator and the Authority being the implementing agency of the programme for both the commercial and industrial sector.

The objectives of this programme are:

- To provide financial assistance through the 5 years (2021-2025) conditional grant;
- As a catalyst for the implementation of energy audits and to identify the total energy consumption as well as set up the baselines for industrial and commercial buildings;

- To provide a platform and facilitation for the implementation of energy saving measures (ESM) according to the outcome of energy audit report;
- Capacity development for building owners and ESCOs, in order to fulfil the current and future demand of energy management in the industrial and commercial sector; and
- To foster awareness on the importance of energy management among the industrial and commercial building owners in Malaysia, so as to reduce the electricity consumption.

### **Current Achievement**

Throughout the year, there were 21 successful completions of seminars which focused on promoting the programme. The seminar served as a platform to engage with targeted audience and raise awareness on the benefits and opportunities the programme has to offer. From physical seminar to a hybrid seminar, the awareness of the programme had reaches various stakeholders, building owners, and energy service companies (ESCOs). **Exhibit 14** details the list of Seminars and Webinars which had been conducted to raise the awareness of the EACG Programme.

**188**  
grants approved  
for the year 2023



**Exhibit 14**

*EACG Seminars and Webinars  
for year 2023*

No.	Seminar	Date	Participants
1	EACG Seminar with MPC/TPN (Southern Region)	Invited by MCP/TPN	
2	Energy Talk with Affin Bank	Invited by Affin Bank	
3	EACG Online Seminar for ESCO Session 1	21-Feb-23	65 Participants
4	EACG Seminar, Borneo Region, Sabah (Hilton Hotel, Kota Kinabalu)	28-Feb-23	42 Participants
5	National Low Carbon Cities Masterplan (NLCCM) at Selatan	Invited by MGTC	
6	EACG Seminar with MPC/TPN (Northern Region)	Invited by MPC/TPN	
7	Energy Efficiency Convention under Sandhurst	Invited by Sandhurst	
8	EACG Seminar, Southern Region (Double Tree by Hilton, Melaka)	22-Mar-23	49 Participants
9	EACG Seminar, Central Region (Hilton Hotel, Kuala Lumpur)	13-Apr-23	50 Participants
10	EACG Seminar with MPC/TPN (Sabah Region)	Invited by MPC/TPN	
11	EACG Seminar with MPC/TPN (Sarawak Region)	Invited by MPC/TPN	
12	National Low Carbon Cities Masterplan (NLCCM) at Kuala Terengganu	Invited by MGTC	
13	EACG Seminar Eastern Region (Raia Hotel, Terengganu)	24-May-23	33 Participants
14	EACG Seminar Central Region No. 2 (Royale Chulan, Kuala Lumpur)	29-May-23	50 Participants
15	EACG Online Seminar with DRB HiCOM	Invited by DRB HiCOM	
16	EACG Seminar for ESCO No.2 (Cyberview Hotel, Cyberjaya)	22-Jun-23	70 Participants
17	EACG Talk with KBS (Bukit Jalil)	4-Jul-23	16 Participants
18	EACG Seminar Northern Region	21-Jul-23	45 Participants
19	EACG Seminar, Borneo Region, Sarawak (Pullman Hotel, Kuching)	10-Aug-23	47 Participants
20	Cyberjaya Energy Landscape	Invited by Cyberview	
21	Energy Transition TNB 2023	Invited by TNB	



Participants of one of the Commercial and Industrial Sector (RMK-12) EACG seminars.

Compared to the previous year, the total allocated budget was RM 14,000,000 and the available quota for the commercial and industrial sector was 154. The total application reviewed by the Steering Committee Meeting that is chaired by the Ministry of Energy Transition and Water Transformation (PETRA) for the industrial sector is 118 and 112 for the commercial sector. However, the total grant approved for year 2023 is 188.

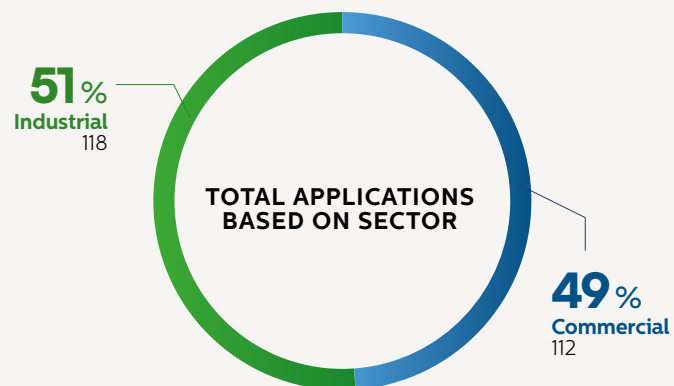
The breakdown of total applications based on sector and state are as detailed in **Exhibit 15**.

In accordance with the terms of reference for the Energy Audit Conditional Grant and Energy Management under the 12th Malaysia Plan (RMK-12), the Authority offers training sessions which focused on Energy Management and Energy Audit. These training sessions are specifically designed for successful applicants and appointed Energy Service Companies (ESCOs). In the year 2023, several training sessions were successfully conducted, they are as listed in **Exhibit 16**.

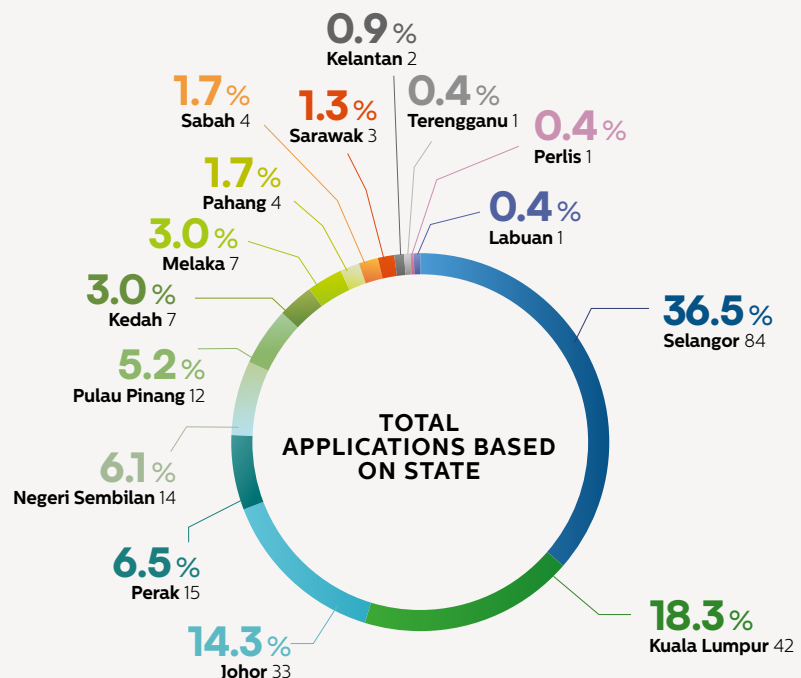
### Exhibit 15 ►

Total Applications for year 2023 based on Sector and State

### Total applications based on sector



### Total applications based on state







No.	Training Session	Number of Participant
1	Training on Energy Management and Energy Audit for Industrial Installation 01/2023	24
2	Training on Energy Management and Energy Audit in Buildings Session 01/2023	30
3	Training on Energy Management and Energy Audit for Industrial Installation 02/2023	25
4	Training on Energy Management and Energy Audit in Buildings Session 02/2023	35
5	Training on Energy Management and Energy Audit for Industrial Installation 03/2023	11
6	Training on Energy Management and Energy Audit for Industrial Installation 04/2023	27
7	Training on Energy Management and Energy Audit in Buildings Session 03/2023	29
8	Training on Energy Management and Energy Audit in Buildings Session 04/2023	33
9	Training on Energy Management and Energy Audit in Buildings Session 05/2023	28

### Exhibit 16

ESCO Training Sessions for year 2023

Cumulatively from 2021 to 2023, the energy audit exercise has identified a potential saving of approximately RM 27,780,733, which corresponds to 82,615,980.96kWh energy savings. This potential saving is expected to contribute to

a reduction of 53,550.05 metric tons of CO<sub>2</sub> equivalent (tCO<sub>2</sub>eq) in carbon emissions. **Exhibit 17** below details the total cumulative energy and cost savings up to year 2023.

Energy Saving Implementation (kWh)	Cost Saving (RM)	CO <sub>2</sub> Reduction (tCO <sub>2</sub> eq)	Investment Cost (RM)
82,615,980.96	27,780,733.13	53,550.05	64,473,822.54

### Exhibit 17

Identified Potential Saving up to year 2023



## The Voluntary Sustainable Energy Low Carbon Facilitation and Certification Programme

### Sustainable Energy Low Carbon Facilitation Programme

The Sustainable Energy Low Carbon Facilitation programme under the Authority involves a set of initiatives and programmes aimed at reducing carbon emissions and promoting the use of sustainable energy sources. Through these efforts, the Authority aims to create a conducive environment for the adoption of sustainable energy solutions, ultimately leading to significant reductions in carbon emissions and contributing to Malaysia's overall sustainability goals.



Energy Audit being carried out

### Current Activities

- Building Energy Data Online Monitoring System (BEDOS);
- Zero Energy Building Facilitation Programme; and
- Sustainable Low Carbon Building Assessment GreenPASS.

## Building Energy Data Online Monitoring System (BEDOS)

The Building Energy Data Online System (BEDOS) under the Authority is an online platform designed to collect, analyse and report building energy consumption data. It supports energy efficient initiatives by monitoring energy usage in various building sectors for benchmarking performance and raising public awareness. BEDOS provides data analytics, user-friendly interfaces, GreenPASS Certification and secure data management to help building owners and managers optimise energy use, reduce costs, comply with regulations and minimise environmental impact.

### Current Achievement

- For the year 2023, a total of 3,624 buildings have been registered under this system;
- These registrations include a diverse range of commercial buildings, such as shopping malls, hospitals, universities, local authorities, schools, offices, and more;
- In conjunction with the Building Energy Index (BEI) Labelling Programme under the Energy Commission, BEDOS assists building owners in calculating and analysing building energy performance, which then results in categorisation within a 1-5 star BEI rating system.

For more information, please visit the Authority's website at <https://bedos.seda.gov.my>.



Site Visit for Energy Audit/Management



All information regarding EACG 2.0 Programme can be downloaded at [www.seda.gov.my/eagrant](http://www.seda.gov.my/eagrant)



## Sustainable Low Carbon Building Assessment GreenPASS

This Sustainable Energy Low Carbon Building Assessment or GreenPASS Certification by the Authority can be applied to all EE and non-EE buildings at all performance levels, differing only in some rating systems which only certify projects with a certain performance outcome or better. The non-discrimination and 'affordable to all' policy approach allows building owners and facilities management teams to set building-specific carbon benchmarks from which they can improve over time. This will enhance the Government's capability to widely spread its low carbon building implementations and eventually go mainstream to make carbon reduction measures more effective. The non-discrimination and affordable policy approach allow building owners and facilities management teams to set building-specific carbon benchmarks over time.

The objectives of the GreenPASS for carbon Building Assessment are;

- To support low carbon cities development.
- To provide national consistency and a common language around the definition;
- To provide systematic assessment to encourage energy efficiency in building implementation;
- To provide a platform for carbon reduction in the building management sector to support a reduction target of 45% CO<sub>2</sub> intensity by 2030;

The carbon reduction is an indicator of building performance which can be translated into environmental impacts through a diamond rating scheme. According to the GreenPASS Certification Diamond Rating scheme, the number of diamonds awarded is commensurate with the level of achievements. The scheme rates any project from one to six diamonds starting from a 1% carbon emission reduction. At the end of the evaluation, it serves as an alternative platform towards achieving a green Building Certification. GreenPASS certification can be applied for through the Building Energy Data Online System (BEDOS).

## Current Achievement

As of 2023, 533 buildings have been rated with the Authority's Low Carbon Building Performance Assessment GreenPASS and Certification Programme ranging from a rating of 1 to 5 diamonds.

Total energy savings have reached 717.07 GWh, equivalent to a reduction of 496,452.78 tonnes in carbon emissions.

### Exhibit 18

Total GreenPASS Building Performance up to year 2023

Buildings Registered	Approved Buildings for GreenPASS Certification	Total energy saving (GWh)	Total CO <sub>2</sub> emission reduction (ton)
3,624	533	717.03	496,452.78



The total amount of energy savings amounted to

# 717.07 GWh

and this is equivalent to 496,452.78 tonnes of carbon emission reduction.

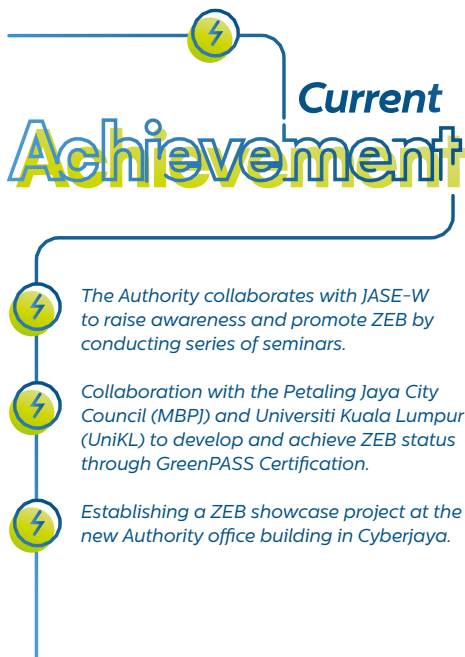
GreenPASS Certification for Zero Energy Building (ZEB)

## Zero Energy Building (ZEB) Facilitation Programme

The Authority's Zero Energy Building Facilitation Programme is an initiative designed to promote the development and adoption of buildings that generate as much energy as they consume, effectively achieving net-zero energy consumption. This programme is to promote the adoption of super low carbon by using alternative methods focusing purely on sustainable energy practices, starting with advance energy efficiency (EE) measures in reducing overall energy demand or consumption and offsetting the balance of minimum energy needed by using on site renewable energy (RE).

For that purpose, METI has mandated the Energy Conservation Center Japan (ECCJ) and the Japanese Business Alliance for Smart Energy Worldwide (JASE-W) to promote and support ZEB development in ASEAN countries. Support provided are in terms of facilitation, capacity building and technical trainings.

The proposed programme is the result of the MoU agreement between the Authority and the Japanese Business Alliance for Smart Energy Worldwide (JASE-W) in October 2018. The high commitment and interest shown by JASE-W is also a catalyst for the proposed implementation of the programme.

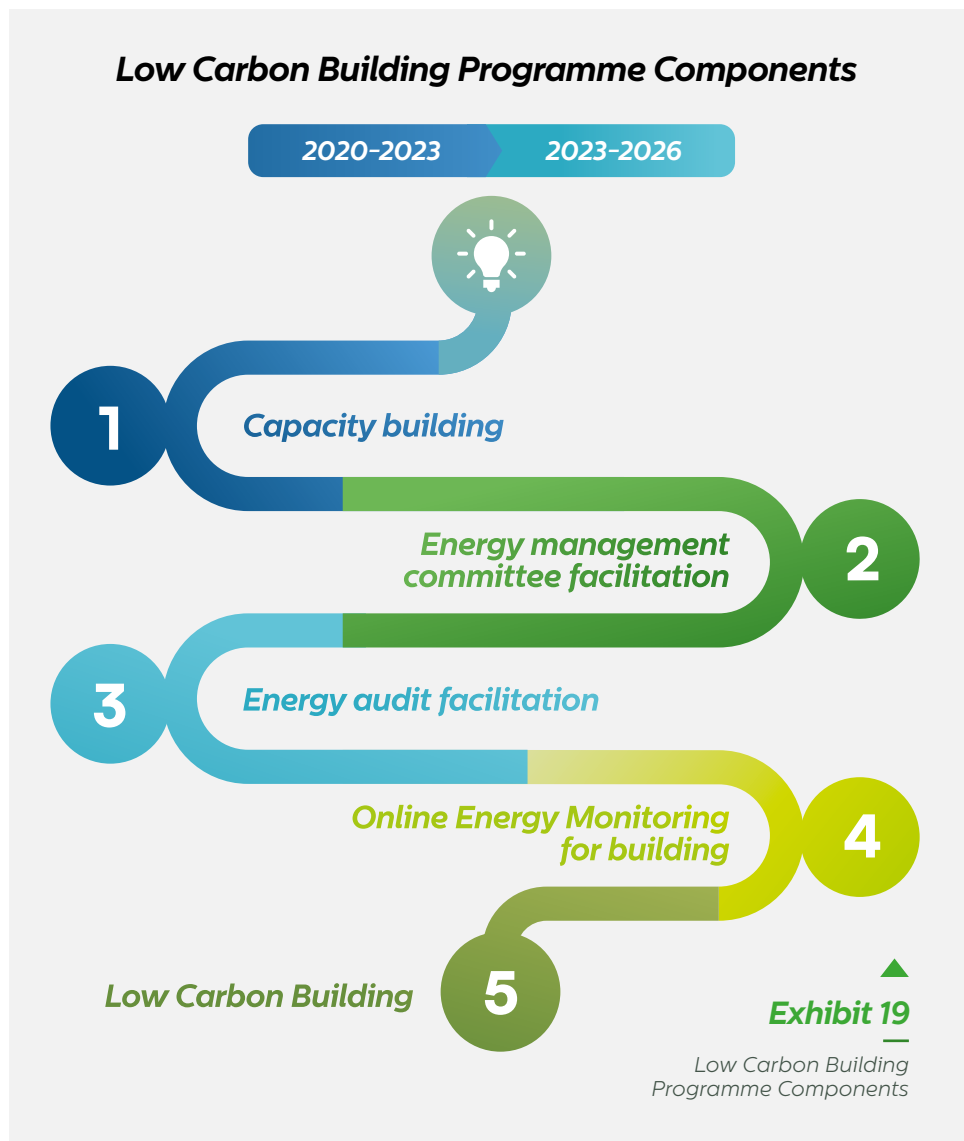


## Technical Cooperation and Facilitation for Government Entities

### Low Carbon Building Programme With The Petaling Jaya City Council (MBPJ)

The three Year Programme of Energy Management, Implementation of Malaysian Standards (MS) 1525 & the Low Carbon Building is a collaborative programme between the Petaling Jaya City Council and the Authority. The programme originally started in June 2020 and concluded in May 2023, the program has been extended for an additional three years until May 2026. It encompasses five main components, which are as detailed in **Exhibit 19** below:

The main objective of the programme is to support and contribute to the national agenda in reducing greenhouse gas (GHG) emission intensity by 45% by the year 2030 and to support the MBPJ's Low Carbon City Action Plan 2030. MBPJ has set a few goals to reduce their carbon emissions by 2030 with 4 objectives in place which are to reduce 4 ktCO<sub>2</sub>, industrial and commercial activity reduction of 44 ktCO<sub>2</sub>, new development reduction of 260 ktCO<sub>2</sub> and a target of 30% renewable energy generation. The 4 objectives are as detailed in **Exhibit 20**:



## MBPJ Low Carbon City Action Plan Objectives

### OBJECTIVE 1

Residential emissions

Reduce emissions by 4 kilo  
tCO<sub>2</sub>/yr

### OBJECTIVE 2

Industrial & Commercial

Reduce emissions by 44 kilo  
tCO<sub>2</sub>/yr

### OBJECTIVE 3

New development

Reduce emissions by 260 kilo  
tCO<sub>2</sub>/yr

### OBJECTIVE 4

Renewable Energy

Target:  
30% generation against  
2030 BAU forecast

Source: "MBPJ Efforts" by Lee Lih Shyan,  
Director Department of Solid Waste  
Management & Public Cleansing, MBPJ  
15.5.2020

## Exhibit 20

MBPJ Low Carbon City Action  
Plan Objectives

Additionally, MBPJ has established the Petaling Jaya Smart, Sustainable, and Resilient 2030 (PJSSR 2030) strategic plan, which is aimed at ensuring long-term sustainable city management. The plan focuses on the implementation of 10 Thematic Projects. PJSSR 2030 serves as a roadmap for Petaling Jaya's management, guiding the implementation of strategies, work

processes, and decision-making in alignment with the UN Sustainable Development Goals (SDGs) and policies at the national, state, and local levels. This collaborative programme is reported under the Low Carbon City thematic to periodically update the actions taken by MBPJ as related to low carbon initiatives.

The roles of the Authority in this programme are as follows:

1. Serve as a technical advisor to MBPJ in implementing the energy management programme.
2. Serve as a trainer, facilitator and secretariat for capacity building and provide relevant training modules.
3. Act as an advisor and committee member for both the Main Committee and Technical Committee.
4. Assist in developing the capacity of Energy Managers and competent personnel (such as Chargeman) among MBPJ staff.
5. Engage in promotional activities related to energy efficiency or renewable energy, such as awareness talks.
6. Serve as a consultant for MBPJ in Energy Audit activities by providing technical inputs in overall process.
7. Advise on the implementation of Energy Savings Measures (ESM).
8. Install an Online Energy Monitoring System to monitor energy consumption and verify energy savings post-retrofit activities.
9. Act as a technical advisor for MBPJ in using the Malaysian Standard (MS) 1525 as a minimum requirement for buildings in Petaling Jaya.



MBPJ and SEDA  
Malaysia during one  
of the trainings.

Exhibit 21 below details the Programme Achievements for year 2020 to 2023.

### 3 YEARS PROGRAMME WITH MBPJ (Activity under the Low Carbon Building Facilitations)

#### LOW CARBON BUILDING PROGRAMME

1. Development of MS1525 Checklist & Guideline;
2. Pilot Programme on Adoption of MS1525 in Building Sector;

3. Low Carbon Building Assessment & Certification for Carbon Reduction; and
4. General Facilitation for MBPJ
  - Implemented initiatives towards Zero Energy Building
  - MBPJ has won National Energy Award (ZEB Ready) 2022 &
  - ASEAN Energy Award (ZEB Ready) 2022

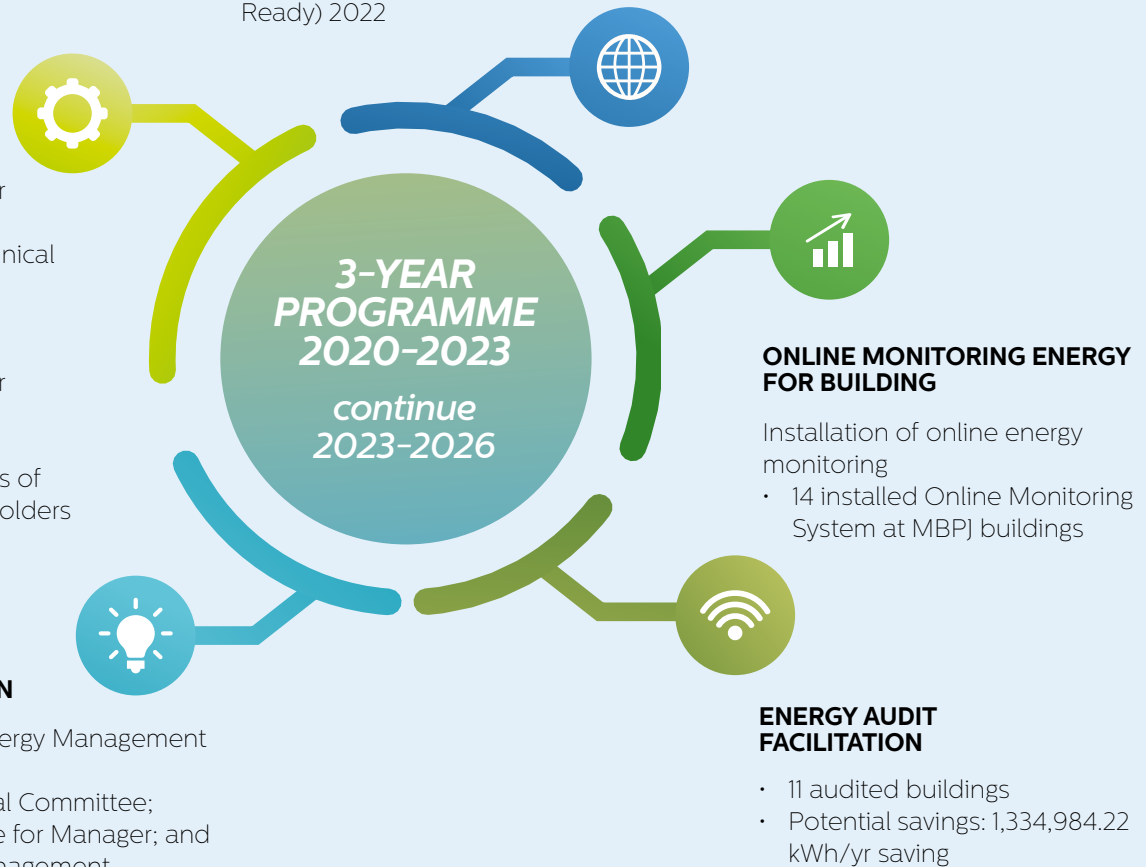
- More than 50 buildings in Petaling Jaya including MBPJ buildings practice energy management system with total of 7,943,236.41 kWh/yr saving
- Facilitate MBPJ on solar installation pilot project and MBPJ planning for more solar installations in MBPJ buildings in future

#### CAPACITY BUILDING (PEMBANGUNAN MODAL INSAN)

1. EM Awareness training for management level;
2. EM, EA & MS1525 for technical staff;
3. Training on Low Carbon Building;
4. EM Awareness training for supporting staff; and
5. Mission study
  - 296 trained participants of MBPJ staffs and stakeholders

#### ENERGY MANAGEMENT PROGRAMME FACILITATION

1. Development of Main Energy Management Committee;
2. Development of Technical Committee;
3. Development Programme for Manager; and
4. Facilitation of Energy Management Programme



#### Exhibit 21

Programme Achievements from year 2020 to 2023

MBPJ is committed to embark on their role to support the national and Petaling Jaya target Carbon Emissions reduction. Thus, the Authority has provided them a platform for the development of Common Carbon Metric (CCM) in Petaling Jaya using the Building Energy Data Online Monitoring System (BEDOS). This system has been used officially by MBPJ since 2020.



Exhibit 22 below details the summary of the programme implementation in year 2023 and its outcomes.

No.	Programme and Sub-Programme	Date/s	Outcomes	GHG Emission Reduction (ktCO <sub>2</sub> ) Target	Contribution in Total Reduction (%) from Target
CAPACITY BUILDING					
1.0	1.1 Energy Management & Energy Audit Training to technical staffs	28 Feb – 1 Mar 2023 1 Mar – 2 Mar 2023	50 trained participants		
	1.2 Malaysian Standard MS1525 Training to MBPJ staffs and stakeholders	18 Sept 2023	15 trained participants		
	1.3 Low Carbon Building Training to MBPJ staffs	26 Sept 2023	15 trained participants		
	1.4 Awareness on Energy Management & Energy Training to supporting staffs and stakeholders	31 Jan 2023 22 June 2023	MBPJ School Programme: 100 participants 50 schools attended 38 schools in Petaling Jaya participated in the programme		
ENERGY MANAGEMENT COMMITTEE FACILITATION					
2.0	2.1 Technical Committee Meeting	6 April 2023	Energy management committee report		
	2.2 General facilitation such as input for MBPJ's Energy Saving Campaign Brochure and e-blast	Every month	Increase awareness of MBPJ staffs		
ENERGY AUDIT FACILITATION					
3.0	3.1 Energy Audit Implementation Facilitation	21 Feb 2023 27 Feb 2023 15 Mar 2023	Energy Saving Measures project implementation included: 1. Assignment briefing Session 1 and 2 2. Site Visit 3. Implementation & Monitoring	39.6 in total (for Commercial buildings in Petaling Jaya, 3 years target)	2.3 (potential)



No.	Programme and Sub-Programme	Date/s	Outcomes	GHG Emission Reduction (ktCO <sub>2</sub> ) Target	Contribution in Total Reduction (%) from Target
ONLINE ENERGY MONITORING FOR BUILDING					
4.0	1. Online Energy Monitoring Installation at MBPJ Tower	17 Jan 2023 18 Jan 2023	Q1 2023: MBPJ Tower and Library	39.6 in total (for Commercial buildings in Petaling Jaya, 3 years target)	NA
	2. Online Energy Monitoring Installation at MBPJ Library	22 Dec 2023	Q4 2023: Seksyen 7 Hall, Innovation Centre, BU 3 Hall, BU 11 Community Hall, Kelana Jaya Sports Complex, Landscape Department, Astaka Sports Complex, MBPJ Kindergarden, Hockey Stadium, Arena 2 Sports Complex amd Civic Hall		
	3. Online Energy Monitoring Installation at another 11 MBPJ buildings				
LOW CARBON BUILDING					
5.0	5.1 Development of MS 1525 Checklist & Guideline through a series of meetings		MS1525 Guideline Document  MS1525 Pilot Projects – series of workshop	15 in total (for new development buildings in Petaling Jaya)	NA
	5.2 Technical Support on MS1525 (Building Sector Facilitation) and pilot project	9 Feb 2023 8 May 2023 12 May 2023 18 Sep 2023			NA
	5.3 BEDOS Training to MBPJ staffs	4 Apr 2023	Q1 & Q2: Awareness seminar & assignment briefing	39.6 in total (for Commercial buildings in Petaling Jaya, 3 years target)	30% from the targeted
	5.4 General Facilitation covers: 5.4.1. BEDOS facilitation	Jan – Dec 2023	Q2 & Q3: Engagement with PPD Petaling Utama and participated schools along with their assignments submissions		
	5.4.2 Technical facilitation on Innovation Centre Building for solar installation project under Net Energy Metering GoME n scheme and evaluation meetings	10 Jan 2023 – 12 Apr 2023			
	5.4.3 Community programme with schools – Awareness seminars, assignments, submissions, award ceremony	26 Jan & 31 May 2023 25 Jul 2023 16 Aug 2023 26 Sept 2023 14 Dec 2023	Q4: Award ceremony  50 schools attended in the briefing  38 schools in Petaling Jaya participated in the programme		

	Programme and Sub-Programme	Date/s	Outcomes	GHG Emission Reduction (ktCO <sub>2</sub> ) Target	Contribution in Total Reduction (%) from Target
LOW CARBON BUILDING					
5.0	5.4.4 Online Monitoring System for the MBPJ community building (The Spine)	25 May 2023	-	-	-
	5.4.5 Technical facilitation on EPC Proposals from ESCO at one of MBPJ's building	21 Nov 2023	-	-	-

*\*Remark: The Baseline is derived from MBPJ's Goal Objective 2 for Commercial & Industrial emission reductions by 33 kilo tonnes CO<sub>2</sub> per year from MBPJ's Low Carbon City Action Plan for Petaling Jaya.*

*However, since this programme covers commercial buildings only, therefore the commercial building reduction target is estimated to be 40% out of the total 33 kilo tonnes targeted.*

*\*\* The reduction data collected is based on the updated building data in BEDOS as of December 2023.*



## Exhibit 22

MBPJ Programme Implementation summary for year 2023



The Sustainable School Award Ceremony attended by all winning schools that participated in the MBPJ Sustainable School Programme 2023, with the presence of the MBPJ Deputy Secretary (Development and Management), the Petaling Utama District Education Office (PPD), the MBPJ Director of Building Control Department and Deputy Director of the TECH Division of the Authority on 14 December 2023.

# Human Capital Development In Sustainable Energy

*As a statutory body that spearheads the sustainable energy agenda in the country, it is the role of the Authority to provide training or other programmes relating to the development of human resources and capacity building in the sustainable energy in accordance with (S15(i) SEDA Act 2011).*

In this regard, the Authority has, since its inception, developed trainings to cover both the RE and EE sectors.

## Renewable Energy Training

Since 2012, the Authority has developed training courses for qualified persons for the Solar PV industry such as the Grid-Connected PV Systems Design Course, Grid-Connected PV Systems for Wireman and Chargeman, Grid-Connected PV Systems Installation and Maintenance and Off-Grid PV Systems Design Course. Non-solar trainings include Operation and Maintenance of Biogas Power Plants and Introductory training in Biomass and Small Hydro.

As of the end of 2023, the Authority has trained 4,285 participants in RE. Grid-Connected PV Systems Design and Grid-Connected PV for Wireman and Chargeman participants show the highest number of cumulative trained persons which are 1,521 and 1,572 respectively. This is because the requirement to become one of the Authority's Registered PV Service Provider is for the company to have qualified persons who have obtained certification. The cumulative trained participants for Grid-Connected PV Installation and Maintenance are 817. The training institute will usually apply funding from the Human Resource Development Fund (HRDF), Zakat board or Construction Industry Development

As of the end of 2023, the Authority has trained

**4,285**  
participants in RE



Board Malaysia (CIDB) to support the participants. The cumulative number of trained people for Off-Grid PV Systems Design Course is 196 whereas the Operation and Maintenance of Biogas Power

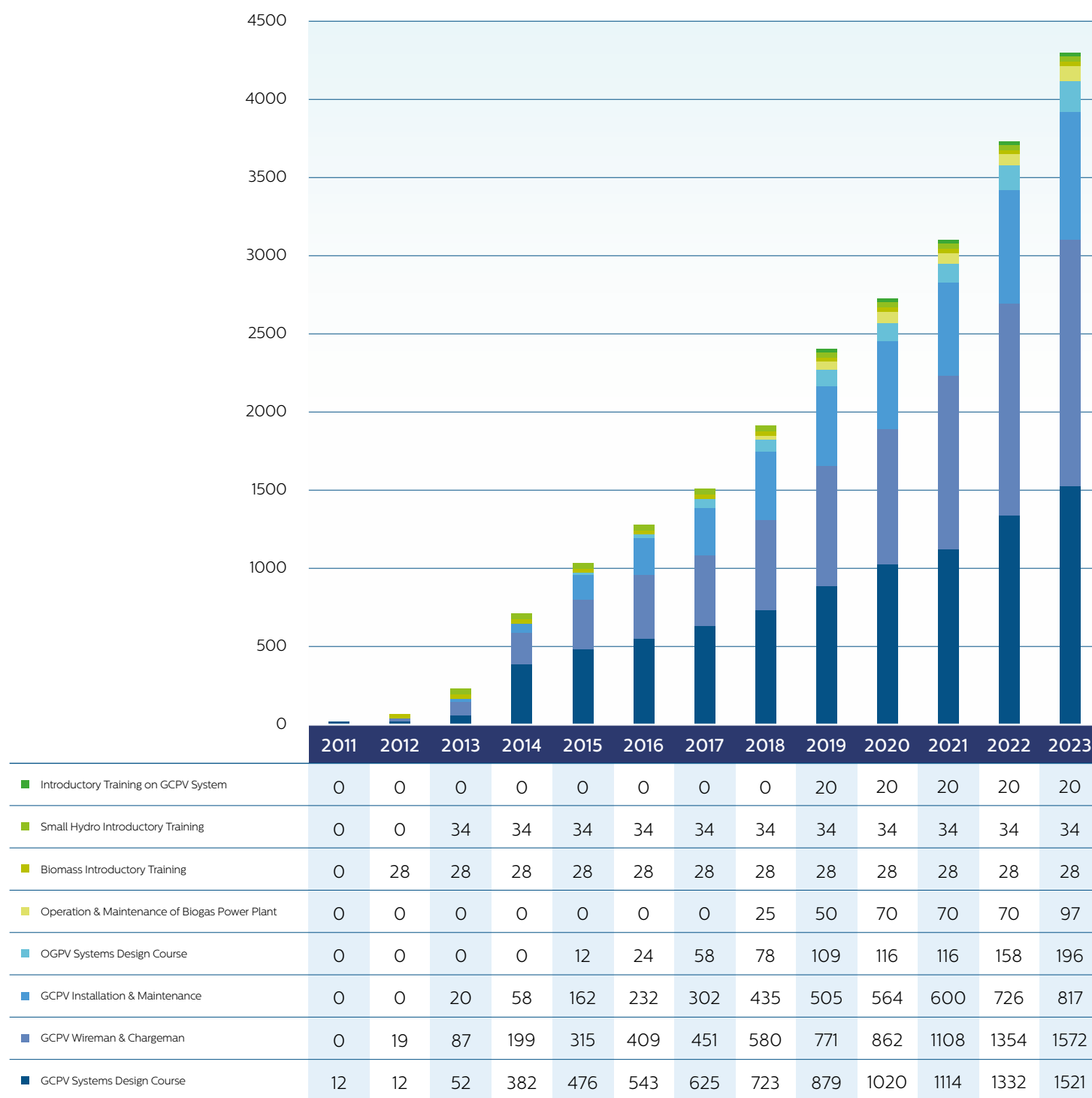
Plant has trained 97 persons thus far. **Exhibit 23** below details list of cumulative trained persons in RE courses as organised by the Authority.

## Exhibit 23

List of cumulative trained persons in RE courses organised by the Authority



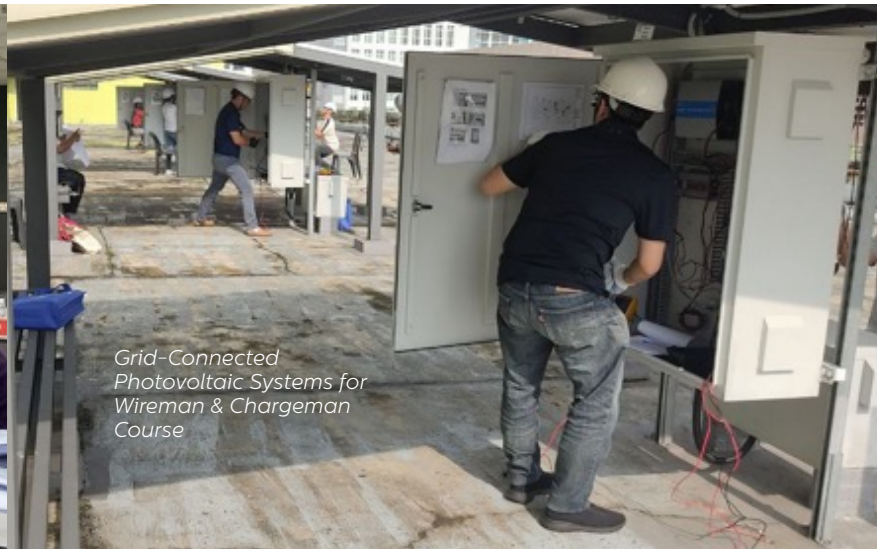
## Cumulative trained persons in RE courses organised by the Authority







Grid-Connected  
Photovoltaic Systems  
Design Course



Grid-Connected  
Photovoltaic Systems for  
Wireman & Chargeman  
Course

### **Grid-Connected Photovoltaic Systems Design Course**

One of the criteria of NEM application is to have the design of the solar PV system endorsed by a qualified person, i.e. certificate of qualified person or holders of Grid-Connected Photovoltaic (GCPV) Systems Design. The interested engineers/professionals can attend the courses organised by the Authority's training partners if they wish to become certified. The training module was conducted by three (3) training partners, they are: the MARA University of Technology (UiTM) and the Selangor Human Resource Development Centre (SHRDC), of which both are located in Shah Alam, Selangor, while the Pahang Skills Development Centre (Pahang Skills) is situated at Kuantan, Pahang.

The eight (8) days training course, which encompasses theoretical and practical sessions, was attended by 189 participants in total in 2023. Out of the 189 participants, 129 candidates passed the competency examinations and were certified.

### **Grid-Connected Photovoltaic Systems for Wireman & Chargeman Course**

In this course, Wiremen and Chargemen can gain knowledge on solar PV installation dealing with direct current and components. The official training partners for this five (5) days training programme are Kuala Lumpur University - British Malaysia Institute (UniKL BMI), Gombak, TNB Integrated Learning Solution (ILSAS), Malaysia Technical

University Melaka (UTeM), North Region Malaysia Construction Academy (ABM), and the Pahang Skill Development Centre (Pahang Skills). In 2023, 218 candidates attended the sessions and 194 of them passed the assessment. This training also encompasses theoretical and practical sessions which culminates with a competency examination.

### **Grid-Connected Photovoltaic Systems Installation and Maintenance**

The structure of this four (4) months training course comprises of two (2) months of theoretical class and two (2) months of industrial training. The Authority collaborated with SHRDC, North Region ABM, Terengganu Skills Development Centre (TESDEC), Kedah



Grid-Connected Photovoltaic  
Systems Installation and  
Maintenance



Photovoltaic Systems  
Design Course





Operation and Maintenance of Biogas Power Plants



The Authority officers at one of the trainings done with UiTM

Industrial Skills and Management Development Centre (KISMEC), UniKL BMI and the German Malaysian Institute (GMI) to conduct this training. The training programme focused on the method of installation and maintenance of solar PV, as well as guidelines and practices of occupational health and safety precautions that need to be emphasised to the workers. 89 out of 91 participants passed the examinations for this training and were awarded certification.

### **Off-Grid Photovoltaic Systems Design Course**

This ten (10) days course encompasses theoretical and practical sessions of designing as well as installing Off-Grid PV (OGPV) systems which are suitable at rural areas with no access to the national grid. The training is conducted at the Selangor Human Resources Development Centre (SHRDC) and the Proactive Training Centre (PLP), Sarawak, which are the course's official training institutions. Most of participants were from Sarawak where there are many rural electrifications projects, especially solar hybrid systems to be installed in the state.

### **Operation and Maintenance of Biogas Power Plants**

In collaboration with Tenaga Nasional University (UNITEN), this specific module has been developed for the Operations and Maintenance (O&M) of Biogas Power Plants. The industry players contribute to the curriculum

competency which is recognised as level 2 and 3 for the National Occupational Skills Standard (NOSS) in the scope of Anaerobic Digester Biogas Plants. This course offers a structural training to facilitate Biogas FiT projects. Hence, there is a demand to train and increase professionally competent personnel to operate and maintain these biogas power plants while ensuring the plants are able to perform optimally through the entire REPPA tenure.

### **Awareness Trainings on Renewable Energy and Energy Efficiency**

The Authority also conducted awareness trainings on renewable energy, energy efficiency and sustainable energy in technology such as Solar PV, Biomass and Biogas. Training on Energy Efficiency and Solar Thermal was carried out with the MARA University of Technology, Shah Alam.

This training was aimed as a continuity initiative that has been run by the United Nations Industrial Development Organization (UNIDO) initiative through the Malaysia Energy Efficiency and Solar Thermal Project. UNIDO has designated the Authority as the local government agency to continue training on Energy Efficiency and Solar Thermal after the project concluded. The training module provided by UNIDO has been adapted to fit the current local industry context.

The Participants are guided on the technical assessment which focuses on thermal energy demand and supply and the integration of solar thermal energy including integration and evaluation on technical and basic economic parameters. It was held on 22 February - 3 March at the MARA University of Technology (UiTM), Shah Alam.







*Briefing and Guidance Programme to Become a Registered Electrical Energy Manager (REEM)*



*Photo of Opening Ceremony for Train the Trainer for Campus Energy Management*

### **Briefing and Guidance Programme to Become a Registered Electrical Energy Manager (REEM)**

This coaching is conducted in session for the Authority's staff on 11th April in the multipurpose room at SEDA Malaysia. The objective of this training is to explain a suitable route to obtain REEM certification from the Energy Commission. Participants are exposed with documentation and requirement in the energy saving report and ECOS (Energy Commissions Online System).

### **Train the Trainer for Campus Energy Management**

This training was conducted for a Polytechnic's officers that will perform energy management practice on campus. It was held on 31st October - 2nd November with a duration of 3 days that consists of an interactive training that encompasses theoretical modules and practical training sessions. The objective of this training is to expose the participants to the best practices on energy management, basic energy principles, energy audit and methods.



*Photo of Authority's Representative, Trainers and Lecturers from Polytechnics and Community Colleges in Malaysia*



*Briefing Session before Energy Audit Assessment*





*Training on Thermal Energy for Industry: Fundamental and Application*

### **Training on Thermal Energy for Industry: Fundamental and Application**

This training was aimed to expose the participants to the key fundamentals and principles of thermal energy. The objective is to develop understanding of mass and energy balance in processes via enhancement of the efficiency in used energy. Participants are able to perform basic economic analysis by identification of potential energy saving. The training was held on 14th – 15th November 2023.

### **Energy Management and Energy Efficiency (EE) Training**

One of the key functions of the Authority is to promote, stimulate, facilitate, and develop sustainable energy that also includes Energy Efficiency. As of the end of 2023, the Authority has conducted several training sessions on EE. These training programmes are part of the efforts to facilitate and provide support for the implementation of EE and low carbon building programmes. Additionally, the trainings serve to improve knowledge as well as to address the human capital needs in the area of Sustainable Energy in Malaysia.

The Authority currently has the following training modules:

- Application of Malaysian Standard: Code of Practice on Energy Efficiency and Use of Renewable Energy for Non-Residential Buildings (MS 1525);
- Energy Efficiency in Air-condition and Mechanical Ventilation (ACMV) Management;
- Energy Audit in Buildings; and
- Energy Management in Buildings

The target groups for the trainings are mainly government officials, especially those who are involved in the management or supervision of technical and building facilities, as well as officers in local authorities involved in energy management and EE, including those involved in the new development planning and renovation of existing buildings. The trainings are also open

to members of the private sector who wish to improve their capabilities and enhance the knowledge of their staff.

The implementation of this training programme is essential in paving the way for the start of training sessions related to EE and energy management offered by the Government. Trainings conducted by the Authority are dedicated to the development of capacity and knowledge of energy management in buildings; principles and application of energy efficiency criteria set out by the Malaysian Standard MS1525; and more efficient procedures in building energy audits and energy management systems for conditioning and mechanical ventilation

Energy conservation has gained much attention in many countries in the last few years, including Malaysia. Better energy conservation and management is starting to take place in the industry. This trend rise can be seen in the number of participants in early 2023, as well as the demand on this related EM & EE training which has doubled over the year.

Currently, the Authority is recognised as an established training provider on EM & EE, in part due to the legitimacy conferred by the Energy Commission. For instance, all EM & EE trainings conducted by the Authority are eligible for Continuous Development Programme (CDP) points for Registered Electrical Energy Manager (REEM) with the Energy Commission.



*Photo of Trainee Conducting Room Data Survey*



*Photo of Trainee Setting Up Data Logger to Monitor and Record Building Power Consumption*

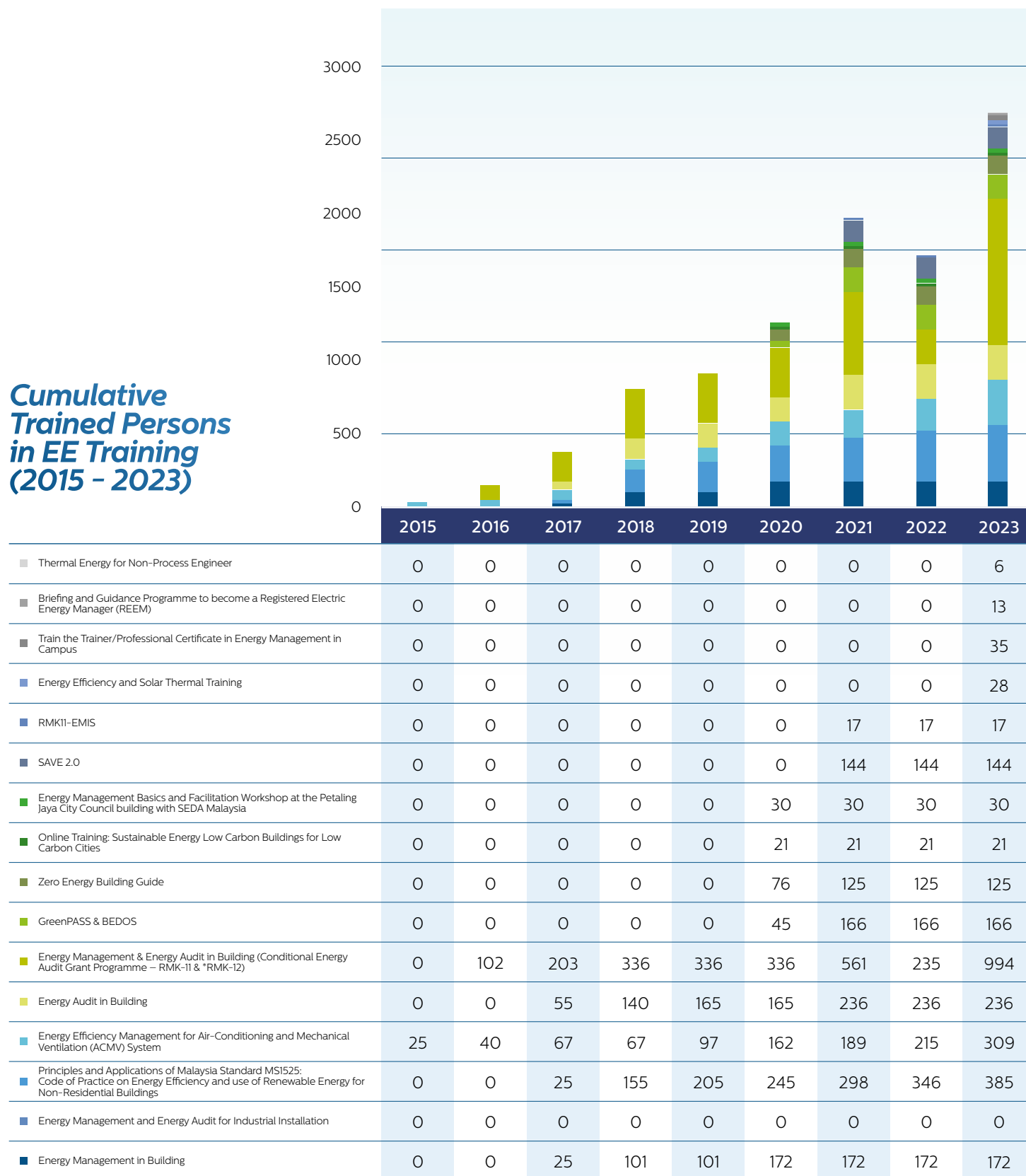
The Authority is also actively involved in collaboration with stakeholders to hold in-house external training customised to suit the stakeholders needs and interest. The Authority has also collaborated with one of the professional bodies, the ASHRAE Malaysia Chapter (MASHRAE)

to undergo training on ACMV. MASHRAE is now one of the training providers registered with the Authority. **Exhibit 24** below lists the EE course cumulative trained persons from year 2015 to 2023.

## Exhibit 24

List of cumulative trained persons in Energy Efficiency courses organised by the Authority

### Cumulative Trained Persons in EE Training (2015 - 2023)







# Government Lead by Example

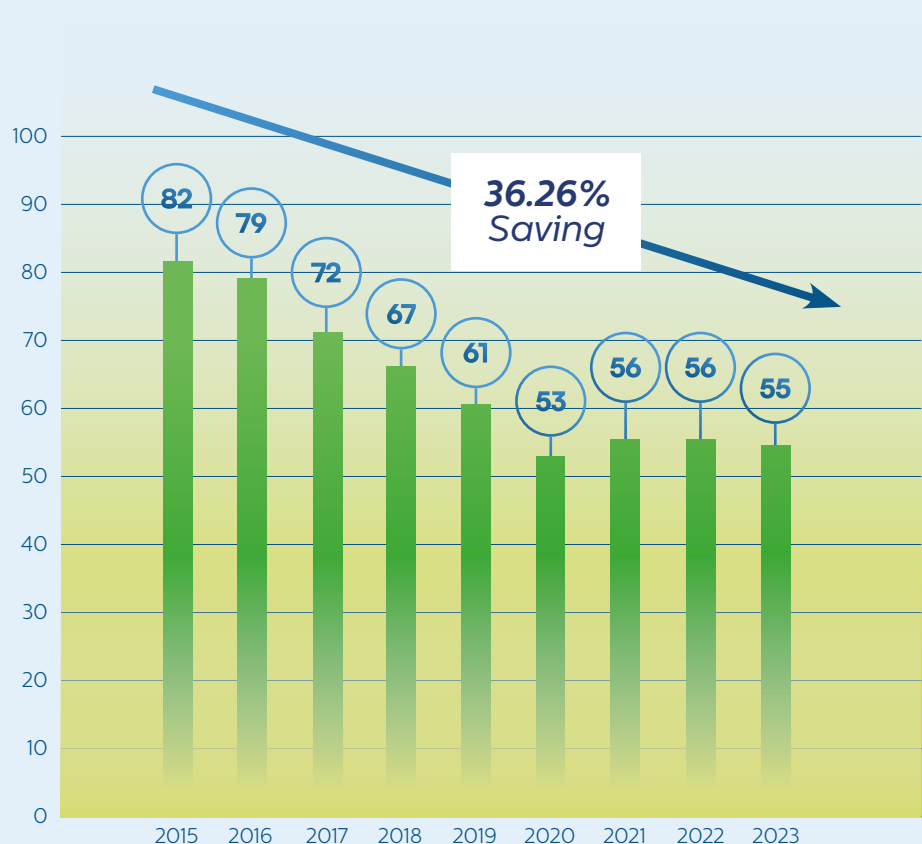
## Leading by Example in EE & RE

*As the one of agencies who is responsible in providing technical facilitation as well as promoting sustainable energy in Malaysia, the Authority has initiated the energy management in their Headquarters located at Putrajaya. The initiative was started in 2015 exercising the in-house expertise of the Authority.*

The various Energy Management initiatives of the Authority had helped the Authority in achieving a Building Energy Index (BEI) between 52 to 82 kWh/m<sup>2</sup>/year, compared to 220 to 300 kWh/m<sup>2</sup>/year for a typical office building in Malaysia and an electricity bill of ≈

RM2,000/month. This translated to savings of almost 47,000 kWh per year (at least RM24,000 per annum) and an avoidance of 32 tonnes of carbon emissions per year. The summary of BEI achievement by year is tabulated in **Exhibit 25**.

### BEI achievement for the Authority's HQ



#### Exhibit 25 ►

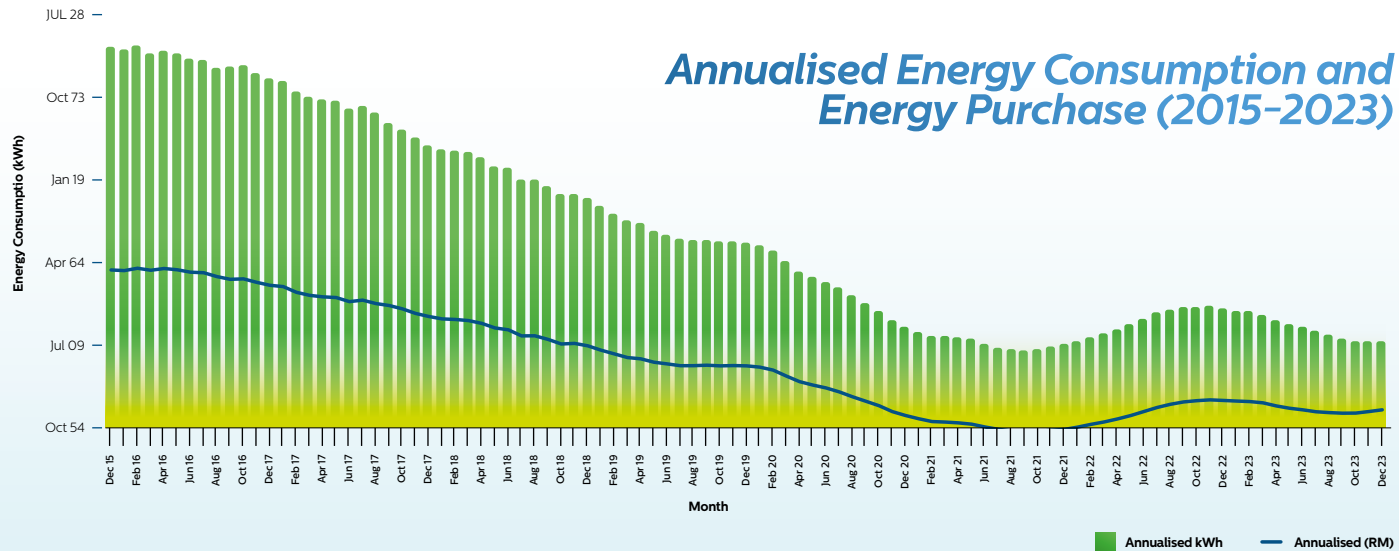
Summary of BEI achievement for the Authority's HQ

Energy management measures should not be viewed as an expense, but as an investment with utility savings that add up over the service life of the building. By doing such, the Authority managed to achieve significant savings in electricity bills throughout the year in comparison with other

conventional buildings in Malaysia. Furthermore, the savings will only increase over time as energy prices may rise in Malaysia. The continuous yearly decreasing pattern of electricity bill is tabulated in **Exhibit 26**.

## Exhibit 26

Electricity bill progression of the Authority



Some of the initiatives taken by the Authority are:

### No cost measures:

A continuous Energy Management (EM) committee meeting were held 4 times a year as a part of the Authority's Committee of Security, Job Safety and Energy Management's (JKKPPT) efforts to ensure the Energy Policy in the Authority has been practised;

Continuous energy management awareness programme initiatives to the Authority's staff include in-house talks on energy management, frequent dissemination of information on energy saving in the office and initiatives as simple as EE savings tips labels;

- Lighting switches mapping for all office areas in the Authority;
- Scheduling in-house energy audits in the Authority by its staff;
- Energy Management awareness signs and labels for office appliances and behaviour;

- Temperature setting of air-conditioning to 24 degree Celsius; and
- Energy management practices such as switching off the lighting and office equipment during lunch hour.

### Low Cost Measures:

- De-lamping, LED lights replacement and installation of pull cord light by stages;
- Installation of scheduled lighting system at general pathway in the office
- Solar PV schedule maintenance and set zeroed meter for energy generated

### Solar PV System @ the Authority, 16 kWp

Since the Authority's establishment in 2011, the Authority has granted approvals to more than 10,000 renewable energy installations in Malaysia. It is timely for the Authority to lead by example by installing a Solar PV system as well at the

headquarters of the Authority located in Putrajaya. In 2019, the Authority installed a 16kW Solar PV system on the rooftop of Galeria PJH. This PV system is also linked to the PVMS managed by the Authority. Importantly, this PV project will be part of the Authority's on-site training facility providing online data for analysis and opportunity to showcase PV for office application to visitors and training participants.

The PV project for the Authority started on 1st October 2019 and was successfully commissioned on 31st December 2019. The total installed capacity is 16kWp and the energy generated is connected to the Authority's Main Distribution Board. The Solar PV system is installed based on Self-Consumption (SELCO) as the bulk meter of the building will not support NEM configuration. In future, this restriction should be addressed so buildings with bulk meters can participate in the NEM scheme as well.

It is estimated that the 16kWp Solar PV system could generate about 19,200kWh/year with about 13,324.8kg of CO<sub>2</sub> avoidance per year. **Exhibit 27** below details the technical and design specification for the Authority's 16kW Solar PV system:

### Exhibit 27

Technical & Design Specification for the Authority's 16kW Solar PV system

	Installation	Description
1	Solar Panel	<p>400Wp x 40 units of Mono-crystalline Class II PERC Half-Cell Module</p> <p>Each module has 72 cells</p> <p>Nominal efficiency is 19.5%</p> <p>4 strings configuration with 10 solar panels per string.</p> <p>Manufacturer: JA Solar.</p>
2	Inverter	<p>1 unit of 15kVA Multi -MPPT String Inverter from Sungrow</p> <p>Efficiency at nominal power is 98.6%</p>
3	Weather Station	<p>1 unit of Rainwise Pvm200 weather station</p> <p>Can capture wind speed, irradiation and module temperature data</p>
4	Zero Export Energy	1 unit of Weidmuller zero energy meter
5	Solar PV Data Logger	1 unit of Solar-Log 1200 from Solar Log







1. Energy Policy
2. Awareness Poster
3. Use of Table Lamp
4. Lamp Zoning by area
5. Lamp Zoning Layout Plan



1. Project installation by appointed contractor
2. Aerial view of the Authority's 16 KW Solar PV System Installation
3. Briefing by Project team to the staff of the Authority



# International Liaison

## **ASEAN**

*The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967, in Bangkok, Thailand. ASEAN currently comprises ten member states, including Malaysia. The organisation hosts various meetings and forums to address regional issues.*

Within ASEAN, the Authority actively participates in sustainable energy-related meetings in collaboration with the Ministry of Energy Transition and Water Transformation (PETRA). One of the key forums responsible for energy sector policymaking is the ASEAN Ministers on Energy Meeting (AMEM). Additionally, the Senior Officials Meeting on Energy (SOME) oversees and promotes cooperation activities through specialised networks known as Subsector Networks (SSNs). Notable SSNs include the Renewable Energy Subsector Network (RE-SSN) and the Energy Efficiency & Conservation Subsector Network (EE&C-SSN), which fall under the ASEAN Plan of Action for Energy Cooperation (APAEC).

## **Special Senior Officials Meeting on Energy**

Another significant event is the Special Senior Officials Meeting on Energy and Associated Meetings (Special SOME), held on 31 January 2023, under the chairmanship of Cambodia and hosted by the ASEAN Secretariat. The Authority had representatives present at this virtual meeting:

- Encik Saiful Hakim Abdul Rahman - Director  
Strategic Planning Division
- Cik Siti Aishah Mohammad  
Senior Assistant Director, Special Unit
- Encik Mohd Shafiq Mezan  
Assistant Director, Special Unit



The meeting reviewed and approved cooperation matters on energy between ASEAN countries, the 2016-2025 ASEAN Energy Sector Cooperation Programme, and the cooperation measures implemented by Cambodia. Discussions continued on various ASEAN energy cooperation sub-sectors, including the ASEAN Petroleum Council, Coal and Refinery Technology Division, ASEAN Electric Power Sector, Energy Efficiency and Energy Saving Sub-sector, Renewable Energy Sub-sector, Regional Energy Policy and Management Sub-sector, and Urban Nuclear Power Sub-sector. Responsibilities for these areas will be undertaken by Indonesia in 2023 under the ASEAN Economic Community.

### **30th Renewable Energy Sub-Sector Network (RE-SSN) Meeting**

The 30th Renewable Energy Sub-Sector Network (RE-SSN) Meeting was held from May 2-5, 2023, in a hybrid mode in Vientiane, Lao PDR. This annual meeting updates the progress and collaboration activities for renewable energy milestones under Programme Area No. 5 of the ASEAN Plan of Action for Energy Cooperation (APAEC) Phase II (2021-2025), endorsed by the 38th ASEAN Ministers on Energy Meeting in 2020. The deliverables aim to achieve the aspirational targets of a 23% renewable energy share in total primary energy supply (TPES) and a 35% renewable

energy share in total installed capacity by 2025. Encik Saiful Hakim Abdul Rahman, Director of Strategic Planning, attended the meeting. Malaysia encouraged rapid regional cooperation for renewable energy development, hoping ASEAN could get back on track to achieve the targets mentioned in APAEC Phase II (2021-2025) despite post-pandemic challenges. The meeting noted the need for technological advancements to expand the renewable energy share in the energy mix and reduce reliance on fossil fuels by 2025.

### **41st Senior Officials Meeting on Energy (SOME)**

The 41st ASEAN Senior Officials Meeting on Energy (SOME) and its Associated Meetings were held from 19-23 June 2023 at the ASEAN Secretariat Headquarters in Jakarta, Indonesia. Representatives from the Authority included:

- Ts. Mohammad Nazri bin Mizayauddin  
Chief Strategy Officer
- Puan Afroza Banu Abd Halim  
Head of Special Unit

The theme of the meeting was "ASEAN Matters: Epicentrum of Growth." Discussions focused on the highlights and progress updates of the seven key programme areas under the ASEAN Plan of Action on Energy Cooperation Phase II (2021-2025), including the

ASEAN Power Grid (APG), Trans-ASEAN Gas Pipeline (TAGP), Coal and Clean Coal Technology (CCT), Energy Efficiency & Conservation (EE&C), Renewable Energy (RE), Regional Energy Policy & Planning (REPP), and Civilian Nuclear Energy (CNE). The meeting also deliberated on the Mid-Term Review of APAEC Phase II (2021-2025) and collaborations with ASEAN Dialogue Partners and International Organisations.

### **41st ASEAN Ministers on Energy Meeting (AMEM)**

The 41st ASEAN Ministers on Energy Meeting (AMEM) was hosted by Indonesia from August 22-26, 2023, in Bali, Indonesia, and chaired by H.E. Arifin Tasrif, Minister of Energy and Mineral Resources of Indonesia. Representatives from the Authority included:

- Dato' Hamzah Hussin  
Chief Executive Officer
- Encik Saiful Hakim Abdul Rahman  
Director, Strategic Planning Division
- Puan Afroza Banu Abd Halim  
Head of Special Unit

The meeting noted ASEAN's achievement of a 14.4% renewable energy (RE) share in the Total Primary Energy Supply (TPES) in 2021. The RE share in installed power capacity reached 33.6% in 2021, leaving only a 1.4% gap to achieve the 2025 target.





The meeting anticipated recommendations on investment strategies supporting infrastructure development, grid enhancement, cross-border connectivity, and demand-side management. It urged in-depth analysis and discussions to examine the challenges and opportunities for narrowing deployment barriers for RE projects in the region. The meeting welcomed the project "Development of Renewable Energy Certificate (REC) Framework in BIMP," which will study the market potential of RECs in BIMP countries.

The 22nd BOJ Meeting of ASEAN RE Project Awards 2023 was also held as part of the AMEM Meetings. A total of 66 submissions were received,

with 42 winners and runners-up awarded at the ASEAN Energy Business Forum. The awards were distributed across various categories, including:




- New and Existing Building
- Retrofitted Building
- Tropical Building
- Green Building
- Special Submissions

Furthermore, Malaysia demonstrated its participation by winning a total of four awards across different categories. **Exhibit 28** below details the awards won in the ASEAN RE Project Awards 2023.

### Exhibit 28

ASEAN RE Project Awards won in 2023



ASEAN RE Project Awards 2023		
CATEGORY	WINNERS	
Green Building		
Large Category	Winner	
	Tzu Chi International School	
	2nd Runner-up	
	Menara PjH	
Energy Efficient Building – Special Submissions		
Zero Energy Buildings	Winner	
	Dengkil RSA Northbound	



## ASEAN RE Project Awards 2023

CATEGORY	WINNERS
Energy Efficient Building – Special Submissions	
Zero Energy Buildings	Winner
	Spritzer Asrs Warehouse



IEA PVPS Member

### International Energy Agency Photovoltaic Power Systems Programme (IEA PVPS)

The IEA Photovoltaic Power Systems Programme (IEA PVPS) was established in 1993 with the mission to "enhance international collaborative efforts that facilitate the role of photovoltaic solar energy as a cornerstone in the transition to sustainable energy systems." To achieve this, the Programme's participants have undertaken various joint research projects in PV power systems applications.

The 62nd Executive Committee (ExCo) Meeting of IEA PVPS took place from April 26th to 28th, 2023, in Switzerland, while the 63rd ExCo Meeting was conducted in hybrid mode from October 26th to November 2nd, 2023. Representatives from the Authority participated in these meetings, including:

- Mr. Mohammad Nazri Mizayauddin  
Chief Strategy Officer
- Mr. Saiful Hakim Abdul Rahman  
Director, Strategic Planning Division
- Ms. Siti Aishah Mohammad  
Senior Assistant Director, Special Unit
- Mr. Muhammad Shafiq Mezan  
Assistant Director, Special Unit

During the 62nd ExCo Meeting, Task 18 continued to collaborate with Sarawak Energy Berhad. Task 18 aims to foster international collaboration in off-grid and edge-of-grid PV system technologies. At the 63rd ExCo Meeting, a dialogue session was held between the IEA PVPS team and Bridgestone Solar Car from Malaysia. The meeting noted the potential collaboration in Solar PV Mobility with UiTM-MOSTI and the Authority's involvement in the Bridgestone Solar Car Race.



The Asia-Pacific Economic Cooperation's (APEC) Energy Working Group 65th Meeting (EWG 65) and associated meetings







### EWG 65 Meeting

The EWG 65 Meeting was held from May 21 to 22, 2023, in Detroit, Michigan, United States of America. The Malaysian delegation included a representative from the Ministry of Natural Resources, Environment, and Climate Change (NRECC) and Mrs. Mazliana Mazlan,

representing the Authority. The EWG extensively deliberated on how APEC economies can enhance their energy resiliency through data enhancement and technology. Malaysia is generally supportive of efforts to increase energy resiliency. Given the increasing number of natural disasters due to climate

change, enhancing grid resilience and geo-spatial data through advanced technology is crucial. Various toolkits developed by research institutions worldwide were discussed. Malaysia looks forward to future projects on energy emergency data resources and tools. The concept of a Just Energy Transition was acknowledged as an important aspect of the energy transition, with some economies already incorporating it into their policies.



COP 28, the 28th meeting of the Conference of the Parties to the UNFCCC, is a United Nations Climate Change Conference taking place in Dubai, United Arab Emirates, from November 30 to December 12, 2023. COP is where the world comes together to agree on ways to address the climate crisis, such as limiting global temperature rise to 1.5 degrees Celsius, helping vulnerable communities adapt to the effects of climate change, and achieving net-zero emissions by 2050.

On November 29, 2023, a visit to Masdar City and Al Sila Wind Farm took place. Masdar is one of the world's largest renewable energy companies and a green hydrogen leader, placing the UAE at the forefront of the energy transition. Al Sila Wind Farm, located approximately 340 kilometers from Masdar City, has a total capacity of 27MW using low wind speed technology manufactured by Goldwind from China.

At the Malaysia Pavilion, several agendas were convened, including "Advancing a Just Energy Transition towards a Net-Zero Future," "Green Growth Pathways and Opportunities," and "Transitioning to a Net-Zero Future: Decarbonising Industries." Five MOUs were signed between Malaysia and the Middle East on renewable energy development, aligning with Malaysia's National Energy Transition Roadmap to reduce GHG emissions from the

energy sector. The CEO of the Authority and three representatives attended this convention:

- **Ts. Mohd Adzha Husin**  
Senior Assistant Director,  
Strategic Planning Division
- **Puan Arnis Abdul Rashid**  
Senior Assistant Director,  
Strategic Communication Division
- **Encik Edzwan Suwaji**  
Assistant Director, Strategic  
Communication Division



Masdar City



Malaysian Delegates at  
Al Sila Wind Farm



Wind Turbine at  
Al Sila Wind Farm



Malaysian Delegates at  
Al Sila Wind Farm

### **ENLIT Asia & the 78th Indonesia National Electricity Day (INED)**

ENLIT Asia and the 78th Indonesia National Electricity Day (INED), co-located with Photovoltaic & Storage (PVS) ASEAN, were held from November 14-16, 2023, at ICE, BSD City, Indonesia. ENLIT Asia is an annual conference and exhibition that unifies two major events in the power and energy sector – POWERGEN Asia and Asian Utility Week. ENLIT Asia delivers expert knowledge from the region's power and energy thought leaders on key developments, policies, and innovations driving the energy transition. It brings together the entire value chain of both power and utility producers and suppliers, covering content and exhibits from source to

generation and from grid to consumer. Representatives from the Authority included:

- Dato' Hamzah Hussin  
Chief Executive Officer
- Encik Saiful Hakim Abdul Rahman  
Director, Strategic Planning Division

### **Capacity Building: China ASEAN Capacity Building Programme 2023**

The China-ASEAN Capacity Building Programme 2023 Exchange Project: 2023 Clean Energy Leader Exchange Programme, organised by the China Renewable Energy Engineering Institute (CREEI), was integrated into "China-ASEAN Clean Energy Week (CACEW)" held from September 18-24, 2023, in

Haikou, China. Representatives from the Authority included:

- Mr. Saiful Hakim Abdul Rahman  
Director, Strategic Planning Division
- Mrs. Afroza Banu Abd Halim  
Head, Special Unit
- Mrs. Mazliana Mazlan  
Legal Advisor
- Ms. Nor Azaliza Damiri  
Deputy Director, Strategic Planning Division
- Ts. Mohd Adzha Bin Husin  
Deputy Director, Strategic Planning Division
- Ts. Mohd Amirshaifulrazain Abu Zaini  
Senior Assistant Director, Market Operations Division





The Programme aims to promote clean energy development and sustainable development in the region, share experiences of relevant policies, plans, and technology applications, and facilitate exchanges among talents within the clean energy field. The 2023 Clean Energy Leader Exchange Programme focused on offshore wind power, inviting Chinese senior experts to attend discussions and site visits to understand offshore wind power development trends, industrial policy systems, market environments, industrial chains, technological development, and innovative practices. The aim was to provide Chinese experiences for high-quality offshore wind development in ASEAN, contributing to energy independence, security, and climate goals.

### **10th Workshop on Energy Conservation for Malaysia (BECMY10) Under Malaysia-Japan Bi-Lateral Energy Efficiency Cooperation**

The "10th Workshop on Energy Conservation for Malaysia (BECMY10)" was implemented by ECCJ on behalf of the Ministry of Economy, Trade and Industry (METI) in cooperation with the Ministry of Natural Resources, Environment, and Climate Change (NRECC), funded by METI. Held from September 11-15, 2023, the workshop aimed to provide exposure to energy

audit and measurement practices, improve measurement based on virtual energy data, extract problems for virtual energy audits, and understand key points in promoting energy conservation. Ten participants were involved in this workshop, including three from NRECC. Representatives from the Authority included:

- **Mr. Mohd Raifuiddin bin Daros**  
Assistant Director, Technical Development and Facilitation
- **Mr. Ishamuddin bin Mazlan**  
Senior Assistant Director, Technical Development and Facilitation





# National Outreach Activities

## National Outreach Activities

*The Authority leads the way in advancing sustainable energy (SE) solutions across the nation.*

Through its National Outreach Activities, the Authority collaborates with a wide range of stakeholders to foster the adoption of SE. By engaging key players from various sectors, these activities ensure a holistic and collaborative approach to SE implementation.

Stakeholder engagement is crucial to the Authority's mission, underscoring its commitment to inclusive decision-making in developing the country's sustainable energy industry. This approach integrates feedback from internal and external stakeholders,

including government agencies, industry participants, the Authority's staff, and the public. In 2023, the Authority's engagements and outreach efforts have facilitated cross-sector collaboration, forming strategic partnerships that blend expertise, resources, and technology to drive innovation and the adoption of sustainable solutions.

True to its mission, the Authority actively involves a diverse range of groups to advance its initiatives, playing a pivotal role in promoting RE development in Malaysia. These collaborations are vital in shaping strategies to achieve the Government's ambitious RE targets of 31% by 2025 and 70% by 2050 in the national installed capacity mix.

Strategic stakeholder engagements also focus on developing and implementing SE awareness programmes, aiming to enhance acceptance and participation among the public and private sectors. Over the years, the Authority has utilised social media platforms and its website to communicate with stakeholders through TV and radio interviews, advertisements, media releases, events, news articles, and announcements.

Additionally, the Authority has engaged with RE industry players, conducted capacity-building activities, and public awareness programmes, particularly on the NEM programme, and initiated Corporate Social Responsibility (CSR) projects to empower communities and assist the underprivileged.



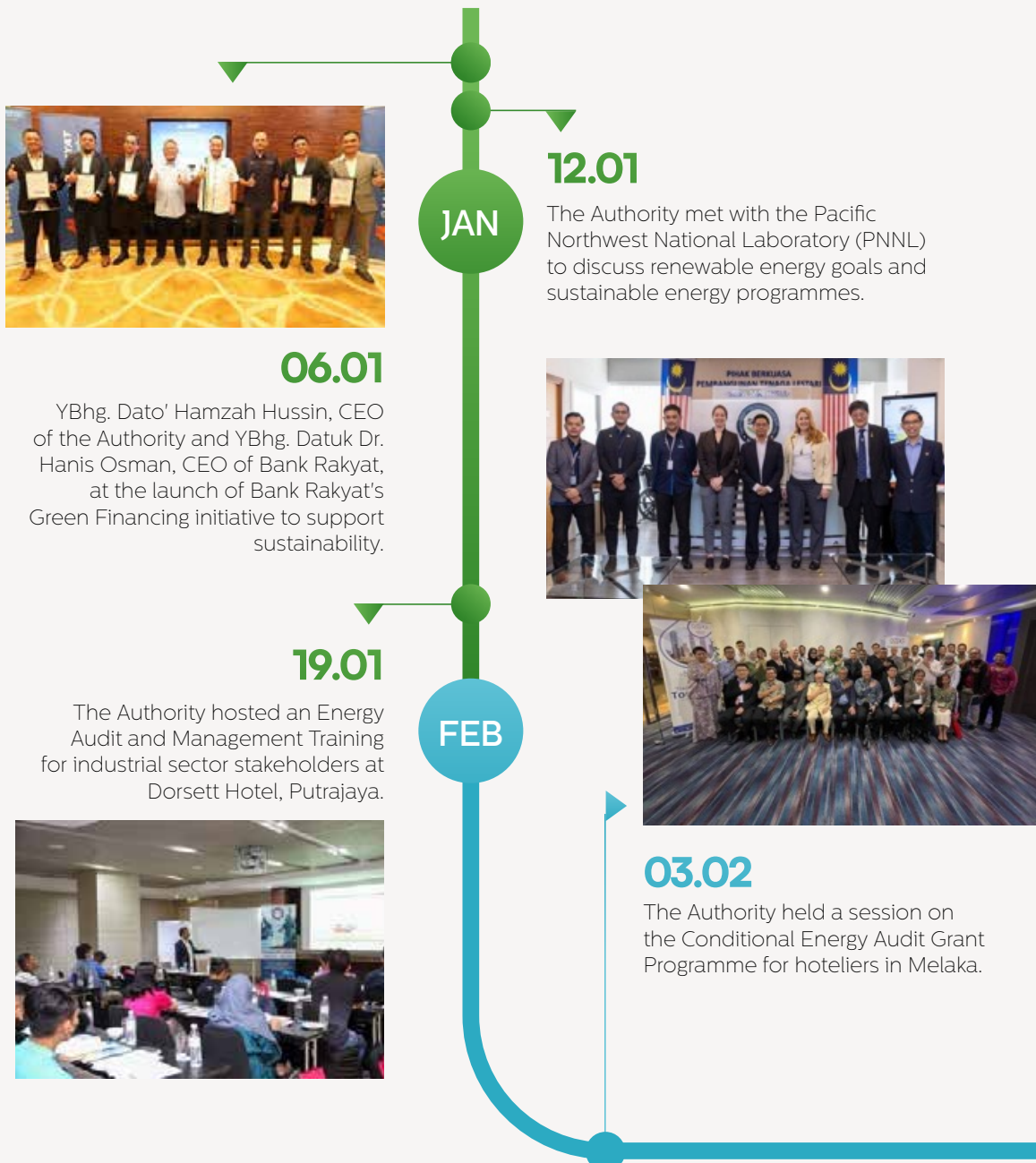


Engaging stakeholders ensures that the transition to sustainable energy and carbon footprint reduction is inclusive, transparent, and practical, which is essential for the success of the Authority's initiatives.

The Authority's comprehensive outreach activities foster strategic partnerships, enhance knowledge and capacity building, and promote innovation, reinforcing its role as the leading agency in the development of the SE

industry in Malaysia. The following event gallery showcases these diverse and impactful activities, highlighting the collaborative efforts and successes in promoting sustainable energy adoption nationwide.

# List of Activities



## 07.02

The Authority shared green sustainability practices with the SmartGreen Committee and CENTA from Sultan Idris Shah Polytechnic.



## 08.02



The Authority and Petaling Jaya City Council collaborated on a Sustainable Energy Awareness Programme Briefing and Recycling Practices at Armada Hotel, Petaling Jaya.

## 10.02

The Authority discussed Malaysia's sustainable energy agenda with Affin Bank staff during the ESG talk series at their new TRX office.



## 02.03

YB Tuan Nik Nazmi Nik Ahmad launched the Malaysia Energy Literacy Programme (MELP) at Wisma Sumber Asli, Putrajaya.



## 02.03

The Authority presented sustainable energy initiatives at the NLCCMP Involvement Programme in Johor Bahru.

## MAR

## 20.02

The Authority welcomed Dr. Riam Chau Mai and the PPI team from JPPKK to explore potential collaborations.



## 28.02

The Authority met with Dr. Dayang Hanani Abang Ibrahim and her CENTEXS team to explore collaboration on Sustainable Energy Human Capital Development Training in Sarawak.



## 03.03

The Authority thanked participants of the EACG RMK-12 Seminar Programme in Kota Kinabalu.



## 24.02

The Authority hosted a Solar Thermal Technology training for final-year students from Universiti Teknologi MARA.



## 06.03

The Authority conducted Energy Management and Audit training for Petaling Jaya City Council staff.





### 08.03

The Energy Transition Townhall, hosted by NRECC, featured discussions on the country's energy transition agenda with Minister YB Tuan Nik Nazmi Nik Ahmad, Minister YB Tuan Rafizi Ramli, and key stakeholders. The event included sessions moderated by the Energy Commission's Chairman and CEO.



### 09.03

YB Nik Nazmi Nik Ahmad launched the Malaysia Energy Transition Outlook (METO) with key energy leaders.

### 23.03

A session on the Energy Audit Conditional Grant Programme (EACG) was held to assist in grant applications for energy audits.



### 23.03

The Authority hosted a Knowledge Sharing Session on the Voluntary Carbon Market with Bursa Malaysia.



### 23.03

The Authority participated in KPJ Rawang Specialist Hospital's 'Environmental, Safety and Quality Week' to promote energy efficiency.



### 12.03

YB Nik Nazmi Nik Ahmad and YB Dato' Sri Huang Tiong Sii visited the Authority exhibition at the Alam Kita Carnival at Batu Kawan Stadium, Penang.



### 15.03

The Authority supported the Solar Technical Entrepreneur Development Programme at Zenith Hotel, Putrajaya.



### 22.03

The Authority presented sustainable energy solutions at the NLCCMP Involvement Programme in Taiping.



### 24.03

The Authority hosted a Capacity Development Programme on Energy Management and Building Audits for RMK-12 EACG applicants.



### 24.03

The Authority held the EACG RMK-12 Seminar Programme in Melaka to promote energy audits for industrial and commercial buildings.





27.03

The Authority and Selangor MARA discussed potential collaboration on renewable energy and energy efficiency.



28.03

The Authority's "Ramadan Dinanti Perkukuh Integriti" briefing featured a tazkirah on Ramadan's significance by Mr. Hj. Hushim Salleh.

15.04

The Authority's iftar ceremony, led by CEO YBhg. Dato' Hamzah Hussin.



18.04

The Authority concluded Ramadan with a Khatam Al-Quran and tazkirah titled "Ramadan, Pemergiannya Ditangisi."

19.04

The Authority organised the RMK-12 EACG Seminar Programme at Royale Chulan Kuala Lumpur.



APR

MAY

04.04

The Authority's Ramadan Tazkirah by Ustaz Rozie Rejab encouraged spiritual growth through increased prayers during fasting.



10.04

The Authority's 'Tautan Kasih Ramadan' Programme provided Raya clothes and gifts to Asnaf Baitun Nurawdhah Orphanage residents.



08.04

The Authority's "Tautan Kasih Ramadan" programme distributed 1,000 bubur lambuk to Kampung Jenderam Hilir residents and NRECC agencies.

12.04

The Authority's Ihya Ramadan Programme included a tazkirah on "The Joy of Fasting and Breaking Fast" by Ustaz Roslan Mohamed.



08.05

The Authority participated in the "World Consumer Rights Day Seminar" hosted by FOMCA and TNB, discussing clean energy transitions with industry experts.



## 10.05

The Authority's Aidilfitri Open House celebrated with stakeholders and 30 Asnaf orphans.



## 12.05

YB Nik Nazmi Nik Ahmad inaugurated the Kelantan 'Karnival Alam Kita', with the Authority's charity presentation benefiting local causes.

## 29.05

The Authority thanks participants of the RMK-12 EACG Seminar Programme in Raia Hotel & Convention Center on May 24, 2023.



## 31.05

The Authority and UKM Pakarunding met to discuss potential training collaborations, chaired by Ts. Steve Anthony Lojuntin.



## JUN

## 13.05

The Authority engaged visitors at the Alam Kita Carnival with a "Pocket Talk" on sustainable energy and a quiz for students.



## 13.05

The Authority and the ASEAN Center for Energy discussed clean energy investments at the "ACE-SEDA Coffee Meeting" in Putrajaya.



## 18.05

The Authority showcased sustainable energy initiatives at Trenchless Asia 2023, including the Net Energy Metering programme.



## 01.06

The Authority held the RMK-12 EACG Seminar (2nd Central Zone) at Grand Lexis Port Dickson, offering grants for energy audits.

## 08.06

The Authority hosted discussions on residential solar PV with GENTARI, Johor Land Berhad, and SOLS Energy.





## 09.06

The Authority offered free Energy Management and Audit training to RMK-12 EACG grant applicants.



## 20.06

The Authority hosted a pilot Building Energy Performance Simulation (BEPS) training to enhance sustainable energy skills.



## 15.06

The Authority CEO YBhg. Dato' Hamzah Hussin discussed sustainable energy on Bernama Radio in Kuala Lumpur.

## 27.06

The Authority showcased renewable energy and NEM3.0 at the Symposium on Sustainable Future Energy by Universiti Malaysia.



## 28.06

The Authority in collaboration with MBPJ and supported by PPD Petaling Utama, hosted a Sustainable Energy Awareness Briefing in Petaling Jaya, aligning with the Low Carbon Building Programme and MS 1525.



## 24.06

The Authority participated in the 41st Senior Officials Meeting on Energy (SOME) in Jakarta, focusing on ASEAN Power Grid cooperation and the ASEAN Plan of Action for Energy Cooperation (APAEC) 2021-2025.



## 27.06

The Authority presented energy sustainability programmes like NEM3.0 at the "People's Town Hall" with YB Nik Nazmi Nik Ahmad.



## 05.07

The Authority welcomed SESB Chairman YB Datuk Seri Panglima Wilfred Madius Tangau to discuss renewable energy projects and toured its solar panel installation.



## 26.06

The Authority's booth at "Energy Asia" showcased sustainable energy initiatives and future clean energy pathways.



JUL



## 15.07

The Authority presented the NEM3.0 programme at the "Solar Revolution" event, targeting Japanese companies in Malaysia.



## 01.08

The Authority hosted the RMK-12 Energy Audit Conditional Grant Seminar, focusing on energy audits to reduce utility costs for commercial and industrial buildings.

## 11.08

The Authority offered free Energy Management and Audit Training from August 1-4, 2023, for RMK-12 EACG grant applicants to help reduce energy costs, with grants up to RM100,000.



## 17.08

The Authority's two-day workshop on its Strategic Business Plan focused on its role in the National Energy Transition Roadmap and achieving net-zero emissions.



## 22.08

Minister YB Nik Nazmi Nik Ahmad keyed the 6th East Asia Energy Forum, focusing on ASEAN's energy security and carbon reduction.



## AUG

## 08.08

CEO Dato' Hamzah Hussin represented the Authority at the High Seminar Talks organised by IGES in Kuala Lumpur, discussing sustainable energy and low-carbon city initiatives.



## 22.08

The Authority showcased sustainable energy at the NRECC Merdeka Festival, celebrating National Day and Malaysia Day 2023.

## 26.08

The Authority participated in the Youth Parliamentary Debate 2023, with Ts. Shah Hambali serving as a judge and supporting youth engagement.



## 28.08

CEO Dato' Hamzah Hussin discussed Malaysia's net-zero goals at the Energy Transition Conference 2023, alongside industry leaders.



## 29.08

Prime Minister YAB Dato' Seri Anwar Ibrahim launched the National Energy Transition Roadmap Phase 2, with the Authority engaging key visitors at its booth.

06.09

SAREF 3.0 was launched by Sarawak's Premier, with the Authority showcasing sustainable energy initiatives at the event.



07.09

CEO Dato' Hamzah Hussin joined energy leaders at SAREF 3.0 to discuss accelerating the energy transition.

19.09

The Authority's Tazkirah Programme featured a talk by YBrs. Mr. Hj. Sutan Mustaffa Bin Salihin on the importance of prayer, effort, and tawakal.



19.09

The Authority is showcasing sustainable energy programmes at Smart Nation Expo 2023 in Kuala Lumpur.



21.09

The Authority discussed renewable energy developments with K-Water Resources Company, hosted by the South Korean Embassy.

SEP

12.09

The Authority hosted Terengganu officials, led by YB Mohd Nurkhuzaini Ab Rahman, to explore cooperation and ongoing programmes.



22.09

En. Saiful Abdul Rahman from the Authority presented on clean energy development at China-ASEAN Clean Energy Week 2023.



25.09

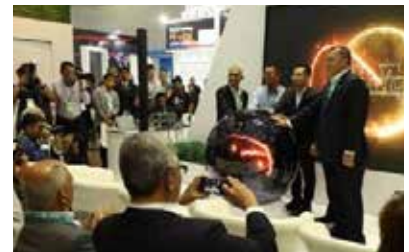
The Authority hosted a session on "Mental Well-being: Stress Management and Improving Productivity" led by YBrs Hani Suhaila binti Ramli.



OCT

04.10

Minister YB Nik Nazmi Nik Ahmad led the soft launch of the Malaysia Pavilion for COP28 at IGEM 2023, with the Authority's CEO attending.





## 05.10

The Authority welcomed a Taiwanese delegation to discuss opportunities for collaboration on Net Zero Carbon Emissions.



## 05.10

Puan Annis Abdul Rashid engaged SMK Limbanak students on sustainable energy as part of the Young Energy Explorer Programme.



## 05.10

Deputy Prime Minister YAB Dato' Sri Haji Fadillah Haji Yusof launched the Hydrogen Economy and Technology Roadmap at IGEM 2023, with the Authority hosting a pocket talk on sustainable energy.



## 23.10

The Authority conducted enforcement activities in Perak to monitor biogas and hydropower FiT projects, supporting Malaysia's renewable energy goals.



## 24.10

The Authority hosted CENTEXS and Solarvest to discuss joint ventures and training opportunities in Sarawak.



## 14.10

YB Nik Nazmi Nik Ahmad and Dr. Ching Thoo Kim officiated the National Sports Day Carnival, featuring 13 sports events by NRECC agencies.



## 25.10

YB Nik Nazmi Nik Ahmad highlighted the Authority's initiatives at the NRECC Monthly Assembly, discussing the 70% capacity target by 2050.



## 17.10

The Authority's Tazkirah by Ustaz Mohamad Shyazreel Adry focused on aligning work with faith as an act of worship.



## 19.10

Ts. Nazri Mizayauddin welcomed Siemens Energy to the Authority's Putrajaya office to discuss future collaborations.



## 26.10

The Authority participated as a key partner and jury at the Petrosains RTX Challenge 2023 finals, promoting sustainable energy.



**27.10**

The Authority and MARA signed an MoU to enhance human capital development in renewable energy and energy efficiency.



**27.10**

The Authority visited Concord Group's 1.8MW biogas plant in Johor to support Malaysia's carbon reduction and energy security goals.

**31.10**

The Authority facilitated a MoU signing for a solar PV project in Petaling Jaya, supporting the city's low carbon goals.



**03.11**

The Authority attended the IEA PVPS meeting in Australia to discuss advancements in photovoltaic technology and support NETR's goals.



**NOV**

**01.11**

The Authority visited biogas plants in Jasin, Pagoh, and Batu Pahat to assess their progress and system designs.



**08.11**

The Authority's CEO delivered a keynote on geothermal resources at NGC 2023, highlighting MyRER's potential.



**31.10**

The Authority engaged SMK Majidi Baru 2 students in Johor Bahru on sustainability as part of the YEEPE 2023 Programme.



**03.11**

The Authority and JPKK launched the Professional Certificate in Energy Management for polytechnic and community college staff.



**09.11**

The Authority's CEO emphasised good work ethics and shared updates at the 6th Power Hour.

## 14.11

At Enlit Asia, the Authority's CEO highlighted the need for supportive policies to meet NETR targets during the CEO Forum.



## 16.11

The Authority hosted a course on thermal energy efficiency for industrial processes, supporting the Energy Efficiency Conservation Act.



## 27.11

The Authority's Chairman discussed the evolution of Malaysia's sustainable energy industry in an interview with Selamat Pagi Malaysia on RTM.



## 28.11

A Turkish delegation visited the Authority to explore collaboration and business opportunities in the renewable energy sector.



## DEC

## 30.11

The Authority visited Masdar City and Al Sila Wind Farm during COP28, exploring innovative technologies for Malaysia's energy transition.



## 05.12

At COP28, the Authority's CEO participated in the soft launch of ISES 2024, reaffirming the commitment to a 70% renewable energy mix by 2050.



## 05.12

The Authority's CEO discussed the National Energy Transition Policy at COP28, alongside leaders from various industries.



## 10.12

YB Nik Nazmi Nik Ahmad launched the SAVE 4.0 e-rebate programme at the NRECC rally site in Bukit Jalil Stadium.

## 18.12

The Authority hosted a Focus Group Discussion to review and provide feedback on Malaysia's FIT mechanism.



## 21.12

The Petaling Jaya Sustainable School Award Ceremony recognised schools for their achievements in energy efficiency and recycling, supported by the Authority.



# Audit

## Planning and Achievement of Audit Programme

The Annual Audit Planning for the Year 2023 was approved in the Audit Committee Meeting No. 3/2022 on 22nd November 2022. **Exhibit 29** below details the audit achievements garnered:

No.	Approved Audit Planning	Achievement	Review
CORPORATE GOVERNANCE/COMPLIANCE			
1	Auditing of Net Energy Metering (NEM)	★ ★ ★	i. Scope: 2021 – 2022; ii. Has been presented: JK Audit No. 1/2023 on 25 August 2023; iii. 6 suggestions for improvement have been proposed to the auditee; iv. Follow-up audit to be held in Q1 2024.
2	Auditing of ICT Asset Management	★ ★	i. Scope: 2020 – 2022; ii. Has been presented: JK Audit No. 2/2023 on 12 October 2023; iii. 6 suggestions for improvement have been proposed to the auditee; iv. Follow-up audit to be held in Q2 2024.
3	Auditing of Monthly Claims Management	★ ★ ★	i. Scope: 2022; ii. Finished being audited; iii. 5 suggestions for improvement have been proposed to the auditee; iv. Will be presented in JK Audit Bill 1/2024.
4	Follow-up Audit on Training Management	✓	i. Scope: 2019 – 2021; ii. Has been presented: JK Audit No. 1/2023 on 25 August 2023; iii. 9 findings have been resolved; iv. 4 findings is still in action; v. Follow-up audit to be held in Q2 2025.
5	Follow-up Audit on Procurement Management	★ ★ ★	i. Scope: 2019 – 2020 (Procurement Management); ii. Scope: 2021 – 2022 (Quotation & Direct Purchase); iii. Has been presented: JK Audit No. 3/2023 on December 6, 2023; iv. 4 findings has been resolved; v. 5 improvement proposals/ JKA decision No. 3/2021 has been resolved; vi. Follow-up audit to be held in 2025.



	Approved Audit Planning	Achievement	Review
<b>MANAGEMENT CONTROL</b>			
1	Pemeriksaan Mengejut (AP309)	✓	Panjar Wang Runcit: i. 16 June 2023; ii. 14 December 2023.
<b>ADMINISTRATION</b>			
1	Preparation of the Authority Internal Audit Management Guidelines	✓	i. Has been presented: JK Audit No. 1/2023 on 25 August 2023; ii. Effective on August 25, 2023.

Note: Star ratings are for auditing activities only. **Exhibit 30** below details the star rating guide.

Guide	
★★★★	Very good
★★★	Good
★★	Satisfactory
★	Unsatisfactory
✓	Activity completed

### Exhibit 29

Audit Achievements  
garnered for 2023

### Exhibit 30

Audit Achievement  
Star Rating Guide

# Our Authority Members



*YBrs. Tuan Ahmad Zairin Ismail was appointed as the Chairman of the Authority on the 15th May 2023.*



**He carries with him more than 20 years of experience in the energy industry. An engineer by training, he began his**

**career as a Development Engineer, and later, he was promoted to Senior Manager, heading the New Model Development and Sales Engineering Unit in a multinational company.**



*Chairman of Authority*

**YBRS. TUAN  
AHMAD  
ZAIRIN  
ISMAIL**

His professional career encompasses the energy industry began when YBrs. Tuan Ahmad Zairin joined the Malaysia Energy Centre (Pusat Tenaga Malaysia) in year 1999, a non-profit organisation administered by the Ministry of Energy Malaysia to pioneer various national initiatives in Energy Efficiency (EE) and Renewable Energy (RE) in Malaysia.

Until early 2015, he held the position of Chief Operating Officer/Sr. Vice President of the Malaysian Green Technology Corporation (MGTC). His areas of responsibility included Built Environment, Green Financing, My Green Procurement, and the Low Carbon Cities programmes. He also oversaw the implementation of the UNDP/GEF-funded National Industrial Energy Efficiency Improvement Project and the Biomass Power Generation and Cogeneration Project in the Palm Oil Industry.

He was also instrumental in securing the EU-ASEAN Energy Facility (EAEEF-2006) funding to engage EU low-energy building experts in the Development and Construction of the first Certified Green Energy Office in Malaysia named the Zero Energy Office (ZEO) in Bangi, Selangor.

His last appointment was National Project Coordinator (2018-2020) at Malaysia's Energy Efficient Low Carbon Transport Project. Prior to the appointment, he was National Project Manager (2016- 2018) for the Building Sector Energy Efficiency Project implemented by the Public Works Department (JKR), funded by the United Nations Development Programme (UNDP) and Global Environment Facility (GEF).

Currently, YBrs. Tuan Ahmad Zairin serves as the National Project Coordinator for the UNIDO Project (jointly administered by UNIDO HQ, MITI Malaysia and the Korea Energy Agency) on Coping with Climate Change through Policy Consultation in EE and RE.

Recognised for his exceptional leadership in the energy sector, YBrs. Tuan Ahmad Zairin was honoured with the 'Excellence in Energy Management' award as part of the ASEAN Energy Cooperation Programme and he has been certified as a Training Professional by the Institute of Professional Managers and Administrators in the United Kingdom.

YBrs. Tuan Ahmad Zairin graduated from the University of Liverpool, United Kingdom, with a Bachelor of Engineering Degree (Electronics) in 1984 and a Master's Degree in Business Administration (MBA) from Universiti Putra Malaysia in 1995.





*YBhg. Dato' Haji Mad Zaidi Mohd Karli was appointed as an Authority Member on 1st February 2024.*



**He is currently the Secretary-General of the Ministry of Energy Transition and Water Transformation (PETRA).**

With 29 years of dedicated service in the Public Service, he actively contributes to both the public and private sectors at both international and domestic levels. He continues to make a valuable impact on the community through various assignments and roles.

He embarked on his career with the Malaysian Government in 1995, bringing him extensive experience in economics, trade, investment, science and technology, environment, energy, public utilities and strategic planning throughout his career.

From 2009 to 2011, he broadened his horizons by joining Government-Linked Companies, offering strategic business development, advisory services, and technical expertise. This valuable experience enriched his professional background in the public and private sectors, enhancing his knowledge and skills.

Furthermore, he has assumed pivotal positions in global committees and organisations, advocating for Malaysia's interests in the respective domain while actively engaging in social and community endeavours.

YBhg. Dato' Haji Mad Zaidi obtained a Master's Degree in Technology Management (Environment) from Imperial College, University of London, United Kingdom. He also holds a Bachelor's Degree in Environmental Science (Hons) from the University Putra Malaysia (UPM).

*Member of Authority*

**YBHG. DATO'  
HAJI MAD  
ZAIDI MOHD  
KARLI**



*Member of Authority*

**YBRS. TUAN  
MOHD  
SAIFUL  
SUNGKIH  
ABDULLAH**

*YBrs. Tuan Mohd Saiful Sungkih Abdullah was appointed as an Authority Member on 1st August 2022.*



**Currently, he serves as the Deputy Undersecretary under Strategic Investment Division for the Ministry Finance (MOF).**

He obtained his Bachelor of Economics from University of Malaya in the year of 1995. He then entered the Administrative and Diplomatic Service in 1997.

YBrs. Tuan Mohd Saiful has been conferred with various awards namely; Anugerah Pingat Kebesaran Negeri Sarawak, Anugerah Perkhidmatan Cemerlang (APC) during his services in the Malaysian Treasury Department, Sabah State Health Department and the Prime Minister's Office.

*YBrs. Dr. Nurmazilah Dato' Mahzan was appointed as an Authority Member on the 15th of June, 2023.*



he holds a Bachelor's Degree in Accountancy from the International Islamic University of Malaysia and a PhD in

Accounting from the University of Birmingham, United Kingdom. YBrs. Dr. Nurmazilah is a member of MIA, MICPA, an ASEAN CPA, and a CGMA fellow. She is a Certified ESG Analyst, a Certified Public Accountant, and a Certified Internal Auditor with a Certified Risk Management and Assurance qualification.

Having more than 30 years of experience in multiple organisations, YBrs. Dr. Nurmazilah Dato' Mahzan was formerly the Chief Executive Officer of the Malaysian Institute of Accountants (MIA). In MIA, she led and implemented the management system transformation, technology adoption, governance enhancement, and branding.

YBrs. Dr. Nurmazilah played active roles at the International Federation of Accountants, the International Integrated Reporting Framework Board, and the ASEAN Federation of Accountants. In addition, she led the implementation of a few projects, including Digital Technology Blueprint, Integrated Reporting, Future Relevance of Accounting Profession (FRAP), and

Environmental, Social, and Governance (ESG) awareness programmes. She oversees auditing and accounting regulatory functions, including financial statement review, audit quality, and professional ethics. She also participated in ESG topics discussion at the global and local levels, which exposed her to various ESG policies.

Before leading the MIA, she had the experience as the Director of the University Malaya Graduate School of Business, Corporate Accounts Manager at KUB Malaysia Berhad and Experience Senior at Arthur Andersen & Co. Her corporate experience covers various industries, including property development and construction, banking, unit trusts, trading, and manufacturing. YBrs. Dr. Nurmazilah was an MIA Council member, a member of the Malaysian Accounting Standards Board, a member of the Board of Governors for the Institute of Internal Auditors, a Council member of the Malaysian Institute of Certified Public Accountants, and an Honorary Treasurer with Persatuan Ekonomi Malaysia. She also served on various committees of MIA and MICPA.

Currently, YBrs. Dr. Nurmazilah is an Independent Non-Executive Member of the Board of CIMB Bank Berhad, TH Plantations Berhad and Member of IFRS Integrated Reporting and Connectivity Council (previously IR Framework Board). She also trains directors and senior management on governance, corporate reporting and sustainability.



*Member of Authority*

**YBRS. DR.  
NURMAZILAH  
DATO'  
MAHZAN**

*YBrs. Puan Haslina Abdul Samad was appointed as an Authority Member on the 15th of May 2023.*



*Member of Authority*

**YBRS. PUAN  
HASLINA  
ABDUL  
SAMAD**



he obtained her Bachelor's Degree in Mechanical Engineering from the University of Missouri, Columbia MO, USA (1987). YBrs. Puan Haslina brings over 25 years of experience solely dedicated to the energy industry consisting of renewable energy, energy efficiency and power industry areas.

YBrs. Puan Haslina began her career at Tenaga Nasional Berhad (TNB), where she worked in a few divisions within TNB group, namely TNB Generation (headquarters as well Paka Power Station) and TNB Energy Services Sdn Bhd. Her duties included operation and power plants maintenance. She also served as business development manager involving bidding and negotiations for local and international projects. Her last position was in TNBES as Senior Manager (Renewable Energy), overseeing the development and implementation of TNBES renewable energy and energy efficiency initiatives.

She also served as Technical Advisor to the Malaysian Green Tech Corporation (MGTC) under the United Nations Development Programme (UNDP) for biomass sector.

Possessing vast expertise in energy, YBrs. Puan Haslina has also presented various papers on "Implementation of Landfill Waste to Energy Projects" and "Methane Recovery from Landfills" at local and international renewable energy seminars. Moreover, she has actively participated in international training programmes for renewable energy systems, industrial energy efficiency, landfill gas power plants, and business marketing in the power industry.



***YB Lee Chean Chung was appointed as an Authority Member on 1st August 2023.***



**He is a Malaysian politician, researcher and environmental activist who has served as the Member of Parliament**

**(MP) for Petaling Jaya since November 2022.**

YB Lee completed his undergraduate studies at the Multimedia University (MMU), where YB Lee pursued Engineering, majoring in Computer. YB Lee has two Masters degree from Malaysia University of Science and Technology (MUST) majoring in M.Sc Transportation and Logistics in 2006 and Master's in Public Administration from Lee Kuan Yew School of Public Policy, National University of Singapore (NUS) in 2019. In 2020, he received Dongfang Scholarship Programme from Peking University, China whereby he completed a 3-month executive programme named "Workshop on Governance" with 25 outstanding emerging leaders from all over the world.

Prior to entering active politics, YB Lee gained experience working in global market research and consulting firm. Subsequently, he joined the Political Studies for Change Unit (KPRU) as a Research Officer from 2008 to 2011. In his role, he provided strategic research support and organised consultative meetings of bills for approximately 30 MPs.

YB Lee has extensive research experience in various fields. His master's thesis, titled "GPS Taxi Dispatch System Based on A Shortest Path Algorithm," has been referenced in multiple journal articles. In 2019, he collaborated on a paper titled "Institutions for Sustainability: Informal Settlers" for the GSP Conference 2019: Urban Possibilities: Reimagining Philippines. Additionally, he has co-authored books such as "Jiwa Merdeka" and "Green Political Reform" (绿色政改) and has contributed to esteemed publications, including The Edge, Malaysiakini, and Oriental Daily.

Being active in international engagement and training, YB Lee was awarded the Most Outstanding Alumnus of the Konrad Adenauer Stiftung Young Politicians (KASYP) programme in 2019. He is also a fellow of the International Adenauer Network, a Professional Fellow of Youth for Southeast Asia Leadership Initiatives (YSEALI) and American Council of Young Political Leaders (ACYPL), and a graduate of the Political Advisor Course, Graduate School of Government (The University of Sydney). YB Lee was also invited to speak at the Youth Leadership Academy of the Generation Democracy (2017) and Copenhagen Democracy Summit (2020), as well as an invitation by the Danish Institute for Parties and Democracy (DIPD) (2020).



*Member of Authority*

**YB  
LEE CHEAN  
CHUNG**



*Member of Authority*

**YBRS. IR.  
ABDUL  
RAHIM  
IBRAHIM**

*YBrs. Ir. Abdul Rahim Ibrahim  
was appointed as an Authority  
on December 1, 2023.*

**H**e served as the **Chief Operating Officer of the Energy Commission, providing strategic leadership in operationalising the commission's objectives. His responsibilities included managing overall operations to maximise industry performance and achieve customer service excellence.**

He began his career as a Technical Assistant in the Electrical Division of the Public Works Department (JKR Elektrik) in Penang upon graduating with a Diploma of Electrical (Power) from UTM in 1983. His duties included designing of electrical systems for government buildings, supervising projects, and conducting maintenance works. In 1991, upon the privatisation of Lembaga Letrik Negara (LLN) (now Tenaga Nasional Berhad -TNB), YBrs. Ir. Abdul Rahim was assigned to a new established regulatory department, the Department of Electricity and Gas Supply (JBE&G) at Northern Region in Butterworth. His responsibilities included investigating of electrical accidents, registering electrical installations, conducting competency examinations, and addressing disputes related to electricity supply to consumers.

In 1998, he was appointed as Assistant Director of JBE&G in Kota Kinabalu, Sabah, and later, in 2004 became the Regional Director of the Energy Commission in Kuantan, Pahang. In 2010, he assumed the position of Director of the Electrical Safety Regulation Department, overseeing electrical safety regulations. Then, as the Director of Industry Development, he played a vital role in developing The National Energy Efficiency Action Plan (NEEAP) and the renewable energy programmes such as Net Energy Metering (NEM), Self-consumption (SELCO), Large Scale Solar Power Plant (LSS), and Corporate Green Power Plant (CGPP) to meet the targeted 31% installed capacity by 2025.

YBrs. Ir. Abdul Rahim holds a Bachelor's Degree in Electrical Engineering from University Technology Mara, a Master's Degree in Management from Open University of Malaysia, and is a Registered Professional Engineer with the Board of Engineers, Malaysia. He is a member of the Institute of Engineers Malaysia and a recognised Competent Electrical Engineer by the Energy Commission. Additionally, he was awarded the National Standards Awards (Individual) in 2020 and received the ASEAN Excellence in Energy Management Award (Individual) in 2019.

*YB Tuan Ganabatirau Veraman was appointed as an Authority Member on November 15, 2023.*



**He has also been elected as the Member of Parliament representing the Klang constituency since November 2022.**

His areas of focus include political transformation, economic development, and the welfare of Malaysians. During his tenure as a Member of the Selangor State Council (EXCO) from June 2013 to August 2023, he played a significant role in establishing important initiatives such as MySEL, I-SEED, and the Selangor Employee Empowerment Unit (UPPS) to aid target groups in obtaining valid identification documents, promote the economic status of the Indian community, and provide assistance to workers and the unemployed, respectively.

YB Tuan Ganabatirau graduated with an LLB Hons degree in Law from the University of London, United Kingdom in 2001 and obtained his Certificate in Legal Practice (CLP) in 2003. Presently, he holds a Non-Executive Director position at Permodalan Negeri Selangor Berhad since 2021 and served as a Non-Executive Director at Kumpulan Semesta Sdn.Bhd (KSSB – Selangor GLC) from 2010 to 2014.



*Member of Authority*

**YB TUAN  
GANABATIRAU  
VERAMAN**



*YBhg. Dato' Ir. Ts. Dr. Mohd Azhar Abd Hamid was appointed as an Authority Member on November 15, 2023.*



Currently, he serves as the Director General of the Department of National Solid Waste Management under the Ministry of Local Government Development (KPKT).



*Member of Authority*

**YBHG. DATO'  
IR. TS. DR.  
MOHD  
AZHAR ABD  
HAMID**

He possesses extensive experience in both the government and private sectors. Throughout his career, he has been exposed to government procedures, private collaborations, outcomes-based evaluation, strategic planning, research field, technology implementation, product innovation, technical analysis, and administrative management, all with the aim of enhancing good governance.

Previously, from 2016 to 2023, his last position at the Solid Waste and Public Cleansing Corporation (SWCorp) was the Director of the Technology and Research Division. In this capacity, he oversaw the development of solid waste management facilities in Malaysia to meet the requirements of the National Solid Waste Management Guidelines.

From year 2008 to 2014, he served as the State Director of Negeri Sembilan, managing and executing overall administrative operations for the state and its seven branch offices. Before that, he worked as a Council Engineer at the Seremban City Council from 2005 to 2008 and as a Project Engineer at Puncon Construction Sdn. Bhd from 2002 to 2005.

YBhg. Dato' Ir. Ts. Dr. Mohd Azhar holds a Diploma in Civil Engineering and a Bachelor's Degree (Hons) in Civil Engineering from Mara University of Technology (UiTM), an M.Sc. in Engineering Management from University of Technology Mara (UiTM), and a Ph.D. in Solid Waste Management from Universiti Sains Malaysia (USM).



## OUR CORE PILLARS

# Authority Meetings

The Authority has responsibility to hold as many meetings as possible and shall not allow more than two months to lapse between meetings in line with Act 726. A total of 7 Authority Meetings was held in 2023 and the details are as in **Exhibit 31** below:

Training Session	Date
Authority Meeting 1/2023	27 January 2023
Authority Meeting 2/2023	18 July 2023
Authority Meeting 3/2023	30 August 2023
Authority Meeting 4/2023	26 September 2023
Authority Meeting 5/2023	17 October 2023
Authority Meeting 6/2023	27 October 2023
Authority Meeting 7/2023	19 December 2023

## Exhibit 31

List of Authority Meetings in 2023

## Exhibit 32

Authority Meeting Attendance in 2023

No.	Name	Designation	Attendance
1	YBrs. Tuan Ahmad Zairin bin Ismail	Chairman	(6/6)
2	YBhg. Dato' Dr. Zulkapli bin Mohamed*	Member	(1/2)
3	YBhg. Dato' Haji Rosli bin Isa*	Member	(5/6)
4	YBrs. Dr. Ching Thoo a/l Kim*	Member	(1/1)
5	YBrs. Tuan Mohd Saiful Sungkih bin Abdullah	Member	(7/7)
6	YBrs. Ts. Dr. Sang Yew Ngin*	Member	(6/7)
7	YBhg. Dato' Ir. Ts. Dr. Mohd Azhar Abd Hamid	Member	(1/1)
8	YB Lee Chean Chung	Member	(3/5)
9	YB Ganabatirau a/l Veraman	Member	(0/1)
10	YBrs. Ir. Abdul Rahim bin Ibrahim	Member	(1/1)
11	YBrs. Dr. Nurmazilah binti Dato' Mahzan	Member	(6/6)
12	YBrs. Puan Haslina binti Abdul Samad	Member	(5/6)



No.	Name	Designation	Attendance
13	YB Datuk Seri Haji Mohd Salim Shariff @ Mohd Sharif*	Member	(0/1)
14	YBrs. Dr. Wirdati binti Mohd Radzi*	Member	(1/1)
15	YBrs. Dr. Nik Azmi bin Nik Omar*	Member	(1/1)
16	YBrs. En. Habizan Habeeb bin Rahman*	Member	(1/1)
17	YBhg. Datuk Ir. Ahmad Fauzi bin Hasan*	Member	(3/4)
18	YBhg. Dato' Hamzah bin Hussin	Member	(4/7)

### Authority Committees

The Authority has established 7 committees according to Section 13, Act 726 to assist the Authority performance

of its functions. The Authority committees namely as below:

- Technical Committee
- Market Operations Committee
- Financial Committee

- Investment Committee
- Procurement Board
- Human Resource Committee
- Audit Committee

No.	Name	Attendance
1	YBhg. Datuk Ir. Ahmad Fauzi bin Hasan*	(1/1)
2	YBhg. Dato' Hamzah bin Hussin	(0/1)

#### Exhibit 33 | Technical Committee Attendance

No.	Name	Attendance
1	YBrs. Puan Haslina binti Abdul Samad	(2/2)
2	YBhg. Dato' Hamzah bin Hussin	(2/2)

#### Exhibit 34 | Market Operations Committee Attendance

No.	Name	Attendance
1	YBhg. Datuk Ir. Ahmad Fauzi bin Hassan*	(1/1)
2	YBrs. Ts. Dr. Sang Yew Ngin*	(3/3)
3	YBhg. Dato' Hamzah bin Hussin	(1/3)
4	YBrs. Dr. Nurmazilah binti Dato' Mahzan	(2/2)

#### Exhibit 35 | Financial Committee Attendance

No.	Name	Attendance
1	YBhg. Dato' Hamzah bin Hussin	(3/3)
2	YBrs. Pn Haslina binti Abdul Samad	(3/3)

#### Exhibit 36 | Investment Committee Attendance

No.	Name	Attendance
1	YBrs. Tuan Mohd Saiful Sungkih bin Abdullah	(4/4)
2	YBrs. Ts. Dr. Sang Yew Ngin*	(3/4)
3	YBhg. Dato' Hamzah bin Hussin	(1/2)

#### Exhibit 37 | Procurement Board Attendance

No.	Name	Attendance
1	YBrs. Dr. Nurmazilah binti Dato' Mahzan	(2/2)
2	YBrs. Tuan Mohd Saiful Sungkih bin Abdullah	(1/1)
3	YBrs. Dr. Wirdati binti Mohd Radzi*	(1/1)
4	YBhg. Datuk Ir. Ahmad Fauzi bin Hasan*	(2/2)
5	YBhg. Dato' Hamzah bin Hussin	(3/3)

#### Exhibit 38 | Human Resource Committee Attendance

No.	Name	Attendance
1	YBrs. Pn Haslina binti Abdul Samad	(3/3)
2	YBrs. Datuk Ir Ahmad Fauzi Hassan*	(1/1)
3	YBhg. Lee Chean Chung	(1/2)

#### Exhibit 39 | Audit Committee Attendance

\*Note: Last term of service in 2023

# Management Team



## YBHG. DATO' HAMZAH HUSSIN

*Chief Executive Officer*

***YBhg. Dato' Hamzah bin Hussin  
has been appointed as the Chief  
Executive Officer SEDA Malaysia on  
22nd February 2021.***



**Bhg. Dato' Hamzah  
obtained his Bachelor of  
Economics (Analytical  
Economics) from  
University of Malaya in  
the year of 1999.**

He began his career in Administrative and Diplomatic Services in year 2003 as an Assistant Secretary of Finance Division in the Finance Division, Ministry of Education and has served in various ministries and district administrations.

YBhg. Dato' Hamzah also has a vast experience as Senior Private Secretary to Ministers and Deputy Ministers in the various ministries, namely the Ministry of Home Affairs, Ministry of Defence, Prime Minister's Department, Ministry of Information and also the Ministry of Energy and Natural Resources (KeTSA). Apart from that, YBhg. Dato' Hamzah also has notable experience in the field of land administration and management as well as managing development projects. In 2014, he was appointed as the District Officer of Kerian, Perak for a period of 2 years. YBhg. Dato' Hamzah also has made history when he was appointed as the first District Officer for the newly established district of Bagan Datuk, Perak in May 2016.

His in-depth portfolio and vast experiences in the field of management, administration, strategic planning and government policies are valuable attributes which are of great relevance to Malaysia's sustainable energy agenda.



## MR. KOH KENG SEN

Chief Operating Officer

**Mr. Koh Keng Sen was appointed Chief Operating Officer of SEDA Malaysia on March 4, 2024.**



**He holds a Bachelor's Degree in Engineering (Electrical/Electronic) from Universiti Tenaga Nasional (UNITEN), specialising in Electrical Power.**

He started his career with Tenaga Nasional Berhad, Malaysia's largest publicly traded power company, as an Operations & Maintenance Engineer and then as a Project and Planning Engineer. Mr. Koh then joined Powertek Berhad, an Independent Power Producer (IPP), as an Assistant Manager for Technical & Construction.

Mr. Koh gained much of his experience in the Renewable Energy field from his prior attachment to SEDA Malaysia as the Deputy Director (Feed-in Tariff) Division and then the Director of Market Operations from 2012 to 2021. His responsibilities include managing the Feed-in Tariff mechanism and the Renewable Energy fund, implementing the Net Energy Metering scheme and conducting regular reviews and policy recommendations on existing RE regulations and guidelines.

Mr. Koh also had a brief stint in the Banking sector, serving as the Industry Specialist in Renewable Energy at Hong Leong Bank Berhad from early 2021 to Feb 2024.

With close to two decades of experience in the power sector, Mr. Koh brings a wealth of experience and knowledge to the Authority.

## TS. MOHAMMAD NAZRI MIZAYAUDDIN

Chief Strategic Officer



**Ts. Mohammad Nazri bin Mizayauddin has over 21 years of experience in the corporate sector and government linked companies (GLCs).**



**His vast experience spanned multiple industries such as Research and development (R&D), Central Banking & Financial Services and also in the Oil & Gas sector.**

Prior to his appointment, he was the Vice President of Bank Rakyat and Kumpulan Wang Persaraan Diperbadankan (KWAP). He also held the position of the Head of Sustainable Development Reporting & Communications and Investment Committee Member at PETRONAS. Ts. Mohammad Nazri has also served at

PETRONAS Leadership Centre (PLC) as a Finance & Treasury internal trainer. Prior to that, he served in Labuan Reinsurance Ltd, Bank Negara Malaysia and Maybank. He spent his early career at SONY as R&D Engineer covering strategy and business development.

He obtained his Bachelor of Science in Electrical Engineering from University of Hartford, United States. He also holds an MBA from Management & Science University (MSU) and is an associate member of Asian Institute of Chartered Bankers (AICB) through Financial Market Association of Malaysia. In addition, he is also a member of Institute of Corporate Directors Malaysia (ICDM) and a Certified Professional Technologist (Ts.) registered under Malaysian Board of Technologist (MBOT).



# Management

EN. ROSLAN  
ALI @  
HASSAN

*Senior Director of Strategic  
Communications Division*



TS. STEVE  
ANTHONY  
LOJUNTIN

*Director of Technical  
Development & Facilitation  
Division*



TS. EDISHAM  
MOHD SUKOR

*Director of Market  
Operations Division*



EN. SAIFUL  
HAKIM ABDUL  
RAHMAN

*Director of Strategic  
Planning Division*



# Team



**PN. ZAFINA  
AHMAD**

*Director of Finance Division*

**EN. MOHD  
HAFIZ JOHARI**

*Director of Human  
Resource & Admin*



**PN. MAZLIANA  
MAZLAN**

*Legal Advisor*



**PN.  
NOR RADHIHA  
MOHD ALI**

*Head of Procurement Unit*



**PN. AFROZA  
BANU ABD  
HALIM**

*Head of Special Unit*



# Our People

*Our commitment to fostering an inclusive and equitable workplace is foundational to our organisational ethos.*

We firmly believe that gender diversity is not merely a goal but a core value that enriches our workplace and drives innovation. By prioritising gender diversity, we ensure that all voices are heard and valued, creating a dynamic environment where diverse

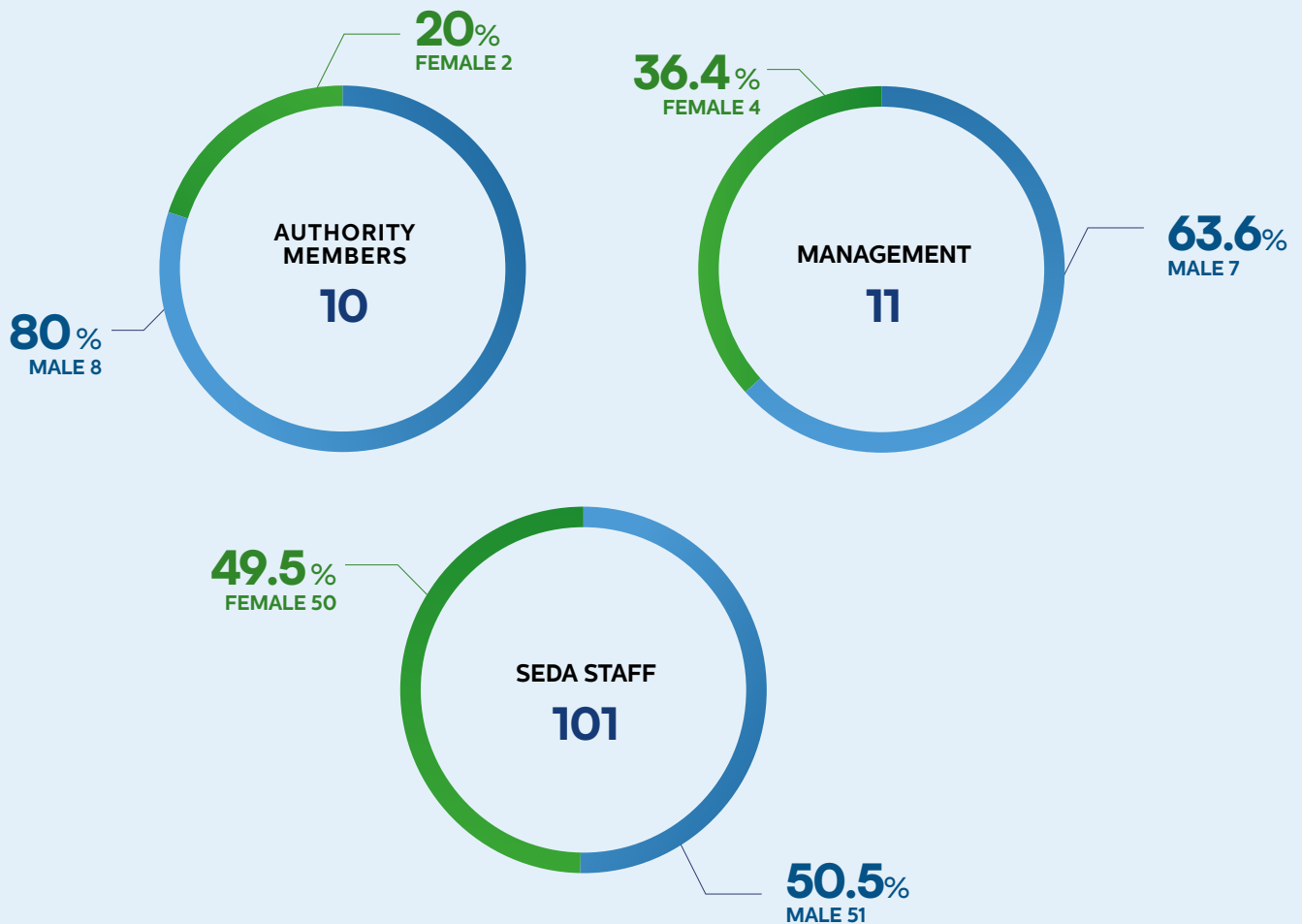
perspectives contribute to our collective success. Our dedication to this principle is reflected in our recruitment practices, professional development programmes, and organisational policies, all designed to support and uplift every member of our team.

## Gender Diversity

**Exhibit 40** below details the gender diversity breakdown of the Authority members, management and staff.

### Exhibit 40

Gender breakdown of Authority members, management and staff





## Talent Management

Staff empowerment and management is integral to our mission, and we recognise that it begins with providing opportunities for all employees to thrive. We are committed to creating a supportive and engaging workplace where everyone has the tools and resources to excel in their roles. This includes offering mentorship programmes, continuous learning opportunities, and clear pathways for career advancement. By investing in our employees' growth and acknowledging their contributions, we foster a culture of mutual respect and enthusiasm that drives our organisation forward.

Engagement is at the heart of our approach to workplace culture. The Authority actively seeks to involve our staff in the decision-making processes, encouraging open communication and collaborative problem-solving. Our focus on gender diversity and empowerment is intertwined with our efforts to maintain high levels of engagement, ensuring that all team members feel connected to our mission and motivated to contribute their best. By creating an environment where engagement and inclusivity go hand in hand, we not only enhance job satisfaction but also strengthen our organisational resilience and success.

## Knowledge Sharing Session

A total of four (4) knowledge sharing sessions were conducted in 2023. **Exhibit 41** details the sessions carried out.

### Exhibit 41

Knowledge Sessions  
conducted in 2023



Session	Title	Date
1/2023	<b>Voluntary Carbon Market (VCM)</b> by Bursa Malaysia	22 Mar 2023
2/2023	<b>Generative AI: Chat GPT? Dalle?</b> by Universiti Teknologi Malaysia	7 June 2023
3/2023	<b>Anaerobic Co-Digestion Technology for Enhancing Biogas Production from Palm Oil Mill Waste and Residues for Power Generation</b> by Uniten R&D, Universiti Tenaga Nasional	26 June 2023
4/2023	<b>Mental Wellbeing: Stress Management and Productivity Improvement</b> by Asadel Sdn Bhd	25 September 2023

## SEDA Staff Gathering

In 2023, the Authority had organised three (3) meeting sessions. **Exhibit 42** below details the staff gathering sessions carried out.

Session	Date
1/2023	22 February 2023
2/2023	9 June 2023
3/2023	9 November 2023

### Exhibit 42

Staff Gathering  
sessions of 2023

## The Authority Staff training

In total, 73 employees out of 85 employees have successfully attended three (3) days of internal and external training as individual Key Performance Indicators (KPI) such as courses, workshops, conferences and seminars. **Exhibit 43** details the types of training attended by the Authority staff.

Type of Training	Percentage
Courses	53.25%
Workshops	30.12%
Conferences	13.77%
Seminars	2.86%

### Exhibit 43

Types of training  
attended by  
Authority staff in  
2023

## Staff's Training and Engagement Activity

Employee engagement plays a crucial role in fostering a sense of belonging and commitment within a workforce. To strengthen this connection, we have organised a range of internal activities designed to enhance interaction between the management team and employees. These activities include

knowledge-sharing sessions and staff gatherings, which serve as valuable platforms for keeping everyone informed and engaged.

Through these initiatives, employees can stay up-to-date with the latest management directives, business updates, and other important information. By facilitating open communication and regular interaction, we aim to build a more cohesive and informed team.

**Exhibit 44** below details the programmes and activities carried out in 2023 involving the Authority staff members.

### Exhibit 44

Staff Programmes and Activity Summary for 2023

No.	Programmes/ Activities Implemented	Programmes/ Activities Implemented	Programmes/ Activities Implementation Progress	Programmes/Activity Target Group Outcome & Impact
1	Integrity Strengthening Briefing Series 1/2023 Titled ' <i>Ramadhan Dinanti, Forming Integrity</i> '.	<ul style="list-style-type: none"> <li>i. Utilising the blessings of the month of Ramadan to increase the value of integrity in oneself when the devil is shackled.</li> <li>ii. Appreciate the context of fasting worship which should be appreciated from the point of view of benevolence, righteousness and doing all external actions with the nature of kindness that we can feel that ALLAH always sees human actions.</li> </ul>	Implemented on 1 March 2023	The target group is from among all employees of the Authority as a benchmark for the integrity commitment of an organisation in fighting corruption based on excellent governance and the culture of integrity among employees of the Authority.
2	Briefing with the Malaysian Anti-Corruption Commission (MACC) on the Development of the SEDA Malaysia OACP	To gain enlightenment and explanation on the SEDA Malaysia OACP Development process.	Implemented 6 June 2023	Not Applicable
3	The Authority Organisational Anti-Corruption Plan (OACP) Development Briefing	Provides information and enlightenment on the the Authority OACP Development process, Appointment of OACP Development Committee Members who will be involved until the OACP is developed.	Implemented on 5 July 2023	The target group is from the Authority Management.
4	Briefing on Strengthening Integrity Series 2/2023 Entitled Living with Dignity Without Corruption"	Cultivating the values of integrity in every employee and organisation to preserve dignity and self-esteem in addition to increasing organisational productivity and raising the dignity of the country.	Implemented on 3 August 2023	Target group is from among all the employees of the Authority.
5	The Authority Organisational Anti-Corruption Plan (OACP) Development Workshop 2024-2028	<ul style="list-style-type: none"> <li>i. Understand the basic concepts of law and Public Policy regarding the prevention of corruption.</li> <li>ii. Demonstrate understanding in analysing organisational information related to Corruption, Governance and Integrity (RGI).</li> <li>iii. Develop a comprehensive anti-corruption initiative.</li> </ul>	Held on 22-25 August 2023	The target group is representatives from each Division/unit.

No.	Programmes/ Activities Implemented	Programmes/ Activities Implemented	Programmes/ Activities Implementation Progress	Programmes/Activity Target Group Outcome & Impact
6	OACP Refinement Session with MACC	OACP Data Refinement with OACP (refining session) following the OACP workshop.	Implemented on 20 Sept 2023	MACC and representatives from each Division/unit
7	The Authority Management's Presentation and Approval for the Authority's Organisational Anti-Corruption Plan (OACP) (2024-2028)	To obtain feedback and certification at the Authority's Management level before presenting it to the PBPTL Member Meeting for approval.	Implemented on 6 Oct 2023	The Authority Management Together with the Authority OACP Committee 2024-2028 and Integrity Unit as secretariat.
8	The Authority's KPE Presentation And Approval For The Authority's Organisational Anti-Corruption Plan (OACP) (2024-2028)	To obtain the approval and certificate of the Authority's KPE before presenting it to the PBPTL Member Meeting for approval.	Implemented on 23 Nov 2023	YBhg. CEO the Authority and the Integrity Unit as the OACP secretariat.
9	Approval of the SEDA Malaysia Organisation Anti-Corruption Plan 2024-2028 (SEDA OACP) in APBPTL Meeting No 7/2023	To obtain approval and certification at the Board level.	Implemented on 19 Dec 2023	Members of APBPTL



# Financial Performance

## Financial Status

The Authority recorded a surplus after tax amounting to RM9.3 million in 2023 which is an increase of 48.6% compared to RM6.3 million in 2022. This is in line with the increase in proceeds from Exchange Transactions to RM29.7 million which is an increase of 7.1% compared to RM27.7 million in 2022. Subsequently, the Authority's financial position strengthened with higher accumulated surplus recorded of RM72.6 million as of 31 December 2023.

## Expenses

A total of RM22.7 million or 89.3% of the 2023 budget has been spent in the financial year 2023. This amount includes the cost incurred for the emoluments and staff benefits as well as the payment of allowances to Authority Members. The Authority has also spent RM0.32 million on training and development to ensure that employees' skills and competencies are continuously improved, especially in technical and sustainable energy technologies.

Meanwhile, the Authority is also conducting the following studies:

**a) Hydrological Study On Hydro Potential In Peninsular Malaysia** - aims to increase the capacity of generating renewable energy from hydro sources by identifying a list of potential sites and rivers for the development of run-of-the-river Small Hydro Power plants (SHP) in Peninsular Malaysia. This study is an extension of the action plan that has been outlined under Malaysia's Renewable Energy Roadmap (MyRER).

**b) Displaced Cost (DC) Revision** - aims to identify the actual cost of fuel and the operating cost of the Distribution Licensee and subsequently update the Base Tariff under the Incentive-based Regulation (IBR) framework. The main objective of the revision of the DC rate is to ensure that the current DC rate for Peninsular Malaysia and Sabah is in line with the definition stated under the Renewable Energy Act (TBB) 2011 [Act 725].

**c) Feed-in Tariff Review** - aims to review the tariff rates under the FiT mechanism for all renewable energy sources as per the Schedule in Act 725, identify and improve the FiT mechanism by promoting the use of higher Renewable Energy (Renewable Energy) projects in line with national aspirations, while ensuring the business sustainability of the RE projects. The identification of an accurate DC rate at the current FiT rate will improve the management of the Renewable Energy Fund (RE Fund) and allow more quotas to be offered in the market. In addition, this review can determine whether certain RE installations under the FiT mechanism have achieved grid parity in Peninsular Malaysia.

The Authority has given a commitment to the Federal Government by making a contribution payment to the Federal Consolidated Fund (KWDP) amounting to RM0.67 million for the year 2023. The Authority has also made contribution payment based on the annual surplus from 2011 until 2022 in accordance with paragraph 29(3) of the Act Sustainable Energy Development Authority 2011 [Act 726].

In addition, the Authority has also conducted a number of Corporate Social Responsibility (CSR) activities such as the programmes with the orphanage, breaking fast with the community, donations to charity associations and donations for the Special School Innovation Programme in Putrajaya with total contributions of RM0.21 million in 2023.

## Development Grant

Throughout the year 2023, the Authority has received Development Grants allocation amounting to RM81.7 million comprising of grants for the Installation of Solar System in Government Buildings of RM57.6 million, RMK-12 Conditional Energy Audit Grants of RM14 million, International Sustainable Energy Summit Implementation Grants (ISES) 2022 of RM2.46 million and the SAVE 4.0 Programme Grant: Energy Efficient Domestic Electrical Equipment Rebate of RM7.61 million. Meanwhile, a total of RM14.3 million has been spent in 2023.

## Studies Conducted in

# 2023

-  Hydrological Study On Hydro Potential In Peninsular Malaysia
-  Displaced Cost (DC) Revision
-  Feed-in Tariff Review

# Financial Statement



**SIJIL KETUA AUDIT NEGARA  
MENGENAI PENYATA KEWANGAN  
PIHAK BERKUASA PEMBANGUNAN TENAGA LESTARI MALAYSIA  
BAGI TAHUN BERAKHIR 31 DISEMBER 2023**

**Sijil Mengenai Pengauditan Penyata Kewangan**

**Pendapat**

Saya telah memberikan kuasa kepada firma audit swasta di bawah subseksyen 7(3) Akta Audit 1957 [Akta 62] untuk mengaudit Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia. Penyata kewangan tersebut merangkumi Penyata Kedudukan Kewangan pada 31 Disember 2023 Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia dan Penyata Prestasi Kewangan, Penyata Perubahan Aset Bersih, Penyata Aliran Tunai serta Penyata Prestasi Bajet bagi tahun berakhir pada tarikh tersebut dan nota kepada penyata kewangan termasuklah ringkasan polisi perakaunan yang signifikan seperti yang dinyatakan pada muka surat 1 hingga 33.

Pada pendapat saya, penyata kewangan ini memberikan gambaran yang benar dan saksama mengenai kedudukan kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia pada 31 Disember 2023 dan prestasi kewangan serta aliran tunai bagi tahun berakhir pada tarikh tersebut selaras dengan Piawaian Perakaunan Sektor Awam Malaysia (MPSAS) dan keperluan Akta Pihak Berkuasa Pembangunan Tenaga Lestari 2011 [Akta 726].

**Asas Kepada Pendapat**

Pengauditan telah dilaksanakan berdasarkan Akta Audit 1957 dan International Standards of Supreme Audit Institutions. Tanggungjawab saya diuraikan selanjutnya di perenggan Tanggungjawab Juruaudit Terhadap Pengauditan Penyata Kewangan dalam sijil ini. Saya percaya bahawa bukti audit yang diperoleh adalah mencukupi dan bersesuaian untuk dijadikan asas kepada pendapat saya.



### *Kebebasan dan Tanggungjawab Etika Lain*

Saya adalah bebas daripada Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia dan telah memenuhi tanggungjawab etika lain berdasarkan International Standards of Supreme Audit Institutions.

### **Maklumat Lain Selain Daripada Penyata Kewangan dan Sijil Juruaudit Mengenainya**

Anggota Pihak Berkuasa, Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia, bertanggungjawab terhadap maklumat lain dalam Laporan Tahunan. Pendapat saya terhadap Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia tidak meliputi maklumat lain selain daripada penyata kewangan dan Sijil Juruaudit mengenainya dan saya tidak menyatakan sebarang bentuk kesimpulan jaminan mengenainya.

### **Tanggungjawab Anggota Pihak Berkuasa Terhadap Penyata Kewangan**

Anggota Pihak Berkuasa bertanggungjawab terhadap penyediaan Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia yang memberi gambaran benar dan saksama selaras dengan Piawaian Perakaunan Sektor Awam Malaysia (MPSAS) dan keperluan Akta Pihak Berkuasa Pembangunan Tenaga Lestari 2011 [Akta 726]. Anggota Pihak Berkuasa juga bertanggungjawab terhadap penetapan kawalan dalaman yang perlu bagi membolehkan penyediaan Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia yang bebas daripada salah nyata yang ketara, sama ada disebabkan fraud atau kesilapan.

Semasa penyediaan Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia, Anggota Pihak Berkuasa bertanggungjawab untuk menilai keupayaan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia untuk beroperasi sebagai satu usaha berterusan, mendedahkannya jika berkaitan serta menggunakannya sebagai asas perakaunan.

### **Tanggungjawab Juruaudit Terhadap Pengauditan Penyata Kewangan**

Objektif saya adalah untuk memperoleh keyakinan yang munasabah sama ada Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia secara keseluruhannya adalah bebas daripada salah nyata yang ketara, sama ada disebabkan fraud atau kesilapan, dan mengeluarkan Sijil Juruaudit yang merangkumi pendapat saya. Jaminan yang munasabah adalah satu tahap jaminan yang tinggi, tetapi bukan satu jaminan bahawa audit yang dijalankan mengikut International Standards of Supreme Audit Institutions akan sentiasa mengesan salah nyata yang ketara apabila ia wujud. Salah nyata boleh wujud daripada fraud atau kesilapan dan dianggap ketara sama ada secara individu atau agregat sekiranya boleh



dijangkakan dengan munasabah untuk mempengaruhi keputusan ekonomi yang dibuat oleh pengguna berdasarkan penyata kewangan ini.

Sebagai sebahagian daripada pengauditan mengikut International Standards of Supreme Audit Institutions, saya menggunakan pertimbangan profesional dan mengekalkan keraguan profesional sepanjang pengauditan. Saya juga:

- a. mengenal pasti dan menilai risiko salah nyata ketara dalam Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia, sama ada disebabkan fraud atau kesilapan, merangka dan melaksanakan prosedur audit yang responsif terhadap risiko berkenaan serta mendapatkan bukti audit yang mencukupi dan bersesuaian untuk memberikan asas kepada pendapat saya. Risiko untuk tidak mengesan salah nyata ketara akibat daripada fraud adalah lebih tinggi daripada kesilapan kerana fraud mungkin melibatkan pakatan, pemalsuan, ketinggalan yang disengajakan, representasi yang salah, atau mengatasi kawalan dalaman;
- b. memahami kawalan dalaman yang relevan untuk merangka prosedur audit yang bersesuaian tetapi bukan untuk menyatakan pendapat mengenai keberkesanan kawalan dalaman Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia;
- c. menilai kesesuaian dasar perakaunan yang diguna pakai, kemunasabahan anggaran perakaunan dan pendedahan yang berkaitan oleh Anggota Pihak Berkuasa;
- d. membuat kesimpulan terhadap kesesuaian penggunaan asas perakaunan untuk usaha berterusan oleh Anggota Pihak Berkuasa dan berdasarkan bukti audit yang diperoleh, sama ada wujudnya ketidakpastian ketara yang berkaitan dengan peristiwa atau keadaan yang mungkin menimbulkan keraguan yang signifikan terhadap keupayaan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia sebagai satu usaha berterusan. Jika saya membuat kesimpulan bahawa ketidakpastian ketara wujud, saya perlu melaporkan dalam Sijil Juruaudit terhadap pendedahan yang berkaitan dalam Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia atau, jika pendedahan tersebut tidak mencukupi, pendapat saya akan diubah. Kesimpulan saya dibuat berdasarkan bukti audit yang diperoleh sehingga tarikh Sijil Juruaudit. Bagaimanapun, peristiwa atau keadaan pada masa hadapan berkemungkinan menyebabkan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia tidak lagi berupaya meneruskan operasi secara usaha berterusan; dan
- e. menilai persembahan secara keseluruhan, struktur dan kandungan Penyata Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia, termasuk pendedahannya, dan sama ada penyata kewangan tersebut telah melaporkan asas-asas urus niaga dan peristiwa-peristiwa yang memberikan gambaran saksama.

Anggota Pihak Berkuasa telah dimaklumkan, antaranya mengenai skop dan tempoh pengauditan yang dirancang serta penemuan audit yang signifikan termasuk kelemahan kawalan dalaman yang dikenal pasti semasa pengauditan.

#### Hal-hal Lain

Sijil ini dibuat untuk Anggota Pihak Berkuasa, Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia berdasarkan keperluan Akta Pihak Berkuasa Pembangunan Tenaga Lestari 2011 [Akta 726] dan bukan untuk tujuan lain. Saya tidak bertanggungjawab terhadap pihak lain bagi kandungan sijil ini.



(DATUK WAN SURAYA BINTI WAN MOHD RADZI)  
KETUA AUDIT NEGARA  
MALAYSIA

PUTRAJAYA

22 JULAI 2024





## PIHAK BERKUASA PEMBANGUNAN TENAGA LESTARI MALAYSIA



### **PENYATA Pengerusi dan Seorang Anggota Pihak Berkuasa Pembangunan Tenaga Lestari (SEDA) Malaysia**

Kami, Ahmad Zairin Bin Ismail dan Ts. Dr. Sang Yew Ngin yang merupakan Pengerusi dan salah seorang Anggota Pihak Berkuasa Pembangunan Tenaga Lestari (SEDA) Malaysia dengan ini menyatakan bahawa, pada pendapat Anggota Pihak Berkuasa, Penyata Kewangan yang mengandungi Penyata Kedudukan Kewangan, Penyata Prestasi Kewangan, Penyata Perubahan Aset Bersih, Penyata Aliran Tunai dan Penyata Prestasi Bajet Pihak Berkuasa Pembangunan Tenaga Lestari (SEDA) Malaysia yang berikut ini berserta dengan nota-nota kepada Penyata Kewangan di dalamnya, adalah disediakan untuk menunjukkan pandangan yang benar dan saksama berkenaan kedudukan Pihak Berkuasa Pembangunan Tenaga Lestari (SEDA) Malaysia pada 31 Disember 2023 dan hasil kendaliannya serta perubahan kedudukan kewangannya bagi tahun berakhir pada tarikh tersebut.

Bagi pihak Anggota Pihak Berkuasa:

.....  
Nama: AHMAD ZAIRIN BIN ISMAIL

Gelaran: Pengerusi

Tarikh: 26 MAR 2024

Tempat: Pihak Berkuasa Pembangunan  
Tenaga Lestari (SEDA) Malaysia  
Presint 4, Putrajaya

Bagi pihak Anggota Pihak Berkuasa:

.....  
Nama: Ts. Dr. SANG YEW NGIN

Gelaran: Anggota Pihak Berkuasa

Tarikh: 26 MAR 2024

Tempat: Pihak Berkuasa Pembangunan  
Tenaga Lestari (SEDA) Malaysia  
Presint 4, Putrajaya

## PIHAK BERKUASA PEMBANGUNAN TENAGA LESTARI MALAYSIA



### PENGAKUAN OLEH PEGAWAI UTAMA YANG BERTANGGUNGJAWAB KE ATAS PENGURUSAN KEWANGAN PIHAK BERKUASA PEMBANGUNAN TENAGA LESTARI (SEDA) MALAYSIA

Saya, Zafina Binti Ahmad, pegawai utama yang bertanggungjawab ke atas pengurusan kewangan dan rekod-rekod perakaunan Pihak Berkuasa Pembangunan Tenaga Lestari (SEDA) Malaysia, dengan ikhlasnya mengakui bahawa Penyata Kedudukan Kewangan, Penyata Prestasi Kewangan, Penyata Perubahan Aset Bersih, Penyata Aliran Tunai dan Penyata Prestasi Bajet dalam kedudukan kewangan yang berikut ini berserta dengan nota-nota kepada Penyata Kewangan di dalamnya mengikut sebaik-baik pengetahuan dan kepercayaan saya, adalah betul dan saya membuat ikrar ini dengan sebenarnya mempercayai bahawa ia adalah benar dan atas kehendak-kehendak Akta Akuan Berkanun 1960.

Sebenarnya dan sesungguhnya )

diakui oleh penama di atas )

di Putrajaya

pada 26 MAR 2024

ZAFINA BINTI AHMAD

750505-08-6560

PENGARAH KEWANGAN

Di hadapan saya



PESURUHJAYA SUMPAH

Blok B-13 (B), 1st Floor,  
Bazaar@8, Jalan Seluang P8/7,  
Presint 8, 62250 Putrajaya.  
+6019-3808703, +603-83280306  
mf8vocate1@gmail.com

# Penyata Kedudukan Kewangan Pada 31 Disember 2023

	NOTA	2023	2022
		RM	RM
<b>ASET</b>			
<b>Aset Semasa</b>			
Tunai Dan Kesetaraan Tunai	3	28,340,967	18,395,217
Pelaburan Jangka Pendek	4	141,600,000	78,000,000
Urus Niaga Pertukaran Belum Terima	5	4,071,477	4,056,687
<b>Jumlah Aset Semasa</b>		<b>174,012,444</b>	<b>100,451,904</b>
<b>Aset Bukan Semasa</b>			
Hartanah, Loji Dan Peralatan	6	969,075	1,122,374
Aset Tak Ketara	7	921,512	731,709
Aset Dalam Pembinaan	8	2,260,000	-
<b>Jumlah Aset Bukan Semasa</b>		<b>4,150,587</b>	<b>1,854,083</b>
<b>Jumlah Aset</b>		<b>178,163,031</b>	<b>102,305,987</b>
<b>LIABILITI</b>			
<b>Liabiliti Semasa</b>			
Urus Niaga Pertukaran Belum Bayar	9	4,299,521	5,355,880
<b>Jumlah Liabiliti Semasa</b>		<b>4,299,521</b>	<b>5,355,880</b>
<b>Liabiliti Bukan Semasa</b>			
Manfaat Jangka Panjang	10	122,731	17,516
Kumpulan Wang Khas	11	101,109,694	33,618,572
<b>Jumlah Liabiliti Bukan Semasa</b>		<b>101,232,425</b>	<b>33,636,088</b>
<b>Jumlah Liabiliti</b>		<b>105,531,946</b>	<b>38,991,968</b>
<b>Aset Bersih</b>		<b>72,631,085</b>	<b>63,314,019</b>
<b>ASET BERSIH</b>			
Lebihan Berkumpul		72,631,085	63,314,019
<b>Jumlah Aset Bersih</b>		<b>72,631,085</b>	<b>63,314,019</b>

Nota-nota yang dikemukakan merupakan sebahagian asasi daripada penyata kewangan ini dan hendaklah dibaca bersama.



# Penyata Prestasi Kewangan Bagi Tahun Berakhir 31 Disember 2023

	NOTA	2023	2022
		RM	RM
<b>HASIL</b>			
Urus Niaga Pertukaran	12	29,689,916	27,711,991
Urus Niaga Bukan Pertukaran	13	12,403,543	88,623,466
<b>Jumlah Hasil</b>		<b>42,093,459</b>	<b>116,335,457</b>
<b>BELANJA</b>			
Anggota Pengurusan Utama	14	458,666	443,183
Upah, Gaji dan Manfaat Pekerja	15	11,047,713	10,783,455
Bekalan dan Bahan Guna Habis	16	4,615,522	6,334,894
Belanja Sewaan dan Penyelenggaraan	17	2,118,638	2,034,284
Belanja Susut Nilai dan Pelunasan	18	516,163	387,538
Pembaikan dan Penyelenggaraan	17	520,067	478,060
Geran dan Pindahan Bayaran Lain	19	12,385,118	88,623,466
Bayaran Lain	20	1,114,506	982,622
<b>Jumlah Belanja</b>		<b>32,776,393</b>	<b>110,067,502</b>
Lebihan Bagi Tahun Sebelum Cukai		<b>9,317,066</b>	<b>6,267,955</b>
Tolak: Perbelanjaan Cukai	21	-	-
<b>Lebihan Bagi Tahun Selepas Cukai</b>		<b>9,317,066</b>	<b>6,267,955</b>
Dipegang Oleh:			
<b>SEDA Malaysia</b>		<b>9,317,066</b>	<b>6,267,955</b>

Nota-nota yang dikemukakan merupakan sebahagian asasi daripada penyata kewangan ini dan hendaklah dibaca bersama.

# Penyata Perubahan Aset Bersih Bagi Tahun Berakhir 31 Disember 2023

	NOTA	Lebihan Terkumpul	Jumlah Aset Bersih
		RM	RM
<b>Baki Pada 1 Januari 2022</b>		<b>59,023,480</b>	<b>59,023,480</b>
Lebihan Bagi Tahun Selepas Cukai		6,267,955	6,267,955
Pelarasan		(1,977,416)	(1,977,416)
<b>Baki Pada 31 Disember 2022</b>		<b>63,314,019</b>	<b>63,314,019</b>
Lebihan Bagi Tahun Selepas Cukai		9,317,066	9,317,066
<b>Baki Seperti Pada 31 Disember 2023</b>		<b>72,631,085</b>	<b>72,631,085</b>

*Nota-nota yang dikemukakan merupakan sebahagian asasi daripada penyata kewangan ini dan hendaklah dibaca bersama.*

# Penyata Aliran Tunai Bagi Tahun Berakhir 31 Disember 2023

## Kaedah tidak langsung

	NOTA	2023 RM	2022 RM
<b>ALIRAN TUNAI DARIPADA AKTIVITI OPERASI</b>			
Lebihan/(kurangan) sebelum cukai		9,317,066	4,290,539
<b>Pergerakan/Pelarasan bukan tunai:</b>			
Belanja susut nilai Hartanah, Loji dan Peralatan		407,055	293,084
Pelunasan aset tak ketara		109,108	94,453
Peruntukan manfaat kakitangan		105,215	6,290
Pendapatan geran		(14,283,916)	(88,855,809)
Hutang lapuk terpulih		-	(287,238)
Hibah bank		(963,451)	(328,731)
Keuntungan pelaburan jangka pendek		(3,805,862)	(2,045,619)
Keuntungan jualan hartanah, loji dan peralatan		54,599	(60,860)
Pertambahan operasi sebelum perubahan modal kerja		<b>(9,060,186)</b>	<b>(86,893,891)</b>
<b>Perubahan dalam modal kerja:</b>			
Peningkatan Urusniaga Pertukaran Belum Terima		1,110,016	12,753,621
Peningkatan dalam Pertukaran Belum Bayar		(1,056,359)	(21,045,126)
<b>Tunai Bersih Dihasilkan daripada Aktiviti Operasi</b>		<b>(9,006,529)</b>	<b>(95,185,396)</b>
Hibah diterima		963,451	328,731
<b>Aliran Tunai Bersih Daripada Aktiviti Operasi</b>		<b>(8,043,078)</b>	<b>(94,856,665)</b>
<b>ALIRAN TUNAI DARIPADA AKTIVITI PELABURAN</b>			
Pembelian Hartanah, Loji dan Peralatan	22 (b)	(253,756)	(609,676)
Pembelian aset tak ketara		(353,510)	(149,800)
Pembelian bangunan		(2,260,000)	-
Terimaan Jualan Hartanah, Loji dan Peralatan		-	71,216
Pelaburan Jangka Pendek		(63,600,000)	2,000,000
Terimaan Daripada Jualan Pelaburan		2,681,056	3,146,154
<b>Aliran Tunai Bersih Daripada Aktiviti Pelaburan</b>		<b>(63,786,210)</b>	<b>4,457,894</b>
<b>ALIRAN TUNAI DARIPADA AKTIVITI PEMBIAYAAN</b>			
Terimaan geran		81,775,038	83,921,967
<b>Aliran Tunai Bersih Daripada Aktiviti Pembiayaan</b>		<b>81,775,038</b>	<b>83,921,967</b>
<b>Peningkatan Dalam Tunai Dan Kesetaraan Tunai</b>		<b>9,945,750</b>	<b>(6,476,804)</b>
<b>Tunai Dan Kesetaraan Tunai Pada Awal Tahun</b>		<b>18,395,217</b>	<b>24,872,021</b>
<b>Tunai Dan Kesetaraan Tunai Pada Akhir Tahun</b>	22	<b>28,340,967</b>	<b>18,395,217</b>
<b>Nota kepada tunai dan setara tunai pada akhir tahun:</b>			
Tunai Di Tangan dan Bank	3	28,340,967	18,395,217
		<b>28,340,967</b>	<b>18,395,217</b>

Nota-nota yang dikemukakan merupakan sebahagian asasi daripada penyata kewangan ini dan hendaklah dibaca bersama.



# Penyata Prestasi Bajet Bagi Tahun Berakhir 31 Disember 2023

	NOTA	Amaun Bajet		Sebenar	Perbezaan: Bajet Akhir dengan Sebenar
		Bajet Asal	Bajet Akhir		
		RM	RM	RM	RM
<b>MENGURUS</b>					
<b>TERIMAAN</b>					
Urus Niaga Pertukaran		24,442,400	24,442,400	29,689,916	5,247,516
Urus Niaga Bukan Pertukaran		16,434,300	16,434,300	12,403,543	(4,030,757)
<b>Jumlah Terimaan</b>		<b>40,876,700</b>	<b>40,876,700</b>	<b>42,093,459</b>	<b>1,216,759</b>
<b>BAYARAN</b>					
Emolumen		14,042,400	13,611,600	11,506,379	2,105,221
Bekalan Dan Perkhidmalan		8,409,900	8,834,240	7,254,227	1,580,013
Pemberian Dan Kenaan Bayaran Tetap	23(a)	283,500	233,500	976,044	(742,544)
Perbelanjaan Lain	23(b)	61,000	84,000	138,461	(54,461)
<b>Jumlah Bayaran</b>		<b>22,796,800</b>	<b>22,763,340</b>	<b>19,875,111</b>	<b>2,888,229</b>
<b>LEBIHAN BERSIH SEBELUM PELUNASAN</b>		<b>18,079,900</b>	<b>18,113,360</b>	<b>22,218,348</b>	<b>(1,671,469)</b>
<b>GERAN</b>					
Geran Dan Pindahan Bayaran Lain		16,434,300	16,434,300	12,385,118	4,049,182
<b>LEBIHAN BERSIH SELEPAS PELUNASAN</b>		<b>1,645,600</b>	<b>1,679,060</b>	<b>9,833,230</b>	<b>(5,720,651)</b>
<b>GERAN</b>					
<b>HARTA MODAL</b>					
Hartanah, Loji dan Peralatan	23(c)	50,000	83,760	253,756	(169,996)
Aset tak ketara		374,300	374,000	353,510	20,490
Aset dalam pembinaan		2,260,000	2,260,000	2,260,000	-
<b>LEBIHAN BERSIH</b>	23(d)	<b>(1,038,700)</b>	<b>(1,038,700)</b>	<b>6,965,964</b>	<b>(5,571,145)</b>

Nota-nota yang dikemukakan merupakan sebahagian asasi daripada penyata kewangan ini dan hendaklah dibaca bersama.

# Penyata Prestasi Bajet Bagi Tahun Berakhir 31 Disember 2023

	Anggaran Asal	Sebenar
	RM	RM
<b>BAYARAN GERAN</b>		
Geran Kementerian Tenaga, Teknologi Hijau Dan Air (KeTTHA)	350,000	8,550
Geran <i>Renewable Energy Business Facility</i> (REBF)	10,000,000	308,750
Geran <i>MySuria</i>	49,070	7,650
Geran <i>Government Lead By Example</i> (GLBE)	1,081,430	5,115
Geran <i>Energy Audit For Commercial Under RMK-11</i>	1,500,000	45,000
Geran Audit Tenaga Bersyarat RMK-12	1,072,000	6,265,688
Geran Program <i>Sustainability Achieved Via Energy Efficiency</i> (SAVE)	300,000	112,740
Geran <i>International Sustainable Energy Summit</i> (ISES)	-	2,463,653
Geran Program SAVE 3.0 (AAIBE)	-	592,279
Geran Program Rebat Pembelian Peralatan Elektrik	-	81,400
Geran Program SAVE 4.0 (AAIBE)	-	623,986
Geran <i>ROM TNB Enhancement</i>	36,000	30,030
Geran Kumpulan Wang Tenaga Boleh Baharu	1,145,800	418,235
Geran <i>Green Technology Application For The Development of Low Carbon Cities</i> (GTALCC)	900,000	402,419
Geran Retrofit Kecekapan Tenaga	-	1,019,624
<b>Jumlah Bayaran Geran</b>	<b>16,434,300</b>	<b>12,385,118</b>

Nota-nota yang dikemukakan merupakan sebahagian asasi daripada penyata kewangan ini dan hendaklah dibaca bersama.

# Nota Akaun Kepada Penyata Kewangan Bagi Tahun Berakhir 31 Disember 2023

## 1. ASAS PENYEDIAAN

### (a) Maklumat Am

Pihak Berkuasa Pembangunan Tenaga Lestari (SEDA) Malaysia ditubuhkan dengan berkuatkuasanya Akta Pihak Berkuasa Pembangunan Tenaga Lestari 2011 [Akta 726] pada 1 September 2011.

Objektif utama penubuhan SEDA Malaysia adalah untuk melaksanakan fungsi-fungsi perbadanan Pihak Berkuasa selaras dengan kehendak Akta 726.

Anggota SEDA Malaysia dilantik oleh Menteri Peralihan Tenaga dan Transformasi Air (PETRA). Anggota SEDA Malaysia terdiri daripada seorang (1) Pengerusi, empat (4) wakil Kerajaan Persekutuan, lima (5) orang anggota lain dan Ketua Pegawai Eksekutif.

Anggota SEDA Malaysia yang masih berkhidmat sejak tarikh akhir Penyata Kewangan ini adalah seperti berikut:

#### **Anggota yang masih kekal bagi tahun 2023:**

YBrs. Ts. Dr. Sang Yew Ngin

YBrs. En. Mohd Saiful Sungkih bin Abdullah

YBhg. Dato' Hamzah bin Hussin – Ketua Pegawai Eksekutif

#### **Anggota baharu yang dilantik pada tahun 2023:**

YBrs. Tuan Ahmad Zairin bin Ismail – Pengerusi (dilantik pada 15 Mei 2023)

YBrs. Puan Haslina binti Abdul Samad (dilantik pada 15 Mei 2023)

YBhg. Dato' Dr Zulkapli bin Mohamed (dilantik pada 15 Mei 2023)

YBrs. Dr. Nurmazilah binti Dato' Mahzan (dilantik pada 15 Jun 2023)

YB Tuan Lee Chean Chung (dilantik pada 1 Ogos 2023)

YBhg. Dr. Ching Thoo a/l Kim (dilantik pada 15 November 2023)

YBhg. Dato' Ir. Ts. Dr. Mohd Azhar bin Abd Hamid (dilantik pada 15 November 2023)

YB Tuan Ganabatrau a/l Veranam (dilantik pada 15 November 2023)

YBrs. Ir. Abdul Rahim bin Ibrahim (dilantik pada 1 Disember 2023)

#### **Anggota yang tamat perkhidmatan pada tahun 2023:**

YB Dato' Haji Mohd Salim bin Sharif@ Mohd Sharif (tamat perkhidmatan pada 31 Januari 2023)

YBrs. Dr. Wirdati binti Mohd Radzi (tamat perkhidmatan pada 31 Januari 2023)

YBrs. Dr. Nik Azmi bin Nik Omar (tamat perkhidmatan pada 31 Januari 2023)

YBrs. En. Habizan Rahman bin Habeeb Rahman (tamat perkhidmatan pada 31 Januari 2023)

YBhg. Dato' Dr Zulkapli bin Mohamed (tamat perkhidmatan pada 1 September 2023)

YBhg. Datuk Ir. Ahmad Fauzi bin Hasan (tamat perkhidmatan pada 30 September 2023)

YBhg. Dato' Haji Rosli bin Isa (tamat perkhidmatan pada 31 Oktober 2023)



Sejak akhir tahun kewangan yang lepas, tiada Anggota SEDA Malaysia menerima atau layak menerima sebarang manfaat (selain daripada Elaun Anggota seperti yang ditunjukkan di dalam Penyata Kewangan, *rujuk Nota 14*) seperti yang termaktub di dalam Akta 726.

Berdasarkan kepada Seksyen 37 Akta 726, tahun kewangan SEDA Malaysia hendaklah bermula pada 1 Januari dan berakhir pada 31 Disember setiap tahun. Tempoh perakaunan SEDA Malaysia bagi tahun 2023 bermula dari 1 Januari 2023 sehingga 31 Disember 2023.

Penyata Kewangan SEDA Malaysia bagi tahun berakhir 31 Disember 2023 telah dibentang dan diperakukan di Mesyuarat Jawatankuasa Kewangan Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia Bil. 01 /2024 pada 19 Mac 2024 dan diluluskan Mesyuarat Anggota Pihak Berkuasa Pembangunan Tenaga Lestari Bil. 2/2024 pada 26 Mac 2024.

**(b) Penyata Pematuhan**

Penyata Kewangan ini telah disediakan berdasarkan kepada Piawaian Perakaunan Sektor Awam Malaysia (MPSAS).

Penyata Kewangan ini telah disediakan mengikut asas akruan menurut kelaziman Kos Sejarah kecuali seperti yang didedahkan di Dasar Perakaunan.

Peristiwa Selepas Tarikh Pelaporan ialah peristiwa yang memuaskan atau sebaliknya, yang berlaku antara tarikh pelaporan dengan tarikh apabila Penyata Kewangan diterbitkan.

**(c) Pertimbangan Dan Anggaran**

Penyediaan Penyata Kewangan memerlukan pertimbangan, anggaran dan andaian yang memberi kesan kepada penggunaan dasar dan amaun bagi Aset, Liabiliti, Hasil dan Belanja yang dilaporkan.

Anggaran dan andaian yang digunakan akan disemak secara berterusan. Semakan semula kepada anggaran perakaunan akan diiktiraf dalam tempoh anggaran tersebut disemak, jika semakan semula hanya memberi kesan kepada tempoh tersebut, atau dalam tempoh semakan dan tempoh masa hadapan sekiranya semakan semula memberi kesan kepada tempoh semasa dan masa yang akan datang.

## **2. DASAR PERAKAUNAN**

Dasar perakaunan yang berikut diamalkan oleh SEDA Malaysia:

**(a) Asas Perakaunan**

SEDA Malaysia telah memilih untuk mengguna pakai piawaian perakaunan MPSAS bagi pelaporan penyata kewangan bermula tahun 2018 seperti yang telah diluluskan oleh Jabatan Akauntan Negara Malaysia.

Penambahbaikan MPSAS 2023 melibatkan 33 piawaian perakaunan telah diluluskan dan diterbitkan pada Disember 2022 oleh Jabatan Akauntan Negara dan akan digunapakai mulai tahun kewangan 2024 seperti berikut:

Perihal		Berkuatkuasa bagi tempoh kewangan bermula pada atau selepas
Pindaan kepada:		
<b>MPSAS 1</b>	Pembentangan Penyata Kewangan	1 Januari 2024
<b>MPSAS 2</b>	Penyata Aliran Tunai	1 Januari 2024
<b>MPSAS 3</b>	Dasar Perakaunan, Perubahan Anggaran Perakaunan dan Kesilapan	1 Januari 2024
<b>MPSAS 9</b>	Hasil daripada Urusniaga Pertukaran	1 Januari 2024
<b>MPSAS 14</b>	Peristiwa Selepas Tempoh Pelaporan	1 Januari 2024
<b>MPSAS 17</b>	Hartanah, Loji dan Peralatan	1 Januari 2024
<b>MPSAS 19</b>	Peruntukan, Liabiliti Kontinjen dan Aset Kontinjen	1 Januari 2024
<b>MPSAS 22</b>	Pendedahan Maklumat Kewangan mengenai Sektor Kerajaan Am	1 Januari 2024
<b>MPSAS 23</b>	Hasil daripada Urusniaga Bukan Pertukaran (Cukai dan Pemindahan)	1 Januari 2024
<b>MPSAS 24</b>	Persembahan, Maklumat Belanjawan di dalam Penyata Kewangan	1 Januari 2024
<b>MPSAS 25</b>	Manfaat Pekerja	1 Januari 2024
<b>MPSAS 28</b>	Instrumen Kewangan, Persembahan sebab Pindaan	1 Januari 2024
<b>MPSAS 29</b>	Instrumen Kewangan, Pengiktirafan dan Pengukuran	1 Januari 2024
<b>MPSAS 30</b>	Instrumen Kewangan, Pendedahan sebab Pindaan	1 Januari 2024
<b>MPSAS 31</b>	Aset Tidak Ketara	1 Januari 2024

**(b) Pengiktirafan Pendapatan****i) Hasil Daripada Urus Niaga Bukan Pertukaran**

Urus niaga bukan pertukaran akan diiktiraf sebagai aset apabila terdapat manfaat ekonomi masa depan atau potensi perkhidmatan dijangka mengalir ke dalam entiti, ianya berpunca daripada peristiwa lampau serta nilai saksama aset dapat diukur dengan munasabah. Urus niaga bukan pertukaran yang diiktiraf sebagai aset hendaklah diiktiraf sebagai hasil, kecuali setakat liabiliti yang juga diiktiraf berkenaan dengan aliran masuk yang sama sebagai tertunda di dalam penyata kedudukan kewangan. Apabila obligasi terhadap sesuatu liabiliti itu telah dipenuhi, entiti hendaklah mengurangkan amaun bawaan liabiliti yang diiktiraf itu dan mengiktiraf amaun hasil yang sama dengan pengurangan itu.

Hasil Daripada Urus Niaga Bukan Pertukaran adalah seperti berikut:

- **Pemberian Daripada Kerajaan**

Pemberian daripada Kerajaan bagi projek pembangunan diiktiraf apabila diterima dan akan dilunas sebagai belanja susut nilai bagi aset yang dibeli atau diperoleh serta belanja operasi yang tidak dipermodalkan.

**ii) Hasil Daripada Urus Niaga Pertukaran**

Hasil daripada urus niaga pertukaran diiktiraf apabila terdapat kemungkinan bahawa manfaat ekonomi masa hadapan atau potensi perkhidmatan akan mengalir kepada entiti dan manfaat ini boleh diukur dengan pasti.

Hasil Daripada Urus Niaga Pertukaran adalah seperti berikut:

- **Pendapatan Perkhidmatan**

Pendapatan perkhidmatan terdiri daripada kutipan fi yang kena dibayar kepada SEDA Malaysia sebagaimana yang diperuntukkan di bawah Akta 726 serta kutipan bagi perkhidmatan lain-lain. Pendapatan ini diambil kira apabila fi yang kena dibayar dikenakan dan diterima.

- **Pendapatan Faedah dan Hibah**

Pendapatan faedah dan hibah diiktiraf atas perkadaran masa yang mengambil kira kadar pulangan hasil efektif atas aset tersebut. Kadar pulangan hasil efektif ke atas aset ialah kadar keuntungan yang diperlukan untuk mendiskaunkan jangkaan aliran penerimaan tunai masa hadapan sepanjang hayat aset tersebut untuk disamakan dengan amaun bawaan awal aset tersebut.

- **Perolehan dari Jualan Barang**

Perolehan dari Jualan Barang merupakan terimaan daripada jualan borang sebut harga dan tender serta jualan harta benda fizikal (tidak termasuk pelaburan) dan lain-lain yang diiktiraf apabila terdapat kemungkinan bahawa manfaat ekonomi masa hadapan atau potensi perkhidmatan akan mengalir kepada SEDA Malaysia dan manfaat ini boleh diukur dengan pasti.



**(c) Belanja Am**

Belanja diiktiraf dalam tempoh ia berlaku dan dikenakan.

**(d) Hartanah, Loji dan Peralatan**

Hartanah, loji dan peralatan dinyatakan pada kos tolak susut nilai dan rosot nilai terkumpul (jika ada). Kos termasuk semua kos yang terlibat untuk membawa aset tersebut ke lokasi dan keadaan yang membolehkannya beroperasi dalam cara yang dikehendaki oleh pihak pengurusan. Kos penggantian bagi mana-mana aset yang memerlukan penggantian secara berkala akan dipermodalkan manakala nilai dibawa bagi bahagian yang diganti tersebut akan dinyahiktirafkan. Kos-kos perkhidmatan harian akan diiktiraf sebagai perbelanjaan dalam lebihan atau kurangan.

Jika sesuatu aset diperoleh melalui urus niaga bukan pertukaran, kos hendaklah diukur berdasarkan nilai saksama pada tarikh perolehan. Aset-aset ini kemudiannya akan dikreditkan di dalam penyata prestasi kewangan melainkan jika terdapat syarat-syarat mengenai penggunaan aset tersebut, di mana ia perlu diiktiraf di dalam liabiliti semasa. Nilai saksama ditentukan dengan merujuk kepada penilaian oleh Jurunilai Berlesen.

Nilai dibawa item hartanah, loji dan peralatan hendaklah dinyahiktiraf semasa pelupusan atau apabila tiada manfaat ekonomi masa hadapan atau potensi perkhidmatan yang dijangka daripada penggunaan atau pelupusannya. Keuntungan atau kerugian atas nyahiktiraf hartanah, loji dan peralatan adalah ditentukan dengan membandingkan nilai pelupusan bersih dengan nilai dibawa aset di mana perbezaannya akan diambil kira sebagai keuntungan atau kerugian di dalam lebihan atau kurangan.

**Susut Nilai**

Susut nilai bagi hartanah, loji dan peralatan dikira berdasarkan kaedah asas garis lurus ke atas anggaran jangka masa guna aset berkenaan.

Jika terdapat tanda perubahan yang ketara dalam faktor-faktor yang memberi kesan kepada nilai sisa, jangkaan hayat atau corak berguna aset sejak tarikh laporan tahunan lepas, nilai sisa, kaedah susut nilai dan hayat berguna aset yang boleh disusut nilai akan disemak semula dan dilaraskan secara prospektif.

Kadar tahunan susut nilai adalah seperti berikut:

Kategori Hartanah, Loji dan Peralatan	Kadar susut nilai (%)	Usia guna (Tahun)
Perabot, kelenyakan dan ubah suai	20	Lima (5)
Komputer dan sistem aplikasi	33 1/3	Tiga (3)
Kenderaan bermotor	20	Lima (5)
Elektronik	20	Lima (5)

**(e) Aset Tak Ketara**

Aset tak ketara diiktiraf apabila ia terdapat kemungkinan bahawa manfaat ekonomi masa hadapan atau potensi perkhidmatan akan mengalir kepada SEDA Malaysia dan kos atau nilai saksama aset boleh diukur dengan pasti.

Aset tak ketara diambil alih secara berasingan adalah diukur pada kos pada awalnya manakala aset yang diperolehi melalui urus niaga bukan pertukaran akan diukur berdasarkan nilai saksama pada tarikh perolehan. Selepas itu, aset tak ketara diukur pada kos ditolak sebarang pelunasan terkumpul dan sebarang kerugian rosot nilai terkumpul, jika ada. Kos yang berkaitan dengan aset tak ketara yang dijanakan secara dalaman kecuali perbelanjaan pembangunan diiktiraf sebagai perbelanjaan. Nilai saksama ditentukan dengan merujuk kepada penilaian oleh Pengarah Bahagian Perkhidmatan Digital.

Sesuatu aset tak ketara itu akan dinilai sama ada terdapat tempoh jangkaan hayat ataupun tidak. Jika aset tak ketara itu tidak mempunyai jangkaan hayat, maka ia tidak perlu dilunaskan tetapi perlu dinilai sama ada perlu dibuat rosot nilai jika terdapat sebarang petunjuk.

Tempoh jangka hayat aset tak ketara ditentukan tidak melebihi sepuluh (10) tahun. Namun jika terdapat penambahbaikan kepada aset tak ketara dan direkodkan sebagai dipermodalkan bersama aset utama, jangka hayat aset tersebut adalah tertakluk kepada baki jangka hayat aset utama tersebut.

Pada setiap tarikh pelaporan, tempoh dan kaedah pelunasan akan dikaji semula jika terdapat tanda perubahan yang ketara dalam faktor-faktor yang memberi kesan kepada nilai sisa jangkaan hayat atau corak penggunaan aset sejak tarikh pelaporan tahunan yang lalu.

Keuntungan atau kerugian atas nyahiktiraf aset tak ketara adalah ditentukan dengan membandingkan nilai pelupusan bersih dengan nilai dibawa aset di mana perbezaannya akan diambil kira sebagai keuntungan atau kerugian di dalam lebihan atau kurangan.

**(f) Aset Kewangan**

Aset kewangan diiktiraf dalam penyata kedudukan kewangan apabila SEDA Malaysia menjadi pihak kepada peruntukan kontrak instrumen.

Pada pengiktirafan awal, aset kewangan adalah diukur pada nilai saksama, termasuk kos urus niaga untuk aset kewangan yang tidak diukur pada nilai saksama menerusi lebihan atau kurangan, yang terlibat secara langsung di dalam mengisui aset kewangan.

Selepas pengiktirafan awal, aset kewangan akan dikelaskan kepada salah satu daripada empat kategori aset kewangan iaitu aset kewangan diukur pada nilai saksama menerusi lebihan atau kurangan, pinjaman dan belum terima, pelaburan dipegang hingga matang dan aset kewangan sedia untuk dijual.

Pembelian atau penjualan aset kewangan yang memerlukan penyerahan aset dalam tempoh masa yang ditetapkan oleh peraturan atau konvensyen di dalam pasaran akan diiktiraf pada tarikh transaksi itu dibuat, iaitu tarikh di mana SEDA Malaysia membuat komitmen untuk membeli atau menjual aset tersebut.

SEDA Malaysia hanya mempunyai kategori aset-aset kewangan seperti berikut:

- **Belum Terima**

Belum terima adalah aset kewangan bukan derivatif dengan bayaran tetap atau boleh ditentukan yang tidak disebut harga dalam pasaran aktif. Selepas pengukuran awal, aset kewangan tersebut kemudiannya diukur pada kos dilunaskan menggunakan kaedah faedah berkesan dan ditolak rosot nilai. Kos dilunaskan dikira dengan mengambil kira apa-apa diskaun atau premium atas pembelian aset tersebut serta yuran atau kos yang merupakan sebahagian daripada kadar faedah berkesan. Kerugian yang timbul daripada kemerosotan nilai diiktiraf dalam lebihan atau kurangan.

- **Kerugian Hutang Ragu Bagi Belum Terima**

SEDA Malaysia menilai pada setiap tarikh pelaporan sama ada terdapat sebarang objektif bahawa aset kewangan terjejas. Untuk menentukan sama ada terdapat bukti objektif rosot nilai, SEDA Malaysia menganggap faktor seperti ketidakmampuan bayar siberhutang dan keingkaran atau kelewatan pembayaran yang ketara. Jika terdapat bukti potensi hutang tak mampu, jumlah dan aliran tunai masa depan dianggarkan berdasarkan sejarah pengalaman kerugian untuk aset yang mempunyai ciri-ciri risiko kredit yang serupa.

Urus Niaga Pertukaran Belum Terima dinyatakan pada kos. Hutang ragu akan diperuntukkan bagi hutang yang tidak berbayar melebihi tempoh satu (1) tahun.

- **Pelaburan Dipegang Hingga Matang**

Aset kewangan bukan derivatif dengan tempoh matang pembayaran tetap atau boleh ditentukan dan tetap diklasifikasikan sebagai dipegang untuk matang apabila SEDA Malaysia mempunyai niat positif dengan keupayaan untuk memegang sehingga matang. Selepas pengukuran awal, dipegang hingga matang pelaburan diukur pada kos yang dilunaskan menggunakan kaedah faedah berkesan dan ditolak rosot nilai. Kos pelunasan dikira dengan mengambil kira apa-apa diskaun atau premium atas pengambilalihan dan yuran atau kos yang merupakan sebahagian daripada kadar faedah efektif. Kerugian yang timbul daripada kemerosotan nilai diiktiraf dalam lebihan atau kurangan.

- **Penyahiktirafan Aset Kewangan**

Aset kewangan dinyahiktiraf apabila hak kontrak untuk aliran tunai daripada aset kewangan tersebut tamat tempoh atau diselesai serta SEDA Malaysia telah memindahkan risiko dan ganjaran pemilikan aset kewangan yang ketara kepada pihak lain.

Pada penyahiktiraf aset kewangan secara keseluruhannya, perbezaan di antara nilai dibawa dan jumlah pertimbangan diterima diiktiraf dalam lebihan atau kurangan dalam tempoh penyahiktiraf.



**(g) Tunai dan Kesetaraan Tunai**

Tunai dan Kesetaraan Tunai merangkumi tunai di tangan dan baki bank, deposit di bank dan institusi kewangan lain serta pelaburan berjangka pendek yang mempunyai kecairan tinggi dengan tempoh matang tiga (3) bulan dan kurang dari tarikh pelaburan dan sedia ditukar dalam bentuk tunai dengan risiko perubahan nilai yang rendah.

Mulai tahun 2023, Penyata Aliran Tunai disediakan menggunakan kaedah secara tidak langsung termasuk angka perbandingan tahun 2022.

**(h) Pelaburan Jangka Pendek**

Pelaburan berjangka pendek yang mempunyai kecairan tinggi dengan tempoh matang lebih tiga (3) bulan dan sehingga setahun dari tarikh pelaburan dan sedia ditukar dalam bentuk tunai dengan risiko perubahan nilai yang rendah.

**(i) Liabiliti Kewangan**

Liabiliti kewangan diiktiraf dalam penyata kedudukan kewangan apabila SEDA Malaysia menjadi pihak kepada peruntukan kontrak instrumen.

Pada pengiktirafan awal, liabiliti kewangan adalah diukur pada nilai saksama, termasuk kos urus niaga untuk liabiliti kewangan yang tidak diukur pada nilai saksama menerusi lebihan atau kurangan, yang terlibat secara langsung di dalam mengisu liabiliti kewangan.

Selepas pengiktirafan awal, liabiliti kewangan dikelaskan kepada salah satu daripada dua kategori liabiliti kewangan iaitu liabiliti kewangan diukur pada nilai saksama menerusi lebihan atau kurangan dan pinjaman belum bayar.

SEDA Malaysia mempunyai kategori liabiliti kewangan seperti berikut:

- **Belum Bayar**

Selepas pengiktirafan awal, belum bayar adalah diukur pada kos dilunaskan menggunakan kaedah faedah berkesan. Keuntungan atau kerugian diiktiraf di dalam lebihan atau kurangan apabila liabiliti kewangan dinyahiktiraf atau dirosot nilai.

Kaedah faedah berkesan adalah kaedah untuk mengira kos dilunaskan liabiliti kewangan dan untuk memperuntukkan perbelanjaan faedah ke atas tempoh yang berkaitan. Kadar faedah berkesan adalah kadar diskaun anggaran pembayaran tunai masa depan yang tepat menerusi jangka hayat liabiliti kewangan atau apabila sesuai, tempoh yang lebih singkat dengan nilai dibawa liabiliti kewangan tersebut.

- **Penyahiktirafan Liabiliti Kewangan**

Liabiliti kewangan dinyahiktiraf apabila obligasi yang dinyatakan dalam kontrak telah dilepaskan, dibatalkan atau tamat hayat.

Sebarang perbezaan di antara nilai dibawa liabiliti kewangan yang dinyahiktiraf dan pertimbangan dibayar adalah diiktiraf di dalam lebihan atau kurangan dalam tempoh penyahiktirafan.

**(j) Manfaat Pekerja**

- **Manfaat Jangka Pendek**

Gaji, bonus dan lain-lain faedah yang diterima oleh pekerja diiktiraf sebagai perbelanjaan dalam tempoh di mana perkhidmatan berkaitan diberikan oleh pekerja SEDA Malaysia.

- **Manfaat Jangka Panjang**

Pengumpulan jangka panjang ganjaran ketidakhadiran seperti cuti tahunan berbayar akan diambil kira apabila perkhidmatan telah diberikan oleh pekerja yang mana telah meningkatkan hak mereka (pekerja yang memohon sahaja) ke atas ganjaran ketidakhadiran di masa hadapan.

Pengiraan Gantian Cuti Rehat (GCR) SEDA Malaysia dikira dengan menggunakan kaedah *projected unit credit* di mana ia melibatkan beberapa andaian seperti gaji akhir di gred jawatan semasa serta jumlah maksima GCR yang dikumpul sebanyak 150 hari (tertakluk kepada maksima 15 hari baki cuti setiap tahun sahaja) dan baki tempoh perkhidmatan sebelum bersara. Skim GCR ini adalah tidak mandatori dan peruntukan pengiraan GCR hanya dibuat ke atas pekerja yang memohon dan telah disahkan jawatan secara tetap. Pengiraan ini diperolehi selepas mendiskaunkan jumlah pembayaran GCR dengan menggunakan kadar diskaun tertentu. Namun, SEDA Malaysia berhak untuk melaksanakan manfaat ini tertakluk kepada kedudukan kewangan SEDA Malaysia.

Andaian utama yang digunakan dalam pengiraan peruntukan GCR tahun semasa adalah seperti berikut:

Kadar Diskaun	4%
Kadar kenaikan gaji setahun	5.0%
Maksima umur persaraan sebenar	58 Tahun

- **Pelan Sumbangan Tetap**

Menurut peruntukan perundangan, Badan Berkanun di Malaysia perlu membayar caruman kepada Pertubuhan Keselamatan Sosial, Kumpulan Wang Amanah Persaraan dan Kumpulan Wang Simpanan Pekerja. Perbelanjaan tersebut diiktiraf sebagai perbelanjaan semasa di dalam Penyata Prestasi Kewangan apabila ianya tertanggung.

**(k) Cukai**

Pada 11 Januari 2018, Kementerian Kewangan telah meluluskan permohonan SEDA Malaysia berhubung pengecualian cukai pendapatan tahunan. SEDA Malaysia telah diberi lanjutan pengecualian cukai pendapatan bagi tahun taksiran 2017 sehingga 2019 bagi semua pendapatan kecuali dividen.

Perbelanjaan cukai pendapatan berhubung dengan cukai ke atas pendapatan faedah dan sewa diperolehi dalam tahun kewangan. Semua pendapatan lain dikecualikan daripada cukai memandangkan SEDA Malaysia dikecualikan cukai di bawah Seksyen 127(3A) Akta Cukai Pendapatan, 1967.

Tiada pengecualian cukai pendapatan daripada pihak Kementerian Kewangan bagi tahun taksiran 2023.

Namun, tiada peruntukan cukai dikenakan ke atas SEDA Malaysia kerana berdasarkan pengiraan Cukai Pendapatan, SEDA Malaysia mempunyai kerugian dan elaun modal yang belum diserap dan boleh digunakan dalam tahun semasa.

SEDA Malaysia mendapat Pengecualian Cukai Pendapatan (PCP) ke atas pemberian atau subsidi (geran) dan pendapatan pihak berkuasa berkanun berdasarkan kepada PCP (Pengecualian) (No 4) 2003 berkuatkuasa mulai tahun taksiran 2002 hingga 2005 dan diganti dengan PCP (Pengecualian) (No 22) 2006 berkuat kuasa mulai tahun taksiran 2006.

#### (l) Tukaran Wang Asing

Urus niaga yang dibuat dengan menggunakan mata wang asing telah ditukarkan kepada Ringgit Malaysia dengan kadar yang ditetapkan pada masa urus niaga dibuat.

#### (m) Rosot Nilai Aset Kewangan

Pada akhir setiap tempoh pelaporan, SEDA Malaysia akan menilai sama ada terdapat sebarang bukti objektif bahawa aset kewangan perlu untuk dirosot nilai. Bukti objektif termasuk:

- Kesukaran kewangan yang ketara oleh peminjam;
- Pembayaran tertunggak;
- Kemungkinan bahawa peminjam akan muflis; atau
- Data yang menunjukkan bahawa terdapat penurunan di dalam anggaran aliran tunai masa depan.

Bagi kategori aset kewangan yang diukur pada kos dilunaskan, jika tiada bukti objektif wujud bagi individu yang ketara, maka semua aset dalam kumpulan yang mempunyai ciri-ciri risiko yang serupa tidak kira sama ada ia ketara atau tidak, akan dinilai secara kolektif untuk menentukan sama ada ia perlu dibuat rosot nilai.

Kerugian rosot nilai, berhubung dengan aset kewangan yang diukur pada kos dilunaskan, diukur sebagai perbezaan di antara nilai dibawa aset berkenaan dan nilai semasa anggaran aliran tunai yang didiskaunkan pada kadar faedah berkesan yang asal. Nilai dibawa aset tersebut akan dikurangkan melalui penggunaan akaun elaun. Sebarang kerugian rosot nilai diiktiraf dalam penyata prestasi kewangan dengan serta-merta. Jika, dalam tempoh kemudiannya, sebarang amaun kerugian rosot nilai menurun, kerugian rosot nilai yang diiktiraf sebelumnya akan dibalikkan secara langsung dalam akaun elaun. Pembalikkan ini diiktiraf dalam Penyata Prestasi Kewangan dengan serta-merta.

(n) **Rosot Nilai Aset Bukan Kewangan**

Nilai bawaan hartanah, loji dan peralatan disemak semula untuk menentukan sama ada terdapatnya sebarang petunjuk kemerosotan. Kemerosotan diukur dengan membandingkan nilai bawaan aset dengan jumlah boleh diperolehi semula. Kerugian kemerosotan diiktiraf sebagai perbelanjaan dalam Penyata Prestasi Kewangan dengan serta merta.

Peningkatan jumlah boleh diperolehi semula aset yang berikutnya dianggap sebagai penerbalikan kerugian kemerosotan sebelum ini dan diiktiraf sehingga tahap nilai bawaan aset yang akan ditentukan (bersih daripada pelunasan dan susut nilai) sekiranya tiada kerugian kemerosotan diiktiraf. Penerbalikan diiktiraf dalam Penyata Prestasi Kewangan dengan serta merta.

Aset bukan kewangan yang tertakluk kepada pelunasan akan disemak untuk penjejasan apabila peristiwa atau berlaku perubahan pada keadaan yang menunjukkan nilai dibawa berkemungkinan tidak akan diperolehi.

- **Aset Penajaan Tunai**

Pada setiap tarikh Penyata Kedudukan Kewangan, SEDA Malaysia mengkaji semula nilai dibawa bagi aset-asetnya untuk menentukan sama ada terdapat sebarang petunjuk kemerosotan nilai. Jika sebarang petunjuk wujud, rosot nilai dikira dengan membandingkan nilai dibawa aset dengan amaun boleh pulih. Amaun boleh pulih adalah nilai tertinggi di antara nilai saksama ditolak kos untuk dijual dan nilai dalam penggunaan.

Dalam menentukan nilai dalam penggunaan, aliran tunai masa hadapan akan didiskaun kepada nilai semasanya menggunakan kadar diskaun sebelum cukai yang menggambarkan nilai pasaran semasa nilai mata wang dan risiko khusus kepada aset tersebut. Di dalam menentukan nilai saksama ditolak kos untuk dijual pula, urus niaga pasaran terkini akan diambil kira, jika ada. Jika tiada urus niaga pasaran terkini berlaku, model penilaian yang sesuai hendaklah digunakan.

Kerugian kemerosotan diiktiraf sebagai perbelanjaan dalam lebihan atau kurangan serta merta apabila nilai dibawa aset melebihi amaun boleh pulihnya.

- **Aset Penajaan Bukan Tunai**

SEDA Malaysia akan menilai pada setiap tarikh pelaporan sama ada terdapat petunjuk bahawa aset penajaan bukan tunai mungkin terjejas. Jika sebarang petunjuk wujud, maka SEDA Malaysia akan membuat anggaran ke atas jumlah perkhidmatan boleh pulih aset. Jumlah perkhidmatan boleh pulih aset adalah nilai tertinggi di antara nilai saksama ditolak kos untuk dijual dan nilai dalam penggunaan.

Kerugian kemerosotan diiktiraf sebagai perbelanjaan dalam lebihan atau kurangan serta merta apabila nilai dibawa aset melebihi jumlah perkhidmatan boleh pulihnya.

Dalam menentukan nilai dalam penggunaan, SEDA Malaysia telah mengguna pakai pendekatan kos penggantian yang disusut nilai. Di bawah pendekatan ini, nilai semasa baki potensi perkhidmatan aset ditentukan sebagai kos penggantian aset yang telah disusut nilai. Kos penggantian yang disusut nilai akan diukur dengan mengambil kira kos penggantian aset ditolak susut nilai terkumpul yang dikira atas kos itu bagi mencerminkan potensi perkhidmatan aset yang telah digunakan atau sudah luput.



Dalam menentukan nilai saksama ditolak kos untuk dijual pula, harga aset dalam perjanjian yang mengikat akan dilaraskan bagi menentukan harga pelupusan aset tersebut. Jika tiada perjanjian yang mengikat, tetapi aset tersebut diniagakan di pasaran secara aktif, maka nilai saksama ditolak kos untuk dijual adalah ditentukan dengan merujuk kepada nilai pasaran terkini ditolak kos pelupusan. Jika tiada perjanjian jual mengikat atau pasaran aktif bagi aset, SEDA Malaysia menentukan nilai saksama ditolak kos untuk menjual berdasarkan maklumat yang ada yang terbaik.

Bagi setiap aset, penilaian dibuat pada setiap tarikh laporan sama ada terdapat sebarang petunjuk yang sebelum ini kerugian rosot nilai yang diiktiraf mungkin tidak lagi wujud atau telah berkurangan. Jika petunjuk sedemikian wujud, SEDA Malaysia menganggarkan jumlah perkhidmatan boleh pulih aset. Kerugian kemerosotan nilai yang diiktiraf sebelumnya dibalikkan hanya jika terdapat perubahan dalam andaian yang digunakan untuk menentukan jumlah perkhidmatan boleh pulih aset sejak kerugian kemerosotan nilai terakhir diiktiraf. Pembalikan adalah terhad setakat nilai dibawa aset tidak melebihi jumlah perkhidmatan boleh pulih atau tidak melebihi nilai dibawa yang mungkin setelah susut nilai terkumpul seperti tiada kerugian kemerosotan nilai diiktiraf bagi aset tersebut dalam tahun sebelumnya. Pembalikan tersebut diiktiraf dalam lebihan atau kurangan.

#### (o) Peruntukan

Peruntukan merujuk kepada obligasi perundangan atau komitmen konstruktif berpunca daripada peristiwa lampau yang ada kecenderungan berlakunya aliran keluar sumber ekonomi atau potensi perkhidmatan untuk melunaskan obligasi tersebut. Anggaran jumlah aliran keluar tersebut mestilah boleh dibuat dengan objektif.

Bagi obligasi atau komitmen yang diperuntukan pembayaran balik (diinsurankan), pembayaran balik tersebut akan diiktiraf sebagai aset yang berasingan dengan syarat pembayaran balik tersebut benar-benar dapat dipastikan.

Peruntukan-peruntukan ini akan dikaji semula pada setiap tarikh Penyata Kedudukan Kewangan dan diselaraskan untuk menggambarkan anggaran semasa yang terbaik. Di mana kesan nilai semasa wang adalah material, jumlah peruntukan adalah nilai kini perbelanjaan yang dijangka akan diperlukan untuk menyelesaikan obligasi tersebut.

#### (p) Pertimbangan Perakaunan Kritikal dan Sumber Utama Ketidakpastian Anggaran

- **Pertimbangan Perakaunan Kritikal**

Tiada sebarang pertimbangan perakaunan kritikal yang mempunyai kesan ketara ke atas jumlah yang diiktiraf di dalam penyata kewangan.

- **Sumber Utama Ketidakpastian Anggaran**

Anggaran utama berkenaan masa hadapan, dan lain-lain sumber utama ketidakpastian anggaran pada tarikh pelaporan, yang mempunyai risiko ketara yang akan menyebabkan pelarasan penting terhadap nilai dibawa aset dan liabiliti di dalam tahun kewangan seterusnya adalah seperti berikut:

- **Perubahan Anggaran Jangka Hayat bagi Hartanah, Loji dan Peralatan**

Semua hartanah, loji dan peralatan disusut nilai mengikut kaedah garis lurus sepanjang jangka hayat aset tersebut. Perubahan dalam anggaran corak penggunaan aset dan pembangunan teknologi boleh memberi kesan kepada jangka hayat dan nilai sisa aset tersebut. Ini akan menyebabkan susut nilai aset pada masa hadapan akan disemak semula.

- **Pengukuran Peruntukan**

SEDA Malaysia sentiasa menggunakan anggaran terbaik sebagai asas untuk mengukur sesuatu peruntukan itu. Anggaran itu dibuat berdasarkan kepada pengalaman lalu, lain-lain petunjuk atau andaian, perkembangan terkini dan peristiwa masa hadapan yang munasabah dalam menentukan sesuatu peruntukan.

### 3. TUNAI DAN KESETARAAN TUNAI

Tunai dan Kesetaraan Tunai pada akhir tahun kewangan terdiri daripada:

	2023	2022
	RM	RM
Tunai di Tangan	5,000	2,000
Tunai di Bank	28,335,967	16,393,217
Deposit Jangka Pendek	-	2,000,000
	<b>28,340,967</b>	<b>18,395,217</b>

### 4. PELABURAN JANGKA PENDEK

Kadar faedah bagi deposit simpanan tetap dengan bank berlesen ialah antara 4.05% hingga 4.60% setahun (2022: antara 2.33% hingga 4.60% setahun). Tempoh matang deposit tetap antara melebihi tiga (3) bulan hingga dua belas (12) bulan. Deposit simpanan tetap dengan bank-bank berlesen seperti berikut:

	2023	2022
	RM	RM
Al Rajhi Bank	-	21,500,000
Affin Islamic Bank Berhad	-	7,500,000
Bank Islam Malaysia Berhad	-	49,000,000
CIMB Islamic Bank Berhad	16,000,000	-
SME Development Bank	83,300,000	-
Bank Pembangunan Malaysia Berhad	35,300,000	-
Co-opbank Pertama	7,000,000	-
	<b>141,600,000</b>	<b>78,000,000</b>

## 5. URUS NIAGA PERTUKARAN BELUM TERIMA

	2023	2022
	RM	RM
Akaun Belum Terima	2,734,619	3,829,415
Pendahuluan Kakitangan	-	6,920
Faedah Belum Terima	1,322,274	197,468
Deposit dan Prabayar	14,584	22,884
	<b>4,071,477</b>	<b>4,056,687</b>

### (a) Akaun Belum Terima

Akaun Belum Terima tidak dikenakan faedah dan secara umumnya tempoh yang terlibat ialah dari 30 hari ke 12 bulan (2022: dari 30 hari ke 12 bulan). Akaun Belum Terima diiktiraf pada Nilai Saksama semasa pengiktirafan awal. Amaun dijangka boleh pulih dalam masa dua belas (12) bulan, akan diiktiraf pada amaun invois asal. Jika tidak, ia akan diiktiraf pada Nilai Kini amaun invois asal. Akaun Belum Terima didenominasi dalam Ringgit Malaysia. Analisis pengumuran Akaun Belum Terima (pada Amaun Kasar) adalah seperti berikut:

	2023	2022
	RM	RM
Tidak melebihi tempoh dan tidak terjejas	2,709,419	3,822,499
1 hingga 3 bulan	-	6,916
3 hingga 6 bulan	-	-
6 hingga 12 bulan	25,200	-
Lebih 12 bulan	-	-
	<b>2,734,619</b>	<b>3,829,415</b>

Penumpuan Risiko Kredit adalah terhad dan ianya tidak dilakukan.

### (b) Pendahuluan Kakitangan

Pecahan pada akhir tahun kewangan adalah seperti berikut:

	2023	2022
	RM	RM
Pendahuluan Kakitangan	-	6,920

Risiko Kredit ke atas Pendahuluan Kakitangan adalah kecil kerana amaun yang tertunggak boleh dipulihkan secara bulanan melalui potongan gaji.

## 6. HARTANAH, LOJI DAN PERALATAN

	Perabot, Kelengkapan dan Ubah Suai	Komputer dan Sistem Aplikasi	Kenderaan Bermotor	Elektronik	Jumlah
	RM	RM	RM	RM	RM
<b>Kos</b>					
Pada 1 Januari 2023	4,069,057	3,067,092	1,138,387	232,003	8,506,539
Tambahan	59,780	15,460	176,416	2,100	253,756
Pelupusan	(205,334)	(740,411)	-	(16,540)	(962,285)
Pada 31 Disember 2023	3,923,503	2,342,141	1,314,803	217,563	7,798,010
<b>Susut Nilai Terkumpul</b>					
Pada 1 Januari 2023	3,972,514	2,731,898	514,285	165,468	7,384,165
Tambahan	46,314	151,545	185,859	23,337	407,055
Pelupusan	(205,334)	(740,411)	-	(16,540)	(962,285)
Pada 31 Disember 2023	3,813,494	2,143,032	700,144	172,265	6,828,935
<b>Nilai Bawaan</b>	<b>110,009</b>	<b>199,109</b>	<b>614,659</b>	<b>45,298</b>	<b>969,075</b>
<b>Kos</b>					
Pada 1 Januari 2022	4,069,057	2,899,280	1,127,145	199,686	8,295,168
Tambahan	-	232,948	339,012	37,716	609,676
Pelupusan	-	(65,136)	(327,770)	(5,399)	(398,305)
Pada 31 Disember 2022	4,069,057	3,067,092	1,138,387	232,003	8,506,539
<b>Susut Nilai Terkumpul</b>					
Pada 1 Januari 2022	3,915,474	2,683,286	733,544	146,726	7,479,030
Tambahan	57,040	105,932	108,511	21,601	293,084
Pelupusan	-	(57,320)	(327,770)	(2,859)	(387,949)
Pada 31 Disember 2022	3,972,514	2,731,898	514,285	165,468	7,384,165
<b>Nilai Bawaan</b>	<b>96,543</b>	<b>335,194</b>	<b>624,102</b>	<b>66,535</b>	<b>1,122,374</b>



7. ASET TAK KETARA  
TAHUN 2023

Sistem e-FIT	Sistem Fingertips	Sistem SAGA	Sistem Email	Sistem Microsoft 365	Sistem Attendance	Sistem NEM	Sistem Online Monitoring Cloud Platform	Sistem BEDOS 2.0	Sistem STAR	Jumlah
RM	RM	RM	RM	RM	RM	RM	RM	RM	RM	RM
5,185,735	143,000	533,580	141,657	48,400	19,500	49,900	130,000	19,800	-	6,271,572
-	-	73,140	-	-	-	-	-	-	280,370	353,510
-	(143,000)	-	-	-	(19,500)	-	-	-	-	(162,500)
5,185,735	-	606,720	141,657	48,400	-	49,900	130,000	19,800	280,370	6,462,582
Peluasan Terkumpul										
5,185,734	88,183	163,812	55,269	34,194	6,176	5,645	839	11	-	5,539,863
-	11,917	53,554	14,165	4,840	1,625	4,990	13,000	1,980	3,037	109,108
-	(100,100)	-	-	-	(7,801)	-	-	-	-	(107,901)
5,185,734	-	217,366	69,434	39,034	-	10,635	13,839	1,991	3,037	5,541,070
Nilai Bawaan										
1	-	389,354	72,223	9,366	-	39,265	116,161	17,809	277,333	921,512

TAHUN 2022

Sistem e-FIT	Sistem Fingertips	Sistem SAGA	Sistem Email	Sistem Microsoft 365	Sistem Attendance	Sistem NEM	Sistem Online Monitoring Cloud Platform	Sistem BEDOS 2.0	Jumlah
RM	RM	RM	RM	RM	RM	RM	RM	RM	RM
5,185,735	143,000	533,580	141,657	48,400	19,500	49,900	-	-	6,121,772
-	-	-	-	-	-	-	130,000	19,800	149,800
5,185,735	143,000	533,580	141,657	48,400	19,500	49,900	130,000	19,800	6,271,572
Peluasan Terkumpul									
5,185,734	73,883	110,454	41,103	29,354	4,227	655	-	-	5,445,410
-	14,300	53,358	14,166	4,840	1,950	4,990	838	11	94,453
5,185,734	88,183	163,812	55,269	34,194	6,177	5,645	838	11	5,539,863
Nilai Bawaan									
1	54,817	369,768	86,388	14,206	13,323	44,255	129,162	19,789	731,709

## 8. ASET DALAM PEMBINAAN

SEDA Malaysia dalam proses pembelian satu (1) unit bangunan pejabat 4 tingkat dengan status tanah pegangan kekal di Lot 33086, Mukim Dengkil, Daerah Sepang, Selangor Darul Ehsan di alamat Blok 3517, Jalan Teknokrat 5, Cyber 5, 63000 Cyberjaya, Selangor daripada Cyberview Sdn Bhd. Perjanjian Jual Beli telah ditandatangani pada 21 November 2023 dengan nilai berjumlah RM22,600,000. Bayaran pendahuluan berjumlah RM2,260,000 telah dijelaskan kepada Cyberview Sdn Bhd pada 28 November 2023 iaitu 10% daripada harga bangunan.

## 9. URUS NIAGA PERTUKARAN BELUM BAYAR

	2023	2022
	RM	RM
Akaun Belum Bayar	2,038,361	3,656,035
Terakru	2,261,160	1,699,845
	<b>4,299,521</b>	<b>5,355,880</b>

Akaun Belum Bayar dan Belum Bayar Lain adalah tidak dikenakan faedah dan pada kebiasaannya diselesaikan atas terma 30 hari.

### (a) Akaun Belum Bayar

Akaun Belum Bayar didenominasi dalam Ringgit Malaysia. Analisis pengumuran Akaun Belum Bayar (pada Amaun Kasar) adalah seperti berikut:

	2023	2022
	RM	RM
Tidak melebihi tempoh dan tidak terjejas	667,677	2,988,336
1 hingga 3 bulan	-	-
3 hingga 6 bulan	785,380	587,610
6 hingga 12 bulan	4,489	-
Lebih 12 bulan	580,815	80,089
	<b>2,038,361</b>	<b>3,656,035</b>

Penumpuan Risiko Kredit adalah terhad dan ianya tidak dilakukan.

## 10. MANFAAT JANGKA PANJANG (PERUNTUKAN GANTIAN CUTI REHAT)

Peruntukan Gantian Cuti Rehat (GCR) merujuk kepada manfaat persaraan yang membenarkan kakitangan mengumpul cuti tahunan yang boleh ditukarkan kepada wang tunai di mana bayaran sekaligus dibuat pada tarikh persaraan sebenar (58 tahun) atau lebih awal melalui persaraan pilihan bermula 50 tahun. Peruntukan tahun semasa GCR adalah seperti berikut:

	2023	2022
	RM	RM
Baki awal tahun	17,516	11,226
Peruntukan tahun semasa	66,209	6,290
Peruntukan tahun terdahulu terkurang nyata	39,006	-
	<b>122,731</b>	<b>17,516</b>

## 11. KUMPULAN WANG KHAS

	Kumpulan Wang Pembangunan
	RM
Pada 1 Januari 2023	33,618,572
Caruman Kerajaan Dalam Dana Yang Dipegang	81,770,653
Terimaan	-
Pemulangan Dana	-
Penggunaan Dana Yang Dipegang	(14,279,531)
<b>Pada 31 Disember 2023</b>	<b>101,109,694</b>
Pada 1 Januari 2022	38,552,414
Caruman Kerajaan Dalam Dana Yang Dipegang	83,921,967
Terimaan	-
Pemulangan Dana	-
Penggunaan Dana Yang Dipegang	(88,855,809)
<b>Pada 31 Disember 2022</b>	<b>33,618,572</b>

- (a) Perbezaan jumlah Penggunaan Dana Yang Dipegang berbanding jumlah Hasil Pelunasan Urusniaga Bukan Pertukaran (Nota 13) berjumlah RM1,875,988 kerana SEDA Malaysia mengiktiraf hasil pengurusan projek di bawah kategori Hasil Urusniaga Pertukaran (Lain-Lain Hasil Dari Perkhidmatan Yang Diberi) bagi projek *Green Technology Application for The Development of Low Carbon Cities* (GTALCC) dan Audit Tenaga Bersyarat RMK-12 serta klasifikasi baki Geran SAVE 2.0 kepada Geran SAVE 4.0 dan klasifikasi terimaan hibah Geran SAVE 3.0 (AAIBE) kepada hasil Urusniaga Pertukaran (Hibah Bank) selaras kelulusan yang telah diterima seperti butiran berikut:

Projek	RM	Butiran
GTALCC	972,084	Hasil Pengurusan Projek
RMK-12	692,000	Hasil Pengurusan Projek
SAVE 2.0	102,000	Klasifikasi kepada Geran SAVE 4.0
SAVE 3.0	109,903	Klasifikasi kepada Hasil Hibah
	<b>1,875,988</b>	

- (b) Perbezaan jumlah Penggunaan Dana Yang Dipegang sebanyak RM4,385 berbanding Pendapatan Geran di Penyata Aliran Tunai kerana amaun ini termasuk jumlah Hibah yang diterima dari baki akaun semasa bagi penggunaan Geran. Amaun ini telah diklasifikasikan dari Geran Program SAVE 3.0 (AAIBE) kepada hasil Urusniaga Pertukaran (Hibah Bank).

## 12. URUS NIAGA PERTUKARAN

Pendapatan yang diterima oleh SEDA Malaysia adalah wang yang didapati daripada fi yang dibayar kepada SEDA Malaysia, yuran latihan yang dianjurkan, jualan borang serta buku latihan, faedah simpanan pasaran wang jangka pendek, hibah bank seperti yang diperuntukkan di bawah Akta Pihak Berkuasa Pembangunan Tenaga Lestari 2011 [Akta 726] dan Akta Tenaga Boleh Baharu 2011 [Akta 725].

	2023	2022
	RM	RM
Fi Pentadbiran Tarif Galakan (FiT)	13,644,888	12,909,710
Fi Permohonan dan Pemprosesan Tarif Galakan (FiT)	1,681,856	807,438
Fi e-Bidding Pemegang Tarif Galakan	36,000	2,927,790
Fi Permohonan dan Pemprosesan <i>Net Energy Metering</i> (NEM)	4,682,531	2,082,045
Lain-Lain Fi	2,946,386	2,574,647
Jualan Buku Latihan dan Dokumen Tender	41,830	30,345
Lain-Lain Hasil Dari Perkhidmatan Yang Diberi	1,878,102	3,646,571
Faedah Diterima Daripada Pelaburan	3,805,862	2,045,619
Hibah Bank	963,451	328,731
Lain-Lain Hasil Bukan Cukai	7,510	641
Hasil Dari Jualan Aset	1,500	71,216
Terimaan Hutang Lapuk Terpulih	-	287,238
	<b>29,689,916</b>	<b>27,711,991</b>



### 13. URUS NIAGA BUKAN PERTUKARAN

Merupakan hasil pelunasan Geran Kumpulan Wang Pembangunan.

	2023	2022
	RM	RM
Geran Kementerian Tenaga, Teknologi Hijau Dan Air (KeTTHA)	26,976	-
Geran Program <i>MySuria</i>	7,650	190,206
Geran <i>Government Lead By Example</i> (GLBE)	5,114	27,773
Geran <i>Renewable Energy Business Facility</i> (REBF)	308,750	-
Geran <i>Energy Audit For Commercial Under RMK-11</i>	45,000	44,000
Geran Audit Tenaga Bersyarat RMK-12	6,265,688	3,262,033
Geran Program <i>Sustainability Achieved Via Energy Efficiency</i> (SAVE)	736,726	9,927
Geran Program <i>SAVE 2.0</i>	-	160,800
Geran <i>TNB ROM Enhancement</i>	30,030	19,080
Geran <i>Green Technology Application for the Development of Low Carbon Cities</i> (GTALCC)	402,419	346,818
Geran Program <i>SAVE 2.0</i> (AAIBE)	-	5,073,979
Geran Program <i>SAVE 3.0</i> (AAIBE)	592,279	35,634,607
Geran Kumpulan Wang Tenaga Boleh Baharu	418,235	-
Geran Program Rebat Pembelian Peralatan Elektrik	81,400	43,740,300
Geran Retrofit Kecekapan Tenaga	1,019,623	113,943
Geran <i>International Sustainable Energy Summit</i> (ISES)	2,463,653	-
	<b>12,403,543</b>	<b>88,623,466</b>

### 14. ANGGOTA PENGURUSAN UTAMA

Anggota pengurusan utama adalah mereka yang mempunyai kuasa dan tanggungjawab untuk perancangan, arahan dan kawalan ke atas aktiviti SEDA Malaysia sama ada secara langsung atau tidak langsung.

Bilangan anggota pengurusan utama SEDA Malaysia ialah 10 orang (2022: 9 orang).

Pembayaran untuk anggota pengurusan utama adalah seperti berikut:

	2023	2022
	RM	RM
Jumlah ganjaran	<b>458,666</b>	<b>443,183</b>

## 15. UPAH, GAJI DAN MANFAAT PEKERJA

	2023	2022
	RM	RM
Gaji dan Upah	8,079,104	7,810,876
Elaun/Manfaat Tetap	838,277	827,881
Sumbangan Berkanun Untuk Kakitangan	1,686,775	1,728,562
Bayaran Lebih Masa	61,157	66,410
Manfaat Kewangan Lain	382,400	349,726
	<b>11,047,713</b>	<b>10,783,455</b>

Upah, Gaji dan Manfaat Pekerja yang diterima oleh kakitangan SEDA Malaysia adalah seperti yang termaktub di dalam Akta 726.

Gaji dan upah adalah termasuk pembayaran kepada Ketua Pegawai Eksekutif.

Jumlah kakitangan SEDA Malaysia sehingga 31 Disember 2023 ialah 84 orang (2022: 86 orang). Berikut adalah kumpulan perkhidmatan di SEDA Malaysia:

	2023	2022
Ketua Pegawai Eksekutif	1	1
Pengurus Kanan (M1 - M2)	1	1
Pengurusan Pertengahan (E1 - E6)	20	18
Eksekutif (E7 - E12)	32	37
Sokongan (S1 - S9)	30	29
	<b>84</b>	<b>86</b>

## 16. BEKALAN DAN BAHAN GUNA HABIS

	2023	2022
	RM	RM
Perbelanjaan Perjalanan dan Sara Hidup	1,065,079	847,664
Perhubungan dan Utiliti	108,491	117,826
Bahan-Bahan Makanan dan Minuman	111,426	66,243
Bekalan Bahan Mentah dan Bahan-Bahan Untuk Penyelenggaraan dan Pembaikan	16,525	14,699
Bekalan dan Bahan Lain	495,878	868,767
Perkhidmatan Ikhtisas dan Perkhidmatan Lain dan Hospitaliti	2,818,123	4,419,695
	<b>4,615,522</b>	<b>6,334,894</b>

## 17. BELANJA SEWAAN DAN PENYELENGGARAAN

	2023	2022
	RM	RM
Sewaan	2,118,638	2,034,284
Penyelenggaraan	520,067	478,060
	<b>2,638,705</b>	<b>2,512,344</b>

## 18. BELANJA SUSUT NILAI DAN PELUNASAN

	2023	2022
	RM	RM
<b>Belanja Susut Nilai</b>		
Perabot, Kelengkapan dan Ubah Suai	46,314	57,040
Komputer dan Sistem Aplikasi	151,545	105,933
Kenderaan Bermotor	185,859	108,510
Elektronik	23,337	21,601
<b>Jumlah Belanja Susut Nilai</b>	<b>407,055</b>	<b>293,084</b>
<b>Pelunasan Aset Tak Ketara</b>		
Sistem <i>FingerTips</i>	11,916	14,300
Sistem SAGA	53,554	53,358
Sistem Email	14,166	14,166
Sistem <i>Microsoft 365</i>	4,840	4,840
Sistem <i>Attendance</i>	1,625	1,950
Sistem NEM	4,990	4,990
Sistem <i>Online Monitoring Cloud Platform</i>	13,000	839
Sistem BEDOS 2.0	1,980	11
Sistem STAR	3,037	-
<b>Jumlah Pelunasan Aset Tak Ketara</b>	<b>109,108</b>	<b>94,454</b>
<b>Jumlah Susut Nilai Dan Pelunasan</b>	<b>516,163</b>	<b>387,538</b>

## 19. GERAN DAN PINDAHAN BAYARAN LAIN

Merupakan belanja pelunasan Geran Kumpulan Wang Pembangunan.

	2023	2022
	RM	RM
Geran Kementerian Tenaga, Teknologi Hijau Dan Air (KeTTHA)	8,550	
Geran Program MySuria	7,650	190,206
Geran <i>Government Lead By Example</i> (GLBE)	5,115	27,773
Geran <i>Renewable Energy Business Facility</i> (REBF)	308,750	-
Geran <i>Energy Audit For Commercial Under RMK-11</i>	45,000	44,000
Geran Audit Tenaga Bersyarat RMK-12	6,265,688	3,262,033
Geran Program <i>Sustainability Achieved Via Energy Efficiency</i> (SAVE)	112,740	9,927
Geran Program SAVE 2.0	-	160,800
Geran <i>TNB ROM Enhancement</i>	30,030	19,080
Geran <i>Green Technology Application for the Development of Low Carbon Cities</i> (GTALCC)	402,419	346,818
Geran Program SAVE 2.0 (AAIBE)	-	5,073,979
Geran Program SAVE 3.0 (AAIBE)	592,279	35,634,607
Geran Program SAVE 4.0 (AAIBE)	623,986	-
Geran Kumpulan Wang Tenaga Boleh Baharu	418,235	-
Geran Program Rebat Pembelian Peralatan Elektrik	81,400	43,740,300
Geran Retrofit Kecekapan Tenaga	1,019,623	113,943
Geran <i>International Sustainable Energy Summit</i> (ISES)	2,463,653	-
	<b>12,385,118</b>	<b>88,623,466</b>

SEDA Malaysia telah menggunakan Geran KeTTHA untuk pembelian kereta elektrik Model BYD ATTO 3 dan direkodkan sebagai Aset Alih SEDA Malaysia. Oleh itu, terdapat perbezaan antara Hasil Pelunasan Geran (Nota 13) berbanding Belanja Pelunasan Geran sebanyak RM18,425 kerana hanya jumlah susut nilai direkodkan di Belanja Pelunasan Geran.

## 20. BAYARAN LAIN

	2023	2022
	RM	RM
Sumbangan	870,828	926,965
Manfaat Jangka Panjang	105,216	6,290
Kerugian Pelupusan Aset	54,599	10,356
Caj Bank	62,955	37,238
Duti Setem	20,800	455
Cukai Jualan	-	(539)
Pesuruhjaya Sumpah	100	80
Kerugian Pertukaran Wang Asing	8	1,777
	<b>1,114,506</b>	<b>982,622</b>



## 21. CUKAI

Tiada pengecualian cukai pendapatan daripada pihak Kementerian Kewangan bagi tahun taksiran 2023.

Namun, tiada peruntukan cukai dikenakan ke atas SEDA Malaysia kerana berdasarkan pengiraan Cukai Pendapatan, SEDA Malaysia mempunyai kerugian dan elaun modal yang belum diserap dan boleh digunakan dalam tahun semasa.

Perbelanjaan cukai pendapatan berhubung dengan cukai ke atas pendapatan faedah diperoleh dalam tahun kewangan. Semua pendapatan lain dikecualikan daripada cukai memandangkan SEDA Malaysia dikecualikan cukai di bawah Seksyen 127(3A) Akta Cukai Pendapatan, 1967.

SEDA Malaysia mendapat Pengecualian Cukai Pendapatan (PCP) ke atas pemberian atau subsidi (grant) dan pendapatan pihak berkuasa berkanun berdasarkan kepada PCP (Pengecualian) (No 4) 2003 berkuat kuasa mulai tahun taksiran 2002 hingga 2005 dan diganti dengan PCP (Pengecualian) (No 22) 2006 berkuat kuasa mulai tahun taksiran 2006.

Penyelarasan bagi perbelanjaan cukai pendapatan yang berkaitan dengan keuntungan sebelum cukai pada kadar cukai pendapatan berkanun kepada perbelanjaan cukai pendapatan pada kadar cukai efektif ke atas SEDA Malaysia adalah seperti berikut:

	2023	2022
	RM	RM
Lebihan bagi tahun sebelum cukai	9,317,066	6,267,955
Cukai yang dikenakan pada kadar 24%	2,236,096	1,504,309
Kesan cukai ke atas:		
Perbelanjaan tidak ditolak untuk tujuan cukai	3,235,815	20,839,848
Pendapatan tidak dikenakan cukai	(8,955,993)	(27,281,575)
Aset cukai tertunda tidak diiktiraf	3,484,082	4,937,418
<b>Perbelanjaan Cukai</b>	<b>-</b>	<b>-</b>

## 22. NOTA KEPADA PENYATA ALIRAN TUNAI

### (a) Tunai dan Kesetaraan Tunai

Tunai dan kesetaraan tunai dimasukkan dalam Penyata Aliran Tunai yang mengandungi penyata jumlah kedudukan kewangan berikut:

	2023	2022
	RM	RM
Tunai di Tangan	5,000	2,000
Tunai di Bank	28,335,967	16,393,217
Deposit Jangka Pendek	-	2,000,000
	<b>28,340,967</b>	<b>18,395,217</b>

**(b) Hartanah, Loji dan Peralatan**

Aliran tunai pembelian Hartanah, Loji dan Peralatan bagi tahun 2023 terdiri daripada:

	RM
<b>Klasifikasi Aset Alih</b>	
Perabot, Kelengkapan dan Ubah Suai	59,780
Komputer dan Sistem Aplikasi	15,460
Kenderaan Bermotor	176,416
Elektronik	2,100
<b>Jumlah</b>	<b>253,756</b>

Bagi kategori kenderaan bermotor, SEDA Malaysia telah memperoleh sebuah kereta elektrik model BYD ATTO 3 melalui Geran Kementerian Tenaga, Teknologi Hijau dan Air (KeTTHA) dengan kos sebanyak RM176,416. Sehubungan itu, geran ini telah dilunaskan berdasarkan susut nilai tahun 2023 berjumlah RM18,426 sahaja.

**23. PRESTASI BAJET**

Bajet Tahun 2023 SEDA Malaysia telah diluluskan oleh Mesyuarat Anggota Pihak Berkuasa Pembangunan Tenaga Lestari Malaysia (APBPTL) Bil. 6/2022 pada 7 Disember 2022.

Bajet yang diluluskan disediakan mengikut asas akruan bagi tempoh 1 Januari 2023 hingga 31 Disember 2023.

**Perbelanjaan sebenar melebihi bajet 2023 diperincikan seperti berikut:****(a) Pemberian dan Kenaan Bayaran Tetap**

- i) Bayaran sumbangan kepada Kumpulan Wang Disatukan Persekutuan (KWDP) untuk tahun 2022 berjumlah RM665,549 tidak diperuntukkan dalam Bajet 2023. Bayaran telah diluluskan di Mesyuarat Anggota Pihak Berkuasa Pembangunan Tenaga Lestari Bil. 4/2023 dan selaras dengan perenggan 29(3) Akta Pihak Berkuasa Pembangunan Tenaga Lestari 2011 [Akta 726].
- ii) Perbelanjaan bagi peruntukan Manfaat Jangka Panjang untuk Gantian Cuti Rehat (GCR) berjumlah RM105,216 adalah bagi tahun semasa dan tahun 2022 berkurang nyata berdasarkan formula pengiraan GCR yang disarankan oleh Jabatan Akauntan Negara.

**(b) Perbelanjaan Lain**

Perbelanjaan kerugian daripada pelupusan aset tak ketara iaitu *Attendance system* dan *FingerTips system* yang telah dibeli pada tahun 2016 dan 2019 berjumlah RM54,598.

**(c) Hartanah, Loji dan Peralatan**

SEDA Malaysia telah memperoleh sebuah kereta elektrik model BYD ATTO 3 melalui Geran Kementerian Tenaga, Teknologi Hijau dan Air (KeTTHA) dengan kos sebanyak RM176,416.

**(d) Penyesuaian Lebihan Bersih**

	2023
	RM
<b>Lebihan Bersih (Penyata Prestasi Bajet)</b>	<b>6,965,964</b>
Tambah: Belanja Harta Modal	2,867,265
Tolak: Belanja Susut Nilai Dan Pelunasan	(516,163)
<b>Lebihan Bagi Tahun Selepas Cukai (Penyata Prestasi Kewangan)</b>	<b>9,317,066</b>

**24. OBJEKTIF DAN POLISI PENGURUSAN RISIKO KEWANGAN****Objektif Dan Polisi Pengurusan Risiko Kewangan**

Polisi pengurusan risiko kewangan SEDA Malaysia adalah untuk memastikan sumber kewangan yang mencukupi bagi perbelanjaan operasi SEDA Malaysia sementara menguruskan risiko kewangannya, termasuk risiko kredit, risiko kadar faedah, risiko kecairan dan aliran tunai.

**(a) Risiko Kredit**

Risiko kredit adalah risiko kerugian yang mungkin timbul disebabkan oleh kegagalan pihak lain di dalam menjalankan kewajipannya. Pendedahan kepada risiko kredit wujud daripada akaun-akaun belum terima. Bagi wang tunai dan baki di bank, SEDA Malaysia mengurangkan risiko kredit dengan berurusan secara eksklusif dengan institusi kewangan yang mempunyai penarafan kredit yang tinggi.

Objektif SEDA Malaysia adalah untuk mencari pertumbuhan berterusan sementara meminimumkan kerugian yang timbul kerana peningkatan dalam pendedahan risiko kredit. SEDA Malaysia hanya berurusan dengan pihak yang mempunyai kelayakan kredit yang baik. Ia telah menjadi polisi SEDA Malaysia bahawa siberhutang yang ingin berdagang hendaklah melalui prosedur pengesahan kredit. Tambahan pula, baki belum terima akan sentiasa dipantau secara berterusan.

**(b) Risiko Kadar Faedah**

SEDA Malaysia tidak terdedah kepada risiko kadar faedah kerana tidak mempunyai aset jangka panjang yang menanggung faedah atau hutang yang menanggung faedah.

**(c) Risiko Kecairan dan Aliran Tunai**

Risiko kecairan adalah risiko bahawa SEDA Malaysia akan menghadapi kesukaran dalam memenuhi kewajipan kewangan oleh kerana kekurangan dana. Pendedahan SEDA Malaysia kepada risiko kecairan wujud daripada perbezaan dalam kematangan aset kewangan dan liabiliti kewangan. Jadual di bawah menunjukkan profil kematangan liabiliti SEDA Malaysia pada tarikh laporan berdasarkan obligasi pembayaran semula tanpa diskaun kontrak.

	Dalam Tempoh Setahun	Lebih Tempoh Setahun	Jumlah
	RM	RM	RM
<b>Pada 31 Disember 2023</b>			
Pelbagai akaun belum bayar dan perbelanjaan terakru	4,299,521	-	4,299,521
<b>Pada 31 Disember 2022</b>			
Pelbagai akaun belum bayar dan perbelanjaan terakru	5,355,880	-	5,355,880

**(d) Nilai Saksama**

Nilai dibawa tunai dan kesetaraan tunai, belum terima dan belum dibayar adalah menyamai nilai saksama kerana tempoh matangnya yang pendek.

**25. PERISTIWA SELEPAS TEMPOH PELAPORAN**

Selaras Penyerahan Kuasa Kawai Selia Pembekalan Elektrik Negeri Sabah dan Sabah Electricity Sdn Bhd (SESB) kepada Kerajaan Negeri Sabah melalui Enakmen Tenaga Boleh Baharu Sabah, 2024 berkuatkuasa 3 Januari 2024, semua fungsi berkaitan pentadbiran Mekanisma Tarif Galakan bagi Negeri Sabah (tidak termasuk Wilayah Persekutuan Labuan) akan diambil alih sepenuhnya oleh *Energy Commission of Sabah* (ECoS). Oleh itu, SEDA Malaysia telah menutup operasi di Cawangan Sabah pada 31 Disember 2023 dan tiada hasil Fi Pentadbiran akan diterima oleh SEDA Malaysia daripada SESB untuk Negeri Sabah (tidak termasuk Wilayah Persekutuan Labuan) dari 3 Januari 2024.





# Glossary & Acronyms

## A

<b>ABM</b>	Akademi Binaan Malaysia
<b>ACE</b>	ASEAN Centre for Energy
<b>AEA</b>	ASEAN Energy Award
<b>AMEM</b>	ASEAN Ministers on Energy Meeting
<b>AMS</b>	ASEAN Member States
<b>APAEC</b>	ASEAN Plan of Action for Energy Cooperation
<b>APG</b>	ASEAN Power Grid
<b>APS</b>	APAEC (Regional) Targets Scenario
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>AT&amp;PA</b>	Acceptance Test & Performance Assessment

## B

<b>BEDOS</b>	Building Energy Data Online Monitoring System
<b>BEI</b>	Building Energy Index

## C

<b>CACEW</b>	China-ASEAN Clean Energy Week
<b>CCM</b>	Common Carbon Matrix
<b>CCT</b>	Clean Coal Technology
<b>CDP</b>	Continuous Development Programme
<b>CIDB</b>	Construction Industry Development Board Malaysia
<b>CNE</b>	Civilian Nuclear Energy
<b>COP</b>	Conference of the Parties
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CREEI</b>	China Renewable Energy Engineering Institute
<b>CSR</b>	Corporate Social Responsibility

## D

<b>DC</b>	Displaced Cost
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## E

<b>EACG</b>	Energy Audit Conditional Grant
<b>ECCJ</b>	Energy Conservation Center, Japan
<b>ECOS</b>	Energy Commission Online System
<b>EE</b>	Energy Efficiency
<b>EE&amp;C-SSN</b>	Energy Efficiency & Conservation Subsector Network
<b>EI</b>	Energy Intensity
<b>EM</b>	Energy Management
<b>EPC</b>	Energy Procurement Contract
<b>ESCO</b>	Energy Service Companies
<b>ESG</b>	Environmental, Social, and Governance
<b>ESM</b>	Energy Saving Measure
<b>ExCO</b>	Executives Committee

## F

<b>FiAH</b>	Feed-in Allocation Holders
<b>FiT</b>	Feed-in Tariff

## G

<b>GCPV</b>	Grid-Connected Photovoltaic
<b>GCR</b>	Golden Hand Shake
<b>GDP</b>	Gross Domestic Product
<b>GEF</b>	Global Environment Facility
<b>GHG</b>	Greenhouse Gas
<b>GMI</b>	German Malaysian Institute
<b>GoMEn</b>	Government Ministries and Entities

## I

<b>IEA</b>	International Energy Agency
<b>IGES</b>	Institute for Global Environmental Strategies
<b>ILSAS</b>	TNB Integrated Learning Solution
<b>IMF</b>	International Monetary Fund

**I**

<b>IPP</b>	Independent Power Producers
<b>IRENA</b>	International Renewable Energy Agency
<b>ISES</b>	International Sustainable Energy Summit

**J**

<b>JKR</b>	Ministry of Works
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**K**

<b>KeTSA</b>	Ministry of Energy and Natural Resources
<b>KeTTHA</b>	Ministry of Energy, Green Technology and Water
<b>KISMEC</b>	Kedah Industrial Skills and Management Development Centre
<b>KKTM</b>	Kolej Kemahiran Tinggi MARA
<b>KPK</b>	Ministry of Plantation and Commodities
<b>kWh</b>	KiloWatt hour

**M**

<b>MARA</b>	People's Trust Council
<b>MASHRAE</b>	American Society of Heating, Refrigerating and Air-Conditioning Engineers - Malaysian Chapter
<b>MBPJ</b>	Petaling Jaya City Council
<b>MELP</b>	Malaysia Energy Literacy Program
<b>METI</b>	Ministry of Economy, Trade and Industry
<b>MGTC</b>	Malaysian Green Technology and Climate Change Centre
<b>MIDA</b>	Malaysian Investment Development Authority
<b>MoU</b>	Memorandum of Understanding
<b>MPIA</b>	Malaysian Photovoltaic Industry Association
<b>MS</b>	Malaysian Standards
<b>MyRER</b>	Malaysia Renewable Energy Roadmap

**N**

<b>NEA</b>	National Energy Award
<b>NEEAP</b>	National Energy Efficiency Action Plan
<b>NEM</b>	Net Energy Metering
<b>NETR</b>	National Energy Transition Roadmap
<b>NLCCM:</b>	National Low Carbon Cities Masterplan
<b>NOSS</b>	National Occupational Skills Standard
<b>NOVA</b>	Net Offset Virtual Aggregation
<b>NRECC</b>	Natural Resources, Environment and Climate Change

**O**

<b>OGPV</b>	Off-Grid Photovoltaic
<b>O&amp;M</b>	Operations and Maintenance

**P**

<b>PETRA</b>	Ministry of Energy Transition and Water Transformation
<b>PJSSR 2030</b>	Petaling Jaya Sustainable, Smart, and Resilient Action Plan 2030
<b>PLP</b>	Proactive Training Centre
<b>POME</b>	Palm Oil Mill Effluent
<b>PPA</b>	Power Purchase Agreement
<b>PPD</b>	District Education Office
<b>PV</b>	Photovoltaics
<b>PVS</b>	Photovoltaic & Storage Conference

**R**

<b>R&amp;D</b>	Research and Development
<b>RE</b>	Renewable Energy
<b>REEM</b>	Registered Electrical Energy Manager
<b>REPP</b>	Regional Energy Policy & Planning
<b>RE-SSN</b>	Renewable Energy Subsector Network
<b>RMK 11/12</b>	11th/12th Malaysian Plan
<b>RoM</b>	Recovery of Moneys
<b>RPVI</b>	Registered PV Investors
<b>RPVSP</b>	Registered PV Service Providers

## S

<b>SDG</b>	Sustainable Development Goals
<b>SELCO</b>	Self-Consumption
<b>SESB</b>	Sabah Electricity Sdn. Bhd.
<b>SHRDC</b>	Selangor Human Resource Development Centre
<b>SLCBC</b>	Sustainable Energy Low Carbon Building Certification
<b>SME</b>	Small Medium Entrepreneurs
<b>SOME</b>	Senior Officials Meeting on Energy
<b>SSN</b>	Subsector Networks
<b>SWCorp</b>	Solid Waste Management and Public Cleansing Corporation

## T

<b>TAGP</b>	Trans-ASEAN Gas Pipeline
<b>TBB</b>	Renewable Energy
<b>TECH</b>	Technical Development and Facilitation
<b>TESDEC</b>	Terengganu Skills Development Centre
<b>TPES</b>	Total Primary Energy Supply

## U

<b>UiTM</b>	Universiti Teknologi MARA
<b>UM</b>	University of Malaya
<b>UNDP</b>	United Nations Development Programme
<b>UNFCC</b>	United Nations Framework Convention on Climate Change
<b>UNIDO</b>	United Nations Industrial Development Organization
<b>UniKL</b>	University of Kuala Lumpur
<b>UniKL BMI</b>	Universiti Kuala Lumpur British Malaysian Institute
<b>UNITEN</b>	Universiti Tenaga Nasional
<b>UPM</b>	University of Putra Malaysia
<b>USM</b>	University of Science Malaysia
<b>UTeM</b>	Universiti Teknikal Malaysia Melaka

## Z

<b>ZEB</b>	Zero Energy Building
<b>ZEO</b>	Zero Energy Office



<b>1</b>	Feed-in Tariff Key Statistics as of 31 December 2023	<b>23</b>	List of cumulative trained persons in RE courses organised by the Authority
<b>2</b>	New FiT Quota for year 2023	<b>24</b>	List of cumulative trained persons in Energy Efficiency courses organised by the Authority
<b>3</b>	Total New FiT Applications received for 2023	<b>25</b>	Summary of BEI achievement for the Authority's HQ
<b>4</b>	Total New FiT Applications and Approvals for 2023	<b>26</b>	Electricity bill progression of the Authority
<b>5</b>	Companies Approved for New FiT Biogas and Biomass quota in 2023	<b>27</b>	Technical & Design Specification for the Authority's 16kW Solar PV system
<b>6</b>	Renewable Energy capacity under Feed-in Tariff (FiT) Mechanism for 2023	<b>28</b>	ASEAN RE Project Awards won in 2023
<b>7</b>	Total CO <sub>2</sub> Avoidance up to 2023 by Resource category	<b>29</b>	Audit Achievements garnered for 2023
<b>8</b>	Positive Impact of Total CO <sub>2</sub> Avoidance	<b>30</b>	Audit Achievement Star Rating Guide
<b>9</b>	Biogas Plants commissioned in 2023	<b>31</b>	List of Authority Meetings in 2023
<b>10</b>	NEM2.0 Status and Highlights for 2023	<b>32</b>	Authority Meeting Attendance in 2023
<b>11</b>	NEM3.0 Status and Highlights for 2023	<b>33</b>	Technical Committee Attendance
<b>12</b>	Number of Registered PV Service Providers as of 2023	<b>34</b>	Market Operations Committee Attendance
<b>13</b>	Number of Registered PV Investors on the online directory as of 2023	<b>35</b>	Financial Committee Attendance
<b>14</b>	EACG Seminars and Webinars for year 2023	<b>36</b>	Investment Committee Attendance
<b>15</b>	Total Applications for year 2023 based on Sector and State	<b>37</b>	Procurement Board Attendance
<b>16</b>	ESCO Training Sessions for year 2023	<b>38</b>	Human Resource Committee Attendance
<b>17</b>	Identified Potential Saving up to year 2023	<b>39</b>	Audit Committee Attendance
<b>18</b>	Total GreenPASS Building Performance up to year 2023	<b>40</b>	Gender breakdown of Authority members, management and staff
<b>19</b>	Low Carbon Building Programme Components	<b>41</b>	Knowledge Sessions conducted in 2023
<b>20</b>	MBPJ Low Carbon City Action Plan Objectives	<b>42</b>	Staff Gathering sessions of 2023
<b>21</b>	Programme Achievements from year 2020 to 2023	<b>43</b>	Types of training attended by Authority staff in 2023
<b>22</b>	MBPJ Programme Implementation summary for year 2023	<b>44</b>	Staff Programmes and Activity Summary for 2023







**SUSTAINABLE ENERGY  
DEVELOPMENT  
AUTHORITY (SEDA)  
MALAYSIA**

Galeria PjH, Level 9, Jalan P4W, Persiaran Perdana,  
Presint 4, 62100 Putrajaya, Malaysia.

**t** +603 8870 5800    **f** +603 8870 5900  
**e** enquiry@seda.gov.my

**f** Sustainable Energy Development Authority  
- SEDA Malaysia

**o** SEDAMalaysia    **x** sedamalaysia  
**d** \_sedamalaysia    **in** SEDA Malaysia  
**o** SEDA Malaysia



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